

UNITED STATES GOVERNMENT

Memorandum

*Evaluation of Crop Manipulation
Changes in Tennessee NWR*

*Stieglitz &
Morgan
ARD-RW*

TO : State Supervisor, Wildlife Assistance

DATE: November 17, 1981

FROM : Refuge Manager, Tennessee NWR

SUBJECT: Analysis of the Impact of Crop Management Changes at Tennessee National Wildlife Refuge.

We have received a copy of Mr. Hickling's memorandum, with assembly, dated November 10, 1981, to the Regional Director concerning the above. We note that you have been instructed to prepare a study outline to determine the effects of changed crop management on the waterfowl populations at Tennessee National Wildlife Refuge.

First, let me assure you of our fullest cooperation in the undertaking. As a matter of fact, as we supervised the harvests this year, we planned in plots of managed and unmanaged corn that will be helpful in the first year's evaluation. We will, as opportunity permits, show you these areas as well as familiarize you and Bob with the entire cropping and harvest operation. The staff here at Tennessee NWR had, prior to the receipt of a copy of Mr. Hickling's memorandum to the Regional Director, been instructed to keep up with crop utilization in the managed and unmanaged areas. These instructions can be altered or changed entirely to assist you.

In addition to the plots and strips of corn, we have areas of standing grain sorghum. We used milo in determining our acreage of unmanaged grain.

It occurs to us that you may also be interested in the acreage of browse planted in past years that contributed to waterfowl use. This information is available by acres and estimated tonnage produced. We have observed over the years that good, succulent browse is almost as important in goose management as is dry grain.

Now, let me try to reassure you that Ms. Fields' comments on Mr. Orr's proposal are repeatedly in error and often times self-contradictory.

Going down Ms. Fields comments in order:

1. Ms. Fields says it is difficult to determine exactly how much crop has been left in the field. In No. 4, she lists acres and bushels of corn.
2. No comment.
3. Here she states that there is "no documentation of how much corn has actually been knocked down prior to the hunting seasons". In 3.2, it is stated that Refuge Manager Childs has stated repeatedly that all



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of the corn which has been left as the Service share has been used annually. It is further stated that Tennessee Refuge interpreted the Regional policy to mean that all of the Service share could be knocked down prior to the season but, we do not know in fact how much was actually knocked down annually". We have stated repeatedly that all corn and feed has been managed before the season. There has been no qualifying in this area. Mr. Orr's memorandum is very clear on this. We quote "In the past, the Refuge has knocked down all of the corn crop prior to the hunting season". He seems to comprehend.

4. This is a difficult one to deal with. Only here do we find an expressed need of food available immediately prior to the opening of season and immediately at the close of the season. Ms. Fields is correct in that we have not kept specific records. We cannot find where Mr. Orr expressed a need for this information.

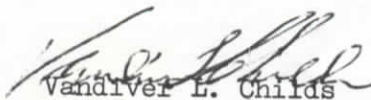
Ms. Fields' quotes from our narratives are excerpts and often are not meaningful, if such was the intent.

In discussing Mr. Orr's proposal further; in Part 3.1, she reiterates that "There is no record of exactly how much of the crop was mechanically knocked down. There is no indication that other crops were left in the Service share". The narrative for CY 1977 lists 12,084 bushels of buckwheat and millet and that we produced 10,964 bushels of buckwheat and millet in 1976. In 1977, we planted 883 acres of browse crops. Our 1978 narrative states that we planted 183 acres to buckwheat and millet which produced 4,236 bushels. In 1978, we planted 955 acres to wheat which averaged 1.21 ton per acre. The 1979 narrative shows the Service planting 438 acres of millet and buckwheat which yielded 9,279 bushels. Our 1980 CY narrative listed only the average of "other crops". Information is available in the files that does include this information.

I can foresee very few problems with providing the information requested in Mr. Orr's proposal. Documentation is available in most instances and self recollection will not be required often.

We have reviewed our monthly narratives and find at least twenty references to crop management and utilization and waterfowl responses over the past five year period. The annual narrative, the monthly narrative and the abundance of notes here in the office should enable us to establish a reliable history of crop management and waterfowl utilization for the five year period and if needed, a much longer time span.

We look forward to working with you and Bob in this study and particularly to finishing it before retirement overtakes us.


Vandiver L. Childs

cc: Area Office, Asheville, NC
Regional Office, Atlanta, GA ✓
Wildlife Assistance, Brownsville, TN
"Follow Safety Rules -- It Can't Hurt You"

DON ADAMS

UNITED STATES GOVERNMENT

memorandum

DATE: November 10, 1981

REPLY TO
ATTN OF: Area Manager, FWS, Asheville, North Carolina

SUBJECT: Analysis of the Impact of Crop Manipulation Changes at the Tennessee NWR

TO: Regional Director, FWS, Atlanta, GA. (ARD-RW)

On 10/13/81, Don Orr submitted a proposal dated 9/29/81 (attached) to determine the impact on waterfowl of changes in crop manipulation procedures on Tennessee NWR. We have carefully reviewed the proposal and feel that for the most part it is quite good. Please see the attached comments from Staff Specialist Fields, dated November 10, 1981.

By copy of this memorandum, we are instructing Ken Garner, Wildlife Assistance, Nashville, to prepare a study outline based on the attached proposal to determine the information necessary to evaluate the impact of crop manipulation changes. Mr. Garner and/or Bob Fisher, Wildlife Assistance, Brownsville, will implement the study themselves and carry it through to the completion of a report. The Tennessee NWR staff will lend support to Ken Garner and Bob Fisher as they need it. It is anticipated that a preliminary report of the observations made this winter should be available in late spring, 1982.

Attachments (2)



cc: Wildlife Assistance, Nashville, TN
Wildlife Assistance, Brownsville, TN
Refuge Manager, Tennessee NWR

9/29/81
ORR:gr

FROM : Senior Staff Specialist, Migratory Birds, FWS, Atlanta, GA (ARD-RW/MB)

SUBJECT: Evaluation of Crop Manipulation Changes on Tennessee NWR

TO : Refuges & Wildlife Resources Staff

The Asheville Area Office has directed Tennessee National Wildlife Refuge to knock down no more than 40 percent of the refuge grain crops (essentially corn) prior to the hunting season and the remainder, if needed, after the hunting season. This is a significant change in crop manipulation procedures. In the past, the refuge has knocked down all of the corn crop prior to the hunting season. This made an abundant supply of corn available to waterfowl for most of the hunting season. Past crop manipulation practices have led to concern being expressed by the Tennessee Wildlife Resources Agency and some hunters about the adverse impact on hunting success.

The proposed changes in crop manipulation procedures on Tennessee National Wildlife Refuge will provide the Service with an excellent opportunity to evaluate these changes and the impacts on waterfowl and hunting success. I have, therefore, drafted the attached proposal for conducting an evaluation of the crop manipulation changes.

Please comment as desired.

Don Orr

Attachment

Comments from RW Staff were all favorable

DTB

PROPOSAL

GOAL - To determine the impact on waterfowl of changes in crop manipulation procedures on Tennessee NWR.

OBJECTIVES

1. Determine the changes (species and numbers) of the waterfowl population utilizing the refuge throughout the wintering period.
 - 1.1 Continue with the same type population surveys as conducted in past. (Refuge)
 - 1.2 Conduct biweekly aerial population surveys throughout the wintering period. (Tenn. Wildlife Resources Agency)
2. Determine the changes in the number of mallards and Canada geese harvested within a 25 mile radius of each refuge unit.
 - 2.1 Determine mallard and Canada goose harvest within 25 mile radius of each refuge unit for the 5 hunting seasons prior to the 1981-82 season. (Regional Office)
 - 2.2 Determine mallard and Canada goose harvest within a 25 mile radius of each refuge unit for next 5 years beginning with the 1981-82 season. (Regional Office)
3. Determine the changes in waterfowl^{use} of grain crops on the refuge.
 - 3.1 Determine the quantity of grain by type, by year, that was knocked down during the five year period ~~pre~~ceding the 1981-82 hunting season. (Area Office, Refuge)
 - 3.2 Determine the quantity of grain by type, by year, that was knocked down but not utilized during the five year period ~~pre~~ceding the 1981-82 hunting season. (Area Office, Refuge)
 - 3.3 Determine the quantity of grain by type, by year, that is knocked down prior to and after the hunting season for the next 5 years beginning with the 1981-82 hunting season. (Area Office, Refuge)
 - 3.4 Determine the quantity of grain by type, by year, that is left standing for the next 5 years beginning with the 1981-82 hunting season. (Area Office, Refuge)

- 3.5 After most mallards and Canada geese have left the refuge, determine the quantity of grain by type, by year, that is not utilized in a standing state and in a knocked down state for the next 5 years beginning with the 1981-82 hunting season. (Tennessee Wildlife Resources Agency, Area Office and Refuge)

memorandum

DATE: November 10, 1981

REPLY TO
ATTN OF:

Staff Specialist, Refuges and Wildlife Resources, Asheville A.O.

SUBJECT:

Comments on Don Orr's Request Regarding Evaluation of Crop Manipulation
Changes on Tennessee NWR (Orr's Draft of 9/29/81)

TO:

Assistant Area Manager, Refuges and Wildlife Resources, Asheville A.O.

Don Orr's proposal, dated 9/29/81, identifies the goal to determine the impact on waterfowl of changes in crop manipulation procedures on the Tennessee NWR. I have reviewed the annual narrative reports to develop documented background information that might be useful in the preparation of an analysis. I do not believe that we should rely upon best recollections of waterfowl populations and their utilization of crops; rather, we should base our analysis on the information that has been documented throughout the years.

I believe several factors should be kept in mind.

1. It is difficult to determine exactly how much crop has been left in the fields for waterfowl annually. Each annual narrative states "Service share is normally 25% which is left in field."
2. The Service share of cooperatively farmed row crops has been corn which has been left in the field.
3. There is no documentation of how much corn has actually been knocked down mechanically prior to the hunting seasons. We know that the Tennessee Refuge interpreted the Regional policy to mean that all of the Service share could be knocked down prior to the season, but we do not know, in fact, how much was actually knocked down annually. Climatic conditions may actually have prevented the knock-down of some of the Service share annually.
4. In recent years, in conversations with Refuge Manager Childs, he has made it clear that he believes that all of the Service share has been utilized by waterfowl. There is no documentation of utilization preceeding or following each hunting season. Therefore, there will be no data available against which to compare data gathered during the next five years.

The following table includes information gathered from the annual narrative reports.

<u>Calendar Year</u>	<u>Service Share of Corn Left in Field (Bushels/acres)</u>	<u>Total Waterfowl Use Days (in thousands)</u>
1980	56,998 bushels per 861 acres	19,897.1
1979	49,254 bushels per 681 acres	23,723.5
1978	39,923 bushels per 692 acres	23,987.9
1977	43,862 bushels per 782 acres	24,891.2
1976	34,585 bushels per 582 acres	24,101.5

The following information is quoted from the annual narrative reports:

Calendar Year 1976 - Waterfowl foods disappeared quickly after the first of the year. All available food had been consumed by the third week in January. Waterfowl depredation complaints were few after the waterfowl season had closed.

Calendar Year 1977 - The cold weather, icy conditions and diminished food supply quickly pushed the birds from the area and by the week of February 13 through 19, 1977, only 15,020 ducks remained on the refuge.

Waterfowl foods were either nonexistent or covered with snow and ice during January. The fall season, of 1977, arrived with a goodly supply of food. Heavy winds combined with generally weak corn stalks provided a greater than normal amount of corn gleaning on the ground.

Calendar Year 1978 - Nearly all waterfowl had migrated from the refuge by the first week in April.

Calendar Year 1979 - By late February and early March, nearly all the migrants had left the area.

Calendar Year 1980 - The fall food supply for waterfowl looked entirely adequate at the end of the cropping season. The low levels of waterfowl combined with reasonable food reserves on the refuge may have accounted in part for a mediocre opening day goose season on November 12, 1980, and an equally poor duck season which opened December 2, 1980.

The only significant depredation problem recorded during 1980 was at the Swain Field near Sulphur Well Peninsula. Geese started browsing heavily on the wheat late in the winter.

Don Orr's proposal contains three objectives. The following are comments on Objective No. 3 - Determine the Changes in Waterfowl Use of Grain Crops on the Refuge.

3.1 Determine the quantity of grain by type, by year, that was knocked down during the 5-year period preceeding the 1981-82 hunting season.

The table above shows the number of bushels of corn which were in the Service share of the crop left in the field annually. There is no record of exactly how much of the crop was mechanically knocked down. There is no indication that other crops were left in the Service share.

3.2 Determine the quantity of grain by type, by year, that was knocked down but not utilized during the 5-year period preceeding the 1981-82 hunting season.

There is no documentation of utilization of the downed crop. Rather, Refuge Manager Childs has stated repeatedly that all of the corn which has been left as the Service share has been used annually.

3.3 Determine the quantity of grain by type, by year, that is knocked down prior to and after the hunting season for the next five years beginning with the 1981-1982 hunting season.

This determination should be a simple one.

3.4 Determine the quantity of grain, by type, by year, that is left standing for the next five years beginning with the 1981-82 hunting season.

This determination should be a simple one to make.

3.5 After most mallards and Canada geese have left the refuge, determine the quantity of grain by type, by year, that is not utilized in a standing state and in a knocked down state for the next five years beginning with the 1981-82 hunting season.

A well defined study should be implemented to determine the availability of grain (corn) in a standing and a knocked down state before, during, and after "most" of the mallards have left the refuge. The figures would be valuable for comparison with population distribution figures.

This information will be extremely important unto itself since no earlier data exist for comparison purposes.

The duck season in Tennessee will be from December 2, 1981 through January 20, 1982. The Canada goose season will be from November 12, 1981 through January 20, 1982.

Robin A. Fields