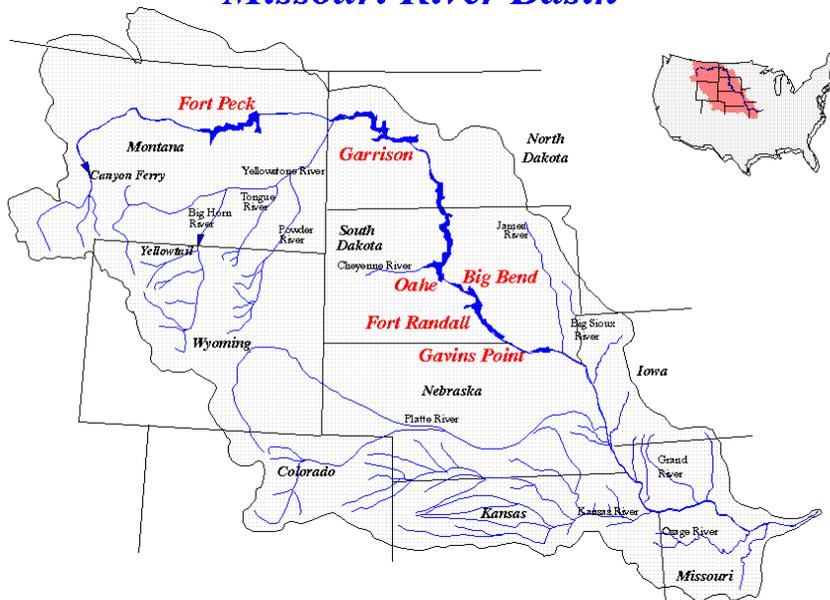


Monitoring Least Terns on the Missouri River



**US Army Corps
of Engineers •
Omaha District**

Missouri River Basin



Missouri River above Ponca NE



Least Terns on the Missouri



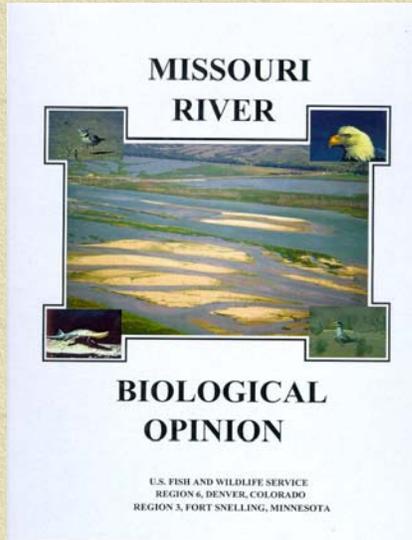
Preferred Riverine Habitat



Flood Control Act of 1944 (Pick-Sloan Plan)



USFWS Biological Opinion

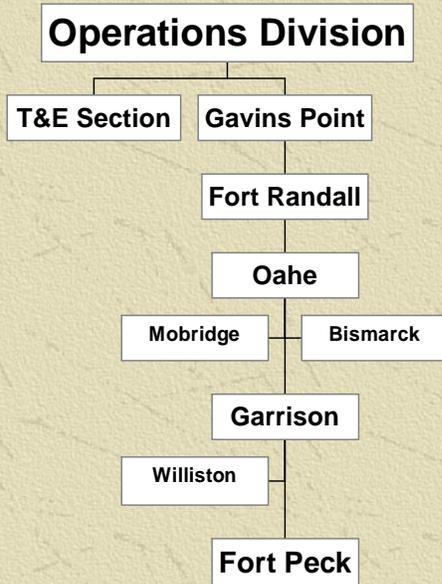


Monitoring Activities

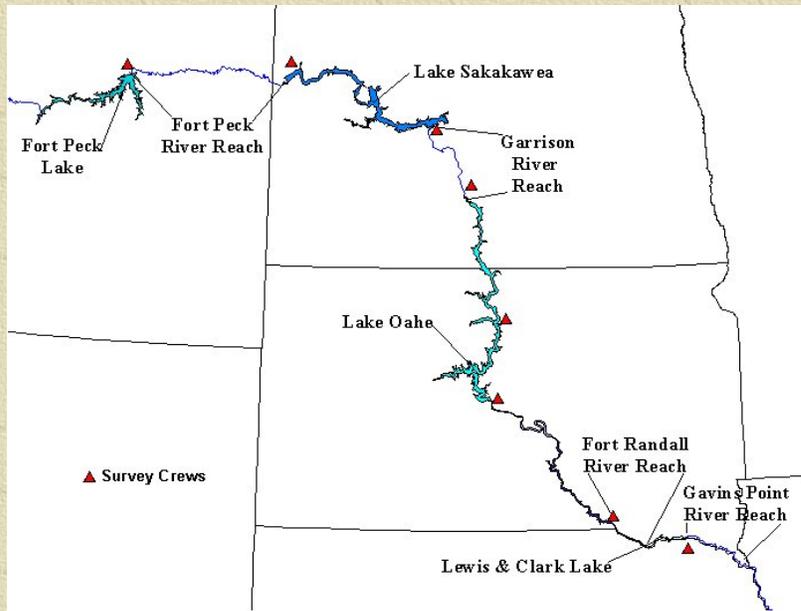
- Monitoring begins May 1
- Monitoring from egg laying to chicks to fledglings
- Continues to the end of August
- Surveys are done on a 5 – 10 day cycle
- Adult Census conducted the last two weeks in June



Omaha District T&E Structure



Survey Reaches



Training



Then



Now

Training Handbook

Ib. Least Tern (*Sterna antillarum*)

DESCRIPTION: The least tern is a slender bird with long narrow wings, a forked tail and pointed bill. The adults weigh 40 to 45 grams (1.3 ounces), are about 22 cm (8.5 inches) in length, and have a wingspan of 50 cm (20 inches). Both sexes are similar in size and color, with upper parts that are gray and under parts that are white. There are several characteristics that distinguish the least tern in its breeding plumage. These include:



1. gray upper body color
2. yellow bill with black tip
3. black cap
4. the most distinguishing characteristic - white triangular forehead.

Least terns are the smallest of North American terns, therefore the reason for its common name - least tern.

The least tern's call is a two-toned "kiddie" given by the adult carrying a fish to feed its mate or young. It's "zooop" alarm call identifies the tern as a dive bomber intruder.

The tern feeds on an array of small fish and aquatic invertebrates occurring in the upper fifteen cm (six inches) of water. The tern will be seen hovering above the water looking for prey and then going into a shallow dive to take the invertebrate in its bill. The terns may feed in flocks of five to twenty birds, but frequently can be seen foraging alone.

Potentially Misidentified Species: The least tern is a member of the Family Lariidae (Skuas, Jaegers, Gulls and Terns, Genus *Sterna* (Terns)). There are several other tern species that can be observed in areas frequented by least terns on the Missouri River. What follows is a description of these species and how to tell them apart from least terns.



Common Tern (*Sterna hirundo*): The common tern nests in areas along the Missouri River, is common in Montana and North Dakota and sporadically seen in South Dakota and Nebraska. Like least terns, common terns are colonial nesters with colonies of up to twenty or more terns. The primary difference between common terns and least terns is size; the common tern is much larger with a length of 37 cm (14.5 inches) and a wingspan of 70 cm (30 inches). Other physical differences between the two species include an orange bill with a black tip and an all black head for the common tern compared to the yellow bill with black tip and white forehead for the least tern.

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Forster's Tern (*Sterna forsteri*): The forster's tern occurs infrequently along the Missouri River, primarily in South Dakota. It closely resembles the common tern and the same characteristics can be used to distinguish it from the least tern. The forster's tern is much larger than a least tern with a length of 37 cm (14.5 inches) and a wingspan of 79 cm (31 inches). Forster's terns, like the common tern, has an orange bill with a black tip and an all black head.

Black Tern (*Chlidonias nigror*): The black tern is commonly found along the Missouri River in South Dakota and Nebraska and infrequently in North Dakota and Montana. It is slightly larger than a least tern with a length of 24 cm (9.5 inches) and a wingspan of 61 cm (23 inches). The primary difference between the two species is the black tern's black color. It has a black head, neck, breast and belly.



LEAST TERN RANGES: Least terns breed in four geographic areas: the Atlantic Coast, Gulf Coast, Interior, and California Coast. As the map shows, the Atlantic population extends from the coast of Maine to Florida. The Gulf Coast population continues around Florida through Texas. The range for the California population extends from southern California north to the Baja Peninsula.

The interior population of the least tern is currently recognized as a distinct subspecies, the interior least tern (*Sterna antillarum adalutensis*). It is named the interior least tern because it breeds on interior river systems of the United States. The interior least tern can be found on the less altered stretches of the Missouri, Mississippi, Red, Arkansas and Rio Grande River systems.

On the Missouri River least terns breed on sections of the river below Fort Peck, Garrison, Fort Randall and Gavins Point Dams and on Fort Peck Lake, Lake Sakakawea, Lake Oahe and Lewis & Clark Lake. In the northern and central Great Plains, tributaries of the Missouri that contain populations of least terns include the Kansas River in Kansas, the Platte, Loup, Elkhorn and Nebraska Rivers in Nebraska, the Cheyenne River in South Dakota, and the Yellowstone River in Montana. Census data from 1993 indicates that there are presently about 8,200 least terns in the interior population.

Wintering grounds information on least terns is not well known. It is believed that least terns winter in southern Mexico, Central America and South America.



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Survey Crews



Safety at all Times

- ✦ Float Plan Filed
- ✦ Boat Safety Check
- ✦ Communication Equipment
- ✦ Minimum of two people on survey
- ✦ Life Jackets worn while on the Water



Search Priorities Throughout the Nesting Season

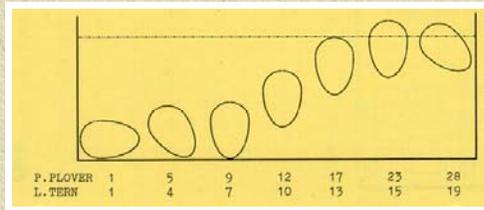
- ✦ May through Mid June – search for nests
- ✦ Mid June through Mid July – search for nests & chicks
- ✦ Mid July through August – search for chicks & fledglings



Looking for Nests



Checking Eggs



Checking for Chicks



Hand Held Computer & GPS



Data Collected

- ✦ Location, Date & Time
- ✦ Nest ID
- ✦ Habitat Type
- ✦ Nest Status
- ✦ Nest Fate
- ✦ Nest Elevation
- ✦ Management Activities
- ✦ Chick Numbers & Age
- ✦ Fledgling Numbers

Data	Collect	Options	Log
2 Nest	OK	Cancel	
Reach:	Gavins Point River		
Nest Number:	11		
Species:	Piping Plover		
River Mile:	795.3		
Subsite:			
123 1 2 3 4 5 6 7 8 9 0 - =			
Tab q w e r t y u i o p []			
CAP a s d f g h j k l ; ' .			
Shift z x c v b n m , / ←			
Ctl áü · \ ↓ ↑ ← →			
TerraSync 10:03a			

Restriction Signs



From the Field to the Internet - TESDMS

- ✦ Data Downloaded
- ✦ Field Journal Updated
- ✦ Data & Journal Entries Reviewed
- ✦ Data Released to the Internet
- ✦ Access to the TESDMS is Restricted



TESDMS Reports

- ✦ Productivity Summary
- ✦ Census & Fledge Ratio Report
- ✦ Field Journal
- ✦ At Risk Nests
- ✦ Nest Timeline
- ✦ Nest Fate Report

U.S. Army Corps of Engineers Threatened and Endangered Species Data Management System

Productivity Summary

Reach	Piping Plover					Least Tern						
	Total	Active	Below	Obs	Total	Total	Active	Below	Obs	Total		
	Nests	Nests	11C	Nests	Dist	Chicks	Nests	11C	Nests	Dist	Chicks	Enlarged
Fort Peck Lake	0	0	0	0	0	0	0	0	0	0	0	0
Fort Peck River	2	0	0	1	0	0	7	0	0	1	4	2
Lake Sakakawea	113	1	0	103	4	3	323	3	0	2	1	0
Garrison River	43	1	0	29	9	4	42	52	0	45	3	4
Lake Oahe	74	0	0	52	16	6	0	111	54	1	0	37
Fort Randall River	40	0	0	19	21	0	0	27	73	0	52	17
Lewis & Clark Lake	20	0	0	10	9	1	0	7	44	0	15	18
Grosvonts Point River	124	0	0	86	33	5	0	206	130	0	124	20

TEDMS Reports

- ✦ Expectations List
- ✦ Last Visit Report



Annual Report



U.S. Army Corps
of Engineers

2002

Annual Report for the
Missouri River Biological
Opinion



Historic Maps



Key to Success



Questions?

