

memorandum

DATE: May 2, 1995

REPLY TO
ATTN OF: Refuge Manager, Hatchie NWR, Brownsville, TN

SUBJECT: Annual Water Management Plan

TO: Wildlife Management Biologist, FWS, Memphis, TN

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Thank you for your comments on the Annual Water Management prescription for Hatchie NWR. A revised prescription, with your comments, was forwarded to District Manager Grabill this date. A copy is attached for your information.



Marvin L. Nichols

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jlh

"Investing In Safety Pays Big Dividends"

memorandum

DATE: April 24, 1995

REPLY TO
ATTN OF: Migratory Bird Field Coordinator, Memphis, TN

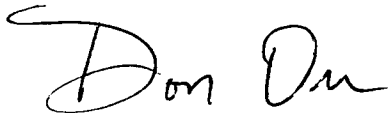
SUBJECT: Hatchie NWR Annual Water Management Prescription - 1995

TO: Refuge Manager, Hatchie NWR

I have reviewed the subject plan as you requested and have a few comments for your consideration. I would suggest not flooding your GTR until after November 1, which is more natural than flooding October 1. The early to mid-October flooding of field impoundments should provide adequate water for waterfowl populations occurring at that time of year. Water levels within your GRT's should be varied (raised or lowered) once or twice during the dormant season. Maintaining the same GTR water level throughout the winter period will eventually damage the timber. The desired variation of elevations may, however, occur naturally as the Hatchie River floods and recedes during the winter. I would suggest that your plan be amended to provide for variation of GTR water elevations.

It has been recommended that water levels at the lowest elevation in a GTR should not exceed a depth of 18 inches (see attached). Your plan mentioned that some areas may flood as deep as four feet. Both a slow flooding and a slow drawdown is recommended which provides habitat that is favorable for invertebrates and makes food resources available to ducks over a longer period of time. Nutrients are also conserved with a slow drawdown.

A few comments for your consideration have been made in the margins of the plan which is enclosed. I would appreciate receiving a copy of the final document. Thanks for the opportunity to review your plan and I hope you find some of the comments useful.



enclosures

bcc: Frank Bowers (w/plan & attach.)

Investing In Safety Pays Big Dividends

**ANNUAL WATER MANAGEMENT PRESCRIPTION
HATCHIE NATIONAL WILDLIFE REFUGE
1995**

Water levels at Hatchie NWR are managed in two types of habitat, 1) agricultural field impoundments and 2) green tree reservoirs (GTRs). All water manipulations are in response to waterfowl and other wildlife management needs.

For several years the refuge has managed a large portion of the field impoundments as moist soil units. This was due partially to low portions of most fields lending themselves to such management. However, efforts are being made to provide waterfowl with grain crops in as much of the 489 acres of floodable impoundments as possible. The availability of natural foods in the 9,400 acres of bottomland hardwoods is based on oak mast production and flooding occurrences in the Hatchie River drainage.

Effects of 1994 Water Levels

Field Impoundments

Unusually heavy rainfall amounts during January - July (40.93 inches) prevented planned water level manipulations for moist soil units and dewatering of croplands although riser boards were pulled during March. All corn and milo planting, scheduled during May - June, was prevented by wet soil conditions. Only 391 acres of soybeans (Cooperator's share) and 21 acres of wheat (refuge share) were planted on uplands and higher portions of some impoundments. A total of 85 acres (wheat and soybeans) were available for waterfowl and other wildlife during the 1994-95 winter. Moist soil vegetation was available in 18 field impoundments totaling 360 acres.

Initial flooding of impoundments started in early - mid-November. The Old Hillville Area impoundments were flooded by releasing water from Big Lake (a 20-acre reservoir) on November 2-10. The New Hillville Area impoundments were flooded during November 14-23 by water releases from the 20-acre New Lake reservoir. Releases from Oneal Lake began flooding the McCool field impoundments on November 4. The Friedman impoundments and adjacent GTR were not inundated until November 30 when high water levels occurred in the Poplar Creek drainage. The Windrow field impoundment began filling on December 12 by Hatchie River floodwater.

GTR

Efforts to dewater the Friedman GTR on March 10 were also hindered by flooding conditions during April and May. The area was finally dewatered during late June.

Natural Bottomlands

Dry conditions during September - mid-November caused bottomland hardwoods to remain underutilized by waterfowl until Hatchie River flooding occurred on November 17. The Hatchie River remained at flood stage through year's end.

The effects of water management on waterfowl and other wildlife was varied. The field impoundments filled by storage reservoirs and well water produced desired results by providing feeding and resting habitat for waterfowl, wading birds and shorebirds. However, less than desirable releases from Big Lake, due to a deteriorated water control structure, and leaking water control structures in the Old and New Hillville Areas significantly reduced the duration and acreage of impounded water in the area.

Non-managed waters (Hatchie River, Bear Creek, Poplar Creek and various drainages) frequently reached flood stage until mid-August and then remained at seasonal lows until mid-November.

Statement of Proposed Levels

Field Impoundments

All field impoundments to be planted in agricultural crops will be dewatered by March 15, if possible. This should permit sufficient time for drying, prior to planting of corn in May. Approximately 50 acres within field impoundments will be managed for moist soil plant production. The remaining 439 acres will be planted in corn or milo or the Cooperator's share under a refuge Cooperative Farming Agreement.

Impoundments devoted to moist soil management will only be dewatered as needed to stimulate the growth of desirable wetland plants. During the summer period water releases from Big Lake and New Lake and natural rainfall will be utilized to control undesirable vegetation and enhance desirable plant growth through flooding.

Some impoundments containing agricultural crops will be initially flooded by October 15 - November 1 to provide small grain crops for early migrating waterfowl. Water levels in the individual impoundments will depend on the type of foods available. These levels will be maintained during the winter period, until dewatering is desirable in early 1996.

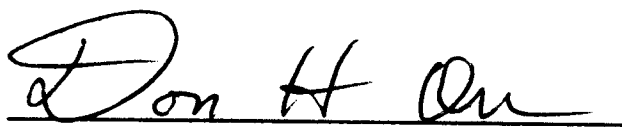
Greentree Reservoirs (GTR)

Dewatering of the Friedman GTR will commence on March 1. Early drawdown will prevent stress to bottomland hardwoods during the growing season.

Preparations to flood the GTR will start on November 1 with the closing of all water control structures. The GTR will receive floodwater from the Poplar Creek drainage during periods of high water. The water depth within the GTR will be permitted to fluctuate, but a maximum depth of 18 inches will be permitted in most portions of the GTR. Unfortunately the reservoir has an uneven contour, allowing the lowest area to exceed the desired maximum depth. A slow drawdown of GTR waters will be initiated in early 1996.


REFUGE MANAGER

3-29-95
DATE


DISTRICT BIOLOGIST

4-24-95
DATE

DISTRICT 2 MANAGER

DATE

RECEIVED
APR 11 1995