

POPULATION SURVEY OF THE INTERIOR LEAST TERN  
ON THE MISSISSIPPI RIVER  
FROM  
CAPE GIRARDEAU, MISSOURI  
TO  
BATON ROUGE, LOUISIANA

2010

By

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On and between July 31 and August 21, 2010, a survey crew, lead by Kenneth H. Jones, Associate Professor of Biology at Dyersburg State Community College, under contract with Choctaw Transportation Company, conducted a survey of interior Least Tern (*Sterna antillarum athalassos*) nesting colonies along the Mississippi River. This annual survey is performed for the Memphis District Army Corps of Engineers and assists the U.S. Fish and Wildlife Service with its census in determining population size and distribution of the Interior Least Tern. This survey was the 26th consecutive annual count since the surveys were initiated in 1985 by the Army Corps of Engineers. The survey area usually extends 777 miles from Cape Girardeau, Missouri (Upper River Mile 53) to Baton Rouge, Louisiana (River Mile 230) (Figure 1). However, boat access at Cape Girardeau, Mo was not available this year due to high water, so the survey began at Cairo, Ill, mile marker 954. In prior years three types of surveys were performed: towboat, aerial and small boat (Table 4, Figure 2). The towboat surveys were discontinued in 1995 as were the aerial surveys in 1997 when it became obvious that of the three, the small boat survey yielded the highest and most accurate counts. Past years' surveys terminated about 7 miles downstream of Vicksburg, Mississippi because early aerial surveys in 1986 indicated a scarcity of sandbars and relatively few terns downstream of Vicksburg. Beginning in 2004, the survey was extended to Baton Rouge, Louisiana in order to more thoroughly access the entire range of the Least Tern population on the Lower Mississippi River.

From 1985 through 1996, Least Tern surveys were conducted by John Rumancik, fishery and wildlife biologist from the Memphis District Army Corps of Engineers. Since 1997, the surveys have all been conducted by Kenneth Jones, Associate Professor of Biology, Dyersburg State Community College. Observers and crew members of this year's survey included Mike Thron and Josh Koontz, biologists with the Memphis District Army Corps of Engineers, and John Rumancik, retired biologist with the Memphis District Corps of Engineers. Experienced counters from past surveys helping on this year's count included Jimmy and Leila Boyd, Zack Fowlkes and Kenneth and Wanda Jones.

This year's survey yielded a total count of 18,352 Least Terns and 22 nesting colonies, less colonies than last year's survey, which was 78, but more in total numbers. Seventeen colonies were identified based on the presence of eggs and/or chicks (Tables 1 and 2). Five colonies were identified based on the presence of a large number of nest scrapes, adult behavior and other indicators of likely reproductive effort such as wetting breast feathers, sitting inland, carrying fish or intense mobbing of intruders. The largest colony was located at Island #84

Dikes (RM 533.0) with 5400 adult terns counted. Other large colonies included Kentucky Point Dikes (RM 884.5) with 3200 birds, Head of Island #21 Dikes (RM 826.6) with 757, and Nebraska Point Dikes (RM 809.0) with 692 Least Terns. The smallest colonies were at Basket Bar Dikes (RM 699.0), and Shreves Bar (RM 304.5), with 40 and 33 birds, respectively.

This year's survey was unusual due to the late, higher than normal, summer river stages and timing of the survey. In previous years, the survey began within 2 weeks of the river stage at Memphis, Tn falling to 14 feet or less. This year, the river stage at Memphis did not fall below 14 feet until August 12, 2010. The survey was initiated July 31 when it appeared that the appropriate river stage would not be obtained until it was too late, or after the breeding season. Additionally, mechanical problems with the survey boat caused a two week interruption delaying the conclusion of the survey until August 21. Due to the late timing of the survey it is likely that the adult counts included some fledged juveniles. However, due to the long distances over which most of the counts were conducted, differences in plumage or size could not be used to differentiate adults from juveniles when counting total numbers of adult terns. Many bars with large concentrations of juveniles were observed and counted as resting bars only, since no current nesting activity was still in progress. However, many of these sites were undoubtedly nesting colonies earlier in the season, but were no longer being used as such.

Numbers of adult Least Terns were recorded on data sheets developed by the Corps and based on the Cornell University Bird Registry Form. One data sheet was used for each observation with the following noted: date, time, river mile, latitude/longitude (decimal degrees determined from GPS), number of adult terns, presence of juveniles, chicks and eggs, number of nests observed and eggs or chicks in each, locations of sandbars, substrate, distance from vegetation and type, weather conditions, nearest river gage readings, and other notes on bird behavior, signs of predation or other disturbance. Nest counts were determined both by direct observation of scrapes containing eggs (empty scrapes were not counted) or observations of terns sitting inland during waterline drift counts. Foraged fingerling fish dropped within the colony were identified and/or collected. Colony locations were marked on 2007 Flood Control and Navigation Maps of the Mississippi River, 62nd edition, USACE. Data sheets and colony locations are found in Appendix A.

The average number of adult terns per colony was 616, with colony sizes ranging from as few as 33 adults to as many as 5400. The numbers of eggs per nest ranged from 1 to 3 and many nests were associated with debris wrack lines or in close proximity to small, random pieces of drift. Many adults were observed utilizing other habitats often miles away from the nearest colony locations. These habitats included both still and running water of all depths in the channel, behind dikes, in back chutes, tributary mouths, and fast current against revetted banks on the outside of river bends.

The boat survey was initiated July 31, 2010, with the river stage at Memphis, Tennessee at 17.7 and falling (Table 3). For the entire duration of the survey, the river stages were stable, with daily changes of one-tenth of a foot or less, either rising or falling. The survey proceeded downstream during daylight hours from Cairo, Ill., to above Baton Rouge, La., (RM 300) at an average pace of 82 miles per day.

Upon spotting a likely colony site, the boat would head for the greatest concentration of terns, then approach the bar as close as shallow water levels would allow, cut power, and motor slowly with the current along the perimeter of the bar. Two or more observers would count birds using 7x35 or 8x40 binoculars. One observer counted terns resting along the waterline, while another observer counted birds in the air or sitting inland, presumably on nests. Usually after this preliminary count, and depending upon the sand bar configuration, the boat would go back and beach near the greatest concentration of terns and one or more observers would then walk toward the perceived center of the colony to find evidence of nesting activity, while others would fan out in different directions to traverse more of the colony area. This technique, counting as the boat proceeds downstream (hereafter referred to as a “drift count”), usually produced higher counts than just walking on the sand bar to the colony’s center to induce mobbing (hereafter referred to as a “flush count”). It was particularly effective at colonies where terns were dispersed for several miles along the waterline and the sand bar was low enough that the observers could see across it. However, at many sites, especially those with back chutes with shores not visible from the boat on the channel side, it should be construed that many terns were not seen and the counts were conservative. All individual counts were recorded privately so as not to influence other crew members’ observations, then compared and counts discussed. All individual observer counts were recorded on data sheets. In most cases all observers were within 10% or less of the recorded high count.

The presence of eggs, or chicks was considered confirmation of nesting activity. Intense mobbing, wetting of breast feathers, the presence of fresh scrapes or large numbers of fledged juveniles were also considered to indicate an active nest colony at the 5 sites where no eggs or chicks were observed. Once a colony was located, several counts were made, both by observers stationed at the boat and those penetrating the colony. Not all colonies were walked by members of the survey party, especially if the colony was widely dispersed and easily observed from the boat. In those instances, even though no eggs were observed, terns seen sitting higher up on the sand bar, away from the waterline, were counted as indicative of number of nests.

As with previous surveys, observations within the colony were performed as quickly as possible (< 15 minutes) to minimize the disturbance time and limit the exposure of any chicks and eggs to the intense summer heat. Though mobbing behavior was often intense upon the observers first entering the colony, it ceased almost immediately as soon as the observers retreated. The highest counts usually occurred during the initial waterline count or upon the first few minutes of mobbing when most, if not all, of the adults in the colony would join in to dissuade the intrusion. Nesting adults, nest scrapes, and numbers of nests with eggs and chicks were recorded as well as other features of the habitat. Eighteen Thousand three hundred fifty-two (18,352) Least Terns were recorded at 67 locations (Table 1, Figure 1). Of these, 22 sites were identified as nesting colonies with 13,562 adults, 44 sites as resting bars only with 4,781 adults, and 1 observation of 9 birds that could not be associated with colonies, either flying over feeding areas or in transit along the river.

As with previous years, the typical tern nest colony was located on an unattached (surrounded by water) sand and/or gravel bar usually associated with a dike field. Those colonies that were attached were located on very large, remote point bars, ½ to 1 mile in width, and often 2 to 4 miles in length. Isolation and remoteness appeared to be the main selection criteria. Also it was noted that many “ideal” colony sites were not occupied, possibly because of

the late timing of the survey where previous colonies might have become fully fledged and moved on. The larger colonies were hundreds of acres in size, while some of the smallest were just a few acres or less.

The locations of the colonies as indicated on the 1998 and 2007 Navigation Maps (Appendix A-I) should be viewed as only approximations based on river mile markers visible from or nearby the sites. Since many sand and gravel bars do move or change shape often, such features on the maps do not necessarily correspond to the actual conditions at the time of the survey (hence the occasional colony indicated in open water). For exact colony locations the GPS latitude/longitude coordinates (decimal degrees) are the most accurate and should be referenced as occurring at the water's edge on the channel side of the colony (except when specified otherwise on the data sheets). Most colonies were located on the high centers or distributed evenly across the bars apparently showing no preference for river vs. chute sides, though there were some exceptions.

The colonies' proximities to the nearest water (least distance from any nest with eggs to the waterline) varied from 0 to 600 feet and averaged ~222 feet. Though some colonies were densely populated, with scrapes occurring within a few feet of each other, many more colonies were extremely dispersed with nests occurring hundreds of feet apart and the colony extending as far as a mile or more across the larger sandbars. Major vegetation was absent or far removed (>300 feet) from 17 colony sites, but 5 did have sparse stands of sapling Cottonwoods (*Populus deltoids*), Black Willows (*Salix nigra*), and various forbs and grasses within 300 feet of active nests. Most open water within 2 miles of active colonies appeared to be utilized by foraging terns. These sites included swift current on revetted outside bends, slack water between dikes, chutes, mouths of tributaries and even mid-channel currents.

No evidence of predation on tern eggs was observed, but at 4 colony sites, coyote or dog tracks were present. One chick mortality was noted at one site, but no evidence as to the cause. Of 22 colonies, 2 had track evidence of recent intrusion by humans on foot, by boats or ATVs. In 1 colony a Bald Eagle was observed actively pursuing terns.

Besides Coyotes (*Canis latrans*) or dogs, other potential predators, or their sign, seen near colonies during this year's survey included American Crows (*Corvus brachyrhynchos*), Bald Eagles (*Haliaeetus leucocephalus*), Egrets (*Casmerodius*, *Egretta*, *Bubulcus*), Great Blue Herons (*Ardea herodias*), and Turkey Vultures (*Cathartes aura*).

Other noteworthy bird species observed on the sand bars or in close proximity to Least Tern colonies included Bank Swallow (*Riparia riparia*), Barn Swallow (*Hirundo rustica*) Black-necked Stilts (*Himantopus mexicanus*), Black Tern (*Chlidonias niger*), Canada Goose (*Branta canadensis*), Caspian Tern (*Sterna caspia*), Cattle Egret (*Bubulcus ibis*), Cliff Swallow (*Petrochelidon pyrrhonota*), Double-Crested Cormorant (*Phalacrocorax auritus*), Crow (*Corvus brachyrhynchos*) Forster's Tern (*Sterna forsteri*), Great Blue Heron (*Ardea herodias*), Great Egret (*Casmerodius albus*), Plovers (*Charadrius sp?*) Purple Martin (*Progne subis*), Rough-winged Swallow (*Stelgidopteryx serripennis*), Sandpipers (*Calidris sp.*) Snowy egret (*Egretta thula*), White Pelican (*Pelecanus erythrorhynchos*) and Wood Stork (*Mycteria americana*).

Fingerling-size carps (*Cyprinidae*), Silver Carp (*Hypophthalmichthys molitrix*), Channel Catfish (*Ictalurus punctatus*), Freshwater Drum (*Aplodinotus grunniens*), Largemouth Bass (*Micropterus salmoides*), shad (*Dorosoma*), Gizzard Shad (*Dorosoma cepedianum*), White Bass (*Morone chrysops*), and Top Minnow (*Fundulus sp?*) were found in colonies and are presumed to have been dropped by foraging adults. This year's survey yielded a total count (18,352) that was up from the 2009 count (9,516) by roughly 93%, however many of this year's 2010 count included fledged juveniles whose numbers could not be determined.

Table 1: Least Tern Survey - July 31 - August 21, 2010 - Mississippi River  
 Cape Girardeau, Missouri, to Baton Rouge, Louisiana

River Mile	Mississippi River Location	State	Lat. N	Long. W	Least Terns		Nests
RIVER MILE:	SITE NAME:	State	Latitude:	Longitude:	Adults:		Nests:
931.5	Wolf Island Bar	KY	36.70460	89.14860	95		0
884.5	Kentucky Point Dikes	KY	36.02030	89.55430	3200	C*	80
863.5	Below Cherokee Dikes	TN	36.32014	89.61528	35		0
832.0	Island #20 Dikes	TN	36.03770	89.69400	498	C*	11
826.6	Head of Island #21 Dikes	TN	35.97500	89.71710	757	C*	7
820.0	Wrights Point Dikes	AR	35.90650	89.64900	187	C*	6
812.0	Below Tamm Bend Dikes	TN	35.89850	89.75410	360	C*	6
809.0	Nebraska Point Dikes	TN	35.85740	89.75390	692	C*	3
794.0	Ashport Gold Dust Dikes	AR	35.74737	89.82788	82	*	3
781.5	Below Plum Point Dikes	TN	35.64961	89.89210	65		0
764.8	Below Richardson Landing Dikes	TN	35.51298	89.99990	83		0
757.5	Cedar Point	TN	35.44046	89.99768	42		0
754.5	Densford Bar	TN	35.39026	90.07041	250	C*	6

**SUBTOTAL**

**6,346 8**

Table 1 continued: Least Tern Survey - July 31 - August 21, 2010 - Mississippi River  
Cape Girardeau, MO, to Baton Rouge, LA

<b>River Mile</b>	<b>Mississippi River Location</b>	<b>State</b>	<b>Lat. N</b>	<b>Long. W</b>	<b>Least Terns</b>		<b>Nests</b>
<b>RIVER MILE:</b>	<b>SITE NAME:</b>	<b>State</b>	<b>Latitude:</b>	<b>Longitude:</b>	<b>Adults:</b>		<b>Nests:</b>
740.5	Sycamore Chute Dikes	AR	35.20672	90.07304	119		0
733.0	Engineers Bar Dikes	AR	35.12364	90.10428	136	c*	1
717.0	Cow Island Bend	MS	34.99830	90.30052	138	*	8
705.5	Seyppel Dikes	AR	34.88961	90.28363	276	*	0
700.0	Porter Lake Dikes	AR	34.85130	90.36330	24		0
699.0	Basket Bar Dikes	AR	34.83763	90.38379	40	c*	0
692.0	Rabbit Island	MS	34.79590	90.47130	118		0
686.0	Mhoon Bend	AR	34.73556	90.45821	66		0
679.5	Bordeaux Point Dikes	MS	34.72770	90.56520	51		0
672.0	St. Francis Bend	MS	34.61770	90.58150	86		0
666.5	Prairie Point Dikes	AR	34.55140	90.55490	8		0
655.0	Montezuma Towhead Dikes	AR	34.41150	90.59210	44		0
647.5	Kangaroo Point Dikes	AR	34.36700	90.70734	9		0
644.0	Old Town Bend	AR	34.35100	90.76710	17		0
639.8	Island #62 Dikes	AR	34.29930	90.73730	3		0
629.0	Island #64 Dikes	AR	34.21890	90.84980	153	c*	1
625.0	Sunflower Cut-Off	AR	34.17076	90.90031	165	c*	0
623.0	Below Ludlow Dikes	AR	34.15950	90.93030	23		0
620.0	Island #67 Dikes	MS	34.11590	90.94970	299	c*	2
611.0	Below Knowlton Dikes	AR	34.02680	90.90040	49		0

**SUBTOTAL**

**1,824 7**

Table 1 continued: Least Tern Survey - July 31 - August 21, 2010 - Mississippi River  
Cape Girardeau, MO, to Baton Rouge, LA

River Mile	Mississippi River Location	State	Lat. N	Long. W	Least Terns		Nests
RIVER MILE:	SITE NAME:	State	Latitude:	Longitude:	Adults:		Nests:
602.4	Henrico Dikes	MS	33.99450	91.05200	171		0
600.0	Smith Point Dikes	MS	33.95600	91.08000	36		0
595.1	Victoria Bend Dikes	AR	33.92955	91.01824	21		0
589.5	Terrene Dikes	MS	33.85335	91.06740	54		0
584.5	Malone Field Dikes	AR	33.78600	91.05200	350		0
578.0	Below Prentiss Dikes	MS	33.75251	91.13266	22		0
569.0	Catfish Point Dikes	MS	33.66980	91.22080	87		0
564.0	Chicot Landing Dikes	AR	33.62870	91.14940	54		0
560.0	Choctaw Bar Island	AR	33.58000	91.15400	40		0
553.5	Huntington Point	MS	33.54840	91.22780	8		0
540.5	Leland Neck Dikes	MS	33.40056	91.10805	678		0
533.0	Island 84 Dikes	MS	33.34880	91.17640	5400	c*	0
528.6	Refuge Dikes	MS	33.26000	91.11900	80		0
519.0	Island #86 Dikes Upper	AR	33.13880	91.09630	38		0
517.5	Island #86 Dikes Lower	MS	33.12361	91.10751	142	c*	2
513.5	Leota dikes	MS	33.08500	91.16700	88		0
508.5	Cracraft Lower Dikes	AR	33.02400	91.15600	47		0
503.5	Corregidor Dikes	MS	32.95940	91.13600	241		0
498.5	Wilson Point Dikes	LA	32.93400	91.07640	89		0
491.3	Baleshed Landing Dikes	MS	32.84400	91.12400	153		0
483.0	Ajax Bar Dikes Upper	MS	32.74360	91.14070	277		0
481.0	Ajax Bar Dikes Lower	MS	32.73950	91.11640	484	c*	1
453.0	Forest Home Towhead Dikes	MS	32.44650	91.06600	127		0
461.0	Willow Cutoff Dikes	LA	35.50900	91.10160	304		0
447.3	Marshall Cutoff Dikes	LA	32.40490	91.00100	48		0

**SUBTOTAL**

**9,039 3**

Table 1 continued: Least Tern Survey - July 31 - August 21, 2010 - Mississippi River  
Cape Girardeau, MO, to Baton Rouge, LA

River Mile	Mississippi River Location	State	Lat. N	Long. W	Least Terns		Nests
RIVER MILE:	SITE NAME:	State	Latitude:	Longitude:	Adults:		Nests:
428.0	Below Racetrack Dikes	MS	32.23830	90.98035	76	*	0
418.5	Newton Bend Dikes	LA	32.12600	91.14800	57		0
412.5	Togo Island Dikes	LA	32.10560	91.09840	16		0
410.0	Yucatan Dikes	MS	32.07130	91.07530	11		0
393.5	Bondurant Towhead Dikes	LA	31.89380	91.21420	465		0
383.0	Spithead Towhead Dikes	MS	31.83070	91.34750	76	c*	2
377.8	Waterproof Dikes	LA	31.76280	91.36740	156		0
304.5	Shreves Bar	LA	30.99280	91.64860	33	c*	0
300.0	Hog Point Dikes	LA	30.93670	91.64670	253	*	0
<b>SUBTOTAL</b>					<b>1,143</b>	<b>4</b>	
<b>TOTAL INDIVIDUALS</b>					<b>18,352</b>		
<b>TOTAL SITES</b>					<b>67</b>		
<b>TOTAL COLONIES</b>					<b>22</b>		

c Confirmed chicks or eggs

\* Nest colony determined by bird behavior (sitting inland, breasting, carrying fish, etc.)

Table 2: Summary of 2010 Least Tern Survey on the Lower Mississippi River

River Reach	Number of Terns (July 31- August 21, 2010)
Cape Girardeau, MO, to Cairo, IL URM 50 – RM 954	0
Cairo, IL, to Osceola, AR RM 954 – RM 790	5,906
Osceola, AR, to Helena, AR RM 790 – RM 670	1,494
Helena, AR, to Greenville, MS RM 670 – RM 530	7,691
Greenville, MS, to Vicksburg, MS RM 530 – RM 430	2,118
Vicksburg, MS, to Baton Rouge, LA RM 430 - RM 230	1,143
TOTAL	18,352

River Reach	Number of Colonies
Cape Girardeau, MO, to Cairo, IL URM 50 – RM 954	0
Cairo, IL, to Osceola, AR RM 954 – RM 790	7
Osceola, AR, to Helena, AR RM 790 – RM 670	6
Helena, AR, to Greenville, MS RM 670 – RM 530	4
Greenville, MS, to Vicksburg, MS RM 530 – RM 430	2
Vicksburg, MS, to Baton Rouge, LA RM 430 - RM 230	3
TOTAL	22

Table 3: Gage Readings – Lower Mississippi River

Least Tern Surveys – July, August, 2010

Date	Cairo	New Madrid	Caruthersville	Memphis	Helena	Arkansas City	Greenville	Vicksburg	Natchez
July 26	34.6	23.7	24.6	18.3	25.0	22.3	34.2	29.1	37.7
27	33.4	23.1	24.4	19.0	25.9	22.7	34.4	28.9	37.4
28	33.0	22.4	23.7	18.9	26.6	23.1	34.8	29.1	37.3
29	33.0	22.3	23.5	18.2	26.3	23.5	35.2	29.3	37.4
30	32.5	22.1	23.4	18.0	25.9	23.7	35.6	29.7	37.6
31	31.9	21.6	23.1	17.7	25.6	23.5	35.5	29.9	37.8
August 1	31.7	21.2	22.6	17.3	25.2	23.1	35.1	29.9	37.9
2	31.3	20.9	22.5	16.9	24.7	22.7	34.7	29.7	37.8
3	31.1	20.6	22.2	16.6	24.3	M	M	M	M
4	30.7	20.3	21.9	16.3	23.9	21.6	33.6	28.9	37.4
5	30.7	20.3	21.9	16.1	23.5	21.3	33.5	28.3	37.0
6	30.1	20.1	21.8	16.1	23.2	21.2	33.2	28.0	36.6
7	30.0	19.6	21.4	16.0	23.1	21.0	32.9	27.5	36.2
8	29.8	19.6	21.3	15.9	22.8	20.8	33.0	27.4	35.8
9	28.5	18.7	20.7	15.7	22.5	20.5	32.6	27.1	35.5
10	28.1	18.1	20.0	15.7	22.1	20.3	32.4	26.9	35.2
11	28.3	17.9	19.8	14.0	21.5	19.7	M	26.5	35.0
12	27.6	17.6	19.7	13.8	20.8	19.4	31.2	26.0	34.6
13	27.5	17.2	19.3	13.7	20.5	18.7	30.6	25.6	34.1
14	27.5	17.0	19.1	13.0	20.0	18.4	30.1	25.0	33.6
15	27.7	17.2	19.1	12.6	19.6	17.8	29.6	24.5	33.0
16	27.7	17.2	19.1	12.4	19.3	17.4	M	23.9	32.4
17	28.1	17.3	19.2	12.3	19.3	17.4	29.0	23.3	31.9
18	28.5	17.8	19.6	12.6	19.4	17.1	28.7	23.0	31.7
19	28.1	17.8	19.7	12.9	19.5	16.9	28.5	22.8	31.8
20	28.3	17.7	19.6	13.2	19.7	17.1	28.6	22.4	31.2
21	29.4	18.2	19.8	13.1	19.8	17.0	28.6	22.4	30.8
22	30.2	19.0	20.5	13.6	19.9	17.3	28.8	22.5	30.6
23	30.9	19.6	21.1	13.9	20.4	17.3	28.8	22.6	30.6
24	30.3	19.7	21.3	14.7	21.0	17.2	28.7	22.6	30.5
25	29.8	19.3	21.1	15.0	21.6	17.7	29.2	22.7	30.5
26	28.6	18.6	20.5	14.8	21.8	18.1	29.6	22.9	30.6

Table 4: Summary of Least Tern Surveys – 1985 – 2010  
Lower Mississippi River

<b>Year</b>	<b>1985</b>	<b>1986</b>	<b>1987</b>	<b>1988</b>	<b>1989</b>	<b>1990</b>	<b>1991</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>
<b>Aerial</b>											
Individuals	187	1,332	1,125	1,018	2,503	4,182	3,358	2,311	4,589	3,303	3,759
Sites	12	37	49	56	58	56	67	80	66	66	63
Colonies	3	16	24	31	46	36	56	61	46	40	51
<b>Towboat</b>											
Individuals	577	595	575	1,235	508	357	1,154	1,216	2,031	965	489
Sites	35	39	45	71	25	31	39	47	48	39	25
Colonies	15	16	21	33	9	3	29	34	21	30	1
<b>Small Boat</b>											
Individuals	0	2,188	2,206	2,356	2,005	5,038	4,297	3,653	0	6,776	6,971
Sites	0	41	50	72	64	38	66	81	0	78	70
Colonies	0	28	46	60	42	32	57	74	0	69	62
<b>Year</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>
<b>Aerial</b>											
Individuals	3,677	2,129	0	0	0	0	0	0	0	0	0
Sites	81	81	0	0	0	0	0	0	0	0	0
Colonies	20	23	0	0	0	0	0	0	0	0	0
<b>Small Boat</b>											
Individuals	3,067	3,428	5,538	6,159	5,920	6,361	5,802	8,082	11,239	10,960	8,171
Sites	47	79	91	134	124	141	100	115	114	118	144
Colonies	31	57	39	38	64	54	68	68	69	88	107
<b>Year</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>							
<b>Small Boat</b>											
Individuals	9,814	12,183	9,516	18,352							
Sites	121	116	110	67							
Colonies	96	62	78	22							

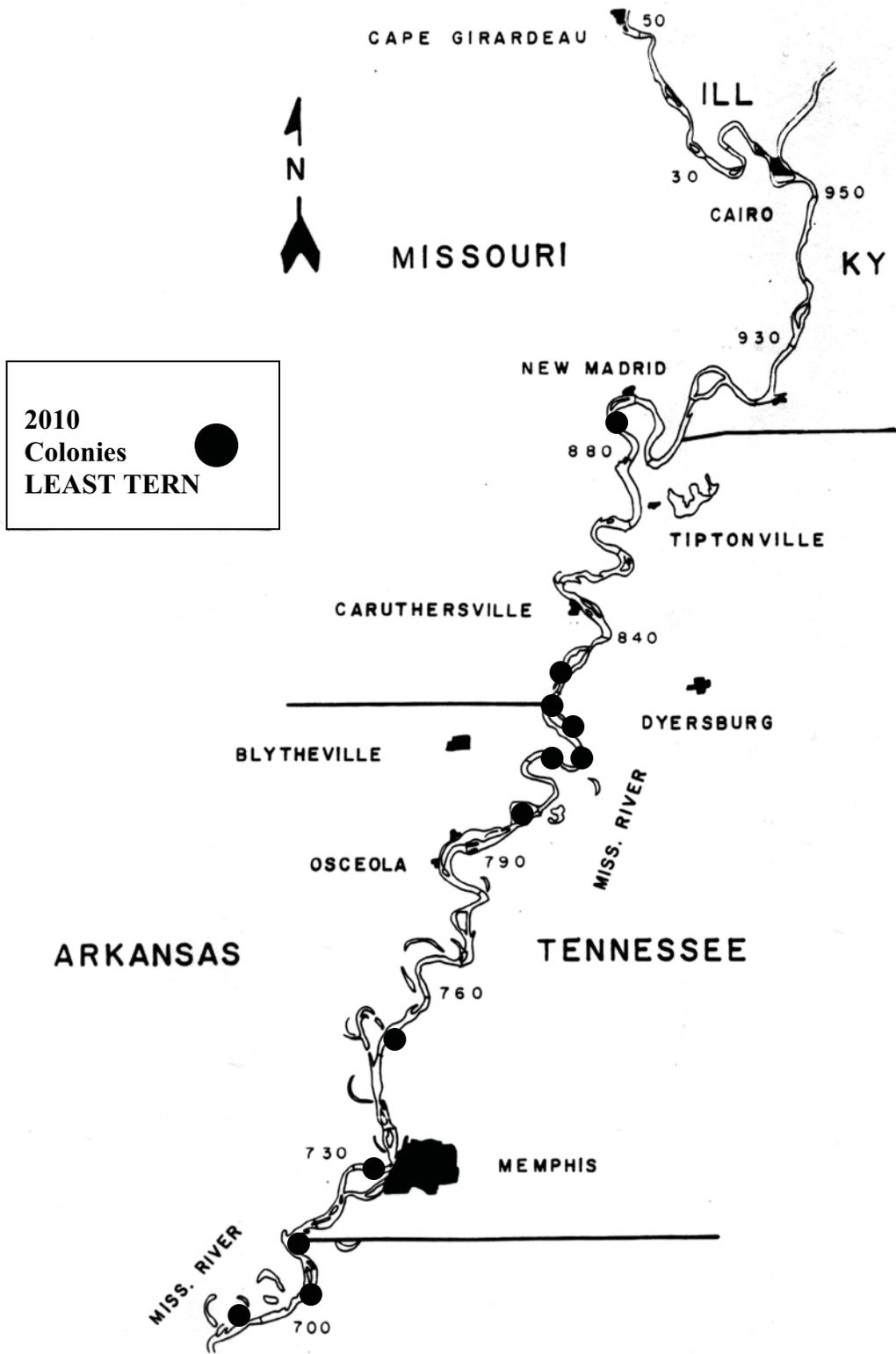


Figure 1: Least Tern Survey – 2010 – Area Map of Nest Colonies on Mississippi River – Cape Girardeau, MO to Baton Rouge, LA

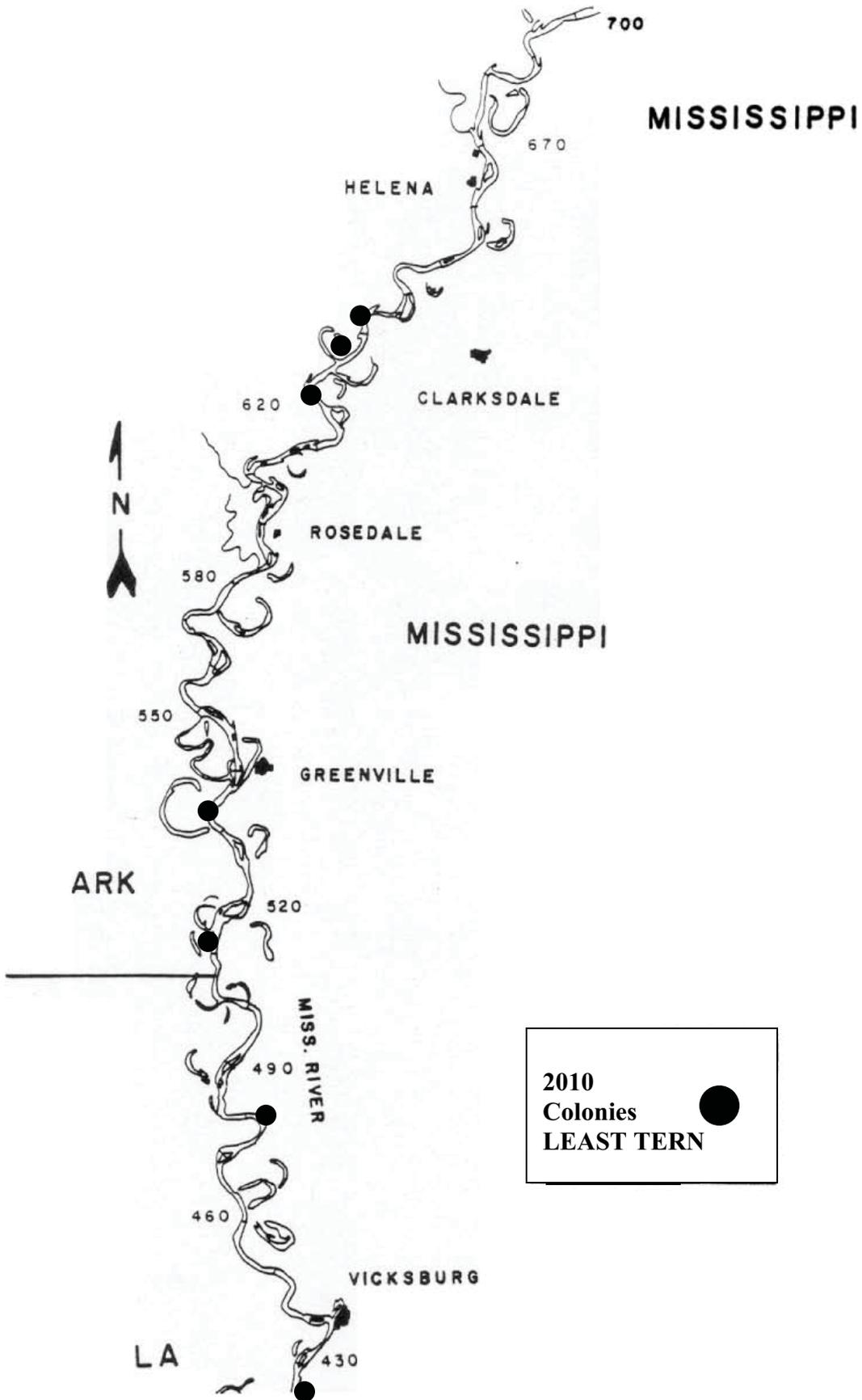


Figure 1 Continued: Area Map of Nest Colonies

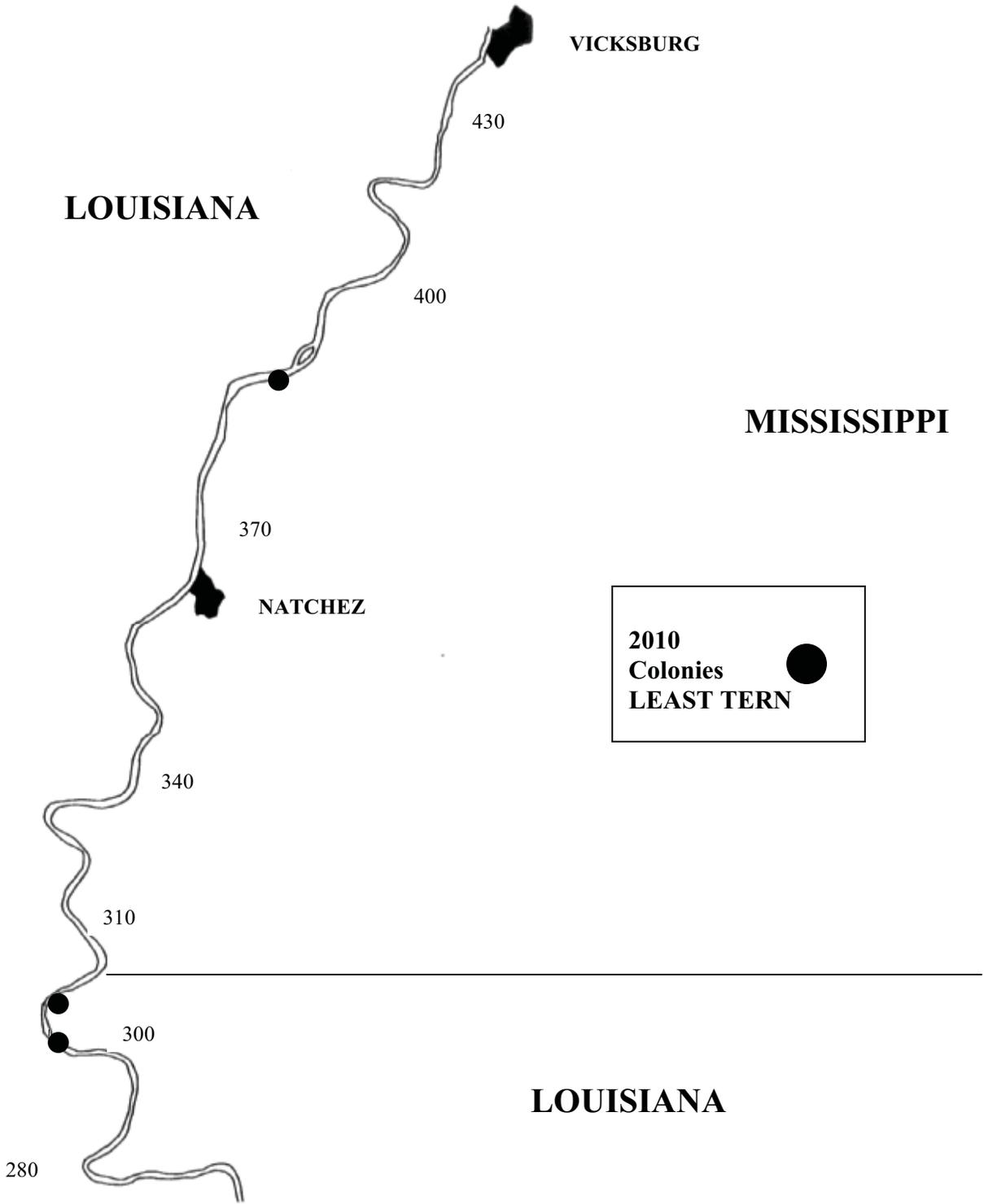
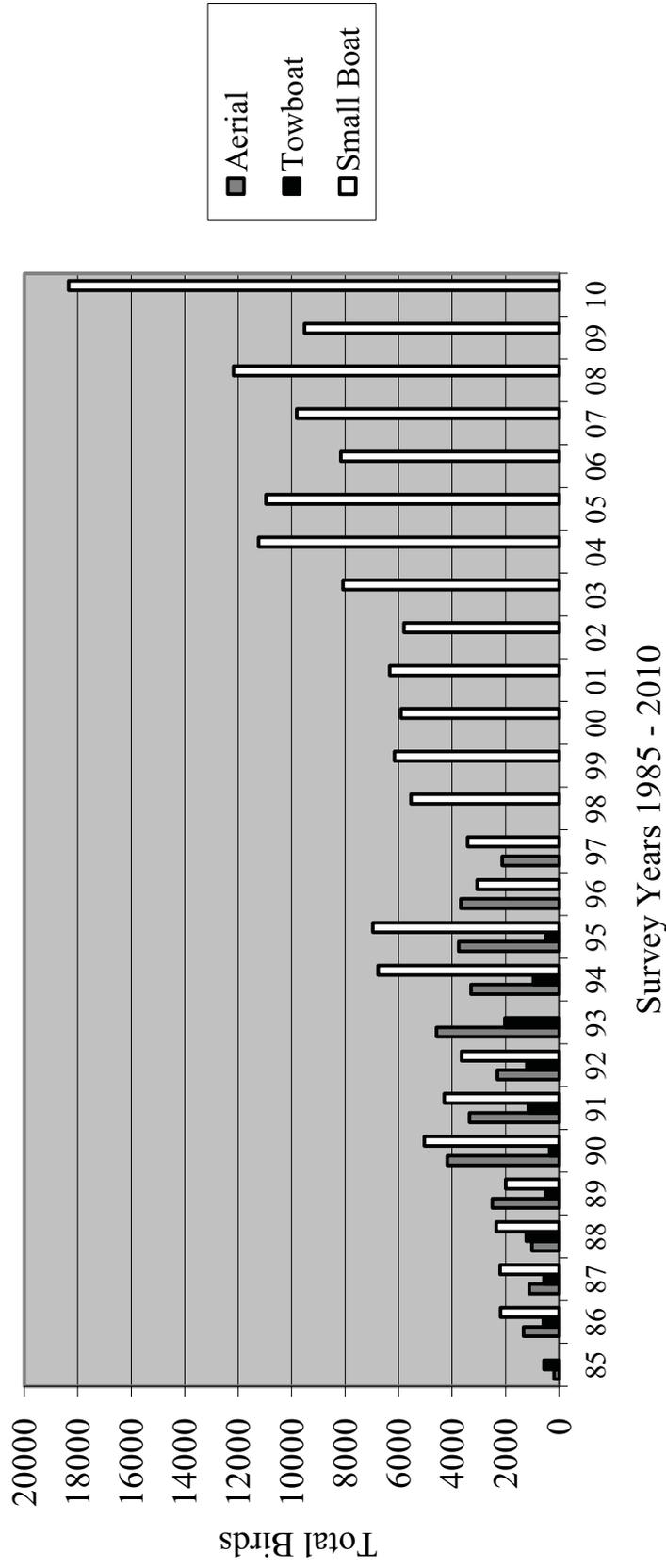


Figure 1 Continued: Area Map of Nest Colonies

Least Tern Surveys  
Lower Mississippi River



**Population Survey of the Interior Least Tern  
On the Mississippi River from  
Cape Girardeau, Missouri to Baton Rouge, Louisiana**

**2010**

**APPENDIX A**

**APPENDIX A – I**

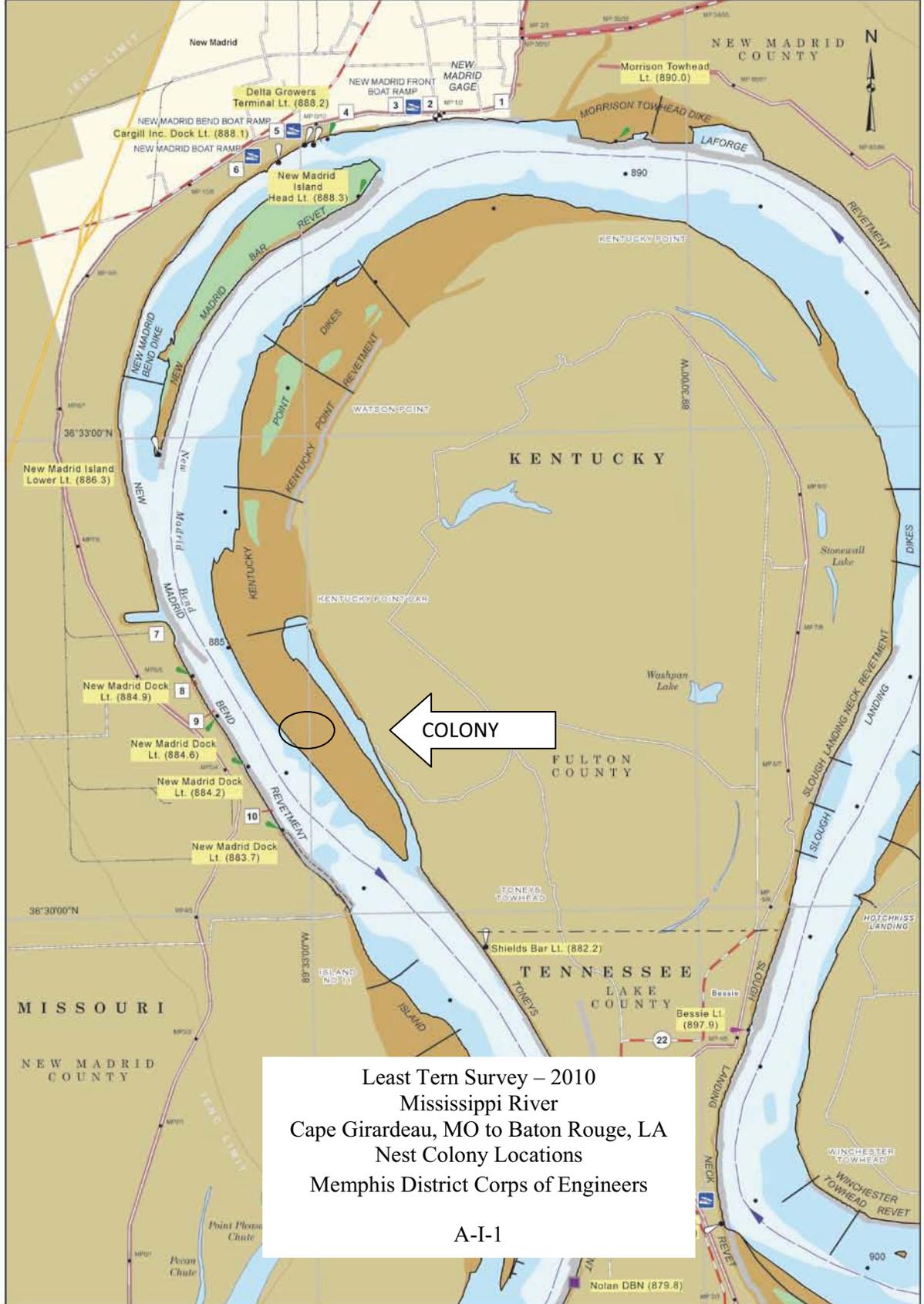
**LEAST TERN SURVEY - 2010**

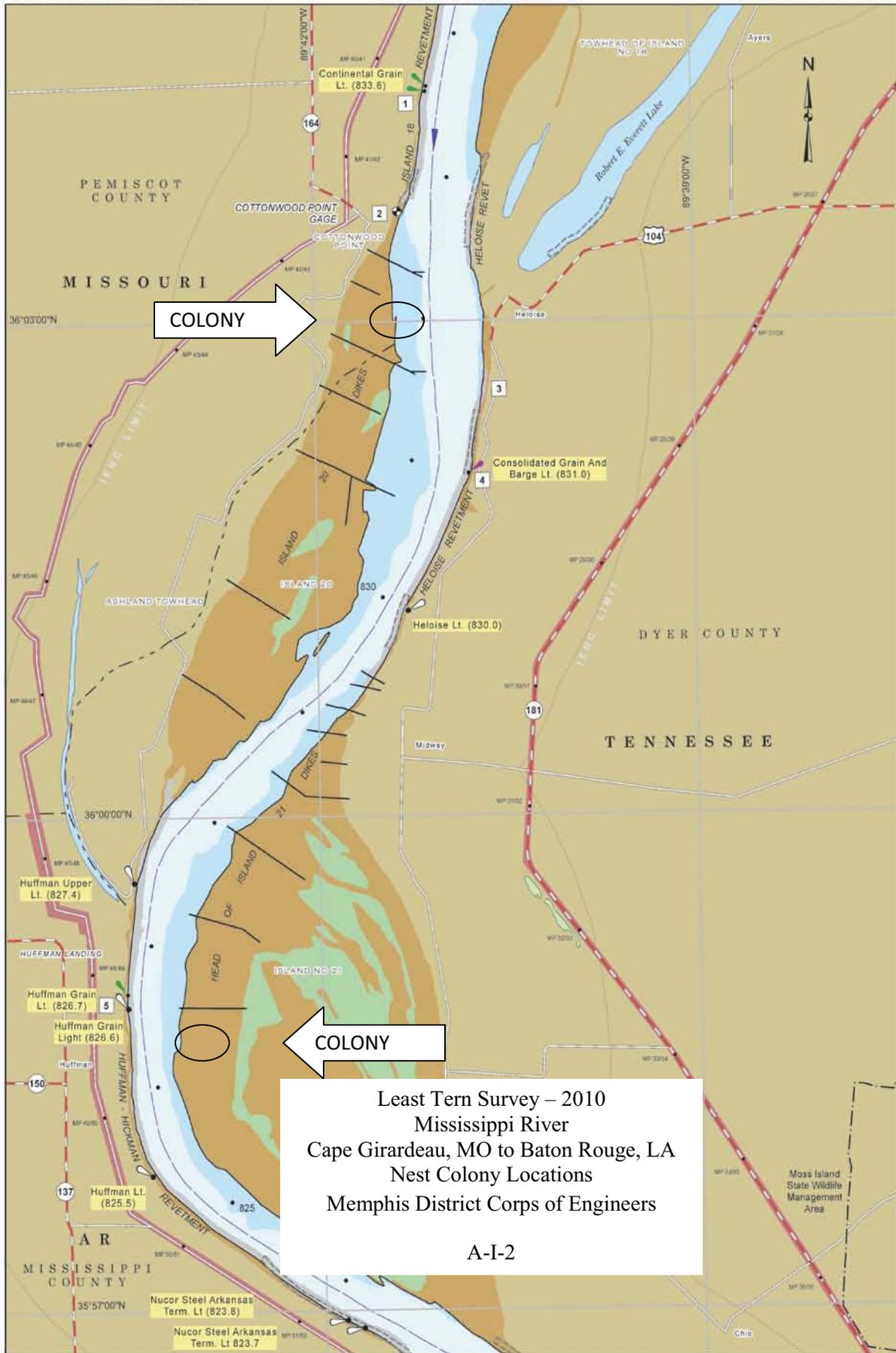
**Mississippi River  
Cape Girardeau, MO to Baton Rouge, LA**

**NEST COLONY LOCATIONS**

**Memphis District, Corps of Engineers**

**Maps**

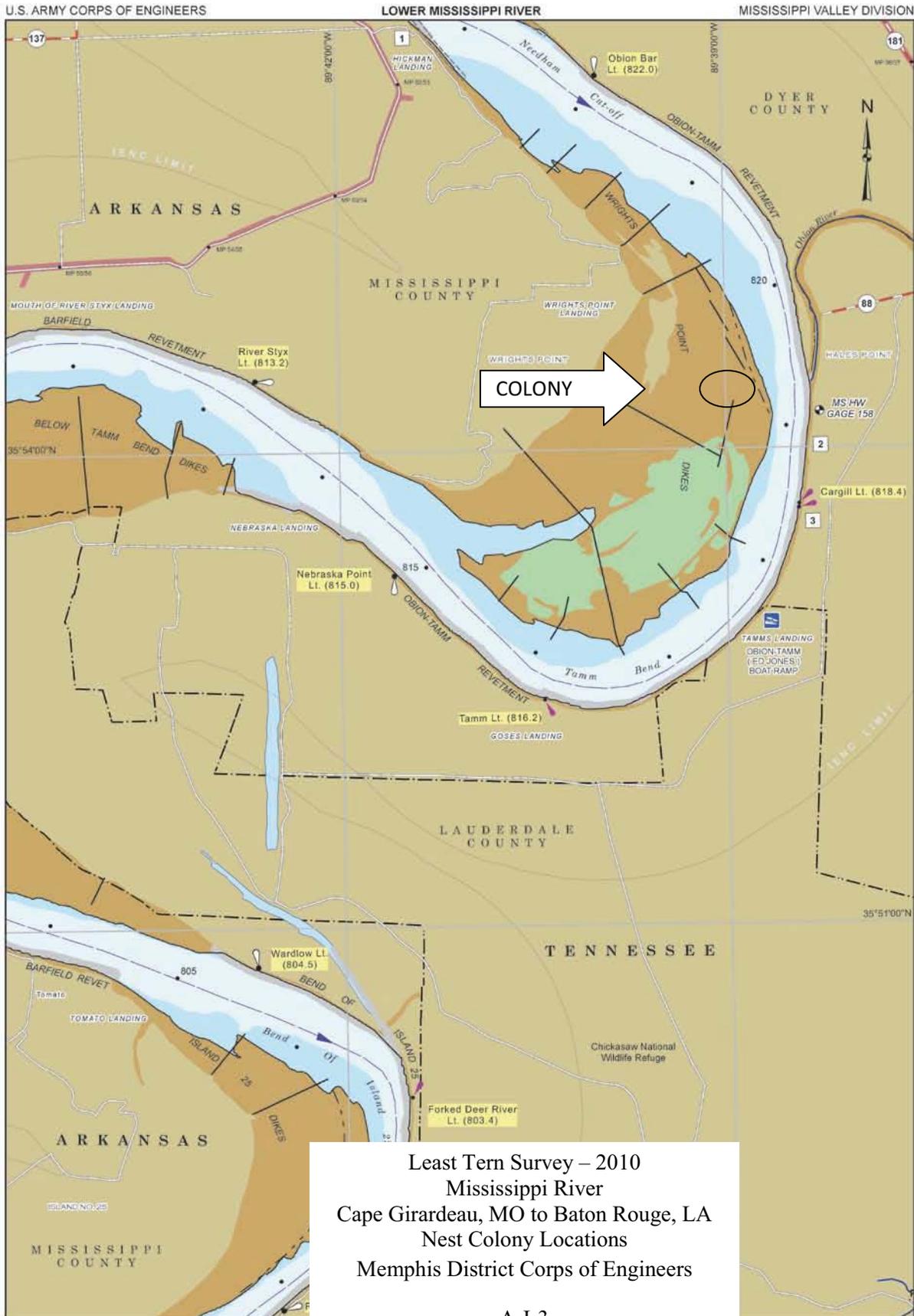




COLONY

COLONY

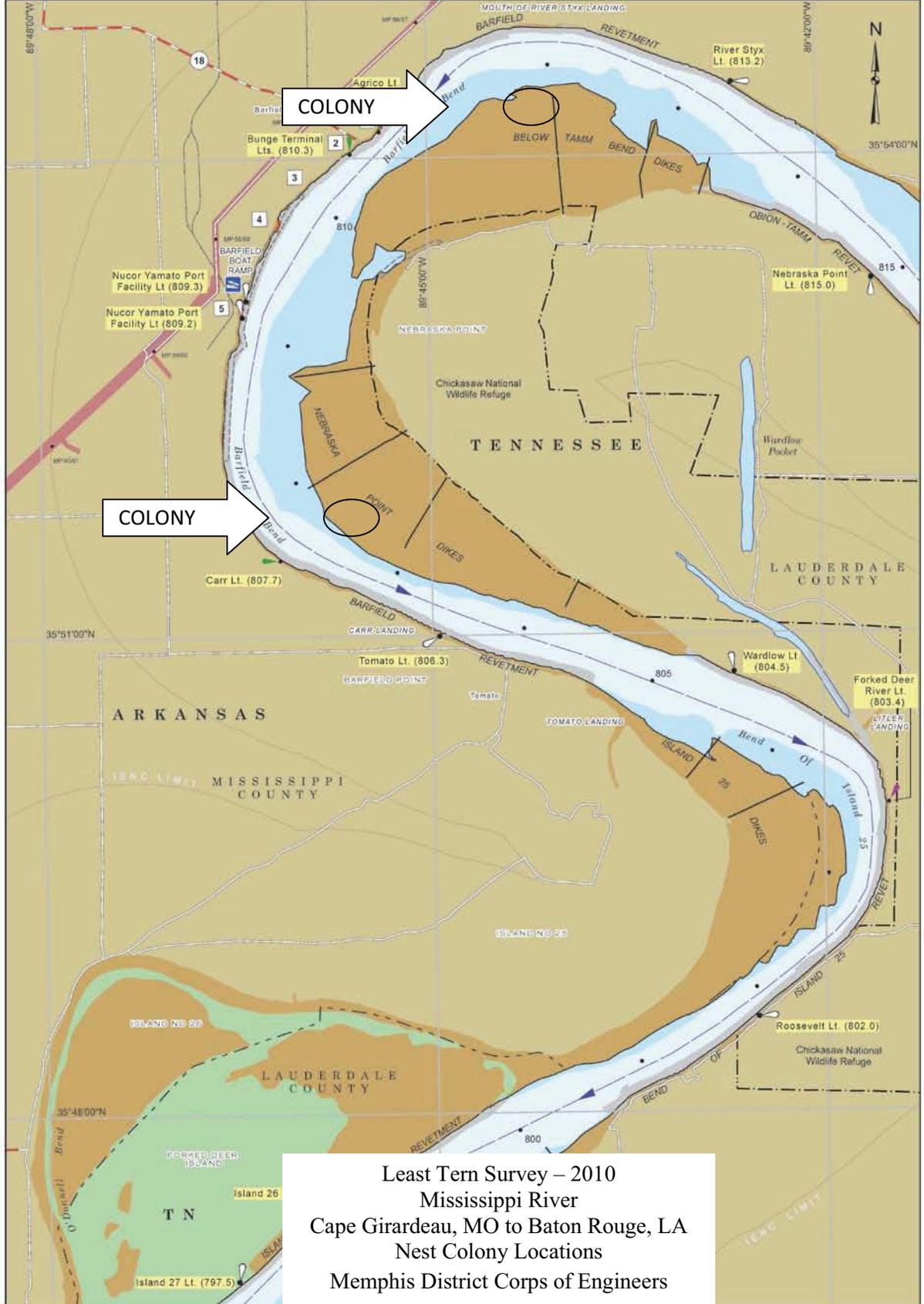
Least Tern Survey – 2010  
Mississippi River  
Cape Girardeau, MO to Baton Rouge, LA  
Nest Colony Locations  
Memphis District Corps of Engineers



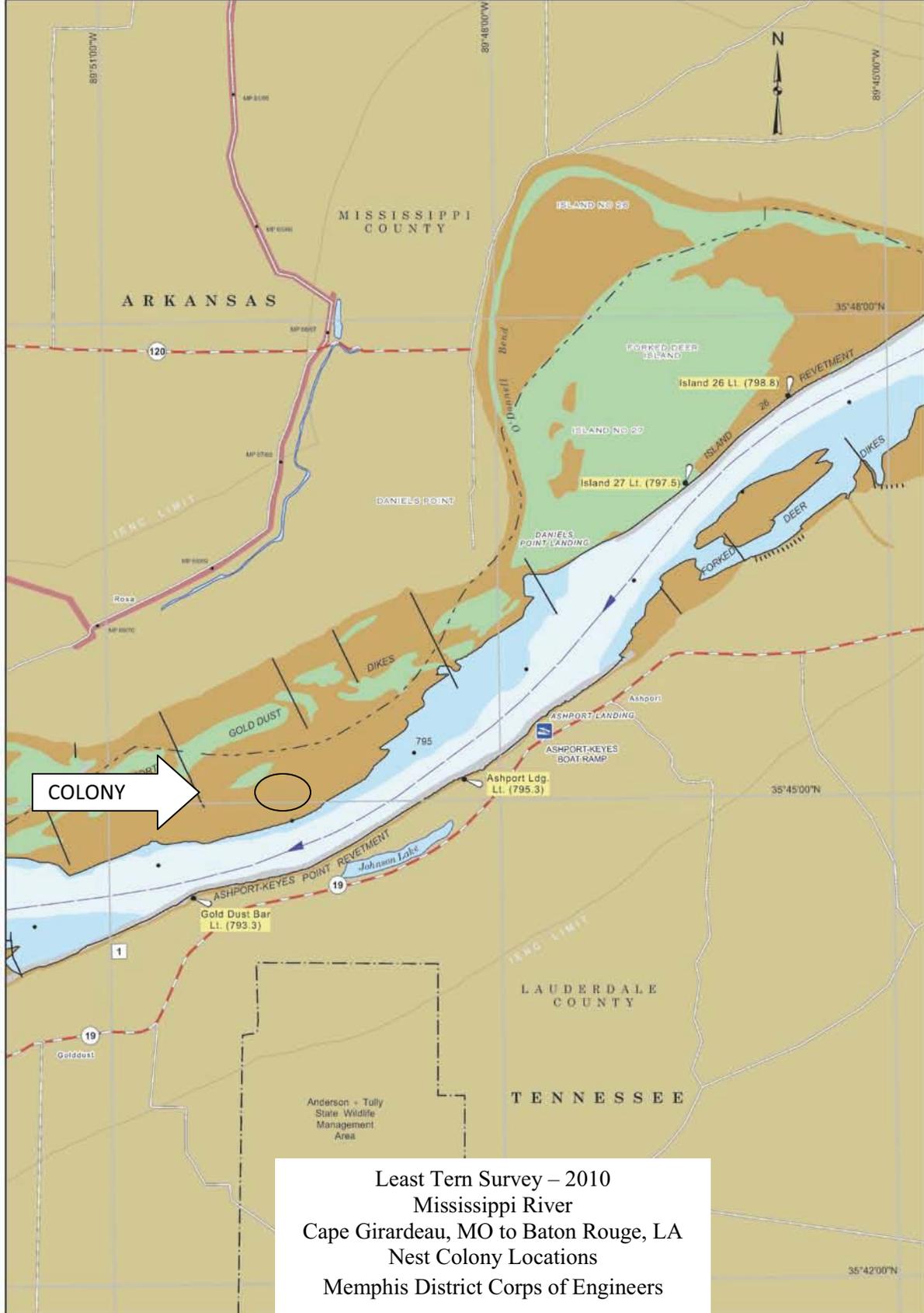
Least Tern Survey – 2010  
 Mississippi River  
 Cape Girardeau, MO to Baton Rouge, LA  
 Nest Colony Locations  
 Memphis District Corps of Engineers

A-I-3





Least Tern Survey – 2010  
 Mississippi River  
 Cape Girardeau, MO to Baton Rouge, LA  
 Nest Colony Locations  
 Memphis District Corps of Engineers

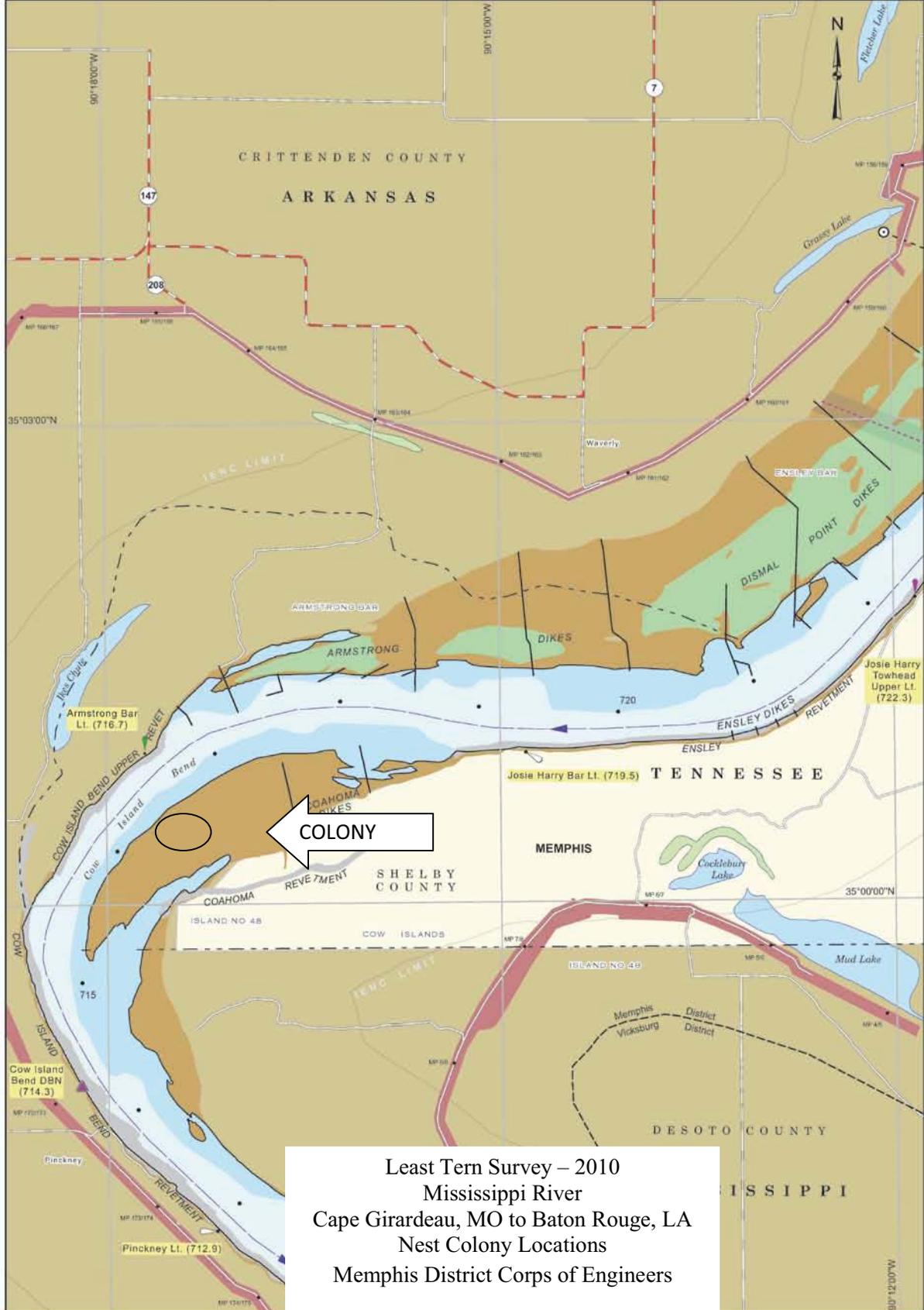


Least Tern Survey – 2010  
 Mississippi River  
 Cape Girardeau, MO to Baton Rouge, LA  
 Nest Colony Locations  
 Memphis District Corps of Engineers



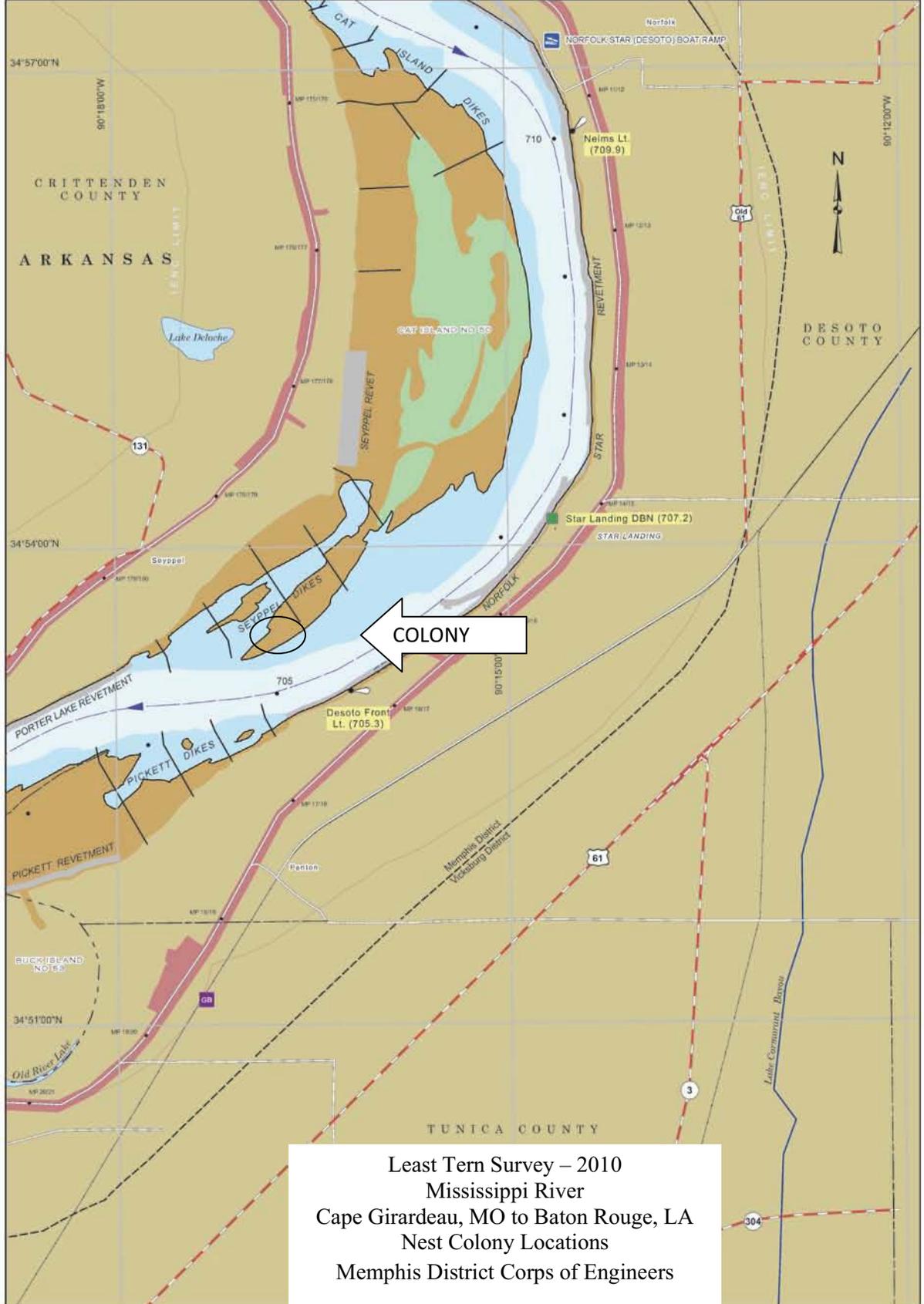


Least Tern Survey – 2010  
 Mississippi River  
 Cape Girardeau, MO to Baton Rouge, LA  
 Nest Colony Locations  
 Memphis District Corps of Engineers



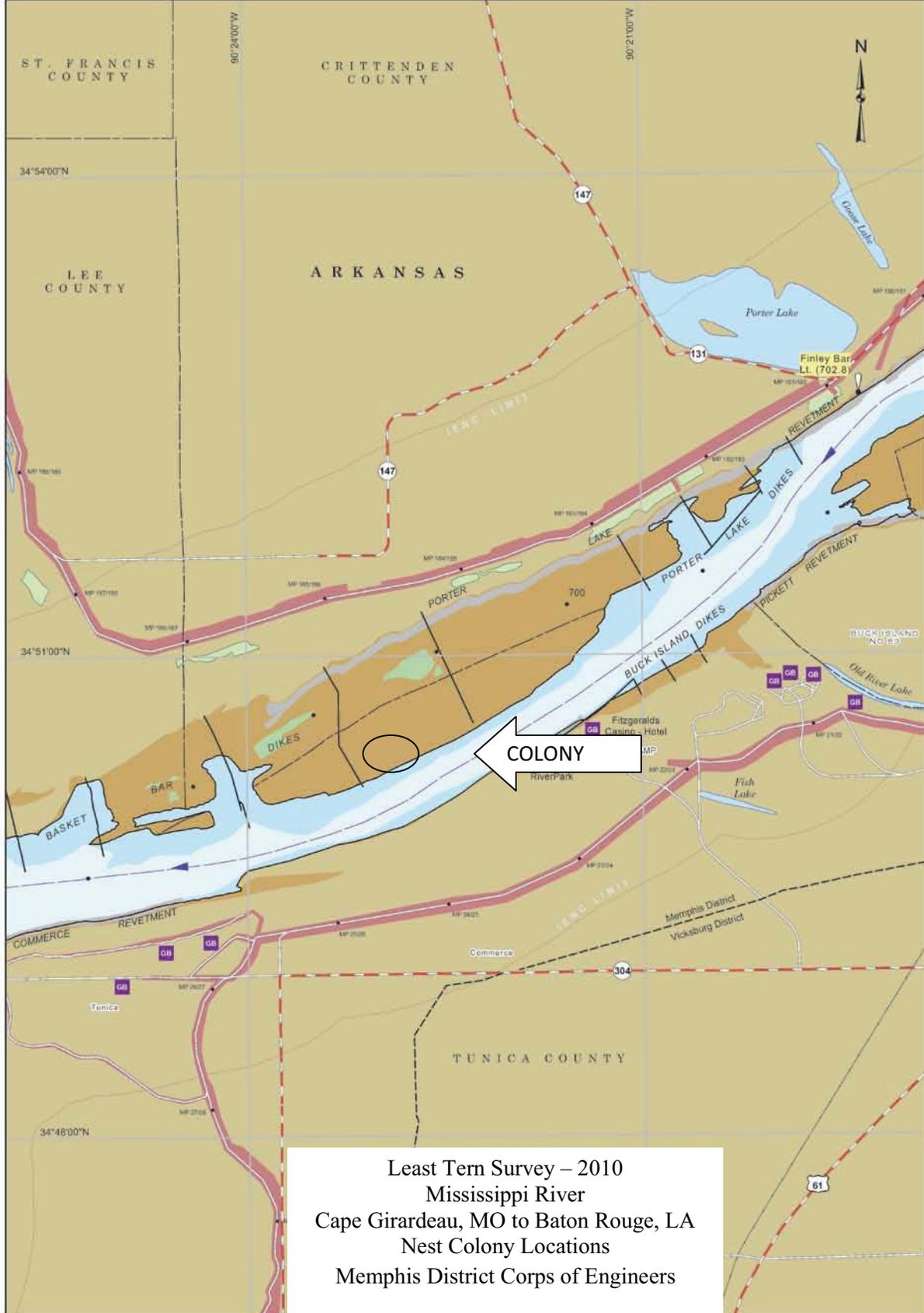
COLONY

Least Tern Survey – 2010  
 Mississippi River  
 Cape Girardeau, MO to Baton Rouge, LA  
 Nest Colony Locations  
 Memphis District Corps of Engineers

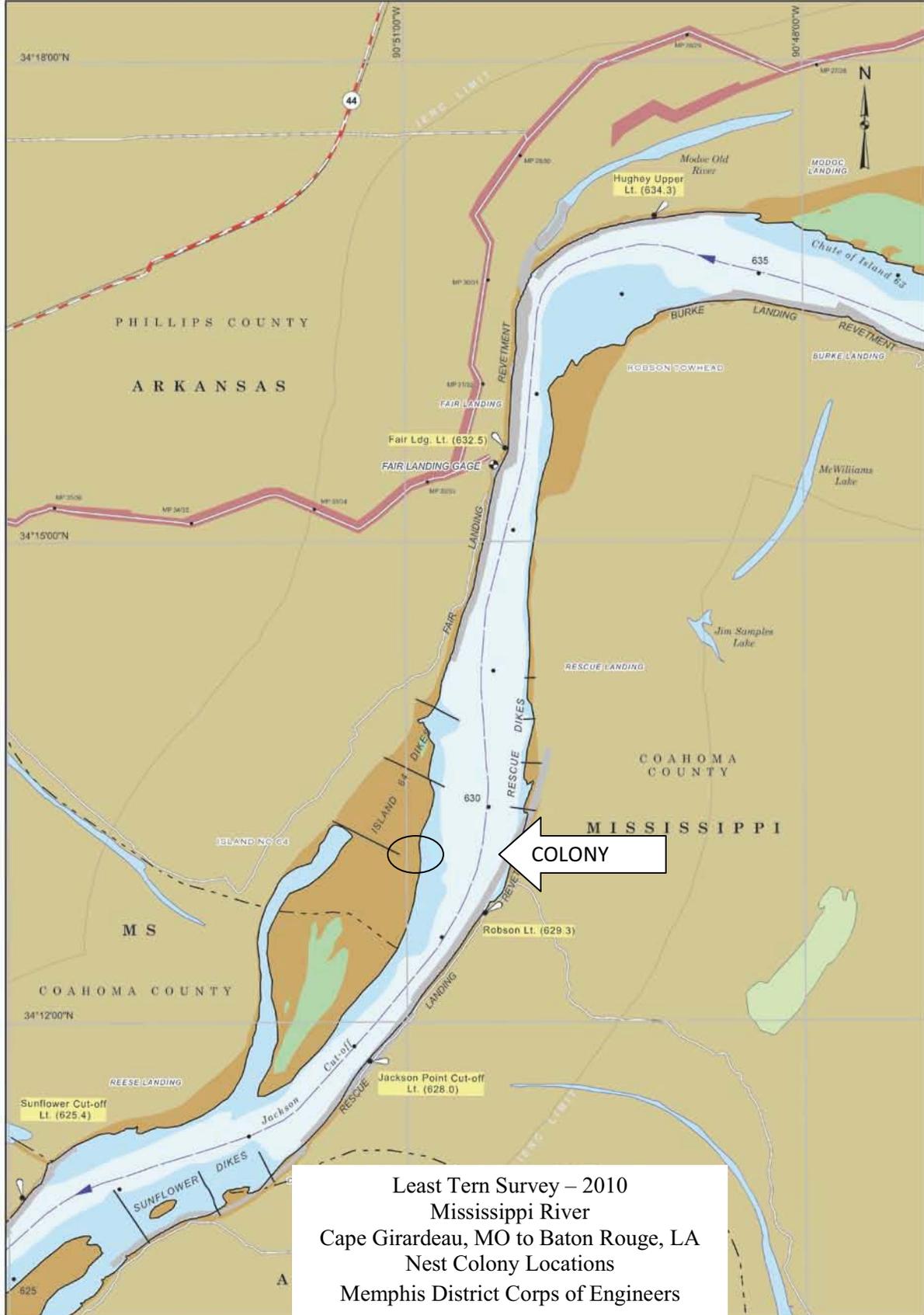


Least Tern Survey – 2010  
 Mississippi River  
 Cape Girardeau, MO to Baton Rouge, LA  
 Nest Colony Locations  
 Memphis District Corps of Engineers

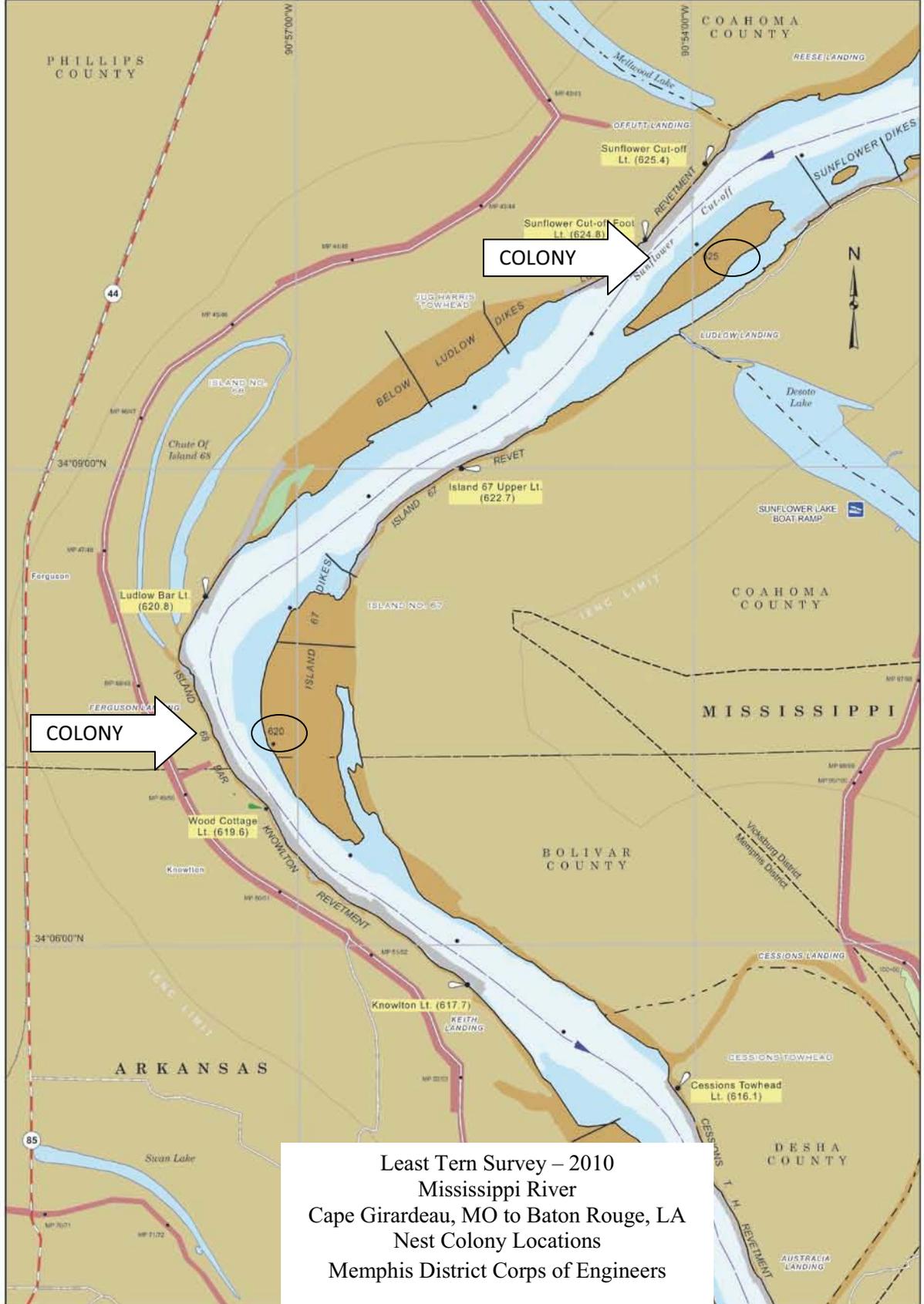




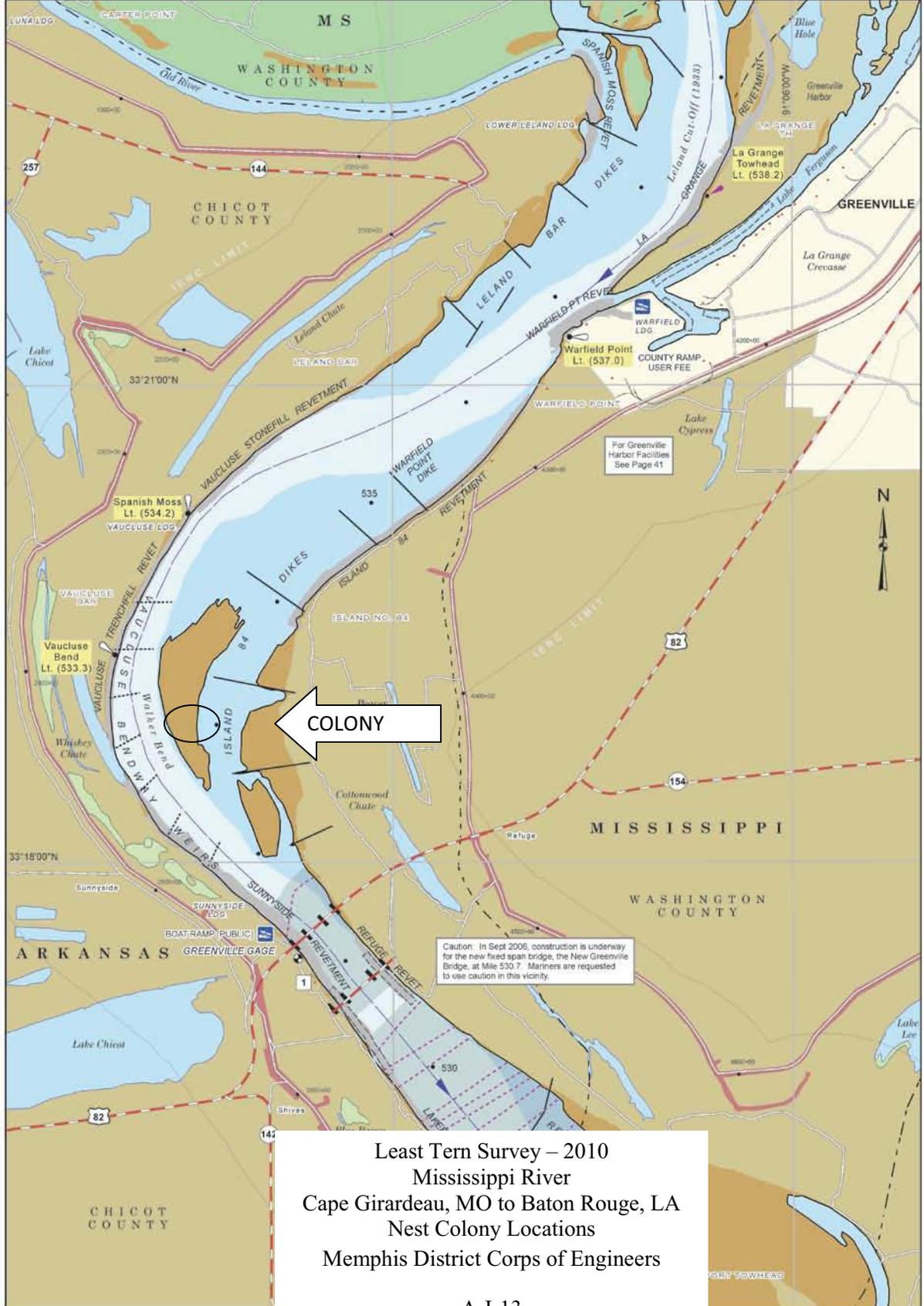
Least Tern Survey – 2010  
 Mississippi River  
 Cape Girardeau, MO to Baton Rouge, LA  
 Nest Colony Locations  
 Memphis District Corps of Engineers



Least Tern Survey – 2010  
 Mississippi River  
 Cape Girardeau, MO to Baton Rouge, LA  
 Nest Colony Locations  
 Memphis District Corps of Engineers



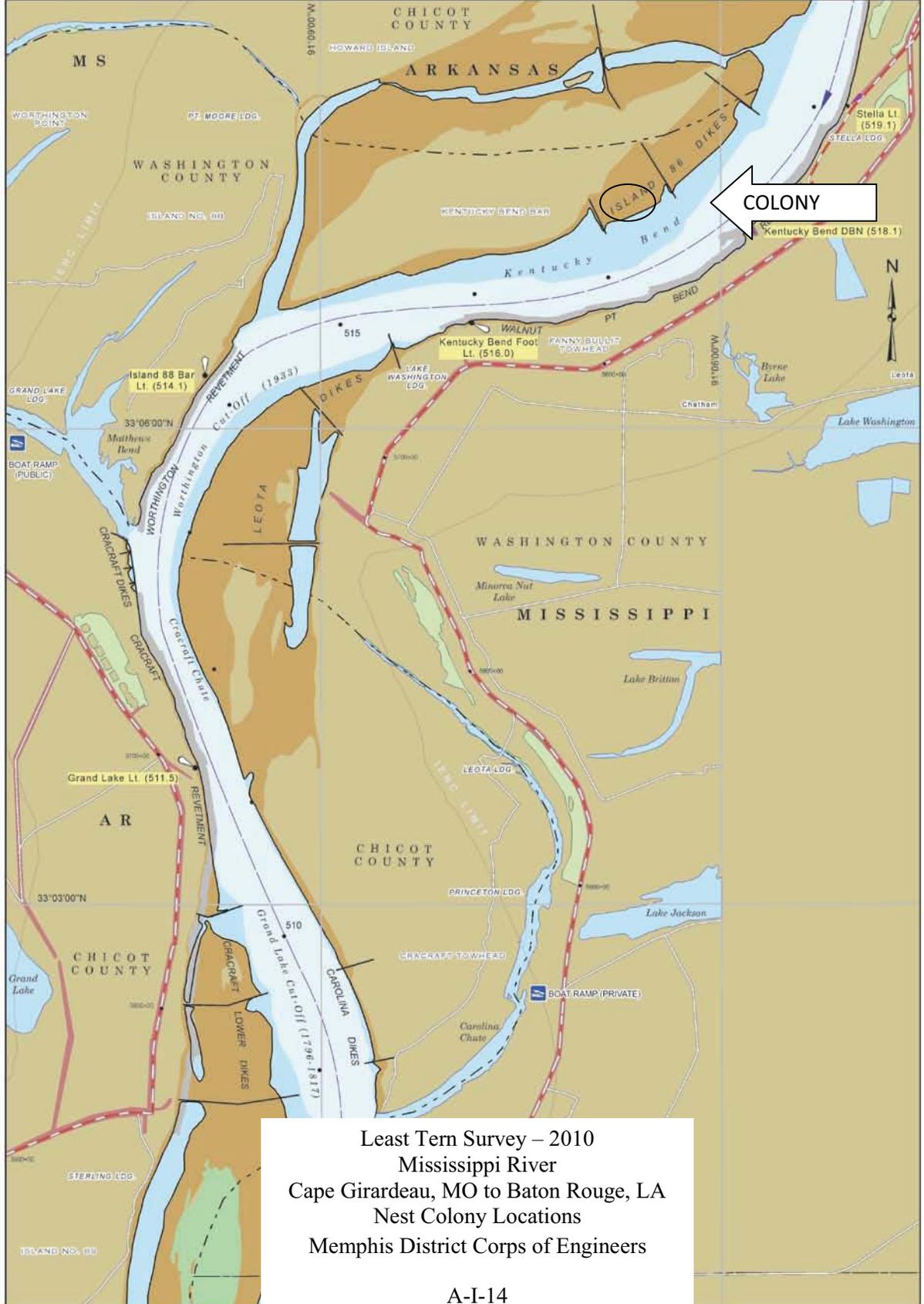
Least Tern Survey – 2010  
 Mississippi River  
 Cape Girardeau, MO to Baton Rouge, LA  
 Nest Colony Locations  
 Memphis District Corps of Engineers



COLONY

Caution: In Sept 2006, construction is underway for the new fixed span bridge, the New Greenville Bridge, at Mile 530.7. Mariners are requested to use caution in this vicinity.

Least Tern Survey – 2010  
 Mississippi River  
 Cape Girardeau, MO to Baton Rouge, LA  
 Nest Colony Locations  
 Memphis District Corps of Engineers



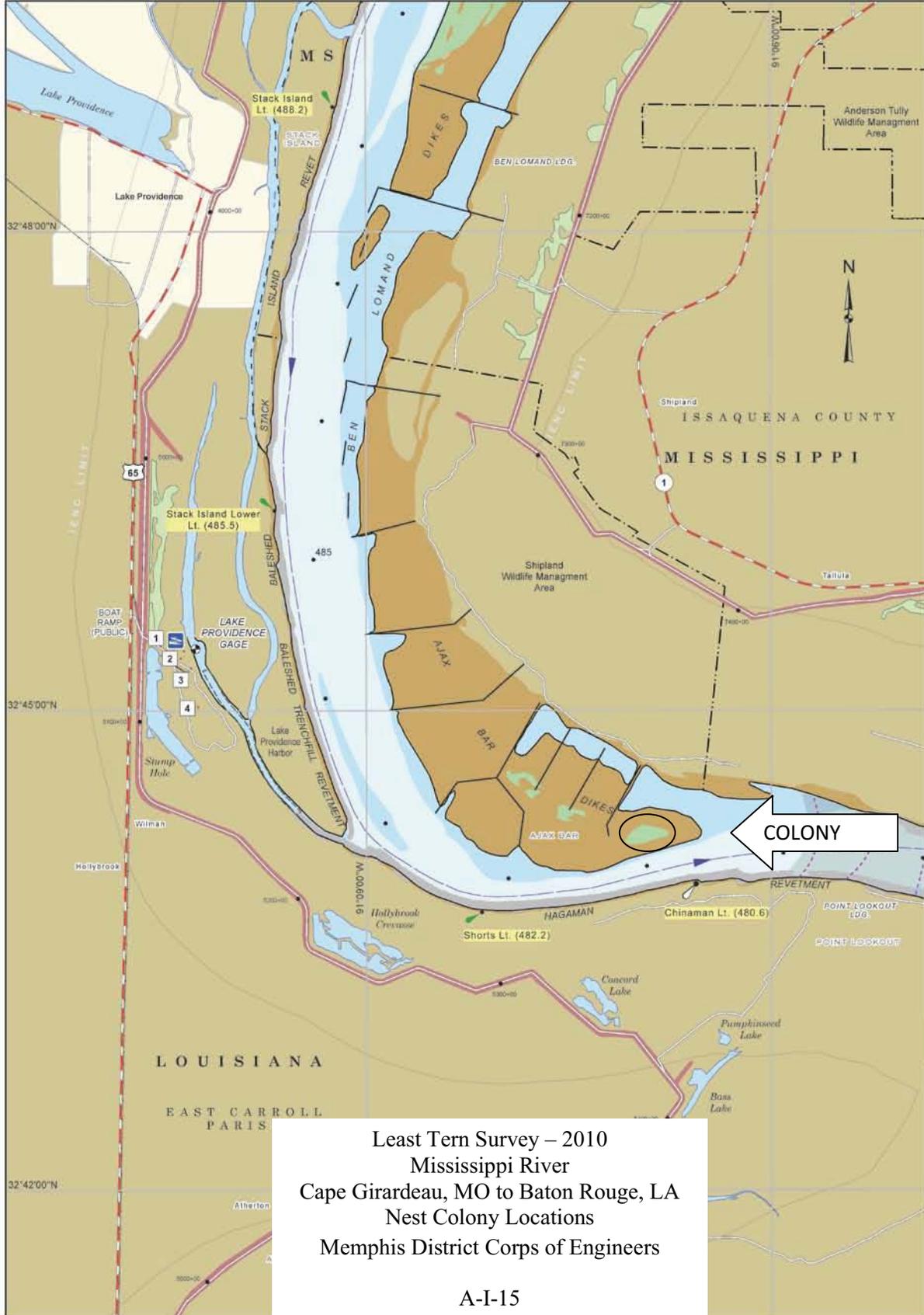
Least Tern Survey – 2010  
 Mississippi River  
 Cape Girardeau, MO to Baton Rouge, LA  
 Nest Colony Locations  
 Memphis District Corps of Engineers

A-I-14

SCALE = 1:40,000

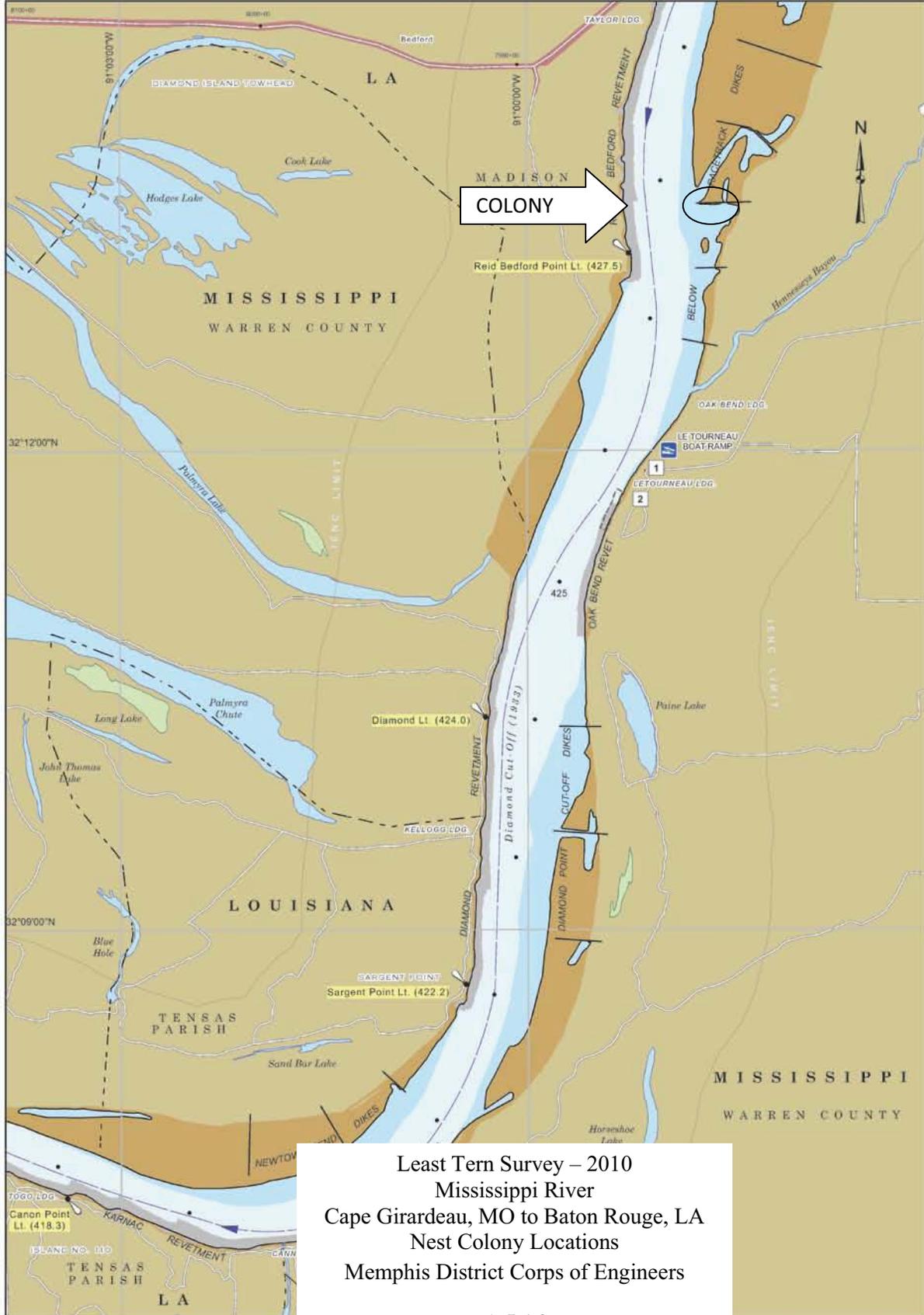


Map No. 44

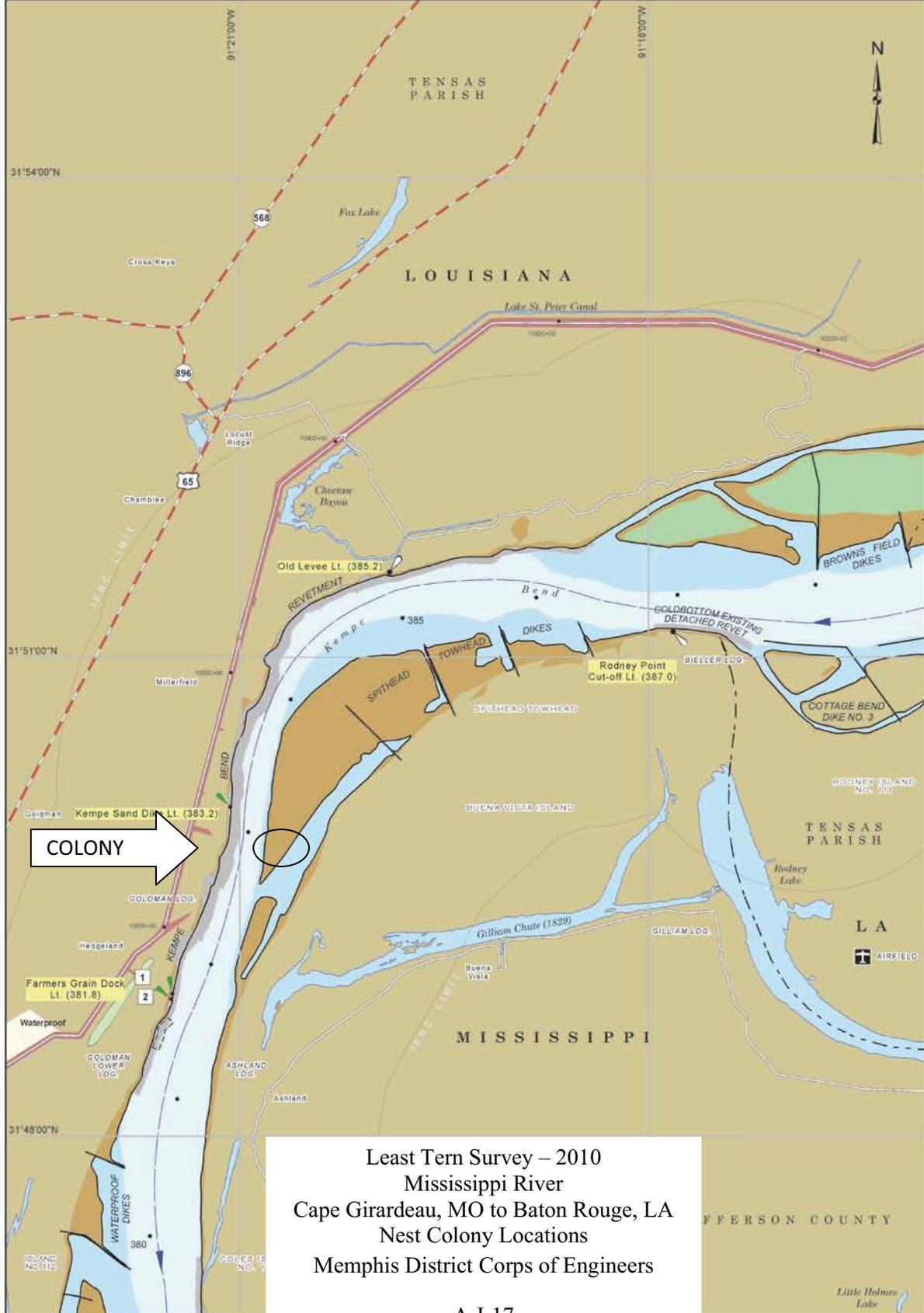


Least Tern Survey – 2010  
 Mississippi River  
 Cape Girardeau, MO to Baton Rouge, LA  
 Nest Colony Locations  
 Memphis District Corps of Engineers

A-I-15



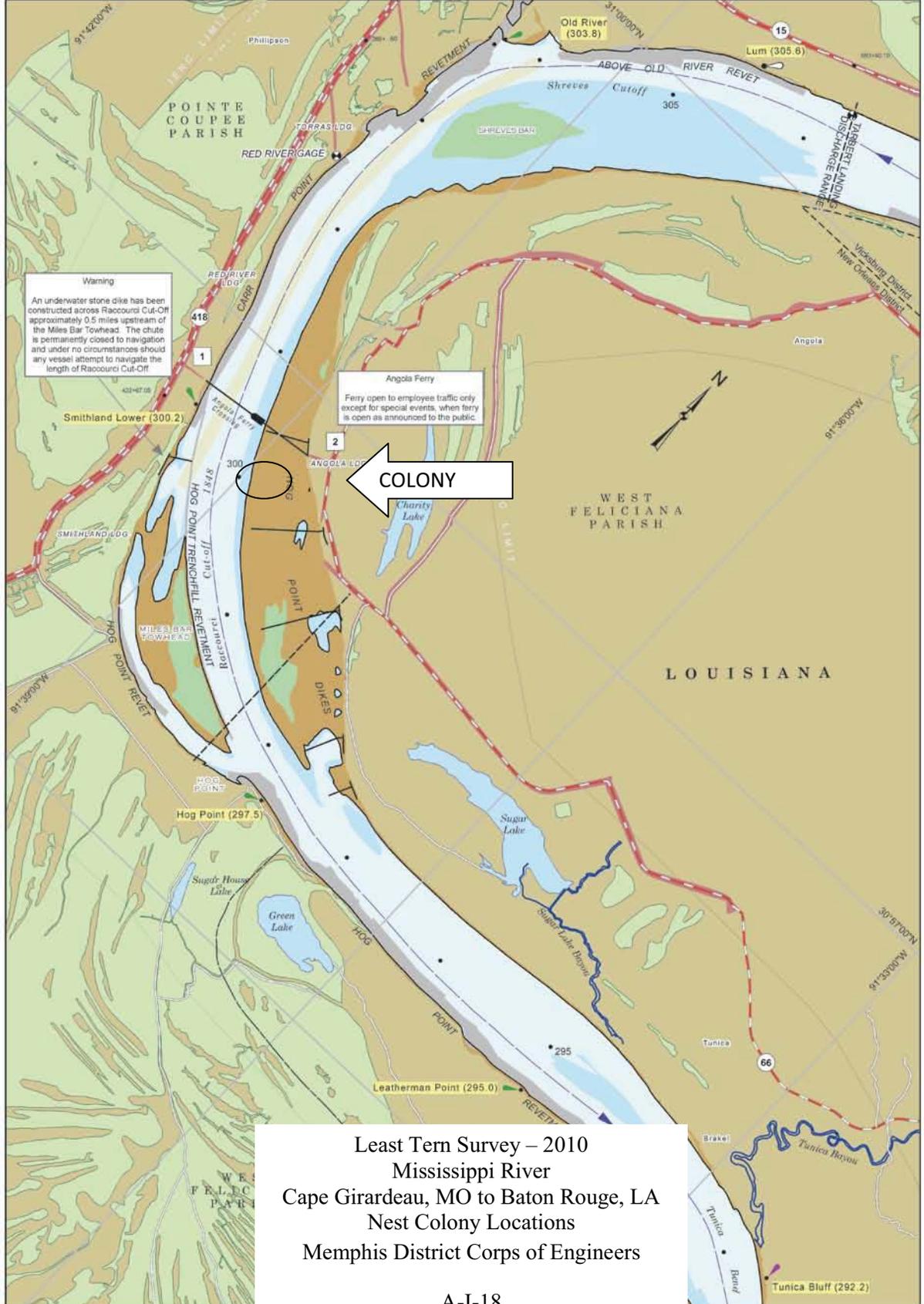
Least Tern Survey – 2010  
 Mississippi River  
 Cape Girardeau, MO to Baton Rouge, LA  
 Nest Colony Locations  
 Memphis District Corps of Engineers



Least Tern Survey – 2010  
 Mississippi River  
 Cape Girardeau, MO to Baton Rouge, LA  
 Nest Colony Locations  
 Memphis District Corps of Engineers

A-I-17





**Warning**  
An underwater stone dike has been constructed across Raccoon Cut-Off approximately 0.5 miles upstream of the Miles Bar Towhead. The chute is permanently closed to navigation and under no circumstances should any vessel attempt to navigate the length of Raccoon Cut-Off

**Angola Ferry**  
Ferry open to employee traffic only except for special events, when ferry is open as announced to the public.

**COLONY**

Least Tern Survey – 2010  
Mississippi River  
Cape Girardeau, MO to Baton Rouge, LA  
Nest Colony Locations  
Memphis District Corps of Engineers

**Appendix A – II**

**LEAST TERN SURVEY - 2010**

**Mississippi River  
Cape Girardeau, MO to Baton Rouge, LA**

**SMALL BOAT SURVEY July 31 – August 21, 2010**

**Memphis District, Corps of Engineers**

**Data Sheets**

# FIELD SIGHTING DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

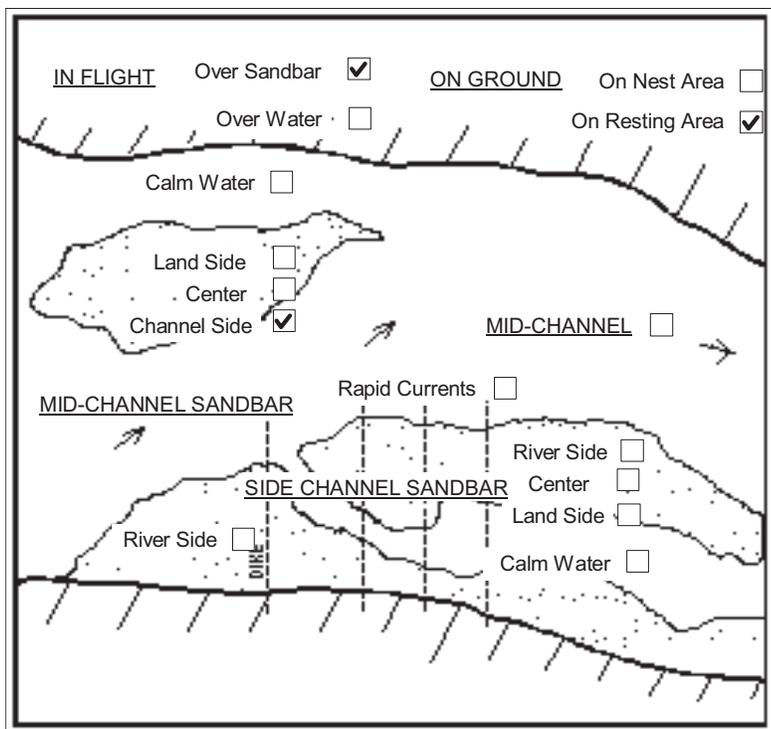
DATE: 7/31/2010 TIME OF DAY: 9:32 RIVER MILE 931.5

LOCALITY: Hickman Co. Ky SITE NAME: Wolf Island Bar  
County/Parish State

WHERE SITED: Latitude: 63.7046  
 Longitude: 89.1486

Approximate Distance to Water: 0 Feet

NUMBERS SIGHTED:  
 Adults: 95  
 Juveniles: \_\_\_\_\_  
 Eggs: \_\_\_\_\_  
 Chicks: No



SUBSTRATE:  
 Sand:   
 Gravel:   
 Debris:

VEGETATION:  
 Type: \_\_\_\_\_  
 Distance: \_\_\_\_\_ Feet

FIELD CONDITION:  
 Temperature: 91 °F  
 Rain: No  
 Wind: SSW 5mph  
 % Cloud: 30

OTHER NOTES:

Left Bank. Low, wet sand bar with terns resting at the waterline. No disturbance noted with Great Blue Herons, Kildeers, Plovers, Rough-winged Swallows and Barn Swallows present

KY side

OBSERVERS: Boyd, Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Cairo = 31.9 F  
(Gage Location) (Elevation)

# FIELD SIGHTING DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

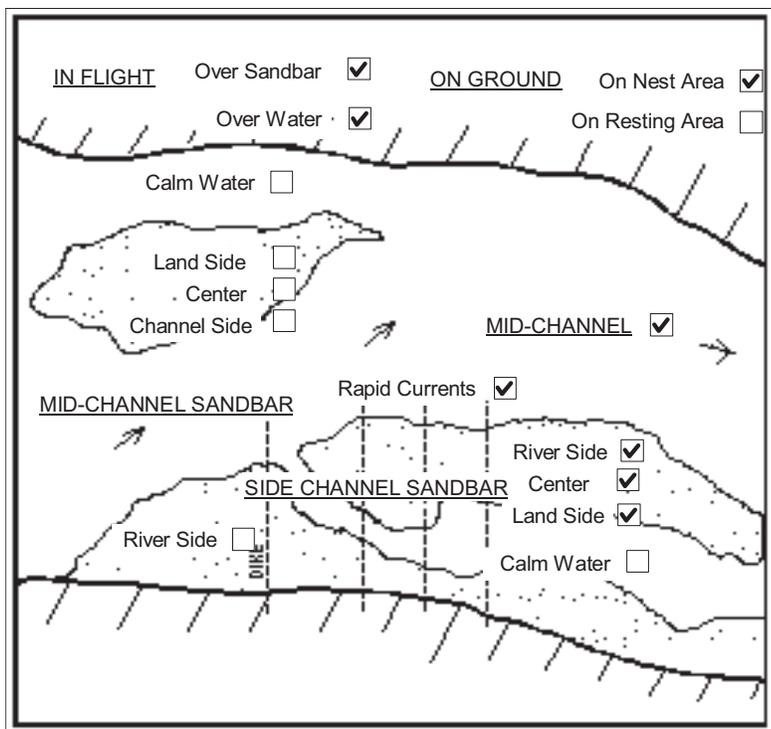
DATE: 7/31/2010 TIME OF DAY: 11:24 RIVER MILE 884.5

LOCALITY: Fulton KY SITE NAME: Kentucky Point Dikes  
County/Parish State

WHERE SITED: Latitude: 36.0203  
Longitude: 89.5543

Approximate Distance to Water: 100 Feet

NUMBERS SIGHTED:  
Adults: 3200  
Juveniles: yes  
Eggs: 1(2)  
Chicks: Yes



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: grass/forbs  
Distance: 0 Feet

FIELD CONDITION:  
Temperature: 93 °F  
Rain: No  
Wind: W 3-5mph  
% Cloud: 10

OTHER NOTES:

Left Bank. Unattached sand bar, medium to high elevation (700 x 1/4 m.). Kentucky game & Fish "Keep Out" signs posted along perimeter. Terns breasting and feeding chicks at waterline, fishing opposite bank. Many nests in grass, some abandoned eggs, but no signs of disturbance. Flush count includes many fledged juveniles.

KY side

OBSERVERS: Boyd, Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: New Madrid = 21.6 F  
(Gage Location) (Elevation)

# FIELD SIGHTING DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

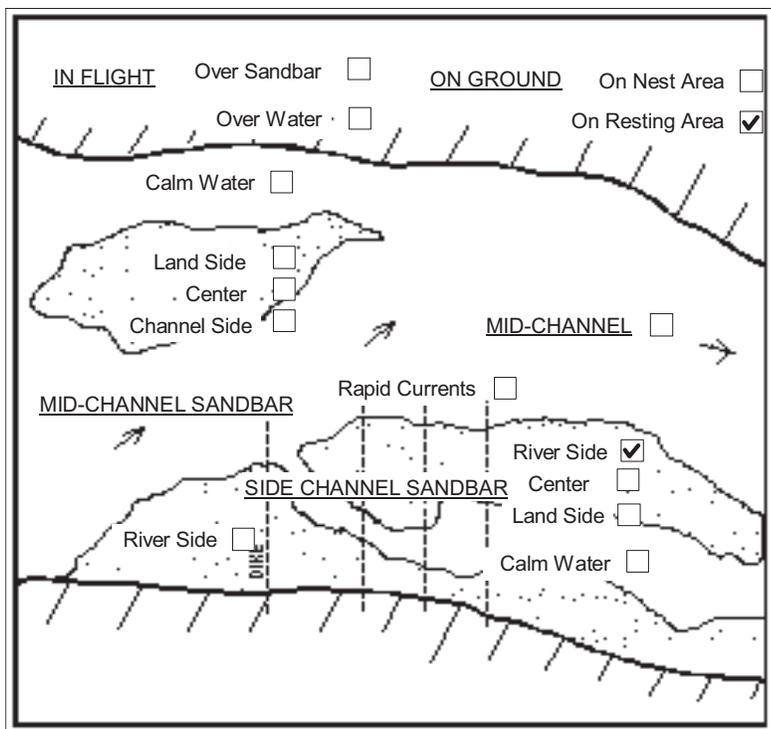
DATE: 7/31/2010 TIME OF DAY: 12:31 RIVER MILE 864

LOCALITY: Lake TN SITE NAME: Below Cherokee Dikes  
County/Parish State

WHERE SITED: Latitude: 36.32014  
Longitude: 89.61528

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
Adults: 35  
Juveniles: \_\_\_\_\_  
Eggs: \_\_\_\_\_  
Chicks: No



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

FIELD CONDITION:  
Temperature: 93 °F  
Rain: No  
Wind: W 3-5mph  
% Cloud: 10

OTHER NOTES:

Left Bank. Small, barely exposed, 2 acre sand bar with all birds resting at waterline. No reproductive behavior or disturbance factors noted.

TN side

OBSERVERS: Boyd, Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Caruthersville = 22.5 F  
(Gage Location) (Elevation)

# FIELD SIGHTING DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

DATE: 8/2/2010 TIME OF DAY: 8:22 RIVER MILE 832

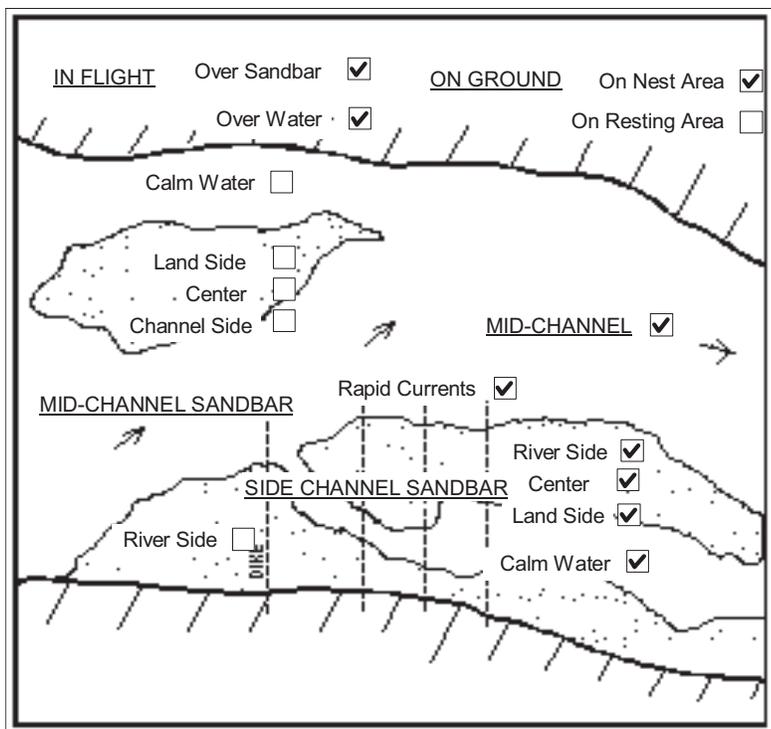
LOCALITY: Pemiscott MO SITE NAME: Island #20 Dikes  
County/Parish State

WHERE SITED: Latitude: 36.0377  
Longitude: 89.6940

Approximate Distance to Water: 40 Feet

**NUMBERS SIGHTED:**

Adults: 498  
Juveniles: \_\_\_\_\_  
Eggs: 1(1) 10(2)  
Chicks: Yes



**SUBSTRATE:**

Sand:   
Gravel:   
Debris:

**VEGETATION:**

Type: Willows  
Distance: 300 Feet

**FIELD CONDITION:**

Temperature: 81 °F  
Rain: No  
Wind: E 5mph  
% Cloud: 10

**OTHER NOTES:**

Right Bank. Unattached, flat, sand and gravel bar (400 x 1000 ft.) with nests along wrack lines. Chicks of all ages and some eggs with hatchlings. No juveniles observed. Two fingerling carp found among scrapes. Two Bald Eagles, Semi-palmated Plovers and sand pipers also present. Most terns resting at waterline on calm side of bar.

MO side

OBSERVERS: Boyd, Fowlkes, K. & W. Jones, Rumancik, Thron

RIVER GAGE READING: Caruthersville = 22.5 F  
(Gage Location) (Elevation)



# FIELD SIGHTING DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

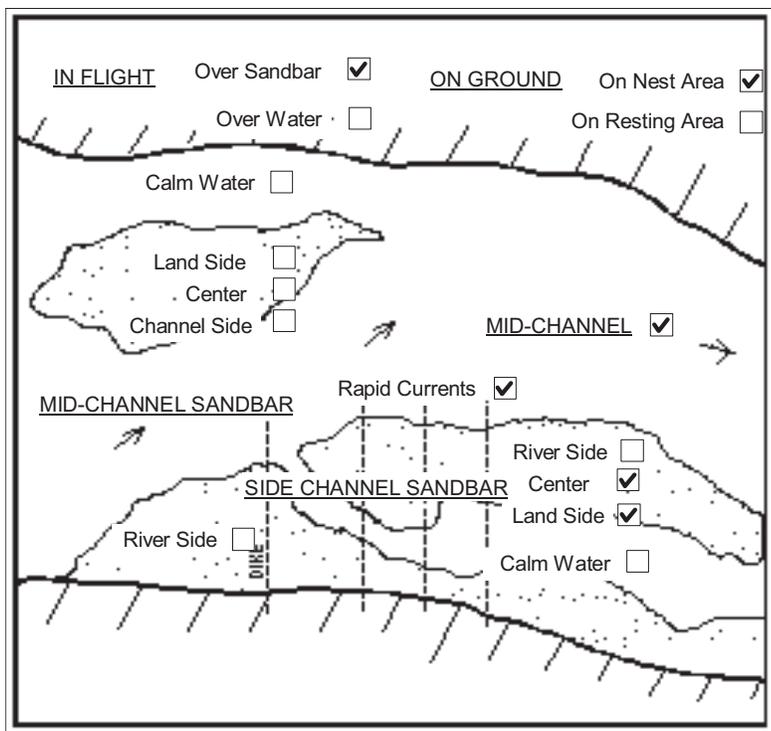
DATE: 8/2/2010 TIME OF DAY: 9:32 RIVER MILE 820

LOCALITY: Mississippi AR SITE NAME: Wrights Point Dikes  
County/Parish State

WHERE SITED: Latitude: 35.9065  
Longitude: 89.6490

Approximate Distance to Water: 75 Feet

NUMBERS SIGHTED:  
Adults: 187  
Juveniles: \_\_\_\_\_  
Eggs: 3(1) 2(2)  
Chicks: Yes



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

FIELD CONDITION:  
Temperature: 86 °F  
Rain: No  
Wind: E 3-5mph  
% Cloud: 30

OTHER NOTES:

Right Bank. Attached, 900 x 1200 ft. flat sand bar upstream from wooded island. Many chicks from 1-5 days old along with scrapes and abandoned eggs. Much courting and fish carrying with dog and human tracks within colony. Canada Geese (110) at waterline and Silver Carp and Largemouth Bass fingerlings present.

AR side

OBSERVERS: Boyd, Fowlkes, K. & W. Jones, Rumancik, Thron

RIVER GAGE READING: Caruthersville = 22.5 F  
(Gage Location) (Elevation)

# FIELD SIGHTING DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

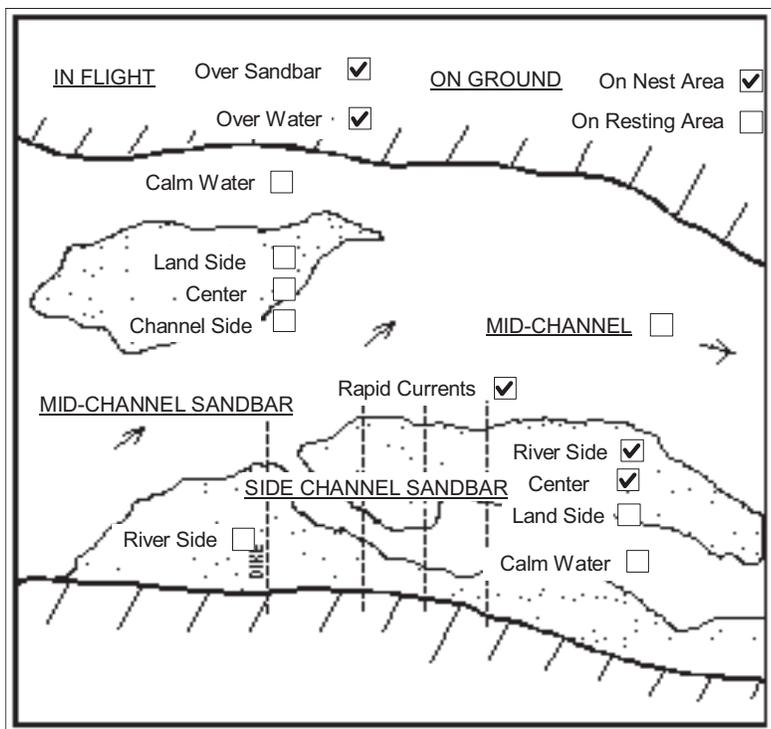
DATE: 8/2/2010 TIME OF DAY: 10:12 RIVER MILE 812

LOCALITY: Lauderdale TN SITE NAME: Below Tamm Bend Dikes  
County/Parish State

WHERE SITED: Latitude: 35.8985  
Longitude: 89.7541

Approximate Distance to Water: 300 Feet

NUMBERS SIGHTED:  
Adults: 360  
Juveniles: \_\_\_\_\_  
Eggs: 3(1) 2(2)  
Chicks: No



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: Willows  
Distance: 500 Feet

FIELD CONDITION:  
Temperature: 88 °F  
Rain: No  
Wind: E 5-10 mph  
% Cloud: 50

OTHER NOTES:

Left Bank. Unattached, 1000 x 1200 ft. sand and gravel bar with many scrapes in patches of pea gravel. Eighteen Canada Geese, Kildeers and Great Egrets present with turtle and goose tracks within colony.

TN side

OBSERVERS: Boyd, Fowlkes, K. & W. Jones, Rumancik, Thron

RIVER GAGE READING: Caruthersville = 22.5 F  
(Gage Location) (Elevation)

# FIELD SIGHTING DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

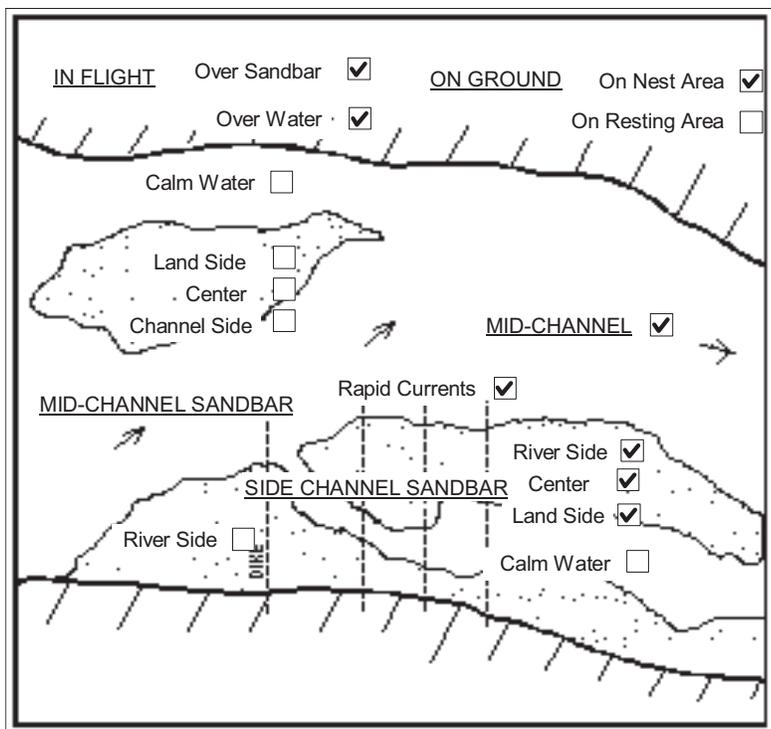
DATE: 8/2/2010 TIME OF DAY: 10:37 RIVER MILE 809

LOCALITY: Lauderdale TN SITE NAME: Nebraska Point Dikes  
County/Parish State

WHERE SITED: Latitude: 35.8574  
Longitude: 89.7539

Approximate Distance to Water: 400 Feet

NUMBERS SIGHTED:  
Adults: 692  
Juveniles: \_\_\_\_\_  
Eggs: 2(1) 1(3)  
Chicks: Yes



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

FIELD CONDITION:  
Temperature: 90 °F  
Rain: No  
Wind: E 5mph  
% Cloud: 50

OTHER NOTES:

Left Bank. Smooth sand bar, 1000ft. X 1/2 mile long, with many terns along the waterline and fishing opposite bank. Chicks up to 2 weeks old along with abandoned eggs. One drum and Silver Carp found in colony. No disturbance noted.

TN side

OBSERVERS: Boyd, Fowlkes, K. & W. Jones, Rumancik, Thron

RIVER GAGE READING: Caruthersville = 22.5 F  
(Gage Location) (Elevation)

**FIELD SIGHTING  
DATA SHEET**

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

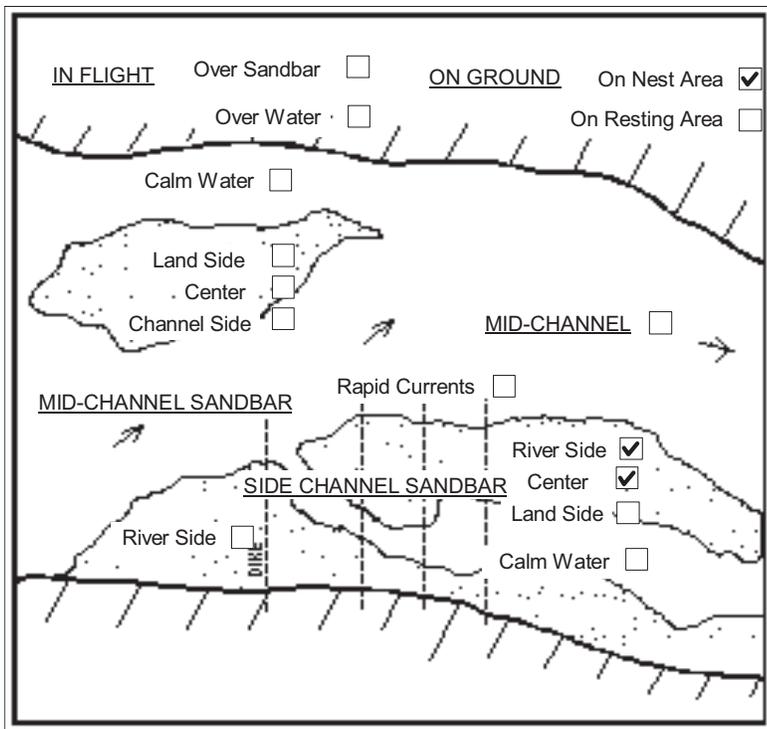
DATE: 8/16/2010 TIME OF DAY: 8:22 RIVER MILE 794

LOCALITY: Lauderdale TN SITE NAME: Ashport Gold Dust Dikes  
County/Parish State

WHERE SITED: Latitude: 35.74737  
Longitude: 89.82788

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
Adults: 82  
Juveniles: \_\_\_\_\_  
Eggs: \_\_\_\_\_  
Chicks: No



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

FIELD CONDITION:  
Temperature: 80 °F  
Rain: No  
Wind: NE 12mph  
% Cloud: 0

OTHER NOTES:

Right Bank. Drift count along low, flat, wet, sand bar, unattached with no signs of disturbance. Only 3 terns sitting inland possibly on scrapes with most resting at waterline.

TN side

OBSERVERS: K. & W. Jones, Koontz, Rumancik, Thron

RIVER GAGE READING: Caruthersville = 19.1 R  
(Gage Location) (Elevation)

# FIELD SIGHTING DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

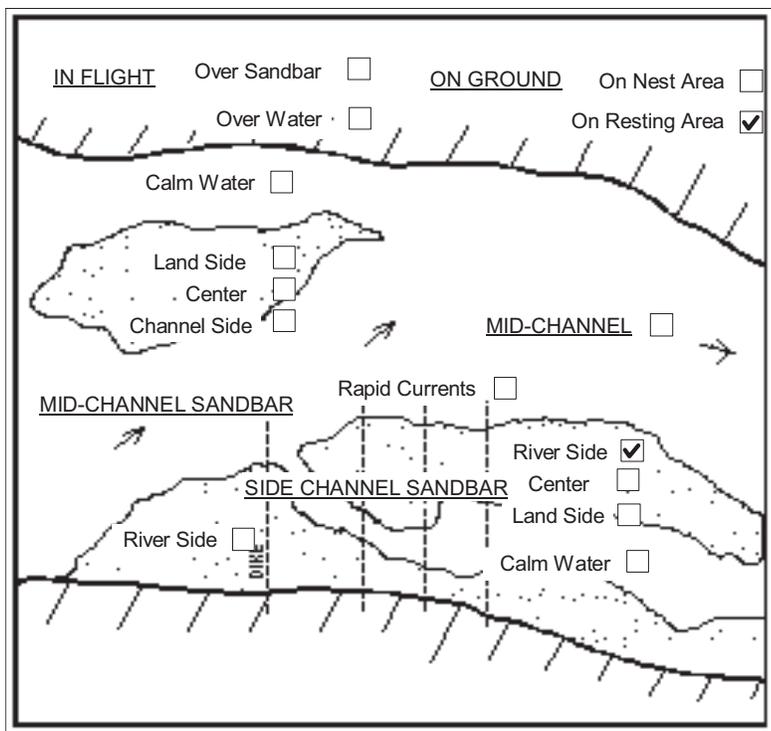
DATE: 8/16/2010 TIME OF DAY: 8:50 RIVER MILE 781.5

LOCALITY: Lauderdale TN SITE NAME: Below Plum Point Dikes  
County/Parish State

WHERE SITED: Latitude: 35.64961  
Longitude: 89.89210

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
Adults: 65  
Juveniles: \_\_\_\_\_  
Eggs: \_\_\_\_\_  
Chicks: No



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: Willows  
Distance: 200 Feet

FIELD CONDITION:  
Temperature: 83 °F  
Rain: No  
Wind: NE 12mph  
% Cloud: 0

OTHER NOTES:

Left Bank. Low, flat sand bar attached to wooded area upstream. All terns resting at waterline and no disturbance factors noted.

TN side

OBSERVERS: K. & W. Jones, Koontz, Rumancik, Thron

RIVER GAGE READING: Memphis = 12.4 F  
(Gage Location) (Elevation)

**FIELD SIGHTING  
DATA SHEET**

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

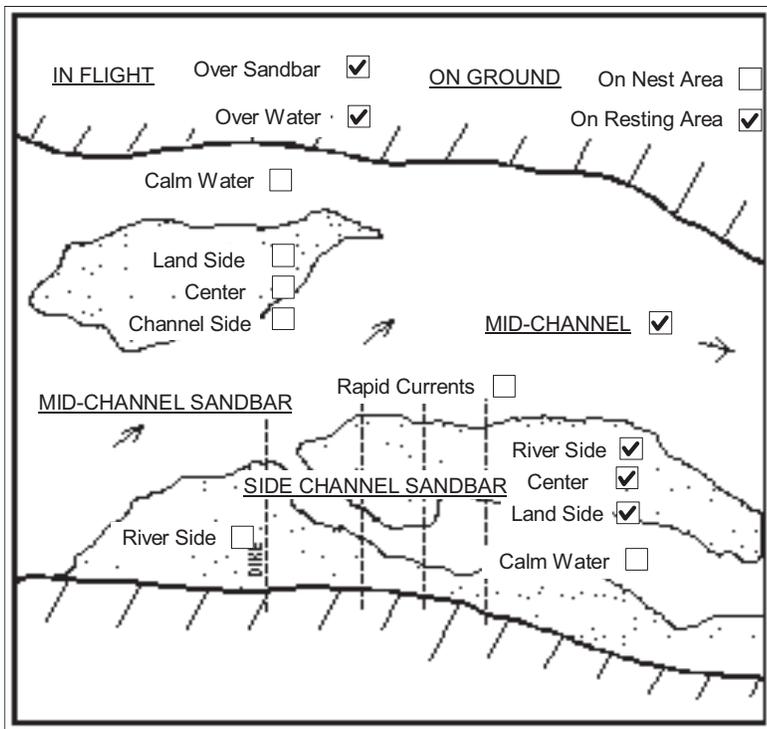
DATE: 8/16/2010 TIME OF DAY: 9:27 RIVER MILE 764.8

LOCALITY: Tipton TN SITE NAME: Below Richardson Landing Dikes  
County/Parish State

WHERE SITED: Latitude: 35.51298  
Longitude: 89.99990

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
Adults: 83  
Juveniles: \_\_\_\_\_  
Eggs: \_\_\_\_\_  
Chicks: No



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

FIELD CONDITION:  
Temperature: 83 °F  
Rain: No  
Wind: NE 20mph  
% Cloud: 0

OTHER NOTES:

Left Bank. Low, flat, small (100 x 200yds.), unattached sand bar with all birds at waterline along with Kildeers, Sand-pipers and 1 Forster's Tern.

TN side

OBSERVERS: K. & W. Jones, Koontz, Rumancik, Thron

RIVER GAGE READING: Memphis = 12.4 F  
(Gage Location) (Elevation)

**FIELD SIGHTING  
DATA SHEET**

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

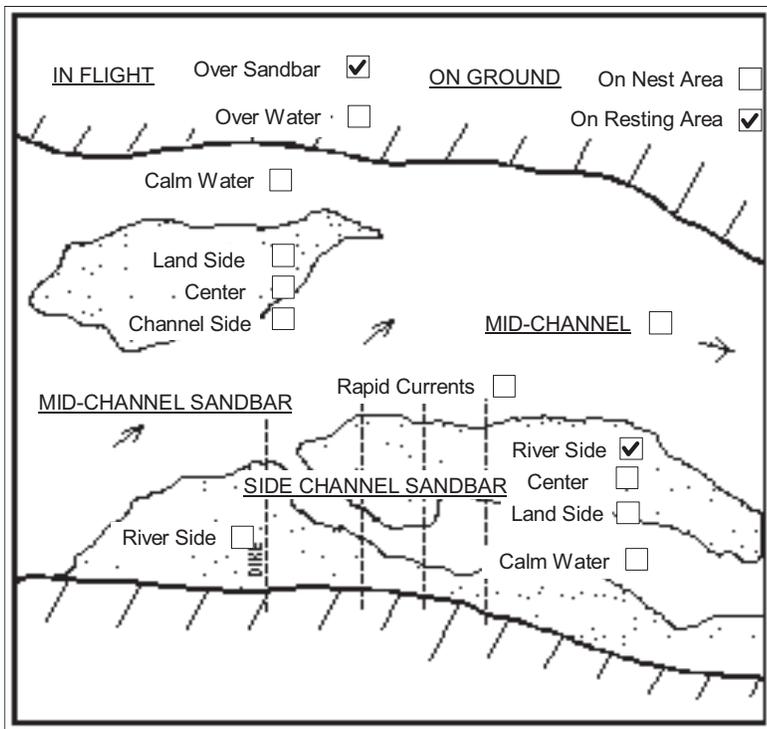
DATE: 8/16/2010 TIME OF DAY: 10:00 RIVER MILE 757.5

LOCALITY: Mississippi TN SITE NAME: Cedar Point  
County/Parish State

WHERE SITED: Latitude: 35.44046  
Longitude: 89.99768

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
Adults: 42  
Juveniles: yes  
Eggs: \_\_\_\_\_  
Chicks: No



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

FIELD CONDITION:  
Temperature: 87 °F  
Rain: No  
Wind: NE 15mph  
% Cloud: 0

OTHER NOTES:

Right Bank. Medium sized, unattached sand bar with vegetation on downstream point. All terns resting at waterline. Drift count yeilds one fledgling juvenile and no signs of disturbance.

AR side

OBSERVERS: K. & W. Jones, Koontz, Rumancik, Thron

RIVER GAGE READING: Memphis = 12.4 F  
(Gage Location) (Elevation)

FIELD SIGHTING  
DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

DATE: 8/16/2010 TIME OF DAY: 10:24 RIVER MILE 754.5

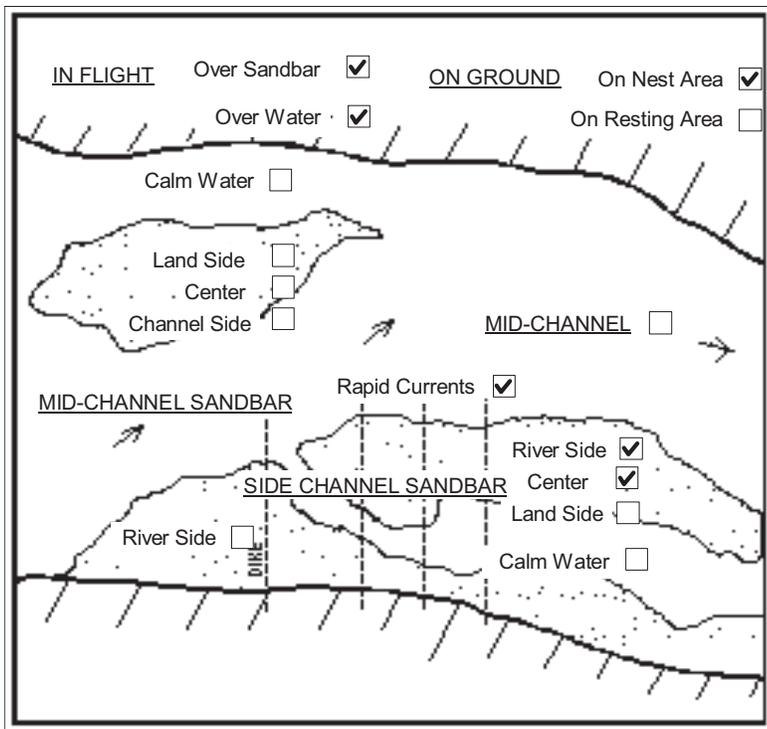
LOCALITY: Shelby TN SITE NAME: Densford Bar  
County/Parish State

WHERE SITED: Latitude: 35.39026  
Longitude: 90.07041

Approximate Distance to Water: 500 Feet

NUMBERS SIGHTED:

Adults: 250  
Juveniles: \_\_\_\_\_  
Eggs: 6(2)  
Chicks: Yes



SUBSTRATE:

Sand:   
Gravel:   
Debris:

VEGETATION:

Type: grass  
Distance: 100 Feet

FIELD CONDITION:

Temperature: 88 °F  
Rain: No  
Wind: NE 15-20mph  
% Cloud: 0

OTHER NOTES:

Left Bank. Large, unattached sand bar with nests located along wrack and ripple lines widely dispersed, many with abandoned eggs and some dead chicks. Other chicks hatching and up to 2 weeks old with adults breasting and carrying fish. Silver Carp, Top Minnows, Channel Catfish, White Bass and shad scattered among scrapes. ATV tracks and 18 Canada Geese present.

TN side

OBSERVERS: K. & W. Jones, Koontz, Rumancik, Thron

RIVER GAGE READING: Memphis = 12.4 F  
(Gage Location) (Elevation)

**FIELD SIGHTING  
DATA SHEET**

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

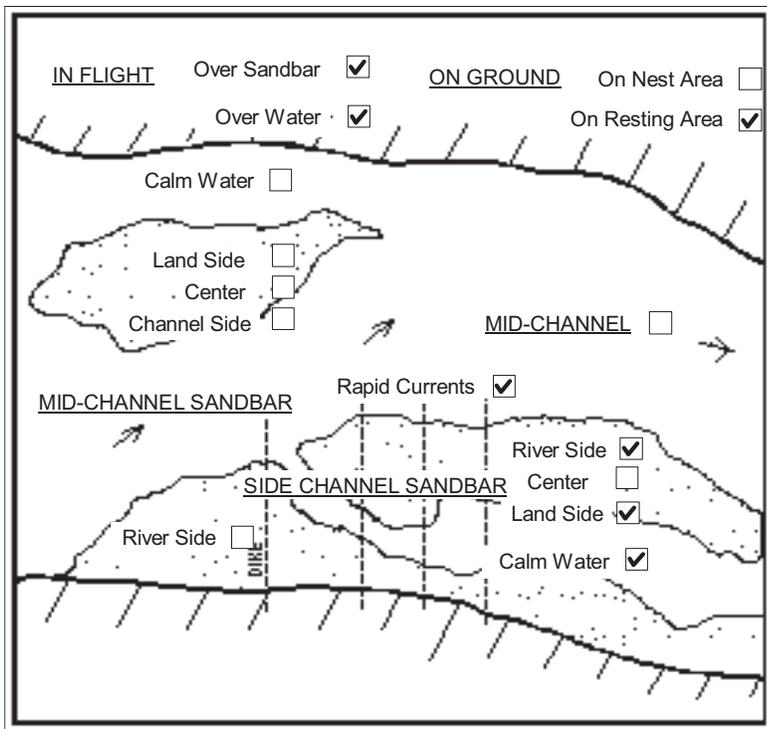
DATE: 8/16/2010 TIME OF DAY: 10:24 RIVER MILE 740.5

LOCALITY: Crittenden AR SITE NAME: Sycamore Chute Dikes  
County/Parish State

WHERE SITED: Latitude: 35.20672  
Longitude: 90.07304

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
Adults: 119  
Juveniles: yes  
Eggs: \_\_\_\_\_  
Chicks: No



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

FIELD CONDITION:  
Temperature: 90 °F  
Rain: No  
Wind: NE 15 mph  
% Cloud: 0

**OTHER NOTES:**

Right Bank. Drift count on attached, low, gently undulating bar of mostly sand with some fine gravel.  
Canine and goose tracks present along with 150 sandpipers, 1 Black Tern, and Kildeers.

AR side

OBSERVERS: K. & W. Jones, Koontz, Rumancik, Thron

RIVER GAGE READING: Memphis = 12.4 F  
(Gage Location) (Elevation)

# FIELD SIGHTING DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

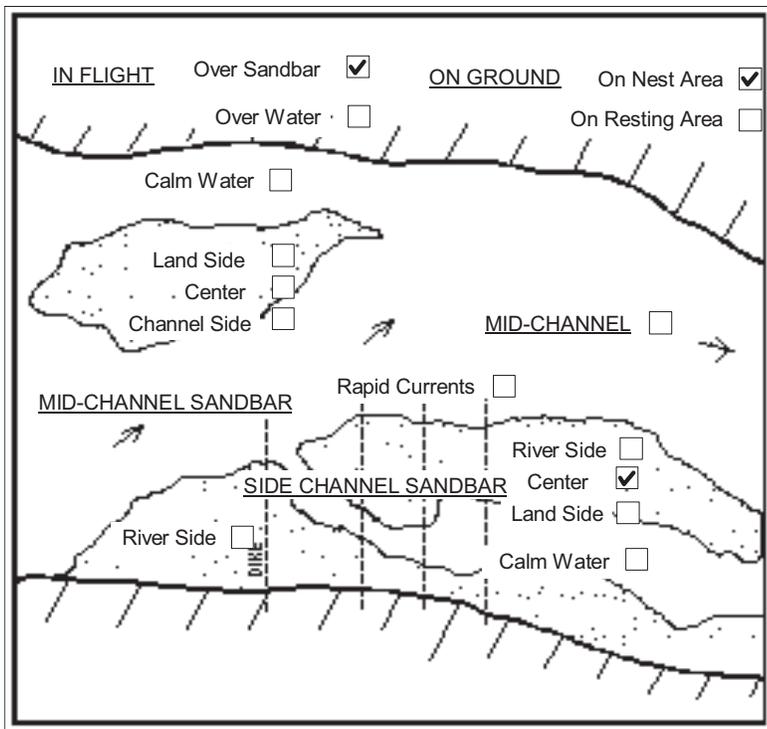
DATE: 8/17/2010 TIME OF DAY: 9:35 RIVER MILE 733.0

LOCALITY: Crittenden AR SITE NAME: Engineer Bar Dikes  
County/Parish State

WHERE SITED: Latitude: 35.12364  
Longitude: 90.10428

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
Adults: 136  
Juveniles: yes  
Eggs: \_\_\_\_\_  
Chicks: Yes



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: Willows  
Distance: 800 Feet

FIELD CONDITION:  
Temperature: 86 °F  
Rain: No  
Wind: W 5mph  
% Cloud: 20

OTHER NOTES:

Right Bank. Drift count on attached sand bar yields terns with juveniles and chicks resting at waterline, but one sitting inland on nest. No disturbance noted with 3 Great Blue Herons present.

AR side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Memphis = 12.3 R  
(Gage Location) (Elevation)

**FIELD SIGHTING  
DATA SHEET**

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

DATE: 8/17/2010 TIME OF DAY: 10:08 RIVER MILE 717

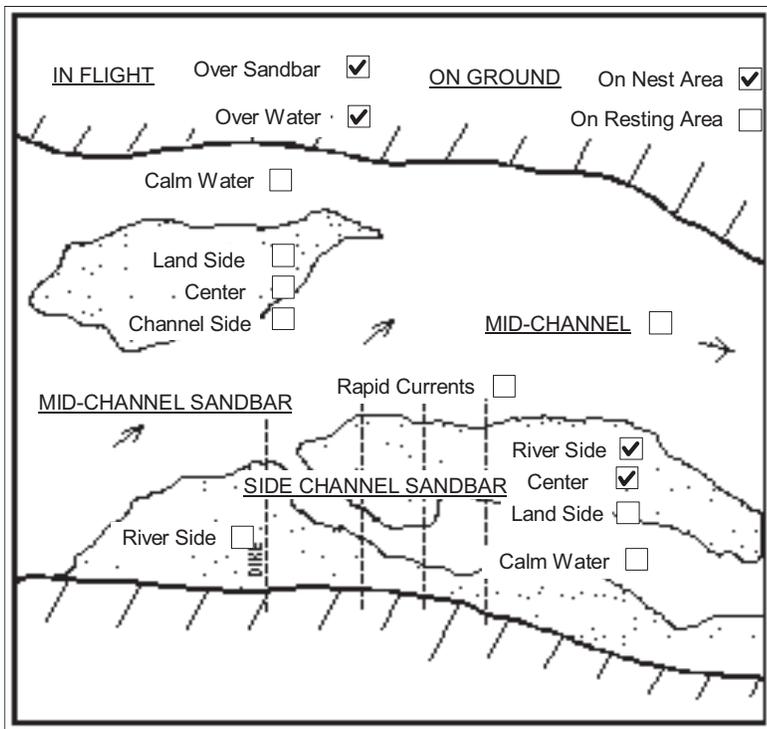
LOCALITY: Desoto MS SITE NAME: Cow Island Bend  
County/Parish State

WHERE SITED: Latitude: 34.9983  
Longitude: 90.30052

Approximate Distance to Water: 200 Feet

**NUMBERS SIGHTED:**

Adults: 138  
Juveniles: yes  
Eggs: \_\_\_\_\_  
Chicks: Yes



**SUBSTRATE:**

Sand:   
Gravel:   
Debris:

**VEGETATION:**

Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

**FIELD CONDITION:**

Temperature: 86 °F  
Rain: No  
Wind: W 7mph  
% Cloud: 30

**OTHER NOTES:**

Left Bank. Drift count along low, flat, bar (1.5 mi. x 600ft.) with most terns at waterline but 8 sitting on nests. Many chicks all ages, some fledged juveniles. Canada Geese (92) downstream point. No disturbance noted.

MS side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Memphis = 12.3 R  
(Gage Location) (Elevation)

# FIELD SIGHTING DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

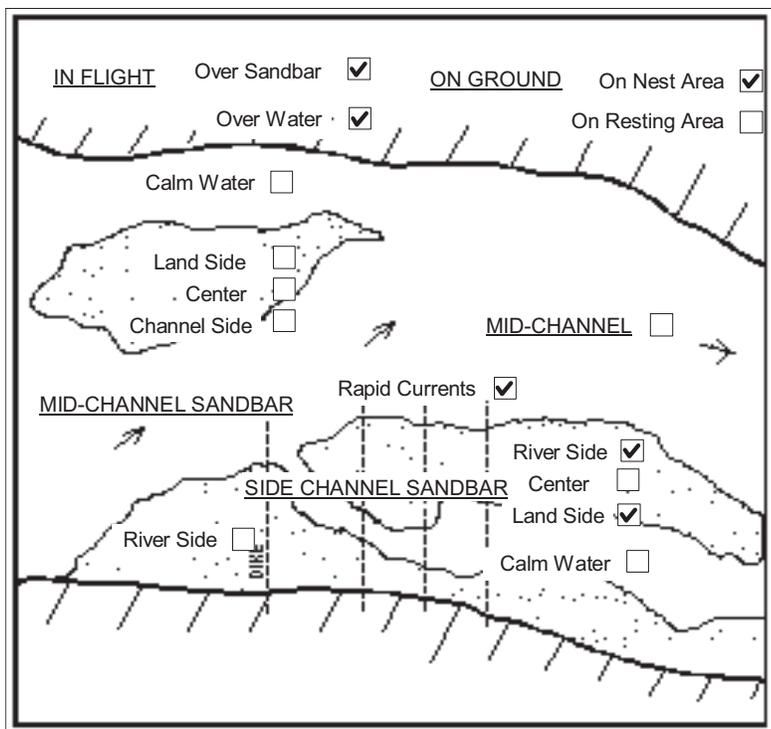
DATE: 8/17/2010 TIME OF DAY: 10:46 RIVER MILE 705.5

LOCALITY: Crittenden AR SITE NAME: Seypell Dikes  
County/Parish State

WHERE SITED: Latitude: 34.88961  
Longitude: 90.28363

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
Adults: 276  
Juveniles: yes  
Eggs: \_\_\_\_\_  
Chicks: No



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

FIELD CONDITION:  
Temperature: 89 °F  
Rain: No  
Wind: W 5 mph  
% Cloud: 20

OTHER NOTES:

Right Bank. Drift count on low, flat, unattached bar of clean sand. No young chicks observed, but many juveniles indicative of probable colony site. Two Caspian Terns present but no disturbance noted.

Ar side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Memphis = 12.3 R  
(Gage Location) (Elevation)

**FIELD SIGHTING  
DATA SHEET**

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

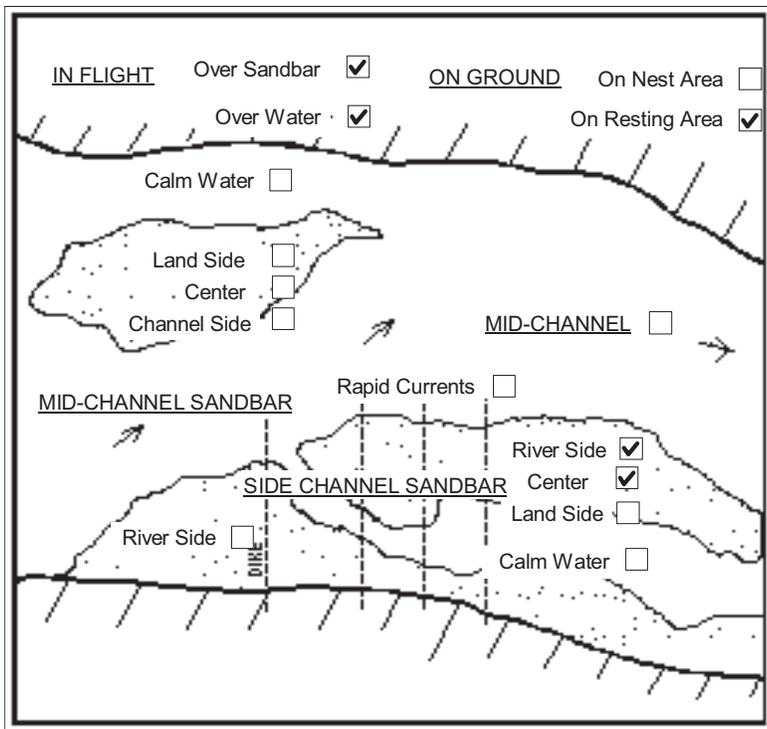
DATE: 8/17/2010 TIME OF DAY: 11:10 RIVER MILE 700.1

LOCALITY: Crittenden AR SITE NAME: Porter Lake Dikes  
County/Parish State

WHERE SITED: Latitude: 34.8513  
Longitude: 90.3633

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
Adults: 24  
Juveniles: yes  
Eggs: \_\_\_\_\_  
Chicks: No



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

FIELD CONDITION:  
Temperature: 89 °F  
Rain: No  
Wind: W 5-10mph  
% Cloud: 15

OTHER NOTES:

Left Bank. Drift count on very low, unattached sand bar. All terns resting or flying along waterline, no disturbance noted.

AR side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Memphis = 12.3 R  
(Gage Location) (Elevation)

**FIELD SIGHTING  
DATA SHEET**

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

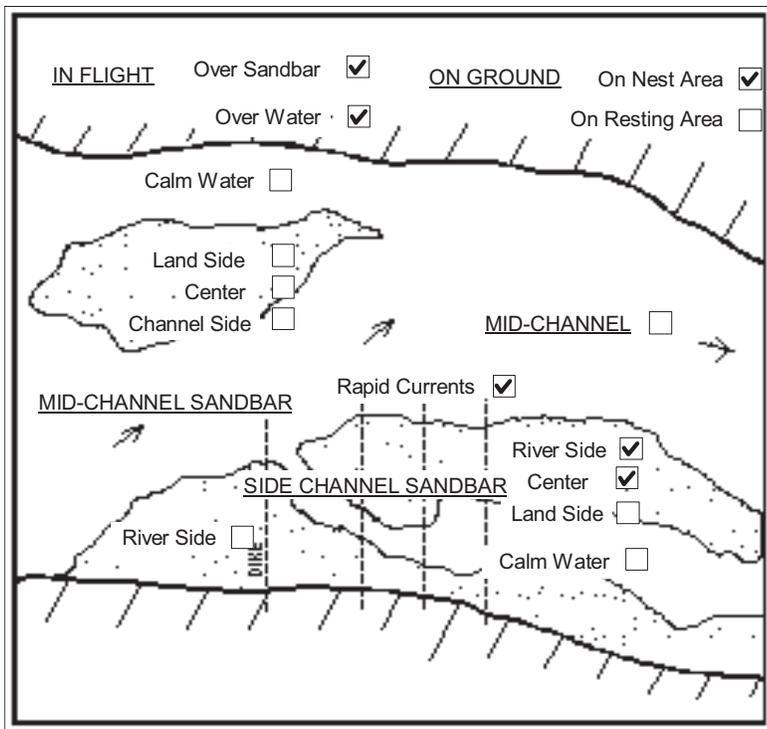
DATE: 8/17/2010 TIME OF DAY: 11:23 RIVER MILE 699

LOCALITY: Crittenden AR SITE NAME: Basket Bar diikes  
County/Parish State

WHERE SITED: Latitude: 34.83163  
Longitude: 90.38379

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
Adults: 40  
Juveniles: \_\_\_\_\_  
Eggs: \_\_\_\_\_  
Chicks: Yes



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: Willows/Cottonwoods  
Distance: 500 Feet

FIELD CONDITION:  
Temperature: 90 °F  
Rain: No  
Wind: W 10mph  
% Cloud: 20

OTHER NOTES:

Right Bank. High, long sand bar with large debris field and wrack lines (400 x 900ft.). Many old scrapes and chicks up to 2 weeks of age. Minor mobbing but no disturbance noted.

AR side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Memphis = 12.3 R  
(Gage Location) (Elevation)

# FIELD SIGHTING DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

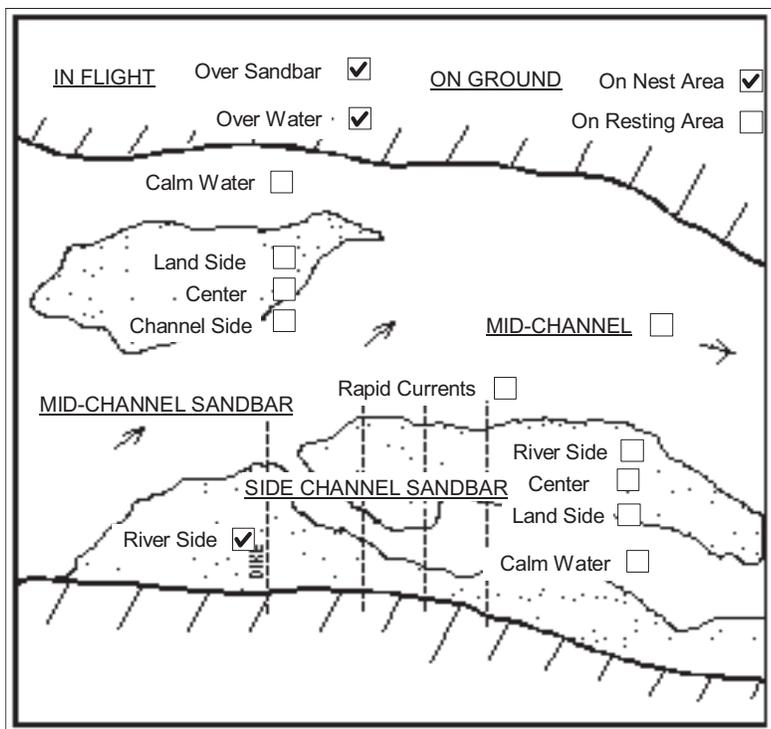
DATE: 8/17/2010 TIME OF DAY: 11:56 RIVER MILE 692

LOCALITY: Tunica MS SITE NAME: Rabbit Island  
County/Parish State

WHERE SITED: Latitude: 34.7959  
Longitude: 90.9713

Approximate Distance to Water: 10 Feet

NUMBERS SIGHTED:  
Adults: 118  
Juveniles: yes  
Eggs: \_\_\_\_\_  
Chicks: No



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: Willows  
Distance: 1500 Feet

FIELD CONDITION:  
Temperature: 92 °F  
Rain: No  
Wind: W 5mph  
% Cloud: 35

OTHER NOTES:

Left Bank. Drift count. Long, high, wide sand bar with terns resting at waterline and carrying fish. Turtle and ATV tracks present.

MS side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Helena = 19.3 R  
(Gage Location) (Elevation)

FIELD SIGHTING  
DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

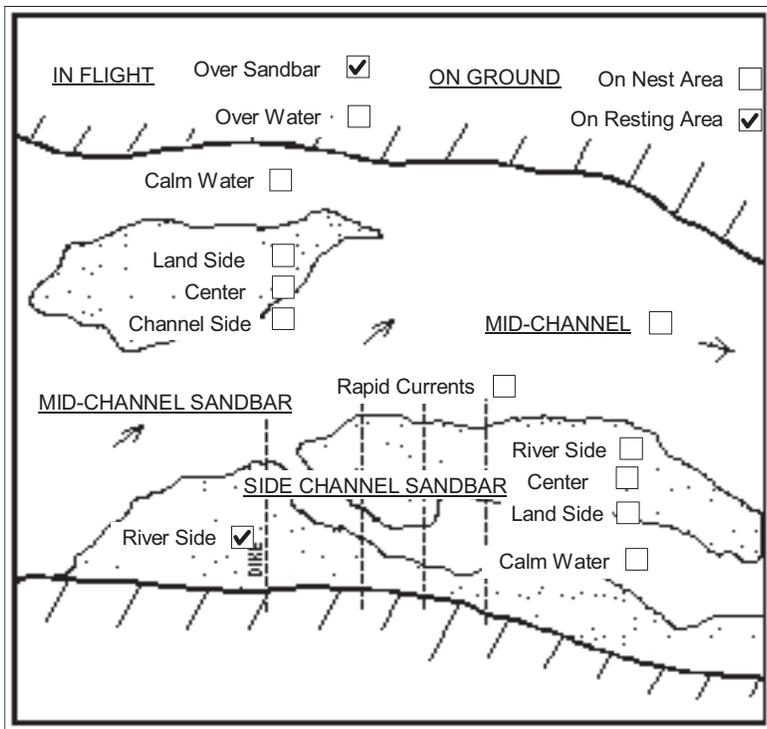
DATE: 8/17/2010 TIME OF DAY: 12:51 RIVER MILE 686

LOCALITY: Lee AR SITE NAME: Mhoon Bend  
County/Parish State

WHERE SITED: Latitude: 34.73556  
Longitude: 90.45821

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
Adults: 66  
Juveniles: \_\_\_\_\_  
Eggs: \_\_\_\_\_  
Chicks: No



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

FIELD CONDITION:  
Temperature: 92 °F  
Rain: No  
Wind: W 5-10mph  
% Cloud: 75

OTHER NOTES:

Right Bank. Very large, high, attached bar of mostly gravel with lots of debris. All birds resting at waterline with no signs of disturbance.

AR side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Helena = 19.3 R  
(Gage Location) (Elevation)

# FIELD SIGHTING DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

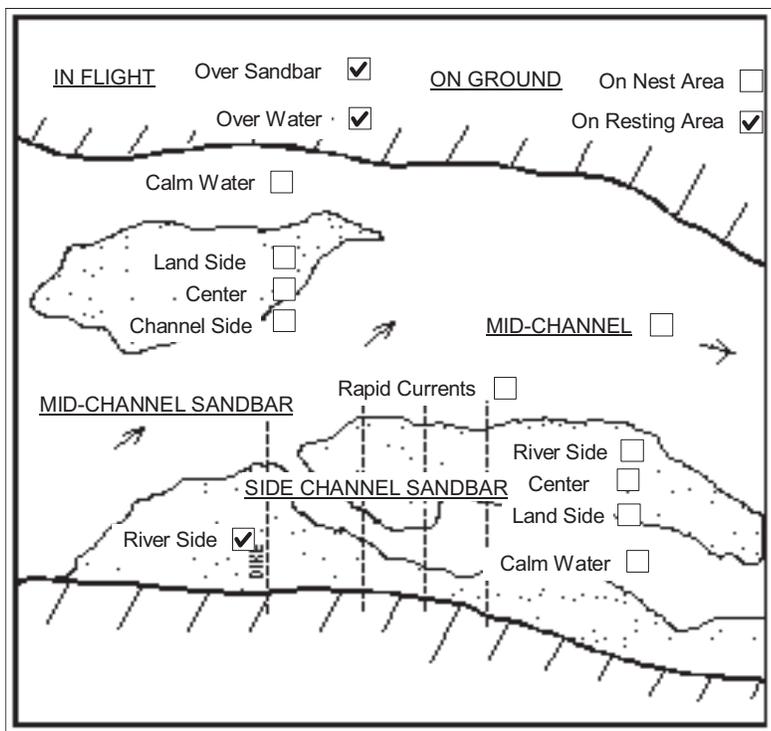
DATE: 8/17/2010 TIME OF DAY: 13:08 RIVER MILE 679.5

LOCALITY: Tunica MS SITE NAME: Bordeaux Point Dikes  
County/Parish State

WHERE SITED: Latitude: 34.7277  
Longitude: 90.5652

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
Adults: 51  
Juveniles: \_\_\_\_\_  
Eggs: \_\_\_\_\_  
Chicks: No



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

FIELD CONDITION:  
Temperature: 90 °F  
Rain: No  
Wind: W 5-10mph  
% Cloud: 75

OTHER NOTES:

Left Bank. Drift count with all birds resting at waterline. Many Kildeer present but no signs of disturbance.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
MS side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Helena = 19.3 R  
(Gage Location) (Elevation)

**FIELD SIGHTING  
DATA SHEET**

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

DATE: 8/17/2010 TIME OF DAY: 13:37 RIVER MILE 672

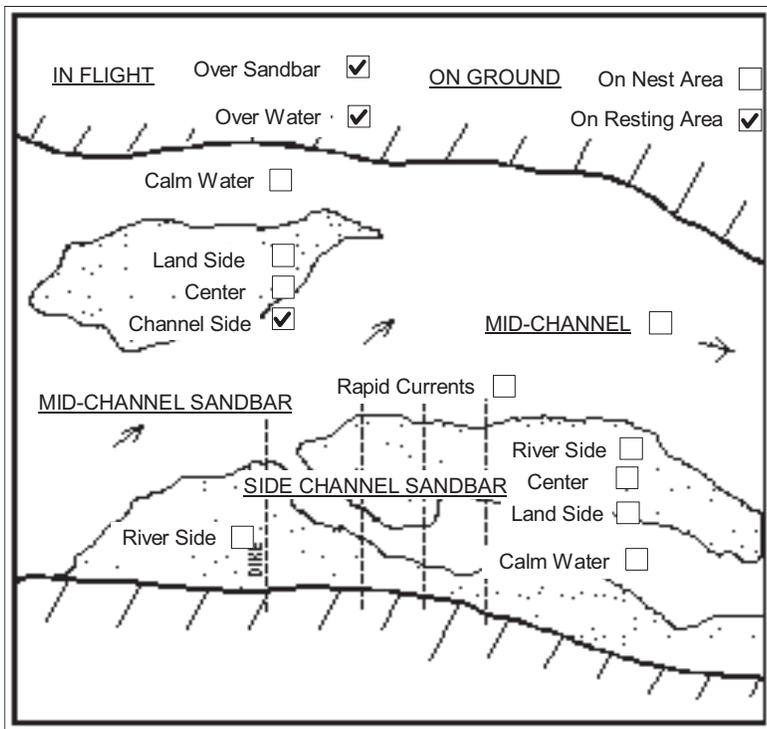
LOCALITY: Tunica MS SITE NAME: St. Francis Bend  
County/Parish State

WHERE SITED: Latitude: 34.6177  
Longitude: 90.5815

Approximate Distance to Water: \_\_\_\_\_ Feet

**NUMBERS SIGHTED:**

Adults: 86  
Juveniles: yes  
Eggs: \_\_\_\_\_  
Chicks: Yes



**SUBSTRATE:**

Sand:   
Gravel:   
Debris:

**VEGETATION:**

Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

**FIELD CONDITION:**

Temperature: 90 °F  
Rain: No  
Wind: W 5mph  
% Cloud: 50

**OTHER NOTES:**

Left Bank. High, flat, bar of solid sand with no debris or gravel approximately 3 miles long. Most terns resting at waterline with some fledglings and chicks present. One Spotted Sandpiper observed and 250 White Pelicans upstream, but no disturbance noted.

MS side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Helena = 19.3 R  
(Gage Location) (Elevation)

**FIELD SIGHTING  
DATA SHEET**

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

DATE: 8/17/2010 TIME OF DAY: 13:51 RIVER MILE 666.5

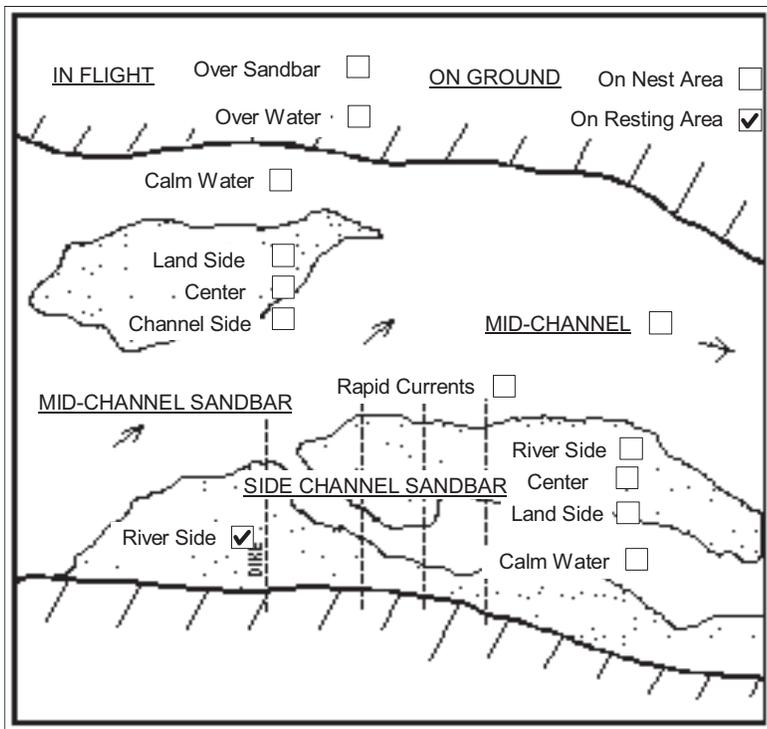
LOCALITY: Phillips AR SITE NAME: Prairie Point Dikes  
County/Parish State

WHERE SITED: Latitude: 34.5514  
Longitude: 90.5549

Approximate Distance to Water: \_\_\_\_\_ Feet

**NUMBERS SIGHTED:**

Adults: 8  
Juveniles: \_\_\_\_\_  
Eggs: \_\_\_\_\_  
Chicks: No



**SUBSTRATE:**

Sand:   
Gravel:   
Debris:

**VEGETATION:**

Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

**FIELD CONDITION:**

Temperature: 94 °F  
Rain: No  
Wind: W 5mph  
% Cloud: 75

**OTHER NOTES:**

Right Bank. Drift count along low, flat, attached sand and gravel bar. All terns resting at waterline with many Kildeer and 1 Herring Gull. No disturbance noted.

AR side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Helena = 19.3 R  
(Gage Location) (Elevation)

**FIELD SIGHTING  
DATA SHEET**

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

DATE: 8/18/2010 TIME OF DAY: 8:28 RIVER MILE 655

LOCALITY: Phillips AR COUNTY/PARISH STATE  
County/Parish State

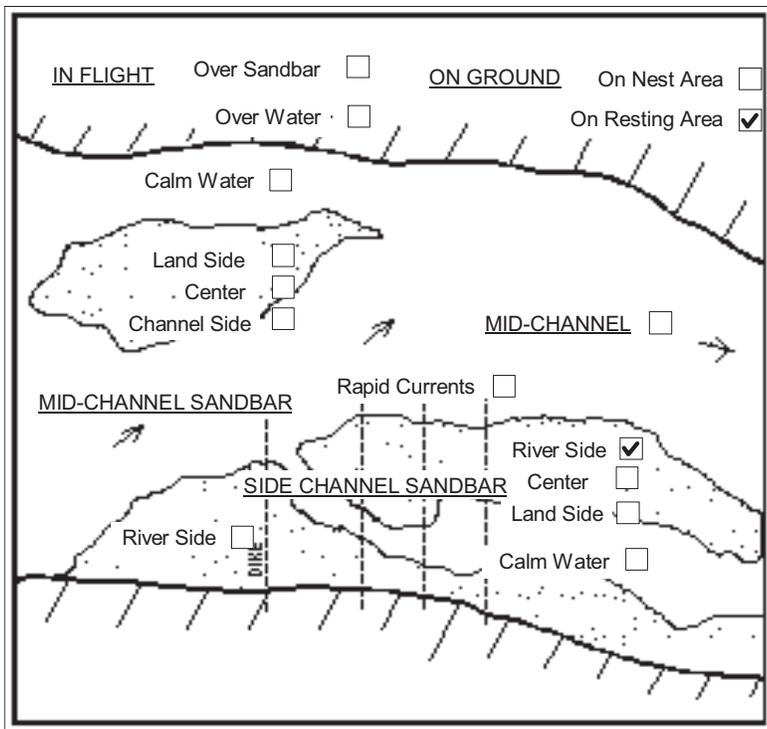
SITE NAME: Montezuma Towhead Dikes

WHERE SITED: Latitude: 34.4115  
 Longitude: 90.5921

Approximate Distance to Water: \_\_\_\_\_ Feet

**NUMBERS SIGHTED:**

Adults: 44  
 Juveniles: \_\_\_\_\_  
 Eggs: \_\_\_\_\_  
 Chicks: No



**SUBSTRATE:**

Sand:   
 Gravel:   
 Debris:

**VEGETATION:**

Type: \_\_\_\_\_  
 Distance: \_\_\_\_\_ Feet

**FIELD CONDITION:**

Temperature: 82 °F  
 Rain: No  
 Wind: L&V  
 % Cloud: 100

**OTHER NOTES:**

Right Bank. Drift count along low, flat sand and gravel bar. One Caspian Tern observed. Resting bar only. No disturbance noted.

AR side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Helena = 19.4 R  
 (Gage Location) (Elevation)

# FIELD SIGHTING DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

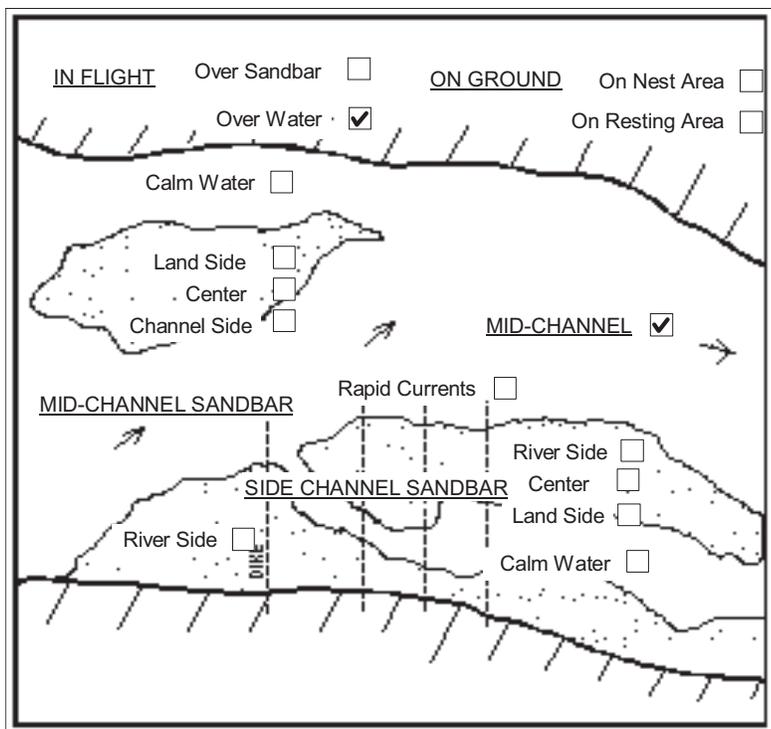
DATE: 8/18/2010 TIME OF DAY: 9:28 RIVER MILE 647.5

LOCALITY: Phillips AR SITE NAME: Kangaroo Point Dikes  
County/Parish State

WHERE SITED: Latitude: 34.36700  
Longitude: 90.70734

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
Adults: 9  
Juveniles: \_\_\_\_\_  
Eggs: \_\_\_\_\_  
Chicks: No



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

FIELD CONDITION:  
Temperature: 82 °F  
Rain: No  
Wind: L&V  
% Cloud: 100

OTHER NOTES:

Right Bank. Nine terns flying along waterline with no reproductive behavior noted. Two Great Blue Herons, 86 Canada Geese, and 1000+ resting Cliff Swallows. No disturbance noted.

AR side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Helena = 19.4 R  
(Gage Location) (Elevation)

# FIELD SIGHTING DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

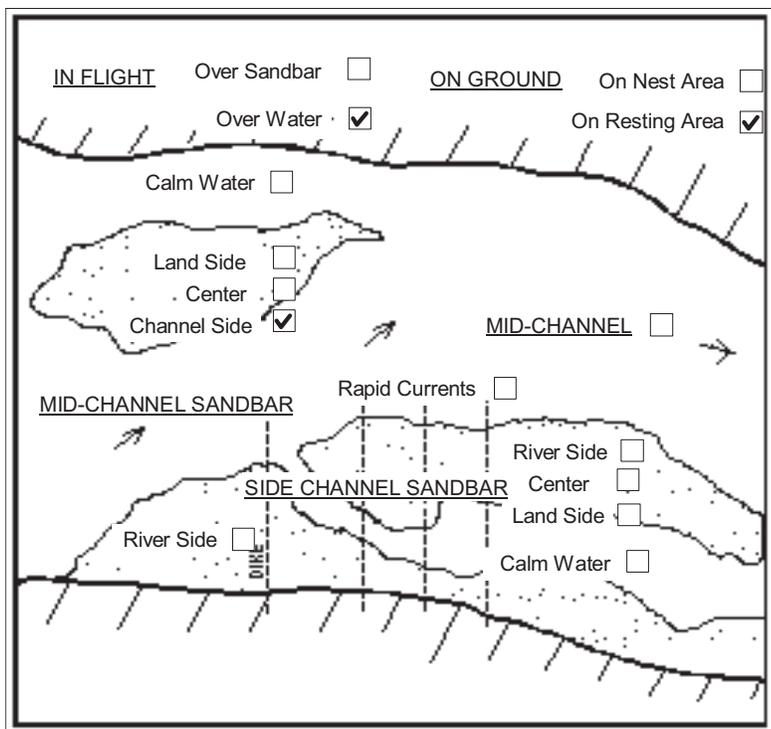
DATE: 8/18/2010 TIME OF DAY: 9:35 RIVER MILE 644

LOCALITY: Coahoma MS SITE NAME: Old Town Bend  
County/Parish State

WHERE SITED: Latitude: 34.351  
Longitude: 90.7671

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
Adults: 17  
Juveniles: \_\_\_\_\_  
Eggs: \_\_\_\_\_  
Chicks: No



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

FIELD CONDITION:  
Temperature: 83 °F  
Rain: No  
Wind: L&V  
% Cloud: 100

OTHER NOTES:

Left Bank. Drift count along barely emergent, low (1ft.), flat sand and gravel bar. All terns resting at waterline with no nesting activity observed. Several hundred Cliff and Rough-wing Swallows present with 36 Canada Geese. No signs of disturbance.

MS side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Helena = 19.4 R  
(Gage Location) (Elevation)

FIELD SIGHTING  
DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

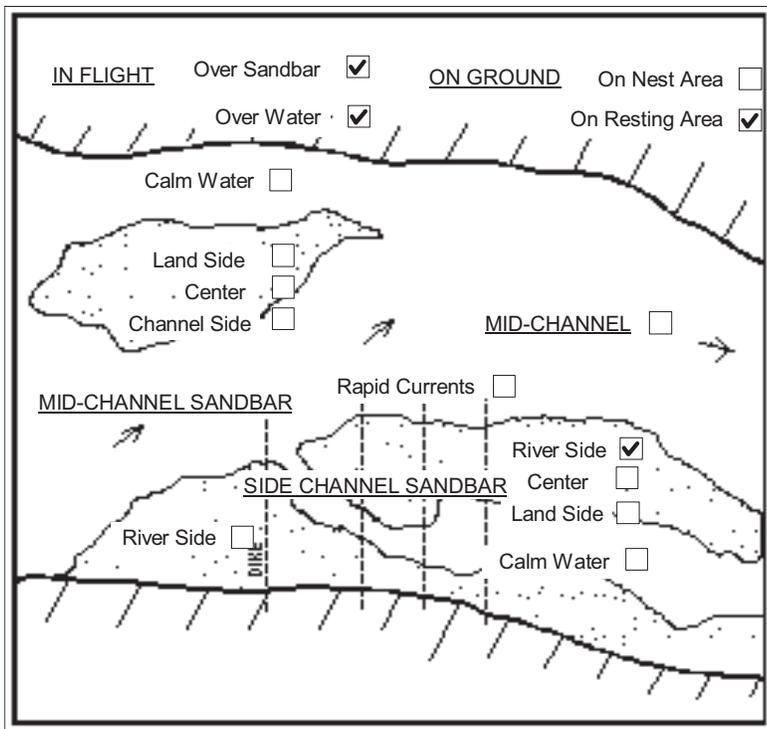
DATE: 8/18/2010 TIME OF DAY: 9:50 RIVER MILE 639.8

LOCALITY: Phillips AR SITE NAME: Island #62 Dikes  
County/Parish State

WHERE SITED: Latitude: 34.2993  
Longitude: 90.7373

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
Adults: 3  
Juveniles: \_\_\_\_\_  
Eggs: \_\_\_\_\_  
Chicks: No



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

FIELD CONDITION:  
Temperature: 83 °F  
Rain: No  
Wind: L&V  
% Cloud: 100

OTHER NOTES:

Right Bank. Drift count along high bar with sand, gravel and debris along wrack lines. Terns resting at waterline with many Cliff and Rough-wing Swallows. One Bald Eagle 2 miles downstream. No signs of disturbance.

AR side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Helena = 19.4 R  
(Gage Location) (Elevation)

FIELD SIGHTING  
DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

DATE: 8/18/2010 TIME OF DAY: 10:15 RIVER MILE 629

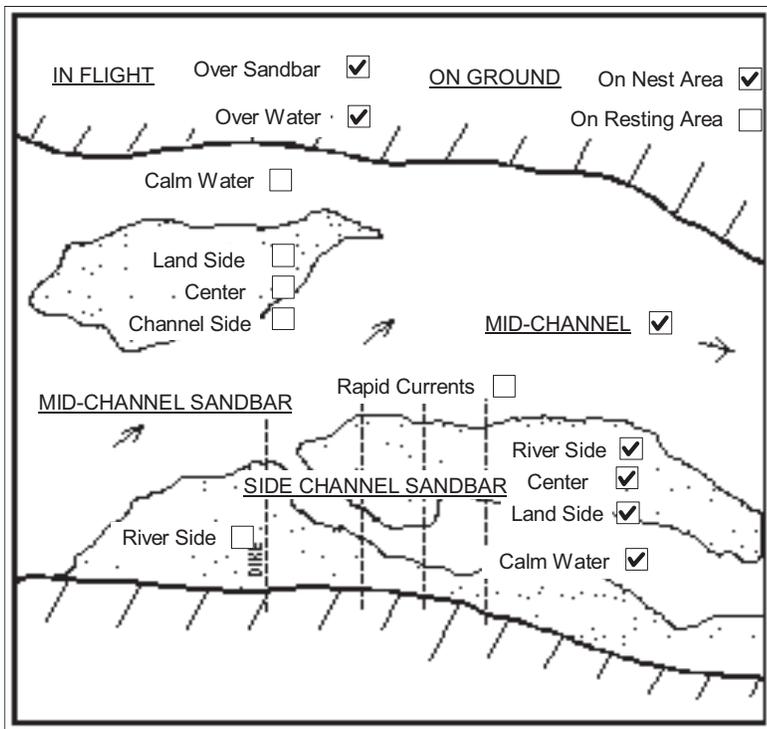
LOCALITY: Phillips AR SITE NAME: Island #64 Dikes  
County/Parish State

WHERE SITED: Latitude: 34.2189  
Longitude: 90.8498

Approximate Distance to Water: 600 Feet

NUMBERS SIGHTED:

Adults: 153  
Juveniles: yes  
Eggs: 1(1)  
Chicks: Yes



SUBSTRATE:

Sand:   
Gravel:   
Debris:

VEGETATION:

Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

FIELD CONDITION:

Temperature: 83 °F  
Rain: No  
Wind: L&V  
% Cloud: 80

OTHER NOTES:

Right Bank. Drift count on high, flat sand bar (1000 x 600ft.) unattached with many birds sitting inland and at waterline and carrying fish. Chicks present 2 weeks of age and older. Courting behavior and Gizzard Shad fingerling dropped. No signs of disturbance.

AR side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Helena = 19.4 R  
(Gage Location) (Elevation)

# FIELD SIGHTING DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

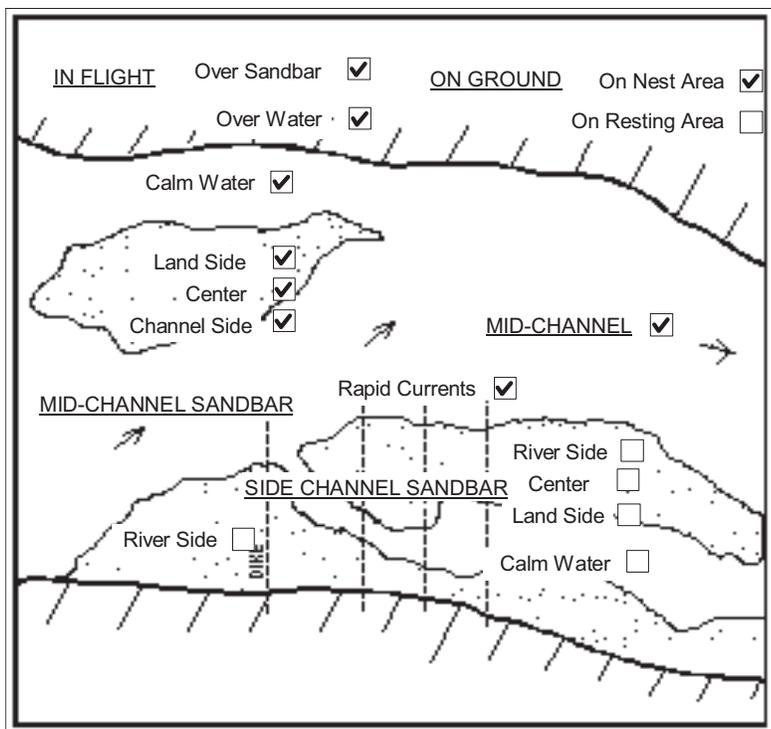
DATE: 8/18/2010 TIME OF DAY: 10:48 RIVER MILE 625

LOCALITY: Coahoma MS SITE NAME: Sunflower Cut-Off  
County/Parish State

WHERE SITED: Latitude: 34.17076  
Longitude: 90.90031

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
Adults: 165  
Juveniles: yes  
Eggs: \_\_\_\_\_  
Chicks: Yes



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

FIELD CONDITION:  
Temperature: 86 °F  
Rain: No  
Wind: L&V  
% Cloud: 80

OTHER NOTES:

Left Bank. Low, flat, unattached, barely exposed bar of clean sand. All terns flying or resting at waterline with no signs of disturbance.

MS side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Helena = 19.4 R  
(Gage Location) (Elevation)

# FIELD SIGHTING DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

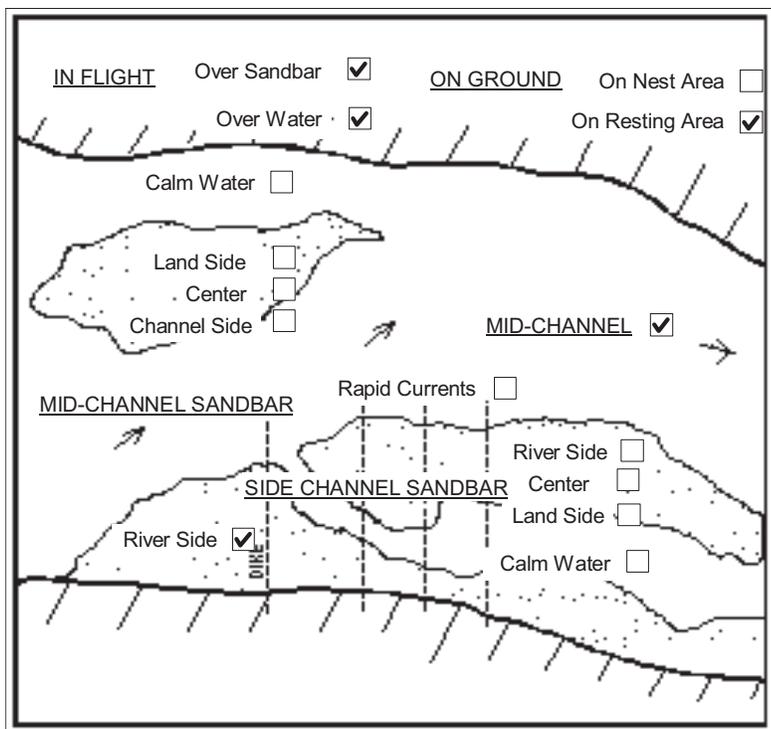
DATE: 8/18/2010 TIME OF DAY: 11:01 RIVER MILE 623

LOCALITY: Phillips AR SITE NAME: Below Ludlow Dikes  
County/Parish State

WHERE SITED: Latitude: 34.1595  
Longitude: 90.9303

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
Adults: 23  
Juveniles: \_\_\_\_\_  
Eggs: \_\_\_\_\_  
Chicks: No



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

FIELD CONDITION:  
Temperature: 87 °F  
Rain: No  
Wind: L&V  
% Cloud: 80

OTHER NOTES:

Right Bank. Attached sand and gravel bar with most terns resting at waterline. No reproduction or disturbance noted.

AR side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Helena = 19.4 R  
(Gage Location) (Elevation)

# FIELD SIGHTING DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

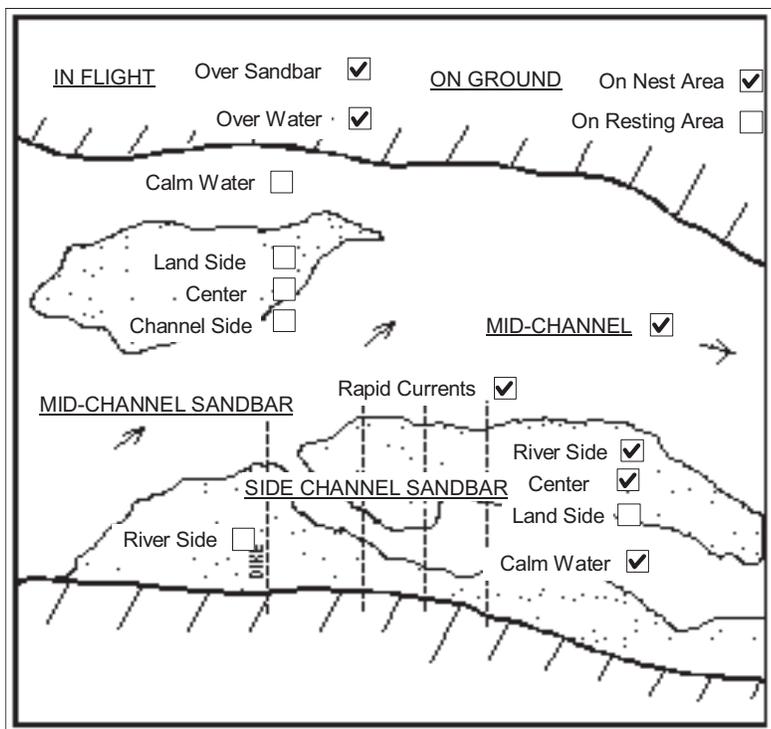
DATE: 8/18/2010 TIME OF DAY: 11:17 RIVER MILE 619.8

LOCALITY: Coahoma MS SITE NAME: Island #67 Dikes  
County/Parish State

WHERE SITED: Latitude: 34.1159  
Longitude: 90.9497

Approximate Distance to Water: 300 Feet

NUMBERS SIGHTED:  
Adults: 299  
Juveniles: yes  
Eggs: 1(2)  
Chicks: Yes



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: grass  
Distance: 5 Feet

FIELD CONDITION:  
Temperature: 88 °F  
Rain: No  
Wind: N 5mph  
% Cloud: 75

OTHER NOTES:

Left Bank. High, flat, unattached sand bar (1600 x 900ft.) with active nests containing eggs and hatchlings. Chicks of all ages and fledglings. Some chick mortality, cause unknown. One Black Tern and many dropped fingerling fish: Silver Carp, and shad. No signs of disturbance.

MS side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Helena = 19.4 R  
(Gage Location) (Elevation)

**FIELD SIGHTING  
DATA SHEET**

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

DATE: 8/18/2010 TIME OF DAY: 12:12 RIVER MILE 611

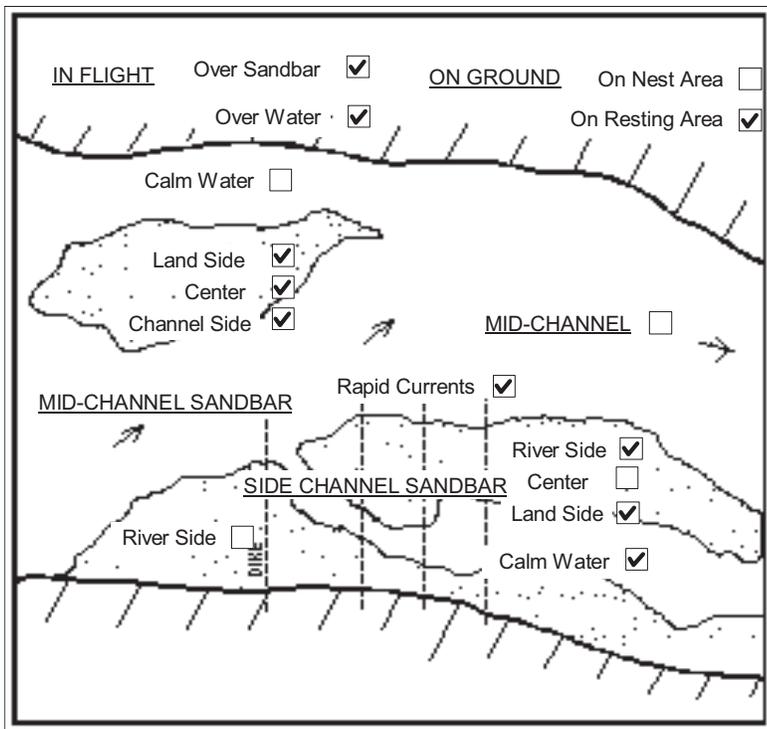
LOCALITY: Desha AR SITE NAME: Below Knowlton Dikes  
County/Parish State

WHERE SITED: Latitude: 34.0268  
Longitude: 90.9004

Approximate Distance to Water: \_\_\_\_\_ Feet

**NUMBERS SIGHTED:**

Adults: 49  
Juveniles: yes  
Eggs: \_\_\_\_\_  
Chicks: No



**SUBSTRATE:**

Sand:   
Gravel:   
Debris:

**VEGETATION:**

Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

**FIELD CONDITION:**

Temperature: 89 °F  
Rain: No  
Wind: NE 5mph  
% Cloud: 70

**OTHER NOTES:**

Right Bank. Low, flat, resting bar only with several juveniles present. No signs of disturbance.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ AR side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Helena = 19.4 R  
(Gage Location) (Elevation)

# FIELD SIGHTING DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

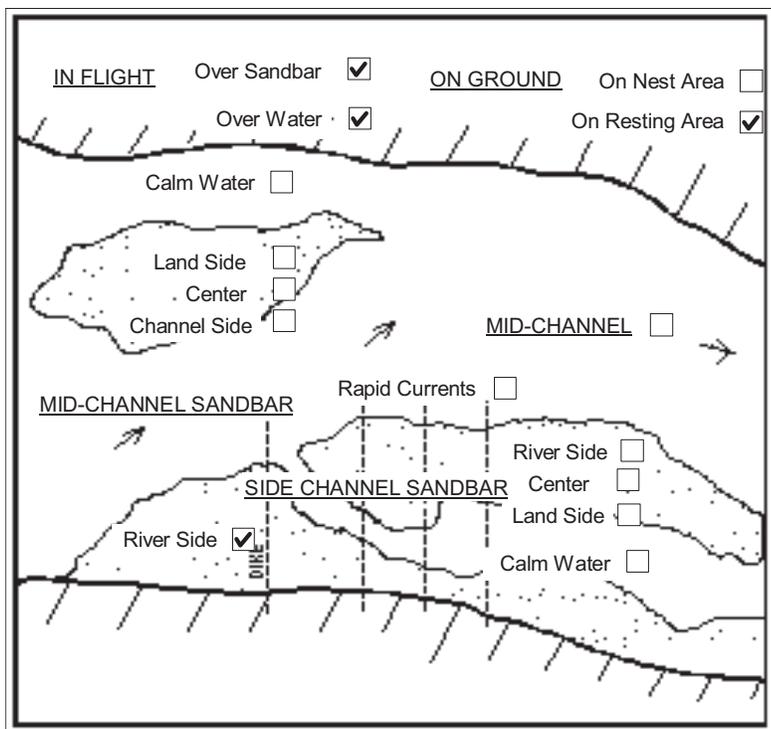
DATE: 8/18/2010 TIME OF DAY: 13:03 RIVER MILE 602.4

LOCALITY: Bolivar MS SITE NAME: Henrico Dikes  
County/Parish State

WHERE SITED: Latitude: 33.99  
Longitude: 91.052

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
Adults: 171  
Juveniles: yes  
Eggs: \_\_\_\_\_  
Chicks: No



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

FIELD CONDITION:  
Temperature: 90 °F  
Rain: No  
Wind: NE 5mph  
% Cloud: 50

OTHER NOTES:

Right Bank. Bar mostly gravel (1000 x 600ft.) with most birds resting or fishing at waterline. Six Great Egrets but no other signs of disturbance.

AR side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Helena = 19.4 R  
(Gage Location) (Elevation)

# FIELD SIGHTING DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

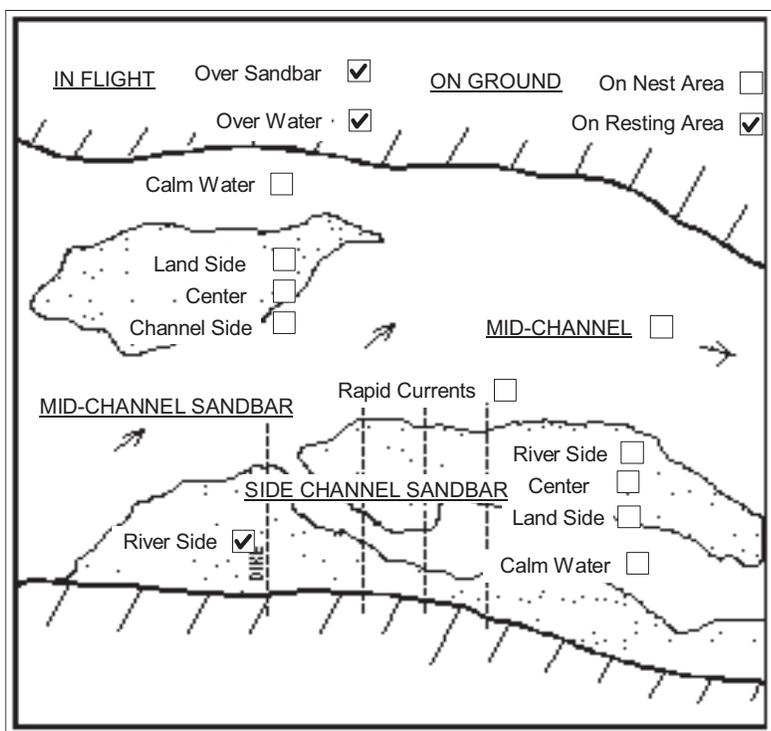
DATE: 8/18/2010 TIME OF DAY: 13:17 RIVER MILE 600

LOCALITY: Bolivar MS SITE NAME: Smith Point Dikes  
County/Parish State

WHERE SITED: Latitude: 33.956  
Longitude: 91.080

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
Adults: 36  
Juveniles: \_\_\_\_\_  
Eggs: \_\_\_\_\_  
Chicks: No



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

FIELD CONDITION:  
Temperature: 92 °F  
Rain: No  
Wind: L&V  
% Cloud: 40

OTHER NOTES:

Left Bank. All birds resting at waterline with no reproduction noted. Four Caspian Terns, 2 Black Terns with winter plumage and 36 Canada Geese present. No signs of disturbance.

MS side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Arkansas City = 17.1 F  
(Gage Location) (Elevation)

# FIELD SIGHTING DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

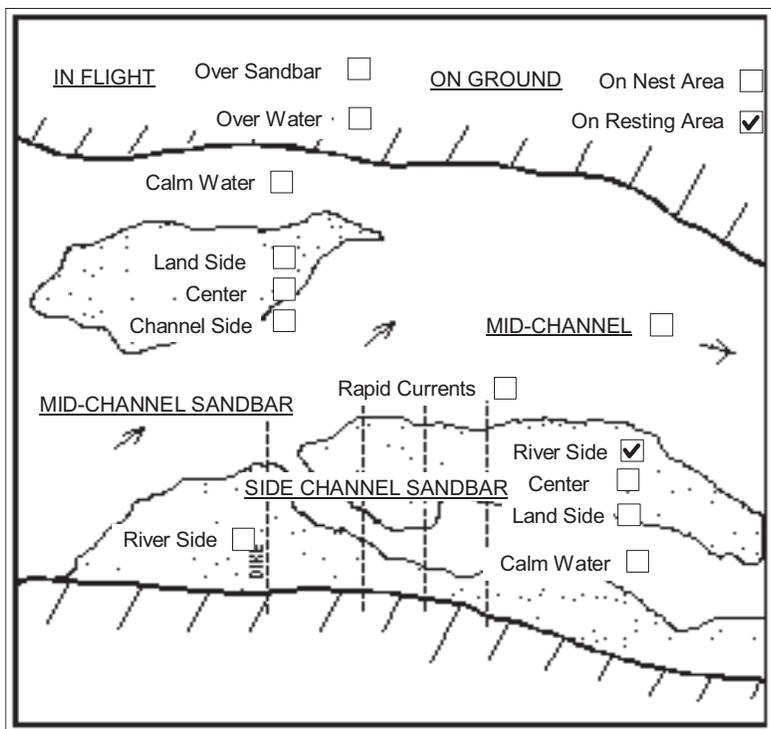
DATE: 8/18/2010 TIME OF DAY: 13:26 RIVER MILE 595

LOCALITY: Desha AR SITE NAME: Victoria Bend Dikes  
County/Parish State

WHERE SITED: Latitude: 33.92  
Longitude: 91.02

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
Adults: 21  
Juveniles: \_\_\_\_\_  
Eggs: \_\_\_\_\_  
Chicks: No



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

FIELD CONDITION:  
Temperature: 92 °F  
Rain: No  
Wind: L&V  
% Cloud: 45

OTHER NOTES:

Right Bank. Small (80 x 20ft.), barely emergent sand bar with all terns resting only along with 8 Caspian Terns. No disturbance noted.

AR side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Arkansas City = 17.1 F  
(Gage Location) (Elevation)

FIELD SIGHTING  
DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

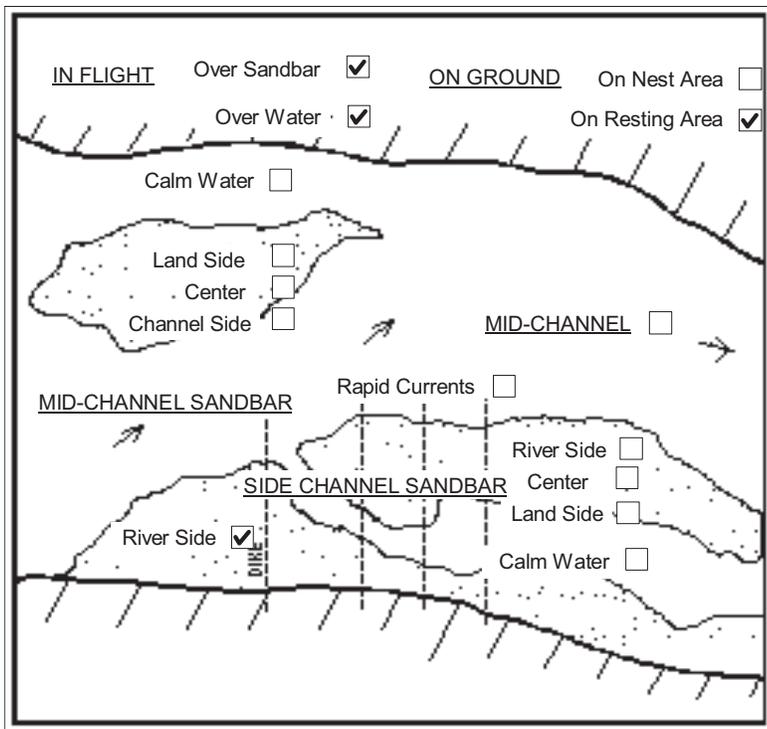
DATE: 8/18/2010 TIME OF DAY: 13:47 RIVER MILE 589.5

LOCALITY: Bolivar MS SITE NAME: Terrene Dikes  
County/Parish State

WHERE SITED: Latitude: 33.85335  
Longitude: 91.06740

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
Adults: 54  
Juveniles: \_\_\_\_\_  
Eggs: \_\_\_\_\_  
Chicks: No



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

FIELD CONDITION:  
Temperature: 92 °F  
Rain: No  
Wind: L&V  
% Cloud: 45

OTHER NOTES:

Left Bank. Drift count along high, attached, undulating sand and gravel bar with most terns resting at upper end in shallow water. One Bald Eagle, 3 Great Blue Herons and 5 Great Egrets also present, but no signs of disturbance.

MS side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Arkansas City = 17.1 F  
(Gage Location) (Elevation)

**FIELD SIGHTING  
DATA SHEET**

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

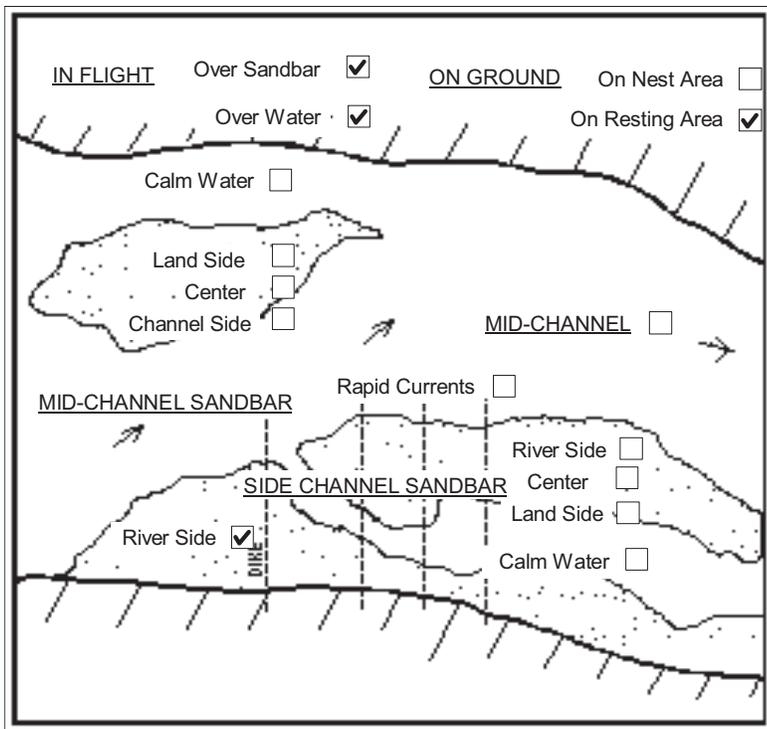
DATE: 8/18/2010 TIME OF DAY: 14:00 RIVER MILE 584.5

LOCALITY: Desha AR SITE NAME: Malone Field Dikes  
County/Parish State

WHERE SITED: Latitude: 33.786  
Longitude: 91.052

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
Adults: 350  
Juveniles: \_\_\_\_\_  
Eggs: \_\_\_\_\_  
Chicks: No



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

FIELD CONDITION:  
Temperature: 92 °F  
Rain: No  
Wind: L&V  
% Cloud: 40

OTHER NOTES:

Right Bank. Drift count along high, wide, attached sand and gravel bar with all terns resting or flying along waterline. No active reproduction observed or disturbance. Possible migratory flocking behavior. One Caspian and 1 Black Tern present.

AR side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Arkansas City = 17.1 F  
(Gage Location) (Elevation)

# FIELD SIGHTING DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

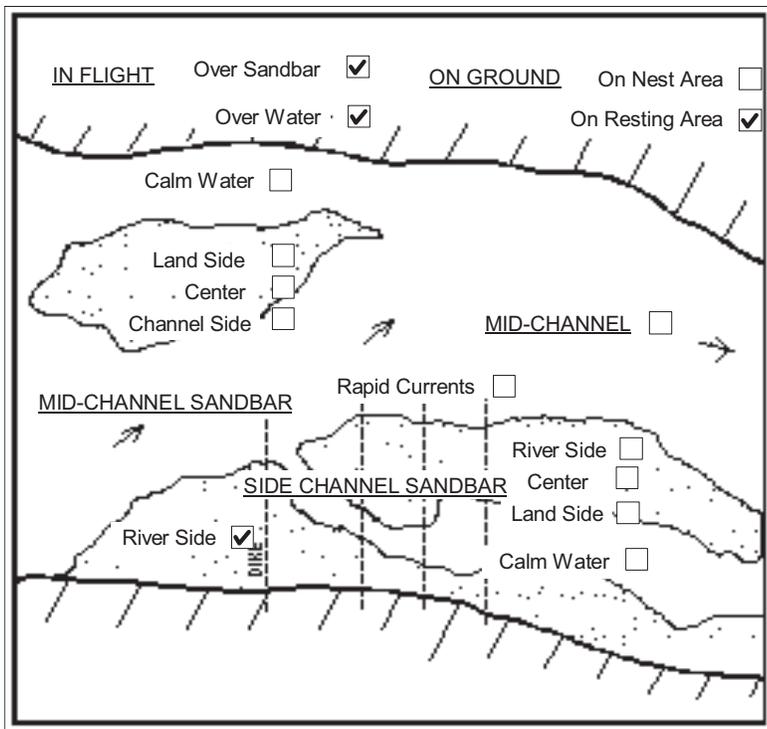
DATE: 8/18/2010 TIME OF DAY: 14:15 RIVER MILE 578

LOCALITY: Bolivar MS SITE NAME: Below Prentiss Dikes  
County/Parish State

WHERE SITED: Latitude: 33.75251  
Longitude: 91.13266

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
Adults: 22  
Juveniles: \_\_\_\_\_  
Eggs: \_\_\_\_\_  
Chicks: No



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

FIELD CONDITION:  
Temperature: 92 °F  
Rain: No  
Wind: L&V  
% Cloud: 40

OTHER NOTES:

Left Bank. Low, sandy point with all terns resting at waterline. No disturbance.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
MS side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Arkansas City = 17.1 F  
(Gage Location) (Elevation)

**FIELD SIGHTING  
DATA SHEET**

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

DATE: 8/18/2010 TIME OF DAY: 14:38 RIVER MILE 568

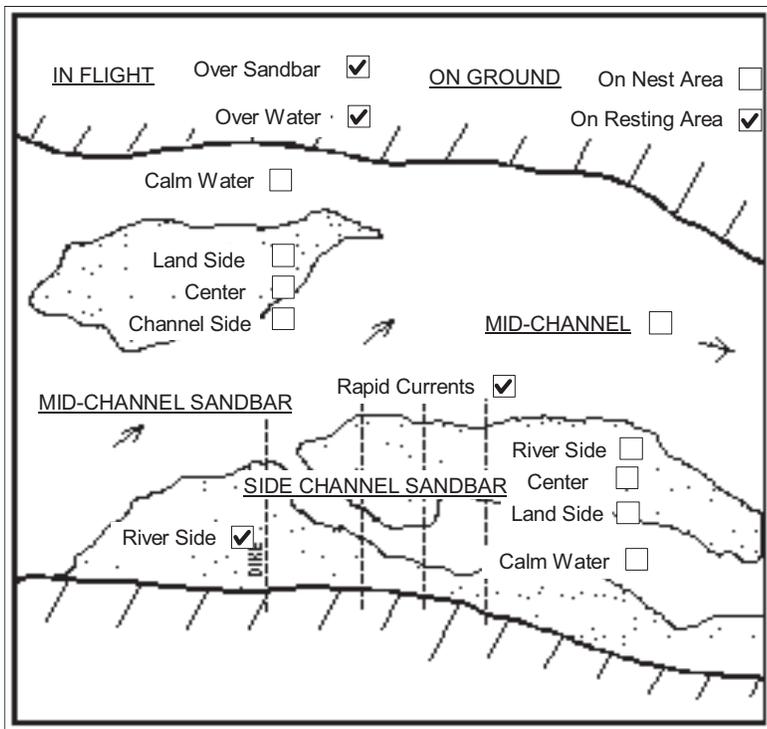
LOCALITY: Bolivar MS SITE NAME: Catfish Point Dikes  
County/Parish State

WHERE SITED: Latitude: 33.6698  
Longitude: 91.2208

Approximate Distance to Water: \_\_\_\_\_ Feet

**NUMBERS SIGHTED:**

Adults: 87  
Juveniles: yes  
Eggs: \_\_\_\_\_  
Chicks: No



**SUBSTRATE:**

Sand:   
Gravel:   
Debris:

**VEGETATION:**

Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

**FIELD CONDITION:**

Temperature: 93 °F  
Rain: No  
Wind: L&V  
% Cloud: 40

**OTHER NOTES:**

Left Bank. High, huge (2 miles x 1200ft.) sand and gravel bar with debris. All terns resting or flying at waterline with several juveniles. Ten crows and 20 sandpipers present but no disturbance noted.

MS side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Arkansas City = 17.1 F  
(Gage Location) (Elevation)

**FIELD SIGHTING  
DATA SHEET**

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

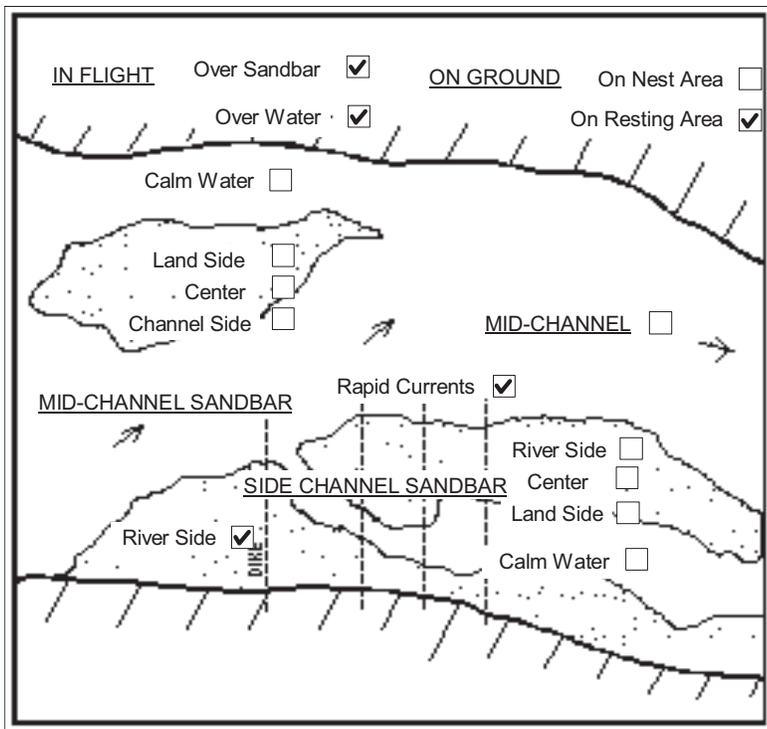
DATE: 8/18/2010 TIME OF DAY: 15:04 RIVER MILE 564

LOCALITY: Desha AR SITE NAME: Chicot Landing Dikes  
County/Parish State

WHERE SITED: Latitude: 33.6287  
Longitude: 91.1494

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
Adults: 54  
Juveniles: \_\_\_\_\_  
Eggs: \_\_\_\_\_  
Chicks: No



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

FIELD CONDITION:  
Temperature: 94 °F  
Rain: No  
Wind: L&V  
% Cloud: 40

OTHER NOTES:

Right Bank. Large (4 ft. elevation), attached, sand bar behind trailer dikes above Choctaw Island. No nesting activity with seventy Canada Geese, 100's of Rough-winged Swallows and many Purple Martins present. No disturbance noted.

AR side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Arkansas City = 17.1 F  
(Gage Location) (Elevation)

**FIELD SIGHTING  
DATA SHEET**

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

DATE: 8/18/2010 TIME OF DAY: 15:17 RIVER MILE 560

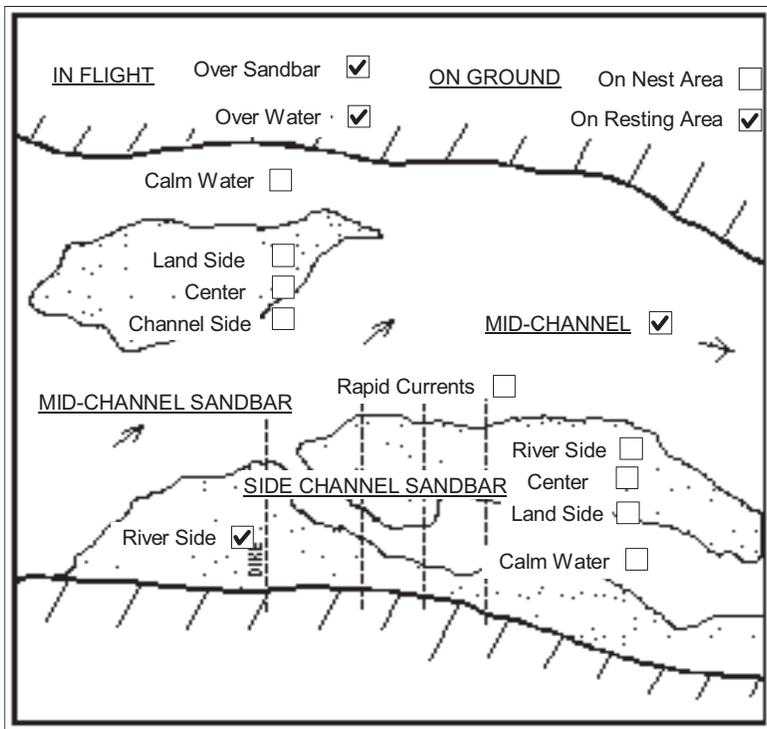
LOCALITY: Desha AR SITE NAME: Choctaw Bar Island  
County/Parish State

WHERE SITED: Latitude: 33.580  
Longitude: 91.154

Approximate Distance to Water: \_\_\_\_\_ Feet

**NUMBERS SIGHTED:**

Adults: 40  
Juveniles: yes  
Eggs: \_\_\_\_\_  
Chicks: No



**SUBSTRATE:**

Sand:   
Gravel:   
Debris:

**VEGETATION:**

Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

**FIELD CONDITION:**

Temperature: 95 °F  
Rain: No  
Wind: L&V  
% Cloud: 30

**OTHER NOTES:**

Right Bank. Drift count along attached, low, long bar downstream point of Choctaw Bar Island. Resting bar only with many Killdeer, sandpipers, and 1 Great Blue Heron. No signs of disturbance.

AR side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Arkansas City = 17.1 F  
(Gage Location) (Elevation)

# FIELD SIGHTING DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

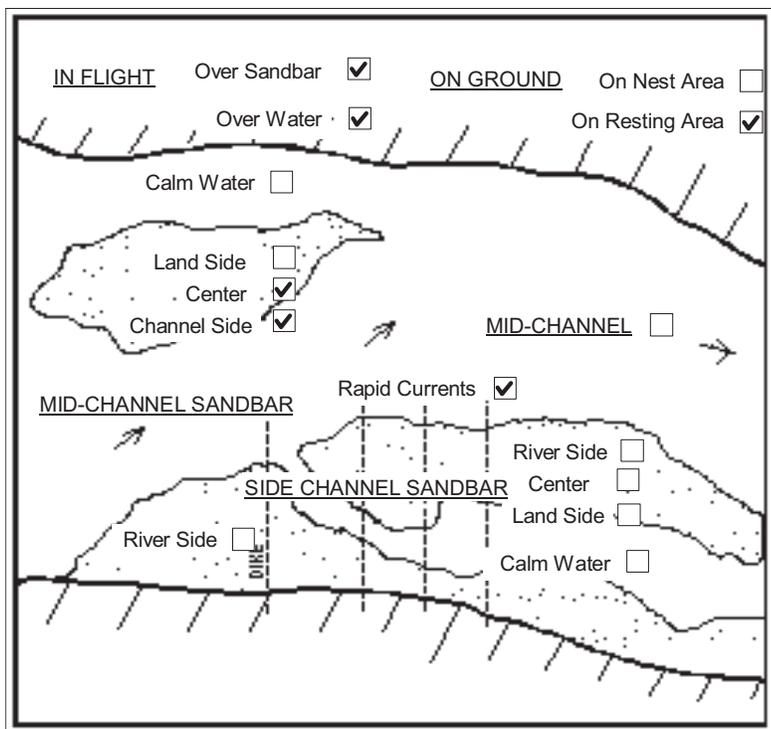
DATE: 8/18/2010 TIME OF DAY: 15:35 RIVER MILE 553.5

LOCALITY: Bolivar MS SITE NAME: Hunington Point  
County/Parish State

WHERE SITED: Latitude: 33.5484  
Longitude: 91.2278

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
Adults: 8  
Juveniles: yes  
Eggs: \_\_\_\_\_  
Chicks: No



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

FIELD CONDITION:  
Temperature: 93 °F  
Rain: No  
Wind: L&V  
% Cloud: 30

OTHER NOTES:

Left Bank. Small (300 x 50yds.), low, flat, soon to be attached sand bar with birds resting or flying at waterline and seven Canada Geese. No disturbance noted.

MS side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Arkansas City = 17.1 F  
(Gage Location) (Elevation)

# FIELD SIGHTING DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

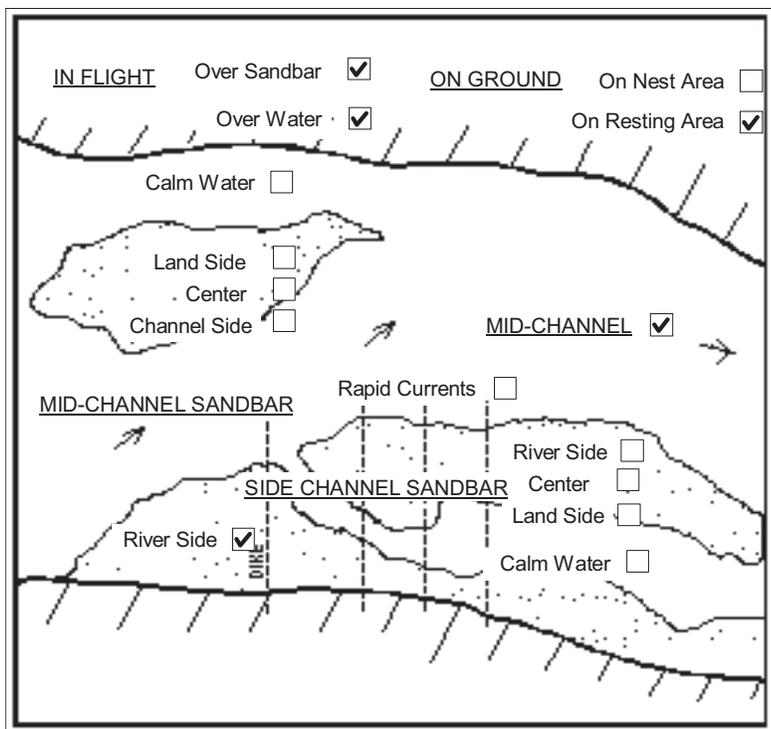
DATE: 8/18/2010 TIME OF DAY: 16:05 RIVER MILE 540.5

LOCALITY: Bolivar MS SITE NAME: Leland Neck Dikes  
County/Parish State

WHERE SITED: Latitude: 33.40056  
Longitude: 91.10805

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
Adults: 678  
Juveniles: yes  
Eggs: \_\_\_\_\_  
Chicks: No



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

FIELD CONDITION:  
Temperature: 95 °F  
Rain: No  
Wind: L&V  
% Cloud: 50

OTHER NOTES:

Left Bank. Large, long, low sand bar barely emergent with many juveniles resting with adult terns at waterline and fishing mid-channel. No disturbance noted.

MS side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Arkansas City = 17.1 F  
(Gage Location) (Elevation)

# FIELD SIGHTING DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

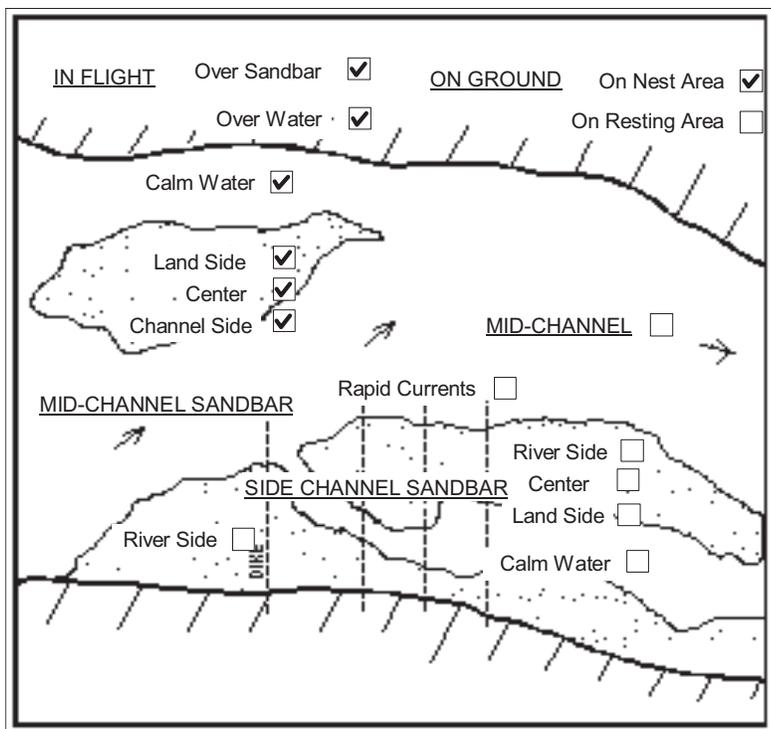
DATE: 8/19/2010 TIME OF DAY: 10:11 RIVER MILE 533

LOCALITY: Washignton MS SITE NAME: Island #84 Dikes  
County/Parish State

WHERE SITED: Latitude: 33.3088  
Longitude: 91.1764

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
Adults: 5400  
Juveniles: yes  
Eggs: 1(1)  
Chicks: Yes



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

FIELD CONDITION:  
Temperature: 92 °F  
Rain: No  
Wind: W 5-10mph  
% Cloud: 10

OTHER NOTES:

Left Bank. High, mid-channel bar, unattached, crescent-shaped 1.5 miles long with good wrack lines. Thousands of terns resting at waterline with hundreds of 1-3 week old chicks, a few just hatching and fledgling juveniles. Possibly indicative of a second nesting cycle? Sandpipers and Kildeers present, but no signs of disturbance.

MS side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Greenville = 28.5 R  
(Gage Location) (Elevation)

FIELD SIGHTING  
DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

DATE: 8/19/2010 TIME OF DAY: 10:30 RIVER MILE 528.5

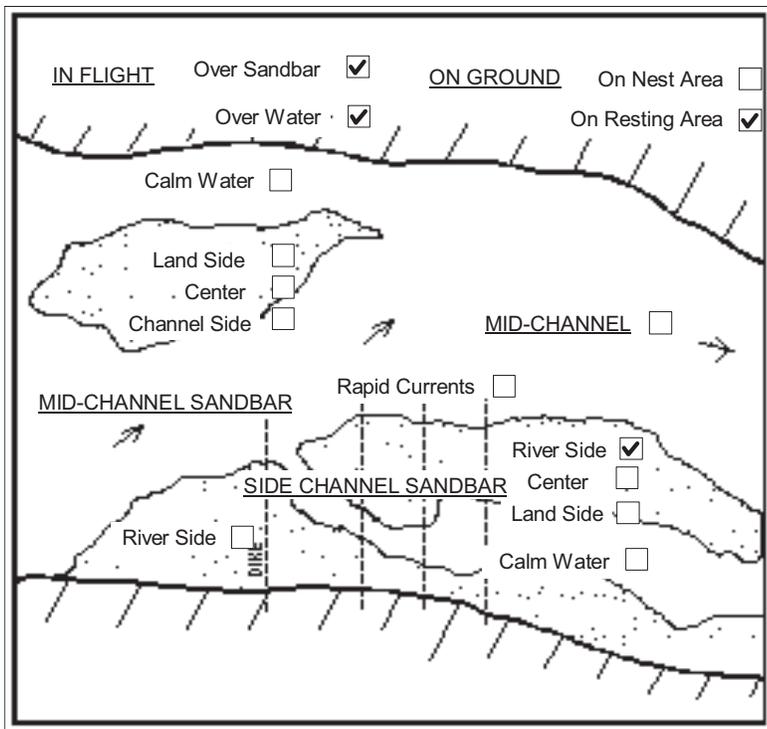
LOCALITY: Washington MS SITE NAME: Refuge Dikes  
County/Parish State

WHERE SITED: Latitude: 33.280  
Longitude: 91.119

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:

Adults: 80  
Juveniles: yes  
Eggs: \_\_\_\_\_  
Chicks: No



SUBSTRATE:

Sand:   
Gravel:   
Debris:

VEGETATION:

Type: Willows  
Distance: 300 Feet

FIELD CONDITION:

Temperature: 89 °F  
Rain: No  
Wind: W 5mph  
% Cloud: 60

OTHER NOTES:

Left Bank. Sand bar with most terns resting at waterline at upper, shallow end along with many juveniles. Many Killdeer, a few Rough-winged Swallows present, and 1 Great Egret, but no signs of disturbance.

MS side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Greenville = 28.5 R  
(Gage Location) (Elevation)

# FIELD SIGHTING DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

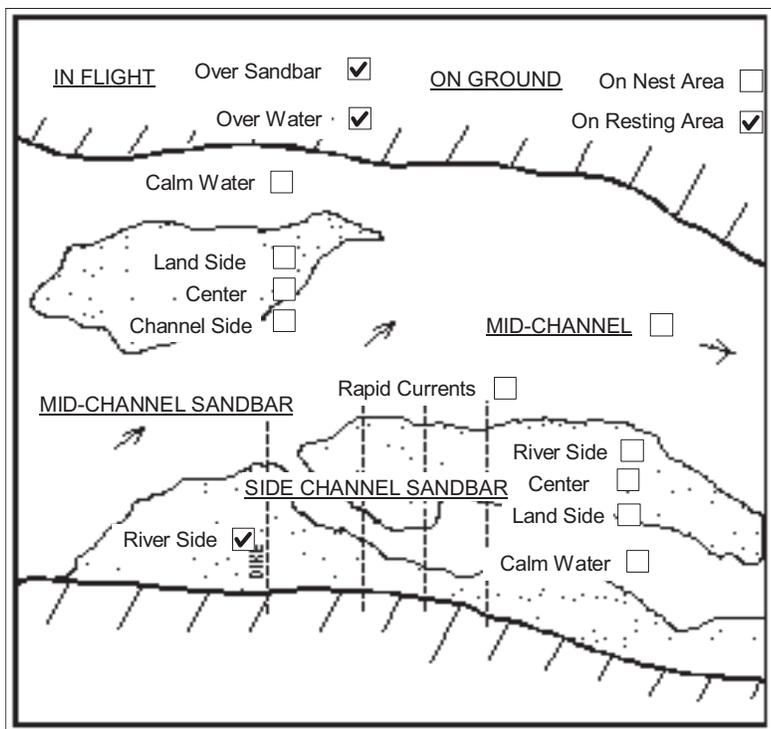
DATE: 8/19/2010 TIME OF DAY: 10:50 RIVER MILE 519

LOCALITY: Chicot AR SITE NAME: Island #86 Dikes Upper  
County/Parish State

WHERE SITED: Latitude: 33.1388  
 Longitude: 91.0963

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
 Adults: 38  
 Juveniles: yes  
 Eggs: \_\_\_\_\_  
 Chicks: No



SUBSTRATE:  
 Sand:   
 Gravel:   
 Debris:

VEGETATION:  
 Type: \_\_\_\_\_  
 Distance: \_\_\_\_\_ Feet

FIELD CONDITION:  
 Temperature: 88 °F  
 Rain: No  
 Wind: W 5mph  
 % Cloud: 30

OTHER NOTES:

Right Bank. Medium-sized sand bar (900 x 300ft.) with most terns resting at waterline or in shallow water. No mobbing of observers but juveniles present along with one crow, 1 egret, and 12 Canada Geese with no signs of disturbance.

AR side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Greenville = 28.5 R  
(Gage Location) (Elevation)

# FIELD SIGHTING DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

DATE: 8/19/2010 TIME OF DAY: 11:06 RIVER MILE 517.5

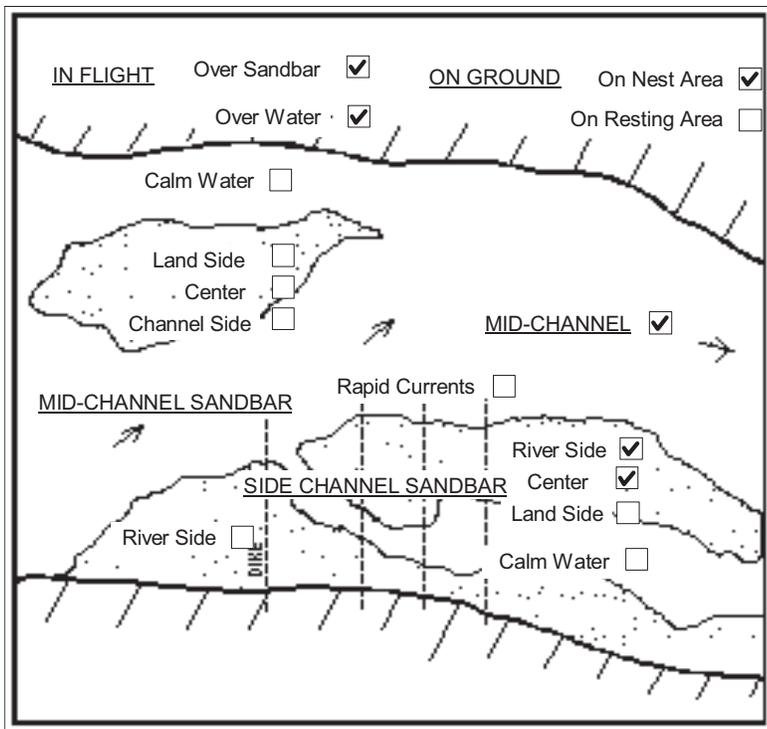
LOCALITY: Washington MS SITE NAME: Island #86 Dikes Lower  
County/Parish State

WHERE SITED: Latitude: 33.12361  
Longitude: 91.10751

Approximate Distance to Water: 300 Feet

**NUMBERS SIGHTED:**

Adults: 142  
Juveniles: yes  
Eggs: 1(1) 1(2)  
Chicks: Yes



**SUBSTRATE:**

Sand:   
Gravel:   
Debris:

**VEGETATION:**

Type: \_\_\_\_\_  
Distance:        Feet

**FIELD CONDITION:**

Temperature: 88 °F  
Rain: No  
Wind: W 5mph  
% Cloud: 30

**OTHER NOTES:**

Right Bank. Unattached, high, flat sand bar (1400 x 800ft.). Terns resting at waterline, fishing mid-channel, breasting and mobbing of observers. Many active scrapes along wrack lines. Chicks of all ages and juveniles present. Silver Carp and canine tracks within colony but no direct evidence of predation.

AR side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Greenville = 28.5 R  
(Gage Location) (Elevation)

FIELD SIGHTING  
DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

DATE: 8/19/2010 TIME OF DAY: 11:34 RIVER MILE 513.5

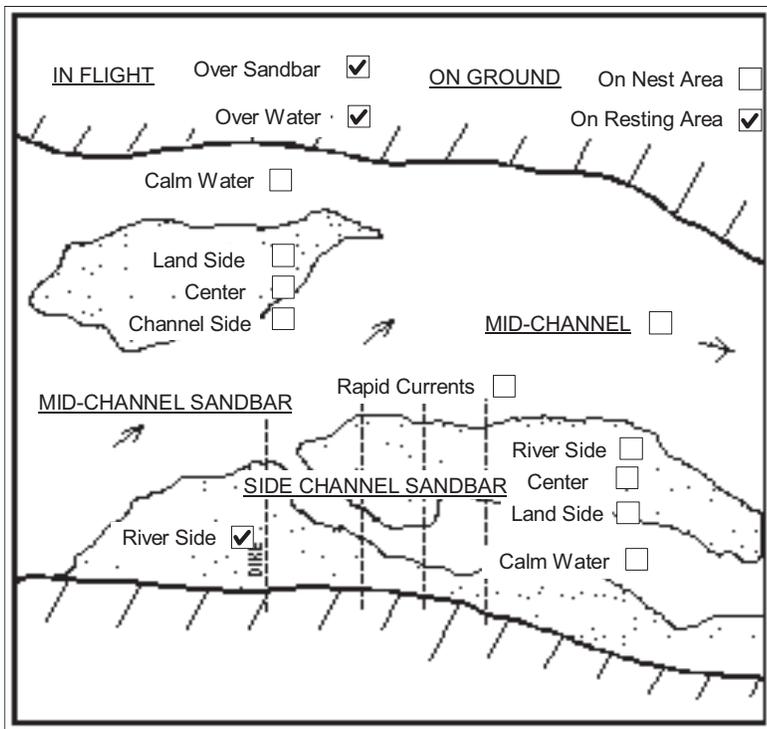
LOCALITY: Washington MS SITE NAME: Leota Dikes  
County/Parish State

WHERE SITED: Latitude: 33.085  
Longitude: 91.167

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:

Adults: 88  
Juveniles: yes  
Eggs: \_\_\_\_\_  
Chicks: No



SUBSTRATE:

Sand:   
Gravel:   
Debris:

VEGETATION:

Type: Willows/Cottonwoods  
Distance: 600 Feet

FIELD CONDITION:

Temperature: 89 °F  
Rain: No  
Wind: W 5mph  
% Cloud: 20

OTHER NOTES:

Left Bank. Attached, narrow, riverside bar with gravel at upper end. No scrapes or nests but many juveniles with adults resting and fishing along waterline. Kildeer, 1 Snowy Egret and 1 Great Egret also present with no signs of disturbance.

MS side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Greenville = 28.5 R  
(Gage Location) (Elevation)

# FIELD SIGHTING DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

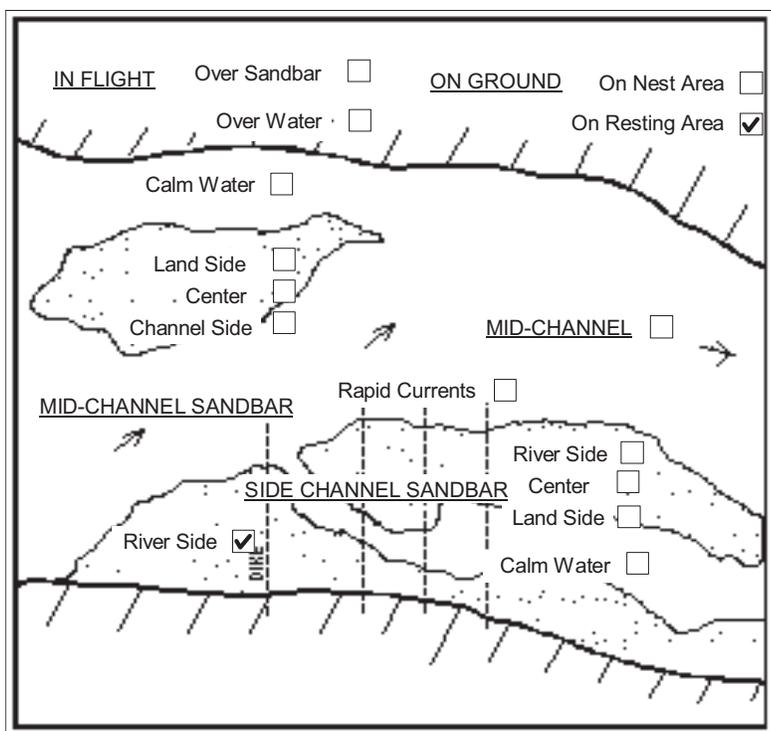
DATE: 8/19/2010 TIME OF DAY: 11:55 RIVER MILE 508.5

LOCALITY: Chicot AR SITE NAME: Cracraft Lower Dikes  
County/Parish State

WHERE SITED: Latitude: 33.024  
Longitude: 91.156

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
Adults: 47  
Juveniles: \_\_\_\_\_  
Eggs: \_\_\_\_\_  
Chicks: No



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

FIELD CONDITION:  
Temperature: 90 °F  
Rain: No  
Wind: W 5mph  
% Cloud: 20

OTHER NOTES:

Right Bank. Attached sand bar (1000 x 600ft.) with all terns resting at waterline. One Snowy Egret present but no signs of disturbance.

AR side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Greenville = 28.5 R  
(Gage Location) (Elevation)

FIELD SIGHTING  
DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

DATE: 8/19/2010 TIME OF DAY: 12:42 RIVER MILE 503.5

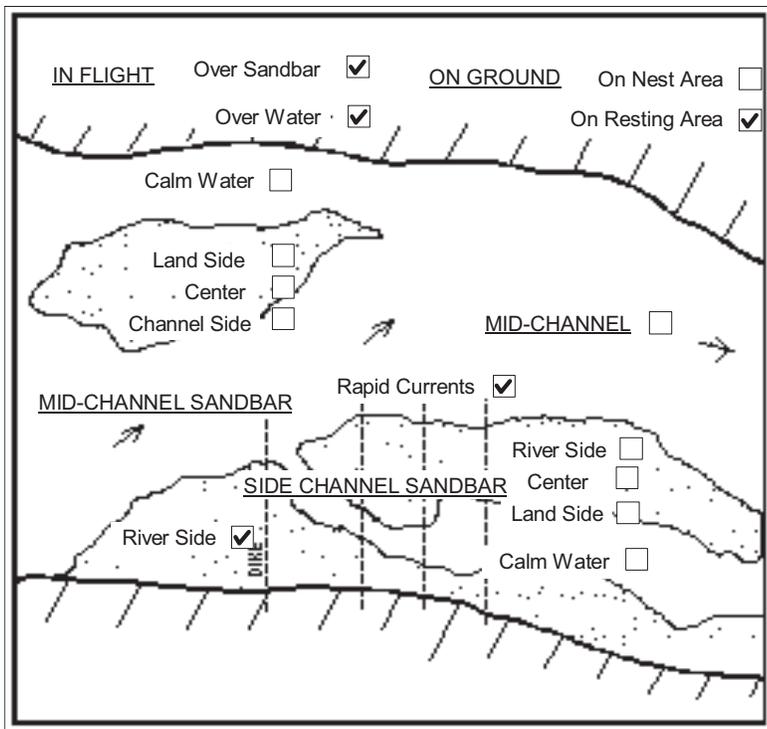
LOCALITY: Issaquena MS SITE NAME: Corregidor Dikes  
County/Parish State

WHERE SITED: Latitude: 32.9594  
Longitude: 91.1360

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:

Adults: 241  
Juveniles: \_\_\_\_\_  
Eggs: \_\_\_\_\_  
Chicks: No



SUBSTRATE:

Sand:   
Gravel:   
Debris:

VEGETATION:

Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

FIELD CONDITION:

Temperature: 90 °F  
Rain: No  
Wind: W 5mph  
% Cloud: 20

OTHER NOTES:

Left Bank. Low, flat sand bar with terns resting or flying along waterline. No nesting observed but mobbing of Bald Eagle which appeared to be pursuing terns. Also present: 1 Black Tern and 1 Caspian Tern. No other signs of disturbance.

MS side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Greenville = 28.5 R  
(Gage Location) (Elevation)

# FIELD SIGHTING DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

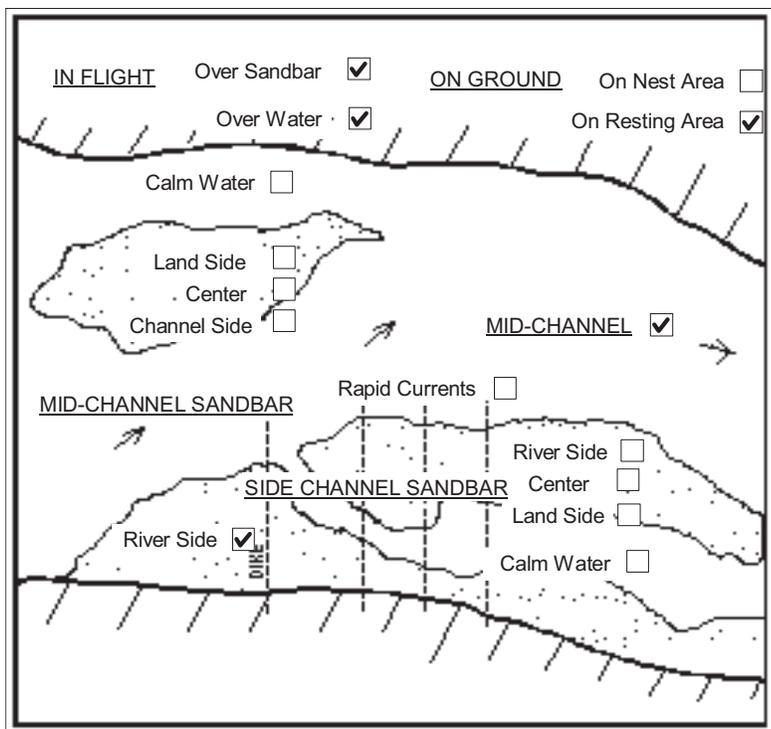
DATE: 8/19/2010 TIME OF DAY: 12:13 RIVER MILE 498.5

LOCALITY: East Carroll LS SITE NAME: Wisou Point Dikes  
County/Parish State

WHERE SITED: Latitude: 32.934  
Longitude: 91.0764

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
Adults: 89  
Juveniles: yes  
Eggs: \_\_\_\_\_  
Chicks: No



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: Willows  
Distance: 500 Feet

FIELD CONDITION:  
Temperature: 90 °F  
Rain: No  
Wind: W 5mph  
% Cloud: 10

OTHER NOTES:

Right Bank. Low, attached, river side bar with most terns resting at upper point, one fishing opposite bank. No signs of disturbance.

LA side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Greenville = 28.5 R  
(Gage Location) (Elevation)

# FIELD SIGHTING DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

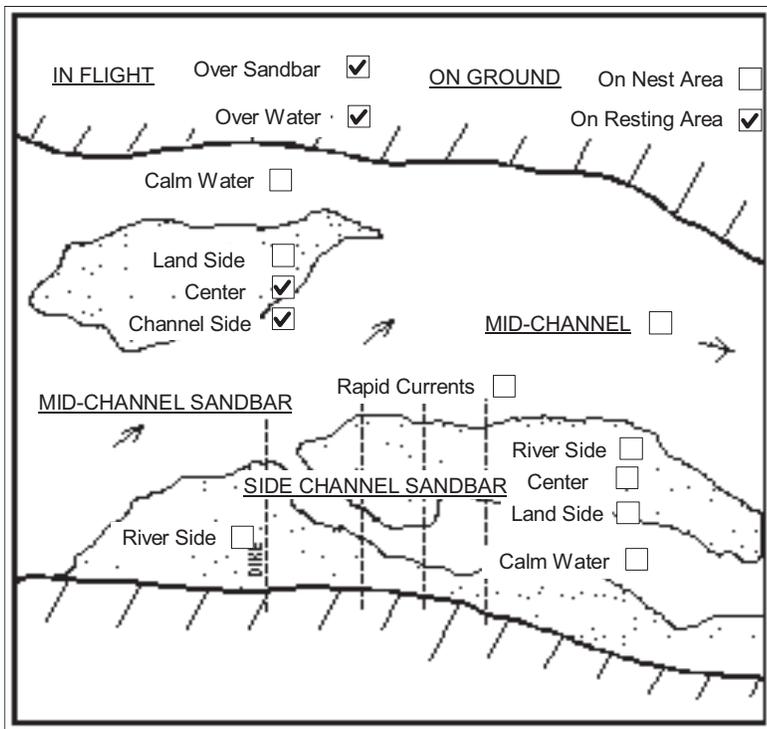
DATE: 8/19/2010 TIME OF DAY: 12:54 RIVER MILE 491

LOCALITY: Issaquena MS SITE NAME: Baleshed Landing Dikes  
County/Parish State

WHERE SITED: Latitude: 32.844  
Longitude: 91.124

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
Adults: 153  
Juveniles: yes  
Eggs: \_\_\_\_\_  
Chicks: No



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

FIELD CONDITION:  
Temperature: 90 °F  
Rain: No  
Wind: W 0-5mph  
% Cloud: 20

OTHER NOTES:

Left Bank. Many juveniles present with adults resting at waterline along low, flat bar. Many Kildeers but no signs of disturbance.

MS side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Greenville = 28.5 R  
(Gage Location) (Elevation)

# FIELD SIGHTING DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

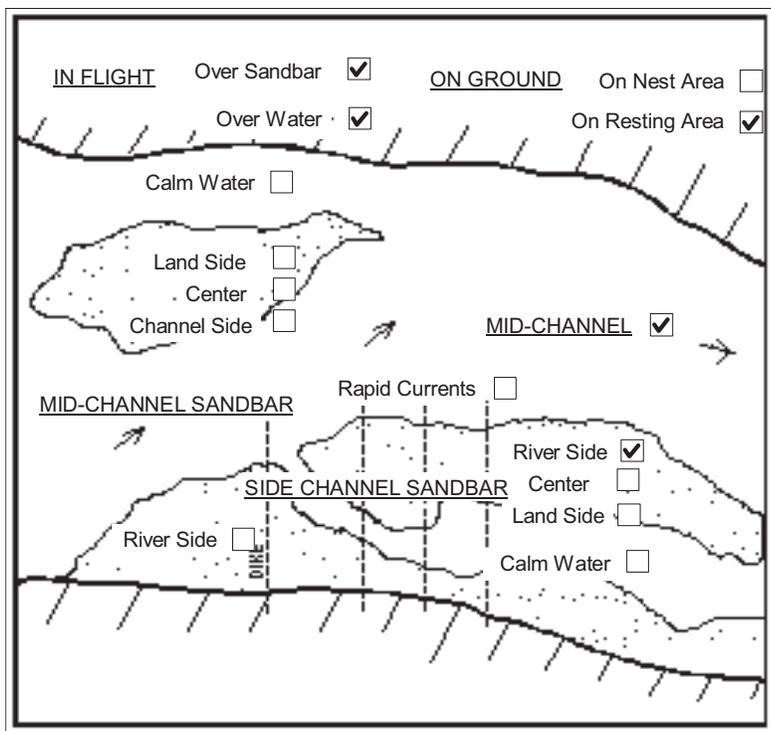
DATE: 8/19/2010 TIME OF DAY: 13:30 RIVER MILE 483

LOCALITY: Issaquena MS SITE NAME: Ajax Bar Dikes Upper  
County/Parish State

WHERE SITED: Latitude: 32.7436  
 Longitude: 91.1407

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
 Adults: 277  
 Juveniles: yes  
 Eggs: \_\_\_\_\_  
 Chicks: No



SUBSTRATE:  
 Sand:   
 Gravel:   
 Debris:

VEGETATION:  
 Type: \_\_\_\_\_  
 Distance: \_\_\_\_\_ Feet

FIELD CONDITION:  
 Temperature: 91 °F  
 Rain: No  
 Wind: W 5mph  
 % Cloud: 30

OTHER NOTES:

Left Bank. Low, flat, wet sand bar with many juveniles, most resting at waterline or fishing mid-channel. No signs of disturbance.

MS side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Vicksburg = 22.8 F  
(Gage Location) (Elevation)

FIELD SIGHTING  
DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

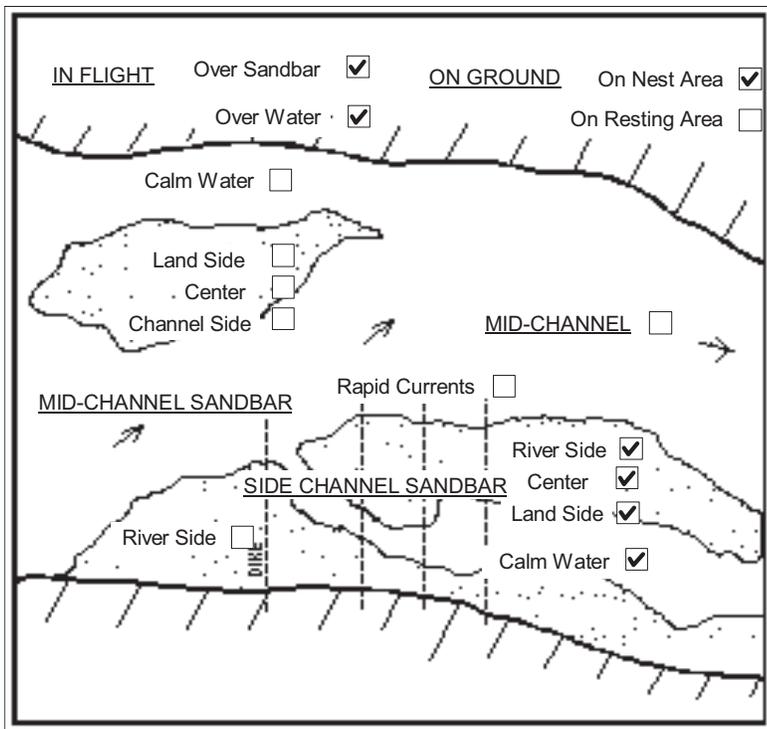
DATE: 8/19/2010 TIME OF DAY: 13:53 RIVER MILE 481.4

LOCALITY: Issaquena MS SITE NAME: Ajax Bar Dikes Lower  
County/Parish State

WHERE SITED: Latitude: 32.7395  
Longitude: 91.1164

Approximate Distance to Water: 5 Feet

NUMBERS SIGHTED:  
Adults: 484  
Juveniles: yes  
Eggs: \_\_\_\_\_  
Chicks: Yes



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

FIELD CONDITION:  
Temperature: 95 °F  
Rain: No  
Wind: W 5mph  
% Cloud: 30

OTHER NOTES:

Left Bank. High, flat, clean, 12ft. high sand bar with low downstream point. Most resting at waterline with many juveniles and a few chicks observed with hatched eggs. Many dropped fingerling carp along with one Great Blue Heron and 1 Great Egret, but no other signs of disturbance.

MS side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Vicksburg = 22.8 F  
(Gage Location) (Elevation)

# FIELD SIGHTING DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

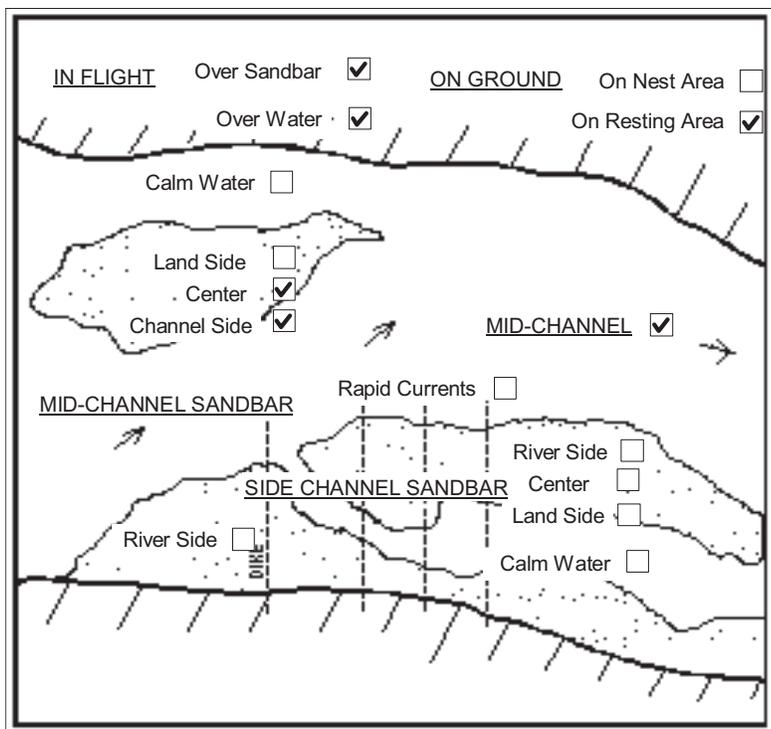
DATE: 8/19/2010 TIME OF DAY: 14:40 RIVER MILE 461

LOCALITY: East Carroll LA SITE NAME: Willow Cutoff Dikes  
County/Parish State

WHERE SITED: Latitude: 32.509  
Longitude: 91.1016

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
Adults: 304  
Juveniles: yes  
Eggs: \_\_\_\_\_  
Chicks: No



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

FIELD CONDITION:  
Temperature: 92 °F  
Rain: No  
Wind: W 5mph  
% Cloud: 60

OTHER NOTES:

Right Bank. Low, flat, sand bar with many juveniles, all resting at waterline and upper point. Large flock of Canand Geese (312) observed upstream at Arcadia point Dikes. No signs of disturbance.

LA side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Vicksburg = 22.8 F  
(Gage Location) (Elevation)

# FIELD SIGHTING DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

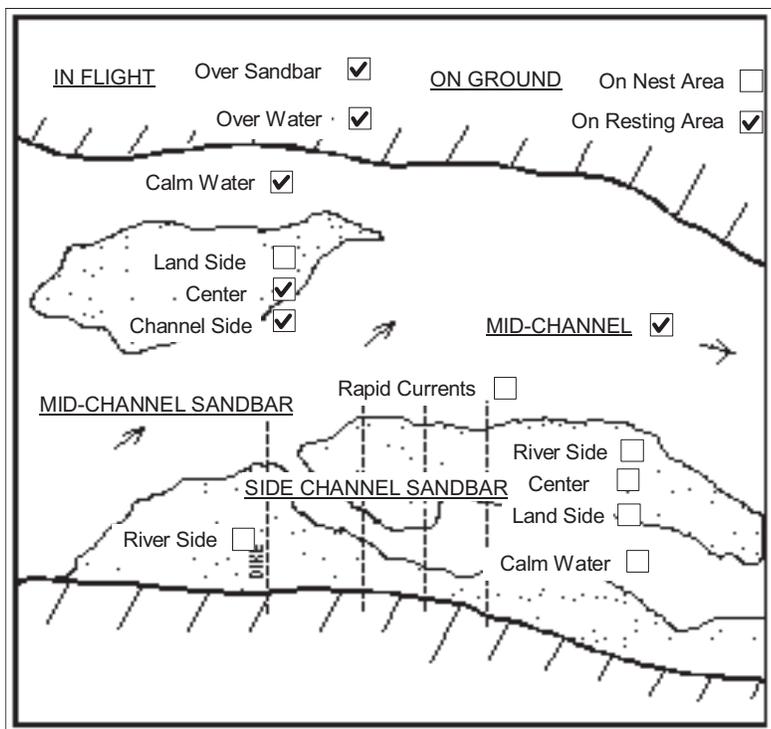
DATE: 8/19/2010 TIME OF DAY: 14:50 RIVER MILE 453

LOCALITY: Warren MS SITE NAME: Forest Home Towehead Dikes  
County/Parish State

WHERE SITED: Latitude: 32.4465  
Longitude: 91.066

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
Adults: 127  
Juveniles: yes  
Eggs: \_\_\_\_\_  
Chicks: No



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

FIELD CONDITION:  
Temperature: 92 °F  
Rain: No  
Wind: W 5mph  
% Cloud: 92

OTHER NOTES:

Left Bank. Small, low, flat sand bar with many juveniles. Fishing back chute and mid-channel. One hundred Canada Geese and 5 Cormorants flying mid-channel, but no other signs of disturbance.

MS side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Vicksburg = 22.8 F  
(Gage Location) (Elevation)

FIELD SIGHTING  
DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

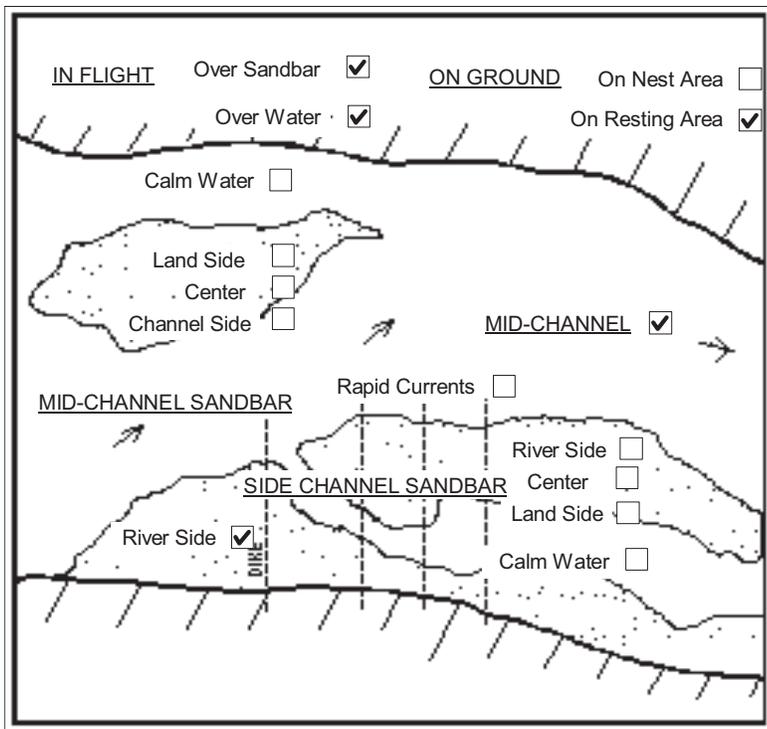
DATE: 8/19/2010 TIME OF DAY: 15:25 RIVER MILE 447

LOCALITY: Madison LA SITE NAME: Marshall Cutoff Dikes  
County/Parish State

WHERE SITED: Latitude: 32.4049  
Longitude: 91.001

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
Adults: 48  
Juveniles: yes  
Eggs: \_\_\_\_\_  
Chicks: No



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: Willows/Cottonwoods  
Distance: 500 Feet

FIELD CONDITION:  
Temperature: 92 °F  
Rain: No  
Wind: W 5mph  
% Cloud: 60

OTHER NOTES:

Right Bank. Low, flat sand and gravel bar with terns resting at waterline and fishing mid-channel. No signs of disturbance.

LA side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Vicksburg = 22.8 F  
(Gage Location) (Elevation)

# FIELD SIGHTING DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

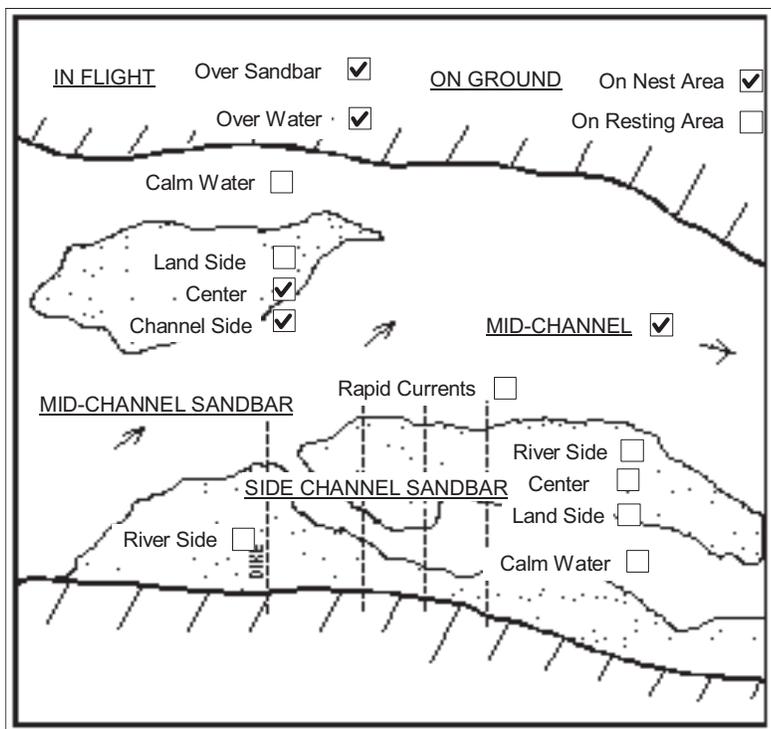
DATE: 8/20/2010 TIME OF DAY: 9:28 RIVER MILE 428

LOCALITY: Warren MS SITE NAME: Below Racetrack Dikes  
County/Parish State

WHERE SITED: Latitude: 32.2383  
Longitude: 90.98035

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
Adults: 76  
Juveniles: \_\_\_\_\_  
Eggs: \_\_\_\_\_  
Chicks: No



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

FIELD CONDITION:  
Temperature: 84 °F  
Rain: No  
Wind: S 3-5mph  
% Cloud: 90

OTHER NOTES:

Left Bank. Low, flat, unattached sand bar (1200 x 900ft.) with many resting at waterline or tending scrapes on center of bar, but no eggs observed indicating a possible newly established nesting colony. Courting behavior observed along with 34 Canada Geese, turtle and heron tracks, but no other signs of disturbance.

MS side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Vicksburg = 22.8 F  
(Gage Location) (Elevation)

FIELD SIGHTING  
DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

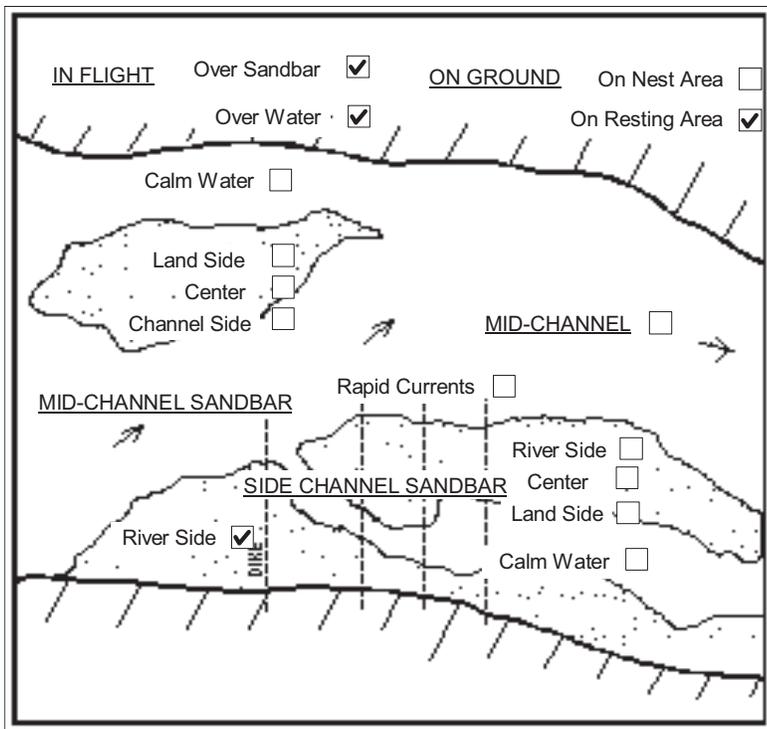
DATE: 8/20/2010 TIME OF DAY: 9:57 RIVER MILE 418.5

LOCALITY: Warren MS SITE NAME: Newton Bend Dikes  
County/Parish State

WHERE SITED: Latitude: 32.126  
Longitude: 91.148

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
Adults: 57  
Juveniles: \_\_\_\_\_  
Eggs: \_\_\_\_\_  
Chicks: No



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: Willows  
Distance: 200 Feet

FIELD CONDITION:  
Temperature: 85 °F  
Rain: No  
Wind: S 8mph  
% Cloud: 20

OTHER NOTES:

Right Bank. Narrow (200ft. X 1 mile long) sand bar with all terns resting at waterline but no chicks or juveniles. Two Cormorants flying upstream. No disturbance observed.

MS side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Vicksburg = 22.8 F  
(Gage Location) (Elevation)

# FIELD SIGHTING DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

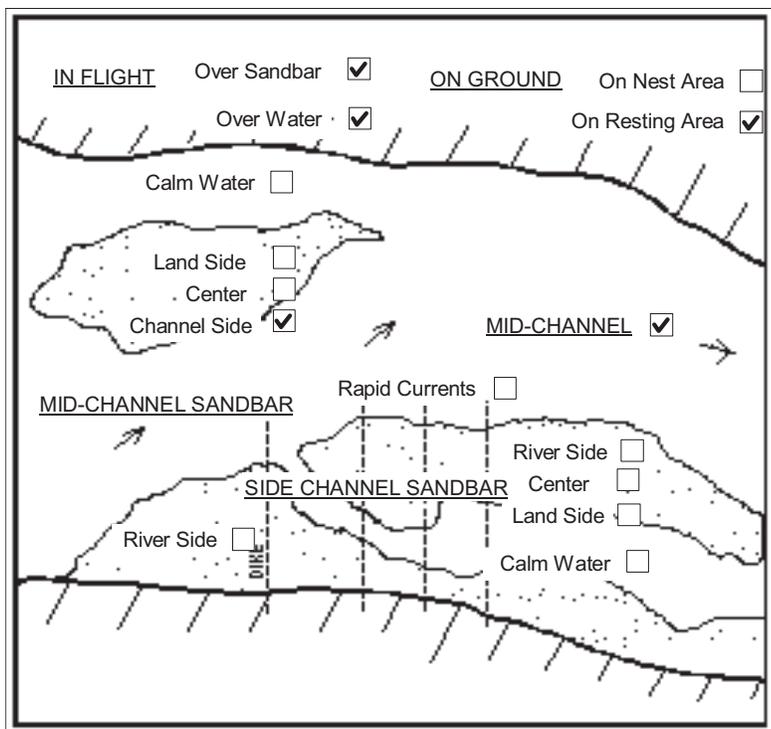
DATE: 8/20/2010 TIME OF DAY: 10:10 RIVER MILE 412.6

LOCALITY: Tensas LA SITE NAME: Togo Island Dikes  
County/Parish State

WHERE SITED: Latitude: 32.1056  
Longitude: 91.0984

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
Adults: 16  
Juveniles: \_\_\_\_\_  
Eggs: \_\_\_\_\_  
Chicks: No



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

FIELD CONDITION:  
Temperature: 86 °F  
Rain: No  
Wind: S 5mph  
% Cloud: 20

OTHER NOTES:

Left Bank. Low, flat, small (150 x 70ft.), barely emergent sand bar with terns resting at waterline along with 3 Black Terns, 1 Caspian Tern and 1 Great Egret. Nine terns fishing opposite bank. No disturbance noted.

MS side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Vicksburg = 22.8 F  
(Gage Location) (Elevation)

# FIELD SIGHTING DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

DATE: 8/20/2010 TIME OF DAY: 10:23 RIVER MILE 410

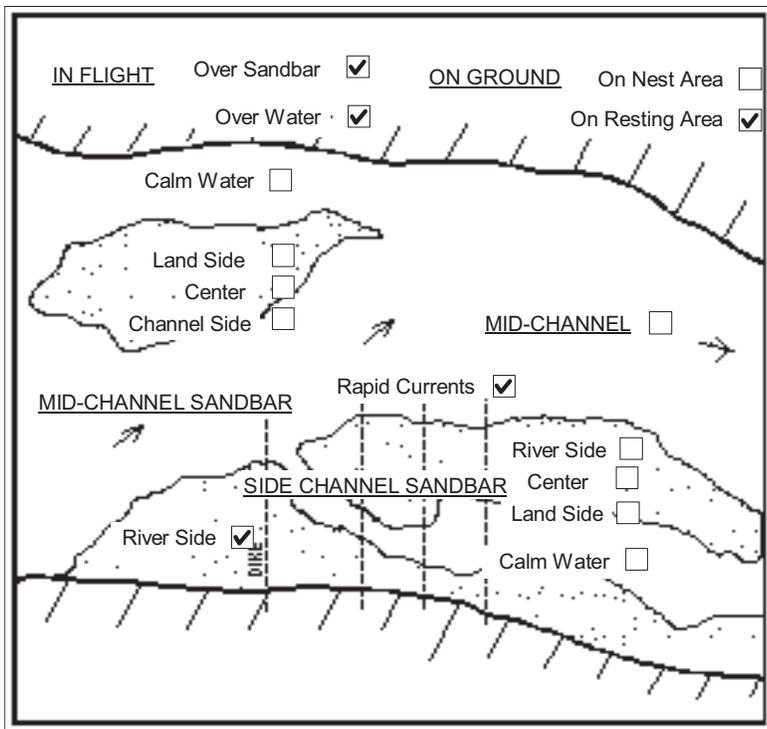
LOCALITY: Claiborne MS SITE NAME: Yucatan Dikes  
County/Parish State

WHERE SITED: Latitude: 32.0713  
Longitude: 91.0753

Approximate Distance to Water: \_\_\_\_\_ Feet

**NUMBERS SIGHTED:**

Adults: 11  
Juveniles: \_\_\_\_\_  
Eggs: \_\_\_\_\_  
Chicks: No



**SUBSTRATE:**

Sand:   
Gravel:   
Debris:

**VEGETATION:**

Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

**FIELD CONDITION:**

Temperature: 87 °F  
Rain: No  
Wind: S 5mph  
% Cloud: 20

**OTHER NOTES:**

Right Bank. Small, low, sand spit inside back chute with all adults resting at waterline or fishing there.  
One Great Egret and 1 Turkey Vulture present. No young or disturbance noted.

LA side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Vicksburg = 22.8 F  
(Gage Location) (Elevation)

# FIELD SIGHTING DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

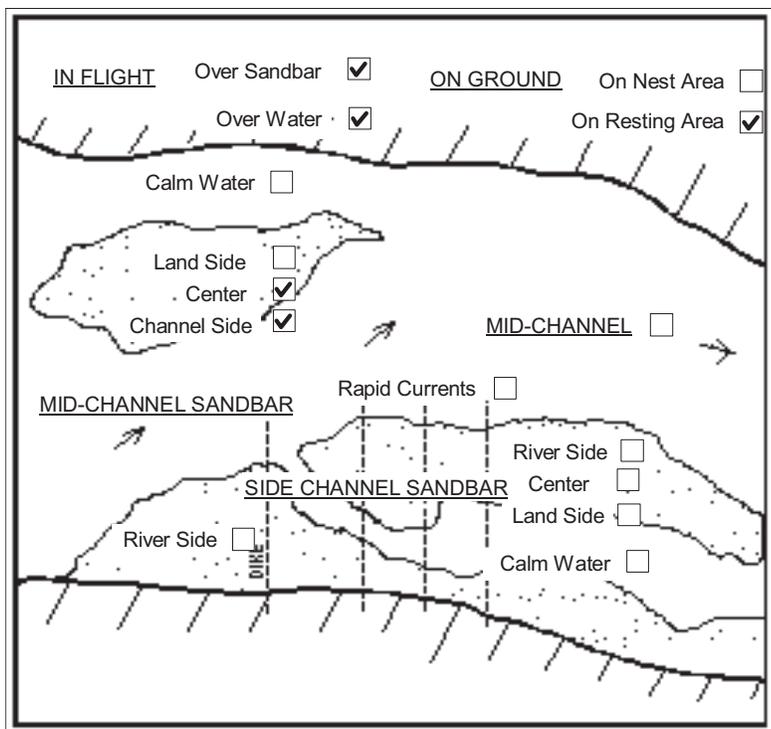
DATE: 8/20/2010 TIME OF DAY: 11:01 RIVER MILE 393.5

LOCALITY: Tensas LA SITE NAME: Bondurant Towhead Dikes  
County/Parish State

WHERE SITED: Latitude: 31.8938  
Longitude: 91.2142

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
Adults: 465  
Juveniles: yes  
Eggs: \_\_\_\_\_  
Chicks: No



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

FIELD CONDITION:  
Temperature: 87 °F  
Rain: No  
Wind: S 5-8mph  
% Cloud: 60

OTHER NOTES:

Right Bank. Long, low, large sand bar about 1 mile in length with juveniles and adult terns resting at waterline or fishing upstream. One Black Tern, 1 Great Blue Heron and 1 Great Egret present, but no signs of disturbance. Two hundred Wood Storks observed 2 miles upstream.

LA side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Natchez = 31.2 F  
(Gage Location) (Elevation)

# FIELD SIGHTING DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

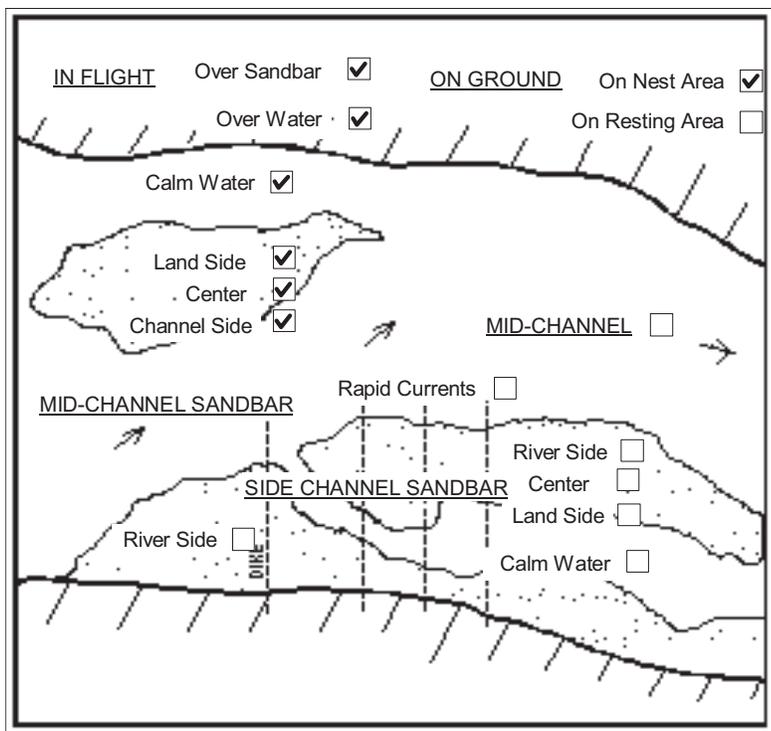
DATE: 8/20/2010 TIME OF DAY: 11:25 RIVER MILE 383

LOCALITY: Jefferson MS SITE NAME: Below Spithead Towhead Dikes  
County/Parish State

WHERE SITED: Latitude: 31.8307  
Longitude: 91.3475

Approximate Distance to Water: 5 Feet

NUMBERS SIGHTED:  
Adults: 76  
Juveniles: \_\_\_\_\_  
Eggs: 1(1) 8(2)  
Chicks: Yes



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: grass  
Distance: 5 Feet

FIELD CONDITION:  
Temperature: 87 °F  
Rain: No  
Wind: S 5mph  
% Cloud: 60

OTHER NOTES:

Left Bank. Long (900 x 400ft.), high sand bar with small wrack line on chute side. Colony on downstream high point at waterline and on chute side. No juveniles, but many nests, some with newly hatched chicks, with heavy mobbing of observers. Two Black Terns and 1 Great Blue Heron present, but no other disturbance factors noted.

MS side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Natchez = 31.2 F  
(Gage Location) (Elevation)

**FIELD SIGHTING  
DATA SHEET**

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

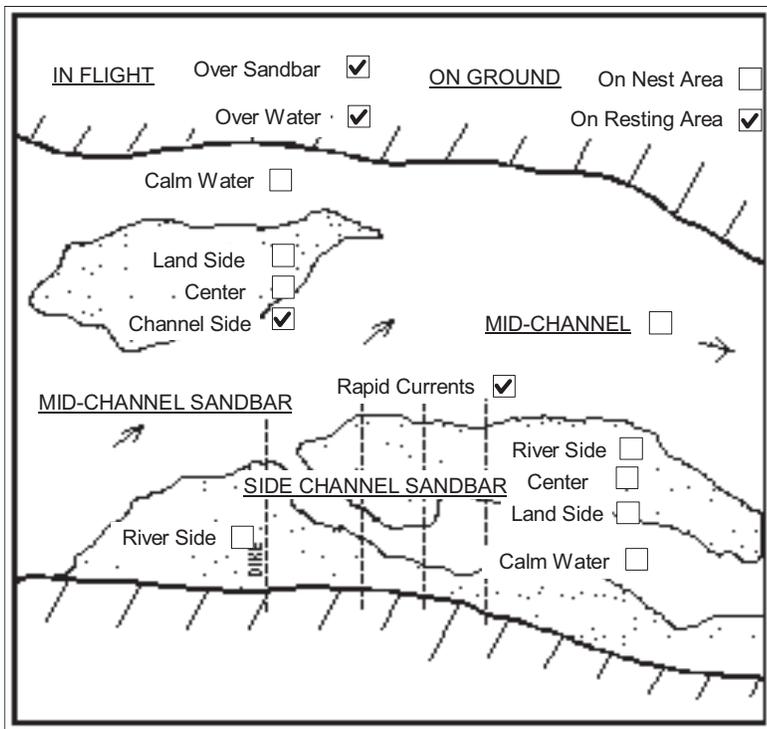
DATE: 8/20/2010 TIME OF DAY: 12:02 RIVER MILE 377.8

LOCALITY: Tensas LA SITE NAME: Water Proof Dikes  
County/Parish State

WHERE SITED: Latitude: 31.7628  
Longitude: 91.3674

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
Adults: 156  
Juveniles: yes  
Eggs: \_\_\_\_\_  
Chicks: No



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

FIELD CONDITION:  
Temperature: 89 °F  
Rain: No  
Wind: S 10mph  
% Cloud: 70

OTHER NOTES:

Right Bank. Sand bar 900 x 300ft. With terns resting on wet sand at upper end along waterline with some juveniles. No disturbance or nesting activity observed. Eighty Wood Storks nearby and 3 Black and 1 Caspian Tern on bar.

LA side

OBSERVERS: Fowlkes, K. & W. Jones, Rumancik

RIVER GAGE READING: Natchez = 31.2 F  
(Gage Location) (Elevation)

FIELD SIGHTING  
DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

DATE: 8/21/2010 TIME OF DAY: 9:07 RIVER MILE 304.5

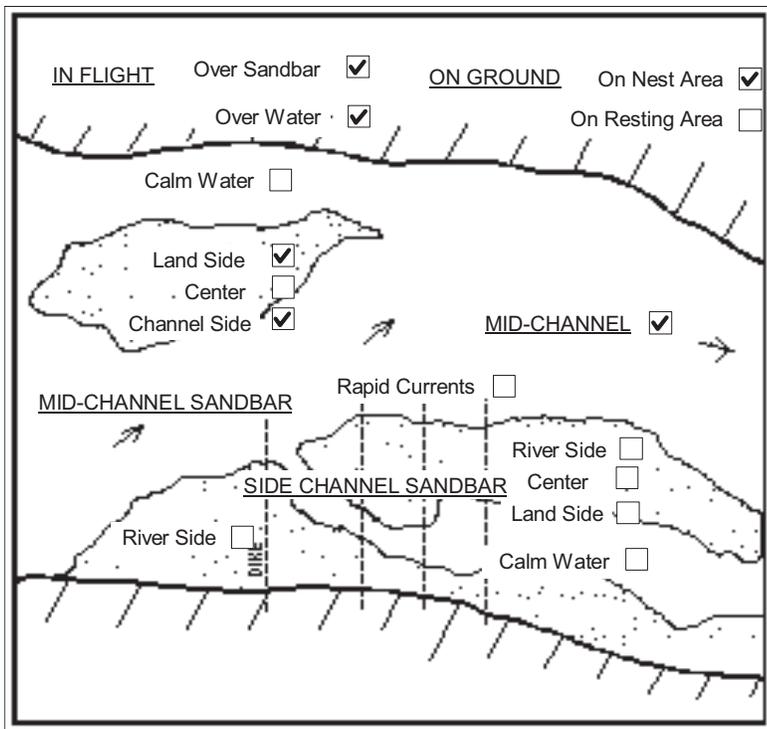
LOCALITY: West Feliciano LA SITE NAME: Shreves Bar  
County/Parish State

WHERE SITED: Latitude: 30.9928  
Longitude: 91.6486

Approximate Distance to Water: 400 Feet

NUMBERS SIGHTED:

Adults: 33  
Juveniles: \_\_\_\_\_  
Eggs: \_\_\_\_\_  
Chicks: Yes



SUBSTRATE:

Sand:   
Gravel:   
Debris:

VEGETATION:

Type: Hardwoods/grass  
Distance: 1000 Feet

FIELD CONDITION:

Temperature: 86 °F  
Rain: No  
Wind: W 5-10mph  
% Cloud: 10

OTHER NOTES:

Left Bank. Upstream point of island, sand bar 700 x 1200ft., high and flat with no active scrapes but many chicks 1-3 weeks old. Light mobbing of observers with canine tracks in colony. Six Caspian Terns, 2 Black-necked Stilts and 1 Great Blue Heron at waterline and 14 Cattle Egrets in flight.

MS side

OBSERVERS: Fowlkes, Hammond, K. & W. Jones, Rumancik

RIVER GAGE READING: Natchez = 30.8 F  
(Gage Location) (Elevation)

FIELD SIGHTING  
DATA SHEET

FLY  BOAT

SPECIES: Interior Least Tern (*Sterna antillarum athalassos*)

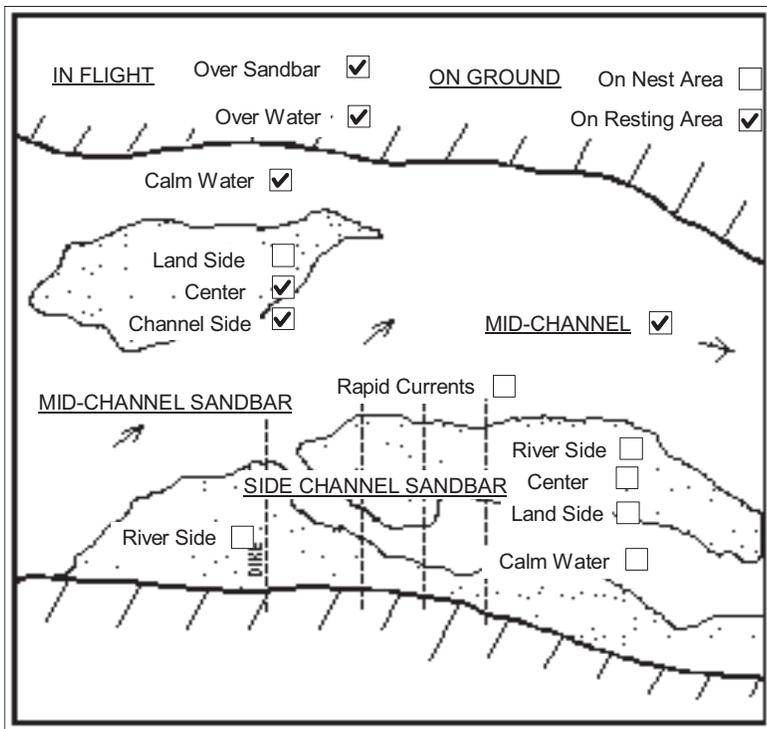
DATE: 8/21/2010 TIME OF DAY: 9:41 RIVER MILE 300

LOCALITY: Adams MS SITE NAME: Hog Point Dikes  
County/Parish State

WHERE SITED: Latitude: 30.9367  
Longitude: 91.6467

Approximate Distance to Water: \_\_\_\_\_ Feet

NUMBERS SIGHTED:  
Adults: 253  
Juveniles: \_\_\_\_\_  
Eggs: \_\_\_\_\_  
Chicks: No



SUBSTRATE:  
Sand:   
Gravel:   
Debris:

VEGETATION:  
Type: \_\_\_\_\_  
Distance: \_\_\_\_\_ Feet

FIELD CONDITION:  
Temperature: 88 °F  
Rain: No  
Wind: W 10mph  
% Cloud: 70

OTHER NOTES:

Left Bank. Low, upper point of solid sand bar. No reproductive behavior or offspring. Resting at waterline and fishing back chute. No disturbance noted. Twenty Caspian Terns present.

MS side

OBSERVERS: Fowlkes, Hammond, K. & W. Jones, Rumancik

RIVER GAGE READING: Natchez = 30.8 F  
(Gage Location) (Elevation)