

Avian Monitoring Program

By Robert L. Penner II

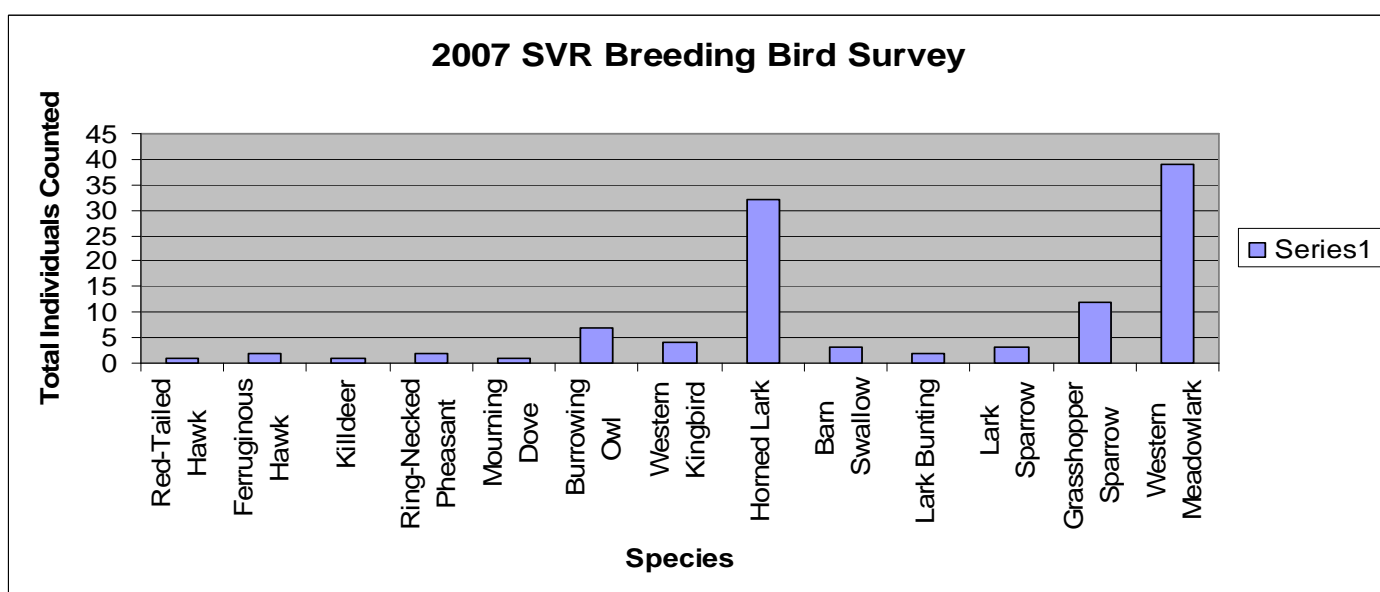
The Nature Conservancy of Kansas is expanding its efforts to monitor bird populations as overall indicators of ecological health. The information gathered will help TNC staff assess the impacts of habitat management strategies. Outcomes from the avian monitoring program will be used to guide future management decisions involving grazing, burning, and other activities on TNC lands in the state.

Birds are fairly easy to monitor as they are usually well known, relatively easy to identify and somewhat easier to locate than many other animal groups. Birds are useful indicators of the health of the environment and are good species for education and public awareness. There is a great deal of knowledge about bird distributions within Kansas and a growing network of knowledge about bird numbers within the state. One of the first steps in developing an avian monitoring program is to develop a good set of baseline data. A reliable baseline makes avian monitoring even more important as there is a good chance of recognizing future changes in bird abundance, distribution and diversity.

After a reliable baseline of bird abundance and distribution is developed, future monitoring can identify changes in bird populations and composition in relations to environmental changes such as habitat improvement, habitat degradation or major change in land-use on nesting grounds, wintering ground or even along their migration corridors.

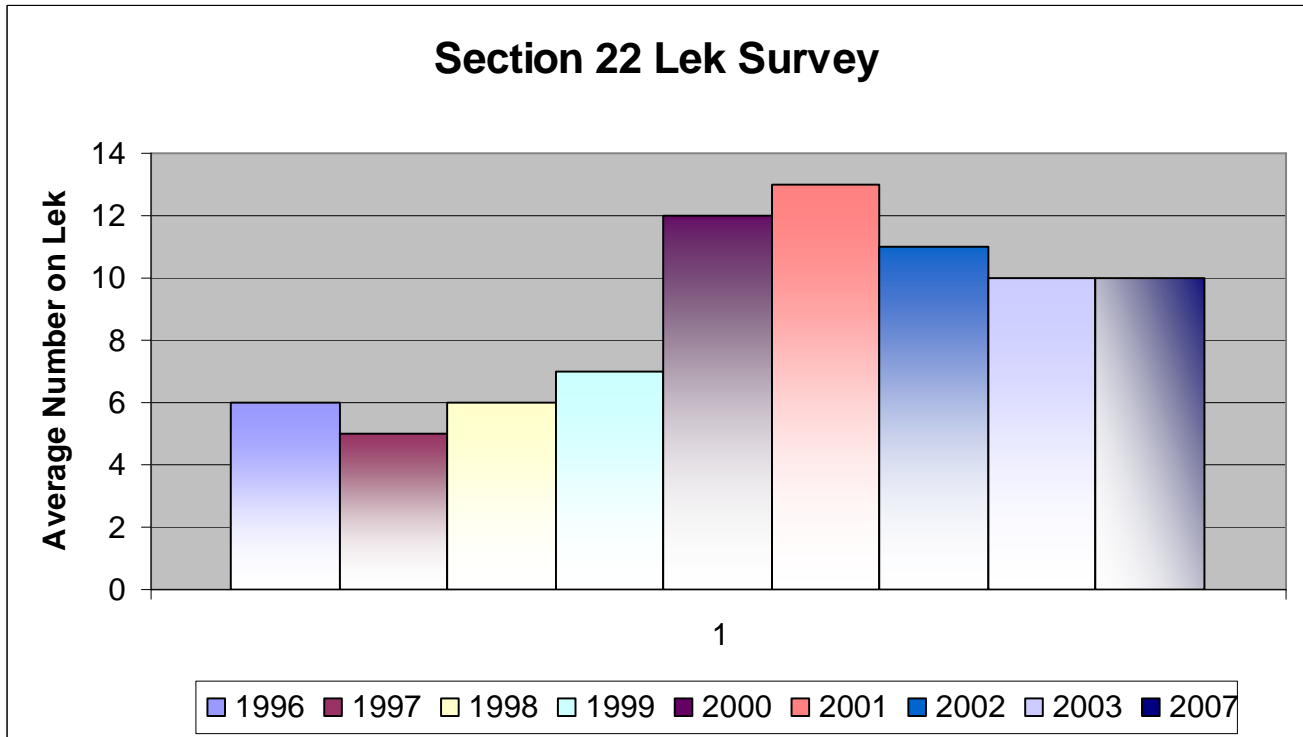
The Nature Conservancy Kansas Chapter has been in the avian monitoring business for a number of years. Most of the monitoring work has been conducted at the Cheyenne Bottoms Preserve (Barton County). Such monitoring consisted of spring use of the area by shorebirds, spring arrival dates of all birds, grassland bird abundance during the breeding season and raptor use of the preserve during the winter months. However, starting in 2007, it was decided to expand the avian monitoring program to include all the preserves that the Nature Conservancy actively manages.

At the Smoky Valley Ranch (Logan County) Breeding Bird Survey Route was established that is designed to develop that important baseline of bird abundance and composition. As more data is collected it will be possible to look at specific points within the ranch to determine if habitat management practices are having desired effects on bird populations. A graphical representation of the first year of the Smoky Valley Ranch survey route is shown below.

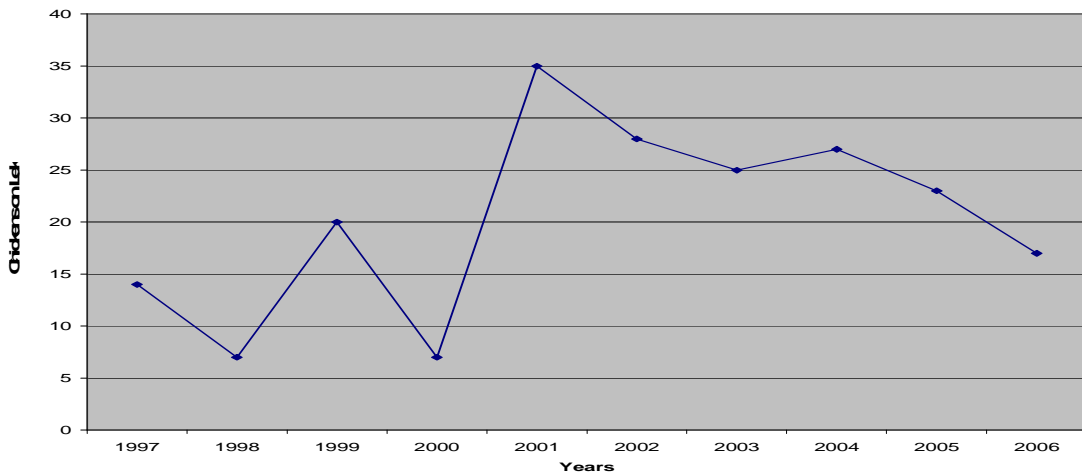


At the Skyline Preserve, in Wabaunsee County, transects were established to determine bird abundance and diversity. This survey was developed to establish a baseline for comparison over the coming years. In 2008 a transect will be re-established on the Flint Hills Preserve (Greenwood & Butler counties) to maintain a baseline that was developed a few years ago. No specific management changes are planned for this preserve, but the monitoring work will be in place as a baseline to track any future management changes and also help track any landscape changes in the Flint Hills Region. In addition, there is a lek survey in place on the preserve. We have kept track of prairie chicken use on a couple of leks for a number of years and have plans to continue the survey in the future.

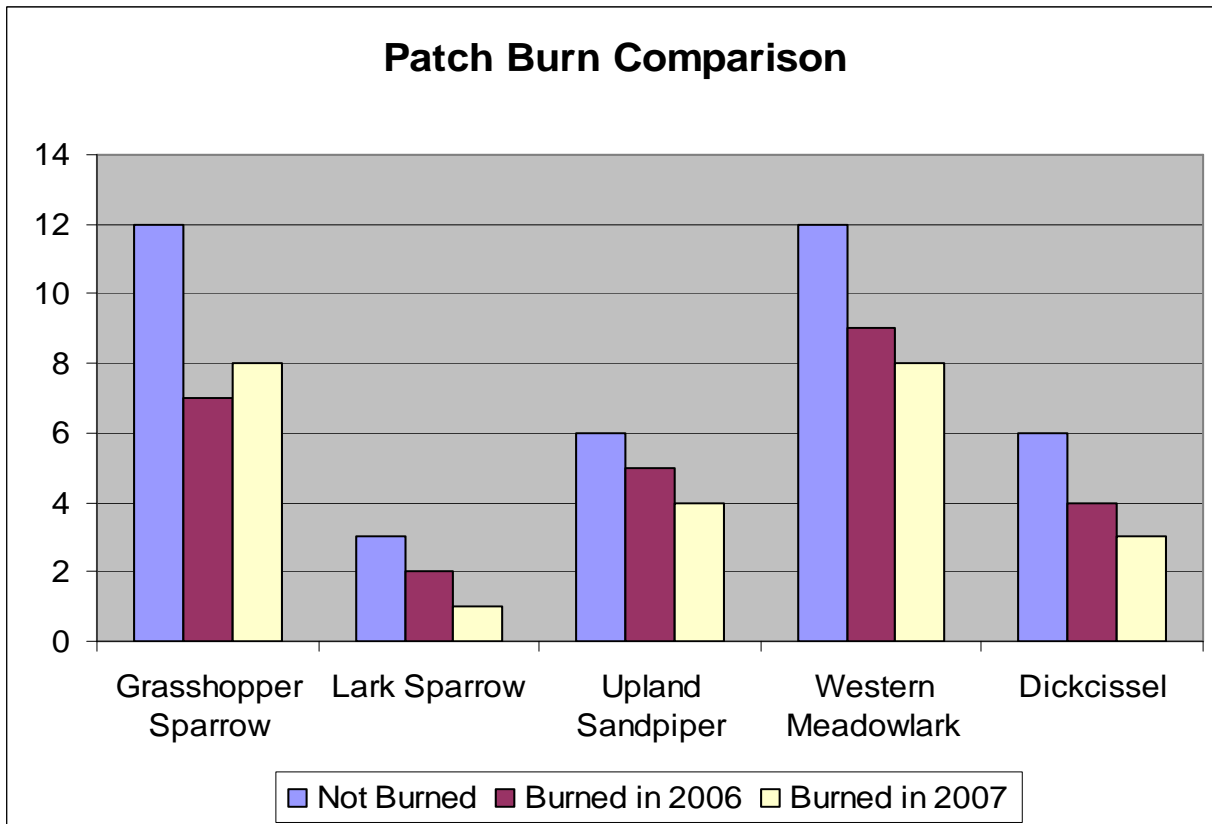
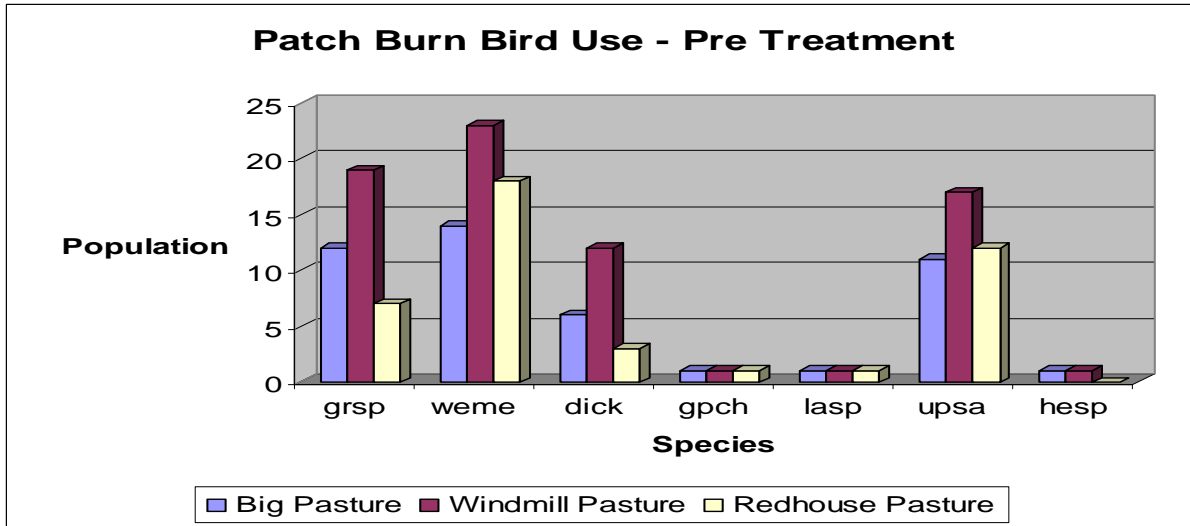
Flint Hills Preserve



Skyline Preserve



The Tallgrass Prairie National Preserve (Chase County) is cooperatively managed by the Nature Conservancy and the National Park Service. Thanks to efforts by the National Park Service, a good baseline has been established to document bird population conditions prior to TNC ownership. One of the management changes that has taken place is the establishment of a patch-burn grazing system on a portion of the prairie. The monitoring program that has been established is designed to assess effects on bird populations in the area being treated with this rotational burning and grazing system. Starting in 2008, a lek survey will be established to develop a baseline of prairie chicken use on the area and monitor future changes.



Cheyenne Bottoms Preserve has a number of ongoing bird surveys. As with other monitoring programs, the surveys at Cheyenne Bottoms are designed to develop a reliable baseline and monitor the effects on bird populations resulting from habitat manipulation. Due to Cheyenne Bottoms' importance to shorebirds and waterfowl, the monitoring program will also examine effects of land-use changes in other parts of hemisphere.

1997-2000		BIRD ARRIVALS	
Species	Average	Range	Number
Black-necked Stilt	16-Apr	March 25 -April 30	40
Greater Yellowlegs	15-Apr	April 8 - April 20	6,583
Lesser Yellowlegs	19-Apr	April 12 - April 22	943
<i>Wilson's Phalarope*</i>	28-Apr	April 11 - May 12	6,783
Marbled Godwit	16-Apr	April 7 - April 25	590
Hudsonian Godwit	22-Apr	April 18 - May 2	2,840
Pectoral Sandpiper	23-Apr	April 8 April 28	102
Dowitchers	23-Apr	April 8 - May 8	200,500
Stilt Sandpiper	16-May	April 10 - May 22	27,997
Semipalmated Plover	26-Apr	April 17 - May 10	692
<i>Snowy Plover*</i>	27-Apr	April 10 - May 20	23
<i>Killdeer*</i>	15-Apr	April 1 - May 10	1,743
Baird's Sandpiper	14-Apr	April 3 - April 22	38,897
Western Sandpiper	23-Apr	April 15 - May 3	138
Least Sandpiper	26-Apr	April 12 - May 5	674
Semipalmated Sandpiper	28-Apr	April 16 - May 15	90,676
White-rumped Sandpiper	24-May	May 20 - May 30	64,987
<i>American Avocet*</i>	24-Apr	April 8 - May 8	7,011
Black-bellied Plover		April 10 - June 15	7
Lesser Golden Plover		March 20 - May 25	3
Piping Plover		March 25 - May 20	2
Solitary Sandpiper		April 5 - May 10	14
Willet		April 20 - June 1	9
Spotted Sandpiper		April 15 - May 10	17
<i>Upland Sandpiper*</i>		April 1 - April 20	25
Whimbrel		April 15 - May 10	4
Long-billed Curlew		April 5 - May 10	9
Common Snipe		April 5 - April 20	4
Ruddy Turnstone		20-May	1
Knot		19-Apr	1
Sanderling		14-Apr	1
Dunlin		5-Apr	1

The Nature Conservancy's Kansas Avian Monitoring Program in many respects is in its infancy. In order to be of greatest value it will continue over many years. The graphs and tables illustrated here are only examples of the data being collected and are simple snapshots of bird populations on the preserves. Additional years of data must be collected and analyzed in order to make reliable assessments of the effects of land management strategies and other influences on bird populations.