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

2005

By

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Under Contract with URS Corporation

June - July 2005

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On and between June 24 and July 9, 2005, Kenneth H. Jones, Associate Professor of Biology at Dyersburg State Community College, under contract with URS Corporation, 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 21st consecutive annual count since the surveys were initiated in 1985 by the Army Corps of Engineers. The survey area extended 777 miles from Cape Girardeau, Missouri (Upper River Mile 53) to Baton Rouge, Louisiana (River Mile 230) (Figure 1). 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. The extra survey time and expense, plus the belief that the coastal least tern population might overlap the interior population further south, warranted stopping the survey at Vicksburg.

Recent cooperative initiatives by the Corps of Engineers with state resource agencies and the U.S. Fish and Wildlife Service from each of the five states along the lower Mississippi River developed into Mississippi river habitat restoration meetings. These meetings, chaired by the Lower Mississippi River Conservation Committee, thoroughly reviewed various ways that the Corps could assist the states in constructing diverse habitat structures in the river plus restore lost river fishery habitat by opening old, silted-in river channels. Many navigation safety, hydraulic, and biology aspects were discussed as each proposed habitat restoration project site was reviewed at a state meeting. It was evident there were no least tern data below Vicksburg. As a result, all agreed that we needed to know where the tern colonies are downstream of Vicksburg so this data can be incorporated into the overall restoration plans for each state and the river. The Corps was asked to extend the survey reach to thoroughly document Least Tern use.

The Corps agreed with this and said that beginning in 2004 the survey range would be extended an additional 200 miles to Baton Rouge, Louisiana, as this was the southern limit of the sandbars. The Corps suggested the extended reach be surveyed for at least 3 years to ensure maximum survey coverage. Thus, the 2005 interior least tern survey extended 777 miles from Cape Girardeau, Missouri to Baton Rouge, Louisiana, as did last year's 2004 survey.

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 Dyersburg State Community College and Kenneth Jones, Associate Professor of Biology. Observers and crew members of this year's survey included John Rumancik, Larry Marcy, and Mike Thron, all biologists with the Army Corps of Engineers and experienced counters from past surveys, Zack Fowlkes, Wanda Jones, and Richard Ford. Other observers and crew members in 2005 included Robert Thomas, Dennis Davin, Mark Campen and Andrea Carpenter. Casey Lott, American Bird Conservancy, assisted the first two days.

This year's survey yielded a total count of 10,960 Least Terns and 88 nesting colonies, more colonies than have ever previously been recorded, and the second highest number of Least Terns since the surveys were initiated (the 2004 survey recorded 11,239 Least Terns). Seventy-one colonies were identified based on the presence of eggs and/or chicks (Tables 1 and 2). Seventeen 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 colonies were located at Wolf Island Bar (RM 930), Stewart Towhead Dikes (RM 870), Leland Neck Dikes (RM 540), Island #84 Dikes (RM 533), and Opposite Warnicott Landing Dikes (RM 349) with 400 or more terns at each site. The smallest colonies were at Nebraska Point Dikes Lower (RM 807) and Walnut Bent Revetment Dikes (RM 682), with just 12 and 9 birds.

Numbers of adult and juvenile 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, 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 setting inland during waterline drift counts. Twenty egg embryos were collected at 10 sites for later DNA analysis by Dr. Susan Haig (U. S. Fish and Wildlife Permit #TE106221-0) USGS biologist. Also, one adult Tern and 3 chicks were salvaged for DNA from 2 colony sites, reason for mortality, unknown. Foraged fingerling fish dropped within the colony were identified and/or collected. Colony locations were marked on 1998 Flood Control and Navigation Maps of the Mississippi River, 61<sup>st</sup> edition, USACE. Data sheets and colony locations are found in Appendix A.

The average number of adult terns per colony was 119, with colony sizes ranging from as little as 9 adults to as many as 700. The numbers of eggs per nest ranged from 1 to 4 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 small boat survey was initiated June 25, 2005, 6 days after the river stage at Memphis, Tennessee crested at 12 ft., preceded by a 10 ft. rise which began on June 9 (Table 3). Normally, the survey would have been postponed in order to give any flooded and displaced colonies a chance to re-establish. However, this year, there was a concerted effort by the American Bird Conservancy to coordinate all Least Tern Monitoring activities within a two-three week time frame. This was to minimize the possibility of different surveys counting the same Least Terns from different areas while terns were still migrating, or recently displaced, looking for optimal breeding habitat. During this 2005 survey the river was exhibiting a slow, continuous fall for every location on the dates surveyed (Table 3). The survey proceeded downstream during daylight hours from Cape Girardeau, Mo., to Baton Rouge, La., at an average pace of 111 miles per day. One section of river, RM 820 to RM 804, was not surveyed due to lightning storms in the area at the time of the survey, however, this section was surveyed two weeks later on July 9, 2005.

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 slowly drift with the current. 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. 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 drifted downstream, usually produced higher counts than just walking on the sand bar to the colony's center to induce mobbing. 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.

The presence of eggs or chicks was considered confirmation of nesting activity. Intense mobbing, wetting of breast feathers, and the presence of fresh scrapes were also considered to indicate an active nest colony at the 17 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. The highest number of birds sighted by any one observer was recorded as the total number for the site, but only when at least two observers were within 5% of the same figure. Only in colonies dispersed over ½ mile in length or with back chutes not visible to all observers, were numbers counted by individual observers added together to obtain a total count. Fledged juveniles were noted at only 2 colony sites (Smith Point Dikes, RM 599, and Carthage Point Dikes, RM 357.8). Since it is usually impossible to discriminate between flying juveniles and adults when determining total colony counts at long ranges, the adult counts at these two sites may have included some juveniles, but it is unlikely, due to the early dates of this year's survey, that a similar scenario occurred elsewhere. 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. This assumption produced the larger nest count totals from 30 to 200, as shown in table 1.

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. Ten Thousand nine hundred sixty (10,960) Least Terns were recorded at 118 locations (Table 1, Figure 1). Of these, 88 sites were identified as nesting colonies with 10,502 adults, 22 sites as resting bars only with 407 adults, and 8 observations were of 51 birds that could not be associated with colonies, either flying over feeding areas or in transit along the river. Of the identified nest colonies, 63 had eggs and/or chicks present, 25 had neither chicks nor eggs, 2 had chicks but no eggs, 34 had eggs but no chicks, and 27 had both chicks and eggs present within the colony. Interestingly enough, a colony with 35 adults surveyed on June 26 at the Bend of Island #25, RM 802.5 (Appendix-II-33) may have moved 1.5 miles upstream to a new site, Island #25 Dikes, RM 804 (Appendix-II-32), which was surveyed on July 9 with a total count of 36 birds.

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. The larger colonies were hundreds of acres in size, while some of the smallest were just a few acres. Most of the sand and gravel bars containing colonies were associated with dike fields, however 15 were located on bars away from dikes, either on the outside of bends, below large islands or more often point bars on the inside of bends without dikes. As before, the least likely sandbars to be utilized by nesting terns were those that were directly attached to the riverbank. Only 9 colonies met this criterion, and their immense size provided some isolation.

The locations of the colonies as indicated on the 1998 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 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 20 to 1,000 feet and averaged ~300 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 73 colony sites, but 15 did have sparse stands of sapling Cottonwoods (*Populus* 

deltoids) and/or Black Willows (Salix nigra) within 300 feet of active nests. The other colonies with vegetation had only very sparse, recently emerged grasses, sedges and forbs in small patches within the colony. 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.

Predation on terns, their eggs or chicks was noted at 9 colony sites. Coyotes were considered responsible for those instances as their tracks wandered from scrape to scrape, often leaving egg shell fragments behind as evidence. The presence of coyote or dog tracks was noted at 26 sites and still lends strong support to the contention that coyotes and/or feral dogs are one of the more common predation threats to nesting Least Terns along the Lower Mississippi River. Of 88 colonies, 15 had evidence of recent intrusion by humans on foot, using boats, ATVs, or in one case, full size vehicles, to access the sites. However, unlike some previous surveys, no human vandalism was noted at any colony in 2005.

Besides Coyotes (Canis latrans), other potential predators, or their sign, seen near colonies during this year's survey included Bobcat (Lynx rufus), Raccoon (Procyon lotor), snakes (Serpentes), Great Blue Heron (Ardea herodius), Egrets (Casmerodius, Egretta, Bubulcus), American Crow (Corvus brachyrhynchos), Turkey Vulture (Cathartes aura), Black Vulture (Coragyps atratus), Mississippi Kite (Ictinia mississippiensis), Osprey (Pandion haliaetus), and Bald Eagle (Haliaeetus leucocephalus).

Interesting raptor evasion behavior was observed at Island #84 Dikes (Appendix – II – 84) by Least Terns in response to a perceived threat. While observers were walking across the bar and being mobbed by terns, one observer whistled, imitating the call of a Red-tailed Hawk. Immediately all terns went silent, mobbing ceased, and the entire flock dove low to the ground and out over the water in a concerted avoidance maneuver. Almost immediately the flock returned to resume mobbing, but a similar response was obtained twice more using the same stimulus. Presumably the silence would allow the terns to better locate the source of the attack, and their low flight over the water would make an attack from above less likely to be successful.

Other bird species observed on the sand bars or in close proximity to Least Tern colonies included White Pelican (*Pelecanus erythrorhyncos*), Anhinga (*Anhinga anhinga*), Double-Crested Cormorant (*Phalocrorax auritus*), Little Blue Heron (*Egretta caerulea*), Cattle Egret (*Bubulcus ibis*), Snowy egret (*Egretta thula*), Great Egret (*Casmerodius albus*), Great Blue Heron (*Ardea herodias*), White Ibis (*Eudocius albus*), Canada Goose (*Branta canadensis*), Mallard Duck (*Anas platyrhynchos*), Wood Duck (*Aix sponsa*), Killdeer (*Charadrius vociferous*), Spotted Sandpiper (*Actitis macularia*), Herring Gull (*Larus argentatus*), Caspian Tern (*Sterna caspia*), Red-tailed Hawk (*Buteo jamaicensis*), Rock dove (*Columba livia*), Mourning Dove (*Zenaida macroura*), Eastern Kingbird (*Tyrannus tyrannus*), Tree Swallow (*Tachycineta bicolor*), Purple Martin (*Progne subis*), Rough-winged Swallow (*Stelgidopteryx serripennis*), Cliff Swallow (*Hirundo Pyrrhonota*), Barn Swallow (*Hirundo rustica*), Prothonotary Warbler (*Protonotaria citrea*), Indigo Bunting (*Passerina cyanea*), Red-winged Blackbird (*Agelaius phoeniceus*), and Common Grackle (*Quiscalus quiscula*).

Fingerling size fish of Gizzard Shad (*Dorosoma cepedianum*), Threadfin Shad (*Dorosoma petenense*), Striped Bass (*Morone saxatilis*), Largemouth Bass (*Micropterus salmoides*), and sunfish (*Centrarchidae*) were found at multiple colonies and are presumed to have been dropped by foraging adults.

This year's survey was only the second to cover the additional 200 river miles below Vicksburg, Mississippi, and though the total number of Least Terns counted was down by a few hundred (279) from the 2004 census, the number of colony sites actually increased from 69 in 2004 to 88 in 2005.

Table 1: Least Tern Survey - June 25-July 9, 2005 - Mississippi River Cape Girardeau, Missouri, to Baton Rouge, Louisiana

River	ape Orlandeau, Missouri, to Bator	<u> </u>	,		Least		
Mile	Mississippi River Location	State	Lat. N	Long. W	Terns		Nests
UR 39.5	Burnham Island	ILL			1		0
UR 35.5	Goose Island	ILL			5		0
UR 33.0	Billings Island	MO			14		0
UR 30.4	Bumgard Island	ILL	37.0446	89.3795	72	c*	7
946.0	Island #1 Dikes	KY	36.8899	89.1171	44	c*	3
940.0	940.0 Below Campbell Dikes		36.8013	89.1311	11		0
930.5	Wolf Island Bar	KY	36.6884	89.1479	505	c*	22
920.5	Hickman Bend	MO	36.5692	89.2374	192	c*	14
908.0	Island #6	KY	36.5475	89.3989	6		0
894.0	Hotchkiss Bend Dikes	MO	36.5179	89.4673	29	*	0
887.5	Kentucky Point Dikes Upper	KY	36.6653	89.5460	21	*	7
884.0	Kentucky Point Dikes Lower	KY	36.5199	89.5028	140	c*	8
880.5	Island #11 Dikes	MO	36.4721	89.5230	60	c*	3
876.0	Marr Towhead	TN	36.4184	89.5363	30	c*	2
871.5	Stewart Towhead Dikes Upper	MO	36.3529	89.5274	144	c*	3
870.0	Stewart Towhead Dikes Lower	MO	36.3447	89.5297	420	c*	26
864	Below Cherokee Dikes	TN	36.3241	89.6107	60	c*	5
860.5	Little Cypress Bend Revetment	MO			4		0
857.2	Chute of Island #14	MO	36.2461	89.5781	156	c*	5
853.0	Robinson Bayou Dikes	MO			13		0
846.0	Caruthersville Dikes	TN			48	*	0
836.0	Island #18 Towhead Dikes	TN	36.0908	89.6683	270	c*	15
830.5	Island #20 Dikes Upper	MO	36.0387	89.6932	7		0
827.0	Head of Island #21 Dikes	TN			4		0
825.5	Island #21	TN	35.9624	89.7101	102	c*	10
819.5	Wrights Point Dikes Upper	AR	35.9086	89.6470	22	c*	0
815.0	Wrights Point Dikes Lower	AR			10		0
811.5	Below Tamm Bend Dikes Upper	TN	35.9077	89.7404	29	c*	8
810.0	Below Tamm Bend Dikes Lower	TN	35.8973	89.7557	19	c*	1
807.7	Nebraska Point Dikes Upper	TN	35.8719	89.7663	21	c*	1
806.8	Nebraska Point Dikes Lower	TN	35.8553	89.7492	12	c*	1
804.0	Island #25 Dikes	AR	35.8350	89.7065	36	c*	0

SUBTOTAL 2,507

Table 1 continued: Least Tern Survey - June 25-July 9, 2005 - Mississippi River Cape Girardeau, MO, to Baton Rouge, LA

River	Cupe Ontardeda, 1110, to				Least		
Mile	Mississippi River Location	State	Lat. N	Long. W	Terns		Nests
802.5	Bend of Island #25	AR	35.8171	89.7045	35	c*	7
771.0	Randolph	TN	35.5283	89.8987	52	c*	1
766.5	Bel. Richardson Landing Dikes	TN			16		0
760.0	Cedar Point	TN	35.4416	90.0064	7		0
755.0	Densford Bar	TN	35.3902	90.0703	230	c*	16
740.5	Loosahatchie Bar Dikes	TN	35.2074	90.0730	92	c*	3
733.0	Engineer Bar Dikes	AR	35.1236	90.1031	117	c*	4
729.0	Vice Presidents Island #46	TN	35.1161	90.1714	62	c*	5
725.0	Dismal Point Dikes	AR	35.0650	90.1942	14	*	0
716.5	Cow Island Bend	MS	35.0117	90.2925	300	c*	16
707.0	Cat Island	AR	34.9051	90.2582	1		0
705.0	Seypell Dikes	AR	34.8969	90.2603	72	c*	3
703	Pickett Dikes	MS	34.8761	90.3078	115	c*	4
701.0	Porter Lake Dikes Upper	AR	34.8583	90.3492	82	c*	7
700.0	Porter Lake Dikes Lower	AR	34.8406	90.3761	25	c*	2
694.0	Commerce Dikes	MS	34.8150	90.4564	106	c*	2
687	Mhoon Bend	AR	34.7304	90.4664	105	c*	1
681.7	Walnut Bend Revetment Dikes	AR	34.745	90.5453	9	c*	1
680.0	Bordeaux Point Dikes	MS	34.7300	90.5656	64		0
676.5	Below Walnut Bend Dikes	AR	34.6742	90.5752	41		0
672.0	St. Francis Bend	MS	34.6241	90.5835	211	c*	30
667.5	Prairie Point Dikes	AR	34.5625	90.5536	57	c*	1
655.3	Montezuma Towhead Dikes	AR	34.4106	90.5911	24		0
650.2	Friars Point Dikes	MS	34.3769	90.6631	41	c*	7
647.0	Kangaroo Point Dikes	AR	34.3661	90.7297	72	c*	6
643.4	Old Town Bend	MS	34.3485	90.7658	74	c*	5
640.0	Island #62 Dikes Upper	AR	34.3064	90.7400	14	c*	1
637.0	Island #62 Dikes Lower	AR	34.2764	90.7669	34	c*	5
629.3	Island #64 Dikes	AR	34.2203	90.8483	34	c*	4
624.8	Sunflower Cut-Off	AR	34.1725	90.8997	83	c*	7
623.0	Below Ludlow Dikes	AR	34.1583	90.9303	11		0
619.9	Island #67 Dikes Upper	MS	34.1150	90.9490	156	c*	5

SUBTOTAL 2,356

Table 1 continued: Least Tern Survey - June 25-July 9, 2005 - Mississippi River Cape Girardeau, MO, to Baton Rouge, LA

River	Cape Offardead, MO, to				Least		
Mile	Mississippi River Location	State	Lat. N	Long. W	Terns		Nests
619.0	Island #67 Dikes Lower	MS			90	c*	30
616.0	Below Knowlton Dikes Upper	AR			8		0
612.5	Below Knowlton Dikes	AR	34.0292	90.8982	225	c*	35
611	Below Knowlton Dikes Lower	AR			25	*	4
608.2	Island #70 Dikes	MS	34.0233	90.9667	328	c*	113
603.0	Henrico Dikes	MS	33.9898	91.0500	37		0
599.0	Smith Point Dikes	MS	33.9571	91.0798	92	c*	15
595.0	Victoria Bend Dikes	AR	33.9295	91.0186	369	c*	119
589.0	Terrene Dikes Upper	MS	33.8415	91.0632	44	*	8
587.5	Terrene Dikes Lower	MS	33.8333	91.0500	47	*	10
583.5	Malone Field Dikes	AR	33.7860	91.0517	84	*	9
578.0	Below Prentiss Dikes	MS	33.7502	91.1336	89	*	9
573.5	Caulk Neck Cut-Off	AR	33.7087	91.1706	67		0
569.5	Catfish Point Dikes	MS	33.6781	91.2242	72	*	5
564.0	Chicot Landing Dikes	AR	33.6275	91.1498	69	*	2
558.0	Choctaw Bend	AR	33.5797	91.1697	43	*	3
550.0	Ashbrook Cutoff Dikes	MS	33.5192	91.1914	210	c*	12
541.5	Tarpley Cutoff Dikes	MS	33.4156	91.1203	57	c*	7
540.0	Leland Neck Dikes	MS	33.3992	91.1083	528	c*	200
533.0	Island #84 Dikes	MS	33.3089	91.1764	700	c*	22
529	Refuge Dikes	MS	33.2664	91.1222	170	c*	2
520.7	Island #86 Dikes	AR	33.1600	91.0875	8		0
518.1	Kentucky Bend Bar Upper	MS	33.1403	91.0899	62	c*	10
517.5	Kentucky Bend Bar Lower	MS	33.1214	91.1011	38	*	8
514.0	Leota Dikes	MS	33.0978	91.1592	61	*	7
510.0	Cracraft Lower Dikes	MS	33.0375	91.1567	49	c*	5
504.0	Corregidor Dikes	MS	32.9645	91.1366	176	*	28
499.0	Wilson Point Dikes	MS			12		0
491.0	Baleshed Landing Dikes	MS	32.8417	91.1278	56	c*	3
487.5	Ben Lommond Dikes Upper	MS	32.8068	91.1423	162	c*	23
485.5	Ben Lommond Dikes Lower	MS	32.775	91.1542	90	c*	30
483.0	Ajax Bar Dikes Upper	MS	32.7597	91.1411	29	c*	2

SUBTOTAL 4,097

Table 1 continued: Least Tern Survey - June 25-July 9, 2005 - Mississippi River Cape Girardeau, MO, to Baton Rouge, LA

River					Least		
Mile	Mississippi River Location	State	Lat. N	Long. W	Terns		Nests
481.6	Ajax Bar Dikes Lower	MS	32.7375	91.1192	40	c*	10
476.6	Point Lookout Dike	LA			6		0
470.5	Arcadia Point Dikes	LA	32.6594	91.1322	13		0
460.4	Willow Cutoff Dikes	LA	32.5361	91.1006	250	c*	100
456.0	Milliken Bend	MS	32.4742	91.1042	67	c*	40
442.5	Brown's Point	MS			2		0
429.5	Below Racetrack Dikes	MS	32.2389	90.9694	225	*	40
419.0	Newton Bend Dikes	LA	32.1367	91.0100	90	*	20
413.6	Togo Island Dikes	LA	32.1072	91.0997	28		0
409.5	Yucatan Dikes	LA	32.0589	91.0628	13		0
402.0	Coffee Point Dikes	LA	31.9900	91.1192	16	c*	2
393.0	Bel. Bondurant Towhead Dikes	LA	31.8978	91.2117	21	*	5
383.2	Below Spithead Towhead Dikes	MS	31.8306	91.3467	187	c*	30
378.0	Water Proof Dikes	LA	31.7604	91.3708	130	*	7
357.8	Carthage Point Dikes	MS	31.5197	91.4103	75	c*	1
349.0	Opp. Warnicott Ldg. Dikes	MS	31.4208	91.4950	554	c*	100
345.0	Esperance Point	LA	31.3580	91.4848	2		0
335.6	Dead Man's Bend	LA	31.2528 ?	91.5653	5		0
329.0	Jackson Point	MS	31.2411	91.6475	18		0
322.0	Homochito Cuttoff	LA	31.1742	91.5947	32	c*	2
305.0	Shreves Bar	LA	30.9956	91.6447	49	c*	4
299.5	Hog Point Dikes	LA	30.9347	91.6450	177	c*	13

SUBTOTAL 2,000

TOTAL INDIVIDUALS
10,960
TOTAL SITES
118
TOTAL COLONIES
88

c Confirmed chicks or eggs

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

Table 2: Summary of 2005 Least Tern Survey on the Lower Mississippi River

River Reach	Number of Terns (June 25-July 9, 2005)
Cape Girardeau, MO, to Cairo, IL URM 50 – RM 954	92
Cairo, IL, to Osceola, AR RM 954 – RM 790	2,450
Osceola, AR, to Helena, AR RM 790 – RM 670	1,721
Helena, AR, to Greenville, MS RM 670 – RM 530	3,784
Greenville, MS, to Vicksburg, MS RM 530 – RM 430	1,291
Vicksburg, MS, to Baton Rouge, LA RM 430 - RM 230	1,622
TOTAL	10,960
River Reach	Number of Colonies
Cape Girardeau, MO, to Cairo, IL URM 50 – RM 954	1
Cairo, IL, to Osceola, AR RM 954 – RM 790	22
Osceola, AR, to Helena, AR RM 790 – RM 670	15
Helena, AR, to Greenville, MS RM 670 – RM 530	26
Greenville, MS, to Vicksburg, MS RM 530 – RM 430	13
Vicksburg, MS, to Baton Rouge, LA RM 430 - RM 230	11

TOTAL

88

Table 3: Gage Readings – Lower Mississippi River Least Tern Surveys – June, July 2005

**numbers** indicate crest in previous river rise. Shaded numbers indicate stages at time of survey.

					Bold				
Date	Cairo	New Madrid	Caruthersville	Memphis	Helena	Arkansas City	Greenville	Vicksburg	Natchez
June									
10	21.0	10.7	12.4	2.4	8.0	8.6	19.6	13.4	21.7
11	22.4	12.2	14.3	3.3	8.6	8.6	18.8	12.5	20.9
12	22.8	13.5	15.6	5.3	10.0	9.3	19.2	12.0	20.0
13	23.1	16.4	15.9	6.8	11.8	10.4	M	12.4	19.7
14	25.0	15.7	16.7	7.9	13.2	11.6	M	13.3	19.9
15	25.4	16.8	17.6	9.0	14.3	12.7	M	14.5	20.8
16	26.3	15.0	18.2	10.2	15.5	13.7	24.1	15.8	21.9
17	26.3	16.7	18.7	11.0	16.6	14.8	25.3	17.1	23.0
18	26.1	13.6	18.8	11.7	17.4	16.0	26.4	18.5	24.4
19	25.1	12.5	18.5	11.9	17.9	16.8	27.4	19.8	25.7
20	23.8	13.6	17.7	11.6	18.1	17.5	28.2	20.8	27.0
21	22.2	16.2	16.5	10.7	17.8	17.9	28.8	21.7	28.0
22	21.5	15.1	15.4	9.5	16.9	18.1	29.1	22.4	28.6
23	21.1	12.5	14.9	8.1	15.6	17.6	28.9	22.7	29.3
24	19.5	10.8	14.1	7.2	14.5	16.9	28.2	22.6	29.5
25	19.2	10.1	13.1	6.4	13.5	16.2	27.5	22.1	29.3
26	18.8	9.6	12.5	5.4	12.6	15.4	26.7	21.4	28.9
27	18.0	8.2	12.0	4.6	11.6	14.3	25.6	20.5	28.2
28	17.7	8.1	11.3	4.1	10.8	13.5	24.6	19.4	27.4
29	17.7	7.7	11.0	3.4	10.0	12.9	23.9	18.4	26.4
30	17.1	7.4	10.7	2.8	9.3	12.4	23.3	17.6	25.5
July									
1	16.5	6.9	10.2	2.3	8.8	11.9	22.8	16.9	24.6
2	17.9	7.6	10.0	1.9	8.4	11.6	22.4	16.2	24.0
3	17.7	8.0	10.8	1.6	7.9	11.1	21.9	15.8	23.5
4	17.4	7.3	10.5	1.9	7.7	10.2	21.0	15.2	22.9
5	17.6	7.0	10.5	2.3	8.0	9.7	20.2	14.3	22.3
6	16.4	7.8	10.2	2.0	8.2	9.2	19.8	13.5	21.5
7	17.4	8.2	9.8	2.1	8.2	9.3	19.6	12.8	20.7
8	17.5	7.4	10.2	1.5	7.7	9.5	19.7	12.7	20.3
9	17.0	7.0	10.3	1.6	7.0	9.5	19.8	12.7	20.1
10	18.3	8.9	10.3	1.7	7.0	M	M	M	M

Table 4: Summary of Least Tern Surveys – 1985 – 2004 Lower Mississippi River

Year <b>Aerial</b>	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	
Individuals	187	1,332	1,125	1.018	2,503	4,182	3,358	2,311	4,589	3,303	
Sites	12	37	49	56	58	56	67	80	66	66	
Colonies	3	16	24	31	46	36	56	61	46	40	
Towboat											
Individuals	577	595	575	1,235	508	357	1,154	1,216	2,031	965	
Sites	35	39	45	71	25	31	39	47	48	39	
Colonies	15	16	21	33	9	3	29	34	21	30	
Small Boat											
Individuals	0	2,188	2,206	2,356	2,005	5,038	4,297	3,653	0	6,776	
Sites	0	41	50	72	64	38	66	81	0	78	
Colonies	0	28	46	60	42	32	57	74	0	69	
Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	200
Aerial											
Individuals	3,759	3,677	2,129	0	0	0	0	0	0	0	0
Sites	63	81	81	0	0	0	0	0	0	0	0
Colonies	51	20	23	0	0	0	0	0	0	0	0
Towboat											
Individuals	489	0	0	0	0	0	0	0	0	0	0
Sites	25	0	0	0	0	0	0	0	0	0	0
Colonies	1	0	0	0	0	0	0	0	0	0	0
Small Boat											
	6,971	3,067	3,428	5,538	6,159	5,920	6,361	5,802	8,082	11,239	10,90
Individuals	0,971	-,	,								
Individuals Sites	70	47	79	91	134	124	141	100	115	114	118

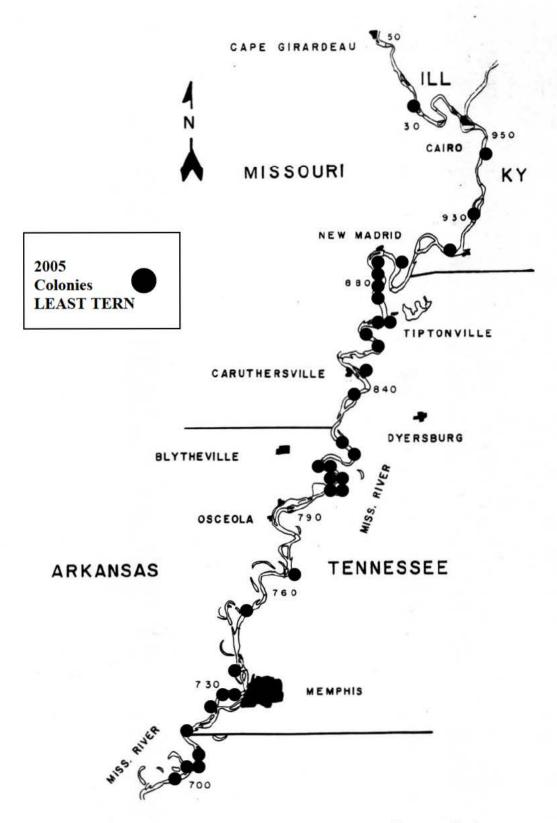


Figure 1: Least Tern Survey – 2005 – Area Map of Nest Colonies on Mississippi River – Cape Girardeau, MO to Baton Rouge, LA

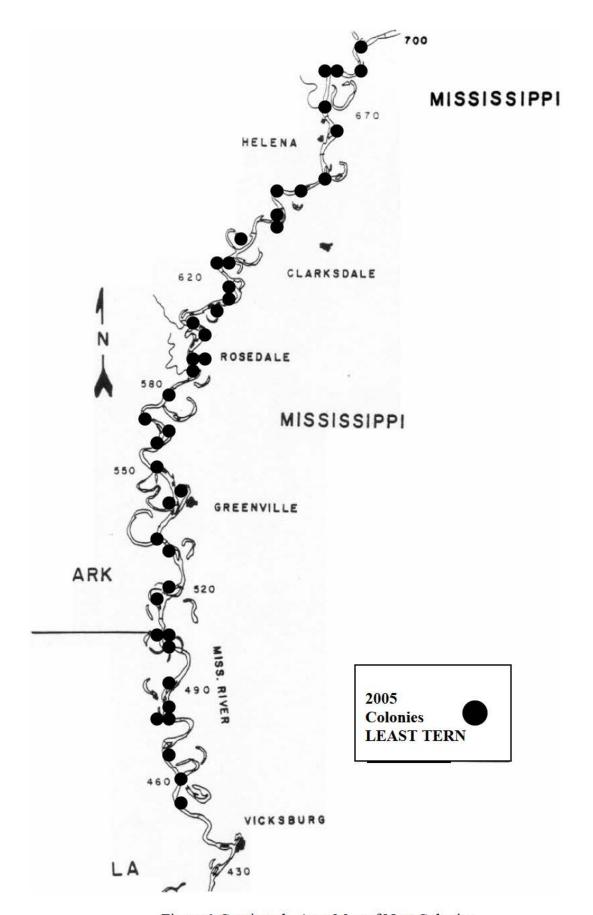


Figure 1 Continued: Area Map of Nest Colonies

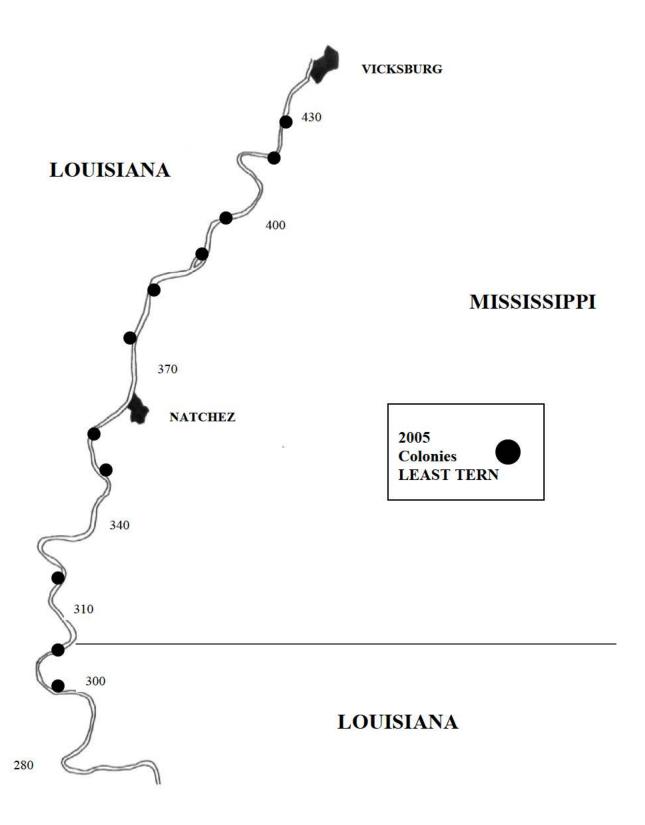


Figure 1 Continued: Area Map of Nest Colonies

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

2005

## APPENDIX A

## APPENDIX A – I

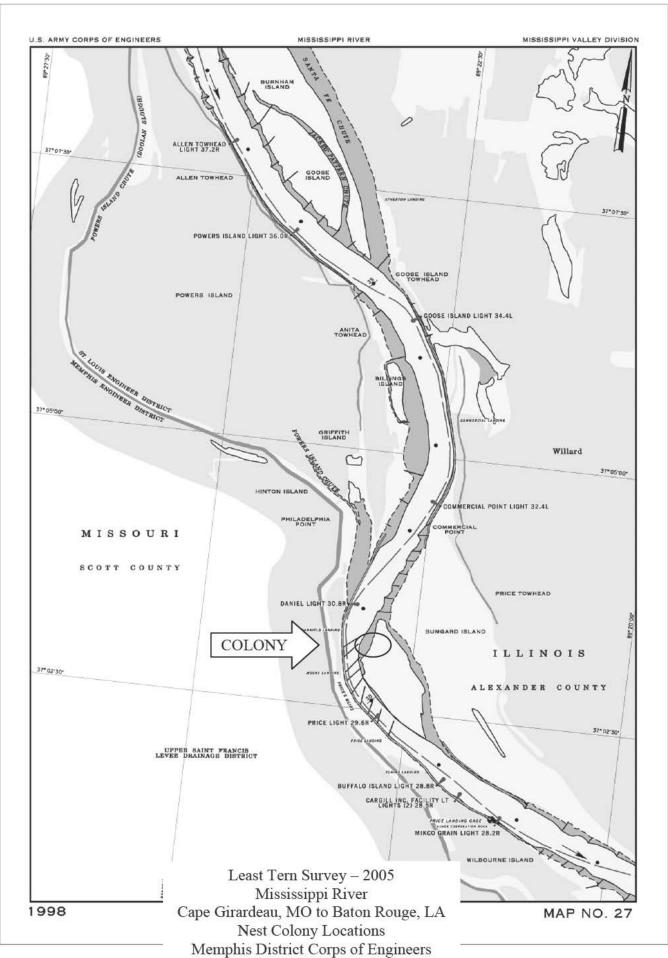
## **LEAST TERN SURVEY - 2005**

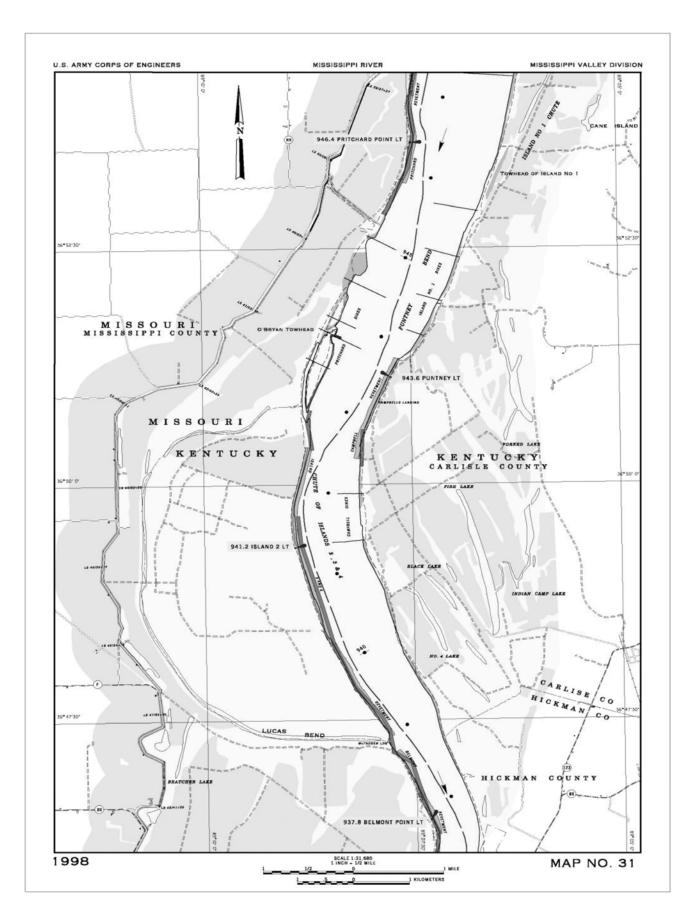
Mississippi River Cape Girardeau, MO to Baton Rouge, LA

**NEST COLONY LOCATIONS** 

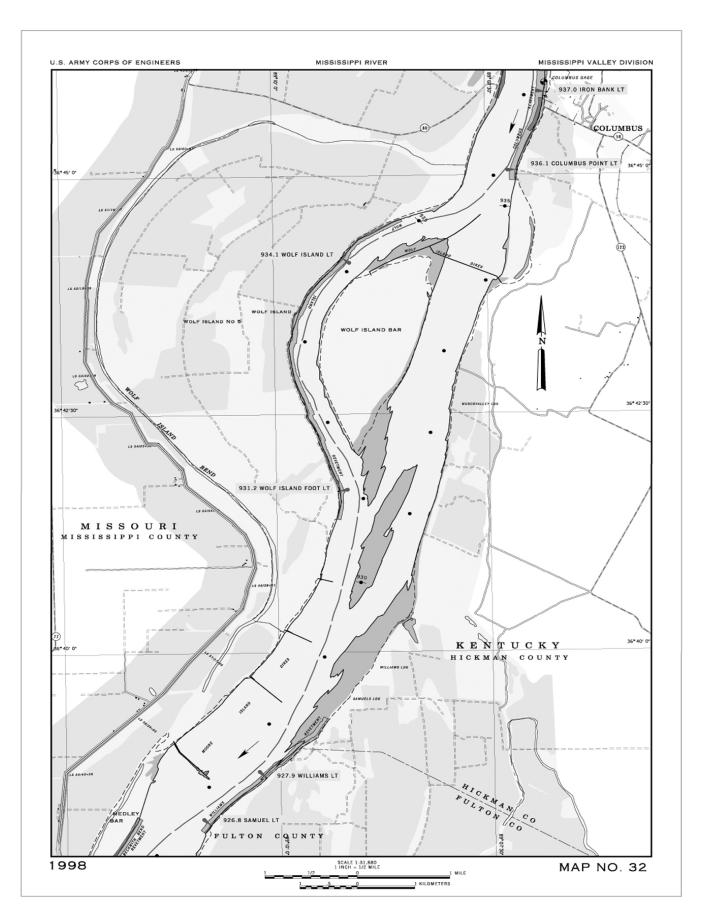
**Memphis District, Corps of Engineers** 

Maps

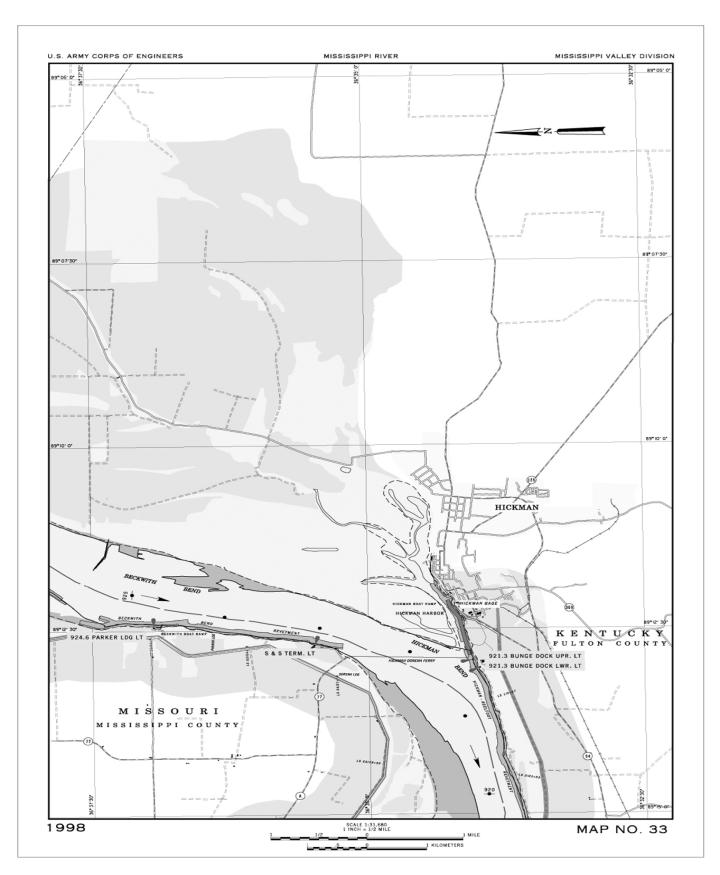




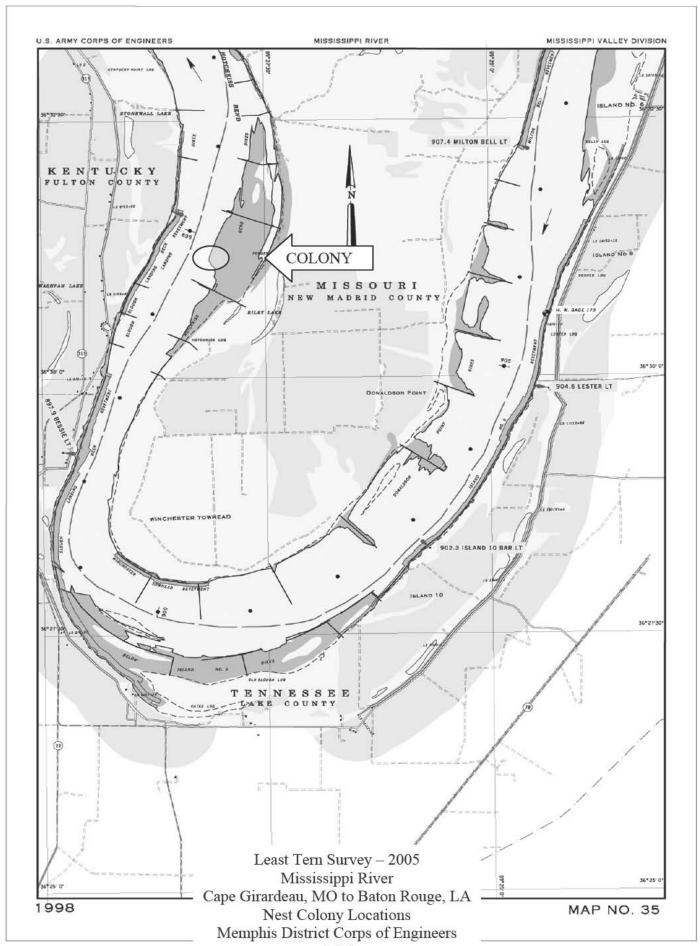
Memphis District Corps of Engineers A-I-2

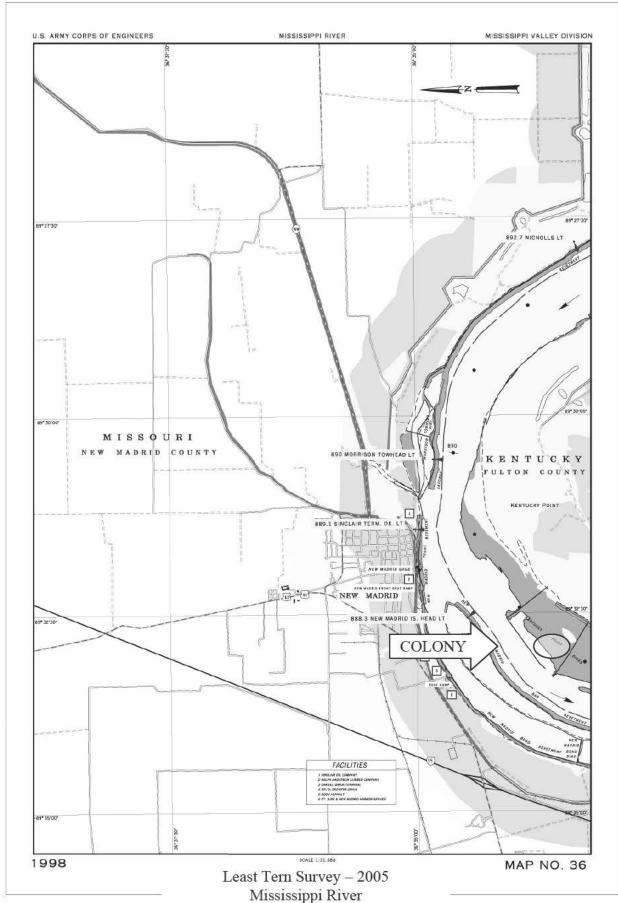


Memphis District Corps of Engineers A-I-3

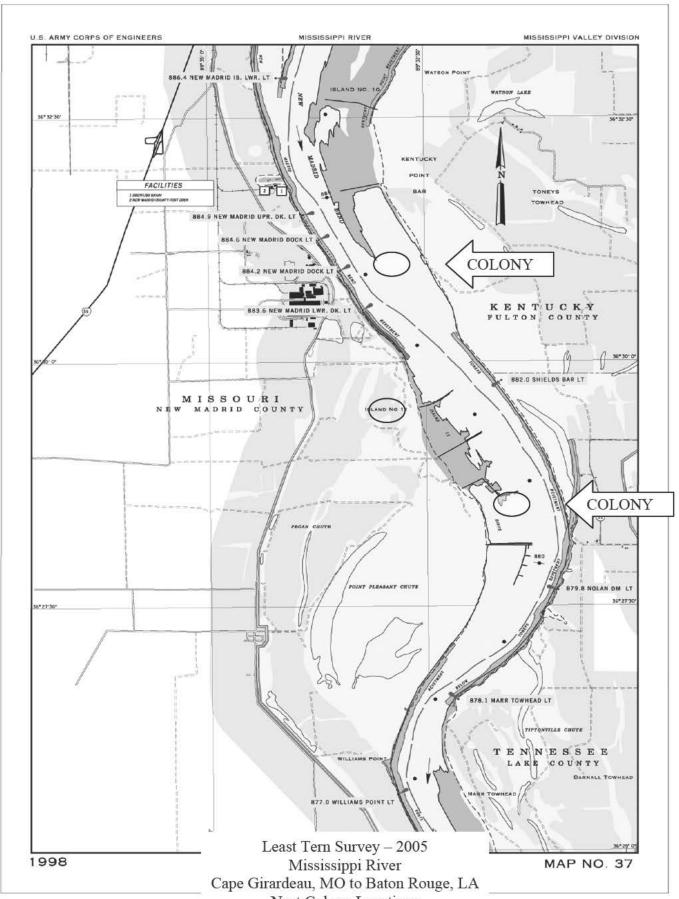


Cape Girardeau, MO to Baton Rouge, LA
Nest Colony Locations
Memphis District Corps of Engineers
A-I-4

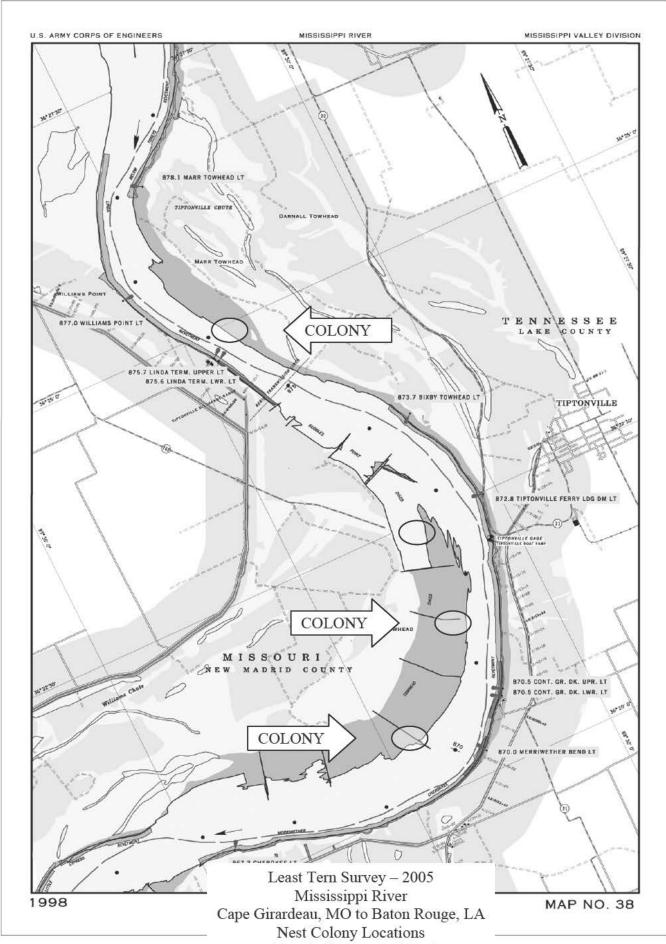




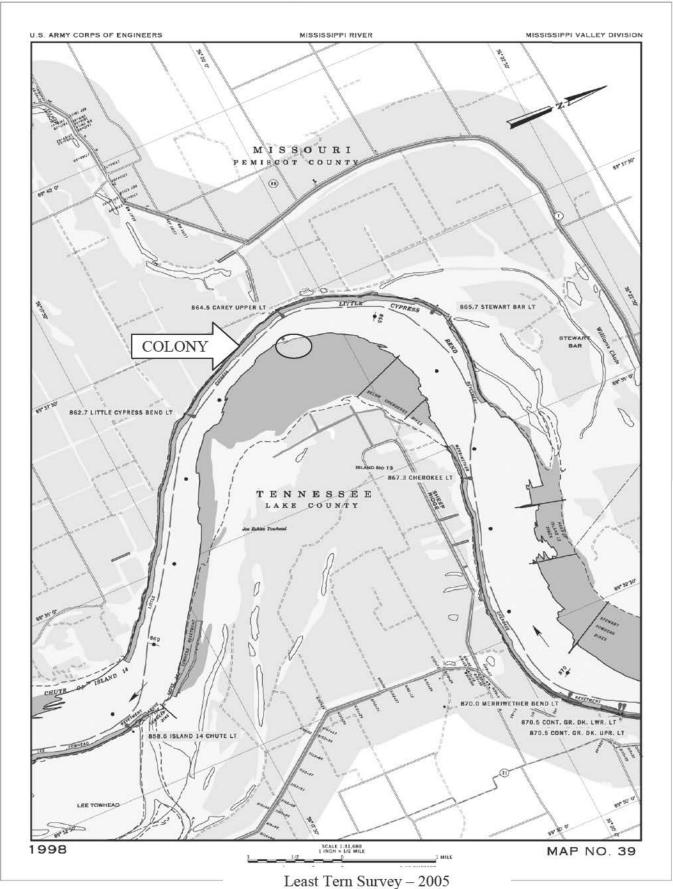
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Nest Colony Locations
Memphis District Corps of Engineers
A-I-6



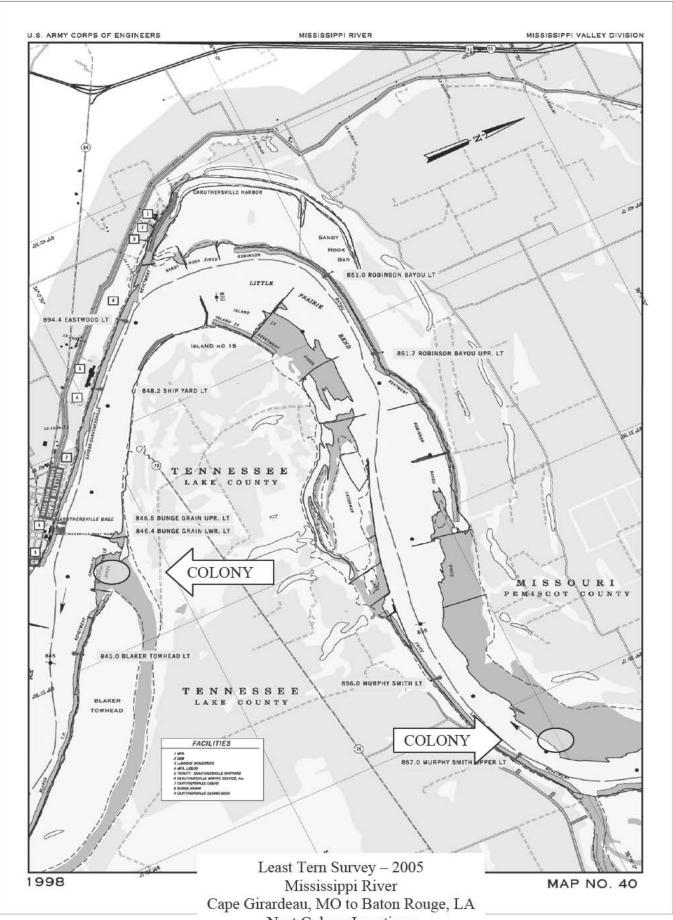
Nest Colony Locations
Memphis District Corps of Engineers
A-I-7



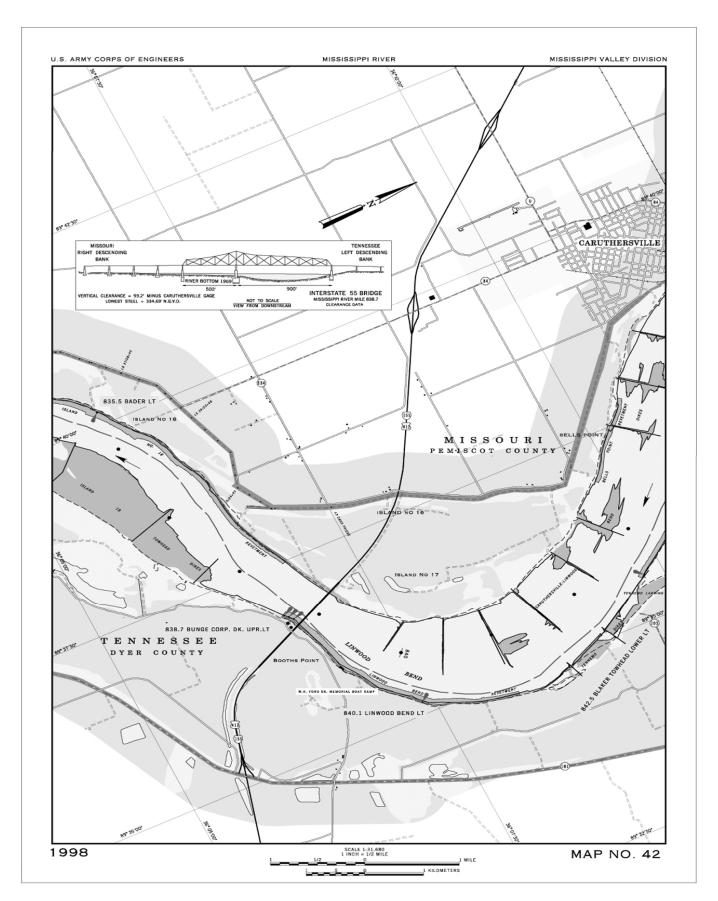
Memphis District Corps of Engineers



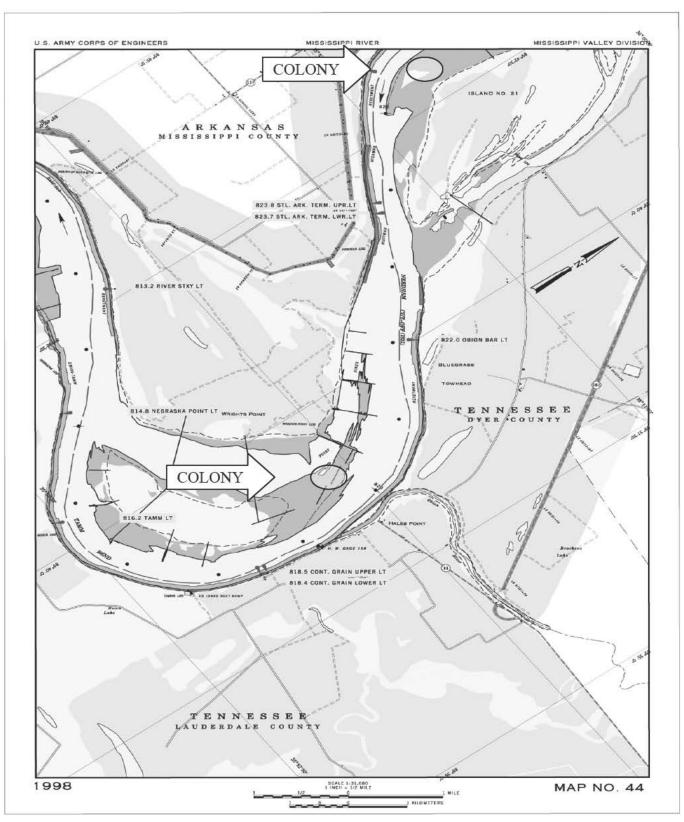
Mississippi River
Cape Girardeau, MO to Baton Rouge, LA
Nest Colony Locations
Memphis District Corps of Engineers
A-I-9



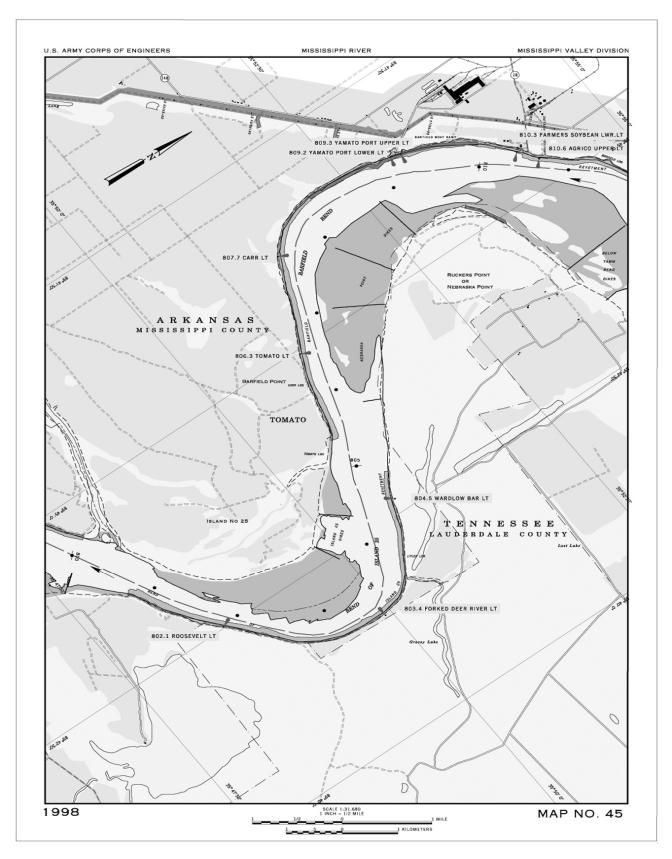
Nest Colony Locations Memphis District Corps of Engineers A-I-10



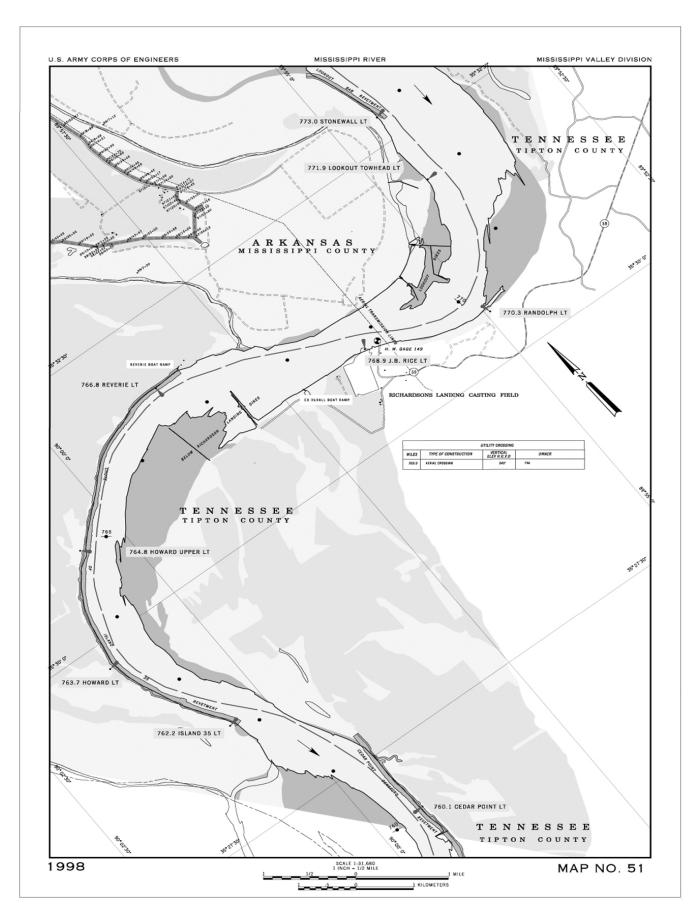
Nest Colony Locations Memphis District Corps of Engineers A-I-11



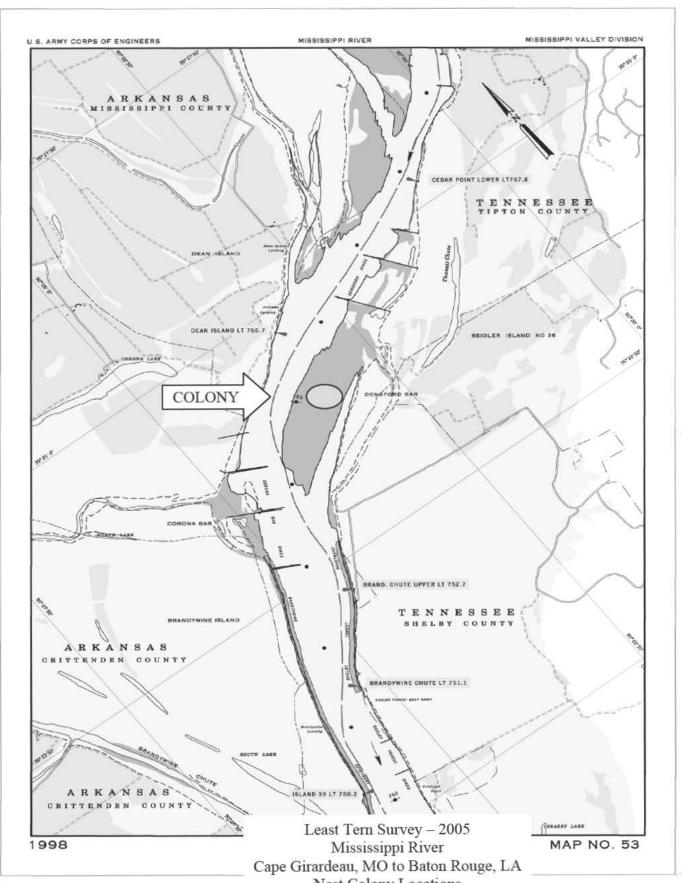
Least Tern Survey – 2005 Mississippi River Cape Girardeau, MO to Baton Rouge, LA Nest Colony Locations Memphis District Corps of Engineers A-I-12



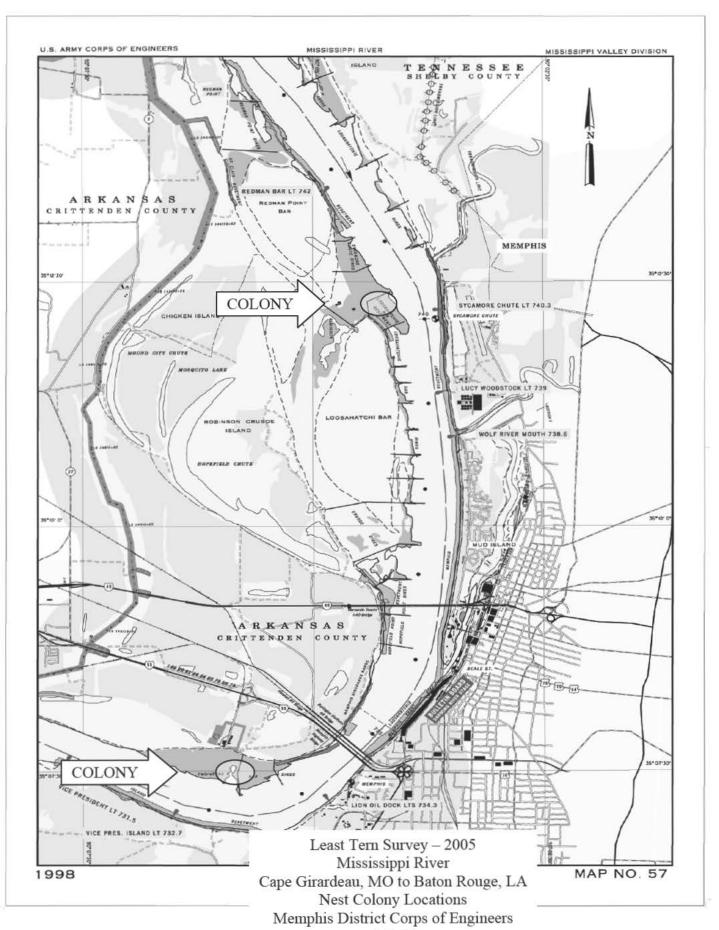
Mississippi Kiver
Cape Girardeau, MO to Baton Rouge, LA
Nest Colony Locations
Memphis District Corps of Engineers
A-I-13

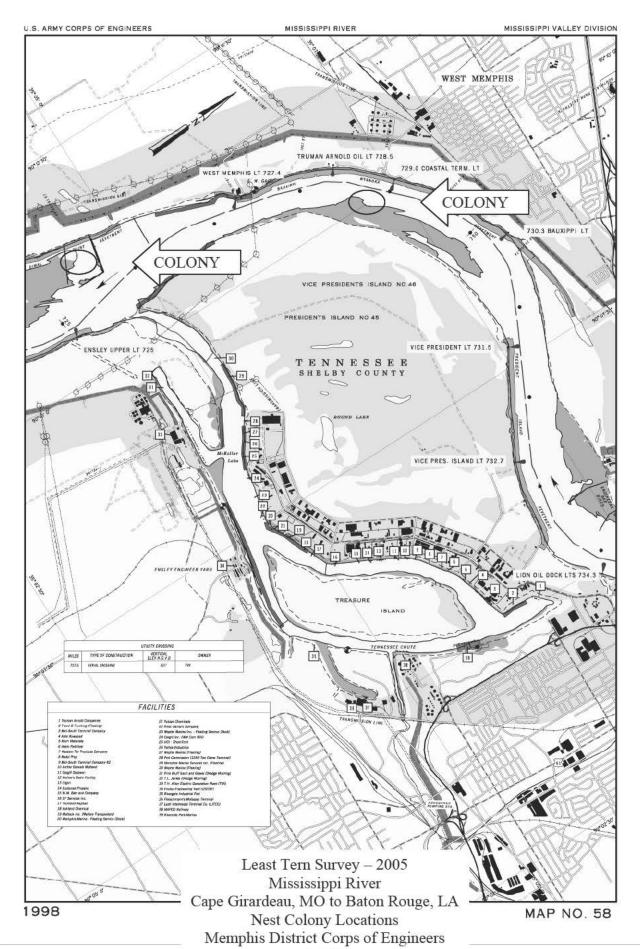


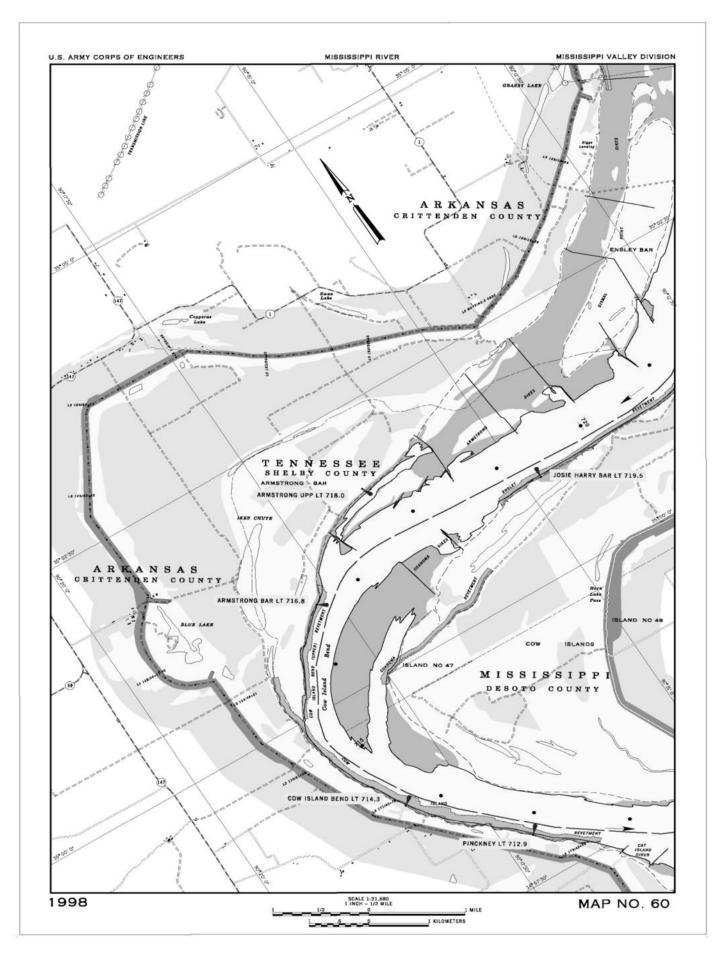
Nest Colony Locations Memphis District Corps of Engineers A-I-14



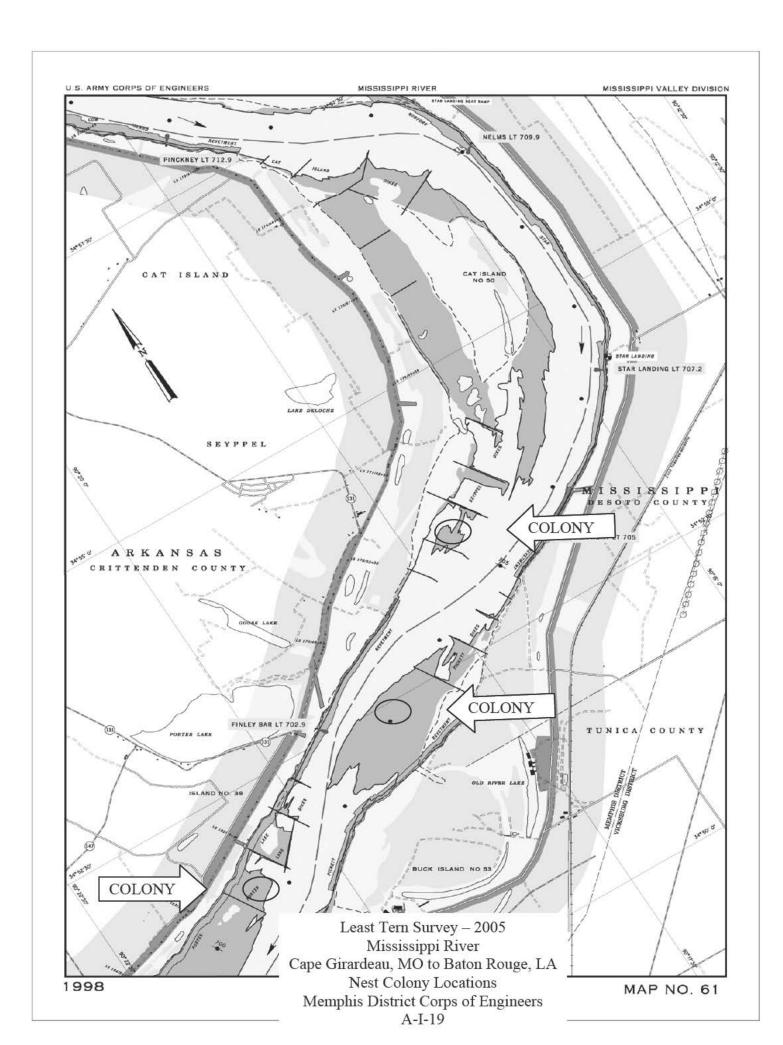
Nest Colony Locations Memphis District Corps of Engineers A-I-15

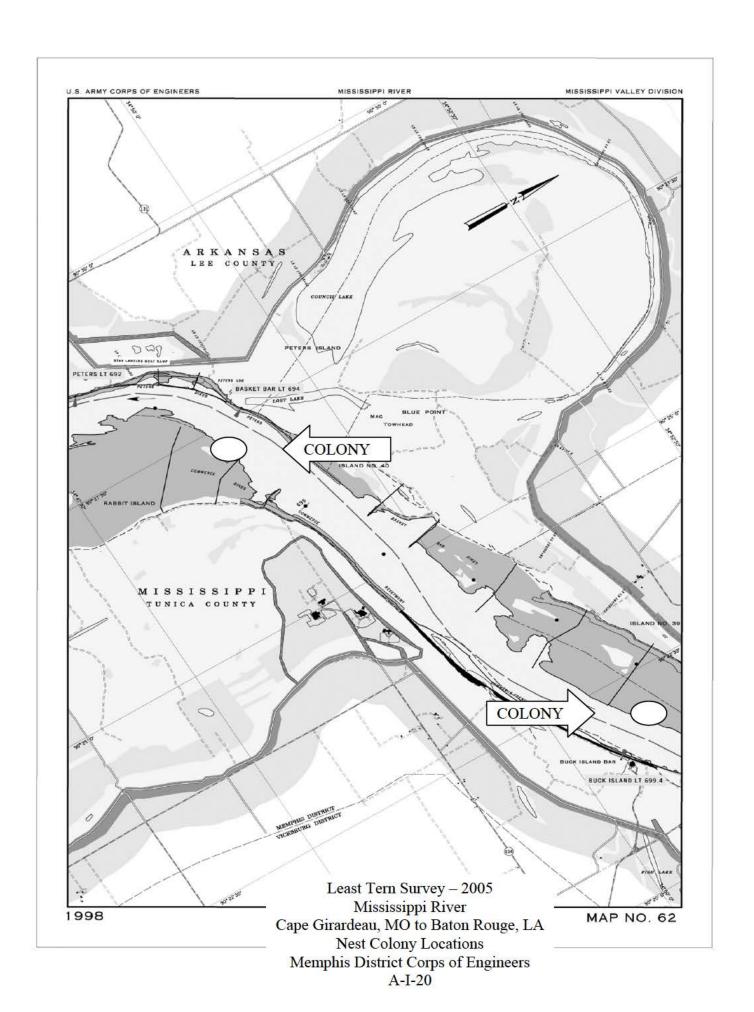


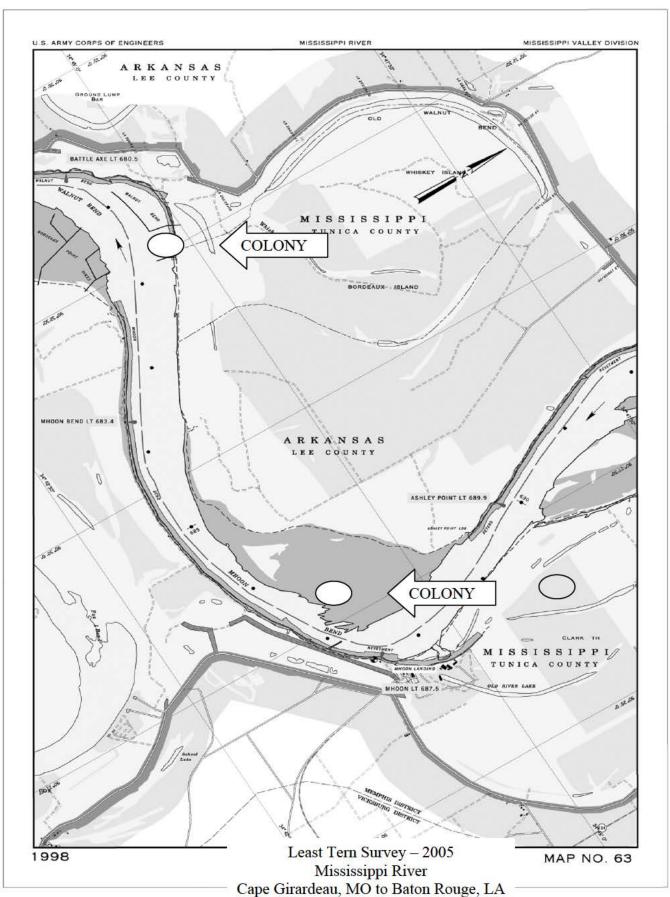


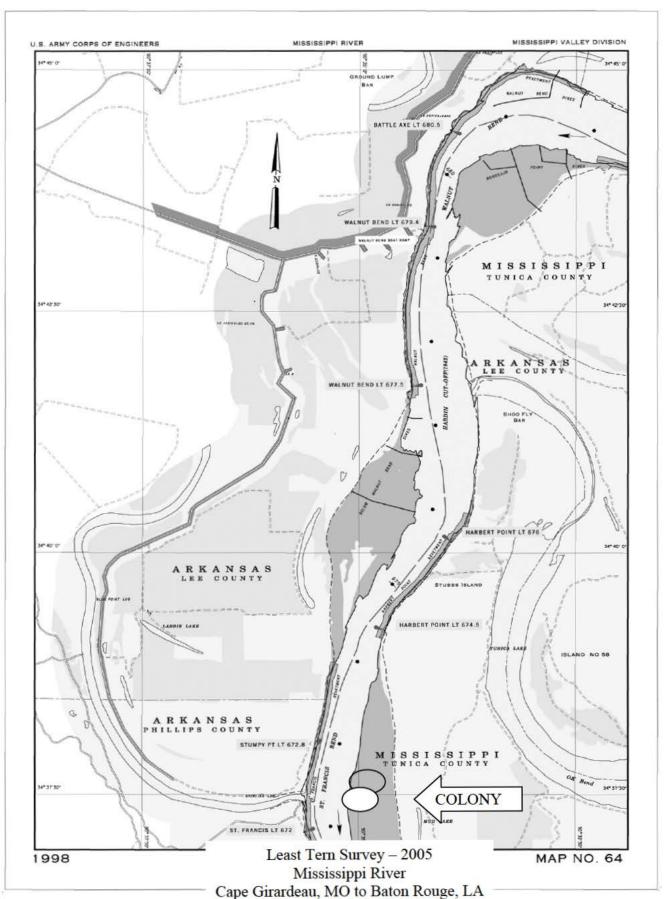


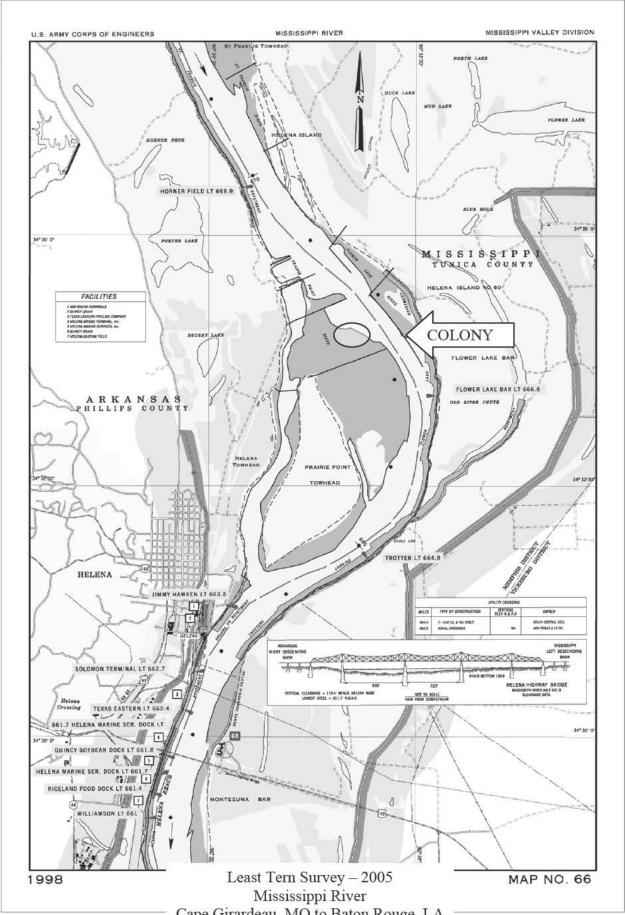
Memphis District Corps of Engineers A-I-18

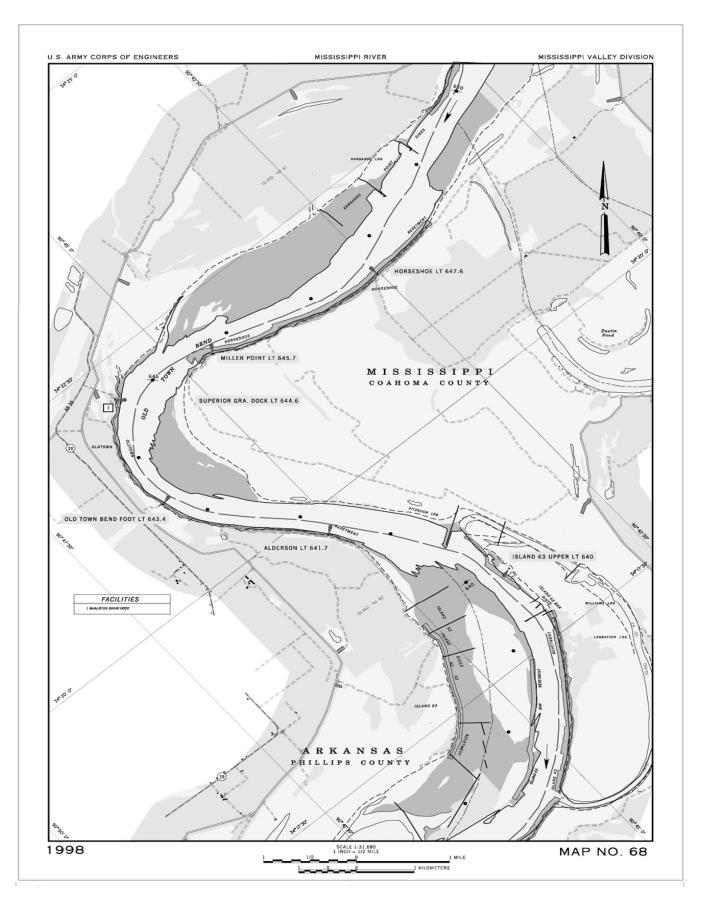




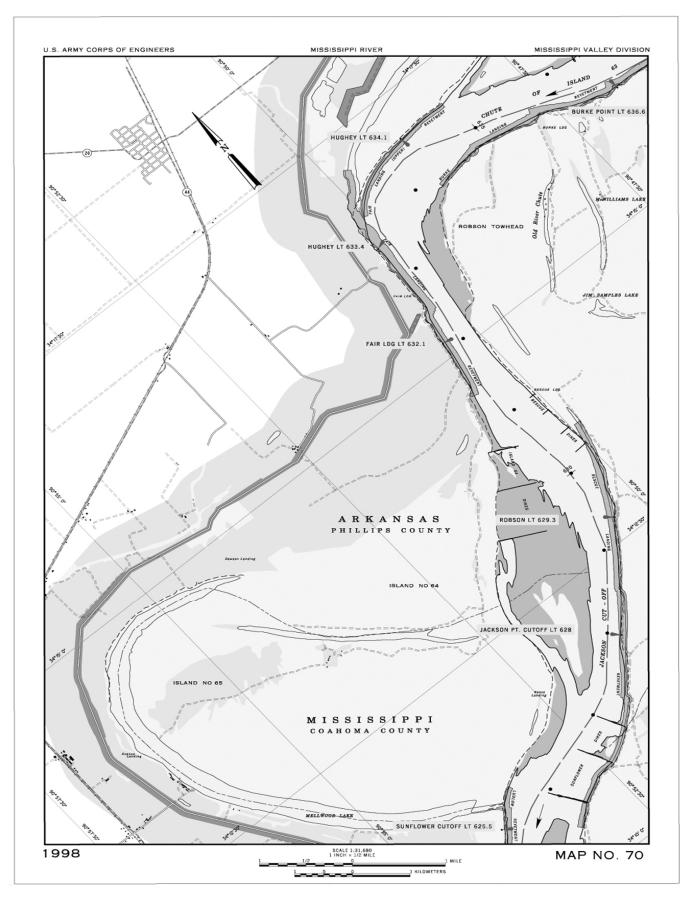




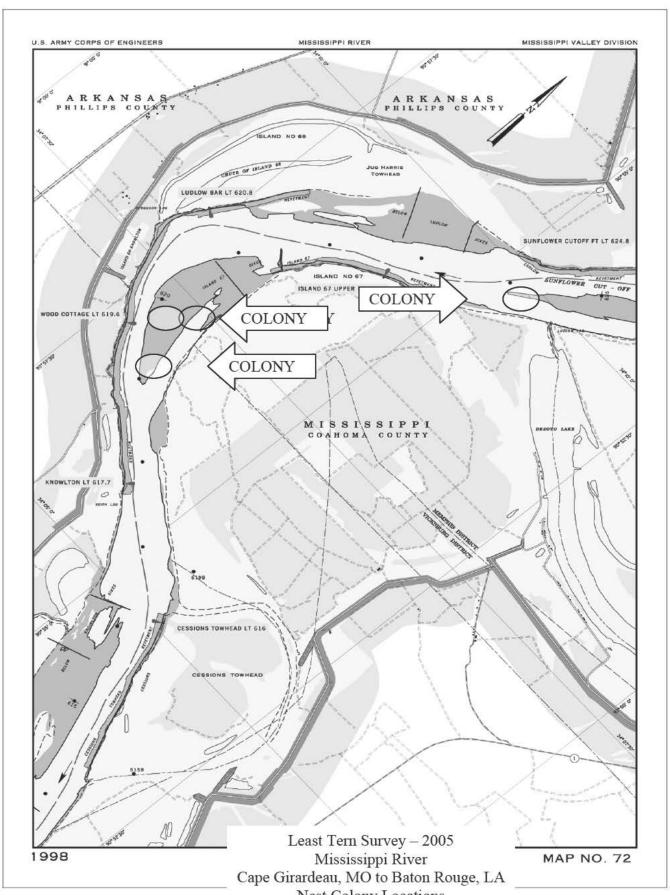


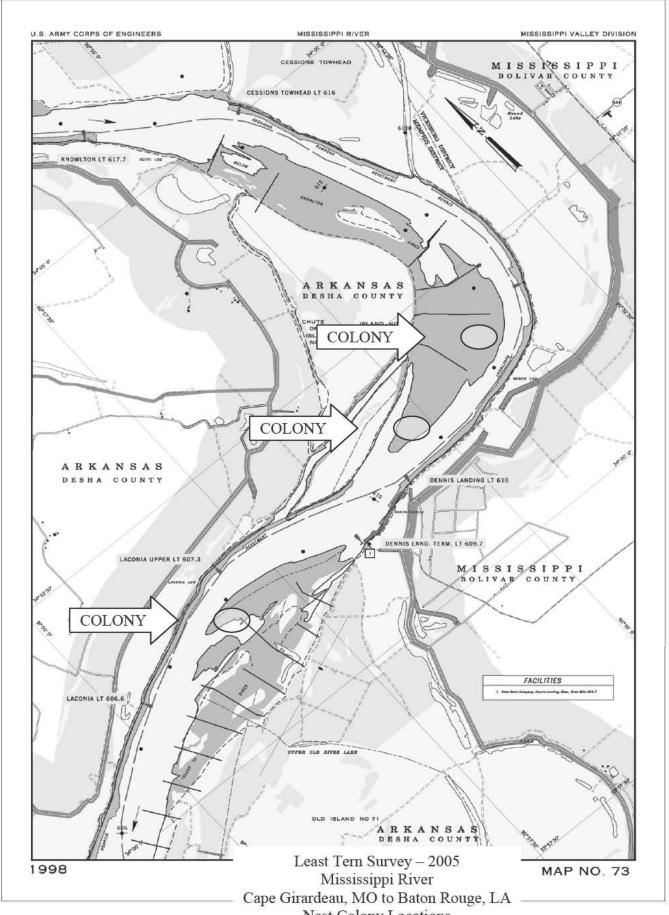


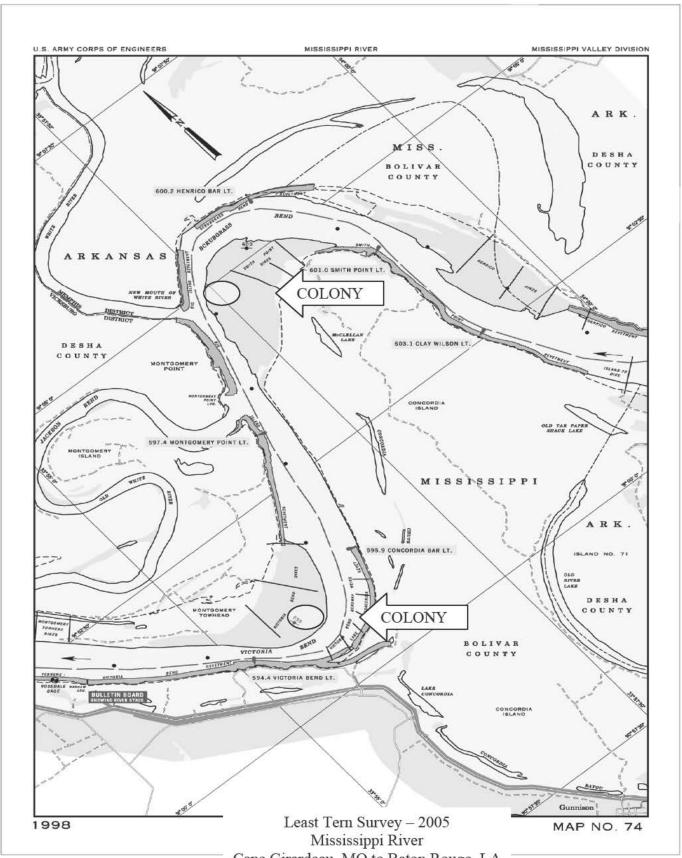
Nest Colony Locations Memphis District Corps of Engineers A-I-24

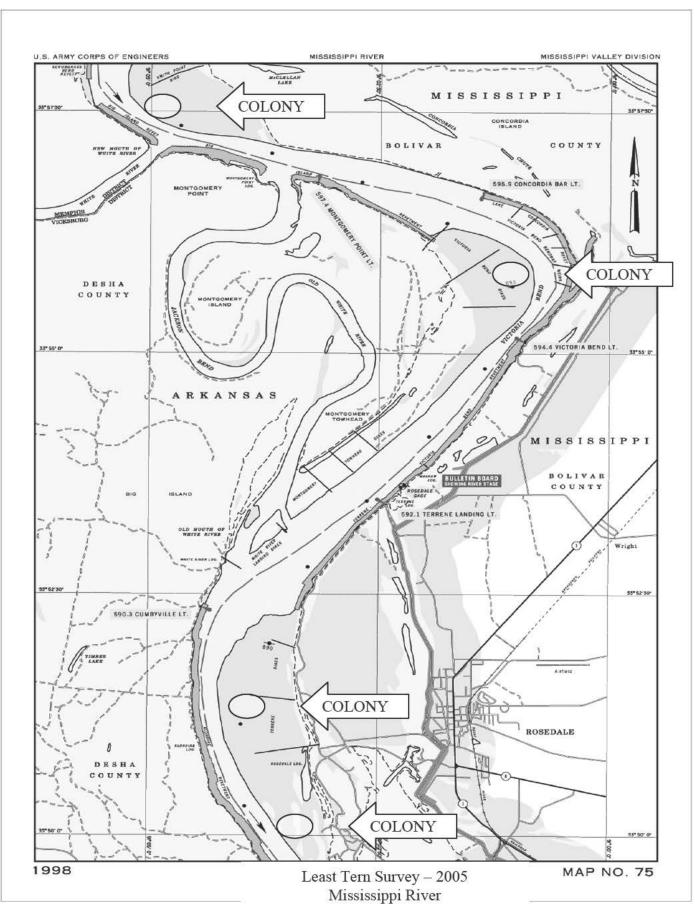


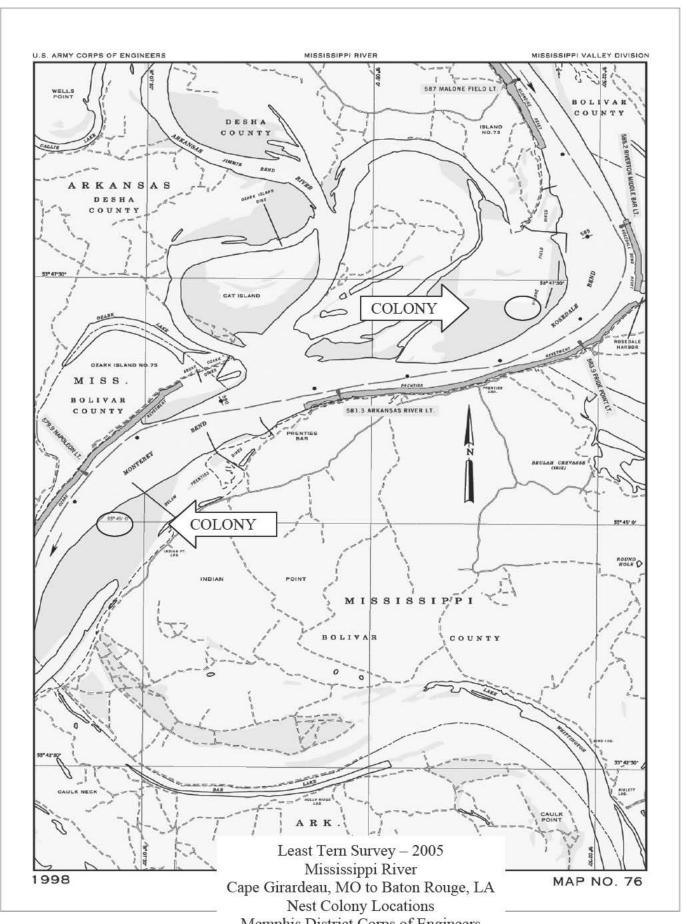
Memphis District Corps of Engineers
A-I-25

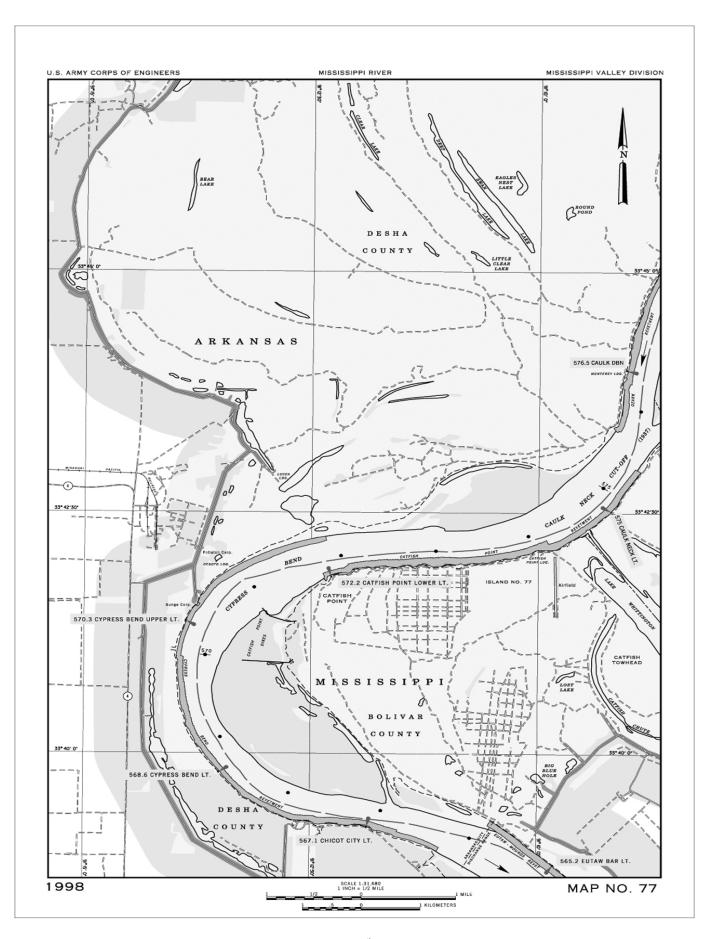




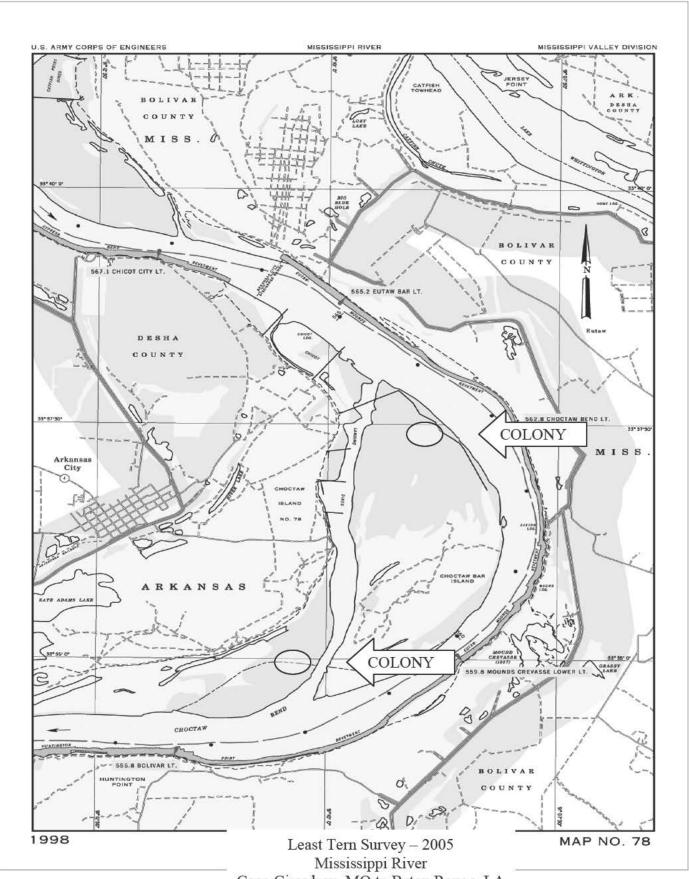


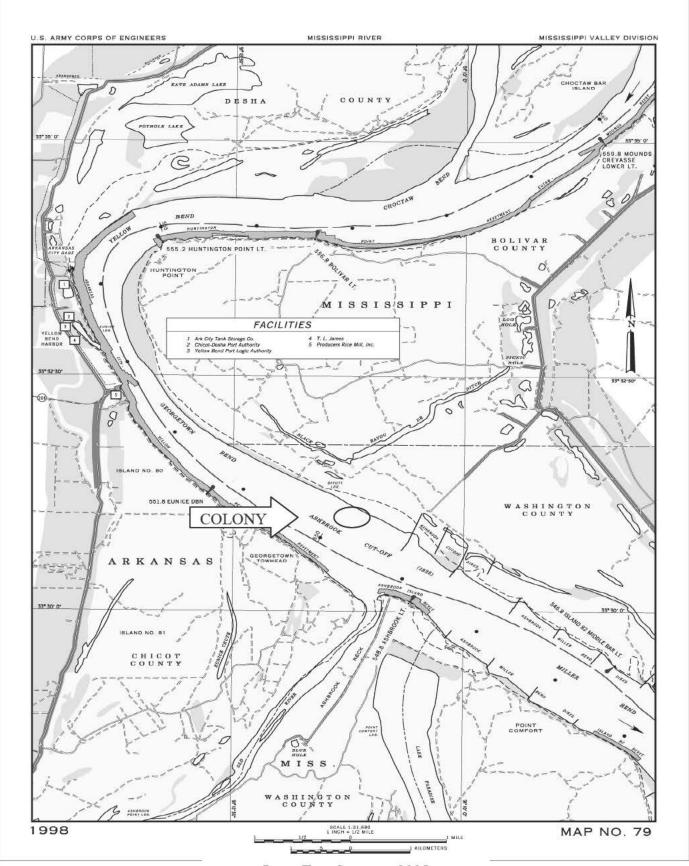




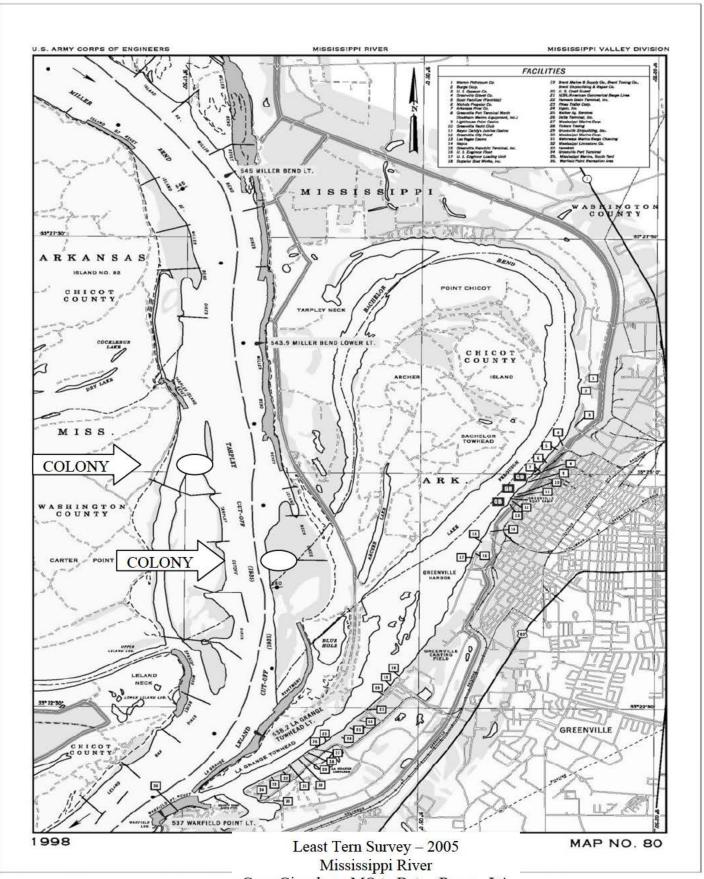


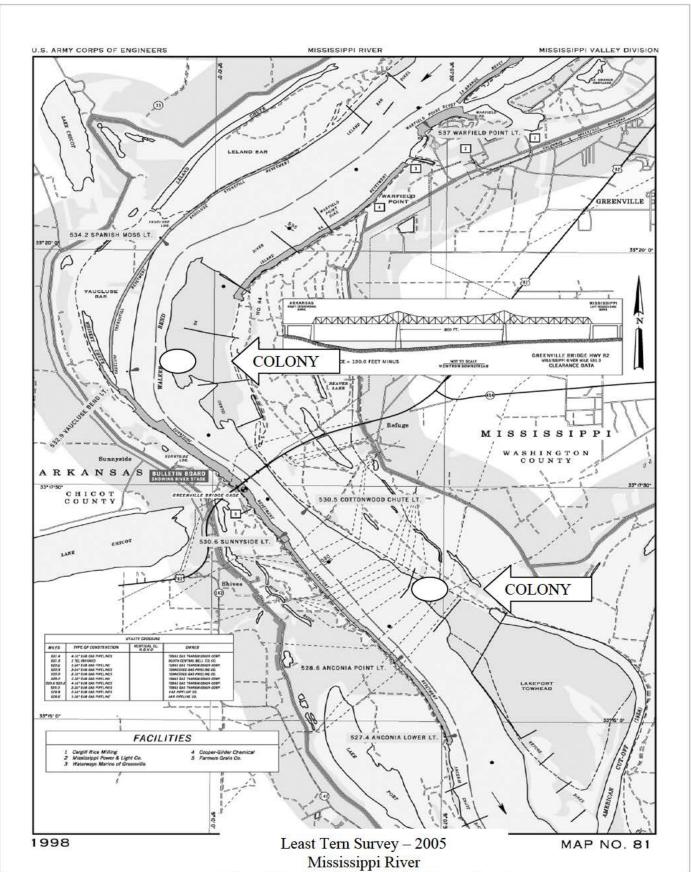
Memphis District Corps of Engineers A-I-31

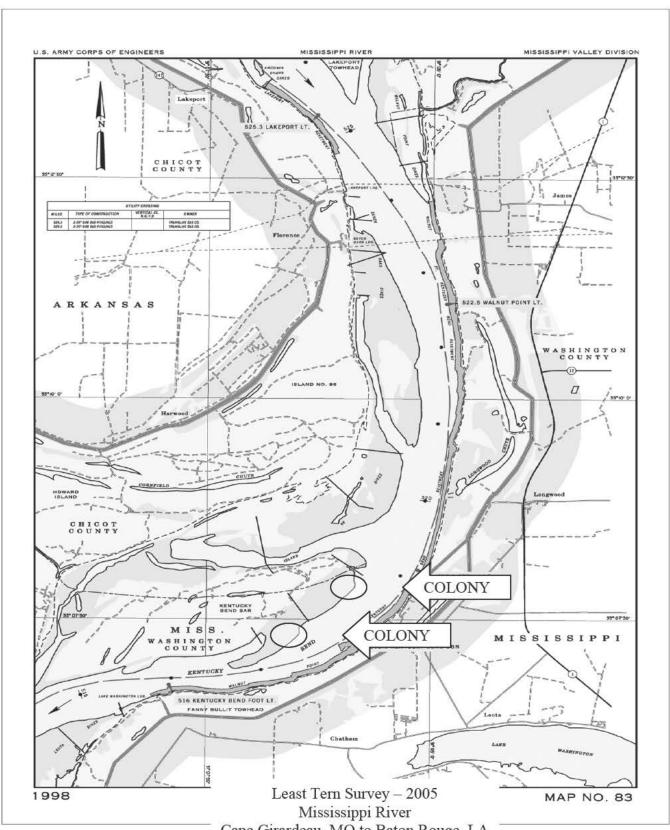




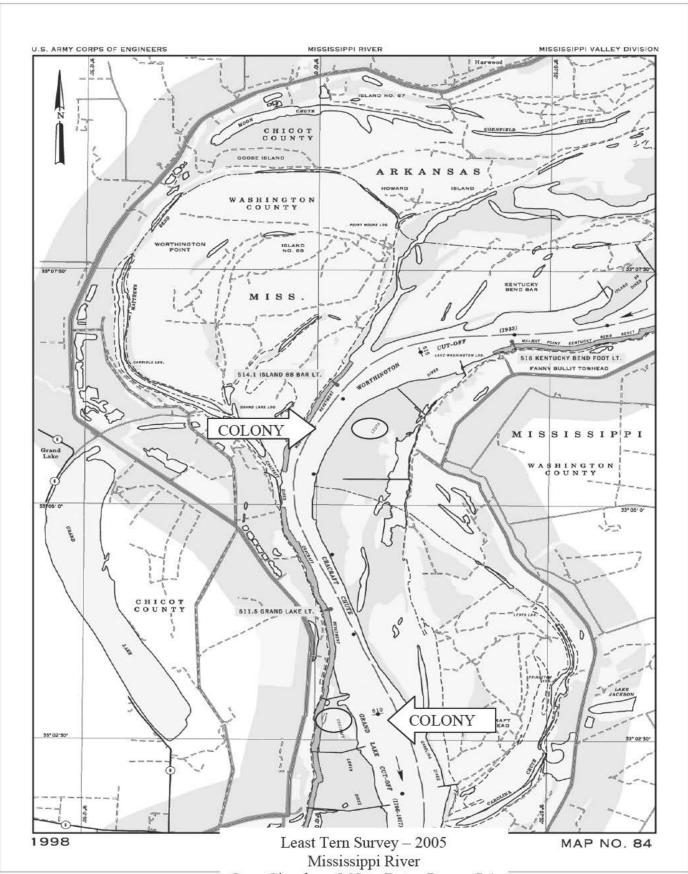
Least Tern Survey – 2005 Mississippi River Cape Girardeau, MO to Baton Rouge, LA Nest Colony Locations Memphis District Corps of Engineers A-I-33

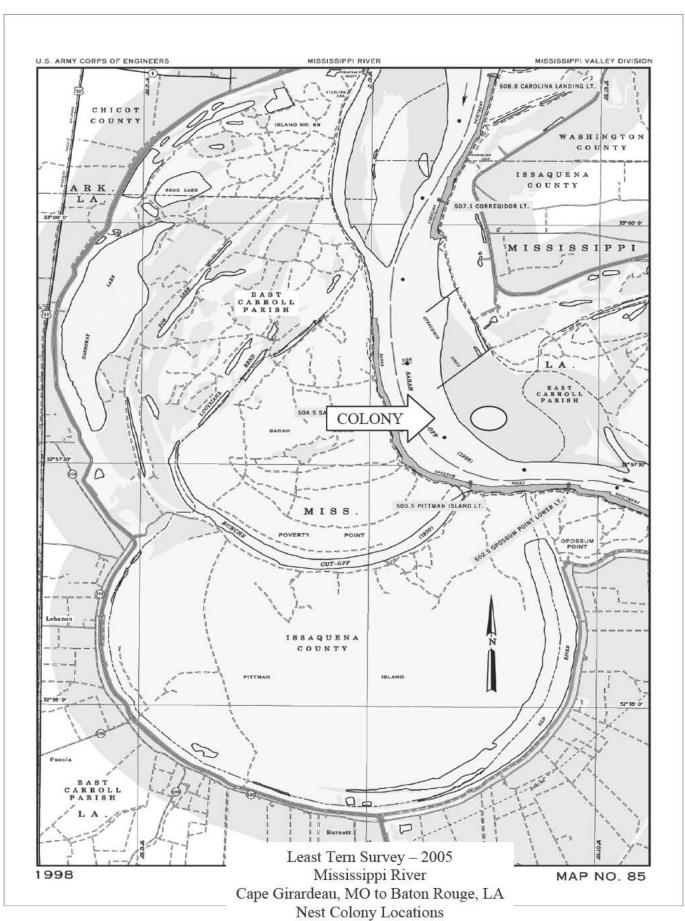


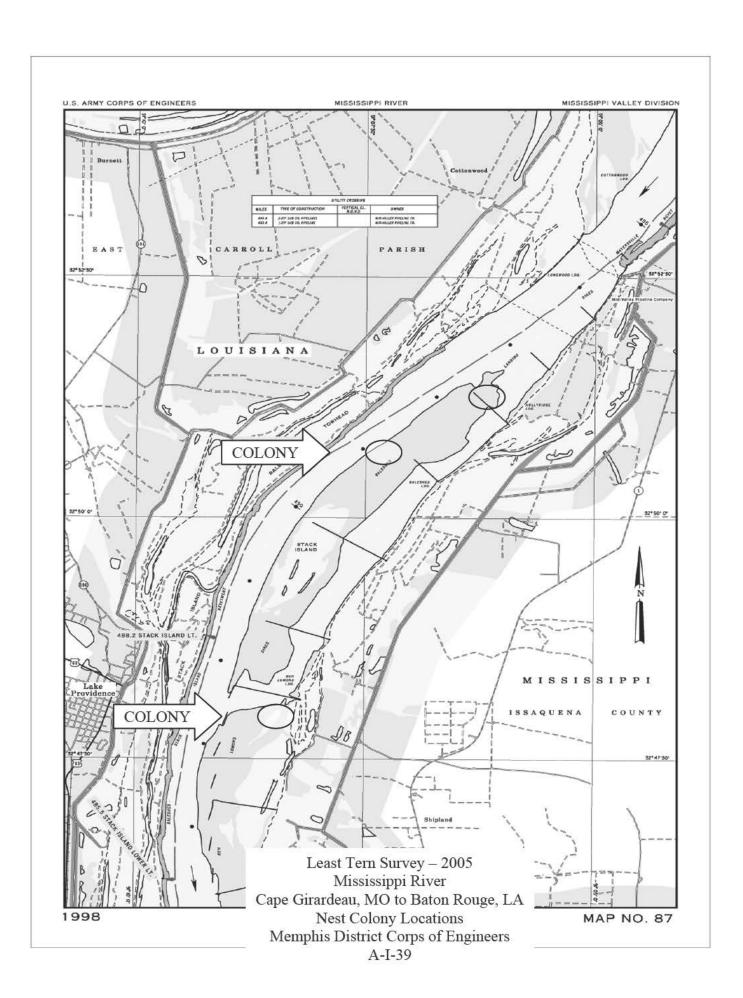




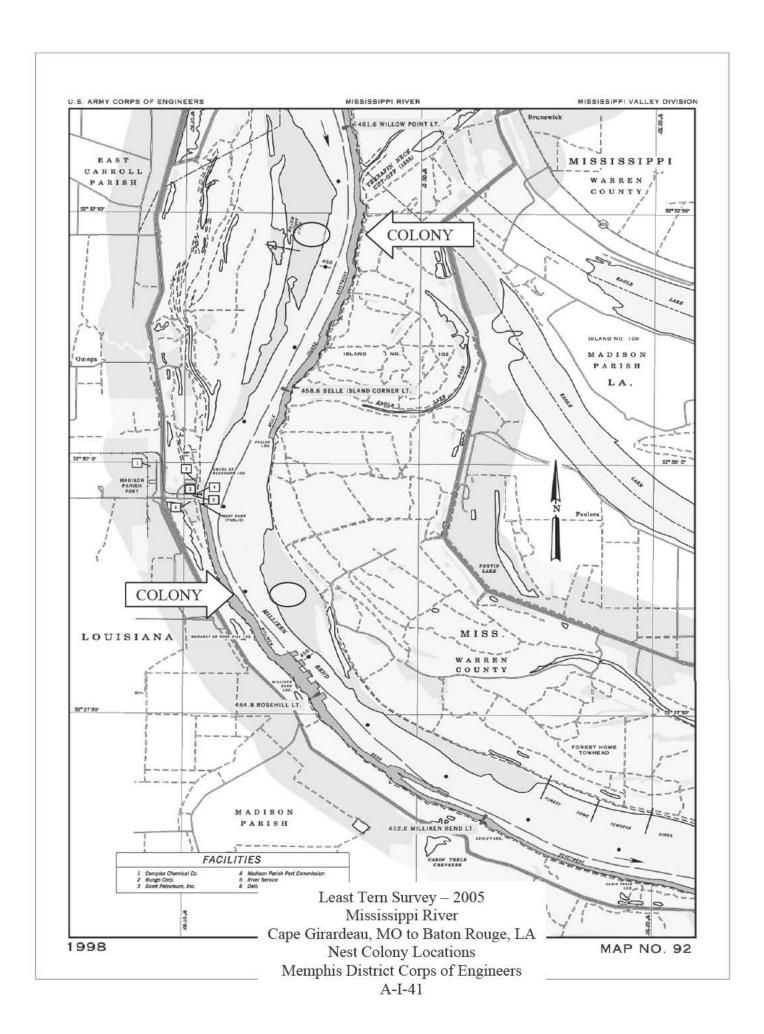
Cape Girardeau, MO to Baton Rouge, LA Nest Colony Locations Memphis District Corps of Engineers A-I-36

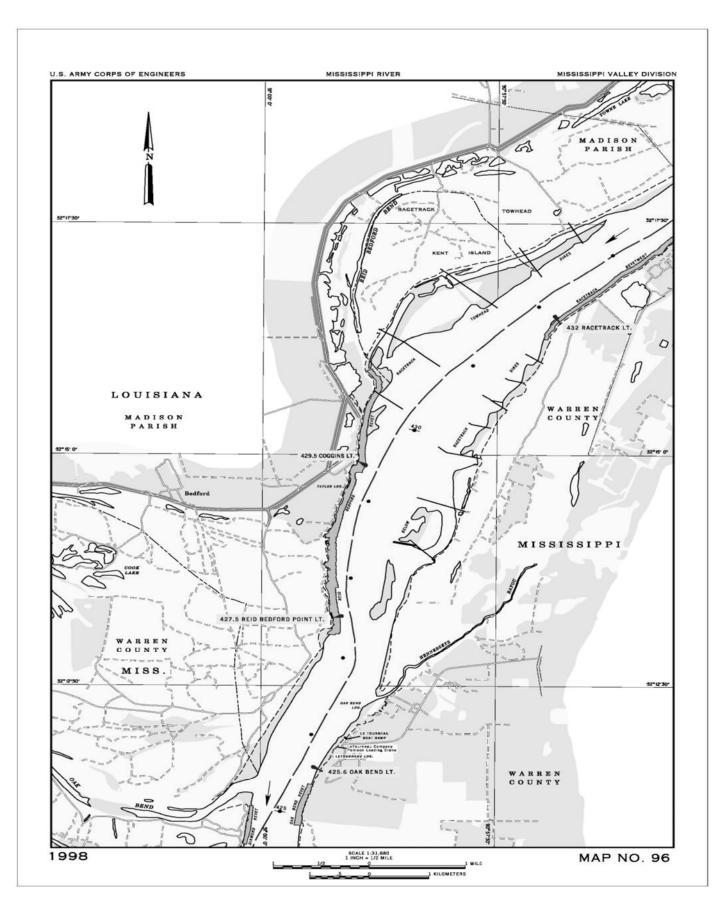




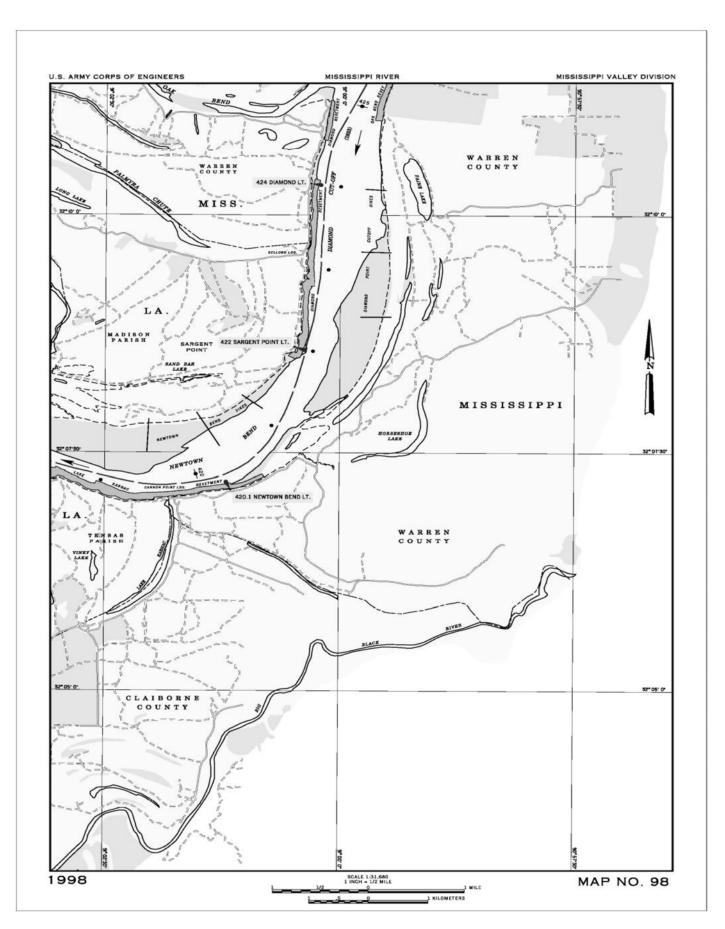




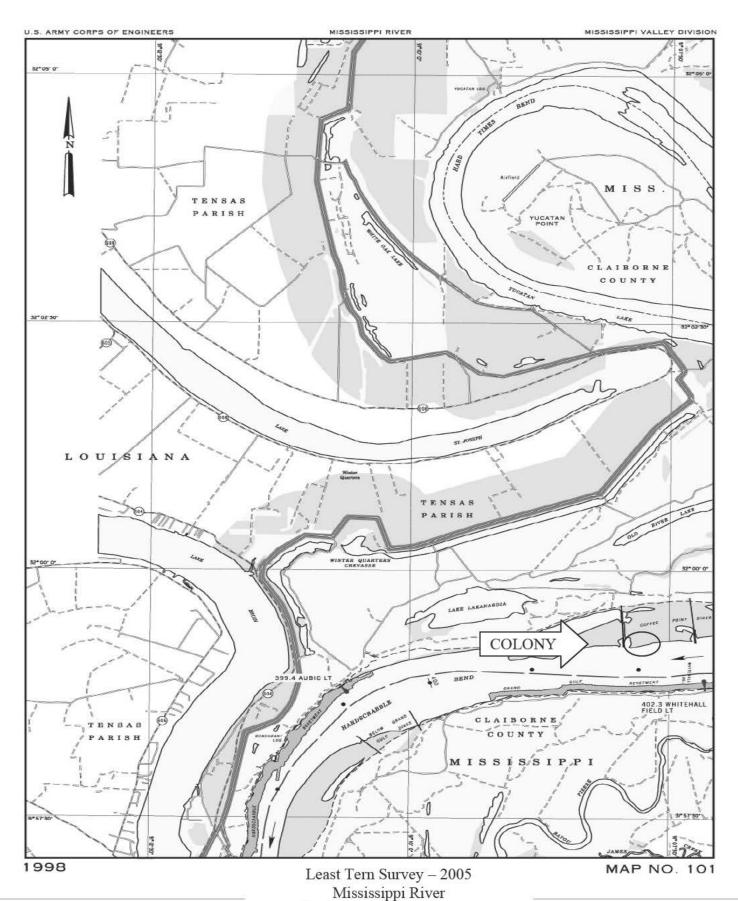


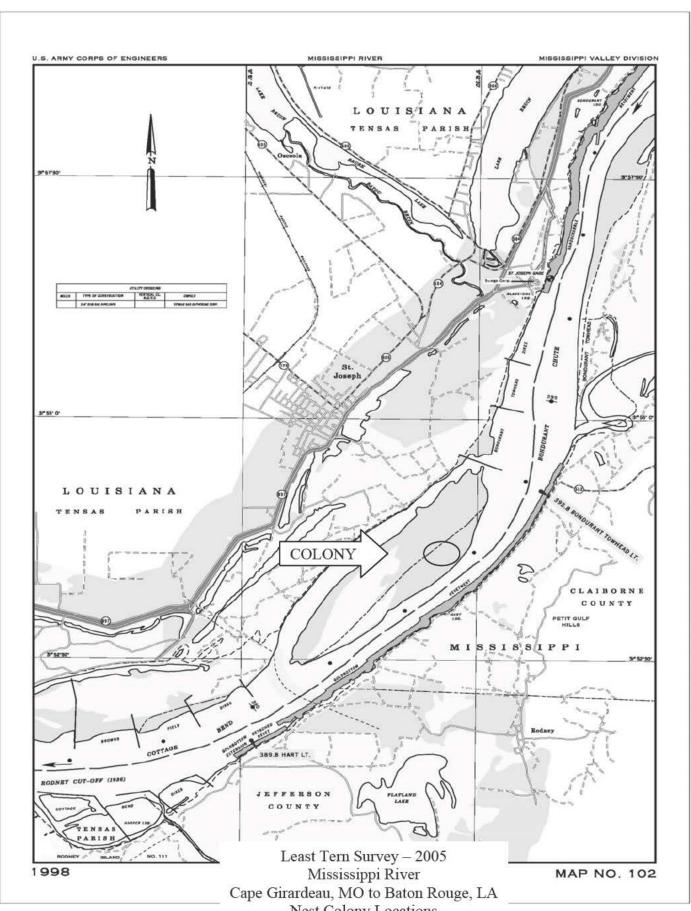


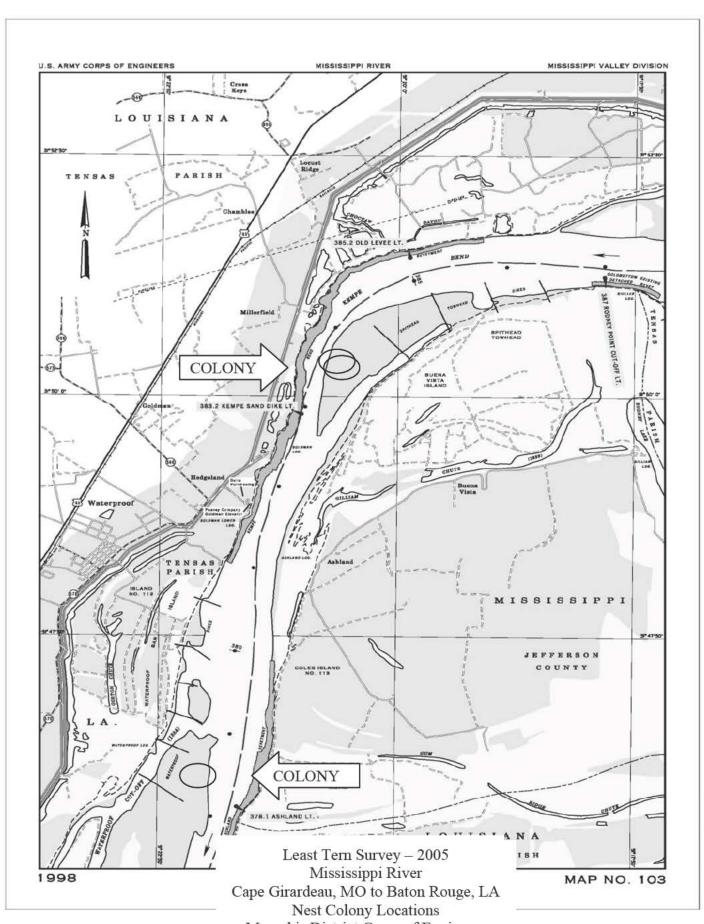
Nest Colony Locations Memphis District Corps of Engineers A-I-42



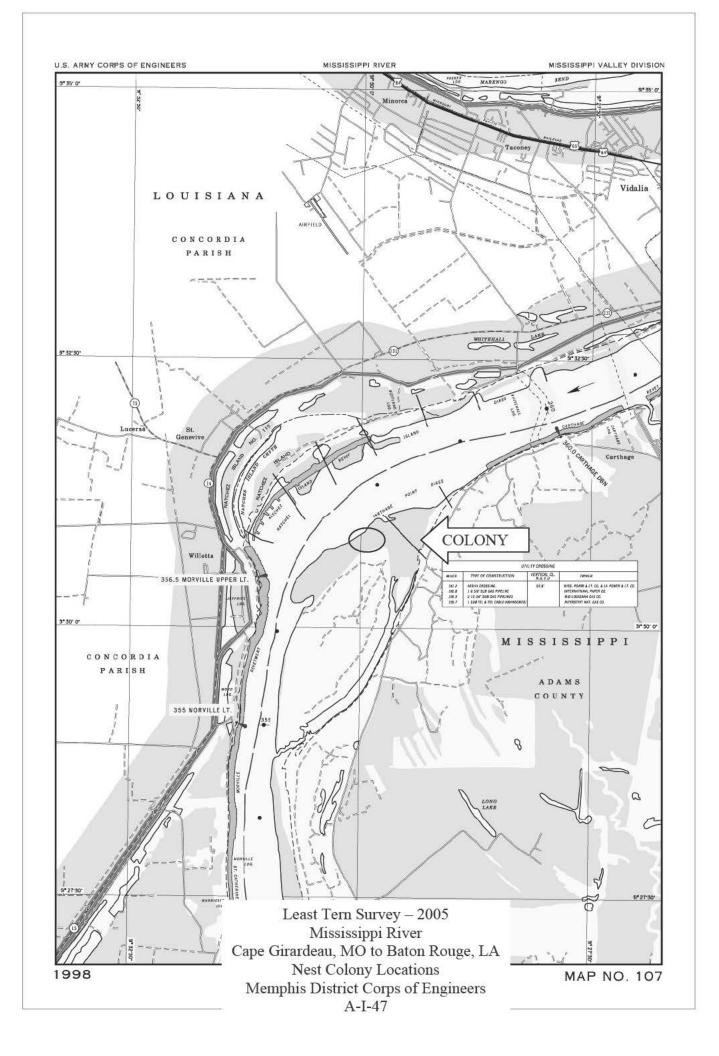
Memphis District Corps of Engineers A-I-43

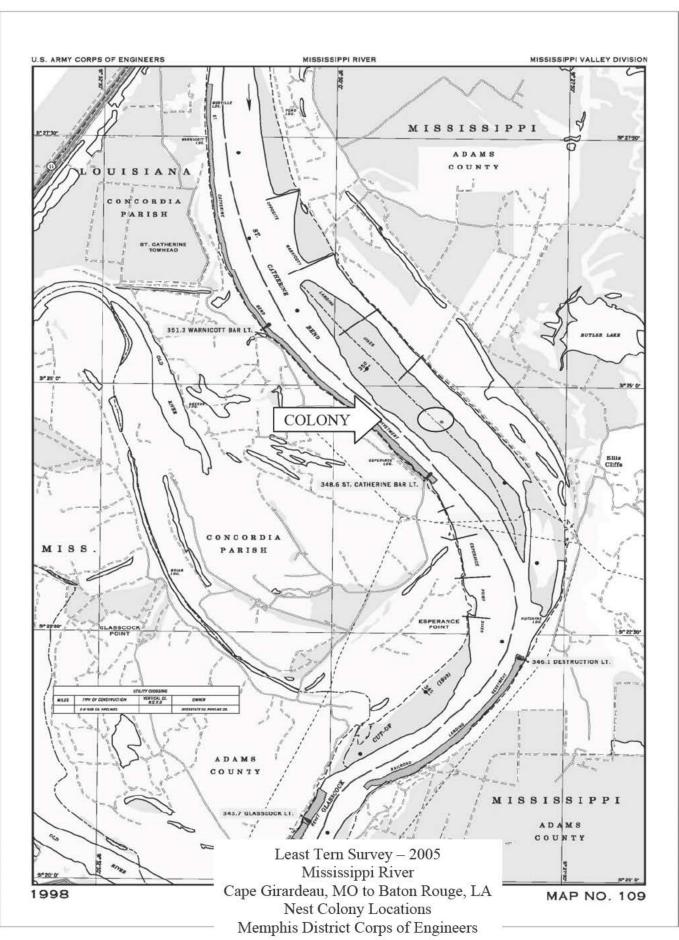


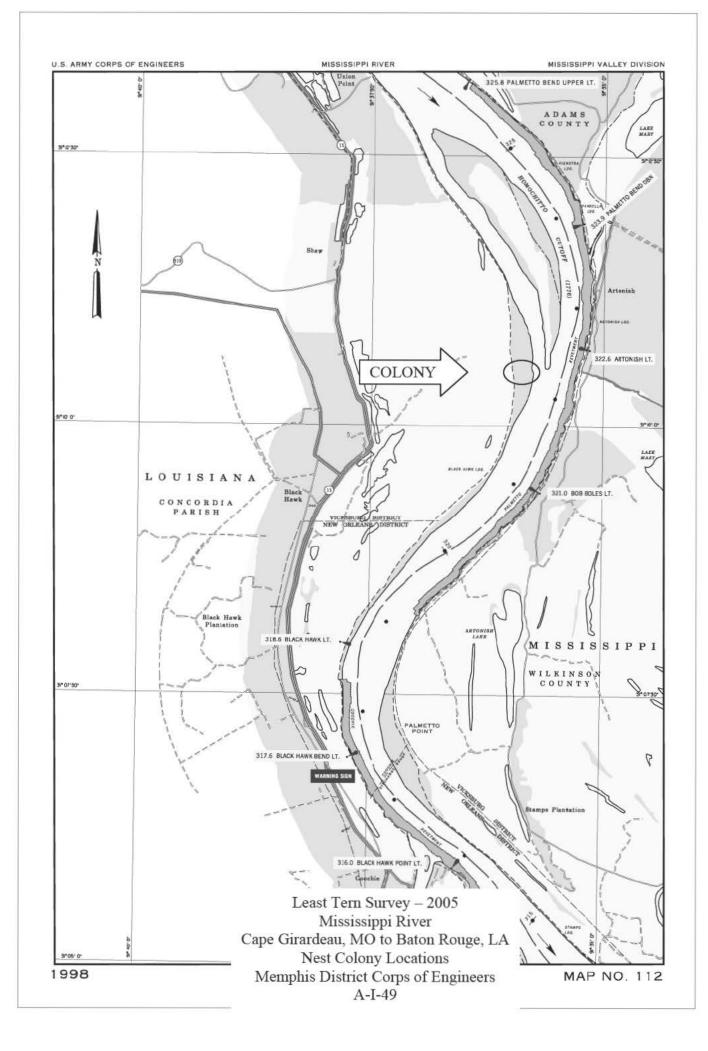


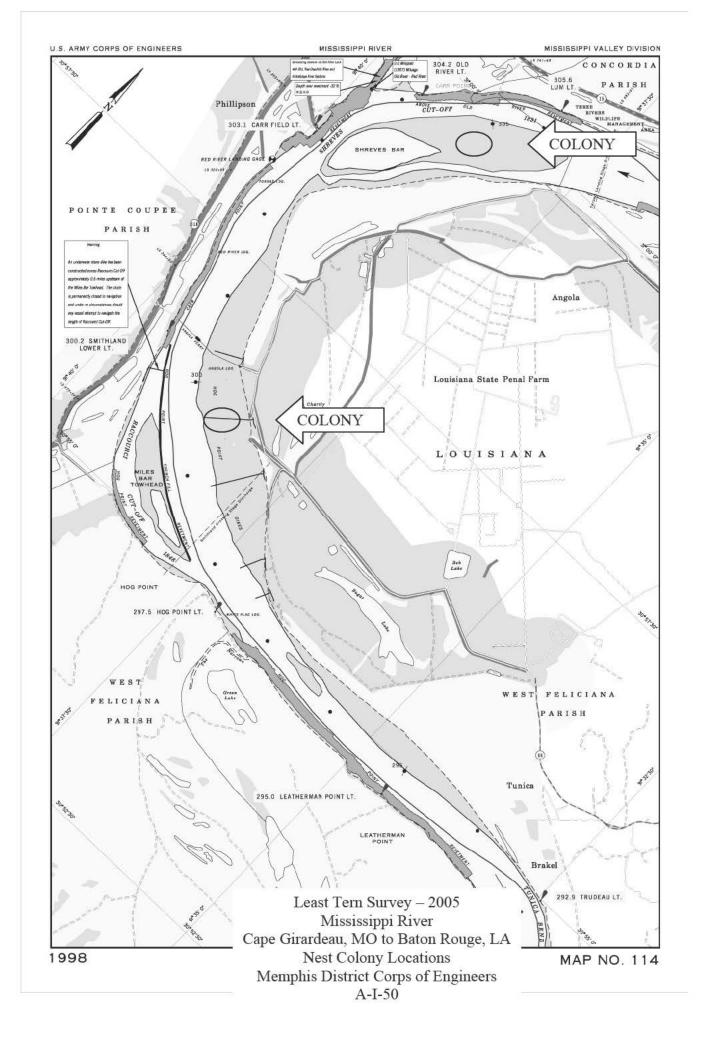


Memphis District Corps of Engineers









## Appendix A - II

## **LEAST TERN SURVEY - 2005**

Mississippi River Cape Girardeau, MO to Baton Rouge, LA

SMALL BOAT SURVEY June 25 – July 1, 2005

**Memphis District, Corps of Engineers** 

**Data Sheets** 

## FIELD SIGHTING DATA SHEET

			FLY L	BOAT 🗸
SPECIES: Interior Least Tern	(Sterna antillarum ath	alassos)		
DATE: 6/25/2005	TIME OF DAY:	8:15	RIVER MILE:	UR 39.5
	CALITY: Alexander ILL SITE NAME		Burnham Island	
County/Par	ish State		NUMBERS SIGHT	ED:
WHERE SITED: Latitude			Adults:	1
Longitud			Juveniles:	
Approximate Distance to Wat	er O Fa	act		
Approximate distance to wat	CI. 0 16	<del></del>		0
			Chicks:	No
IN FLIGHT Over Sandbar	SUBSTRATE:			
Over Water ,  On Resting Area			Sand:	
			Gravel:	
Land Side	5		Debris:	
Center 🖵			VEGETATION:	
Channel Side 4	MID-CHANNEL ▼	⁴ →		
MID-CHANNEL SANDBAR Rap				
1 1	River Side		Distance:	0 Feet
SÎDE CHANN	NEL SANDBAR Center		FIELD CONDITION	N:
River Side Calm Water			Temperature: 82 °F	
			Rain: No	
			Wind: S5r	nph
		77		
			% Cloud: ha	ze
OTHER NOTES:				
One Tern flying mid-channel.				
5				
ODOED/EDO	Janes Dimension	Componter Latt I	aggett Markhaus	III side
OBSERVERS:		111111111111111111111111111111111111111		20.7.5
RIVER GAGE READING:	(Gage Loc	rdeau	7.70°	20.7 F
	LOQUE LUC	auviii	( )	

## FIELD SIGHTING DATA SHEET

		FLY □ BOAT ☑			
SPECIES: Interior Least Tern (Ste	erna antillarum athalassos)				
DATE: 6/25/2005 TIME	OF DAY: 8:25	RIVER MILE: UR 35.5			
LOCALITY: Alexander	ILL SITE NAME:	Goose Island			
County/Parish	State	NUMBERS SIGHTED:			
WHERE SITED: Latitude:		Adults: 5			
Longitude:	e	Juveniles:			
<del></del>	0 5	Eggs:			
Approximate Distance to Water:	U Feet	Nests: 0			
		Chicks: No			
Acres Maria	ON GROUND On Nest Area ☐ , On Resting Area ☐	SUBSTRATE:			
Over Water ,	Sand:				
Calm Water	Gravel: □				
	Debris:				
Land Side Center					
Channel Side	MID-CHANNEL ✓	VEGETATION:			
MID-CHANNEL SANDBAR Rapid Curr	ents 🗌 🗡 📗	Type:			
MID-CHANNEL SANDBAR	River Side	Distance: 0 Feet			
SIDE CHANNEL SA	20 K <u>200</u> 2 760 H	FIELD CONDITION.			
River Side	FIELD CONDITION:				
	Calm Water	Temperature: 82 F			
	7	Rain: No			
,		Wind: S 5 mph			
	* 7 2	% Cloud: haze			
OTUED 110750					
OTHER NOTES:					
Five Terns fishing mid-channel.					
E					
5		III side			
OBSERVERS: Jones, Rumancik, Carpenter, Lott, Moore, et al.					
RIVER GAGE READING:	Cape Girardeau	= 20.7 F			
	(Gage Location)	(Elevation)			

FLY □ BOAT ✓ SPECIES: Interior Least Tern (Sterna antillarum athalassos) DATE: 6/25/2005 TIME OF DAY: 8:33 RIVER MILE: UR 33.0 LOCALITY: Scott MO SITE NAME: Billings Island County/Parish State NUMBERS SIGHTED: \_\_\_\_14 Adults: WHERE SITED: Latitude: Juveniles: Longitude: Eggs: Approximate Distance to Water: 0 Feet 0 Nests: Chicks: No Over Sandbar IN FLIGHT ON GROUND On Nest Area SUBSTRATE: Over Water , On Resting Area Sand: Calm Water Gravel: Debris: Land Side Center VEGETATION: MID-CHANNEL V Channel Side 4 Type: Rapid Currents MID-CHANNEL SANDBAR Distance: 0 Feet River Side SIDE CHANNEL SANDBAR Center FIELD CONDITION: Land Side -Temperature: 83 °F River Side Calm Water Rain: No Wind: S 5 mph % Cloud: haze OTHER NOTES: Fourteen Terns flying mid-channel MO side OBSERVERS: \_\_\_\_\_\_ Jones, Rumancik, Carpenter, Lott, et al. RIVER GAGE READING: 20.7 F Cape Girardeau (Gage Location) (Elevation)

FLY □ BOAT ☑

SPECIES: Interior Least Ter	n (Sterna antillarum a	athalassos)		
DATE: 6/25/2005	TIME OF DAY:	8:51	RIVER MILE: _	UR 30.4
LOCALITY: Alexand	der ILL	SITE NAME:	Bum	gard Island
County/P	arish State		NUMBERS SIG	LUTED.
				72
WHERE SITED: Latitud				, , , ,
Longit	tude: 89.3795			2
Approximate Distance to W	ater: 1000	Feet		7
				No
IN FLIGHT Over Sandbar	ON OROOND OIL	Nest Area <b>✓</b>	SUBSTRATE:	
Over Water ,	✓ / / On Res	sting Area	Sand:	<b>✓</b>
Calm Water	~	47 II	Gravel:	<b>v</b>
	<u>~</u>	$\sim$	Debris:	
Land Side L		٦		
Channel Side	MID-CHANNEL	. 🗹 🔣	VEGETATION:	
R	Rapid Currents 🗸	7	Type: Har	dwoods
MID-CHANNEL SANDBAR	River Side	<u>,                                     </u>	Distance:	3000 Feet
SIDE CHA	NNEL SANDBAR Center ✓ Land Side □		FIELD CONDIT	100000
River Side 🗔	Calm Water [		Temperatu	ıre: 84 <sup>O</sup> F
77777	+7+7+-		Rain: No	
	1174	7-7-	Wind: S	5 mph
			% Cloud:	haze
OTHER NOTES:				
Left Bank. Unattached, sm	nall gently sloping sand	har with gravel pate	hes Nests alor	ng center of har
Most birds courting or resting	ng at waterline. No hum	nan signs or other a	nimal tracks. N	ests in sand and
gravel. Birds fishing on bot collected. One Osprey obs			er observed and	mussel shells
52			250 54000 100 200 200 200 200 200 200 200 200	ILL side
OBSERVERS:	Jones, Ru	umancik, Carpenter	Lott, et al.	
RIVER GAGE READING:	Cape G	irardeau		20.7 F
	(Gage L	ocation)		(Elevation)

			FLY	□ BOAT ✓
SPECIES: Interior Least Tern	(Sterna antillarum	athalassos)		
DATE: 6/25/2005	TIME OF DAY:	10:42	RIVER MILE:	946.0
LOCALITY: Carlisle	KY	SITE NAME:	Island	#1 Dikes
County/Pari	sh State		NUMBERS SIGH	ITED:
WHERE SITED: Latitude:	36.8899		Adults: _	
Longitud	e: 89.1171			2.2
Approximate Distance to Water	er: <u>500</u>	Feet		2,3
				No
<u>IN FLIGHT</u> Over Sandbar ✓		Nest Area ✓	SUBSTRATE:	
Over Water , 🗸	/ On Re	sting Area	Sand:	1
Calm Water		$\langle \langle \ \rangle \parallel$	Gravel:	2
Land Side			Debris:	]
Center V	MID-CHANNEL		VEGETATION:	
Pani	d Currents ✓	→	Type:	
MID-CHANNEL SANDBAR	River Side	<u>,                                    </u>	Distance: _	Feet
SIDE CHANN	EL SANDBAR Center L		FIELD CONDITIO	ON:
River Side 🔲	Calm Water		Temperature	e: <u>84</u>
7777	7+7		Rain: No	
	1174	7-7-7	Wind: S 5	-10 mph
			% Cloud: h	aze
OTHER NOTES:				
Left Bank. Long, low, unattack length. Nests along ridge line resting at waterline. Turtle tra	s center of bar. Beha	vior indicates young	on chute side. Colo g colony. Light mo	ony about 1 mile in obbing and many
55				KY side
OBSERVERS:	Jones, Ri	umancik, Carpenter	Lott, et al.	INT SIDE
RIVER GAGE READING:		airo		19.2 F
A Para Cara III	(Gage I	_ocation)	1000 P	(Elevation)

			FLY	□ BOAT •
SPECIES: Interior Least Tern	(Sterna antillarum	athalassos)		
DATE: 6/25/2005	TIME OF DAY:	11:36	RIVER MILE:	940.0
LOCALITY: Carlisle	KY_	SITE NAME:	Below Ca	mpbell Dikes
County/Par			NUMBERS SIGH	HTED:
WHERE SITED: Latitude	e: <u>36.8013</u>	XIE	-	
Longitu	de: 89.1311			
Approximate Distance to Wa	ter:	Feet	Eggs: Nests:	0
AV011				No
IN FLIGHT Over Sandbar	1		CHICKS.	INO
IN FLIGHT Over Sandbar Over Water . ✓	ON OROGIND OF	n Nest Area ☐ esting Area ✓	SUBSTRATE:	
V-/	1_/_//	/ .	Sand:	<b>V</b>
Calm Water		// .∥ _</td <td>Gravel:</td> <td></td>	Gravel:	
Land Side	3		Debris:	
Center . Channel Side	MID-CHANNE		VEGETATION:	
	/	→	Type:	
MID-CHANNEL SANDBAR	oid Currents  River Side		Distance:	Feet
SÎDE CHANI	NEL SANDBAR Center Land Side		FIELD CONDITI	ON:
River Side 🔲	Calm Water		Temperatur	re: 84 °F
77777	777		Rain: No	
	1 / / 7		Wind: S	5-10 mph
			% Cloud:	20 haze
OTHER NOTES:				
	der ausaussaut la aus erith	. A wasting at treatment	a 7 fluina naid ala	
Left Bank. Very small recent	ily emergent bars with	1 4 resting at waterin	e, / flying mid-ch	annei.
5				KY side
OBSERVERS:	Jones, F	Rumancik, Carpenter	Lott, et al.	
RIVER GAGE READING:		Cairo	=	19.2 F
	(Gage	Location)		(Elevation)

			FLY	BOAT	<b>V</b>
SPECIES: Interior Least Tern	(Sterna antillarum	athalassos)			
DATE: 6/25/2005 TI	ME OF DAY:	12:10	RIVER MILE:	930.5	
LOCALITY: Hickman	KY	SITE NAME:	Wolf I	Island Bar	
County/Parish	n State		NUMBERS SIGH	HTED:	
				505	
	36.6884				
Longitude	89.1479			2,3	
Approximate Distance to Water	500	Feet		22	
				Yes	
IN FLIGHT Over Sandbar ✓	ON GROUND On	Nest Area ✓	SUBSTRATE:		
Over Water ,	/ / On Re	esting Area	Sand:	<b>✓</b>	
Calm Water <b>✓</b>	<del></del>	Z /	Gravel:	_	
		~~/	Debris:		
Land Side ☐ Center ☑		7		<del></del> .	
Channel Side 🗹	MID-CHANNE	<b>.</b> ☑	VEGETATION:		
Rapid	Currents	→	Type: Spar	rse grass	
MID-CHANNEL SANDBAR	<u>-</u>	<u></u>	Distance:	0 Feet	
II	River Side [ SANDBAR Center	∃ >>	EIEI D COMPLET	211	
River Side	Land Side [		FIELD CONDITI	1201111	
	Calm Water	□ `~~`	Temperatur	re: 90 °F	
//77/77	777		Rain: No		
	1774	-	Wind: S	5-10 mph	
		• •	% Cloud:	30 haze	
OTHER NOTES:					
Left Bank. Large, mid-channel, line of bar's center to downstrea Breasting, feeding and courtshi next to at least 5 nests, possible	am point with colony p behavior on all sid	/ 3/4 mile in length. des. Human tracks	Chicks hatching of abundant along v	or 1 day old. vith green marb	les
downstream.				KY side	)
OBSERVERS:	Jones, R	umancik, Carpenter	Lott, et al.		
RIVER GAGE READING:	С	airo		19.2 F	
	(Gage	Location)		(Elevation)	

FLY BOAT 🗹

SPECIES: Interior Lea	ast Tern <i>(Sterna ai</i>	ntillarum ath	alassos)		
DATE: 6/25/2005	TIME OF D	AY:1	3:45	RIVER MILE: _	920.5
LOCALITY:N	lississippi	MO	SITE NAME:	Hick	man Bend
Со	unty/Parish	State		NUMBERS SIG	SHTED:
WILEDE CITED.	1 -47-4-	-000			192
WHERE SITED:	Longitude: 89.3			Juveniles:	
	<del>(1</del> 0)			Eggs:	2,3
Approximate Distanc	e to Water:	100 Fe	<u>eet</u>	Nests:	14
				Chicks:	Yes
		OUND On Nes	20-30	SUBSTRATE:	
Over	Vater , ✓ / /	On Resting	Area 🗌	Sand:	✓
Calm Water [	<b>√</b> ——		./ .	Gravel:	✓
Land Side				Debris:	<b>~</b>
Center	<b>y</b> )		. ]	VEGETATION:	
Channel Side	⊔ <i>A</i> M	D-CHANNEL	」 →		
MID-CHANNEL SANDBA		] 		Distance:	
~~ <del> </del>	DE CHANNEL SANDBAR	Center	-	FIELD CONDIT	
River Side ☐		alm Water		Temperatu	ıre: 94 <sup>0</sup> F
7777	-7+7+7+		<u></u>	Rain: No	
	/ /		·- <del></del> -	Wind: S	5 mph
				% Cloud:	30
OTHER NOTES:					
Right Bank. Medium	size, low, rippled, s	and bar with r	nests on mounde	ed high points an	d prominent wrack
line. Chicks up to 2 tracks. Dead chick,	days old. Five adults	s fishing on o	oposite bank. H	uman, turtle, and	3 separate snake
5					MO side
OBSERVERS:		Jones, Ruma	ancik, Carpenter	, Lott, et al.	
RIVER GAGE READIN	NG:	Cairo	1		19.2 F
		(Gage Loc	ation)		(Elevation)

			FLY [	BOAT ✓
SPECIES: Interior Least Tern	(Sterna antillarum	athalassos)		
DATE: 6/25/2005	TIME OF DAY:	14:30	RIVER MILE:	908.0
LOCALITY:Fulton	KY	SITE NAME:	Island	d #6
Approximate Distance to Wa  IN FLIGHT Over Sandbar Over Water Calm Water Calm Water Center Channel Side MID-CHANNEL SANDBAR	e: 36.5475  de: 89.3989  ter:	n Nest Area ☐ Resting Area ☑	Juveniles:	0 No No 500 Feet
OTHER NOTES:  Left Bank. Resting bar attace	hed to bank.		% Cloud: <u>10</u>	
OBSERVERS:	Jones, F	Rumancik, Carpenter	, Lott, et al.	KY side
RIVER GAGE READING:		Cairo	100 100	19.2 F
MIVER CAGE READING.		Location)	=(E	Elevation)

			FLY [	□ BOAT ✓
SPECIES: Interior Least Ter	n (Sterna antillarun	athalassos)		
DATE: 6/25/2005	TIME OF DAY:	14:57	RIVER MILE:	894.0
LOCALITY: New Ma	ON THE PROPERTY OF	SITE NAME:	Hotchkiss	Bend Dikes
County/P	arish State		NUMBERS SIGHT	TED:
WHERE SITED: Latitud	de: 36.5179		Adults:	29
	tude: 89.4673		Juveniles:	
_,			Eggs:	
Approximate Distance to W	ater:700	Feet	Nests:	0
			Chicks:	No
IN FLIGHT Over Sandbar	ON GROUND C	n Nest Area 🔽	SUBSTRATE:	
Over Water ,	✓ / / On F	Resting Area	Sand:	
Calm Water	<u> </u>	∠/ .ll	Gravel:	
وبمريب	<u>``</u>	~~	Debris:	
Land Side Center		٦	VECETATION	
Channel Side	A MID-CHANN	<u> </u>	VEGETATION:	
MID-CHANNEL SANDBAR	apid Currents 🔽		Type: Willow	
بس ا 🗷	River Side	<u></u> \	Distance:	500 Feet
SIDE CHA	NNEL SANDBAR Center	<b>☑</b>	FIELD CONDITIO	N:
River Side	Land Side Calm Water		Temperature	1111
<b>├</b> <del>/                                    </del>	Califi yvatei	× 1		
	The state of the s		Rain: No	
	, / , , , , ,	السلسليل	Wind: S5	mph
			% Cloud: 10	)
OTHER NOTES:				
Right Bank. Medium size s				
predation.				400
<i>5</i>				MO side
OBSERVERS:	Jones,	Rumancik, Carpenter	, Lott, et al	
RIVER GAGE READING:	Nev	v Madrid		10.1 F
	(Gage	Location)		Flevation)

FLY  $\square$ 

BOAT V

SPECIES: Interior Least Tern (Sterna antillarum athalassos) DATE: 6/25/2005 TIME OF DAY: 15:31 RIVER MILE: 887.5 KY SITE NAME: Kentucky Point Dikes Upper LOCALITY: Fulton County/Parish State NUMBERS SIGHTED: Adults: 21 WHERE SITED: Latitude: 36.6653 Juveniles: Longitude: 89.5460 Eggs: Approximate Distance to Water: 500 Feet 7 Nests: No Chicks: Over Sandbar IN FLIGHT ON GROUND On Nest Area SUBSTRATE: Over Water . On Resting Area Sand: Calm Water Gravel: Debris: Land Side Center VEGETATION: Channel Side 4 MID-CHANNEL Type: Willows Rapid Currents V MID-CHANNEL SANDBAR Distance: 300 Feet River Side SIDE CHANNEL SANDBAR Center FIELD CONDITION: Land Side -River Side 🗸 Temperature: 94 °F Calm Water Rain: No Wind: S 5-7 mph % Cloud: 10 OTHER NOTES: Left Bank. Attached sand bar behind trailer dike's downstream end. Seven birds observed from boat setting on scrapes. Breasting, feeding, and resting along waterline. Dog tracks also visible. KY side OBSERVERS: \_\_\_\_\_ Jones, Rumancik, Carpenter, Lott, et al. RIVER GAGE READING: 10.1 F New Madrid (Gage Location) (Elevation)

FLY □ BOAT ☑

SPECIES: Interior Least T	ern (Sterna antillarum	athalassos)		
DATE: 6/25/2005	TIME OF DAY:	15:55	RIVER MILE:	884.0
LOCALITY: Ful County	ton KY /Parish State	SITE NAME:	Kentucky Poir	
WHERE SITED: Lati	tude: <u>36.5199</u> gitude: 89.5028			3
Approximate Distance to	Water: 300	Feet	(H)	8
Over Water  Calm Water  Land Side  Center  Channel Side  MID-CHANNEL SANDBAR  River Side	20 No.		Rain: No	Feet N: 94
OTHER NOTES:				
Left Bank. Large, long, hobserved by debris. Colo coyote tracks. Last year	ony 1 1/2 mile long followi	ng wrack line. Brids	breasting both side	
OBSERVERS:	Jones R	tumancik, Carpenter	Lott et al	KY side
RIVER GAGE READING:	New	Madrid	= = =	10.1 F
	(Gage	Location)	(1	Elevation)

FLY  $\square$ 

BOAT V

SPECIES: Interior Least Tern (Sterna antillarum athalassos) DATE: 6/25/2005 TIME OF DAY: 16:50 RIVER MILE: 880.5 \_\_\_ MO SITE NAME: Island #11 Dikes LOCALITY: New Madrid County/Parish State NUMBERS SIGHTED: Adults: 60 WHERE SITED: Latitude: 36.4721 Juveniles: Longitude: 89.5230 Eggs: Approximate Distance to Water: 300 Feet 3 Nests: No Chicks: Over Sandbar IN FLIGHT ON GROUND On Nest Area SUBSTRATE: Over Water . On Resting Area Sand: Calm Water Gravel: ~ Debris: Land Side Center VEGETATION: Channel Side MID-CHANNEL Type: Rapid Currents V MID-CHANNEL SANDBAR Distance: 0 Feet River Side SIDE CHANNEL SANDBAR Center FIELD CONDITION: Land Side -River Side Temperature: 94 °F Calm Water V Rain: No Wind: S 5 mph % Cloud: 10 OTHER NOTES: Right Bank. Low, flat, sand bar, unattached at least most of lower reach. Swift, shallow currents mandated drift count only. Three Terns observed setting on scrapes. Many breasting, courting and fishing both sides. No disturbance or tracks observed from a distance. MO side OBSERVERS: \_\_\_\_\_ Jones, Rumancik, Carpenter, Lott, et al RIVER GAGE READING: 10.1 F New Madrid (Gage Location) (Elevation)

FLY BOAT 🗹

SPECIES: Interior Lea	ast Tern (Sterna a	ntillarum at	halassos)		
DATE: 6/25/2005	TIME OF D	AY:	17:07	RIVER MILE: _	876.0
LOCALITY:	Lake	TN	SITE NAME:	Marr	Towhead
Cor	unty/Parish	State		NUMBERS SIG	HTFD.
WILEDE OITED		4404			30
WHERE SITED:	Latitude: 36.4  Longitude: 89.4			Juveniles:	
				Eggs:	
Approximate Distance	e to Water:	300 F	<u>eet</u>	Nests:	2
				Chicks:	No
		OUND On No	20-30	SUBSTRATE:	
Over V	Vater ,	On Resti	ng Area □ /	Sand:	<b>✓</b>
Calm Water [			$\checkmark$ , $\parallel$	Gravel:	✓
Land Side				Debris:	
Center [	<b>Y</b>	D CHANNEL		VEGETATION:	
Channel Side	/ -	D-CHANNEL	<sup>□</sup> →		
MID-CHANNEL SANDBA		] <del></del> River Side ☐		Distance:	Feet
~~ <del> </del>	DE CHANNEL SANDBAR	Center		FIELD CONDIT	
River Side ☐		Calm Water	~~!	Temperatu	re: 93 <sup>0</sup> F
7777	<del>- 7†7†</del> 7†			Rain: No	
	/ /	17	<del>7</del>	Wind: S	5 mph
				% Cloud:	10
OTHER NOTES:					
Left Bank. Partially a	attached, low, undula	ating, sand b	ar with most terns	resting at water	line. Terns seen
carrying fish but only observed attacking a				of crow observed	d and Tree Swallow
<del>.</del>					TN side
OBSERVERS:		Jones, Run	nancik, Carpenter	Lott, et al.	
RIVER GAGE READIN	IG:	Caruthe	rsville		13.1 F
		(Gage Lo	cation)		(Elevation)

			FLY		BOAT	~
SPECIES: Interior Least Tern (St	terna antillarum athala	assos)				
DATE: 6/25/2005 TIME	E OF DAY:17:	30	RIVER MILE: _		871.5	
LOCALITY: New Madrid	20 M	SITE NAME:	Stewart Tov	head D	ikes Upp	er
County/Parish	State		NUMBERS SIG	HTED:		
WHERE SITED: Latitude:	36.3529		Adults:	5 <del>0</del>	144	
Longitude:			Juveniles:			
Approximate Distance to Water:	500 Feet		Eggs:	58	3	
Approximate distance to water.		· · · · · · · · · · · · · · · · · · ·	Nests:	W-		
25 000 0 00 0 0 0 0 0 0 0 0 0 0 0 0 0 0			Chicks:		No	
<u>IN FLIGHT</u> Over Sandbar ✓	ON GROUND On Nest A	2 - 30	SUBSTRATE:			
Over Water , 🗸	On Resting A	rea 🔠	Sand:	✓		
Calm Water		7 .	Gravel:	~		
Land Side	~	$\prec$	Debris:	<b>✓</b>		
Center .	MID QUANNEL E		VEGETATION:			
Channel Side 🔲	MID-CHANNEL ✓	→	Type: Wil			
MID-CHANNEL SANDBAR Rapid Cu	rrents 🗸				E4	
1 10	River Side 🗹	x:	Distance:	100	reet	
SÎDE CHANNEL S.	ANDBAR Center  Land Side		FIELD CONDIT	TION:		
River Side 🕎	Calm Water	\.]	Temperato	ıre:	93 °F	
77777			Rain: No	(		
		<del>-</del>	Wind: S	5-7 mp	h	
			% Cloud:	10		
OTHER NOTES:				-		
Right Bank. Long, narrow, high, u	inattached har with nam	kad mud Imr	matura Bald Eas	do roctiv	og with fic	h
just upstream. Great Blue Heron						11
					MO side	<b>)</b>
OBSERVERS:	Jones, Ruman	cik, Carpenter,	Lott, et al.			
RIVER GAGE READING:	Caruthersvi	lle	=	13.	1 F	
	(Gage Locati	on)		(Eleva	ation)	

			FLY [	BOAT ✓
SPECIES: Interior Least Tern (	Sterna antillarum	athalassos)		
DATE: 6/25/2005 TIM	ME OF DAY:	18:00	RIVER MILE:	870.0
LOCALITY: New Madrid		SITE NAME:	Stewart Towhe	ad Dikes Lower
County/Parish	State		NUMBERS SIGHT	TED:
WHERE SITED: Latitude:	36 3447		Adults:	420
	89.5297	_:	Juveniles:	
<del>-</del>		Foot	Eggs:	1,2,3
Approximate Distance to Water:		reet		26
1700-700 percentages			Chicks:	Yes
IN FLIGHT Over Sandbar ✓		n Nest Area	SUBSTRATE:	
Over Water ,	/ / /	Resting Area	Sand:	
Calm Water		<b>≺</b> √ ,∥	Gravel:	
Land Side			Debris:	
Center 🖵		_ [	VEGETATION:	
Channel Side	MID-CHANNI	≛ <b>"</b> →	Type:	
MID-CHANNEL SANDBAR Rapid C	Currents ☑ >		Distance:	Feet
II L.C.	River Side SANDBAR Center			
River Side	Land Side		FIELD CONDITION	THE STREET
- <del>-</del>	Calm Water	_ `~~	Temperature:	93 F
	7		Rain: No	
	1174	~ <del>~~~~</del>	Wind: S5r	mph
			% Cloud: 10	)
OTHER NOTES:			And a Straight Survey of the Con-	
Right Bank. Downstream point	of 2 mile long hig	h sand har with heav	v wrack line Colon	v concentrated
along high center. Many chicks Two mature Bald Eagles observ	less than 1 week			
<i>a</i>				MO side
OBSERVERS:	Jones, F	Rumancik, Carpenter	, Lott, et al.	
RIVER GAGE READING:	Caru	thersville		13.1 F
	(Gage	Location)		Elevation)

			FLY	BOAT	~
SPECIES: Interior Least Tern	(Sterna antillarum	athalassos)			
DATE: 6/26/2005 TI	ME OF DAY:	10:00	RIVER MILE:	864.5	
LOCALITY:Lake	TN	SITE NAME:	Below Ch	erokee Dikes	
County/Parisi	n State		NUMBERS SIGH	HTED:	
WHERE SITED: Latitude:	36.3241		Adults: _		
Longitude	89.6107				
Approximate Distance to Water	- 500	Foot		2,3	
Approximate distance to water			Nests:	5	
			Chicks: _	No	
IN FLIGHT Over Sandbar   ✓		Nest Area ✓	SUBSTRATE:		
Over Water , 🔽	/	esting Area	Sand:	<b>/</b>	
Calm Water		47.II	Gravel:		
Land Side			Debris:		
Center Channel Side	MID-CHANNE		VEGETATION:		
		<sup>┺</sup> →	Type:		
MID-CHANNEL SANDBAR Rapid	Currents 🗹	in the second	Distance:	Feet	
	River Side		Distance	1001	
SIDE CHANNE	L SANDBAR Center Land Side		FIELD CONDITION	ON:	
River Side 🖳	Calm Water		Temperature	e: 84 <sup>0</sup> F	
<del>                                     </del>			Rain: No		
	1174	<del></del>	Wind: S 3	3-5 mph	
			% Cloud: _1	10	
OTHER NOTES:					
Left Bank. Attached, very large	broad, gently slop	ing bar of solid sand	l. Nests along ripi	ple line drop-off	S
very sparse and scattered. Ma					
5					
si si				TN side	
OBSERVERS:	Jones, Ruma	ncik, Lott, Davin, Ca	ampen, Thomas		
RIVER GAGE READING:	Carut	hersville		12.5 F	
	(Gage	Location)		(Elevation)	

			FLY	BOAT 🗹
SPECIES: Interior Least Te	rn <i>(Sterna antillarun</i>	n athalassos)		
DATE: 6/26/2005	TIME OF DAY:	9:31	RIVER MILE:	860.5
LOCALITY: Pemiso	20, 401		Little Cypress Be	nd Revetment
County/F	Parish State		NUMBERS SIGHTE	ED:
WILLEDE CITED.	مالية.			4
WHERE SITED: Latitu	-	<u></u>	V <del>8</del>	
Longi	tude:		Eggs:	
Approximate Distance to W	/ater:	Feet	Nests:	0
			Chicks:	No
IN FLIGHT Over Sandbar	<u>ON GROONB</u>	On Nest Area	SUBSTRATE:	
Over Water ,	☑ / / On F	Resting Area	Sand:	
Calm Water		<b>≺</b> / .∥	Gravel:	
Land Side	<b>&gt;</b>		Debris:	
Center 🖵		1	VEGETATION:	
Channel Side	A MID-CHANN	<u> </u>	Type:	
MID-CHANNEL SANDBAR	Rapid Currents	.	1001 201 201 201	
ہے ا	River Side		Distance:	Feet
SIDE CHA	ANNEL SANDBAR Center Land Side		FIELD CONDITION	
River Side 🔲	Calm Water		Temperature:	82 °F
	+++-	$\sim$ $\sim$	Rain: No	
		×	Wind: calm	
	C.	/ /		
AND THE STATE OF T			76 Cloud. 10	
OTHER NOTES:				
Four Terns fishing on reve	tment.			
				MO -24-
ODCEDVEDC:	longs Dur	nancik, Lott, Davin, Ca	amnen Thomas	MO side
OBSERVERS:				12.5.5
RIVER GAGE READING:		thersville Location)		12.5 F evation)
	( Caur	Location	1	CVAHOLLI

			FLY	□ BOAT ✓
SPECIES: Interior Least Tern (	Sterna antillarum	athalassos)		
DATE: 6/26/2005 TIM	ME OF DAY:	9:14	RIVER MILE: _	857.2
LOCALITY: Pemiscott		SITE NAME:	Robinson	n Bayou Dikes
County/Parish	State		NUMBERS SIG	HTED:
WHERE SITED: Latitude:	36.2461		Adults:	156
	89.5781			
Annuarinata Diatana ta Matan	200	Fast	Eggs:	1,2,3
Approximate Distance to Water:	800	reet	Nests:	5
			Chicks:	No
IN FLIGHT Over Sandbar   ✓		Nest Area ✓	SUBSTRATE:	
Over Water , 🗸	/ / On Re	esting Area	Sand:	✓
Calm Water ✓		<u>ال / ک</u>	Gravel:	✓
Land Side			Debris:	✓
Center 🖳		٦	VECETATION	
Channel Side 🗹	MID-CHANNE	∟ <b>☑</b> ∐	VEGETATION:	
MID-CHANNEL SANDBAR Rapid C	Currents	~	Type: vviii	ows/Cottonwoods
MID-CHANNEL SANDBAR	River Side	II	Distance:	500 Feet
SIDE CHANNEL	SANDBAR Center		FIELD CONDIT	ION
River Side	Land Side [	<u> </u>	FIELD CONDIT	100 100
	Calm Water	ㅁ `~네	remperatu	re: 82 °F
/ / <del>7 / 7 / 7</del>	+747~		Rain: No	
	ليكرار		Wind: S	5 mph
			% Cloud:	10
OTHER NOTES:				
				Inneda Nesas colle
Right Bank. Unattached, mediu eggs and scrapes in patches of				
ATV and deer tracks indicate pro	obably attached. N	Jussel shell collecte	d. Purple Martin	
Pelicans sharing the habitat. Ca	impers on downstr	earn end 3 miles fro	m colony.	MO side
OBSERVERS:	Jones, Ruma	ncik, Lott, Davin, Ca	ampen, Thomas	
RIVER GAGE READING:		hersville		12.5 F
	10000001111111	Location)	= =	(Elevation)

			FLY	□ BOAT ✓
SPECIES: Interior Least Tern (S	terna antillarum	athalassos)		
DATE: 6/26/2005 TIM	E OF DAY:	8:50	RIVER MILE:	853.0
LOCALITY: Pemiscott	30, 401	SITE NAME:	Robinson	Bayou Dikes
County/Parish	State		NUMBERS SIGI	HTED:
WHERE SITED: Latitude:			Adults:	13
Longitude:			Juveniles:	
(F)		Foot	Eggs:	
Approximate Distance to Water:	S <del></del>	Feet	Nests:	0
and the second s			Chicks:	No
IN FLIGHT Over Sandbar		Nest Area	SUBSTRATE:	
Over Water , 🗹	_/_ / On Re	sting Area	Sand: [	
Calm Water		<u>ار /                                   </u>	Gravel:	
Land Side			Debris:	
Center 🖵			VEGETATION:	
Channel Side 📙	MID-CHANNEL	-   →	Туре:	
MID-CHANNEL SANDBAR Rapid Cu	rrents 🗌	`	March Co.	200
1 0	River Side [	<u>``</u>	Distance:	0 Feet
SIDE CHANNEL S	ANDBAR Center Land Side		FIELD CONDITI	ON:
River Side 🖳	Calm Water		Temperatur	re: 82 °F
77777	<del> </del>		Rain: No	
	1174	7-7-	Wind: S	5 mph
			% Cloud:	10
OTHER NOTES:			and the second s	
Right Bank. Fifteen Terns, 2 in tra Dikes colony.	ansit, 13 fishing a	long 5 mile stretch o	downstream of Ro	binson Bayou
c.				
OBSERVERS:	Jones, Ruma	ncik, Lott, Davin, Ca	ampen. Thomas	MO side
RIVER GAGE READING:	11	nersville		12.5 F
		_ocation)	=	(Elevation)

FLY  $\square$ 

BOAT V

SPECIES: Interior Least Tern (Sterna antillarum athalassos) DATE: 6/26/2005 TIME OF DAY: 11:14 RIVER MILE: 846.0 LOCALITY: \_\_\_\_\_ Lake \_\_\_\_ TN SITE NAME: \_\_\_ Caruthersville Dikes County/Parish State NUMBERS SIGHTED: 48 Adults: WHERE SITED: Latitude: Juveniles: Longitude: Eggs: Approximate Distance to Water: Feet 0 Nests: No Chicks: Over Sandbar IN FLIGHT ON GROUND On Nest Area SUBSTRATE: Over Water . On Resting Area Sand: Calm Water Gravel: Debris: Land Side Center VEGETATION: Channel Side MID-CHANNEL Type: Willows Rapid Currents V MID-CHANNEL SANDBAR Distance: 500 Feet River Side 🗸 SIDE CHANNEL SANDBAR Center FIELD CONDITION: Land Side -V Temperature: 90 F River Side Calm Water V Rain: No Wind: calm % Cloud: haze OTHER NOTES: Left Bank. Small sand bar upstream from Blaker Towhead between dikes with mud and light debris. No nests confirmed, but courtship and carrying fish observed. Most Terns resting at waterline. Great Blue Heron, geese and turtle tracks abundant. TN side OBSERVERS: \_\_\_\_\_ Jones, Rumancik, Lott, Davin, Campen, Thomas RIVER GAGE READING: 12.5 F Caruthersville (Gage Location) (Elevation)

			FLY	□ BOAT ✓
SPECIES: Interior Least Tern (S	Sterna antillarum	athalassos)		
DATE: 6/26/2005 TIM	ME OF DAY:	11:52	RIVER MILE:	836.0
LOCALITY: Dyer		SITE NAME:	Island #18	Towhead Dikes
County/Parish	State		NUMBERS SIGH	HTED:
WHERE SITED: Latitude:	36,0008		Adults:	270
	89.6683		Juveniles:	
			Eggs:	1,2,3
Approximate Distance to Water:	500	Feet	Nests:	15
			Chicks:	Yes
IN FLIGHT Over Sandbar ✓		Nest Area	SUBSTRATE:	
Over Water , 🗸	/ On Re	esting Area	Sand:	
Calm Water		/ /</td <td>Gravel:</td> <td></td>	Gravel:	
Land Side		$\sim$	Debris:	
Center .	MID CHANNE		VEGETATION:	
Channel Side 📙	MID-CHANNE	► <del>-</del> →	Type: Willo	ws
MID-CHANNEL SANDBAR Rapid C	Currents 🗸	-10	Distance:	1000 Feet
	River Side		Distance.	1000 1001
	SANDBAR Center Land Side		FIELD CONDITION	THE STREET
River Side	Calm Water		Temperatur	e: 90 °F
77777	+		Rain: No	
	1774	7-,-	Wind: cal	m
		<i>* / /</i>	% Cloud: 3	30 haze
OTHER NOTES.			70 Oloud. <u>S</u>	JO HALO
OTHER NOTES:	siza bish salida.	and her with large w	idely dispersed a	alany (1 E v. 2E
Left Bank. Unattached, medium miles) Chicks up to 10 days old				
				TN side
OBSERVERS:	Jones, Ruma	ncik, Lott, Davin, Ca	mpen, Thomas	
RIVER GAGE READING:	Caruti	hersville	= =	12.5 F
	(Gage	Location)	<del></del>	(Elevation)

FLY  $\square$ 

BOAT V

SPECIES: Interior Least Tern (Sterna antillarum athalassos) DATE: 6/26/2005 TIME OF DAY: 12:30 RIVER MILE: 830.5 \_\_\_ MO SITE NAME: Island #20 Dikes Upper LOCALITY: Pemiscott County/Parish State NUMBERS SIGHTED: \_\_\_\_\_7 Adults: WHERE SITED: Latitude: 36.0387 Juveniles: Longitude: 89.6932 Eggs: Feet Approximate Distance to Water: 0 Nests: Chicks: No Over Sandbar IN FLIGHT ON GROUND On Nest Area SUBSTRATE: Over Water , On Resting Area Sand: Calm Water Gravel: ~ Debris: Land Side Center VEGETATION: MID-CHANNEL Channel Side 4 Type: Willows . Rapid Currents MID-CHANNEL SANDBAR Distance: 400 Feet River Side 🗸 SIDE CHANNEL SANDBAR Center FIELD CONDITION: Land Side -Temperature: 90 F River Side Calm Water Rain: No Wind: calm % Cloud: 30 haze OTHER NOTES: Right Bank. Resting bar only, no reproductive behavior observed. MO side OBSERVERS: \_\_\_\_\_ Jones, Rumancik, Lott, Davin, Campen, Thomas RIVER GAGE READING: 12.5 F Caruthersville (Gage Location) (Elevation)

			FLY	BOAT 🗸
SPECIES: Interior Least Terr	(Sterna antillarum	athalassos)		
DATE: 6/26/2005	TIME OF DAY:	12:36	RIVER MILE:	827.0
LOCALITY:Dyer		SITE NAME:	Head of Island	l #21 Dikes
County/Pa	arish State		NUMBERS SIGHTE	:D·
				4
WHERE SITED: Latitud		28	20	
Longitu	ıde:		Eggs:	
Approximate Distance to Wa	ater:	Feet	7.07.4	0
Г			Chicks:	
<u>IN FLIGHT</u> Over Sandbar [	<u>ON ORCOND</u>	n Nest Area	SUBSTRATE:	
Over Water , [	] / / On F	Resting Area	Sand:	
Calm Water		∠ / . ll	Gravel:	
Land Side 🔲	<del>}-</del> 4	$\sim$	Debris:	
Center Channel Side	MID-CHANNI	a -	VEGETATION:	
· · · · ·	/	<del>-</del>	Type:	
MID-CHANNEL SANDBAR	apid Currents 🗌		Distance:	Feet
SIDE CHAN	River Side  INEL SANDBAR Center	≝		
River Side	Land Side		FIELD CONDITION	1 221
Triver Side	Calm Water	النخر ت	Temperature:	90 °F
7777	7+74-		Rain: No	
	1/74	~~~	Wind: SW 5	mph
		* * *	% Cloud: 30 h	naze
OTHER MOTES			74 - 12 - 13 - 13 - 13 - 13 - 13 - 13 - 13	
OTHER NOTES:	no Pold Fools share	and in flight above	odod portion of lolo-	d #21
Four terns resting at waterli	ne. Daiu Eagle observ	red in inghi above wo	odeu portion of Islan	u #∠1.
				TN side
OBSERVERS:	Jones, Rum	ancik, Lott, Davin, Ca	mpen, Thomas	
RIVER GAGE READING:	Caru	thersville		12.5 F
	(Gage	Location)	(FI	evation)

			FLY	□ BOAT ✓
SPECIES: Interior Least Tern	(Sterna antillarum	athalassos)		
DATE: 6/26/2005	TIME OF DAY:	13:07	RIVER MILE:	825.5
LOCALITY: Dyer		SITE NAME:	Islar	nd #21
County/Par	ish State		NUMBERS SIGH	TED:
WHERE SITED: Latitude	35 9624		Adults:	102
	de: 89.7101		Juveniles:	
			Eggs: _	1,2
Approximate Distance to Wat	ter: 100	Feet	Nests:	10
			Chicks: _	No
IN FLIGHT Over Sandbar	<u>ON ONCOMB</u>	n Nest Area ✓	SUBSTRATE:	
Over Water ,	]	esting Area	Sand:	•
Calm Water	~	<b>∠</b> / .∥ _	Gravel:	]
Land Side 🗆	2		Debris:	]
Center Channel Side	MID-CHANNE		VEGETATION:	
Charmer Side	A MID-CHANNE	<u>-</u>	Type: Willow	vs/Grass
MID-CHANNEL SANDBAR Rap	oid Currents 🔽		Distance:	200 Feet
	River Side		Distance.	200 1 661
SIDE CHANN.	NEL SANDBAR Center Land Side		FIELD CONDITIO	ON:
River Side 🖳	Calm Water		Temperature	e: 90 °F
77777	7-7-		Rain: No	
	1179	-	Wind: SW	5 mph
			% Cloud: 5	0
OTHER NOTES:				
Left Bank. High, barely attac	hed steen narrow r	oint har Colony cor	centrated on high	est nt hut also
untilizing lower more recently	exposed sand. Hum			
many egg shell fragments. T	hirty five Kildeer.			
57				TN side
OBSERVERS:	Jones, Ruma	ancik, Lott, Davin, Ca	mpen, Thomas	
RIVER GAGE READING: _	Caru	thersville		12.5 F
	(Gage	Location)		(Elevation)

				FLY	′ □ I	BOAT	~
SPECIES: Interior L	east Tern <i>(Sterna anti</i>	illarum atha	lassos)				
DATE: 7/9/2005	5 TIME OF DAY	/: <u>11</u>	:10	RIVER MILE: _	81	9.5	
	Mississippi	mark time	SITE NAME:	Wrights P	oint Dikes	Upper	
C	county/Parish	State		NUMBERS SIG	HTED:		
WHERE SITED:	Latitude: 35.90	86		Adults:	De de	22	
	Longitude: 89.64			Juveniles:	X.		
			•	Eggs:	F <del>8</del>		
Approximate Distar	nce to Water:3	00 Fee	<u>t</u>	Nests:	F <u>Y</u>	0	
				Chicks:		<u> </u>	
	andbar 🗹 <u>ON GROU</u>		20-30	SUBSTRATE:			
/_/	r Water , 🗹 / /	On Resting	Area	Sand:	✓		
Calm Water		$\prec$	7 .	Gravel:	<b>✓</b>		
Land Side		•	$\sim$	Debris:			
Center	.27			VEGETATION:			
Channel Side	1 A MID-	CHANNEL 🗸	<b>→</b>	Type:			
MID-CHANNEL SAND	BAR Rapid Currents		5				
1		ver Side ✓ \		Distance:	re F	eet	
وب سرر	SIDE CHANNEL SANDBAR	Center 📙 🗋		FIELD CONDIT	ION.		
/ River Side	11.	nd Side .	~ : i	Temperatu		0 F	
- <del>/</del>	El Call	m Water	$\sim$				
////	^ /'/' <del>\</del>	inger in	<u>. ب</u>	Rain: No			
	1 /	7	<del> </del>	Wind: S	E 5 mph		
. L				% Cloud:	< 10		
OTHER NOTES:							
Right Bank. Large old. Mobbing and I no recent signs of p	high, flat, attached to la preasting behavior river predation. Overnight car	side. Most a mpers downs	dults at the wat stream 1 mile a	terline. Coyote at the waterline.	and turtle t This reach	racks, of rive	but
sequence.	week earlier due to light	ming, menice	uie reason ior	uie uiscrepericy		AR side	į.
OBSERVERS:	Jon	es, Jones, R	umancik, Thro	n, Ford, et al.			
RIVER GAGE READ		Caruthersy			10.3 F	=	
	<u> </u>	(Gage Loca	tion)	5.50	(Elevation	on)	

FLY BOAT V SPECIES: Interior Least Tern (Sterna antillarum athalassos) DATE: 7/9/2005 TIME OF DAY: 11:40 RIVER MILE: 815.0 LOCALITY: Mississippi AR SITE NAME: Wrights Point Dikes Lower County/Parish State NUMBERS SIGHTED: Adults: 10 WHERE SITED: Latitude: Juveniles: Longitude: Eggs: Approximate Distance to Water: 0 Feet 0 Nests: No Chicks: Over Sandbar IN FLIGHT ON GROUND On Nest Area SUBSTRATE: Over Water . On Resting Area Sand: Calm Water Gravel: Debris: Land Side Center VEGETATION: MID-CHANNEL V Channel Side 4 Type: Rapid Currents V MID-CHANNEL SANDBAR Distance: Feet River Side SIDE CHANNEL SANDBAR Center FIELD CONDITION: Land Side -River Side V Temperature: 88 °F Calm Water Rain: No Wind: SE 5 mph % Cloud: 10 OTHER NOTES: Right Bank. Very low, recently emerged wet sand bars below lower dike in back chute. Five Terns resting at waterline, 5 more flying and feeding among outer dikes. AR side OBSERVERS: \_\_\_\_\_ Jones, Jones, Rumancik, Thron, Ford, et al. RIVER GAGE READING: Caruthersville \_\_\_\_\_\_\_ 10.3 F (Gage Location) (Elevation)

			FLY	□ BOAT
SPECIES: Interior Least Tern (St	erna antillarum	athalassos)		
DATE: 7/9/2005 TIME	OF DAY:	12:17	RIVER MILE:	811.5
LOCALITY: Lauderdale		_ SITE NAME:	Below Tamm E	Bend Dikes Upper
County/Parish	State		NUMBERS SIGH	ITED:
WHERE SITED: Latitude:	35.9077		Adults: _	29
Longitude:				
Approximate Distance to Water:	150	Feet	_	2
	8			8 No
IN FLIGHT Over Sandbar ✓	ON GROUND On	Nest Area ✓	SUBSTRATE:	
Over Water , ✓	N.	sting Area	Sand:	<b>7</b>
Calm Water	<del></del> -{(-,	Z /	Gravel:	Tale Tale
Land Side		~<	Debris:	_
Center .		_ 7	VEGETATION:	
Channel Side 4	MID-CHANNEL	- □ ->	Type:	
MID-CHANNEL SANDBAR Rapid Cur	rrents 🗹 Li		Distance:	Feet
SIDE CHANNEL S.	River Side		Diotamos	
River Side	Land Side		FIELD CONDITIO	A 11111
	Calm Water		Temperature	e: <u>88 <sup>o</sup>F</u>
	777		Rain: No	
	/ / / 7	7-7	Wind: SE	5 mph
			% Cloud: 2	20
OTHER NOTES:				
Left Bank. High, attached sand be dispersed. Coyote tracks within coffshore. No human tracks. Two	olony, but no rece	ent signs of predation		
5				TN side
OBSERVERS:	Jones, Jone	es, Rumancik, Thro	n, Ford, et al.	
RIVER GAGE READING:	Caruth	nersville		10.3 F
	(Gage I	ocation)	-	(Elevation)

FLY □ BOAT ☑

SPECIES: Interior Least Tern (Steri	na antillarum atha	alassos)		
DATE: 7/9/2005 TIME C	DF DAY:1	2:39	RIVER MILE:	810.0
LOCALITY: Lauderdale County/Parish	TNState	SITE NAME:	Below Tamm	
WHERE SITED: Latitude: Longitude:			> <del>=</del>	19
Approximate Distance to Water:	250 Fe	<u>et</u>	Nests:	1 No
Over Water	On Resting  MID-CHANNEL  ats ✓  River Side ✓	4	Gravel: Debris: VEGETATION: Type: Distance: FIELD CONDITI Temperatur Rain: No	re: 89 °F
OTHER NOTES:				
Left Bank. Medium size sand bar wi observed resting at riverside waterlir river side currents. No tracks observbank.	ne, but one observ	ed setting on ne	st . Terns breasti	ing and fishing on canoe opposite
OBSERVERS:	Jones, Jones,	Rumancik, Thro	n, Ford, et al.	TN side
RIVER GAGE READING:	Caruthers (Gage Loca	400 100		10.3 F (Elevation)

			FLY	□ BOAT ✓
SPECIES: Interior Least Tern (	Sterna antillarum	athalassos)		
DATE: 7/9/2005 TI	ME OF DAY:	12:42	RIVER MILE:	807.7
LOCALITY: Lauderdale	TN	_ SITE NAME:	Nebraska P	oint Dikes Upper
County/Parish			NUMBERS SIGI	HTED: 21
	35.8719			
Longitude	89.7663		Eggs:	
Approximate Distance to Water	200	Feet	Nests:	·1
				No
IN FLIGHT Over Sandbar ✓		Nest Area ✓	SUBSTRATE:	140
Over Water , 🗸	/	esting Area	Sand:	✓
Calm Water		۷/ .II	Gravel:	
Land Side			Debris:	
Center . Channel Side	MID-CHANNE		VEGETATION:	
/ /	0 14	<sup>™</sup> →	Type: gras	s, forbs
MID-CHANNEL SANDBAR Rapid	Currents 🔽 _ ! i _		Distance:	100 Feet
	River Side	<u>₹</u>	Distance.	100 1 661
SIDE CHANNEL	SANDBAR Center Land Side		FIELD CONDITI	ON:
River Side 🗔	Calm Water		Temperatur	re: 90 °F
777 <del>7</del> 7		<u> </u>	Rain: No	
	1,4	7-7-7	Wind: E	10 mph
			% Cloud:	30
OTHER NOTES:				
Left Bank. Low, flat, clean sand waterline. Coyote tracks abund		with one Tern setti	ng inland, the res	t observed at the
				TN side
OBSERVERS:	Jones, Jon	es, Rumancik, Thro	n, Ford, et al.	
RIVER GAGE READING:	Caruti	nersville		10.3 F
	(Gage	Location)		(Elevation)

		FLY ☐ BOAT ✓
SPECIES: Interior Least Tern (Ste	erna antillarum athalassos)	
DATE: 7/9/2005 TIME	OF DAY:13:00	RIVER MILE:806.8
LOCALITY:Lauderdale	2. 21	: Nebraska Point Dikes Lower
County/Parish	State	NUMBERS SIGHTED:
WHERE SITED: Latitude:	35.8553	Adults:12
Longitude:		Juveniles:
Approximate Distance to Water	150 Foot	Eggs: 2
Approximate Distance to Water:		Nests: 1
		Chicks: No
	ON GROUND On Nest Area ✓	SUBSTRATE:
Over Water , 🗹	On Resting Area	Sand: <b>☑</b>
Calm Water		Gravel:
Land Side		Debris:
Center .	1	VEGETATION:
Channel Side	MID-CHANNEL ✓	
MID-CHANNEL SANDBAR Rapid Curr	ents 🔽	Type: Grasses/Forbs
	River Side 🗹 🔪	Distance: 60 Feet
SIDE CHANNEL SA	NDBAR Center	FIELD CONDITION:
River Side	Land Side .	Temperature: 90 °F
-	Calm Water	
1 1 7 7 7 7 7 7		Rain: No
<b> </b>		Wind: <u>E 10-15 mph</u>
	5 8	% Cloud: 30
OTHER NOTES:		
Left Bank. Unattached, long, narro	wy flat tannad sand har with sava	al wrack lines. Mobbing and other
	Coyote tracks along waterline and	wrack lines. Last year's count yielded
one addition at this site, with hundred	as of Chicks and Hesis.	
ST THE STATE OF TH	West of the state	TN side
OBSERVERS:	Jones, Jones, Rumancik, Thi	on, Ford, et al.
RIVER GAGE READING:	Caruthersville	=10.3 F
	(Gage Location)	(Elevation)

FLY  $\square$ 

BOAT V

SPECIES: Interior Least Tern (Sterna antillarum athalassos) DATE: 7/9/2005 TIME OF DAY: 13:51 RIVER MILE: 804.0 TN SITE NAME: Island #25 Dikes LOCALITY: Lauderdale County/Parish State NUMBERS SIGHTED: Adults: 36 WHERE SITED: Latitude: 35.8350 Juveniles: Longitude: 89.7065 Eggs: Approximate Distance to Water: 100 Feet 0 Nests: No Chicks: Over Sandbar IN FLIGHT ON GROUND On Nest Area SUBSTRATE: Over Water . On Resting Area Sand: Calm Water Gravel: Debris: Land Side Center VEGETATION: MID-CHANNEL V Channel Side Type: Rapid Currents V MID-CHANNEL SANDBAR Distance: Feet River Side 🗸 SIDE CHANNEL SANDBAR Center FIELD CONDITION: Land Side -V River Side Temperature: 90 °F Calm Water Rain: No Wind: <u>E 10-15 mph</u> % Cloud: 30 OTHER NOTES: Right Bank. Unattached, barely emergent, sand bar between dikes. This colony may be translocated from another colony located in the earlier survey 2 miles downstream, especially since the number of adults observed was so close (35 vs. 36). Upon revisiting the downstream colony, no significant colony could be confirmed, suggesting movement had occurred. TN side OBSERVERS: \_\_\_\_\_ Jones, Jones, Rumancik, Thron, Ford, et al. RIVER GAGE READING: 10.3 F Caruthersville (Gage Location) (Elevation)

FLY □ BOAT ☑

SPECIES: Interior Least Tern (S	Sterna antillarum	athalassos)		
DATE: 6/26/2005 TIM	ME OF DAY:	14:38	RIVER MILE:	802.5
LOCALITY: Mississippi County/Parish		SITE NAME:	Bend o	f Island #25
WHERE SITED: Latitude:	35.8171 89.7045		Juvenil <mark>es:</mark> Eggs: Nests:	35 2,3 7 Yes
MID-CHANNEL SANDBAR	ON GROUND OR ON R	esting Area	Gravel: [Debris: [VEGETATION: Type:	0 Feet ON: re: 75 °F
OTHER NOTES:  Right Bank. Small, low, flat, una eggs. No tracks or disturbance.				ost nests with 3
OBSERVERS:	longe Duma	ıncik, Lott, Davin, Ca	mnen Thomas	AR side
OBSERVERS:			impen, momas	40.5.5
RIVER GAGE READING:	***************************************	hersville Location)	=======================================	12.5 F (Elevation)

			FLY	BOAT 🗹	
SPECIES: Interior Least Tern (St	erna antillarum a	athalassos)			
DATE: 6/26/2005 TIME	OF DAY:	15:55	RIVER MILE:	771.0	
LOCALITY: Tipton	TN	SITE NAME:	Randolph		
County/Parish	State		NUMBERS SIGHTE	ED:	
WHERE SITED: Latitude:	35 5283		Adults:	52	
Longitude:			Juveniles:		
<del>-</del>			Eggs:	2	
Approximate Distance to Water:	50	Feet	Nests:	1	
			Chicks:	No	
The second secon		Nest Area ✓	SUBSTRATE:		
Over Water , 🗸	/ / On Re	sting Area	Sand: <b>☑</b>		
Calm Water 🗸		4/ .   -	Gravel:		
Land Side ☑			Debris:		
Center 💆		٦	VEGETATION:		
Channel Side 🗹	MID-CHANNEL	. 🗆 🛶 📗	Type: Willows		
MID-CHANNEL SANDBAR Rapid Cur	rents [	·			
	River Side	<u> </u>	Distance: 5	) Feet	
SIDE CHANNEL SANDBAR Center			FIELD CONDITION:		
River Side	Land Side		Temperature: 79 °F		
F-7	Calm Water	_ ~			
1 / / / / / / / / /	Tyring		Rain: No		
5	4	7-7-7	Wind: <u>S 10 r</u>	nph	
			% Cloud: 90		
OTHER NOTES:					
Left Bank. Very high, unattached,	mid-channel bar	nartially composed	of dredging spoil over	er nast few	
years. Heavy mobbing of observe	ers with <mark>human</mark> a	nd pet tracks abund			
recreational use with 21 humans a	it the waterline in	boats and jet skis.			
5				TN side	
OBSERVERS:	Jones, Rumar	ncik, Lott, Davin, Ca	mpen, Thomas		
RIVER GAGE READING:	Men	nphis	=	5.4 F	
	(Gage L	ocation)	(E	levation)	

FLY  $\square$ BOAT V SPECIES: Interior Least Tern (Sterna antillarum athalassos) DATE: 6/26/2006 TIME OF DAY: 16:20 RIVER MILE: 766.5 LOCALITY: Tipton TN SITE NAME: Below Richardson Landing Dikes County/Parish State NUMBERS SIGHTED: Adults: 16 WHERE SITED: Latitude: Juveniles: Longitude: Eggs: Approximate Distance to Water: Feet 0 Nests: No Chicks: Over Sandbar IN FLIGHT ON GROUND On Nest Area SUBSTRATE: Over Water , On Resting Area Sand: Calm Water Gravel: Debris: Land Side Center VEGETATION: MID-CHANNEL < Channel Side 4 Type: Rapid Currents MID-CHANNEL SANDBAR Distance: Feet River Side 🗸 SIDE CHANNEL SANDBAR Center FIELD CONDITION: Land Side -Temperature: 81 °F River Side Calm Water Rain: No Wind: S 10 mph % Cloud: 90 OTHER NOTES: Left Bank. Very low, attached sand bar at second dike with 14 resting at waterline, 2 more feeding in midchannel 2 miles downstream. TN side OBSERVERS: \_\_\_\_\_ Jones, Rumancik, Lott, Davin, Campen, Thomas 5.4 F RIVER GAGE READING: Memphis (Gage Location) (Elevation)

FLY □ BOAT ☑

SPECIES: Interior Le	ast Tern <i>(Sterna</i>	antillarum atha	lassos)		
DATE: 7/26/2005	5 TIME OF	DAY:16	5:40	RIVER MILE:	760.0
DATE: 7/26/2005 TIME OF DAY:		SITE NAME:			
			7-7-7	-	1 <u>0 mph</u> 90
OTHER NOTES:				Anna Santagarana (Alai III)	
Seven flying in trans	sit mid channel.				
OBSERVERS:	J	ones, Rumancik,	Lott, Davin, Ca	mpen, Thomas	
RIVER GAGE READI	NG:	Memphi	and a second	— E	5.4 F
		(Gage Loca	tion)		(Flevation)

			FLY	□ BOAT ✓
SPECIES: Interior Least Tern	(Sterna antillarum	athalassos)		
DATE: 6/26/2005 T	IME OF DAY:	17:09	RIVER MILE: _	755.0
LOCALITY:Shelby		_ SITE NAME:	Densford Bar	
County/Paris	h State		NUMBERS SIG	HTED:
WHERE SITED: Latitude:	35.3902		Adults:	230
	90.0703		Juveniles:	<u>x</u>
Approximate Distance to Water	r 500	Feet	G.G.	1,2,3
Approximate distance to water	. 300	1 661		16
		100 100 10	Chicks:	Yes
IN FLIGHT Over Sandbar ✓		Nest Area	SUBSTRATE:	
Over Water ,	<u>/_/</u> / /	esting Area	Sand:	✓
Calm Water ✓	<del></del> -	<u>الرك</u>	Gravel:	
Land Side 🗹			Debris:	✓
Center 💆			VEGETATION:	
Channel Side 4	MID-CHANNE	<u> </u>		ows/Cottonwoods
MID-CHANNEL SANDBAR Rapid	Currents	`		
	River Side		Distance:	1000 Feet
SIDE CHANNEL SANDBAR Center Land Side		FIELD CONDITION:		
River Side 🔲	Calm Water		Temperatu	re: 81 <sup>0</sup> F
7777	<del></del>		Rain: No	
	<i>(                                    </i>	-	Wind: S	10 mph
			% Cloud:	90
OTHER NOTES:				
Right Bank. Long, high, flat ba	r with wrack lines	ast years (2004) ce	nsus counted or	alv 3 terns and no
nesting activity. Mobbing inten	se with lots of court	ship behavior. Chick	ks from 2 to 7 day	ys old. Human and
dog tracks abundant as usual,	with signs of campli	ng and recreational u	use at the waterli	ne.
5 5				TN side
OBSERVERS:	Jones, Ruma	ncik, Lott, Davin, Ca	mpen, Thomas	
RIVER GAGE READING:	Me	mphis	=	5.4 F
	(Gage	Location)	State:	(Elevation)

FLY □ BOAT ☑

SPECIES: Interior Least Tern (	Sterna antillarum	athalassos)		
DATE: 6/26/2005 TIM	ME OF DAY:	18:08	RIVER MILE: _	740.5
LOCALITY: Crittenden  County/Parish		_ SITE NAME:		
-,	90.0730		Juveniles:	92 
Approximate Distance to Water:	300	Feet		3 Yes
MID-CHANNEL SANDBAR	ON GROUND On On Re  MID-CHANNE  Currents River Side    SANDBAR Center    Land Side    Calm Water	esting Area	Gravel: Debris:  VEGETATION: Type: Han Distance:  FIELD CONDIT Temperatu Rain: No	1000 Feet  1000: 1001: 1001: 1001: 1002: 1003: 1004: 1005: 1006: 1
OTHER NOTES:  Right Bank. Medium size grave with scattered coal chunks. Inte				
OBSERVERS:	•	ncik, Lott, Davin, Ca		AR side
RIVER GAGE READING:	***************************************	mphis Location)	=	5.4 F (Elevation)

			FLY	BOAT	~
SPECIES: Interior Least Tern (Stell	rna antillarum a	thalassos)			
DATE: 6/27/2005 TIME	OF DAY:	9:38	RIVER MILE:	733.0	
LOCALITY: Crittenden	AR	SITE NAME:	Enginee	r Bar Dikes	
County/Parish	State		NUMBERS SIGH	ITED:	
WHERE SITED: Latitude:	35.1236		Adults: _	117	
Longitude:			Juveniles: _		
Approximate Distance to Water:	500	Foot	G070 20	1,2,3	
Approximate distance to water.	300	reet		4	
			Chicks: _	Yes	
A STATE OF THE STA		lest Area ✓	SUBSTRATE:		
Over Water , 🗸	/ On Res	ting Area	Sand: 🕨	2	
Calm Water		$\langle / \rangle \parallel$	Gravel:		
Land Side			Debris:		
Center .			VEGETATION:		
Channel Side 1	MID-CHANNEL	<b>∽</b> ∥	Type: Willo	ws	
MID-CHANNEL SANDBAR Rapid Curre	ents 🔽	`	NAME OF		
1	River Side	ĭ~	Distance: _	800 Feet	
SIDE CHANNEL SAN	DBAR Center Land Side		FIELD CONDITION	ON:	
River Side 🗔	Calm Water		Temperature	e: 80 °F	
<b>┣</b> <del>────────────────────────────────────</del>	Z Caim Valer		Rain: No		
\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\			-		
		1		m	
			% Cloud: 1	10	
OTHER NOTES:					
Right Bank. High, flat, medium size					
up to 1 week old. Two fishing oppo stage. One Killdeer and many Purp		and coyole tracks	indicates attached	i at present river	
5				AR side	
OBSERVERS:	Jones, Ruman	cik, Carpenter, Fo	vlkes, Campen	AIT SILLE	
RIVER GAGE READING:	Mem			4.6 F	
THE CASE READING.	(Gage L			(Elevation)	

FLY □ BOAT ☑

SPECIES: Interior Least	Tern (Sterna antillarun	n athalassos)	
DATE: 6/27/2005	TIME OF DAY:	10:04	RIVER MILE: 729.0
	nelby TN ty/Parish State		Vice Presidents Island #46  NUMBERS SIGHTED:
	titude: <u>35.1161</u> ngitude: 90.1714	_2	Adults: 62  Juveniles:
Approximate Distance to	o Water:100	Feet	Nests: 5 Chicks: No
Over Water  Calm Water  Land Side  Center  Channel Side  MID-CHANNEL SANDBAR  River Side  River Side  SiDE  River Side  River Side  River Side  River Side	er, 🗹 On F	7	SUBSTRATE:  Sand:  Gravel:  Debris:  VEGETATION:  Type:  Distance:  Feet  FIELD CONDITION:  Temperature:  81 OF  Rain:  No  Wind:  Cloud:  20
	scrapes with eggs and lig		mile long with some courtship and deer tracks. Mussel shell.
ST STATE OF THE ST			TN side
OBSERVERS:		nancik, Carpenter, Fo	AND THE PERSON OF THE PERSON O
RIVER GAGE READING	A STATE OF THE STA	emphis Location)	= 4.6 F (Elevation)

FLY □ BOAT ☑

SPECIES: Interior Least Tern (Ste	rna antillarum atha	alassos)		
DATE: 6/27/2005 TIME	OF DAY: 1	0:30	RIVER MILE:	725.0
LOCALITY: <u>Crittenden</u> County/Parish	AR	SITE NAME:	Dismal P	
WHERE SITED: Latitude: Longitude:			Juveniles:	14
Approximate Distance to Water:	500 Fe	<u>et</u>		0 No
Over Water Over Water Over Water Over Water And Side Center Channel Side Rapid Current SIDE CHANNEL SANDBAR  River Side R	On Resting  MID-CHANNEL  ents   River Side   ✓	4	SUBSTRATE: Sand: Gravel: Debris: VEGETATION: Type: Distance: FIELD CONDITION Temperature Rain: No Wind: Cloud: 38	Feet ON: : 82 °F
OTHER NOTES:  Right Bank. Medium high, 1/2 mile though no eggs or chicks were obscollected.				
OBSERVERS:	Jones, Rumancik	Carpenter Fo	wlkes. Campen	AR side
RIVER GAGE READING:	Memph		moo, oumpen	4.6 F
THE CASE READING.	(Gage Loca	and the		(Elevation)

			FLY [	□ BOAT ✓
SPECIES: Interior Least Tern (	(Sterna antillarum	athalassos)		
DATE: 6/27/2005 TI	ME OF DAY:	11:00	RIVER MILE:	717.0
LOCALITY: Desoto	MS	SITE NAME:	Cow Isla	and Bend
County/Parish	n State		NUMBERS SIGH	TED.
WILEDE OITED.	25.0447		Adults:	
WHERE SITED: Latitude:			Vic.	
Longitude.	90.2925			1,2,3
Approximate Distance to Water	500	Feet	Nests:	16
			Chicks:	Yes
<u>IN FLIGHT</u> Over Sandbar ✓		Nest Area ✓	SUBSTRATE:	
Over Water ,	/ / On Re	esting Area	Sand:	]
Calm Water		۷/ .II	Gravel:	]
Land Side			Debris:	]
Center Channel Side	MID-CHANNE		VEGETATION:	
	0 56	- →	Type:	
MID-CHANNEL SANDBAR	Currents  River Side		Distance:	Feet
SIDE CHANNEL	SANDBAR Center Land Side		FIELD CONDITIO	ON:
River Side 🔲	Calm Water		Temperature	e: 81 °F
77777	7		Rain: No	
	/ "T	7-7-7	Wind: <u>calm</u>	n
			% Cloud: 40	0
OTHER NOTES:				
Left Bank. Unattached, 1.5 mile and feeding on all sides, intense waterline. One Great Blue Hero	e mobbing within co	olony. Chicks 1,2,3		
5				MS side
OBSERVERS:	Jones, Ruma	ncik, Carpenter, Fo	wlkes, Campen	
RIVER GAGE READING:	Mer	mphis		4.6 F
	(Gage	Location)	(	(Elevation)

			FLY [	BOAT 🗸
SPECIES: Interior Least Tern (	Sterna antillarum	athalassos)		
DATE: 6/27/2005 TIM	ME OF DAY:	11:30	RIVER MILE:	707.0
LOCALITY:Crittenden	AR	SITE NAME:	Cat Isla	and
County/Parish	State		NUMBERS SIGHTE	D.
WILEDE OITED	04.0054			1
WHERE SITED: Latitude:		28		
<del></del>	90.2582		Eggs:	
Approximate Distance to Water:		Feet	Nests:	0
			Chicks:	No
IN FLIGHT Over Sandbar		n Nest Area	SUBSTRATE:	
Over Water . 🗌	On R	testing Area	Sand:	
Calm Water	<del></del>	<b>∠</b> / .∥ _	Gravel:	
Land Side 🗆			Debris:	
Channel Side	MID-CHANNE	<b>=                                    </b>	VEGETATION:	
		<b>~</b> ~	Type:	
MID-CHANNEL SANDBAR Rapid C	Currents		Distance:	Feet
I ' _L('   '	River Side SANDBAR Center		FIELD COMPLETION	
River Side	Land Side		FIELD CONDITION:	1221
- <del></del>	- Calm Water	<u> </u>	Temperature: _	01 F
/ / / / / / / /	777		Rain: No	
	///7	~~~	Wind: calm	
			% Cloud: 40	
OTHER NOTES:				
One in transit mid-channel.				
5				
				AR side
OBSERVERS:	Jones, Rum	ancik, Carpenter, Fo	wlkes, Campen	
RIVER GAGE READING:	Me	emphis		4.6 F
	(Gage	Location)	(El	evation)

			FLY [	BOAT ✓
SPECIES: Interior Least Terr	n (Sterna antillarum	athalassos)		
DATE: 6/27/2005	TIME OF DAY:	11:38	RIVER MILE:	705.0
LOCALITY:Crittend	en AR	SITE NAME:	Seypell	Dikes
County/Pa	arish State		NUMBERS SIGHT	ED:
WHERE SITED: Latitud	le: 3/1 8060		Adults:	72
	ude: 90.2603	MB	Juveniles:	
Longit	ude. 90.2003		Eggs:	
Approximate Distance to W	ater: 300	Feet	Nests:	3
			Chicks:	No
IN FLIGHT Over Sandbar	<u>OIT OITOOITB</u>	n Nest Area	SUBSTRATE:	
Over Water	<b>⊻</b> / / / On R	esting Area	Sand:	
Calm Water	<del>-</del>		Gravel:	
Land Side	<u>~</u>	$\sim$	Debris:	
Center Channel Side	MID-CHANNE	- I	VEGETATION:	
	/	<b>∸</b> →	Type:	
MID-CHANNEL SANDBAR	apid Currents  River Side		Distance:	Feet
SIDE CHAP	NNEL SANDBAR Center		FIELD CONDITION	i.
River Side	Land Side	☑	FIELD CONDITION	111
	Calm Water	<u></u>	Temperature:	02 F
	1717		Rain: No	
	1 / Ty	~~~	Wind: calm	
			% Cloud: 40	
OTHER NOTES:				
Right Bank. Downstream s	and snit attached to Co	at Island and other s	mall low flat sand h	ars hetween
Seypell Dikes. Most birds r fishing both sides. No track	esting at waterline, wit			
3				18.00
ODCEDVEDO	lanca Dime	anoik Carnontar Fa	ulkos Campan	AR side
OBSERVERS:		ancik, Carpenter, Fo	wikes, Campen	
RIVER GAGE READING:		emphis		4.6 F
	(Gage	Location)	(E	levation)

FLY □ BOAT ☑

SPECIES: Interior Least Tern	(Sterna antillarum	athalassos)		
DATE: 6/27/2005	TIME OF DAY:	11:53	RIVER MILE: _	703.5
LOCALITY: Tunica  County/Pari		SITE NAME:	Pick	kett Dikes
334,	(0.12.10)		NUMBERS SIG	HTED:
WHERE SITED: Latitude	34.8761		Adults:	115
	le: 90.3078		Juveniles:	X
~		Foot	Eggs:	3
Approximate Distance to Wat	er	reet	Nests:	4
			Chicks:	Yes
IN FLIGHT Over Sandbar ✓	N/A	2/-30	SUBSTRATE:	
Over Water ,	/ / On Re	sting Area	Sand:	✓
Calm Water	<del></del>	47.1	Gravel:	✓
Land Side	5	~~	Debris:	
Center .		٦	VEGETATION	
Channel Side	MID-CHANNEL	- ☑	VEGETATION:	200
MID-CHANNEL SANDBAR	id Currents 🔽		Type: Wille	ows
/ / / / / / / / / / / / / / / / / / /	River Side	<del>}</del> ~	Distance:	1000 Feet
SIDE CHANN	EL SANDBAR Center L	<b>∄</b> :	FIELD CONDIT	
River Side	Calm Water	<b>▼</b> ~~~	Temperatu	re: 83 <sup>0</sup> F
7777	7 7 7 7		Rain: No	
		-7-7-	Wind: _ca	ılm
		* *	% Cloud:	40
OTHER NOTES:				
Left Bank. Unattached, medi	um size sand har with	courting breasting	on channel side	Many chicks 1-7
days old. No tracks or other			on onamic side.	Marry Official 1-1
<u>5</u>				MS side
OBSERVERS:	Jones, Ruma	ncik, Carpenter, Fo	wlkes, Campen	
RIVER GAGE READING:	Mer	nphis		4.6 F
	(Gage I	_ocation)		(Elevation)

FLY □ BOAT ☑

SPECIES: Interior Least Tern	(Sterna antillarum	athalassos)		
DATE: 6/27/2005 T	IME OF DAY:	12:51	RIVER MILE:	701.0
LOCALITY: <u>Crittenden</u> County/Paris		_ SITE NAME:		
WHERE SITED: Latitude: Longitude	34.8583 90.3492		Juveniles:	82 1,2,3
Approximate Distance to Wate	r: <u>300</u>	Feet	Nests:	7 No
MID-CHANNEL SANDBAR	ON GROUND On On Re  MID-CHANNE  Currents  River Side   Land Side   Calm Water	esting Area	Gravel: Debris: VEGETATION: Type: Gras Distance:	30 Feet ON: re: 85 °F
OTHER NOTES:				
Right Bank. Medium size sand on channel side. Colony about Coyote tracks meandering scra Geese.	t 1/4 mile long. Two	eggs collected for D	NA analysis and	mussel shells.
OBSERVERS:	Jones, Ruma	ncik, Carpenter, Fo	wlkes, Campen	Altique
RIVER GAGE READING:	Market III III	mphis Location)	=	4.6 F (Elevation)

			FLY		BOAT	~
SPECIES: Interior Least Tern (Si	terna antillarum at	halassos)				
DATE: 6/27/2005 TIME	E OF DAY:	13:28	RIVER MILE:		700.0	
LOCALITY: Crittenden	AR	SITE NAME:	Porter La	ke Dike	s Lower	
County/Parish	State		NUMBERS SIG	HTED:		
WHERE SITED: Latitude:	34.8406		Adults:	7 <del>2</del>	25	
Longitude:			Juveniles:	Šy <u>v</u>		
<del>(-</del> 3		- ce (ce a h	Eggs:	7 <del>3</del>	3,4	
Approximate Distance to Water:	100 F	<u>-eet</u>	Nests:	₹ <u>₹</u>	2	
_			Chicks:	<u> </u>	Yes	
<u>IN FLIGHT</u> Over Sandbar ✓		est Area 🗸	SUBSTRATE:			
Over Water , 🗹	On Resti	ng Area 🔲	Sand:	<b>✓</b>		
Calm Water			Gravel:			
Land Side			Debris:	✓		
Center Channel Side	MID-CHANNEL	_	VEGETATION:			
	18	`' →	Type: Cot	tonwoo	ds/grass	
MID-CHANNEL SANDBAR Rapid Cu	irrents 🗹		Distance:	100	Feet	
	River Side 🗹	<u> </u>	Diotalios.		1001	
SIDE CHANNEL S	ANDBAR Center L		FIELD CONDIT	ION:		
River Side	Calm Water		Temperatu	ıre:	85 °F	
77777	7		Rain: No	(4		
	1774	<del>7</del> -7-7	Wind: ca	alm		
			% Cloud:	10		
OTHER NOTES:						
Right Bank. Huge, gently sloping	unattached sand h	ar directly across	from Tunica rive	er nark	Colony ii	n
pure sand approximately 1/2 mile	long by 1/4 mile wi	de. Chicks (up to	1 week old). Or	ne nest	observed	
with 4 eggs (longer, darker, more lower mud flats. Mobbing intense					point and	
					AR side	y.
OBSERVERS:	Jones, Rumano	cik, Carpenter, Fo	vlkes, Campen			
RIVER GAGE READING:	Mem	ohis		4.6	F	
	(Gage Lo	cation)		(Eleva	ation)	

			FLY	□ BOAT ✓
SPECIES: Interior Least Tern	(Sterna antillarum	athalassos)		
DATE: 6/27/2005 TI	ME OF DAY:	13:58	RIVER MILE:	694.0
LOCALITY:Tunica	MS	SITE NAME:	Comme	erce Dikes
County/Parish	n State		NUMBERS SIGH	HTED:
WILEDE OITED.	24.0450			106
WHERE SITED: Latitude:			200	
Longitude	90.4564			3
Approximate Distance to Water	300	Feet	Nests:	2
			Chicks: _	Yes
IN FLIGHT Over Sandbar ✓	No.	Nest Area ✓	SUBSTRATE:	
Over Water , 🗸	/	esting Area	Sand:	
Calm Water	<del></del>	۷/ .II	Gravel:	2
Land Side			Debris:	
Center Channel Side	MID-CHANNE		VEGETATION:	
		- →	Type:	
MID-CHANNEL SANDBAR Rapid	Currents  River Side [		Distance: _	Feet
SIDE CHANNEL	SANDBAR Center [		FIELD CONDITION	ON:
River Side	Calm Water		Temperature	e: <u>87                                   </u>
77777			Rain: No	
	1774	7-7-7	Wind: cla	m
		61 00	% Cloud: 1	10
OTHER NOTES:				
Left Bank. Large, attached 2.5 gravel. Most Terns resting at waterline. ATV tracks present.	aterline. Chicks 3-4	4 days old. Mobbing	ly undulating with g. Most birds cour	patches of pea nted along the
				MS side
OBSERVERS:	Jones, Ruma	ncik, Carpenter, Fo	wlkes, Campen	
RIVER GAGE READING:	Не	elena		11.6 F
	(Gage	Location)		(Elevation)

FLY  $\square$ 

BOAT V

SPECIES: Interior Least Tern (Sterna antillarum athalassos) DATE: 6/27/2005 TIME OF DAY: 14:30 RIVER MILE: 686.0 LOCALITY: \_\_\_\_\_ Lee \_\_\_\_ AR SITE NAME: \_\_\_\_ Mhoon Bend County/Parish State NUMBERS SIGHTED: Adults: 105 WHERE SITED: Latitude: 34.7304 Juveniles: Longitude: 90.4664 Eggs: Approximate Distance to Water: 150 Feet 1 Nests: No Chicks: Over Sandbar IN FLIGHT ON GROUND On Nest Area SUBSTRATE: On Resting Area Over Water . Sand: Calm Water Gravel: ~ Debris: Land Side Center VEGETATION: MID-CHANNEL V Channel Side Type: Rapid Currents V MID-CHANNEL SANDBAR Distance: Feet River Side SIDE CHANNEL SANDBAR Center FIELD CONDITION: Land Side -River Side Temperature: 87 °F Calm Water V Rain: No Wind: calm % Cloud: 10 OTHER NOTES: Right Bank. Another very large (3 miles) attached, sand and gravel bar with large stand of willows at center. Drift count with colony dispersed widely across the high center. No tracks observed from the boat, but past surveys have indicated predation from coyotes and Herons. AR side OBSERVERS: \_\_\_\_\_ Jones, Rumancik, Carpenter, Fowlkes, Campen RIVER GAGE READING: 11.6 F Helena \_\_\_\_\_\_ (Gage Location) (Elevation)

			FLY		BOAT	~
SPECIES: Interior Least Tern (Ste	erna antillarum athalas	sos)				
DATE: 6/27/2005 TIME	OF DAY:15:03	( <del> </del>	RIVER MILE: _	6	81.7	
LOCALITY: Lee	AR SI	TE NAME:	Walnut Bend	Revetn	nent Dike	es
County/Parish	State		NUMBERS SIG	HTED:		
WHERE SITED: Latitude:	34.745		Adults:	7.	9	
Longitude:			Juveniles:			
Approximate Distance to Water:	100 Feet		2000	0.60	2	
Approximate Biotaries to Trater.	. 100 100.		Nests:	<u>V </u>		
IN FLIGHT Over Sandbar ✓	ON ODOUND O N 14		Chicks:	-	NO	
Over Water ,	ON GROUND On Nest Area On Resting Area	9 <del>5-30</del>	SUBSTRATE:			
Calm Water	<u> </u>			<b>V</b>		
Califi Water	$\sim$	71	Gravel: Debris:			
Land Side		$\mathbb{Y}$	Debils.			
Center Channel Side	MID-CHANNEL	24	VEGETATION:			
Panid Cum	rents 🗸	<del>&gt;</del>	Type: Cott	tonwood	ls	
MID-CHANNEL SANDBAR			Distance:	15	Feet	
II	River Side 🗹		FIELD CONDIT	1011		
River Side	Land Side .		FIELD CONDIT		04 OE	
-4	Calm Water	~4	Temperatu		04 F	
1 / / / ¬ / ' / ¬	777		Rain: No			
8	لـلـلـ / , /	<del>-  </del>	Wind: Ca	alm		
			% Cloud:	10		
OTHER NOTES:						
Right Bank. Small, unattached sar	nd bar with patches of m	ud and silt.	No tracks obser	ved, Gre	at Blue	
Heron in back chute.						
5					AR side	
OBSERVERS:	Jones, Rumancik, Ca	rpenter, Fo	wlkes, Campen			
RIVER GAGE READING:	Helena		=	11.6	F	
	(Gage Location	)		(Eleva	tion)	

FLY BOAT V SPECIES: Interior Least Tern (Sterna antillarum athalassos) DATE: 6/27/2005 TIME OF DAY: 15:13 RIVER MILE: 680.0 LOCALITY: Tunica MS SITE NAME: Bordeaux Point Dikes County/Parish State NUMBERS SIGHTED: Adults: 64 WHERE SITED: Latitude: 34.7300 Juveniles: Longitude: 90.5656 Eggs: Approximate Distance to Water: Feet 0 Nests: No Chicks: Over Sandbar IN FLIGHT ON GROUND On Nest Area SUBSTRATE: Over Water . On Resting Area Sand: Calm Water Gravel: ~ Debris: Land Side Center VEGETATION: MID-CHANNEL Channel Side 4 Type: Rapid Currents V MID-CHANNEL SANDBAR Distance: Feet River Side SIDE CHANNEL SANDBAR Center FIELD CONDITION: Land Side -River Side V Temperature: 85 °F Calm Water Rain: No Wind: calm % Cloud: 10 OTHER NOTES: Left Bank. Resting bar only, attached at this river stage. Some breasting behavior was noted, but no Terns were observed setting inland. Five Terns observed feeding on opposite bank revetment. MS side OBSERVERS: \_\_\_\_\_ Jones, Rumancik, Carpenter, Fowlkes, Campen RIVER GAGE READING: 11.6 F Helena (Gage Location) (Elevation)

			FLY [	BOAT ✓
SPECIES: Interior Least Tern	(Sterna antillarum	athalassos)		
DATE: 6/27/2005 T	TIME OF DAY:	15:25	RIVER MILE:	676.5
LOCALITY: Lee		_ SITE NAME:	Below Walnut	t Bend Dikes
County/Paris	sh State		NUMBERS SIGHT	ED:
WHERE SITED: Latitude:	34 6742		Adults:	41
	e: 90.5752		Juveniles:	
<del>-</del>		_	Eggs:	
Approximate Distance to Wate	erc	Feet	Nests:	0
			Chicks:	No
IN FLIGHT Over Sandbar		Nest Area	SUBSTRATE:	
Over Water ,	/ / / On Re	esting Area 🗸	Sand: <b>☑</b>	
Calm Water		<u>ال / ک</u>	Gravel:	
Land Side			Debris:	
Center Channel Side	MID-CHANNE		VEGETATION:	
	***	<b>-</b>	Туре:	
MID-CHANNEL SANDBAR Rapid	Currents 🗌		Distance:	Feet
	River Side		Distance.	1001
SIDE CHANNE	EL SANDBAR Center Land Side		FIELD CONDITION	۷:
River Side	Calm Water		Temperature:	85 °F
7777	7+7		Rain: No	
	///	-	Wind: calm	
			% Cloud: 10	
OTHER NOTES:				
Right Bank. Gently sloping, at No apparent disturbance or tra		n patches of gravel.	All birds counted al	ong waterline.
5				AD aida
OBSERVERS:	Jones, Ruma	ncik, Carpenter, Fo	wlkes, Campen	AR side
RIVER GAGE READING:	1777	elena		11.6 F
All and the second seco	(Gage	Location)	_ (E	levation)

			FLY	□ BOAT ✓
SPECIES: Interior Least Tern	(Sterna antillarum	athalassos)		
DATE: 6/27/2005	ΓΙΜΕ OF DAY:	15:49	RIVER MILE:	672.0
LOCALITY:Tunica	MS	SITE NAME:	St. Fran	ncis Bend
County/Pari	sh State		NUMBERS SIGH	TED:
WHERE SITED: Latitude:	34.6241		Adults:	211
	e: 90.5835		Juveniles: _	
( <del>70</del> 0			Eggs: _	2,3
Approximate Distance to Water	er: <u>500</u>	Feet	Nests:	30
			Chicks:	Yes
<u>IN FLIGHT</u> Over Sandbar ✓		Nest Area ✓	SUBSTRATE:	
Over Water , 🗸	/_/_/ / On Re	sting Area	Sand: <b>∠</b>	]
Calm Water 🗸		<u>ار /                                   </u>	Gravel:	]
Land Side 🗹	3		Debris:	]
Center Channel Side	MID-CHANNEL		VEGETATION:	
	•	- →	Type:	
MID-CHANNEL SANDBAR	d Currents  River Side [		Distance: _	Feet
SIDE CHANN	EL SANDBAR Center Land Side		FIELD CONDITIO	ON:
River Side 🔲	Calm Water		Temperature	e: 85 °F
7777	7 <sup>+</sup> 7 <sup>-</sup> 7		Rain: No	
	لبلال / ا	7-7-7	Wind: S5	mph
			% Cloud: 1	0
OTHER NOTES:				
Left Bank. Very large, flat, hig with nests widely scattered. Osigns within colony. Most Ter located. Largemouth Bass an	Chicks from 1-5 days on ns counted at the wat	old. Wrack line on t ter line by drifting. (	op, no other tracks	or disturbance
OBSERVERS:	Jones, Ruma	ncik, Carpenter, Fo	wlkes, Campen	
RIVER GAGE READING:		lena	= 4	11.6 F
	(Gage I	_ocation)	10000	(Elevation)

			FLY [	BOAT	~
SPECIES: Interior Least Tern (St	terna antillarum ath	nalassos)			
DATE: 6/27/2005 TIME	E OF DAY:	16:36	RIVER MILE:	667.5	
LOCALITY: Phillips	AR	SITE NAME:	Prairie P	oint Dikes	
County/Parish	State		NUMBERS SIGHT	TED:	
WHERE SITED: Latitude:	34.5625		Adults:	57	
Longitude:	90.5536				
Approximate Distance to Water:	800 F	<u>eet</u>	Eggs: Nests:	<b>1</b>	
				No	
<u>IN FLIGHT</u> Over Sandbar <b>✓</b>	ON GROUND On Ne	st Area 🗸	SUBSTRATE:		
Over Water , 🗸	On Restin	g Area 🔲	Sand:	]	
Calm Water		J ,	Gravel:	n is	
Land Side			Debris:		
Center Channel Side	MID-CHANNEL [	-,	VEGETATION:		
	rrents 🗸	<sup>-</sup> →	Туре:		
MID-CHANNEL SANDBAR	<u></u>	,	Distance:	Feet	
SIDE CHANNEL S.	River Side  ANDBAR Center		FIELD CONDITIO	NI:	
River Side	Land Side Calm Water			: 85 °F	
		, _]	Rain: No		
	/ T	7	Wind: S.5	mph	
	· · · · · · ·		% Cloud: 10		
OTHER NOTES:			74 - 14 - 14 - 15 - 15 - 15 - 15 - 15 - 1	-	
Right Bank. Large, high, gravel b carrying fish on the river side, son waterline.					nd
<del></del>				AR side	8
OBSERVERS:	Jones, Rumanci	k, Carpenter, Fo	vlkes, Campen		
RIVER GAGE READING:	Heler	na		11.6 F	
	(Gage Loc	cation)	(	(Elevation)	

			FLY	□ BOAT ✓
SPECIES: Interior Least Tern	(Sterna antillarum a	nthalassos)		
DATE: 6/28/2005 TI	ME OF DAY:	8:41	RIVER MILE:	655.3
LOCALITY: Phillips		SITE NAME:	Montezuma	Towhead Dikes
County/Parish	n State		NUMBERS SIGH	HTED:
WHERE SITED: Latitude:	34.4106		Adults:	24
	90.5911		Juveniles:	
Approximate Distance to Water	\$ 1000 Page 1000	Feet	Eggs:	950
Approximate Distance to Water	• &	<u></u> 1		0
IN FLIGHT Over Sandbar			Chicks:	No
IN FLIGHT Over Sandbar ✓ Over Water ✓		Nest Area ☐	SUBSTRATE:	
Market and a second	<u> </u>	/	100	
Calm Water	-	$\langle \langle \rangle \rangle \parallel =$	Marie and Arrive	
Land Side		$\sim$	Debris:	
Center Channel Side	MID-CHANNEL		VEGETATION:	
		` →	Type:	
MID-CHANNEL SANDBAR	Currents <b>☑</b> <b>-</b>		Distance:	Feet
	River Side		20.00000000000000000000000000000000000	5.97.55
	SANDBAR Center Land Side		FIELD CONDITI	101111
River Side	Calm Water	<b>≥</b> ~~~	Temperatur	e: 81 °F
7777	7 <del>1</del> 74~		Rain: No	
	// 74	7	Wind: cal	m
			% Cloud:	
OTHER NOTES			70 01044.	
OTHER NOTES:	size sand har with n	atabaa af arayal C	aurtina hahaviar l	out no mobbina
Right Bank. Attached medium fishing on channel side. Dog a				out no mobbling,
8				
	ga como garantes a	, e		AR side
OBSERVERS:	Jones, Rumano	cik, Fowlkes, Thoma	as, Davin, Marcy	
RIVER GAGE READING:	- Marie and a second	ena	=	10.8 F
	(Gage L	ocation)		(Elevation)

			FLY [	□ BOAT ✓
SPECIES: Interior Least Tern	(Sterna antillarum	athalassos)		
DATE: 6/28/2005 TI	ME OF DAY:	9:22	RIVER MILE:	650.2
LOCALITY: Coahoma	MS	SITE NAME:	Friars Po	oint Dikes
County/Paris	h State		NUMBERS SIGHT	ΓED:
WHERE SITED: Latitude:	34 3769		Adults:	41
	90.6631		Juveniles:	
<del>12</del> 3			Eggs:	
Approximate Distance to Water	200	Feet	Nests:	7
			Chicks:	No
IN FLIGHT Over Sandbar ✓	57	Nest Area ✓	SUBSTRATE:	
Over Water , 🗸	/ / / On Re	esting Area	Sand:	
Calm Water		47.II	Gravel:	
Land Side			Debris:	
Center .	MID OUALINE		VEGETATION:	
Channel Side	MID-CHANNE	¹ <sup>™</sup> →	Type:	
MID-CHANNEL SANDBAR Rapid	Currents 🔽	~		
1 1	River Side	<b>⊉</b> ~\	Distance:	Feet
SIDE CHANNE	L SANDBAR Center	₫ :>>	FIELD CONDITIO	N:
River Side 🖳	Land Side { Calm Water		Temperature	1111
<del>                                     </del>	7		Rain: No	
	1 / 74	-	Wind: S51	mph
			% Cloud: 20	)
OTHER NOTES:				
	d har upattached a	a dovemetro one maint	Torne utilizing all	aides equatina
Left Bank. Clean, low, flat sand breasting, and 7 setting inland.				
				MS side
OBSERVERS:	Jones, Ruman	cik, Fowlkes, Thoma	as, Davin, Marcy	
RIVER GAGE READING:	Не	elena	<u> </u>	10.8 F
	(Gage	Location)	_ (	Elevation)

			FLY	′ □ BOAT	~
SPECIES: Interior Least Tern (Ste	erna antillarum a	thalassos)			
DATE: 6/28/2005 TIME	OF DAY:	9:41	RIVER MILE: _	647.0	
LOCALITY: Phillips		SITE NAME:	Kangard	oo Point Dikes	
County/Parish	State		NUMBERS SIG	HTED:	
WHERE SITED: Latitude:	34 3661		Adults:	72	
Longitude:			Juveniles:	V <u>X</u>	
<del></del> 3		F	Eggs:	1,2,3	
Approximate Distance to Water:	300	<u>Feet</u>	Nests:	6	
_			Chicks:	Yes	
		lest Area ✓	SUBSTRATE:		
Over Water , 🗸	/ / On Res	ting Area 🔲	Sand:	✓	
Calm Water			Gravel:		
Land Side			Debris:	✓	
Center .		٦	VEGETATION:		
Channel Side 4	MID-CHANNEL	<b>☑</b> ⊸	Type: Will		
MID-CHANNEL SANDBAR Rapid Cur	rents 🔽	<u> </u>			
1 1	River Side 🔽		Distance:	200 Feet	
SIDE CHANNEL SA	ANDBAR Center		FIELD CONDIT	ION:	
River Side	∫ Land Side ✓ Calm Water ✓			ıre: 83 °F	
<b>┣</b> <del>╱</del>	Califf Water	: 'M			
1 / / / / / / / / / /	17 min		Rain: No		
	/ <del>774</del>	<del>-7-7</del>	Wind: S	5 mph	
			% Cloud:	20	
OTHER NOTES:					
Right Bank. Very long, partially at	tached sand bar w	ith extensions sur	rounded by wate	r. Heavy wrack l	line
on high ridge. Most of colony is or	n high attached ba	r. Ideal bar for mi	ultiple river stage	s. Newly hatche	ed
chicks and evidence of coyote and dike ends and opposite bank revel		some abandoned	eggs. Terns lish	ing on upstream	
5	701			AR side	;
OBSERVERS:	Jones, Rumano	ik, Fowlkes, Thoma	as, Davin, Marcy		
RIVER GAGE READING:	Hele	ena		10.8 F	
	(Gage L	ocation)		(Elevation)	

			FLY	BOAT	~
SPECIES: Interior Least Tern (	Sterna antillarum	athalassos)			
DATE: 6/28/2005 TIM	ME OF DAY:	10:14	RIVER MILE:	643.4	
LOCALITY: Coahoma	MS	SITE NAME:	Old To	own Bend	
County/Parish	State		NUMBERS SIGH	HTED:	
WHERE SITED: Latitude:	24 2405			74	
	90.7658		Juveniles:		
<del>-</del>			Eggs:	3	
Approximate Distance to Water:	300	Feet	Nests:	5	
			Chicks: _	Yes	
IN FLIGHT Over Sandbar ✓		Nest Area ✓	SUBSTRATE:		
Over Water , 🗸	On Re	esting Area	Sand:		
Calm Water		۷/ .II	Gravel:		
Land Side			Debris:		
Center . Channel Side	MID-CHANNEI		VEGETATION:		
		• <del></del>	Туре:		
MID-CHANNEL SANDBAR Rapid C	Currents		Distance: _	Feet	
SIDE CHANNEL	SANDBAR Center		FIELD CONDITION	ON:	
River Side ☑	Land Side [			e: 83 °F	
77777	<b>-</b>		Rain: No		
	1774	-	Wind: S 5	mph	
		81 81	% Cloud: 2	20	
OTHER NOTES:					
Left Bank. Attached, convoluted One day old chicks. DNA collect					82
st .				MS	
OBSERVERS:	Jones, Ruman	cik, Fowlkes, Thoma	as, Davin, Marcy	1110	_
RIVER GAGE READING:	He	elena	11111	10.8 F	
	(Gage I	Location)	_ =	(Elevation)	

			FLY	□ BOAT ✓
SPECIES: Interior Least Tern	(Sterna antillarum	athalassos)		
DATE: 6/28/2005	TIME OF DAY:	10:39	RIVER MILE:	640.0
LOCALITY: Phillips		SITE NAME:	Island #62	Dikes Upper
County/Pari	sh State		NUMBERS SIGH	TED:
WHERE SITED: Latitude:	34.3064		Adults:	14
	le: 90.7400	•	Juveniles: _	
Approximate Distance to Water	er: 300	Foot	Eggs: _	
Approximate distance to water	ei. <u>300</u>	T eet		-1
			Chicks: _	No
IN FLIGHT Over Sandbar	SV-	Nest Area	SUBSTRATE:	
Over Water , 🗸	/_/_/ On R	esting Area	Sand:	•]
Calm Water		<b>∠</b> / ,∥ _	Gravel:	]
Land Side	5		Debris:	]
Center .		_ ]	VEGETATION:	
Channel Side	MID-CHANNE	≟ □ <b>,</b>	Type:	
MID-CHANNEL SANDBAR Rapi	id Currents	*		
1 1	River Side	<u>-</u>	Distance:	Feet
SIDE CHANN	EL SANDBAR Center		FIELD CONDITIO	ON:
River Side	Calm Water		Temperature	e: 84 °F
77777	7+7-		Rain: No	
	///		Wind: S 5	mph
			% Cloud: 2	.0
OTHER NOTES:				
Right Bank. High, gently slop	ing, clean, unattache	ed sand bar. One Te	rn setting. No sign	ns of disturbance.
	Miles R			
				AR side
OBSERVERS:	Jones, Rumar	ncik, Fowlkes, Thoma	as, Davin, Marcy	
RIVER GAGE READING:	Н	elena	=	10.8 F
	(Gage	Location)	och.	(Elevation)

			FLY	□ BOAT ✓
SPECIES: Interior Least Te	ern (Sterna antillarum	athalassos)		
DATE: 6/28/2005	TIME OF DAY:	10:55	RIVER MILE:	637.0
LOCALITY: Philli	ps AR	SITE NAME:	Island #62	2 Dikes Lower
County/	Parish State		NUMBERS SIGH	HTED:
WHERE SITED: Latitu	ido: 34.2764		Adults:	34
		28	Juveniles:	
Long	itude: 90.7669		Eggs:	3
Approximate Distance to \	Vater: 200	Feet	Nests:	5
			Chicks:	No
IN FLIGHT Over Sandbar	<u>ON OROGIND</u> O	n Nest Area	SUBSTRATE:	
Over Water		testing Area	Sand:	<b>/</b>
Calm Water		∠ / .ll	Gravel:	
Land Side	<b>&gt;</b>	$\sim$	Debris:	
Center Channel Side	MID-CHANNE		VEGETATION:	
1	/	→	Type: Willo	ws
MID-CHANNEL SANDBAR	Rapid Currents  River Side		Distance:	1000 Feet
SIDE CH	ANNEL SANDBAR Center	□ · ` `	FIELD CONDITI	ON:
River Side 🖳	Land Side			e: 84 <sup>0</sup> F
<b>├</b> ─ <del>/</del> ────────	Calm Water	<u>,                                    </u>	Rain: No	
' ' ' ' ' '			Nain. No	
	1 1 / /	<u> </u>	Wind: S	mph
			% Cloud:	20
OTHER NOTES:				
Right Bank. Attached, rive behavior, but one nest ob-				No mobbing
5				AR side
OBSERVERS:	Jones, Ruma	ncik, Fowlkes, Thoma	as, Davin, Marcy	
RIVER GAGE READING:		elena	SCHOOL	10.8 F
	A STATE OF THE STA	Location)		(Elevation)

FLY □ BOAT ☑

SPECIES: Interior Lea	st Tern (Sterna antilları	ım athalassos)	
DATE: 6/28/2005	TIME OF DAY:	11:24	RIVER MILE: 629.3
	Phillips AR		Island #64 Dikes
			NUMBERS SIGHTED:
WHERE SITED:	Latitude: 34.2203		Adults: 34
	Longitude: 90.8483		Juveniles:
	<del>(1</del> )	F4	Eggs:
Approximate Distance	e to Water: 200	reet	Nests: 4
			Chicks: No
IN FLIGHT Over San	10 10 10 10 10 10 10 10 10 10 10 10 10 1	3 <del>-4</del>	SUBSTRATE:
Over W	/ater , 🗹 / / O	n Resting Area	Sand: <b>✓</b>
Calm Water		<del>~</del>	Gravel:
		~~	Debris:
Land Side Center	<i></i>	7	HARLES AND REAL PROPERTY.
Channel Side	MID-CHAN	INEL 🗆	VEGETATION:
	Rapid Currents 🗸	→	Туре:
MID-CHANNEL SANDBA	River Si	de <b>☑</b> \	Distance: Feet
	E CHANNEL SANDBAR Center		FIELD CONDITION:
River Side	Calm Wa	ter 🗹	Temperature: 84 °F
7777	7+7+7-		Rain: No
	117	لسلسليل	Wind: S 5 mph
			% Cloud: <u>20</u>
OTHER NOTES:			
THE SHAPE A MESTAL WAS	ttached sand bar with light	debris field and vegeta	ation upstream from colony. Nests
on high, flat, center w		ved at 3 nests. Breasti	ng and feeding on both sides.
50 50 <del>0</del>		524	AR side
OBSERVERS:	Jones, Run	nancik, Fowlkes, Thoma	
RIVER GAGE READIN		Helena	10.8 F
	5.255 10	ge Location)	(Elevation)

FLY  $\square$ BOAT V SPECIES: Interior Least Tern (Sterna antillarum athalassos) DATE: 6/28/2005 TIME OF DAY: 12:00 RIVER MILE: 624.0 MS SITE NAME: Sunflower Cut-Off LOCALITY: Coahoma County/Parish State NUMBERS SIGHTED: 83 \_\_\_\_ Adults: WHERE SITED: Latitude: 34.1725 Juveniles: Longitude: 90.8997 \_\_\_\_1 Eggs: 50 Feet Approximate Distance to Water: 7 Nests: No Chicks: Over Sandbar IN FLIGHT ON GROUND On Nest Area SUBSTRATE: Over Water . On Resting Area Sand: Calm Water ✓ Gravel: Debris: Land Side Center 🗸 VEGETATION: Channel Side MID-CHANNEL Type: Rapid Currents MID-CHANNEL SANDBAR Distance: 0 Feet River Side SIDE CHANNEL SANDBAR Center FIELD CONDITION: Land Side -Temperature: 84 °F River Side Calm Water Rain: No Wind: Calm % Cloud: 20 OTHER NOTES: Left Bank. Small, barely emergent, low, flat, mid-channel bar, unattached at entrance to Desoto Lake. New colony just being established with no more than 1 egg per scrape. Turtle tracks evident, but no other signs of disturbance. MS side OBSERVERS: \_\_\_\_\_ Jones, Rumancik, Fowlkes, Thomas, Davin, Marcy RIVER GAGE READING: 10.8 F Helena (Gage Location) (Elevation)

			FLY	□ BOAT 🗹
SPECIES: Interior Least Tern	(Sterna antillarum a	athalassos)		
DATE: 6/28/2005 T	IME OF DAY:	12:47	RIVER MILE:	623.0
LOCALITY: Phillips	AR	SITE NAME:	Below Lu	udlow Dikes
County/Paris	h State		NUMBERS SIGH	ITED:
WHERE SITED: Latitude:	34 1583		Adults: _	11
	90.9303		Juveniles: _	
-			Eggs: _	
Approximate Distance to Wate	r:	Feet	Nests:	0
			Chicks: _	No
IN FLIGHT Over Sandbar		Nest Area	SUBSTRATE:	
Over Water ,	/ / On Re	sting Area 🗸	Sand:	
Calm Water		47	Gravel:	2
Land Side			Debris:	]
Center Channel Side	MID-CHANNEL		VEGETATION:	
	•	` →	Туре:	
MID-CHANNEL SANDBAR Rapid	Currents  River Side		Distance:	Feet
SÎDE CHANNE	L SANDBAR Center Land Side		FIELD CONDITIO	ON:
River Side	Calm Water		Temperature	e: 84 <sup>0</sup> F
77777	7+7+		Rain: No	
	/ / T	7-7-7	Wind: <u>Cal</u>	m
			% Cloud: 2	20
OTHER NOTES:				
Right Bank. Attached bar of m though a Great Blue Heron illic				Resting bar only,
5				AR side
OBSERVERS:	Jones, Rumano	cik, Fowlkes, Thoma	as, Davin, Marcy	
RIVER GAGE READING:	He	lena		10.8 F
	(Gage L	ocation)	. <del></del>	(Elevation)

FLY □ BOAT ☑

SPECIES: Interior Least Tern	Sterna antillarum a	athalassos)		
DATE: 6/28/2005 TI	ME OF DAY:	13:05	RIVER MILE:	619.9
LOCALITY: Coahoma  County/Parish		SITE NAME:	Island #67	
WHERE SITED: Latitude: Longitude:	34.1150 90.9490		Juveniles:	3
Approximate Distance to Water	: 600	Feet	Nests:	5 Yes
MID-CHANNEL SANDBAR	On Res		Distance: _	ws/Cottonwoods  800 Feet  ON: e: 84 F
OTHER NOTES:				
Left Bank. Long, large, unattact breasting and feeding both side few feeding along opposite ban Herons and swallows present.	s. No fresh signs of	disturbance. Mos	t Terns resting at	waterline with a
OBSERVERS:	Jones, Rumano	cik, Fowlkes, Thoma	as, Davin, Marcy	,,,,o oldo
RIVER GAGE READING:		ena ocation)	=	10.8 F (Elevation)

			FLY	□ BOAT ✓
SPECIES: Interior Least Te	ern (Sterna antillarum	athalassos)		
DATE: 6/28/2005	TIME OF DAY:	13:15	RIVER MILE:	619.0
LOCALITY:Coaho	oma MS	SITE NAME:	Island #67	7 Dikes Lower
County/F	Parish State		NUMBERS SIGH	HTED:
WHERE SITED: Letitu	ıdo:		Adults:	90
WHERE SITED: Latitu	itude:		Juveniles:	
_			Eggs:	3
Approximate Distance to V	Vater: 100	Feet	Nests:	30
			Chicks:	No
IN FLIGHT Over Sandbar	ON OROGINE OF	n Nest Area 🔽	SUBSTRATE:	
Over Water	· ☑ / On R / / / /	esting Area	Sand:	✓
Calm Water			Gravel:	✓
Land Side	<b>&gt;</b>		Debris:	<b>V</b>
Center Channel Side	MID-CHANNE		VEGETATION:	
\	Rapid Currents ✓	→	Type: Willo	ws/Cottonwoods
MID-CHANNEL SANDBAR	Rapid Currents V	<u>.</u>	Distance:	800 Feet
	ANNEL SANDBAR Center Land Side	☑ ```	FIELD CONDITI	THE CONTRACT
River Side 🔲	Calm Water		Temperatur	e: 85 °F
7777	<del>///////</del>		Rain: No	
	1/75	~~~	Wind: Ca	lm
			% Cloud:	20
OTHER NOTES:			and the second s	
Left Bank. High, small, un evident. Gizzard Shad fin		point from previous c	olony (100ft. x 30	Oft.). Coyote tracks
er e				MS side
OBSERVERS:	Jones, Rumar	ncik, Fowlkes, Thoma	as, Davin, Marcy	
RIVER GAGE READING:	,H	elena		10.8 F
	(Gage	Location)	State 1	(Flevation)

			FLY	□ BOAT ✓
SPECIES: Interior Least Tern (	Sterna antillarum	athalassos)		
DATE: 6/28/2005 TII	ME OF DAY:	13:30	RIVER MILE: _	616.0
LOCALITY: Phillips		_ SITE NAME:	Below Know	Iton Dikes Upper
County/Parish	State		NUMBERS SIG	HTED:
WHERE SITED: Latitude:			Adults:	8
Longitude:			Juveniles:	ş
Approximate Distance to Water:	0	Feet	Eggs:	;
Approximate Distance to Trater.	· · · · · · · · · · · · · · · · · · ·			0
IN FLIGHT Over Sandbar	ON GROUND On	Nest Area		No
Over Water ,	N/A	esting Area	SUBSTRATE:	_
Calm Water	<u> </u>	/ /		<b>v</b>
		$\sim$	Dahaia	
Land Side Center		$\neg$		
Channel Side	MID-CHANNE	L 🗆 🔣	VEGETATION:	
MID-CHANNEL SANDBAR Rapid (	Currents	→	Type:	
MID-CHANNEL SANDBAR	River Side	<del>3</del> ~ ∥	Distance:	0 Feet
SIDE CHANNEL	SANDBAR Center		FIELD CONDIT	ION:
River Side _	Land Side (			re: 84 <sup>0</sup> F
		$\leq \Box$	Rain: No	
	1774		Wind: Ca	alm
			% Cloud:	
OTHER MOTES			70 Oloud.	20
OTHER NOTES:	nd har recting at th	o water line		
Right Bank. Small, attached sa	na bai, resulty at th	ie water lille		
OBSERVERS:	Jones Ruman	cik, Fowlkes, Thoma	as Davin Marcy	AR side
RIVER GAGE READING:		elena	as, Darni, Maioy	10.8 F
THE CAGE READING.		Location)	= -	(Elevation)

		FLY	□ BOAT ✓
SPECIES: Interior Least Tern (Sterna antilla	rum athalassos)		
DATE: 6/28/2005 TIME OF DAY:	13:55	RIVER MILE: _	611.5
LOCALITY: Desha A		Below K	nowlton Dikes
County/Parish St	ate	NUMBERS SIG	HTED:
WHERE SITED: Latitude: 34.0292		Adults:	225
Longitude: 90.8982			<u> </u>
Approximate Distance to Water: 100	Feet		1,2,3
Test Test Test Test Test Test Test Test			35
IN FLIGHT Over Sandbar ✓ ON GROUND		Chicks:	No
The second secon	On Nest Area ✓ On Resting Area	SUBSTRATE:	
	1 / /		lacksquare
Calm Water	$\sim$	B 1	
Land Side		Debris:	$\checkmark$
Center . Channel Side . MID-CH.	ANNEL 🗸	VEGETATION:	
	→	Туре:	
MID-CHANNEL SANDBAR  Rapid Currents	,	Distance:	Feet
SIDE CHANNEL SANDBAR Cen	Side ☑		100 - 100 ·
River Side  Land	Side 🗌	FIELD CONDIT	110 1101
Calm V	Vater	Temperatu	ire: 85 °F
1/77777		Rain: No	
1 / 7	7777	Wind: S	3-5 mph
		% Cloud:	20
OTHER NOTES:			
Right Bank. Long series of unattached sand I	pars along dike field, with	colony disperse	d 1 mile in length by
1/4 mile wide, but concentrated on highest do breasting on channel side and feeding on ups	wnstream point. No tracl	s or signs of dis	turbance. Terns
breasting on channel side and reeding on ups	tream dike. One egg sar	ripied for DIVA. I	NO tracks.
O SECURIOR DE DESCRIPTO DE COMPANSA DE COM	2000 Jan 1900 Land 1900 La		AR side
OBSERVERS: Jones, Ru	umancik, Fowlkes, Thoma	as, Davin, Marcy	
RIVER GAGE READING:	Helena		10.8 F
(G	age Location)		(Elevation)

			FLY [	BOAT ✓
SPECIES: Interior Least Tern	(Sterna antillarum	athalassos)		
DATE: 6/28/2005 T	TIME OF DAY:	14:05	RIVER MILE:	610.0
LOCALITY: Desha	20, 401	SITE NAME:	Below Knowlto	n Dikes Lower
County/Paris	sh State		NUMBERS SIGHT	ED:
WHERE SITED: Latitude:			Adults:	25
Longitude			Juveniles:	
<del>-</del>			Eggs:	
Approximate Distance to Wate	r: <u>20</u>	Feet	Nests:	4
			Chicks:	No
IN FLIGHT Over Sandbar ✓		n Nest Area ✓	SUBSTRATE:	
Over Water ,	/ / / On R	esting Area	Sand: ✓	
Calm Water	·——-	۷/ .II	Gravel:	
Land Side	Ĺ		Debris:	
Center .		٦	VEGETATION:	
Channel Side	MID-CHANNE	± □ <b>,</b>	Type: Willow	•
MID-CHANNEL SANDBAR Rapid	Currents	~	Marco 17	and the same of th
1 1	River Side		Distance:	50 Feet
SIDE CHANNE	L SANDBAR Center	☑ ```	FIELD CONDITION	N:
River Side 🖂	Land Side -		Temperature:	1111
F <del>/</del>	7	× 1	Rain: No	
	/		100000000000000000000000000000000000000	
	, ,	7-7-7	Wind: Calm	1
			% Cloud: 20	ĺ
OTHER NOTES:				
Right Bank. Small sand bar 1/	2 mile downstream	from larger colony.		
ST				
<u>.</u>				AR side
OBSERVERS:	Jones, Rumar	ncik, Fowlkes, Thoma	as, Davin, Marcy	AIT SILE
RIVER GAGE READING:	He	elena	4244	10.8 F
and the control of th	Lanca and the same	Location)	=(I	Elevation)

			FLY [	BOAT 🗸
SPECIES: Interior Least T	ern (Sterna antillarun	n athalassos)		
DATE: 6/28/2005	TIME OF DAY:	14:20	RIVER MILE:	608.2
LOCALITY: Bol	livar MS	SITE NAME:	Island #70	) Dikes
County	/Parish State		NUMBERS SIGHTE	ED:
WHERE CITED: 1 -4:	24,0222		Adults:	
WHERE SITED: Lati	gitude: 34.0233	<u></u>	Juveniles:	
			Eggs:	2,3
Approximate Distance to	Water: 600	Feet	Nests:	113
			Chicks:	No
IN FLIGHT Over Sandbar	<u>ON ORCOND</u>	On Nest Area 🔽	SUBSTRATE:	
Over Water	( <b>v</b> / / On I	Resting Area	Sand:	
Calm Water		<b>≺</b> / .∥	Gravel:	
Land Side 🗆	<u> </u>	~~	Debris:	
Center 🖵	C	٦	VECETATIONS	
Channel Side	MID-CHANN		VEGETATION: Type:	
MID-CHANNEL SANDBAR	Rapid Currents 🗹	<u> </u>	Marie of the second	
1 0	River Side		Distance: 0	Feet
<u>Sibe ci</u>	HANNEL SANDBAR Center Land Side		FIELD CONDITION	
River Side 🗔	Calm Water		Temperature:	86 °F
<del>-/</del>	<del>/                                    </del>		Rain: No	
' ' ' ' '	/			
	a. 9	/ <u> </u>	Wind: <u>Calm</u>	
			% Cloud: 20	
OTHER NOTES:				
Left Bank. Medium size			, high and flat. Nests	in soft sand
along bar's center. Mobi	oing, but no chicks obser	ved. No tracks		
2				MS side
OBSERVERS:	Jones. Ruma	ancik, Fowlkes, Thoma	as, Davin, Marcv	INIO SIGE
RIVER GAGE READING:		lelena	11111	10.8 F
Er Croe Readino.	20	Location)	- E	evation)

			FLY [	BOAT ✓
SPECIES: Interior Least Terr	(Sterna antillarum	athalassos)		
DATE: 6/28/2005	TIME OF DAY:	14:48	RIVER MILE:	603.0
LOCALITY: Boliva	r MS	SITE NAME:	Henrico	Dikes
County/Pa	arish State		NUMBERS SIGHT	ED:
WHERE SITED: Latitud	e: 33.9898		Adults:	37
	ude: 91.0500	-	Juveniles:	
		_	Eggs:	
Approximate Distance to Wa	ater:	Feet	Nests:	0
			Chicks:	No
IN FLIGHT Over Sandbar	<u>ON ONCOIND</u> OF	n Nest Area	SUBSTRATE:	
Over Water ,	<b>∠</b>	esting Area	Sand: ✓	
Calm Water	<u>-</u> -	<b>∠</b> / .∥	Gravel:	
Land Side	<del></del>		Debris:	
Center Channel Side	MID-CHANNE		VEGETATION:	
·	/-	→	Type:	
MID-CHANNEL SANDBAR	apid Currents  River Side		Distance:	Feet
SÎDE CHAN	INEL SANDBAR Center		FIELD CONDITION	N:
River Side 🔲	Calm Water		Temperature:	85 °F
77777	† <del>7</del> † <del>7</del>		Rain: No	
	///7		Wind: Calm	
			% Cloud: 20	
OTHER NOTES:				
	cand har with some d	obria Most Torns ro	ating at waterline or	fiching river
Right Bank. Small, low, flat side. Resting bar only with			Stirig at waterline or	nsning river
				AR side
OBSERVERS:	Jones. Rumar	ncik, Fowlkes, Thoma	as, Davin, Marcv	AIN SILE
RIVER GAGE READING:		elena		10.8
N	***************************************	Location)	=(E	Elevation)

			FLY	□ BOAT ✓
SPECIES: Interior Least Tern (St	erna antillarum at	halassos)		
DATE: 6/28/2005 TIME	OF DAY:	14:55	RIVER MILE:	599.0
LOCALITY: Bolivar	MS	SITE NAME:	Smith F	oint Dikes
County/Parish	State		NUMBERS SIGH	ITED:
WHERE SITED: Latitude:	33 9571		Adults:	92
Longitude:	_		Juveniles: _	Yes
<del></del>			Eggs: _	2
Approximate Distance to Water:	800 F	eet	Nests:	15
			Chicks: _	Yes
22.20	7.	est Area 🗸	SUBSTRATE:	
Over Water , 🗸	On Resti	ng Area	Sand:	<b>2</b>
Calm Water		./ .	Gravel:	
Land Side			Debris:	
Center Channel Side	MID-CHANNEL		VEGETATION:	
		<b>"</b> →	Type:	
MID-CHANNEL SANDBAR Rapid Cur	rents 🔽 ! !		Distance:	Feet
	River Side 🗹	<b>√</b> ∥	Distance	i eet
: SIDE CHANNEL S/	ANDBAR Center Land Side		FIELD CONDITION	ON:
River Side	Calm Water		Temperature	e: 85 °F
77777	7	·	Rain: No	
2	1	<del></del>	Wind: S 5	mph
			% Cloud: 3	30
OTHER NOTES:				
Left Bank. Large, attached point be with Terns breasting on river side, light. First and one of only two col recreation signs which is unusual	carrying fish, and flonies where juveni	fishing opposite ba	ank at White River	mouth. Mobbing
5			Alexander de la companya de la comp	MS side
OBSERVERS:	Jones, Rumancil	k, Fowlkes, Thoma	as, Davin, Marcy	
RIVER GAGE READING:	Arkansa	s City		13.5 F
	(Gage Lo	cation)		(Elevation)

			FLY [	BOAT	~
SPECIES: Interior Least Tern (S	Sterna antillarum	athalassos)			
DATE: 6/28/2005 TIM	E OF DAY:	15:15	RIVER MILE:	595.0	;
LOCALITY: Desha	AR	SITE NAME:	Victoria Be	end Dikes	
County/Parish	State		NUMBERS SIGHTI	ED:	
WHERE SITED: Latitude:	22 0205		Adults:		
	91.0186	PB	Juveniles:		
. <del>-</del> -			Eggs:	1,2,3	
Approximate Distance to Water:	100	Feet	Nests:	119	
			Chicks:	No	
IN FLIGHT Over Sandbar ✓	ON GROUND Or	n Nest Area ✓	SUBSTRATE:		
Over Water ,	/ / On R	esting Area	Sand: 🔽		
Calm Water		< / .ll	Gravel: ✓		
		<b>~</b>	Debris:		
Land Side Center		٦	VECETATION		
Channel Side 🗍	MID-CHANNE	<u>.</u> ✓	VEGETATION:		
MID-CHANNEL SANDBAR Rapid C	urrents .		Type:		
1	River Side		Distance:	Feet	
SIDE CHANNEL S	SANDBAR Center	<b>☑</b> : ``	FIELD CONDITION	J:	
River Side 🗔	Land Side -		Temperature:	124	
1 - <del></del>	The Callin Valler		Rain: No		
	1774		***************************************		
	/ /	4	Wind: <u>Calm</u>		
			% Cloud: 20		
OTHER NOTES:					
Right Bank. Large, broad, round					
close proximity with fishing and be disturbance. Two eggs sampled		sides. Mobbing inter	nse. No tracks or sig	gns of	
				AD aid-	
OBSERVERS:	Jones Rumar	ncik, Fowlkes, Thoma	as Davin Marcy	AR side	<u></u>
RIVER GAGE READING:		nsas City		13.5 F	
MIVEN GAGE READING.	No.	Location)		levation)	

			FLY	□ BOAT ✓
SPECIES: Interior Least Tern (Ster	rna antillarum	athalassos)		
DATE: 6/28/2005 TIME 0	OF DAY:	15:37	RIVER MILE:	589.0
LOCALITY: Bolivar	MS	SITE NAME:	Terrene	Dikes Upper
County/Parish	State		NUMBERS SIGH	HTED:
WHERE SITED: Latitude:	33 8/15		Adults:	44
Longitude:			Juveniles:	
<del></del>			Eggs:	
Approximate Distance to Water:	500	Feet	Nests:	8
			Chicks:	No
		Nest Area ✓	SUBSTRATE:	
Over Water , 🔽	/ / On Re	esting Area	Sand:	
Calm Water	<del></del>	47.II	Gravel:	
Land Side 🗆			Debris:	
Center .	MID OUALINE		VEGETATION:	
Channel Side 🔲	MID-CHANNEI	⁵	Type:	
MID-CHANNEL SANDBAR Rapid Curre	nts 🗌	*	-	
	River Side [	<u> </u>	Distance: _	Feet
SIDE CHANNEL SAN	IDBAR Center		FIELD CONDITION	ON:
River Side 🖳	Land Side -[ Calm Water			e: 85 °F
77777	7		Rain: No	
′	174	-7-7-	Wind: <u>Ca</u>	lm
			% Cloud: 2	20
OTHER NOTES:				
Left Bank. Long, attached, undulati	ng sand har wit	h a few Terns settin	a far inland on 8 s	suspected nests
though not confirmed. Terns fishing factors. Two Great Blue Herons at	calm waters of			
and the state of t				
OBSERVERS:	Jones, Ruman	cik, Fowlkes, Thoma	as. Davin Marcy	MS side
RIVER GAGE READING:		sas City	,, , , , , , , , , , , , , , , , ,	13.5 F
RIVER OAGE READING.		Location)		(Elevation)

			FLY [	BOAT ✓
SPECIES: Interior Least Tern	(Sterna antillarun	n athalassos)		
DATE: 6/28/2005	TIME OF DAY:	15:42	RIVER MILE:	587.5
LOCALITY: Bolivar	MS	SITE NAME:	Terrene Dik	kes Lower
County/Par	rish State		NUMBERS SIGHTI	ED:
WHERE SITED: Latitude	33 8333		Adults:	47
	de: 91.0500	_:	Juveniles:	
( <del>70</del> 0			Eggs:	
Approximate Distance to Wa	ter: <u>500</u>	Feet	Nests:	10
			Chicks:	No
IN FLIGHT Over Sandbar ✓	<u>ON ONOOND</u>	On Nest Area ✓	SUBSTRATE:	
Over Water ,	On F	Resting Area	Sand: 🔽	
Calm Water	<del></del>	<b>∠</b> / .∥	Gravel:	
Land Side	<u> </u>		Debris:	
Center D	MID CHANN		VEGETATION:	
Channel Side	MID-CHANN	<sup>┺</sup>	Type:	
MID-CHANNEL SANDBAR Rap	oid Currents 🔽			
1 1	River Side		Distance:	reet
SÎDE CHANI	NEL SANDBAR Center	<b>☑</b> :	FIELD CONDITION	I:
River Side 🗸	Land Side Calm Water		Temperature:	111
77777	7-7-		Rain: No	
	// /~	<del></del>	Wind: Calm	
		81 82	% Cloud: 20	
OTHER NOTES:				
	from upper colony 1	IO birds sotting inland	for post sount 27 fi	ching on
Left Bank. Just downstream opposite bank revetment. No			nor nest count, 27 in	Shing on
OBSERVERS:	Jones Ruma	ncik, Fowlkes, Thoma	as. Davin, Marcv	MS side
RIVER GAGE READING:		nsas City		13.5 F
THE CASE NEADING.	No.	Location)		Elevation)

FLY □ BOAT ☑

SPECIES: Interior	Least Tern (Stern	a antillarum atl	nalassos)		
DATE: 6/28/20	005 TIME O	F DAY:	1 <mark>5:52</mark>	RIVER MILE: _	583.5
LOCALITY:	Desha County/Parish	ARState	SITE NAME:		
	Latitude: Longitude: ance to Water:	91.0517	eet	Juveniles: Eggs:	HTED: 84 9
	ter  Rapid Current SIDE CHANNEL SAND	On Restin	st Area 🔽 ng Area 🗆	SUBSTRATE: Sand: Gravel: Debris: VEGETATION: Type: Willd Distance:	800 Feet ON: re: 86 ° F
Nests dispersed t	ad, wide, attached, for 1 mile along wra	ck line. Due to s	wift currents and	shallow water dri	
nesis with Terms	setting inland. Two	Canada Geese,	i Great blue Hel	OII.	AR side
OBSERVERS:	J	ones, Rumancik	, Fowlkes, Thoma	as, Davin, Marcy	
RIVER GAGE REA	DING:	Arkansa: (Gage Lo			13.5 F (Elevation)

			FLY	BOAT	~
SPECIES: Interior Least Tern (	Sterna antillarum	athalassos)			
DATE: 6/28/2005 TIM	ME OF DAY:	16:04	RIVER MILE:	578.0	
LOCALITY: Bolivar		SITE NAME:	Below Pre	entiss Dikes	
County/Parish	State		NUMBERS SIGH	ITED:	
WHERE SITED: Latitude:	33.7502		Adults: _	89	
	91.1336		Juveniles: _		
Approximate Distance to Water:	600	Feet	Eggs: _		
	<u> </u>			9 No	
<u>IN FLIGHT</u> Over Sandbar ✓	ON GROUND On	Nest Area ✓	SUBSTRATE:	110	
Over Water , 🗹	Alexander and the second secon	sting Area	Sand:	7	
Calm Water		Z /	Gravel:	<del>-</del> 5.	
Land Side		~<	Debris:	_	
Center 🖵		_ 7	VEGETATION:		
Channel Side 4	MID-CHANNEL	-	Type:		
MID-CHANNEL SANDBAR	Currents ☑ 	_	Distance:	Feet	
SIDE CHANNEL	River Side SANDBAR Center		=151=11551 =		
River Side	Land Side		FIELD CONDITIO	111111	
	Calm Water		Temperature	e: 86 °F	
	77		Rain: No		
	/ / / 7	7	Wind: <u>Cal</u>	m	
		300	% Cloud: 2	20	
OTHER NOTES:					
Left Bank. Long, flat, unattache Terns resting at waterline, 9 obsor tracks observed.					
				MS side	
OBSERVERS:	Jones, Ruman	cik, Fowlkes, Thoma	as, Davin, Marcy		
RIVER GAGE READING:	Arkans	sas City	<u> </u>	13.5 F	
	(Gage I	_ocation)		(Elevation)	

			FLY [	BOAT ✓
SPECIES: Interior Least Terr	(Sterna antillarum	athalassos)		
DATE: 6/28/2005	TIME OF DAY:	16:20	RIVER MILE:	573.5
LOCALITY: Desha	AR	SITE NAME:	Caulk Nec	k Cut-Off
County/Pa	rish State		NUMBERS SIGHTI	ED:
WHERE SITED: Latitud	e· 33 7087		Adults:	67
	ide: 91.1706	26	Juveniles:	
Longito	ide. 91.1700		Eggs:	
Approximate Distance to Wa	iter:	Feet	Nests:	0
			Chicks:	No
<u>IN FLIGHT</u> Over Sandbar	<u>ON ONOOND</u>	n Nest Area	SUBSTRATE:	
Over Water ,	Z / / On R	esting Area	Sand:	
Calm Water	<u></u>	< /	Gravel:	
Land Side	<u>'s</u>		Debris:	
Center Channel Side	MID CHANNI		VEGETATION:	
Channel Side -	MID-CHANNE	<sup>∸</sup> '→	Type:	
MID-CHANNEL SANDBAR	ipid Currents		Distance	F1
/بے اِ ہم ا	River Side		Distance:	reet
SIDE CHAN	NEL SANDBAR Center		FIELD CONDITION	<b>I</b> :
River Side 🖳	Land Side Calm Water		Temperature:	111
77777	+7+74-		Rain: No	
	1174	-	Wind: Calm	
			% Cloud: 20	
OTHER NOTES:				
	shed cand bar with all	hirds sounted at the	waterline. No nesti	ng or
Right Bank. Small, low, atta reproductive behavior obser				ng or
<i>a</i>				
OBSERVERS:	Jones, Rumai	ncik, Fowlkes, Thoma	as, Davin, Marcv	AR side
RIVER GAGE READING:		nsas City		13.5 F
a service described and the control of the control	No.	Location)		levation)

FLY □ BOAT ☑

SPECIES: Interior Least	Tern (Sterna antillarum	athalassos)		
DATE: 6/28/2005	TIME OF DAY:	16:29	RIVER MILE: _	568.0
	olivar MS	SITE NAME:	Catfish	Point Dikes
Count	ty/Parish State		NUMBERS SIG	HTED:
WHERE SITED: 1 a	titude: 33.6781		Adults:	72
	ngitude: 91.2242	28	Juveniles:	τ
	<del>00</del> 0 001400240070		Eggs:	
Approximate Distance to	o Water:1000	Feet	Nests:	5
			Chicks:	No
IN FLIGHT Over Sandba	- ON OROGIND O	2 <del>7-30</del>	SUBSTRATE:	
Over Wat	er, 🗹 On F	Resting Area	Sand:	✓
Calm Water		<b>∠</b> / .∥	Gravel:	✓
Land Side	$\nearrow$		Debris:	✓
Center 🖵	/		VEGETATION:	
Channel Side 4	MID-CHANNI	≞ ⊌ - <sub>→</sub>		ows/Cottonwoods
MID-CHANNEL SANDBAR	Rapid Currents  River Side		NAME OF	1500 Feet
	CHANNEL SANDBAR Center Land Side		FIELD CONDIT	
River Side 🔲	Calm Water		Temperatu	re: 85 <sup>0</sup> F
7777	71717		Rain: No	
	///7		Wind: Ca	alm
			% Cloud:	20
setting indicated nests i	ned, sand and gravel bar. nland over 1000 ft. from w and 9 Great Blue Herons.			
THE SING. ATV HACKS O	and o oreat blue Heloils.			
OBSERVERS:	Jones. Ruma	ncik, Fowlkes, Thoma	as, Davin, Marcv	MS side
RIVER GAGE READING		nsas City		13.5 F
	(Gage	Location)	1000 m	(Elevation)

			FLY [	BOAT ✓
SPECIES: Interior Least Tern (S	terna antillarum a	athalassos)		
DATE: 6/28/2005 TIM	E OF DAY:	16:46	RIVER MILE:	564.0
LOCALITY: Desha	AR	SITE NAME:	Chicot Land	ding Dikes
County/Parish	State		NUMBERS SIGHT	ED:
WHERE SITED: Latitude:	33 6275		Adults:	69
	91.1498		Juveniles:	
-,			Eggs:	
Approximate Distance to Water:	500	Feet	Nests:	2
			Chicks:	No
IN FLIGHT Over Sandbar ✓		Nest Area ✓	SUBSTRATE:	
Over Water , 🗸	/ / On Res	sting Area	Sand: <b>☑</b>	
Calm Water		47.11	Gravel:	
Land Side			Debris:	
Center .	MID CHANNEL		VEGETATION:	
Channel Side	MID-CHANNEL	`	Type:	
MID-CHANNEL SANDBAR Rapid Co	urrents 🗸			
	River Side	<u> </u>	Distance:	reet
SIDE CHANNEL S	SANDBAR Center Land Side		FIELD CONDITION	٧:
River Side 🗸	Calm Water		Temperature:	85 °F
77777	17 m		Rain: No	
	المبلال /	7-7-	Wind: Calm	
			% Cloud: 20	
OTHER NOTES:				
Right Bank. Large, attached, sar	nd har behind traile	ar dikes above Cho	staw Island Terns h	reacting along
channel side. Nests widely scatt				neasting along
5 S				
OBSERVERS:	Jones, Rumano	cik, Fowlkes, Thoma	as, Davin, Marcv	AR side
RIVER GAGE READING:		sas City		13.5 F
THE CASE READING.	Later and the same of the same	ocation)	=(E	Elevation)

			FLY	BOAT 🗹
SPECIES: Interior Least Tern (St	erna antillarum a	athalassos)		
DATE: 6/28/2005 TIME	OF DAY:	17:07	RIVER MILE:	558.0
LOCALITY: Desha	AR	SITE NAME:	Choctaw	/ Bend
County/Parish	State		NUMBERS SIGHTE	ĒD:
WHERE SITED: Latitude:	33.5797		Adults:	43
Longitude:			Juveniles:	
Approximate Distance to Water:	200	Feet	Eggs:	
	% <del></del>		Nests: Chicks:	3 No.
IN FLIGHT Over Sandbar ✓	ON GROUND On	Nest Area ✓	i. <del></del>	NO
Over Water , ✓		sting Area	SUBSTRATE:	
Calm Water	<del></del>	/ /	Sand: ☑ Gravel: ☐	
		$\sim$	Debris:	
Land Side  Center		$\neg$	MATERIAL STATES STATES	
Channel Side	MID-CHANNEL	. 🗆 🚤 📗	VEGETATION:	
MID-CHANNEL SANDBAR Rapid Cur	rents	7	Type:	
1 0	River Side	<u> </u>	Distance:	Feet
SIDE CHANNEL SA	ANDBAR Center L		FIELD CONDITION	l:
River Side 🖳	Calm Water		Temperature:	85 °F
77777		$\searrow$ $\square$	Rain: No	
	1774		Wind: Calm	
		<u> </u>	% Cloud: 20	
200.07			% Cloud. <u>20</u>	
OTHER NOTES:	-h. 4f Ob4-	. Desilated There		
Right Bank. Attached bar in back Most counted along waterline. No		/ Bar Island. I nree	nests observed duri	ng aritt count.
5				
<u>s</u>				AR side
OBSERVERS:	Jones, Rumano	cik, Fowlkes, Thoma	as, Davin, Marcy	
RIVER GAGE READING:		sas City		13.5 F
	(Gage L	ocation)	(E	levation)

FLY □ BOAT ☑

SPECIES: Interior Least Tern	(Sterna antillarum a	athalassos)		
DATE: 6/28/2005	TIME OF DAY:	17:20	RIVER MILE:	550.0
LOCALITY: Washingto		SITE NAME:	Ashbrook C	utoff Dikes
County/Pa	rish State		NUMBERS SIGHT	ED:
WILEDE CITED: 1 atitude	22 5402		Adults:	
WHERE SITED: Latitude	de: 91.1914		28	
				2,3
Approximate Distance to Wa	ter: <u>50</u>	Feet	Nests:	12
			Chicks:	Yes
IN FLIGHT Over Sandbar   ✓	ON GROUND On I	Nest Area ✓	SUBSTRATE:	
Over Water ,	On Res	sting Area	Sand: 🔽	
Calm Water 🗸	- <del></del>	47.1	Gravel:	
Land Side 🗹	<b>-</b> 5	$\sim$	Debris:	
Center 💆		٦	VECETATION	
Channel Side 🗹	MID-CHANNEL	. 🗆 🚤 📗	VEGETATION:	
MID-CHANNEL SANDBAR Rai	pid Currents  River Side		Distance:	
SIDE CHAN	NEL SANDBAR Center Land Side		FIELD CONDITION	
	Calm Water	⊒ `~વા	Temperature:	00 F
	777		Rain: No	
	///	7-7-	Wind: Calm	
			% Cloud: 20	
OTHER NOTES:				
Left Bank. Small, low, isolate utilizing all sides. Chicks up disturbance signs. Possibly	to 1 week old. Three [	DNA egg samples fr		
alotarouriou digita. 1 oddibly	a non sana san mai m	c. ame colony.		
ODOEDVEDO.	Iones Dumen	nik Fawikas There	no Davin Maray	MS side
OBSERVERS:	100	cik, Fowlkes, Thoma	as, Davill, Malcy	-
RIVER GAGE READING: _		sas City		13.5 F
	(Gage L	ocation)	(E	Elevation)

			FLY [	BOAT ✓
SPECIES: Interior Least Tern	(Sterna antillarum	athalassos)		
DATE: 6/28/2005	TIME OF DAY:	17:58	RIVER MILE:	541.5
LOCALITY:Washingto	n MS	SITE NAME:	Tarpley Cu	toff Dikes
County/Pari	ish State		NUMBERS SIGHTI	ED:
WHERE SITED: Latitude:	. 33 /156		Adults:	57
	le: 91.1203	Pi	Juveniles:	
Longitud	ie. 91.1203		Eggs:	
Approximate Distance to Wat	er: <u>75</u>	Feet	Nests:	7
			Chicks:	Yes
IN FLIGHT Over Sandbar ✓	<u>ON OROGIND</u>	n Nest Area ✓	SUBSTRATE:	
Over Water ,	/ / / On R	esting Area	Sand:	
Calm Water	<del></del>	∠ / .ll	Gravel:	
Land Side	5		Debris:	
Center 🖵		٦	VEGETATION:	
Channel Side	MID-CHANNE	≟ □ <b>&gt;</b>	Type:	
MID-CHANNEL SANDBAR Rap	id Currents	<u> </u>		
1	River Side		Distance:	Feet
SIDE CHANN	IEL SANDBAR Center	<b>≅</b> ∵	FIELD CONDITION	I:
River Side 🔲	Land Side Calm Water		Temperature:	85 °F
<b>├</b> <del>/ / / } - / }</del>	7	×	Rain: No	
	/			
		ككك	Wind: <u>Calm</u>	
			% Cloud: 20	
OTHER NOTES:				
Right Bank. Small, dissected				
back chute or resting waterlin	e all sides. Unicks u	p to 1 week old. No	uacks of disturbanc	С.
				AR side
OBSERVERS:	Jones, Rumar	ncik, Fowlkes, Thoma	as, Davin, Marcy	
RIVER GAGE READING:	Gre	enville		24.7 F
	(Gage	Location)	(E	levation)

FLY □ BOAT ☑

SPECIES: Interior	Least Tern (Sterna	antillarum atl	halassos)		
DATE: 6/28/20	005 TIME OF	DAY:	18:08	RIVER MILE: _	540.0
	Washington		SITE NAME:	Leland	Neck Dikes
	County/Parish	State		NUMBERS SIG	HTED:
WHERE SITED:	Latitude: 33	3 3992		Adults:	528
WILLIAM STILLS.	Longitude: 9			Juveniles:	Ψ
Annyayimata Dist	<del></del>			Eggs:	2,3
Approximate Dist	ance to Water:	150 F	<u>eet</u>	Nests:	200
				Chicks:	Yes
		ROUND On Ne	2-30	SUBSTRATE:	
K_/°	ver Water , 🔽	On Resti	ng Area 🔲	Sand:	<b>✓</b>
Calm Wa	ter		√/ .ll	Gravel:	
Land Sid				Debris:	$\checkmark$
Cente	er .🛂		_ 1	VEGETATION:	
Channel Sid	de 🖰 🥖 !	MID-CHANNEL	<sup>⊥</sup> →		
MID-CHANNEL SAN	Rapid Currents	River Side 🗸		Distance:	
: River Side	SIDE CHANNEL SANDBA	R Center		FIELD CONDIT	
- <del></del>		Calm Water 🔽	~~·	remperatu	re: 85 <sup>0</sup> F
	7 / / /	7	<b>├</b> ─	Rain: No	
	1	/ / >	<del>7-7-/</del>	Wind: Ca	alm
L				% Cloud:	20
OTHER NOTES:					
Left Bank. Mediu	m size, unattached sa on nests. Chicks up				
aigna oi diatuibal	ioc.				
OBSERVERS:	Jor	nes, Rumancik	, Fowlkes, Thoma	as, Davin, Marcy	MS side
RIVER GAGE REA	DING:	Green	ville		24.7 F
	10.0	(Gage Lo	B40-0 500	=	(Elevation)

			FLY	□ BOAT ✓
SPECIES: Interior Least Tern (S	terna antillarum a	thalassos)		
DATE: 6/29/2005 TIM	E OF DAY:	8:19	RIVER MILE:	533.0
LOCALITY: Washignton	MS	SITE NAME:	Island #	#84 Dikes
County/Parish	State		NUMBERS SIGH	ITED:
WHERE SITED: Latitude:	33.3089		Adults: _	700
	91.1764		Juveniles: _	*****
Annyayimata Diatanas to Matari	50	Foot	Eggs: _	2,3,4
Approximate Distance to Water:	50	reet	Nests:	22
			Chicks: _	Yes
<u>IN FLIGHT</u> Over Sandbar ✓		lest Area	SUBSTRATE:	
Over Water , 🗸	/ On Res	ting Area	Sand: 💽	2
Calm Water ✓		/</td <td>Gravel:</td> <td></td>	Gravel:	
Land Side 🗹		$\sim$	Debris:	]
Center Channel Side	MID-CHANNEL		VEGETATION:	
		_ →	Type:	
MID-CHANNEL SANDBAR Rapid Cu	rrents 🗸		Distance: _	Feet
SIDE CHANNELS	(1984) 18 <u>18 -                               </u>		FIELD CONDITIO	ON:
River Side 🔲	Calm Water		Temperature	e: 82 °F
777777	7		Rain: No	
	///	7-7-4	Wind: <u>Cal</u>	m
			% Cloud: h	aze
OTHER NOTES:				
Left Bank. Medium size (300 x 60 evidence. Very dense colony, ne center. Nests with eggs observed water away from colony. DNA from the colony.	sts with eggs comp d = 22. Chicks up t	oletely covering hig to 1 week old. Ra	her areas of bar a	long wrack line at
OBSERVERS:	Jones, Rumancik,	Fowlkes, Carpente	er, Campen, Marcy	
RIVER GAGE READING:	Gree		=	24.0 F
A Visit of the Control of the Contro	(Gage L	ocation)		(Elevation)

			FLY	BOAT	~
SPECIES: Interior Least Tern (S	Sterna antillarum	athalassos)			
DATE: 6/29/2005 TIM	ME OF DAY:	8:45	RIVER MILE:	528.3	
LOCALITY: Washington	MS	SITE NAME:	Refu	ge Dikes	
County/Parish	State		NUMBERS SIGH	HTED:	
WHERE SITED: Latitude:	33 2664			170	
	91.1222		Juveniles:		
			Eggs:	2	
Approximate Distance to Water:	200	Feet	Nests:	2	
			Chicks:	Yes	
IN FLIGHT Over Sandbar   ✓		Nest Area ✓	SUBSTRATE:		
Over Water , 🗹	/ / On Re	esting Area	Sand:	✓	
Calm Water		4/.	Gravel:		
Land Side			Debris:	✓	
Center 🖵			VEGETATION:		
Channel Side	MID-CHANNEI	• □ →	Type: Willo	ows/Grass	
MID-CHANNEL SANDBAR Rapid C	currents 🔽	~	No.	Maria Maria	
1 1	River Side		Distance.	75 Feet	
SIDE CHANNEL	SANDBAR Center Land Side		FIELD CONDITI	ON:	
River Side 🖳	Calm Water		Temperatur	re: 82 °F	
	<b></b>	·	Rain: No		
	1774		Wind: Ca	ılm	
	540		% Cloud: I		
OTUED MOTEO			/0 C.Cuu. 1	1020	
OTHER NOTES:	and a second base				are.
Left Bank. Small, high, clean, unwith upper end of mud flats. Ne					ae,
recreational use by track eviden	ce (human/dogs), b	out no vandalism ob	served. Threadfir	n Shad collected	
and 2 DNA samples. Killdeers a pools.	and grackles prese	nt with nunareas or	dragoniiles natchi	MS side	
OBSERVERS:	Jones, Rumancik	, Fowlkes, Carpente	er, Campen, Marc		
RIVER GAGE READING:	Gree	enville		24.0 F	
in covering leave discovers in the countries of the control of the control of the countries	Marie III II	Location)		(Elevation)	

FLY  $\square$ BOAT V SPECIES: Interior Least Tern (Sterna antillarum athalassos) DATE: 6/29/2005 TIME OF DAY: 9:41 RIVER MILE: 520.7 LOCALITY: Chicot AR SITE NAME: Island #86 Dikes County/Parish State NUMBERS SIGHTED: \_\_\_\_8 Adults: WHERE SITED: Latitude: 33.1600 Juveniles: Longitude: 91.0875 Eggs: Approximate Distance to Water: Feet 0 Nests: No Chicks: Over Sandbar IN FLIGHT ON GROUND On Nest Area SUBSTRATE: Over Water , On Resting Area Sand: Calm Water Gravel: Debris: Land Side Center VEGETATION: MID-CHANNEL Channel Side 4 Type: Rapid Currents MID-CHANNEL SANDBAR Distance: Feet River Side 🗸 SIDE CHANNEL SANDBAR Center FIELD CONDITION: Land Side -River Side Temperature: 83 °F Calm Water Rain: No Wind: N 3-5 mph % Cloud: 0 OTHER NOTES: Right Bank. Small, low, flat, sand bar attached to larger wooded island just upstream. All 8 Terns resting at waterline. No tracks or disturbance. Five immature White Ibis in transit mid-channel. AR side OBSERVERS: \_\_\_\_\_ Jones, Rumancik, Fowlkes, Carpenter, Campen, Marcy 24.0 F RIVER GAGE READING: Greenville (Gage Location) (Elevation)

			FLY	□ BOAT ✓
SPECIES: Interior Least Tern (S	terna antillarum a	athalassos)		
DATE: 6/29/2005 TIM	E OF DAY:	9:53	RIVER MILE:	518.1
LOCALITY: Washington		SITE NAME:	Kentucky B	end Bar Upper
County/Parish	State		NUMBERS SIGH	ITED:
WHERE SITED: Latitude:	33 1403		Adults: _	62
	91.0899		Juveniles: _	
			Eggs: _	3
Approximate Distance to Water:	500	Feet	Nests:	10
			Chicks: _	No
IN FLIGHT Over Sandbar ✓		Nest Area ✓	SUBSTRATE:	
Over Water , 🗸	/ On Re:	sting Area	Sand:	Z
Calm Water		47.11	Gravel:	
Land Side			Debris:	
Center . Channel Side	MID-CHANNEL		VEGETATION:	
/		→	Type:	
MID-CHANNEL SANDBAR	ırrents ☑ River Side ⑤		Distance:	Feet
SIDE CHANNEL S	SANDBAR Center Land Side		FIELD CONDITION	ON:
River Side 🔲	Calm Water		Temperature	e: 84 °F
77777	<del>1</del> 74		Rain: No	
	///	7-7-	Wind: N 5	mph
			% Cloud: 0	)
OTHER NOTES:				
Right Bank. Unattached, mediun tracks meandering from scrape to				
5-				AR side
OBSERVERS:	Jones, Rumancik	, Fowlkes, Carpente	er, Campen, Marc	
RIVER GAGE READING:		enville		24.0 F
-	(Gage L	ocation)		(Elevation)

			FLY	BOAT	<b>V</b>
SPECIES: Interior Least Tern (St	erna antillarum a	thalassos)			
DATE: 6/29/2005 TIME	OF DAY:	10:12	RIVER MILE:	517.5	
LOCALITY: Washington	20, 40	SITE NAME:	Kentucky B	end Bar Lower	
County/Parish	State		NUMBERS SIGH	HTED:	
WHERE SITED: Latitude:	33.1214		Adults:	38	
Longitude:			Juveniles:		
			Eggs:		
Approximate Distance to Water:	200	Feet	Nests:	8	
			Chicks:	No	
\$2.32	W	lest Area 🔽	SUBSTRATE:		
Over Water , 🗸	/ / On Res	ting Area	Sand:	<b>/</b>	
Calm Water			Gravel:		
Land Side		$\sim$	Debris:		
Center . Channel Side	MID-CHANNEL		VEGETATION:		
		_ →	Туре:		
MID-CHANNEL SANDBAR Rapid Cur	Tents 🗸	;	Distance:	Feet	
SIDE CHANNEL SA	ANDBAR Center		FIELD CONDITION	ON.	
River Side	Land Side	الر يسنا			
	Calm Water	النہ و	remperatur	e: 84 <sup>0</sup> F	
/ / <del>/ 7 / / / / / / / / / / / / / / / /</del>	77~		Rain: No		
:	// / /	7-7-	Wind: N3	3- <mark>5 mph</mark>	
			% Cloud:	0	
OTHER NOTES:					
Right Bank, just 3/4 mile below up	ner colony hetwes	on 2nd and 3rd dike	es Colony about	1/4 mile in leng	th
Eight Terns setting on nests along	wrack line center	of bar, the rest cou	unted at waterline		
behavior both sides. No disturbar	nce noted. Great \	White Heron obser	ved.		
5				AR side	
OBSERVERS:	Jones, Rumancik,	Fowlkes, Carpente	er, Campen, Marc	:V	
RIVER GAGE READING:	Gree	nville		24.0 F	
	(Gage L	ocation)		(Elevation)	

			FLY	BOAT 🗸
SPECIES: Interior Least Terr	(Sterna antillarum	athalassos)		
DATE: 6/29/2005	TIME OF DAY:	10:27	RIVER MILE:	514.0
LOCALITY: Washingt	ton MS	SITE NAME:	Leota D	ikes
County/Pa	rish State		NUMBERS SIGHTE	D:
WHERE SITED: Latitud	e· 33.0978		Adults:	61
	ide: 91.1592	<u>2</u> %	Juveniles:	
<u>.</u>			Eggs:	
Approximate Distance to Wa	ater: 200	Feet	Nests:	7
			Chicks:	No
IN FLIGHT Over Sandbar	ON ONCOME	n Nest Area	SUBSTRATE:	
Over Water ,	<b>2</b>	esting Area	Sand: <b>☑</b>	
Calm Water			Gravel:	
Land Side	<u>~</u>		Debris:	
Center Channel Side	MID-CHANNE	<sub>1</sub>	VEGETATION:	
· · · ·	/	<del>-</del>	Type:	
MID-CHANNEL SANDBAR Ra	pid Currents	<u>,</u>	Distance:	Feet
SIDE CHAN	INEL SANDBAR Center	□ · ` `	FIELD CONDITION:	
River Side 🗸	Land Side Calm Water		Temperature: _	1 221
77777	+7+7		Rain: No	
	/ / T	~ <del>~~~</del>	Wind: Calm	
			% Cloud: 0	
OTHER NOTES:				
Left Bank. Long, attached s at waterline. No tracks or pr	and bar. Nests spars redation sign, other the	ely dispersed length an ATV tracks.	of bar, with 7 setting i	nland, the rest
5				MC sid-
OBSERVERS:	Jones, Rumanci	ik, Fowlkes, Carpente	er, Campen, Marcy	MS side
RIVER GAGE READING:		eenville		4.0 F
3	- Notice of the second	Location)		evation)

			FLY	′ □ BOAT	~
SPECIES: Interior Least Tern	(Sterna antillarum	athalassos)			
DATE: 6/29/2005 T	IME OF DAY:	10:45	RIVER MILE: _	510.0	
LOCALITY: Chicot	AR	SITE NAME:	Cracraf	t Lower Dikes	
County/Paris	h State		NUMBERS SIG	HTED:	
WHERE SITED: Latitude:	33.0375		Adults:	49	
Longitude	91.1567				
Approximate Distance to Wate	r: <u>100</u>	Feet	Eggs: Nests:	5	
				Yes	
<u>IN FLIGHT</u> Over Sandbar ✓	ON GROUND On	Nest Area ✓	SUBSTRATE:		
Over Water ,	/ / / On Re	esting Area	Sand:	✓	
Calm Water			Gravel:		
Land Side 🗆		$\sim$	Debris:		
Center . Channel Side	MID-CHANNE		VEGETATION:		
/	Currents	- →	Type: Will	ows	
MID-CHANNEL SANDBAR		<u>,                                      </u>	Distance:	200 Feet	
II ' _L ( '	River Side	<b>⋥</b> ∴``	FIELD CONDIT	ION:	
River Side 🔲	Land Side (			ire: 85 ° F	
<del>-/</del>	Zaiiii Water		Rain: No		
	/ / <del>/ / / / / /</del>		-	alm	
			% Cloud:		
OTHER NOTES.			70 Cloud.	U	
OTHER NOTES:					
Right Bank. Small, upstream pof ripple lines. Chicks up to 1 Comorant, 1 Snowy Egret, and	week old. No signs	of disturbance. Oth			
ā				AR sid	
OBSERVERS:	Jones, Rumancik	, Fowlkes, Carpente	er, Campen. Mar	0.0	C
RIVER GAGE READING:		enville	200	24.0 F	
The section of the se		Location)	5500	(Elevation)	

			FLY		BOAT	~
SPECIES: Interior Least Tern (S	Sterna antillarum a	athalassos)				
DATE: 6/29/2005 TIM	E OF DAY:	11:32	RIVER MILE: _		504.0	
LOCALITY: Issaquena	MS	SITE NAME:	Corre	gidor D	)ikes	
County/Parish	State		NUMBERS SIG	HTED:	į	
WHERE SITED: Latitude:	32 9645		Adults:	7 <del>8</del>	176	
	91.1366		Juveniles:	<u> </u>		
<del>10</del> 3			Eggs:	5 <del>2</del>		
Approximate Distance to Water:	20	Feet	Nests:	F <u>V</u>	28	
			Chicks:		No	
IN FLIGHT Over Sandbar ✓		Nest Area ✓	SUBSTRATE:			
Over Water , ✓	/_ On Re	sting Area	Sand:	<b>✓</b>		
Calm Water		4/ .	Gravel:			
Land Side			Debris:	✓		
Center Channel Side	MID-CHANNEL		VEGETATION:			
		- →	Туре:			
MID-CHANNEL SANDBAR Rapid C	urrents 🗸	<del>}</del> `\	Distance:	(ve	Feet	
SIDE CHANNEL S	SANDBAR Center	<b>∄</b> :	FIELD CONDIT	ION.		
River Side 🔲	Land Side Calm Water		Temperatu		85 °F	
77777	7		Rain: No			
	1,124	7-7-7	Wind: C	alm		
			% Cloud:	15		
OTHER NOTES:						
Left Bank. Long (3/4 mile), narrounattached at present river stage lower, unattached portion of bar. disturbance or tracks. Two Bald was found.	e. A few birds are in Drift count = 28 o	nesting on high, atta n nests. Fifteen are	ached bank, but fishing opposite	most of bank.	f colony is No	nest
OBSERVERS:	Jones, Rumancik	, Fowlkes, Carpente	er, Campen, Mar	су		
RIVER GAGE READING:		enville		24.	0 F	
	(Gage I	_ocation)		(Elev	ation)	

FLY  $\square$ BOAT V SPECIES: Interior Least Tern (Sterna antillarum athalassos) DATE: 6/29/2005 TIME OF DAY: 12:00 RIVER MILE: 499.0 LS SITE NAME: Wilson Point Dikes LOCALITY: East Carroll County/Parish State NUMBERS SIGHTED: \_\_\_\_12 Adults: WHERE SITED: Latitude: Juveniles: Longitude: Eggs: Approximate Distance to Water: Feet 0 Nests: No Chicks: Over Sandbar IN FLIGHT ON GROUND On Nest Area SUBSTRATE: Over Water , On Resting Area Sand: Calm Water Gravel: Debris: Land Side Center VEGETATION: MID-CHANNEL < Channel Side 4 Type: Rapid Currents MID-CHANNEL SANDBAR Distance: Feet River Side 🗸 SIDE CHANNEL SANDBAR Center FIELD CONDITION: Land Side -River Side Temperature: 85 °F Calm Water Rain: No Wind: Calm % Cloud: 20 OTHER NOTES: Right Bank. Attached, sand bar above last dike. Eleven resting at waterline, 1 fishing above upstream dike. No reproductive behavior noted. LA side OBSERVERS: \_\_\_\_\_ Jones, Rumancik, Fowlkes, Carpenter, Campen, Marcy RIVER GAGE READING: 24.0 F Greenville (Gage Location) (Elevation)

			FLY	BOA	AT V
SPECIES: Interior Least Tern (St	erna antillarum a	thalassos)			
DATE: 6/29/2005 TIME	OF DAY:	13:10	RIVER MILE: _	491.0	
LOCALITY: Issaquena	MS	SITE NAME:	Baleshed	Landing Dike	:S
County/Parish	State		NUMBERS SIG	HTED:	
WHERE SITED: Latitude:	32.8417		Adults:	56	
Longitude:			Juveniles:	¥-	
<del></del>			Eggs:	2	
Approximate Distance to Water:	400	reet	Nests:	3	
			Chicks:	No	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	7.	lest Area	SUBSTRATE:		
Over Water , 🗸	/ On Res	ting Area 🔲	Sand:	✓	
Calm Water			Gravel:		
Land Side			Debris:		
Center L Channel Side	MID-CHANNEL		VEGETATION:		
/		_ →	Type: Sma	all Willows	
MID-CHANNEL SANDBAR Rapid Cur	rents 🗸 River Side 🗸		Distance:	150 Feet	1
SIDE CHANNEL SA	ANDBAR Center		FIELD CONDIT	ION:	
River Side	Land Side			re: 86 °	_
-4	Calm Water	· ~~	Temperatu	16. 00	100
	7		Rain: No		
ş	/ / /-	7-7-7	Wind: E	5 mph	
			% Cloud:	40	
OTHER NOTES:					
Left Bank. Very long, clean, exten	ided sand har uns	tream from Stack I	sland Only 3 ne	sts observed	with
eggs. Coyote tracks and many en					
				MS s	ide
OBSERVERS:	Jones, Rumancik,	Fowlkes, Carpente	er, Campen, Mar	су	
RIVER GAGE READING:	Greei	nville		24.0 F	
	(Gage Lo	ocation)		(Elevation)	

			FLY	□ BOAT ✓
SPECIES: Interior Least Tern (S	terna antillarum at	halassos)		
DATE: 6/29/2005 TIM	E OF DAY:	13:26	RIVER MILE:	487.5
LOCALITY: Issaquena	30 W	SITE NAME:	Ben Lommo	nd Dikes Upper
County/Parish	State		NUMBERS SIGH	ITED:
WHERE SITED: Latitude:	32.8068		Adults:	162
	91.1423		Juveniles: _	
			Eggs: _	2,3
Approximate Distance to Water:	80 F	eet	Nests:	23
			Chicks: _	Yes
IN FLIGHT Over Sandbar ✓	V.	est Area 🔽	SUBSTRATE:	
Over Water , 🗹	On Resti	ng Area 🗌	Sand:	
Calm Water		./ .	Gravel:	
Land Side			Debris:	
Center .	MID CHANNE		VEGETATION:	
Channel Side	MID-CHANNEL	<sup>□</sup> →	Type: Shru	bby Willows
MID-CHANNEL SANDBAR Rapid Cu	urrents 🗸		Distance:	50 Feet
	River Side 🗹	\	Distance	30 1 661
SIDE CHANNEL S	SANDBAR Center Land Side		FIELD CONDITION	ON:
River Side 🔲	Calm Water ✓		Temperature	e: 88 °F
77777	17 m		Rain: No	
		<del></del>	Wind: E 5	i mph
			% Cloud: 4	40
OTHER NOTES:				
Left Bank. Very concentrated col	lony on small, convo	oluted sand har (7)	00 ft long by 300	ft_wide) with
Willows averaging 12 feet in heig	ht. Most nests on b	ack side of bar an	nongst sparse deb	oris wrack lines.
Chicks up to 1 week old. Adults the Heron tracks and 3 Mississippi K	rishing both sides, o ites circling above b	ne against opposi ut too high to indu	te bank revetment ice mobbing. Two	DNA samples
collected.	The state of the s	nonescape come to Windows Tables	100,000 (A 1600) (B 17 Y 17 C	MS side
OBSERVERS:	Jones, Rumancik, I	Fowlkes, Carpente	er, Campen, Marc	у
RIVER GAGE READING:	Vicksb	ourg		18.5 F
	(Gage Lo	cation)		(Elevation)

			FLY [	BOAT ✓
SPECIES: Interior Least Tern (St	erna antillarum a	thalassos)		
DATE: 6/29/2005 TIME	OF DAY:	13:57	RIVER MILE:	485.5
LOCALITY: Issaquena		SITE NAME:	Ben Lommond	d Dikes Lower
County/Parish	State		NUMBERS SIGHT	ED:
WHERE SITED: Latitude:	32.775		Adults:	90
Longitude:			Juveniles:	
<del>-</del>			Eggs:	1,2
Approximate Distance to Water:	700	reet	Nests:	30
			Chicks:	No
10 mm 1 m		lest Area	SUBSTRATE:	
Over Water , 🗸	/ On Res	ting Area 🔲	Sand: <b>✓</b>	
Calm Water			Gravel:	
Land Side			Debris:	
Center Channel Side	MID-CHANNEL		VEGETATION:	
		_ →	Туре:	
MID-CHANNEL SANDBAR Rapid Cur	River Side		Distance:	Feet
SIDE CHANNEL SA	ANDBAR Center		FIELD CONDITION	N:
River Side	Land Side Calm Water		Temperature:	1111
77777	7		Rain: No	
8		7-7-	Wind: <u>E 5-1</u>	10 mph
			% Cloud: 60	
OTHER NOTES:				
Left Bank. High, flat, straight, atta nests with eggs, colony about 1/2				
				MS side
OBSERVERS:	Jones, Rumancik,	Fowlkes, Carpente	er, Campen, Marcy	
RIVER GAGE READING:	Vicks	burg	=	18.5 F
	(Gage Lo	ocation)	<b>(</b> E	Elevation)

			FLY [	BOAT ✓
SPECIES: Interior Least Tern	(Sterna antillarum	athalassos)		
DATE: 6/29/2005 T	IME OF DAY:	14:10	RIVER MILE:	483.0
LOCALITY: Issaquena	MS	SITE NAME:	Ajax Bar D	ikes Upper
County/Paris			NUMBERS SIGHT	
WHERE SITED: Latitude:		THE STATE OF THE S	28	
Longitude	91.1411		Eggs:	
Approximate Distance to Water	r: <u>200</u>	Feet	Nests:	2
			Chicks:	No
IN FLIGHT Over Sandbar ✓ Over Water , ✓		n Nest Area   esting Area   □	SUBSTRATE:  Sand:	
Calm Water	·	∠ /   ∥	Gravel:	
Land Side		~~	Debris:	
Center Channel Side	MID-CHANNE		VEGETATION:	
Ponid	Currents 🗸	→	Type:	
MID-CHANNEL SANDBAR	River Side		Distance:	Feet
	L SANDBAR Center Land Side		FIELD CONDITION	N:
River Side	Calm Water		Temperature:	88 °F
7777	7+7+		Rain: No	
	1 1 / 7		Wind: <u>E 5-</u>	10 mph
			% Cloud: 60	)
OTHER NOTES:				
Left Bank. Very small, isolated	l, low sand bar abov	ve Y shaped dike. N	o tracks or disturba	nce.
ODCED//EDG	Iones Dumara	k Foulkoo Coment	or Campon Marco	MS side
OBSERVERS:		k, Fowlkes, Carpent	er, Campen, Marcy	Marian manufactura
RIVER GAGE READING:		ksburg		18.5 F
	(Gage	Location)	(I	Elevation)

			FLY	′ □ BOAT 🗹
SPECIES: Interior Least Tern (St	terna antillarum	athalassos)		
DATE: 6/29/2005 TIME	E OF DAY:	14:25	RIVER MILE: _	481.6
LOCALITY: Issaquena		SITE NAME:	Ajax Ba	r Dikes Lower
County/Parish	State		NUMBERS SIG	HTED:
WHERE SITED: Latitude:	32.7375		Adults:	40
Longitude:			Juveniles:	- 
<del>-</del>		Foot	Eggs:	1,2,3
Approximate Distance to Water:	200	<u></u>	Nests:	10
			Chicks:	Yes
		Nest Area	SUBSTRATE:	
Over Water , 🗸	/ / On Re	esting Area	Sand:	<b>~</b>
Calm Water		<b>∠</b> / .∥	Gravel:	
Land Side			Debris:	$\checkmark$
Center 🖵		_ ]	VEGETATION:	
Channel Side	MID-CHANNE	<sup>⊥</sup> →		iss/Sedges
MID-CHANNEL SANDBAR Rapid Cu	rrents 🗸		NAME OF THE PARTY OF	AZERONI I III.
1 1	River Side	<u>`</u>	Distance:	150 Feet
SIDE CHANNEL S.	ANDBAR Center Land Side	<b>⋥</b>	FIELD CONDIT	ION:
River Side	Calm Water		Temperatu	ıre: 88 <sup>0</sup> F
<del></del>		· · · · · · · · · · · · · · · · · · ·	Rain: No	
	ليكريز		Wind: E	10 mph
	0.000	<u> </u>	% Cloud:	Section 1
OTHER NOTES:			ಜನ ರಾವಾಡನಾಗಿ	Audition .
Left Bank. Small, unattached san	d bar balaw V ah	anad dika. Nasta a	a high bagk sida	of har abuta side
Reproductive behavior all sides.				
5				MS side
OBSERVERS:	Jones, Rumancil	k, Fowlkes, Carpente	er, Campen, Mai	
RIVER GAGE READING:	Vicl	ksburg	<u> </u>	18.5 F
a management and the side enterest metabolic ("The Nation Period China Proposition (China Period China Period China Period China Period (Pariod Period China Period		Location)	ticter .	(Elevation)

			FLY [	BOAT 🗸
SPECIES: Interior Least Tern	(Sterna antillarum	athalassos)		
DATE: 6/29/2006	TIME OF DAY:	14:37	RIVER MILE:	476.6
LOCALITY:East Carr	oll LA	SITE NAME:	Point Look	out Dike
County/Pa	rish State		NUMBERS SIGHTE	:D·
			Adults:	
WHERE SITED: Latitude	-	<u>.</u>	26	
Longitu	de:		Eggs:	
Approximate Distance to Wa	iter:	Feet	7.07.4	0
<u> </u>			Chicks:	
<u>IN FLIGHT</u> Over Sandbar	ON GROUND O	n Nest Area	SUBSTRATE:	
Over Water ,	<u> </u>	Resting Area	Sand:	
Calm Water		Z /	Gravel:	
	<u> </u>	$\sim$	Debris:	
Land Side Center		٦	VEGETATION	
Channel Side	MID-CHANNI	EL ☑ <u>-</u>	VEGETATION:	
MID-CHANNEL SANDBAR	pid Currents		Type:	
7 / 1	River Side	<u> </u>	Distance:	Feet
SIDE CHAN	NEL SANDBAR Center		FIELD CONDITION	
River Side	Land Side		Temperature:	1 221
<b>├</b> ─ <del>/</del> ───────────────────────────────────	Calm Water	<u>,                                    </u>	Rain: No	
	177		2000 to 1000 to 1000	80
	/ /	( <del></del>	Wind: <u>E 10 n</u>	nph
			% Cloud: 60	
OTHER NOTES:				
Six Terns flying in transit mid	d-channel.			
<del></del>				
<del></del>				LA side
OBSERVERS:	Jones, Rumano	ik, Fowlkes, Carpente	er, Campen, Marcy	
RIVER GAGE READING: _	Vic	ksburg		18.5 F
	(Gage	Location)	(FI	evation)

			FLY	□ BOAT ✓
SPECIES: Interior Least Tern	(Sterna antillarum	athalassos)		
DATE: 6/29/2006 T	ME OF DAY:	14:55	RIVER MILE:	470.5
LOCALITY:Issaquena	MS	SITE NAME:	Arcadia F	oint Dikes
County/Paris	h State		NUMBERS SIGH	TED:
WHERE SITED: Latitude:	32.6594		Adults:	13
	91.1322		Juveniles:	
Approximate Distance to Water		Foot	Eggs: _	
Approximate distance to water	* s-	<u>1 eet</u>		0
Over Condher			Chicks:	No
IN FLIGHT Over Sandbar Over Water		Nest Area ☐ esting Area ✓	SUBSTRATE:	
	<u> </u>	/ /	Sand:	]
Calm Water		$\leq$	Gravel:	]
Land Side		$\sim$	Debris:	]
Center Channel Side	MID-CHANNE		VEGETATION:	
	0 34	- →	Type:	
MID-CHANNEL SANDBAR	Currents <b>✓</b>	_	Distance:	Feet
2 SIDE CHANNE	River Side L SANDBAR Center	₹ <u>`</u>		
River Side	Land Side [		FIELD CONDITIO	11111
River Side	Calm Water		Temperature	: 89 °F
/ / <del>/ / / / / / / / / / / / / / / / / </del>	7+7+7-		Rain: No	
	// /~		Wind: E10	) mph
			% Cloud: 6	0
OTHER NOTES:			357823 (	
Left Bank. Small, attached sar	nd har with 13 adults	resting along with	crows at the water	rline
Left Barit. Official, attached 3ai	ia bai with 10 addit	resuing, along with	orows, at the water	mic.
8				
OBSERVERS:	Jones, Rumancil	, Fowlkes, Carpente	er, Campen, Marcy	MS side
RIVER GAGE READING:		sburg		18.5 F
		Location)		(Elevation)

	FLY	□ BOAT ✓
SPECIES: Interior Least Tern (Sterna antillarum athalassos)		
DATE: 6/29/2005 TIME OF DAY: 15:30	RIVER MILE:	460.4
LOCALITY: East Carroll LA SITE NA	AME: Willow 0	Cutoff Dikes
County/Parish State	NUMBERS SIG	HTED:
WHERE SITED: Latitude: 32.5361	Adults:	250
Longitude: 91.1006	Juveniles:	
\$1.5400000000	Eggs:	2,3
Approximate Distance to Water: 100 Feet	Nests:	100
	Chicks:	No
IN FLIGHT Over Sandbar ✓ ON GROUND On Nest Area ✓	SUBSTRATE:	
Over Water , 🗹 On Resting Area 🗆	Sand:	✓
Calm Water	Gravel:	
Land Side	Debris:	
Center . Cen	VEGETATION:	
Channel Side  MID-CHANNEL		
MID-CHANNEL SANDBAR  Rapid Currents	Distance:	Feet
River Side 🗆	Distance.	1 661
SIDE CHANNEL SANDBAR Center ✓ Land Side ✓	FIELD CONDITI	ON:
River Side Calm Water	Temperatur	re: 90 °F
	Rain: No	
	Wind: E	10 mph
. , , ,	% Cloud:	60
OTHER NOTES:	ATTECH STREET, CONTRACT OF THE	
Right Bank. Large, long, low, flat, sand bar with colony about 1/4	mile in length and 700	ft wide Nests
abundant (100), closely spaced and along ripple lines. No signs Two White Pelicans at upper end.		
TWO WITHOUT GHOURD AT Appel Cita.		,
ODOEDVEDO Longo Dimensilo Establica Co-	monter Commen Man-	LA side
OBSERVERS: Jones, Rumancik, Fowlkes, Ca	rpenter, Campen, Marc	***
RIVER GAGE READING: Vicksburg	- E	18.5 F
(Gage Location)		(Elevation)

			FLY	/ □ BOAT 🗹
SPECIES: Interior Least Tern (Ste	erna antillarum	athalassos)		
DATE: 6/29/2005 TIME	OF DAY:	15:45	RIVER MILE: _	456.0
LOCALITY: Warren		_ SITE NAME:	Mill	iken Bend
County/Parish	State		NUMBERS SIG	SHTED:
WHERE SITED: Latitude:	32.4742		Adults:	67
Longitude:			Juveniles:	
Approximate Distance to Water:	400	Feet	6.50	2,3
Approximate Distance to Trater.				40
IN FLIGHT Over Sandbar   ✓	ON GROUND On	Nest Area		No
Over Water ,	(-	esting Area	SUBSTRATE:	
Calm Water	<del></del>	11	Sand: Gravel:	
		$\sim$	Debris:	<ul><li>✓</li></ul>
Land Side Center		$\neg$		•
Channel Side	MID-CHANNE	L 🗹 🔣	VEGETATION:	
MID-CHANNEL SANDBAR Rapid Cur	rents 🔽	7	Type: Will	ows
7	River Side		Distance:	500 Feet
SIDE CHANNEL SA	NDBAR Center Land Side		FIELD CONDIT	ION:
River Side 🖳	Calm Water		Temperatu	ıre: 90 <sup>O</sup> F
<del>                                     </del>	7		Rain: No	
	// 74	~~~	Wind: E	10 mph
			% Cloud:	70
OTHER NOTES:				
Left Bank. Small, unattached, low		ith gravel patches. N	Nests closely spa	aced at high center
line of bar. No tracks or other distr	urbance.			
0				MS side
OBSERVERS:	Jones, Rumancil	k, Fowlkes, Carpente	er, Campen, Mai	
RIVER GAGE READING:	Vic	ksburg	<u> </u>	18.5 F
	(Gage	Location)		(Elevation)

			FLY	BOAT 🗸
SPECIES: Interior Least	Tern <i>(Sterna antillarui</i>	n athalassos)		
DATE: 6/29/2005	TIME OF DAY:	16:30	RIVER MILE:	442.5
LOCALITY: Wa	arren MS	SITE NAME:	Brown's	Point
	y/Parish State		NUMBERS SIGHTE	:D: 2
WHERE SITED: Lat Lor	itude: ngitude:	<u>_</u> 7	Juveniles:	_
Approximate Distance to	Water:	Feet	Eggs: Nests:	0
IN FLIGHT Over Sandba	r 🗆		Chicks:	No
IN FLIGHT Over Sandba	<u>OIT ORCOID</u>	On Nest Area ☐ Resting Area ☑	SUBSTRATE:  Sand:	
Calm Water 🗌	~~	$\prec$ / $\parallel$	Gravel:	
Land Side Center		$\sim$	Debris:	
Channel Side	MID-CHANN	<u>vel</u> □>	VEGETATION: Type:	
MID-CHANNEL SANDBAR	Rapid Currents  River Side		Distance:	Feet
River Side ☑	CHANNEL SANDBAR Center Land Side	□ :	FIELD CONDITION:	1 221
River Side V	Calm Wate		Temperature: _	90 °F
	1.1. J. J. J.		Rain: No Wind: SE 10	mph
				d d
OTHER NOTES:				
Left Bank. Small, attac	ned bar. Two resting on	у.		
				MS side
OBSERVERS:	Jones, Ruman	cik, Fowlkes, Carpent	er, Campen, Marcy	
RIVER GAGE READING:		cksburg		18.5 F
	(Gag	e Location)	(El	evation)

FLY □ BOAT ☑

SPECIES: Interior Least Te	rn <i>(Sterna antillarum</i>	athalassos)		
DATE: 6/30/2005	TIME OF DAY:	9:36	RIVER MILE:	429.5
LOCALITY: Warre County/F		SITE NAME:	Below Race	
WHERE SITED: Latitu	itude: 32.2389 00.9694		Adults:	
Approximate Distance to V	Vater: 200	Feet	Nests:	_
MID-CHANNEL SANDBAR	20-52 W		Rain: <u>No</u> Wind: <u>Calm</u>	Feet N: 85 °F
OTHER NOTES:  Left Bank. Low series of fi	at, unattached, incised	sand bars. Could no	t land because of sh	nallow, swift
currents. Drift count. Cold at the waterline, fishing bo Several hundred swallows	th sides. Six Terns obse			
OBSERVERS:	Jones, Ru	mancik, Fowlkes, Th	omas, Davin	INIO SIGE
RIVER GAGE READING:	No.	ksburg Location)	=(E	17.6 F Elevation)

			FLY	BOAT	~
SPECIES: Interior Least Tern	(Sterna antillarum	athalassos)			
DATE: 6/30/2005 T	IME OF DAY:	10:16	RIVER MILE: _	419.0	
LOCALITY: Warren	MS	SITE NAME:	Newton	Bend Dikes	
County/Paris	h State		NUMBERS SIG	HTED:	
WHERE SITED: Latitude:	32.1367		Adults:	90	
	91.0100		Juveniles:		
Approximate Distance to Water	r: 300	Feet	Eggs:		
	3			20 No	
IN FLIGHT Over Sandbar ✓	ON GROUND On	Nest Area ✓	SUBSTRATE:	110	
✓ , Over Water , ✓		esting Area	21 1118	✓	
Calm Water	·	∠ /	-		
Land Side			Debris:		
Center .		]	VEGETATION:		
Channel Side 📙		<b>-</b> →	Type: Willo	ows	
MID-CHANNEL SANDBAR	Currents <b>✓</b> ————————————————————————————————————	_	Distance:	300 Feet	
SIDE CHANNE	River Side L SANDBAR Center				
River Side	Land Side {		FIELD CONDITI	re: 85 ° F	
<b>├</b> ────────────────────────────────────	Calm Water	<u>v</u> ~~			
	المبكر للمرار		Rain: No		
	, ,	لحدر	Wind: <u>Ca</u>	alm	
			% Cloud:	0	
OTHER NOTES:					
Right Bank. Low, flat, small (1 scrapes, 19 feeding in back ch					
OBSERVERS:	Jones Rui	mancik, Fowlkes, Th	omas Davin	MS side	9
RIVER GAGE READING:		(sburg	Jilius, Duvill	17.6 F	
TAVER OAGE READING.	the same of the sa	Location)	=	(Elevation)	

			FLY [	BOAT	~
SPECIES: Interior Least Tern (Stern	na antillarum ath	alassos)			
DATE: 6/30/2005 TIME C	OF DAY:1	0:30	RIVER MILE:	413.6	
LOCALITY: Tensas	LA	SITE NAME:	Togo Islar	nd Dikes	
County/Parish	State		NUMBERS SIGHTE	ED:	
WHERE SITED: Latitude:	32 1072		Adults:	28	
Longitude:			Juveniles:		
170		2004	Eggs:		
Approximate Distance to Water:	FE	<u>eet</u>	Nests:	0	
_			Chicks:	No	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		st Area 🗌	SUBSTRATE:		
Over Water , 🗸	On Resting	g Area 🗸	Sand: <b>☑</b>		
Calm Water		./ .	Gravel:		
Land Side 🗆			Debris:		
Center .		_ ]	VEGETATION:		
Channel Side 📙	MID-CHANNEL •	" →	Type:		
MID-CHANNEL SANDBAR Rapid Currer	nts 🗌				
	River Side 🗹		Distance:	геец	
SIDE CHANNEL SAN	DBAR Center L		FIELD CONDITION	l:	
River Side 🖺	Calm Water <b>✓</b>	~~~	Temperature:	86 °F	
77777			Rain: No		
/	177	<del></del>	Wind: Calm		
	*		% Cloud: 0		
OTHER NOTES:					
Left Bank. Unattached, low, flat san	d bar barelv emer	gent (800 x 150 t	ft.). Possible future	colony site if	
water level continues to fall. Sixteer one on upstream dike. No tracks or	resting at waterlii	ne, 11 fishing op	posite bank in mouth	of chute, an	
				***	
OBSERVERS:	Jones, Ruman	ncik, Fowlkes, Th	omas. Davin	MS side	
RIVER GAGE READING:	Vicksbu		100	17.6 F	
MIVEN GAGE NEADING.	(Gage Loc	Lance Lance		levation)	

			FLY	□ BOAT ✓
SPECIES: Interior Least Tern	(Sterna antillarum	athalassos)		
DATE: 6/30/2005	TIME OF DAY:	10:44	RIVER MILE:	409.5
LOCALITY: Claiborne	e MS	SITE NAME:	Yucata	an Dikes
County/Par	ish State		NUMBERS SIGH	TED:
WHERE SITED: Latitude	32.0589		Adults:	13
	de: 91.0628		Juveniles: _	
<i>←</i> 3			Eggs: _	
Approximate Distance to Wat	er:	Feet	Nests:	0
			Chicks:	No
IN FLIGHT Over Sandbar	<u>ON ONCOND</u>	n Nest Area	SUBSTRATE:	
Over Water ,	/ / / On R	esting Area 🗸	Sand: 🗸	]
Calm Water	<del></del>	∠ / .ll	Gravel:	
Land Side 🗆	<b>5</b>		Debris:	]
Center Channel Side	MID-CHANNE		VEGETATION:	
Charlie Side	A MID-CHANNE	<u> </u>	Type: Willov	vs
MID-CHANNEL SANDBAR Rap	id Currents   ! i		Dietanos	EOO Foot
	River Side		Distance:	ooo reet
SÎDE CHANN	IEL SANDBAR Center Land Side		FIELD CONDITIO	N:
River Side ☐	Calm Water		Temperature	: 87 °F
7777	7+74-		Rain: No	
	1179	-	Wind: Calr	n
			% Cloud: 0	0.
OTHER NOTES:				
Right Bank. Upstream attach but no eggs or mobbing of ob		round Island. Patch	es of gravel and co	ourting behavior,
				LA side
OBSERVERS:	Jones, Ru	mancik, Fowlkes, Th	omas, Davin	
RIVER GAGE READING:		ksburg		17.6
	(Gage	Location)	_ (	(Elevation)

FLY □ BOAT ☑

SPECIES: Interior Least T	ern (Sterna antillarum	athalassos)		
DATE: 6/30/2005	TIME OF DAY:	10:57	RIVER MILE:	402.0
LOCALITY:Ten	nsas LA //Parish State	SITE NAME:	Coffee P	
WHERE SITED: Lati	tude: 31.9900 gitude: 91.1192	ži.	Adults: Juveniles:	
Approximate Distance to	Water: 50	Feet		2
Over Water  Calm Water  Land Side  Center  Channel Side  MID-CHANNEL SANDBAR  River Side	92-32 W		FIELD CONDITION Temperature Rain: No Wind: Calr	Feet  ON:  : 89
	mall (300 x 150 ft.), recen Courtship behavior and fi			
OBSERVERS:	Jones Ru	ımancik, Fowlkes, Th	omas, Davin	LA side
RIVER GAGE READING:	111	ksburg		17.6 F
	Accessed to	Location)		(Elevation)

		FLY L BOAT
SPECIES: Interior Least Tern (S	Sterna antillarum athalassos)	
DATE: 6/30/2005 TIM	IE OF DAY:11:25	RIVER MILE: 393.0
		Below Bondurant Towhead Dikes
County/Parish	State	NUMBERS SIGHTED:
WHERE SITED: Latitude: Longitude:	31.8978 91.2117	Adults: 21 Juveniles:
Approximate Distance to Water:	400 Feet	Eggs:5
MID-CHANNEL SANDBAR	ON GROUND On Nest Area  On Resting Area   MID-CHANNEL   urrents  River Side  SANDBAR Center  Land Side  Calm Water  Calm Water	Chicks: No  SUBSTRATE:  Sand:  Gravel:  Debris:   VEGETATION:  Type: Willows  Distance: 1000 Feet  FIELD CONDITION:  Temperature: 85 F  Rain: No
		Wind: <u>Calm</u> % Cloud: 40
OTHER NOTES:  Right Bank. Low, flat, gently slop tracks observed.	oing, 1/4 mile long, sand bar. Terns b	
57 57		LA side
OBSERVERS:	Jones, Rumancik, Fowlkes, Th	nomas, Davin
RIVER GAGE READING:	Natchez	= 25.5 F
	(Gage Location)	(Elevation)

			FLY		BOAT	~
SPECIES: Interior Least Tern (S	terna antillarum a	athalassos)				
DATE: 6/30/2005 TIM	E OF DAY:	11:55	RIVER MILE: _	3	383.2	
LOCALITY: Jefferson	20, 20	SITE NAME:	Below Spithe	ad Towl	head Dik	es
County/Parish	State		NUMBERS SIG	HTED:		
WHERE SITED: Latitude:	31 8306		Adults:	58	187	
	91.3467		Juveniles:	\$ <u>.</u>		
		Faat	Eggs:	5 <del>2</del>	111	
Approximate Distance to Water:	50	reet	Nests:	<u> </u>	30	
			Chicks:	Q <del></del>	No	
IN FLIGHT Over Sandbar ✓		Nest Area	SUBSTRATE:			
Over Water , 🗸	/ On Res	sting Area	Sand:	✓		
Calm Water		/</td <td>Gravel:</td> <td></td> <td></td> <td></td>	Gravel:			
Land Side		$\sim$	Debris:	✓		
Center .	MID CHANNEL		VEGETATION:			
Channel Side	MID-CHANNEL	`	Type: Wil			
MID-CHANNEL SANDBAR Rapid Cu	ırrents 🔽		Distance:	1000	Foot	
	River Side		Distance.	1000	1 CCL	
	ANDBAR Center Land Side		FIELD CONDIT	ION:		
River Side	Calm Water	2	Temperatu	ıre:	85 °F	
77777	17 N	$\sim$	Rain: No	0		
2 c c c c c c	1174		Wind: _C	alm		
		/ / _	% Cloud:			
All the state of t			76 Cloud.	40		
OTHER NOTES:						
Left Bank. Huge, long, high, exter dispersed along debris wrack line Kites circling above colony.	ended, unattached, es up to 1/2 mile lo	sand bar with patc ng at bar's high cer	nter. Coyote trac	st nests ks and 5	widely 5 Mississ	ippi
5					MS side	
OBSERVERS:	Jones, Rum	nancik, Fowlkes, Th	omas, Davin			
RIVER GAGE READING:	Nat	chez		25.5	F	
	(Gage L	.ocation)	<del></del>	(Eleva	tion)	

			FLY	BOAT 🗸
SPECIES: Interior Least Terr	n (Sterna antillarum	athalassos)		
DATE: 6/30/2005	TIME OF DAY:	12:33	RIVER MILE:	378.0
LOCALITY:Tensa	s LA	SITE NAME:	Water Pro	of Dikes
County/Pa	arish State		NUMBERS SIGHTE	ED:
WHERE SITED: Latitud	le: 31.760 <i>4</i>		Adults:	130
	ude: 91.3708	28	Juveniles:	
Longit	ude. 91.5706		Eggs:	
Approximate Distance to W	ater: 300	Feet	Nests:	7
			Chicks:	No
<u>IN FLIGHT</u> Over Sandbar	<u>ON ORCOND</u>	n Nest Area	SUBSTRATE:	
Over Water	<b>▽</b> / / On F	Resting Area	Sand:	
Calm Water	<del>-</del> 4	∠ / Ⅱ	Gravel:	
Land Side	<u>~~</u>		Debris:	
Center 🖵		٦	VEGETATION:	
Channel Side	MID-CHANNI	<u> </u>		
MID-CHANNEL SANDBAR	apid Currents 🗹		Type: Grass	
ابر ال <i>ا</i>	River Side		Distance: 10	) Feet
SIDE CHA!	NNEL SANDBAR Center	□ · `	FIELD CONDITION	
River Side	Land Side		Temperature:	1 221
	Calm Water	_ \ <u>\</u>	remperature.	65 1
	777		Rain: No	
	///	<del></del>	Wind: Calm	
			% Cloud: 40	
OTHER NOTES:				
Right Bank. Attached sand	har with most Torns r	acting at water line. 7	sotting inland along	wook wrook
lines and grasses. No distu		esting at water line, r	setting inland along	weak wrack
-				LA side
OBSERVERS:	Jones, Ru	ımancik, Fowlkes, Th	omas, Davin	
RIVER GAGE READING:	Na	atchez	=	25.5 F
	(Gage	Location)	(El	evation)

			FLY	BOAT	<b>~</b>
SPECIES: Interior Least Tern (Ste	erna antillarum a	thalassos)			
DATE: 7/1/2005 TIME	OF DAY:	7:31	RIVER MILE:	357.8	
LOCALITY:Adams		SITE NAME:	Carthage	Point Dikes	
County/Parish	State		NUMBERS SIGH	ITED:	
WHERE SITED: Latitude:	31 5197		Adults:	75	
Longitude:			Juveniles: _	Yes	
. <del>-</del> -			Eggs:	1	
Approximate Distance to Water:	800	Feet	Nests:	1	
			Chicks: _	Yes	
10 m		lest Area 🔽	SUBSTRATE:		
Over Water , 🗹	On Res	ting Area	Sand:	2	
Calm Water			Gravel:		
Land Side			Debris:		
Channel Side	MID-CHANNEL		VEGETATION:		
		<sup>''</sup> →	Type: Willo	ws/Cottonwoods	<u> </u>
MID-CHANNEL SANDBAR Rapid Curr	rents		Distance:	200 Feet	
	River Side		Distance	200 1 001	
SIDE CHANNEL SA	NDBAR Center L. Land Side		FIELD CONDITIO	ON:	
River Side 🖳	Calm Water		Temperature	e: 80 °F	
77777	7		Rain: No		
9	/ <del>7</del>	7-7-7	Wind: S 5	mph	
			% Cloud: <	<10	
OTHER NOTES:					
Left Bank. Head of Island, attache	ed gravel bar with	some sand, stand	of hardwoods nea	rby Colony 500	ft.
by 1200 ft. in width and length. Tru and older, some fully fledged. Sec	uck tracks in grav	el with many nestin	g along track lines	s. Chicks 1 week	
deer tracks.			2 (1 (2 (		
OBSERVERS:	Jones, Rumano	cik, Fowlkes, Thom	as, Davin, et al.	MS side	
RIVER GAGE READING:	Nato		11.6	24.6 F	
	(Gage L		- B	(Elevation)	

		FLY □ BOAT ☑
SPECIES: Interior Least Tern (S	Sterna antillarum athalassos)	
DATE: 7/1/2005 TIM	IE OF DAY: 8:10	RIVER MILE:349.0
LOCALITY:Adams	MS SITE NAME	Opposite Warnicott Landing Dikes
County/Parish	State	NUMBERS SIGHTED:
WHERE SITED: Latitude:	31.4208	Adults: 554
Longitude:	91.4950	Juveniles:
Approximate Distance to Water:	100 Feet	Eggs: 1,2,3
		Nests: 100 Chicks: Yes
IN FLIGHT Over Sandbar ✓ Over Water , ✓	ON GROUND On Nest Area  On Resting Area	SUBSTRATE: Sand: ✓
Calm Water		Gravel:
Land Side	$\sim$	Debris:
Center Channel Side	MID-CHANNEL ✓	VEGETATION:
Ranid C	urrents <b>✓</b>	Type: Grass/herbs
MID-CHANNEL SANDBAR	River Side 🗹	Distance: 50 Feet
	SANDBAR Center 🗹	FIELD CONDITION:
River Side	Calm Water 🗹	Temperature: 82 °F
777777	7	Rain: No
	( / / Land	Wind: S 5 mph
	"" "	% Cloud: <u>10</u>
OTHER NOTES:		
in colony about 1 mile long by 1/concentrated on chute side. Fisl	3 mile wide with nests widely dispers ning opposite bank and back chute.	with back chute. Nests (43 with eggs) ed all across bar, but with chicks One adult Tern and 2 chick mortalities cans, Crows, 1 Snowy Egret, 1 Great MS side
OBSERVERS:	Jones, Rumancik, Fowlkes, Carpe	nter, Campen, et al
RIVER GAGE READING:	Natchez	24.6 F
	(Gage Location)	(Elevation)

			FLY [	BOAT ✓
SPECIES: Interior Least Tern	(Sterna antillarum	athalassos)		
DATE: 7/1/2005	TIME OF DAY:	8:55	RIVER MILE:	345.0
LOCALITY:Concordia	LA	SITE NAME:	Esperan	ce Point
County/Paris	sh State		NUMBERS SIGHT	ED:
WILEBE SITED: Latitude:	24 2500		Adults:	2
WHERE SITED: Latitude:			72	
Lorigitud	e: 91.4848		Eggs:	
Approximate Distance to Water	er:	Feet	Nests:	0
			Chicks:	No
IN FLIGHT Over Sandbar	W.	Nest Area	SUBSTRATE:	
Over Water ,	/ / / On Re	esting Area 🔽	Sand:	
Calm Water	<del></del>	۷/.II	Gravel:	
Land Side 🔲	1		Debris:	
Center . Channel Side	MID-CHANNE		VEGETATION:	
' /	**	<sup>┺</sup> →	Type:	
MID-CHANNEL SANDBAR Rapi	d Currents □ ─		Distance:	Feet
	River Side EL SANDBAR Center	∃	THE PARTY CONTRACTOR IN CONTRA	
River Side   Land Side		FIELD CONDITION:		
Kiver side	Calm Water	□ `~~ <b>!</b>	Temperature:	82 F
7777	7+7+		Rain: No	
	برا / الم	-7-7-	Wind: S5r	mph
			% Cloud: 10	)
OTHER NOTES:				
Right Bank. Very small, just elength). All Terns resting at w				ide in total
0				LA side
OBSERVERS:	Jones, Rumano	ik, Fowlkes, Carpen	ter, Campen, et al	
RIVER GAGE READING:	Na	tchez		24.6 F
	(Gage	Location)	(1	Elevation)

FLY  $\square$ BOAT V SPECIES: Interior Least Tern (Sterna antillarum athalassos) DATE: 7/1/2005 TIME OF DAY: 9:16 RIVER MILE: 335.6 MS SITE NAME: Dead Man's Bend LOCALITY: Adams County/Parish State NUMBERS SIGHTED: 5 Adults: WHERE SITED: Latitude: 31.2528 ? Juveniles: Longitude: 91.5653 Eggs: Approximate Distance to Water: Feet 0 Nests: No Chicks: Over Sandbar IN FLIGHT ON GROUND On Nest Area SUBSTRATE: Over Water , On Resting Area Sand: Calm Water Gravel: Debris: Land Side Center VEGETATION: MID-CHANNEL Channel Side Type: Rapid Currents MID-CHANNEL SANDBAR Distance: Feet River Side SIDE CHANNEL SANDBAR Center FIELD CONDITION: Land Side -River Side Temperature: 83 °F Calm Water Rain: No Wind: Calm % Cloud: 10 OTHER NOTES: Right Bank. Medium size, 1/2 mile x 800 ft. wide, recently emergent sand and mud bar with 5 Terns resting only. One Turkey Vulture, 3 Great Blue Herons, 1 Crow. Latitude GPS is questionable according to chart lat/long coordinates. LA side OBSERVERS: \_\_\_\_\_ Jones, Rumancik, Fowlkes, Carpenter, Campen, et al RIVER GAGE READING: 24.6 F Natchez (Gage Location) (Elevation)

FLY  $\square$ BOAT V SPECIES: Interior Least Tern (Sterna antillarum athalassos) DATE: 7/1/2005 TIME OF DAY: 9:32 RIVER MILE: 329.0 MS SITE NAME: Jackson Point LOCALITY: Adams County/Parish State NUMBERS SIGHTED: \_\_\_\_18 Adults: WHERE SITED: Latitude: 31.2411 Juveniles: Longitude: 91.6475 Eggs: Approximate Distance to Water: Feet 0 Nests: No Chicks: Over Sandbar IN FLIGHT ON GROUND On Nest Area SUBSTRATE: Over Water . On Resting Area Sand: Calm Water Gravel: Debris: Land Side Center VEGETATION: Channel Side MID-CHANNEL Type: Rapid Currents MID-CHANNEL SANDBAR Distance: Feet River Side SIDE CHANNEL SANDBAR Center FIELD CONDITION: Land Side -River Side Temperature: 84 °F Calm Water Rain: No Wind: NW 5 mph % Cloud: 40 OTHER NOTES: Left Bank. Mid-channel, isolated point bar of clean, solid sand, 3 ft. vertical height, 150 ft. by 400 ft... Appears it might be a nest colony soon with much courting activity, but no other reproductive indicators. No tracks or other disturbance factors visible. MS side OBSERVERS: \_\_\_\_\_ Jones, Rumancik, Fowlkes, Carpenter, Campen, et al RIVER GAGE READING: 24.6 F Natchez (Gage Location)

(Elevation)

			FLY	BOAT	~
SPECIES: Interior Least Tern (St	erna antillarum at	thalassos)			
DATE: 7/1/2005 TIME	OF DAY:	9:50	RIVER MILE: _	322.0	
LOCALITY: Concordia	LA LA	SITE NAME:	Homo	chito Cuttoff	
County/Parish	State		NUMBERS SIG	HTED:	
WHERE SITED: Latitude:	31 1742		Adults:	32	
Longitude:			Juveniles:		
Longitude.	91.5947		Eggs:		
Approximate Distance to Water:	50 F	eet	Nests:	2	
			Chicks:	No	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		est Area 🗸	SUBSTRATE:		
Over Water , 🗸	On Rest	ing Area □	Sand:	✓	
Calm Water		( / .	Gravel:		
Land Side 🗹			Debris:	✓	
Center 🛂	MID CHANNE		VEGETATION:		
Channel Side   ✓	MID-CHANNEL	<sup>□</sup> →	Type:		
MID-CHANNEL SANDBAR Rapid Cur	rents 🗌				
1 0	River Side	`	Distance:	Feet	
SIDE CHANNEL S	ANDBAR Center		FIELD CONDIT	ION:	
River Side			Temperature: 85 °F		
┣ <del>-</del> ╃────────────────────────────────────	Calm Water	. ~			
	7	<u> </u>	Rain: No		
ŧ	/ / / }	<del>7</del>	Wind: N	W 5 mph	
		5 0	% Cloud:	20	
OTHER NOTES:					
Right Bank. Small, unattached, m	id channel sand ba	ar low flat (600ft	by 200ft ) Two	setting at the cent	er
on nests, the rest at waterline. Co	ourting behavior. N	lo tracks. Six Anh	inga flying mid-cl	hannel, 3 White	
Pelicans downstream, 1 Great Blu	e Heron, 3 Great E	grets, 4 Snowy E	grets upstream o	n large island.	
5 5				LA side	
OBSERVERS:	Jones, Rumancik,	Fowlkes, Carpen	ter, Campen, et a	al	
RIVER GAGE READING:	Natcl	hez	=	24.6 F	
	(Gage Lo	ocation)	DOME	(Elevation)	

			FLY	BOAT	~
SPECIES: Interior Least Tern	(Sterna antillarum	athalassos)			
DATE: 7/1/2005	TIME OF DAY:	10:30	RIVER MILE:	305.0	
LOCALITY: West Felicia	no LA	SITE NAME:	Shre	ves Bar	
County/Pari	sh State		NUMBERS SIGH	ITED:	
WHERE SITED: Latitude:	30.9956		Adults: _	49	
	le: 91.6447		Juveniles: _		
		Fire	Eggs:	1	
Approximate Distance to Water	er: 150	reet	Nests:	4	
			Chicks: _	No	
IN FLIGHT Over Sandbar ✓	ON OROGINE OIL	Nest Area	SUBSTRATE:		
Over Water ,	/ / On Re	esting Area 🔽	Sand:	•	
Calm Water		<u>ار ک</u> ک	Gravel:		
Land Side	5		Debris:		
Center D	MID CHANNE		VEGETATION:		
Channel Side ✓	MID-CHANNE	<b>-</b> →	Type: Grass	ses	
MID-CHANNEL SANDBAR Rapi	d Currents 🗌		Distance:	400 Feet	
	River Side		Distance	400 1001	
SIDE CHANNEL SANDBAR Center Land Side .			FIELD CONDITION:		
River Side	Calm Water		Temperature	e: <u>85                                   </u>	
7777		Rain: No			
	ښدر / /		Wind: NW	/ 10 mph	
			% Cloud: 5	50	
OTHER NOTES:			And a supposed property of		
Left Bank. Attached, upstread tending nests with 1 egg. Mo One White Ibis.					
OBSERVERS:	Jones, Rumano	ik, Fowlkes, Carpen	ter, Campen, et al		
RIVER GAGE READING:	Na	tchez	No. Cont.	24.6 F	
	(Gage	Location)	1000 T	(Elevation)	_

			FLY	□ BOAT ✓
SPECIES: Interior Least Tern	(Sterna antillarum	athalassos)		
DATE: 7/1/2005	TIME OF DAY:	11:02	RIVER MILE:	300.5
LOCALITY: West Felicia	no LA	SITE NAME:	Hog Po	oint Dikes
County/Par	ish State		NUMBERS SIGH	HTED:
WHERE SITED: Latitude	30 9347		Adults:	177
	le: 91.6450		Juveniles: _	
<del>(2</del> 3			Eggs:	1,2,3
Approximate Distance to Wat	er: <u>150</u>	Feet	Nests:	13
			Chicks: _	Yes
<u>IN FLIGHT</u> Over Sandbar  ✓	ON OROGIND OF	Nest Area	SUBSTRATE:	
Over Water ,	/ / / On Re	esting Area	Sand: 🕟	
Calm Water		<u>ال / ک</u>	Gravel:	
Land Side	<b>5</b>	~	Debris:	
Center 🖵		1	VEGETATION:	
Channel Side	MID-CHANNE	<u> </u>	Type: Willow	w/s
MID-CHANNEL SANDBAR Rap	id Currents	<u> </u>	Market 22	A10000 40001
1 /	River Side		Distance: _	200 Feet
SIDE CHANN	EL SANDBAR Center Land Side	₫ :>>	FIELD CONDITION	ON:
River Side 🔲		Temperature: 85 °F		
<b>┣</b> <del>─╱┈╱┈┋</del> ╌╱┆	<del>-</del>	Calm Water ☑	Rain: No	
	/			
	. /	4	Wind: NW	/ 10 mph
			% Cloud: 5	50
OTHER NOTES:				
Right Bank. Attached, upstre chicks abundant 1-2 weeks o Black Vultures upstream from	ld, utilizing all sides o			
Diaon values apaticant non	i colony.			
OBSERVERS:	Jones, Rumano	ik, Fowlkes, Carpen	ter, Campen, et al	
RIVER GAGE READING:	Na	tchez		24.6 F
The second secon	(Gage	Location)	5.50	(Elevation)