

PRAIRIE GROUSE  
TECHNICAL COUNCIL

EXECUTIVE COMMITTEE

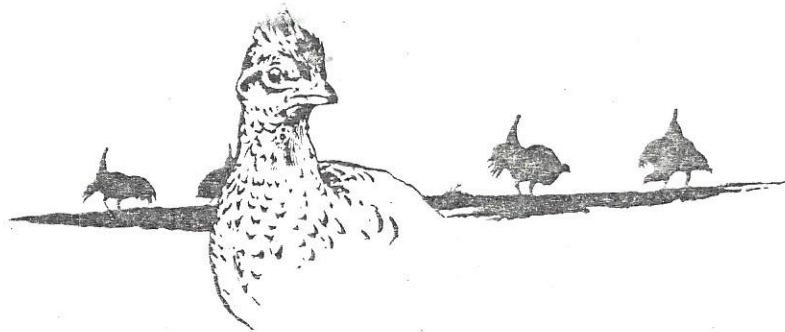
WILLIAM C. BROWNLEE, Chairman  
TEXAS PARKS AND WILDLIFE DEPARTMENT  
VICTORIA, TEXAS

KEN ROBERTSON, Secretary  
NEBRASKA GAME AND PARKS  
BASSETT, NEBRASKA

DONALD M. HOFFMAN, Past Chairman  
COLORADO DIVISION OF WILDLIFE  
FORT COLLINS, COLORADO

PAST CONFERENCES

- First ..... September 25, 26, 27, 1957  
GRAND ISLAND, NEBRASKA
- Second ..... March 16, 17, 18, 1959  
EMPORIA, KANSAS
- Third ..... September 8, 9, 10, 1960  
STEVENS POINT, WISCONSIN
- Fourth ..... September 21, 22, 1961  
PIERRE, SOUTH DAKOTA
- Fifth ..... September 18, 19, 20, 1963  
NEVADA, MISSOURI
- Sixth ..... September 14, 15, 16, 1965  
WARROAD, MINNESOTA
- Seventh ..... September 12, 13, 14, 1967  
EFFINGHAM, ILLINOIS
- Eighth ..... September 9, 10, 11, 1969  
WOODWARD, OKLAHOMA
- Ninth ..... September 14, 15, 16, 1971  
DICKINSON, NORTH DAKOTA
- Tenth ..... September 5, 6, 7, 1975



PROCEEDINGS

ELEVENTH CONFERENCE

PRAIRIE GROUSE

TECHNICAL COUNCIL

SEPTEMBER 9, 10, 11, 1975

VICTORIA, TEXAS

Host

TEXAS PARKS AND WILDLIFE DEPARTMENT

Compiled by  
William C. Brownlee



Not for publication without consent of contributing author.

PROCEEDINGS OF ELEVENTH CONFERENCE  
PRAIRIE GROUSE TECHNICAL COUNCIL

September 9, 10, 11, 1975

Victoria, Texas

HOST

Texas Parks & Wildlife Department

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Tuesday - September 9

Welcome - Ted L. Clark, Wildlife Director, Texas Parks  
and Wildlife Department

Mr. Clark cordially welcomed the delegates.

Morning Session

TEXAS WILDLIFE RESOURCES

By

Dennis L. Brown - Wildlife Biologist, TPWD  
Lonny Peters, Inland Fisheries, TPWD  
Jim Stevens, Coastal Fisheries, TPWD

PROPAGATION OF PRAIRIE CHICKENS

By

Arnold D. Kruse  
U. S. Fish & Wildlife Service  
Jamestown, North Dakota

Techniques have been developed which enable propagation of large numbers of greater prairie chickens (Tympanuchus cupido pinnatus) using standard game facilities and diets.

Greater prairie chicken adults were flock-mated using one male with up to 14 females in 50' x 100' breeding pens. Hens laid an average of 27 eggs per year and 75 to 85 percent of these eggs were fertile. Eggs were incubated and hatched mechanically and chicks survived until 14 days of age.

Different diets, incubation, and rearing methods were tested before we came up with techniques which enable up to 15 chicks to be successfully raised for each female in the breeding flock. Chicks reared in 1974 and 1975 are being used in experimental releases in Wisconsin and South Dakota.

MANIPULATION OF FALLOW RICELAND FOR  
ATTWATER'S PRAIRIE CHICKENS  
AND HERBAGE PRODUCTION

By

J.D. Dodd, A.T. Weichert, & W.B. Kessler  
Department of Range Science  
Texas A&M University  
College Station, Texas

The Coastal Prairie formerly provided habitat for all life requirements of the Attwater's Prairie Chicken. However, urbanization, industrialization, overgrazing, and increasing crop production has severely reduced available habitat.

Approximately 1 million acres of fallow riceland exist in various stages of plant succession in the Coastal Prairie each year. A grass cover can be rapidly established on these lands with applications of herbicides. A single treatment of 1 lb/acre 2, 4-D, during spring following rice production, provides adequate weed control for the 3-year fallow period. However, at no time does the herbicide completely remove any weed species from the system. Weed densities increase as time (years) increase following treatment. Grass forage production increased more than 1 T/acre by the 2,4-D treatment. The trend of increased grass production is evident throughout the 3-year fallow period. The resulting increased live-stock production should at least pay the treatment costs.

In 1975, an experimental delayed action herbicide was tested to explore the possibility of herbicide application prior to planting of herbicide-susceptible crops. The initial study indicated that the experimental material, when applied at 0.5 lb/acre, was as effective for weed control as 1 lb/acre 2,4-D.

Observations and counts have shown that Attwater's Prairie Chickens occupy treated fields within 30 days following herbicide treatment. This use continues until the field is returned to rice production. In July 1975, following herbicide application in late May, approximately 50 Attwater Prairie Chickens were counted in a treated field of 600 acres.

Herbicide application on fallow riceland benefits the livestock producer with increased grass herbage production. The Attwater's Prairie Chicken benefits from availability of a grass-dominated habitat.

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Afternoon Session

THE USE OF HELICOPTERS TO LOCATE  
SAGE GROUSE STRUTTING GROUNDS

By

Barry L. Betts

U. S. Fish & Wildlife Service

Vernal, Utah

ABSTRACT

Techniques in using a B-1 helicopter for locating sage grouse strutting grounds on the Uintah-Ouray Indian Reservation (Northeastern Utah) are described. Seven strutting grounds were located by two observers and the pilot during early morning flights between April 22-24, 1975. Prior to the search for new grounds, three known strutting grounds were flown over and sage grouse reaction was observed. Behavioral response to noise, wind and general disturbance caused by the helicopter is described. Various methods of flying; i.e., systematic vs. random search patterns;

low, slow flying vs. flying faster at higher altitudes are compared. Total flight time was 8.7 hours or 1.24 hours per ground. Total helicopter rental cost was \$1,025.00 or \$146.43 per ground.

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CORRELATION OF POPULATION PARAMETERS OF  
SHARP-TAILED GROUSE IN NORTH DAKOTA

By

Gerald D. Kobriger  
North Dakota Game & Fish Department  
Dickinson, North Dakota

ABSTRACT

Six population parameters, with sixteen different statistics were summarized over a 30-year period. These included rural mail carrier counts, breeding ground surveys, brood surveys, and harvest statistics.

Correlation coefficients were calculated to evaluate validity and usefulness of the various surveys.

Significant correlations were found between: January rural mail carrier counts (RMC's) and spring breeding densities of male sharptails on census areas; the July RMC's with the fall populations index; fall harvest with fall population index; and the fall population index with the following January RMC's.

No correlation was found between number of broods or average brood size with the fall age ratio, or between the fall age ratio and the following spring population.

PROGRESS REPORT ON SPRING AND  
SUMMER MOVEMENTS AND HABITAT USE BY GREATER  
PRAIRIE CHICKENS IN NORTHWESTERN MINNESOTA

By

Jeffrey P. Jorgenson and  
W. Daniel Svedarsky  
University of North Dakota and  
University of Minnesota

ABSTRACT

The movements and habitat use of ten (5 male and 5 female) greater prairie chickens were monitored by radio-telemetry from May through August of 1975. All birds were captured with a Miller cannon net on a large (18 male) booming ground associated with a 1440 acre prairie chicken sanctuary located at the northern extent of the range in Minnesota.

Male prairie chickens remained near (within 1/2 mile) the booming ground throughout the study period and were found most often in alfalfa or grassy lowland areas. Very little use was made of the preserve itself by males. Female prairie chickens, on the other hand, dispersed from the booming ground and nested on the preserve.

Ten nests were located by radio-tracking females and the use of a cable-chain drag. Seven nests were located in native prairie vegetation surrounding the nests was 24 cm. with 3-5 cm. of residual litter. Nesting success was 80%. Brood sizes of 1-3 birds observed by late July are thought to have been related to heavy rains occurring at the peak of hatching.

Cultivated fields especially alfalfa and small grain, and grassy lowland areas were used by both sexes for feeding and loafing. Grazed and cultivated areas were used more by broods than the denser undisturbed habitat types. Roosting sites were in dense grass cover.

TERRITORIAL BEHAVIOR OF ATTWATER'S  
PRAIRIE CHICKEN DURING COURTSHIP

By

Dr. Jim Dodd and W. B. Kessler  
Texas A & M University  
College Station, Texas

ABSTRACT

A study was made of courtship behavior of Attwater's prairie chicken (Tympanuchus cupido attwateri Bendire) in the Coastal Prairie. Observations of booming ground behavior were made during active portions of the 1974 and 1975 breeding seasons (late February to late April). These observations were made in Colorado County, Texas. Two types of booming grounds were distinguished. Native prairie booming grounds were small open areas within the grassland ecosystem. In general, they have a history of prairie chicken use. The other type occurs within large fallow rice fields and is generally suitable as booming grounds for only a limited period of time.

On native prairie the number of territories established per booming ground ranged from 5 to 10. The size and location of territories remained stable on each booming ground throughout the breeding season. Territories ranged from 149.4m to 739.5m in area with an average size of 332.6m. Centrally located territories tended to be smaller in size, and the occupants were involved in more aggressive encounters per hour on native prairie booming grounds was 16.2; the average number of aggressive encounters per hour per bird was 3.2.

Methods employed in the study of native prairie booming grounds could not successfully be applied to the rice field booming grounds. Territorial behavior is largely lacking in the fields. Frequency of aggressive encounters was low, averaging 3.4 encounters per hour and 0.85 per hour per bird. Social gatherings on rice

fields did not exhibit the structure and stability that have been described for Attwater's prairie chicken on ancestral booming grounds.

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STATUS AND MANAGEMENT OF PRAIRIE  
CHICKENS IN ILLINOIS

By

Ronald L. Westemeier  
Illinois Natural History Survey

ABSTRACT

A program of land acquisition and management for prairie chickens began near Bogota in Jasper County, Illinois in 1962 with the purchase of 77 acres by the Prairie Chicken Foundation of Illinois. Subsequent acquisitions, mainly by the Prairie Grouse Committee of the Illinois Chapter-The Nature Conservancy, increased the acreage to 1,000 acres by 1973. Population responses at Bogota during this period were as follows: (1) continued decline for 2 years (1963-64); (2) relative stability for 3 years (1965-67); and (3) encouraging increases for 5 years (1968-72). However, in 1973 and 1974, respective declines of 30 percent and 29 percent were recorded in the number of males on booming grounds. These population changes are well correlated with hatching success on a sample of 533 prairie chicken nests found over the 12-year period. The primary limiting factor acting on this population appears to have shifted from poor nest success due to spring plowing coupled with inadequate nest habitat during 1963-68, to poor nest success due to predation on sanctuary land during 1973-75. Increasing interactions and harassment from pheasants have recently become an additional adverse factor jeopardizing efforts to preserve prairie chickens in Illinois.

Population responses on the 560 acre sanctuary system so far established in Marion County have ranged from relative stability to modest gains in the population level since the first acquisition in 1967. However, the size of the remnant flocks in Marion County remain at a precariously low level.

Flocks not associated with sanctuaries continue to decline each year or disappear completely as only four such areas remained in the spring of 1975. Eighty-five percent of the known population of 175 prairie chicken cocks in Illinois in 1975 were anchored to the sanctuary systems in Jasper and Marion Counties. All booming grounds in each county were located on or in close proximity to the sanctuaries.

Because prairie chickens require a diversity of early successional stages of grasslands for nesting and brooding plus strategically located sites for booming grounds, a combination of sharecropping and prescribed burning is employed to provide these essential habitat components. Management of established nest-brood grasslands is accomplished primarily by redtop and timothy seed harvesting, prescribed burning, mowing for weed and brush control, and to a lesser extent, mowing for hay (both native and domestic), light grazing, and harvesting of legume and prairie grass seed. Management to provide booming grounds and to develop new sods is accomplished by a rotation of soybeans, wheat or oats, or red clover. Revenues accruing from seed harvests, crops, hay, and grazing fees generally exceed costs of habitat management including real estate taxes.

HABITAT STATUS IN THE ATTWATER'S  
PRAIRIE CHICKEN'S NORTHERN RANGE

By

Royce W. Jurries  
Texas Parks & Wildlife Department  
Columbus, Texas

Since 1900 the population trend of the Attwater's has been downward. A census conducted in 1937 showed 870 birds remaining in Texas. The 1975 census was 2250 birds. Although there were several causes for the population decline, habitat destruction was the greatest single factor in population losses.

A telemetry study was completed in Victoria County to determine habitat requirements of the chickens on rangeland. Another telemetry study was initiated in 1974 in the ricebelt in Colorado County to provide insight into life requirements of chickens living in fallow ricefields. Preliminary results indicate that adult chickens can survive in the fallow fields, but good nesting and roosting cover are lacking.

Management in the form of satellite areas is planned when funds become available. These areas, 100 to 300 acres in size, will be scattered in the ricebelt. They will be sloped to provide proper drainage. They will be managed to provide good nesting and roosting cover. A predator control program will be conducted to prevent nest losses.

PRESCRIBED BURNING, LIVESTOCK  
AND THE PRAIRIE CHICKEN ON THE  
SHEYENNE NATIONAL GRASSLAND

By

U. Robert T. Starch  
U. S. Forest Service  
Tishon, North Dakota

ABSTRACT

With improved livestock management, the number of display grounds and associated prairie chicken (Tympanuchas cupido) males have increased during a 5-year period (1965-1974) on tallgrass prairie summer pastures within the Sheyenne National Grassland in southeastern North Dakota. Approximately 8200 head of cattle grazed the 47,000 acre area studied from May 10 through November 15. In the spring of 1968 approximately 73 percent of the area was grazed under a season long grazing system and from 1961 through 1970 recorded observations of displaying prairie chicken males averaged 5 males on 2 display grounds. By the spring of 1974, deferred rotational grazing, accompanied with a prescribed burning and mowing program, had been adopted over 85 percent of the study area. The 1974 prairie chicken inventory indicated a population of 104 males on 26 display grounds.

Evening Session

A mixer featuring boiled shrimp and fried fish was held from 7:00 p.m. to 10:00 p.m.

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Wednesday, September 8

FIELD TRIP

8:00 a.m. ----- Assembled in parking area adjacent to the Holiday Inn

8:30 a.m. ----- Left Victoria

8:50 - 10:30 p.m. -- Tour Victoria Study Area

10:30 - 12:30 ----- Travel to Eagle Lake

12:30 - 1:30 ----- Lunch at Sportsman Cafe, Eagle Lake

2:00 - 4:00 p.m. -- Demonstrate helinet technique of capturing prairie chickens

5:30 ----- Coffee Stop

6:00 p.m. ----- Returned Victoria - Arrived approximately 7:45 p.m.

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Thursday, September 11

Panel Discussion

Management Practices for Maintaining a Viable Prairie Chicken Population.

Panel Members

Mr. Dennis Williams - Land Manager - Refugio County

Dr. J. H. Dodd - Future outlooks in range improvements.

Jerry Kobringer - Outlook for maintaining a huntable population of prairie grouse.

Mr. Claude Lard - Role that Federal lands can play in maintaining viable grouse populations.

Royce Jurries - Satellite area concept for maintaining grouse prairie chicken populations.

Loss of prairie grouse habitat due to land use changes is the greatest problem facing today's managers of the species. It follows that the inability of technically trained people to provide data which should be available to administrators when basic policies concerning land use are made has also contributed to this problem. All too often regulations concerning energy, pollution, and land use which could adversely affect prairie grouse populations are prepared without any input or involvement of those agencies or organizations which would be affected.

To correct these inadequacies, a technical committee under the auspices of the Prairie Grouse Technical Council is needed. This committee should develop guidelines, management methods, and the necessary technical information to regulatory agencies, for their use in any decision making process which would affect grouse numbers. To this end, it is imperative that brood management plans for each grouse species be prepared by the Council. Guidelines for habitat protection for prairie grouse range should be developed and submitted to all land holding agencies with the expectation they would be utilized when agencies develop long range multiple use plans for lands under their control.



PRAIRIE GROUSE TECHNICAL COUNCIL

Business Meeting

September 11, 1975  
Bill Brownlee, Chairman

I. Committee Reports

- A. Bibliography Committee  
No report.
- B. Public Relations Committee  
Dr. Ruth Hine, Chairman - not present and no report.
- C. Map Committee  
Leonard Sissom - Chairman - not present,  
Ron Robertson reported.

Meeting was called to order by Chairman Brownlee and he asked for committee reports. They were as follows:

Bibliography Committee: No one present - no report. Public Relations Committee: No one present - no report. Map Committee: Ken Robertson reported that hopefully the final draft could be decided at this meeting (it wasn't) and the final copy ready by spring of 1976. The map is to be multilithed by the Nebraska Department and distributed to all members.

The question was raised about appointing new committee members or abolishing the committees.

The questions was raised concerning the Tall Grass Prairie National Park resolution. Ken Robertson reported it had been written, approved, and sent to the Kansas Congressional Delegation, state legislators, governor, Secretary of the Interior and the President. It was then stated that at the present time the park

idea is dead. It is believed that a Prairie Parkway concept is now being considered. Jim Dodd said there had been a purchase of National Grassland south of Red Cloud, Nebraska, and Claude Lard said there had been one in Texas. It is not known if these purchases are connected to the parkway concept.

The minutes of the 1973 meeting were read and approved.

The next meeting location was discussed. Chairman Brownlee read a letter from Dr. Raymond K. Anderson at the University of Wisconsin at Stevens Point offering to host the 1977 meeting.

Leslie Rice offered the State of South Dakota as a host of the 1977 meeting also.

During discussion of the next meeting site, it was mentioned that the last two meetings had been held in "prairie chicken" states and maybe we should go to a sharptail state. On a vote of 14-10 it was decided to hold the next meeting in South Dakota during the grouse hunting season.

Following earlier discussion, a motion was made by Arnold Kruse and seconded by Ron Westermeier to form an action committee to include the president, secretary and three members appointed by the president. This was amended on a motion by Kruse and seconded by Robertson to include the executive committee (president, past president and secretary) plus three other members chosen by them. The main idea of the action committee being to get ideas and information from the members, to assist in setting objectives and policy statements.

Arnold Kruse suggested the next meeting be pointed at aging, sexing and censusing techniques, following the disagreement on aging on Attwaters prairie chicken the previous day.

Minutes recorded by Ken  
Robertson, Nebraska Game  
and Parks Commission

ATTENDANCE LIST

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Sciences, Texas A&M University.

Curry, Dale. Oklahoma Department of Wildlife Con-  
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Dodd, J. D. Department of Range Science, Texas  
A&M University.

Dodgen, H. D. World Wildlife, Austin, Texas.

Frels, Don B. Texas Parks and Wildlife Department,  
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Wolfe, Terry. DNR - Minnesota, Crookston, Minnesota.