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Priority: Normal

Subject: Death of V.L. Childs

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At 6:30 pm on Friday, July 31, V.L. Childs died at his home in Paris, Tennessee. V.L. began his career with the Federal government in 1933, working for the CCC in his home state of Arkansas. After three years with the CCC, he embarked on a long career with the U.S. Fish and Wildlife Service (then the Bureau of Biological Survey) in 1937 at White River NWR for \$1,085 per year. In 1942 he transferred to the Division of Management and Enforcement in Louisiana, and in 1943 transferred to Kentucky Woodlands NWR. In 1944 he became Refuge Manager of Sabine NWR, and made his final move in 1954 when he became Refuge Manger of Tennessee NWR. For 28 years V.L. led Tennessee Refuge through some of its finest hours. On May 14, 1982, after one the longest careers known to the Service (45 years), V.L. hung up his spurs and retired in Paris.

Services will be held at 10:00 am, August 3, at McEvoy Funeral Home in Paris. Burial will take place at 2 pm on August 5 at the Duckett/Childs Cemetery near Mena, Arkansas.

V.L. is survived by his wife Nita, three sons, and a daughter. Cards and letters may be sent to Nita at 2160 Hwy. 641 N., Paris, TN 38242.

John Taylor

TENNESSEE NATIONAL WILDLIFE REFUGE  
Paris, Tennessee

ANNUAL NARRATIVE REPORT  
Calendar Year 1982

NATIONAL WILDLIFE REFUGE SYSTEM  
FISH AND WILDLIFE SERVICE  
U.S. DEPARTMENT OF THE INTERIOR



1. Carrell L. Ryan, Refuge Manager, (In-charge), GM-13 PFT
2. Vandiver L. Childs, Refuge Manager, (Retired), GS-12 PFT
3. Leon I. Rhodes, Refuge Manager, (Assistant), GS-11, PFT
4. Eddie L. Reese, Soil Conservationist, GS-11, PFT
5. J. Randy Cook, Refuge Manager, (Assistant), GS-9, PFT
6. Carl E. Dowdy, Biological Technician, GS-8, PFT
7. Dorothy G. Easley, Refuge Clerk, GS-6, PFT
8. Eddie V. McKissick, Biological Technician, GS-6, PFT
9. Jerry B. Armstrong, Biological Technician, GS-6, PFT
10. T. Clint Robertson, General Maintenance Mechanic, WG-11, PFT
11. Cletus B. Cantrell, Maintenance Worker, WG-8, PFT
12. Billy D. Carter, Maintenance Worker, WG-7, PFT
13. Elgin M. Himes, Maintenance Worker, WG-7, PFT
14. William T. Cherry, Tractor Operator, WG-7, PFT

#### YACC

1. Connie Crutchfield, end of appointment 03-09-82
2. Johnny Whit Lewis, end of program 03-23-82
3. Dennis Brown, end of program 03-23-82
4. Charles Newbern, end of program 03-23-82
5. Marty Davis, end of appointment 03-19-82
6. David Head, end of program 03-23-82
7. Timothy Overcast, end of program 03-23-82

#### VOLUNTEERS

15. Shirley Nobles

Review and Approvals

Carroll A. Ryan 2-28-83  
Submitted By Date

Tennessee National Wildlife Refuge  
Refuge

Sam O. Arake, Jr. 3-18-83  
Regional Office Date

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K. FEEDBACK

## A. HIGHLIGHTS

1. Heavy flood waters rolled down the Duck River on January 7, 1982, and broke over the dike at the Waverly pump station, its usual place of entry during flooding. Flood waters ended up in both the upper and lower bottoms of Duck River Unit. Waterfowl benefitted in that standing corn and other vegetation were made more available for consumption. Refuge personnel moved equipment from the area in advance of the flood waters. See Section B. Climatic Conditions for additional details on the 1982 weather.
2. A 1.1 mile dike-road was constructed near the Waverly pump station during the year to help control flood waters that customarily enter at this point. The Tennessee Valley Authority assisted the project with \$19,000 which was used for purchasing materials. Top elevation of the dike-road is 364 feet. Reference Section I.1. for more detailed information.
3. A waterfowl management plan for Tennessee Refuge was drafted in April, 1982, covering force account farming, coop farming, moist soil management, natural foods, refuge carrying capacity, refuge waterfowl objectives, etc. This plan was later revised in June, 1982, and re-written as a "Waterfowl Food Production Plan for Duck River Unit". See Section D.2. for additional information.
4. The annual Area Office Conference was held in Asheville, North Carolina, during the period March 1 through March 5, 1982. While attending the meeting, staff members Rhodes, Cook and Easley picked up the required sixteen (16) hours of Warrant Officers training.
5. A retirement banquet was held for Refuge Manager V.L. Childs on May 14, 1982, at Paris, Tennessee. More than 150 persons attended the retirement party which included Service personnel from Washington, D.C., Atlanta, GA, and Asheville, NC. See Section E.1. for additional details of Mr. Childs retirement banquet.
6. The old Bussell House at the Busseltown Unit was transferred to Land Between the Lakes after the residence at their 1850 Homeplace mysteriously burned. There was an extensive amount of cooperation between the Service, TVA, the State Historical Commission, and the Corps of Engineers to get the transfer of the building approved and the structure moved. The eighteen (18) feet by forty-five (45) feet poplar log home was loaded on a barge June 14, 1982, and started an eighty mile river trip to LBL. Refer to Section I.7. for additional data on the transfer of the Bussell House.
7. For the second time in its history, Sugar Tree Marina was hit by a tornado. One set of yacht type boat slips was completely destroyed by the twister, plus other parts of the marina received considerable damage. The tornado struck at approximately 3:30 P.M. on June 30, 1982. See Section H.19. for more information on the damage to Sugar Tree Marina.
8. A break-in occurred at the Busseltown Unit sub-headquarters at approximately 9:00 P.M. on June 18, 1982. Several items were taken and several vehicles tampered with. No person(s) were ever apprehended concerning the break-in. See Section H.17. for more detailed information.

9. On July 26, 1982, then Assistant Area Manager, Refuges and Wildlife Resources, Carrell Ryan advised this station that he had been selected as Refuge Manager of Tennessee National Wildlife Refuge. After a house hunting trip and the frustrations of selling one home and buying another, Carrell Ryan officially arrived for duty at this station on September 27, 1982. Cross Creeks Refuge was also taken on as a satellite refuge under the Tennessee Refuge Complex at that time. For more information see Section E.1.

10. This station's Ford 9000 diesel truck had always been slow on the highway and we finally determined that Ford Motor Company had installed the wrong ring and pinion ratio at the factory. After much negotiation with the selling dealership, Tennessee Refuge was provided with a double set of ring and pinions at no cost to this station (retail price was \$2,800). After installation, we now have a truck which operates well at highway speeds. See Section I.4. for additional details.

11. Biological Technician Carl Dowdy and Maintenance Worker Cletus Cantrell received awards for \$200 and \$150 respectively, for search and rescue operations they were involved with in December of 1981. Dragging operations lasted eleven days and involved upwards of 150 people before the body was located. See Section E.1. for additional information on these awards.

12. In response to a Regional Office memorandum requesting capital development projects, staff employees drew up plans for ten (10) sub-impoundments within the Duck River Bottoms which would function primarily as moist soil management areas. Tennessee Refuge submitted three development projects in accordance with the capital development system guidelines, these being; (1) moist soil impoundments, (2) rip-rap of moist soil impoundment levees, and (3) construction of the Duck River Unit sub-headquarters site. More information on this subject can be found in Section D.1.

13. More than ten inches of rain in the area during December resulted in raising Kentucky Lake levels to 360' and the Duck River elevation to 365'. Flood waters again came in the Duck River Bottoms at the Waverly Pump Station and flooded much of the area. See Section B. for more information on the weather.

14. Refuge Manager Carrell Ryan attended the Regional Office Conference in Atlanta, Georgia, on December 1 and 2, 1982.

#### B. CLIMATIC CONDITIONS

Rains throughout the 1982 growing season fell at times that were beneficial to most of the agricultural crops in the area. Actually, 1982 was a very good weather year and crop yields were above average. The fall harvest period was reasonably dry and most farmers had no problems getting their crops out of the field. The chart below will give an indication of 1982 weather.

<u>1982</u>	<u>Rainfall</u>	<u>Snow</u>	<u>High</u>	<u>Low</u>
January	6.74	7.1	68	-13
February	3.00	3.3	81	8
March	2.54	1.0	89	18
April	6.92		86	24
May	2.55		91	42
June	3.98		92	51
July	3.13		95	62
August	10.62		96	57
September	4.46		90	41
October	1.49		85	30
November	4.81		79	20
December	10.79		78	15
TOTAL	61.03"	11.4"		

The winter of '82 was generally mild. The snowstorms did not present overwhelming problems. August and December both showed over ten inches of rain. The August rains were welcomed because they came during the growing season, but the December rains caused flooding in Duck River Bottoms and subsequent road and dike damage. The 1.49 inches of rain during October gave farmers an excellent harvest opportunity. Total rainfall during 1982 was 61.03 inches which was nearly thirteen inches above the annual average of 48.35 inches.

#### D. PLANNING

1. Master Plan. Plans were submitted for habitat enhancement of the Duck River Unit. This planning effort calls for ten sub-impoundments in Duck River Bottoms to function primarily as moist soil management units. The three CDW's submitted by Tennessee Refuge were the ten sub-impoundments within Duck River Bottoms, rip-rapping of these impoundment levees, and construction of a sub-headquarters site for Duck River Unit.

Work has been initiated to revise the refuge objectives. There will be both a simplification and reduction in the number of refuge objectives, all of which will fall within revised Service guidelines. Due date for our revised station objectives is March 31, 1983.

2. Management Plan. A waterfowl management plan for the entire Tennessee National Wildlife Refuge was written during April, 1982, and submitted. This plan covered productivity of both coop and force account farming, with anticipated amounts of both natural foods and moist soil areas, anticipated waterfowl usage, key concentration areas, etc. This initial draft was returned and Tennessee Refuge was asked to rewrite the document centered around the waterfowl management program within Duck River Bottoms. This second document was entitled "Waterfowl Food Production Plan for Duck River Unit", and was submitted on June 24, 1982.

The annual water management plan was written and submitted as required. We have so little control over the water levels at Tennessee Refuge that our plan actually reads more like a report.

Tennessee Refuge's timber management plan is scheduled for revision in the near future. Our fire management plan is currently being re-worked, looking toward a due date of March 1, 1983.

3. Public Participation. A meeting between the Tennessee Wildlife Resources Agency and the four West Tennessee Refuges was held in Jackson, Tennessee, on November 4, 1982. Purpose of the meeting was to discuss our mutual problems, accomplishments of the year, future goals, upcoming special projects, etc. Refuge Manager Carrell Ryan also met in Nashville, Tennessee, with Director Gary Myers along with other members of the T.W.R.A. delegation to discuss present and future management plans of Tennessee National Wildlife Refuge.

4. Compliance with Environmental Mandates. The Corps of Engineers paid a visit to Tennessee Refuge on March 25, 1982, concerning a 404 permit for the raising of the dike-road near the Waverly Pump Station. After reviewing the project on site, the Corps stated that no permit would be needed for the proposed operation.

Tom Talley, Mitch King, and Dave Parsons of the Cookeville Ecological Services office visited the refuge on December 6, 1982. They reviewed ten moist soil impoundment sites within Duck River Bottoms which had been proposed for construction. This inspection by Ecological Services was a preliminary field review to look at the feasibility of subject project and to determine in any problems might be present which might hinder the approval of such development.

5. Research and Investigation.

- A. Deer Abomasum Study. A total of twenty deer abomasa were collected from four different refuge deer hunts during the year. These five samples from each hunt were studied for quantities of parasites. The abomasum parasite counts, along with the general body condition of the individual deer (kidney fat, gastro-intestinal fat, etc.) was used as an index to determine the general condition of the deer herd. Assistant Refuge Manager Randy Cook undertook the lab work on the parasite counts.
- B. Crop Manipulation Study. Wildlife Assistance personnel Ken Garner and Bob Fisher made evaluations of the crop manipulation procedures and effects at Tennessee Refuge during the 1981-82 waterfowl season. A total of three inspections (pre-season, in-season, post-season) of the corn and milo were made during the period of high waterfowl use. The in-season inspection came on January 18 and 19, 1982, and the post-season inspection came on March 17. Senior Staff Specialist Don Orr assisted with the post-season inspection. A preliminary draft of the crop manipulation study was received from Ken Garner's office in May, 1982.
- C. Gypsy Moth Study. Tennessee Refuge had been asked by the U.S. Forest Service to participate in a gypsy moth study on the area. The World's Fair in Knoxville, Tennessee, had increased the possibility that traffic from the North might inadvertently be bringing gypsy moths into the area. Two pheromone traps were placed at each of the two concessions on the refuge. The four traps were checked twice in July and once during August but no gypsy moths were detected.



82-1-19. March 15, 1982 was an anniversary date for Refuge Manager V.L. Childs in that it marked 45 years of continuous service within the U.S. Fish and Wildlife Service. (LR)



82-4-1. More than 150 people attended the retirement banquet for Refuge Manager V.L. Childs which was held at the Elks Lodge in Paris on the evening of May 14, 1982. (LR)

## E. ADMINISTRATION

1. Personnel. An analysis of staffing patterns report was completed by this office in January, 1982. The following table will give a five year analysis of the on-board personnel strength at Tennessee Refuge. There are currently no vacancies at Tennessee Refuge which we are authorized to fill.

	<u>Permanent Full Time</u>	<u>Permanent Part Time</u>	<u>Temporary</u>
FY 78	13	2	2
FY 79	11	7	3
FY 80	10	5	1
FY 81	10	3	0
FY 82	10	3	0

Biological Technician Carl Dowdy and Maintenance Worker Cletus Cantrell received monetary awards of \$200 and \$150 respectively for their efforts in a search and rescue operation within Duck River Bottoms during late 1981. A fisherman's boat had been found overturned and dragging operations lasted eleven days before Carl Dowdy located the body.

After more than forty-five years with the U.S. Fish and Wildlife Service, Refuge Manager Vandiver L. Childs decided to call an end to his career. Effective at the close of business on May 14, 1982, Mr. Childs stepped down after serving more than twenty-eight years at Tennessee Refuge alone. A retirement banquet was held at the local Paris Elks Lodge, May 14, 1982, with more than 150 people in attendance. Assisting with the retirement banquet were Curtis Wilson of the Washington Office, Walt Stieglitz of the Atlanta Office, and Carrell Ryan and William Hickling of the Asheville Area Office. Friends from as far away as Louisiana came to pay tribute to Mr. Childs. Retirement gifts included a table saw and a band saw.

2. Youth Programs. Tennessee National Wildlife Refuge entered 1982 with a total of seven Young Adult Conservation Corps enrollees. Two of these enrollees ended their maximum twelve month enrollment prior to the termination of the program which was March 23, 1982. The other five enrollees worked right up until the final day. Refer to the employee listing on the opening page for those serving in YACC during 1982.

There were no YCC programs on Tennessee Refuge during 1981 or 1982. However, word is beginning to reach this station that 1983 might be a more attractive year for a YCC program.

3. Other Manpower Programs. This station was able to secure the secretarial services of C.E.T.A. employee Cindy Brown for seven weeks during the summer months. Miss Brown worked thirty-two hours per week during the period June 14 through July 30, 1982. Another C.E.T.A. employee, Shirley Nobles, performed secretarial services at Tennessee Refuge for a five week period from August 16 through September 17, 1982.



82-4-4. The Area Office, Regional Office and Washington Office sent representatives to Refuge Manager V.L. Childs' retirement banquet. (LR)



82-4-5. Friends and relatives from as far away as Louisiana and California attended Mr. Childs' retirement banquet. A band saw and table saw were presented as retirement gifts. (LR)

4. Volunteers Program. Shirley Nobles began volunteering two days per week for the refuge starting September 23, 1982, and continuing through the end of the year. Volunteer duties included typing, receptionist activities, telephone services, filing, etc.

5. Funding. Our budget bounced around several times during the year, but we finally ended up close to what we started with. Our beginning budget was \$356,000 but \$10,000 was taken away from us rather quickly. Toward the end of the year we were given an additional \$5,000 which gave us an ultimate \$351,000 for the fiscal year.

FY 82 was not a year for luxuries or wild spending. There were rumors of more budget cuts during the year but these did not actually come about. By June we were watching our funds situation very closely and were certain at that time we could not afford some much needed refuge equipment. Supplement Number 3 to the pumping contract with TVA was not completed in time and this station lost nearly a thousand dollars because we could not charge appropriate labor activities to TVA. Mr. Childs' lump sum separation payment was rather healthy and affected our year end activities.

The following five year funding level will show that budgets received have not exactly kept pace with inflation and the routine costs of running a refuge:

<u>Fiscal Year</u>	<u>Rehab Funds</u>	<u>B.L.H.P.</u>	<u>Station Funding</u>
1978	0	614,000	309,000
1979	0	92,668	330,000
1980	0	93,822	330,000
1981	12,000	0	328,000
1982	4,000	0	351,000

6. Safety. During the winter of 1982, ice pushed over a single creosote piling and a three-cluster set of piling which were being used as water boundary markers on the north side of the Big Sandy Unit. The Coast Guard helped us initially with the loaning of buoys to mark the sites where the piling were pushed over and also helped us later pull two of the piling from the lake with one of their boats.

Fire extinguishers from refuge buildings and vehicles were recharged during the year. Water hoses and other fire fighting equipment were also checked for readiness.

A CPR course was taught to the entire staff of twelve Tennessee Refuge employees on August 10, 1982. We felt that this eight hour course was extremely beneficial and well taught. It is something that we were all long overdue for.

Roll over protection is being obtained for two of the road graders located at Tennessee Refuge. This action will bring the two units into compliance with Service safety regulations.

Tennessee Refuge continues to hold monthly safety meetings to assist with our safety program. A safety film is shown at nearly all of our scheduled meetings. A total of 235,644 hours has elapsed since the last lost time accident at Tennessee Refuge. The only reportable station accident to occur during 1982 was one involving a tree felling operation. On June 1, 1982, Biological Technician Eddie McKissick was operating a chain saw along Bennet's Creek when after cutting a 10-12 inch tree, the recoil from the tree knocked him some distance into the creek. No serious injury resulted from this incident.

One near miss was reported during 1982. Maintenance Worker Cletus Cantrell was mounting a Caterpillar dozer when the clutch unit engaged, knocking him from the machine. He was momentarily stunned but was able to roll out of the way before the trailing sheepsfoot roller passed over him.

7. Technical Assistance. Each year a half dozen or more people will come by the headquarters office for information and plans on how to construct and erect wood duck boxes. The year 1982 was no different. Also, this office frequently gave out design information on blue bird houses and other song bird structures.

8. Other Items. An inventory of all accountable property was made during August, 1982, and little problem was encountered with reconciling this list. A "small lot" sale produced \$16.22.

Mr. William H. Hickling, on special assignment from Asheville, North Carolina, visited the refuge on December 7, 1982. Mr. Hickling was doing a special study on excessive and duplicate reporting from field stations and ways that might reduce this stream of paperwork.

Tennessee Refuge was finally able to resolve a boundary line problem at Busseltown Unit during December, 1982. An adjacent hunt club had built a dike next to our boundary line and the common boundary had been obliterated in several places. We were able to re-establish the line and get it properly posted.

#### F. HABITAT MANAGEMENT

1. General. During the year there was some mechanical control of woody vegetation along Bennet's Creek at the Big Sandy Unit. This assisted the area in making it more attractive to geese, aided in beaver control, and helped keep the stream open.

Our latest 1982 land type inventory shows 2,518 acres as seasonally flooded basins, 85 acres in shallow fresh marshes, eight acres as open fresh water, 23,551 acres as rivers (Kentucky Lake), 1,288 acres as annual green browse, 604 acres in perennial browse, 4,063 acres as hot foods (corn, soybeans, milo, millet, buckwheat, etc.), 170 acres in other crops, 18,800 acres in forest, and 271 acres as administrative lands.

2. Wetlands. Three staff gauges were supplied to the refuge this year by TVA to assist with keeping up with the water levels at the Duck River Unit.

These water level gauges were placed in the upper bottoms, lower bottoms, and Kentucky Lake. The gauges were so placed that they can be read within just a few minutes

A meeting was held at the Tennessee Refuge headquarters office on January 28, 1982, concerning water level management in Duck River Bottoms for the upcoming season. Attending were Wilbur Vaughn, Ged Petit and Jack Colwick of Tennessee Wildlife Resources Agency and also Scott Atkins and Tom Montgomery from Tennessee Valley Authority.

An underground spring surfaced near Robbins Creek on the Big Sandy Unit this year. A 600 foot section of underground plastic line channeled this water into the nearby creek.

A survey team from the U.S. Army Corps of Engineers visited the refuge on May 1, 1982, to conduct a wetland survey on the Big Sandy Unit and the Duck River Unit. The Corps of Engineers had looked at Busseltown Unit the previous year.

The rare plant, mud plantain, (*Heteranthera limosa*) was found in Duck River Bottoms during the summer of 1982 by a TVA biologist. It was reported that the plant had not been collected in Tennessee since the late 1940's. We were told that our current land use practice in the area should be beneficial to the plant.

The refuge back-hoe was used on several occasions to clear beaver dams from free flowing creeks. Some rather persistent beavers lodged themselves on Culpepper Creek and Bennett's Creek.

On instructions from the Asheville Area Office, Tennessee Refuge opened the gates at the Duck River pump station on August 2, 1982, to allow the lower bottoms to drain into the lake and stimulate moist soil plant growth. The gates at the pump station were not closed again until September 1, 1982. During this thirty day period, water within the lower bottoms dropped from 357.5' to 356.5'.

Assistant Refuge Manager Randy Cook and TVA Biologist Scott Atkins set up six vegetative transects within the lower bottoms following the drawdown to determine the amount of waterfowl food production in this area. During October, refuge employees field mapped the 356.5' contour in the lower bottoms which assisted in determining how many acres actually contributed to moist soil production for waterfowl. A follow up field survey by Cook and Atkins in October revealed that approximately 250 pounds per acre of desirable waterfowl foods were produced on an estimated 350 acres of moist soil area.

For the third straight year, the Corps of Engineers held Kentucky Lake at the 359' level until July 1, as opposed to the usual drawdown date of June 15. The drawdowns during the past three years have been at a much slower pace than they were under the earlier regime.

3. Forests. During late 1981, 15,000 water oak and 5,000 nuttall oak seedlings were purchased from a state nursery in Louisiana. A total of 12,400 water oak and 1,850 nuttall seedlings were planted along sixteen foot rows on fifty acres at Birdsong, on sub-marginal farm land. Another

five acres at Nix Landing and six acres at Gaynor Slough were planted with the remaining 3,750 nuttall and water oak seedlings. The fifty acre site at Birdsong was flagged and disked during the year but the stand at Nix Landing was so poor that the entire area was re-cultivated. The Birdsong unit has a twenty-five to thirty per cent survival rate as of late 1982.

Plans were made to plant an additional 10,000 oak seedlings at Ruff Island and possibly Nix Landing during the winter of 1982-83. A fifty acre site at Ruff Island was disked in preparation for the planting but we subsequently learned that our seedling order had been cancelled by the nursery. Late in the year, we learned that oak seedlings could not be obtained anywhere at any price.

4. Croplands. The total refuge acreage under cultivation this period was 5,062 acres. This was a decrease of 1,062 acres as compared to the previous year. This decrease was due, almost entirely, to cessation of pumping and complete absence of cooperative farming within the formerly dewatered portion of the Duck River Bottoms.

This was the first step taken to provide a more natural habitat using wetland management on the middle and lower elevation lands to provide more natural foods in conjunction with a cooperative farmed row crop operation on the higher elevation lands. The production of foods under this management system is primarily for diversity.

Cooperative farmers, as in the past, produced the majority of our waterfowl hot food needs and a smaller portion of the green browse needs. Cooperative farmers operated 3,472 acres this period as compared to 4,991 acres the previous period. Farmers planted 2,750 acres of row crop. The Service's share was planted primarily to corn with a few acres of milo. The 621 acres of Service share of corn produced a total of 46,524 bushels with 1,530 bushels harvested as ear corn for banding. Average yield per acre of corn was seventy-five bushels, which was a good average yield. Farmers harvested 629 acres of corn as a portion of their crops. They also planted and harvested 1,453 acres of soybeans that produced 43,572 bushels. Soybeans averaged about thirty bushels per acre which is good, but prices were low. Other crops accrued to Service for Cooperator use of other lands such as pasture and hayland. In addition to plantings and harvest of wheat for their own use, farmers harvested 3,160 bushels of wheat in the rough for Service share, most of which was replanted.

The acreage cultivated as Service operation this period was 1,590 acres. This was an increase of 456 acres over the previous period. This increase in Service plantings was almost entirely due to broadcast plantings of buckwheat and millet, which totaled 474 acres. Yields were lower than normally expected. High winds levelled most fields causing this reduction in yields. Some of the lodged grain rotted on the ground. Some germinated during a warm, moist period in October. These late crops had an average yield of only thirteen bushels per acre. During 1982, Service personnel planted 1,110 acres of wheat. Most of this was planted for waterfowl browse crops, with enough, it is hoped, planted on the higher elevation lands for next year's seed crop. Browse yields were good early in the season with more than adequate browse furnished throughout the year.



82-7-13. A total of 200 bushels of seed wheat was flown over soybeans at Britton Ford-Sulphur Well for use as green winter browse. (LR)



82-6-14. Many acres of good buckwheat was grown at Duck River Unit. However, winds have always been a problem with mature buckwheat. (RC)

5. Grasslands. The use of grasslands with resulting benefits to waterfowl is another tool used to accomplish our major objective. Most grassland is found on highly erodable soils, primarily class IVE and reclaimed class VIe lands. The lands are generally not suitable for row crop production. Trees are not planted due to desirability to keep lands open primarily for diversity.

Grasslands decreased slightly this year as compared to previous period. Both haying and grazing remain fairly constant year after year. Twelve acres of fescue was seeded along roadways at the Busseltown Unit. This was seeded for soil stabilization and beautification of roadway and not intended to increase either haying or grazing. Bermuda grass was seeded on ten acres of a newly completed water diversion project at Duck River area. Heavy fertilization and double seeding at rate of twenty pounds total seed per acre resulted in excellent stabilization. This seeding was tested by flooding from Duck River in December. Grassland acreage is expected to remain fairly constant in the future. Most grasslands are presently used for haying and grazing. All grassland is mowed one or more times annually for weed and brush control. Most areas are fertilized annually in amounts sufficient for long time maintenance of sod.

7. Grazing. Grazing is limited to permanent sods and is carried out only under a Cooperative Farming Agreement. The number of Animal Use Months are limited and the period of time cattle are allowed to graze is limited to an eight month period, March through October. Cattle are not allowed on pasture throughout most of the waterfowl season. This insures proper waterfowl use of areas and with limited grazing, the areas are better maintained and less soil losses occur. Cattle are presently grazing 472 acres of pasture land. Sixty acres of sod was converted to row crop this period at the Busseltown Unit.

Waterfowl benefit from the use of these areas. Soil losses on marginal sloping lands are negligible, succulent browse is provided, and more open resting areas are provided. Additional crops accrue to the Service, such as buckwheat plantings, for Cooperator use of these grasslands.

8. Haying. A reduction in hayland acreage is reported again this period. Cooperative farmers prefer planting hay crops on their own farms. They do not like to make large or long term investments on Service lands. Cooperative farmers harvested 212 tons of hay from 144 acres this period, yields being only fair. It is required that all hayland harvested be fertilized with an average 30-30-30 ratio of N-P-K for each cutting. This period, all acreage was cut only once.

Waterfowl benefit from crops accrued as Service share for Cooperator hay harvested. Waterfowl also use the areas for resting and eat the seed not harvested. Johnsongrass and general weed and brush control is evident along with increased crop yields following haying.

9. Fire Management. The fire lanes located on the Big Sandy Unit were reworked with a dozer and/or grader during 1982. A total of eight miles of fire lane were cleaned of fallen limbs, trees, and volunteer growth.

There were no wildfires to report for 1982. Also, no prescribed burning takes place on Tennessee Refuge.

Seven employees from this station (Carrell Ryan, Leon Rhodes, Eddie Reese, Randy Cook, Carl Dowdy, Jerry Armstrong, and Clint Robertson) attended fire training at Reelfoot National Wildlife Refuge on December 14 and 15, 1982. Course work received included Fire Fighter Orientation S-110, Basic Fire Fighter S-130, and Fire Behavior S-190.

Several fire fighting and fire prescription tools were received through the Regional Office this past year. These included rakes, flappers, fire extinguishers, drip torches, etc.

10. Pest Control. The control of pest plants is one of the most difficult and expensive items associated with farming. We continue using and permitting cooperative farmers to use a variety of approved herbicides mainly on corn, soybeans, and milo. Most herbicides used are generally effective. The use of pesticides are limited and discouraged in some instances. A herbicide may be highly effective on a given area and a complete failure at another, due to a wide variety of conditions. This could be due to method and time of application, moisture conditions, soil type, amount of chemical applied, variety and age of pest plant among others. We do not consider herbicides alone to be the entire answer to weed control. No one chemical, or combination of chemicals, is a cure-all. We use and recommend uses of a number of herbicides, but they should be used to supplement other good farming practices such as proper crop rotation, good seedbed preparation, use of clean and viable seed, and adequate fertilization. No adverse residual effects from herbicide use has been noted to date.

The use of Atrazine alone at a rate of two quarts per acre proved effective in control of crabgrass, cocklebur, ragweed and pigweed when used as a premerge for corn and milo. The use of Lasso in combination with Atrazine at approved rates proved highly effective in controlling seedling Johnson grass, fall panicum and foxtail. Atrazine was used alone on 319 acres of corn and 37 acres of milo. Lasso was used in combination with Atrazine on 924 acres of corn. All applications were made by cooperative farmers.

The use of Treflan as a preplant for soybeans on 1,157 acres was effective in controlling target pest plants. Most Treflan was applied at rate of 1.0 to 1.25 quarts per acre. A slightly higher rate is needed to control mature Johnson grass. No adverse residual effects have been noted to date.

Basagran, sprayed at rate of one quart per acre in twenty gallons of water, has proven highly effective in control of broadleaves such as cocklebur, ragweed and Jimson weed in soybeans. Basagran was spot sprayed on 602 acres this period. Roundup, used at lower rate and applied primarily by wick bar, has proven effective in control of mature Johnson grass. Roundup applied by wick bar at time of cultivation is a popular and inexpensive means of application. When applied in this manner, none of the herbicide reaches the soil and few adverse effects on animal life occur. Roundup was applied on 1,008 acres this period using 228 gallons of material. Service personnel applied fifteen gallons primarily to control Johnson grass on road slopes, with cooperative farmers applying the remainder.

Eradicane applied at rate of seven pints material per acre was considered barely effective to ineffective. A total of 396 acres of corn land, with varying soil and moisture conditions, was treated. Target pest plants were foxtail, fall panicum, ragweed, and Johnson grass.



82-6-11. A wick bar applicator was fabricated in our refuge shop for use on Johnson grass and other pest plants. Roundup has been the primary herbicide used in the wick bar. (LR)



82-5-16. Red flags marked the location of newly planted water oak and nuttall oak seedlings at Birdsong farm unit. This land had become too marginal for cooperative farming operators. (LR)

Blazer was applied on 159 acres as a means to control target pest plants in soybeans. Results proved effective. Paraquat was used in a no-till corn operation of fifty-four acres. The no-till operation has not caught on, apparently due to many and varied weed problems.

Mechanical mowings on pasture and haylands continued with good results. Two mowings annually are required on all pasture lands.

Refuge personnel Cook and Reese are certified as "Restricted Use Applicator 00-10". Applications are monitored and results are evaluated.

11. Water Rights. The city of Waverly, Tennessee, pumps its domestic water from the Duck River. The Waverly Pump Station continues to operate with very little impact to the refuge.

12. Wildlife and Special Areas. Considerable interest was shown this year in Mt. Zion Church, a national historic site located on the Big Sandy Unit. Some former residents of the area have apparently taken notice that the old church (built about 1893) has fallen in some dis-repair and they are anxious to see some stabilization efforts made to halt any further noticeable deterioration. A local committee of former residents wrote Regional Director Pulliam during the year and asked for assistance in the matter. A letter of reply noted that some sort of help would hopefully be coming for the old church. An on-site meeting has been scheduled for January 13, 1983, which should set the groundwork for what action might be taken on the old historic site. That meeting is expected to include a Regional Engineer, a Regional Archaeologist, representatives from the State Historical Commission, representatives from the church restoration committee, and members of the Tennessee Refuge Staff.

The only natural area on the refuge is the 578 acre Britton Ford Research Natural Area. This is comprised of approximately 316 acres of wooded area on Britton Ford Peninsula and the entire Sulphur Well Island estimated at 262 acres.

#### G. WILDLIFE

1. Wildlife Diversity. The most recent bird leaflet compiled at Tennessee Refuge lists 226 birds which can normally be found on the area. This list also notes another eighteen species which are accidental in occurrence and have been noted only once or twice plus another fifteen birds which should occur on Tennessee Refuge but have never been sighted here.

A "Christmas Bird Count" was taken on Tennessee Refuge for the first time in many years. An experienced ornithological group from Nashville, Tennessee, visited the Duck River Unit on December 31, 1982, and counted more than seventy species of birds on the area.

2. Endangered and/or Threatened Species. Tennessee Refuge participated in the nationwide bald eagle survey which is coordinated annually by the National Wildlife Federation. Our survey was taken on January 4, 1982, and twenty-nine bald eagles were counted on the refuge at that time. As a member of the Kentucky-Tennessee Eagle Management Team, this station made coordinated eagle counts in the area on February 19, 1982, and again on



82-1-1. The bald eagles peaked at Tennessee Refuge during December, 1982 when 17 adults and 32 immatures were counted on the area. (LR)



82-2-10. Scattered pottery pieces, mussel shells, and flint fragments are key indicators of concentrated Indian activity in the past. Four archaeological sites were set aside during 1982 that were located in agricultural areas. (LR)

December 13, 1982. We also surveyed key concentration areas on Kentucky Lake in addition to the refuge itself.

Bald eagle use at Tennessee Refuge has oscillated up and down the past several years. Use days rose from 2,843 in 1980, to 4,073 in 1981, and then dropped to 2,571 use days in 1982. The peak bald eagle use during 1982 came during late December when forty-nine were counted on the area, seventeen adults and thirty-two immatures.

The Kentucky-Tennessee Eagle Management Team met twice during the year to discuss inventory procedures, schedule inventory dates, review eagle trends, and discuss new eagle information. The team met at Dale Hollow Reservoir on April 7, 1982, and again at the Tennessee Wildlife Resources Agency office in Nashville, Tennessee, on September 8, 1982.

Peregrine falcon sightings on Tennessee Refuge are quite unusual and it has been some time since we have had a confirmed sighting. However, on September 15, 1982, a peregrine was definitely sighted in the Lawrence Creek area of Duck River Bottoms and its identity confirmed by refuge personnel.

3. Waterfowl. Tennessee National Wildlife Refuge has a waterfowl objective of 23½ million use days per year. This objective is broken down as 3.3 million goose use days and 20.2 million duck use days. The following will show a six year trend in the waterfowl use at this station and how it has declined in that period of time:

CY-1977	Waterfowl Use Days	24,891,174
CY-1978	Waterfowl Use Days	23,987,871
CY-1979	Waterfowl Use Days	23,723,491
CY-1980	Waterfowl Use Days	19,897,134
CY-1981	Waterfowl Use Days	14,821,144
CY-1982	Waterfowl Use Days	15,194,446

Individual waterfowl usage for 1982 is as follows:

<u>SPECIES</u>	<u>USE DAYS</u>
Whistling Swan	87
White Fronted Goose	62
Snow Goose	29,839
Canada Goose	2,930,516
Ross' Goose	31
Mallard	6,982,628 ✓
Black Duck	1,574,623 ✓
Gadwall	257,843
American Wigeon	481,575
Green Winged Teal	8,114 ✓
Blue Winged Teal	85,783 ✓
Shoveler	1,519
Pintail	282,547 ✓
Wood Duck	2,081,835
Redhead	6,805
Canvasback	63,040
Scaup	46,893



82-2-9. Wild sweet william is abundant on many areas of the refuge in springtime. Tennessee Refuge actually has a wide variety of wildflowers throughout the growing season. (LR)



82-1-12. A Canada goose had become so weak that it could no longer fly due to an impacted crop. A total of  $1 \frac{3}{4}$  pounds of browse and corn was removed from its crop before being sown back up. (LR)

<u>SPECIES</u>	<u>USE DAYS</u>
Ring Necked Duck	216,812
Common Goldeneye	5,188
Bufflehead	22,541
Ruddy Duck	4,894
Hooded Merganser	89,929
Common Merganser	21,342
TOTAL	<u>15,194,446</u>

We are now into what appears to be the second disappointing waterfowl season in succession. The 1981-82 wintering population was down considerable and the 1982-83 waterfowl numbers appear to be about the same. Canada geese, mallards, and black ducks seem to be reasonably stable at Tennessee Refuge for the time being, but wigeon are down considerably. Current American wigeon use days of 481,575 are only a fraction of what they were a few years ago. The 1982 peak on wigeon was just 10,950 as compared to more than 80,000 in 1976-77.

Three key waterfowl surveys were taken during 1982. The mid-winter waterfowl inventory was flown on January 4, 1982, for all ducks and geese. The annual snow-blue and white fronted goose survey was taken in November and the annual all goose survey was flown on December 13, 1982. The 1981-82 waterfowl season did not peak until the week of January 17-23, 1982, when 40,451 geese and 175,460 ducks were counted on the refuge. This peak concentration came about three weeks later in the season than usual. The last week in February saw a real exodus of waterfowl from the area as they disappeared from the refuge almost overnight. The duck and goose population built up very slowly in the fall but flooding conditions along with cold weather during the final week in December saw the figures jump to 50,325 geese and 190,115 ducks.

There was an adequate amount of available food for the waterfowl that utilized the refuge during the winter of 1981-82. Regional policy had dictated that no more than forty per cent of the corn and milo be mechanically manipulated prior to the hunting season. The remaining sixty per cent of the crop was not touched until January 20, 1982, the close of the waterfowl season in Tennessee. A portion of the corn was not utilized due to the period of manipulation. Again during the fall of 1982, we were able to log down upwards of forty per cent of the standing corn two weeks prior to the opening of the 1982-83 waterfowl season.

During the late winter, a Canada goose was picked up that had become extremely weak due to an impacted crop. Minor surgery was performed at the headquarters and one and three quarter pounds of grass and corn was removed from its crop. We were apparently not very good at veterinary as the goose died several days later.

Biological Technician Carl Dowdy spotted an immature Ross' goose at Duck River Unit on September 27, 1982. This is one of the few observations of a Ross' goose on Tennessee Refuge.

The adjacent waterfowl hunting was a bit erratic in 1982. Duck season opened on December 2, 1982, to a very mild day and most hunters were disappointed. The low duck populations generally led to corresponding low bag numbers. However, a few hunters reported one of their best seasons ever. Apparently it depended a whole lot on where you happened to be at the time.



82-8-5. The December, 1982, flood inundated many acres of moist soil food production areas making them more available to waterfowl. (RC)



82-8-23. The CY-1982 waterfowl peaked during late December when 50,325 geese and 190,115 ducks were counted on the refuge. (RC)

4. Marsh and Water Birds. An aerial flight on February 19, 1982, over the great blue heron rookery at Grassy Lake on Duck River Unit showed that the birds had apparently taken an interest in staking out their nest sites for the year. TVA took their annual aerial photograph of the rookery on March 23, 1982, which showed that the nesting trend was continuing to increase. An estimated 175 great blue herons were thought to have been brought to the flight state, up from a cyclic low of forty seven birds reared in 1977.

It was unusual to spot two common loons on the refuge on June 4, 1982. A flock of ten anhingas was noted during December which was the first time this bird had been noted in several years.

5. Shorebirds, Gulls, Terns and Allied Species. An estimated 3,000 ring billed gulls and 2,000 herring gulls staged at the Pace Point area of Big Sandy Unit late in the winter. For years, the gulls have congregated in the area between Britton Ford Peninsula and Pace Point prior to their migration from the area.

The killdeer still remains as the most abundant shorebird on Tennessee Refuge. A population of 1,500 birds held pretty much steady throughout the year with an estimated production of 650.

6. Raptors. A peak of eleven golden eagles was attained during mid-January, 1982. However, only 349 use days were recorded during the year as compared to 2,015 use days just four years ago during 1978. The decline is somewhat baffling.

The "big four" in the raptor category continue to remain red-tailed hawks, kestrels, northern harriers, and red shouldered hawks. A peak of 450 red-tailed hawks was estimated to be utilizing Tennessee Refuge during the mid-summer period.

The barred owl is certainly the most audible owl on Tennessee Refuge. Forested areas often come alive to the hooting and galking of these vociferous critters. Although more plentiful, the common screech owl does not make as much chatter.

One immature great horned owl was picked up locally and taken to the raptor rehabilitation center at Murray State University, Murray, Kentucky, on November 12, 1982. The young owl apparently had trouble hunting on its own and had become too weak to fly.

8. Game Mammals. Deer hunting in Tennessee is really on the upswing, especially in West Tennessee. More than 32,000 deer were harvested statewide during the 1981 season. Considering the accelerated harvest rate, the annual statewide kill is calculated to soon be over 40,000. Tennessee currently has a very liberal archery season, special juvenile and muzzle loader hunts, and a split thirty day buck season with a bag limit of four. See Section H.8. Hunting, for details of the various deer hunts on Tennessee Refuge during 1982.

Beaver are currently testing the will and determination of many landowners in western Tennessee. The beaver appears to be increasing in numbers and a "no limit" bag has been placed on the beaver during the hunting and trapping seasons.

Both the squirrel and raccoon were added, as approved, for hunting on certain areas of Tennessee Refuge during 1982. More will be said of these special hunts in Section H.8. Hunting. Other game mammals found on the refuge include rabbit, bobcat, gray fox, groundhog and coyote.

10. Other Resident Wildlife. The turkey population is doing very well on certain areas of Tennessee Refuge. The best concentration of turkey is now situated between Eagle Creek and Nix Landing where an estimated fifty to seventy birds now reside. The once flourishing turkey population on the Big Sandy Peninsula is now only a remnant of its former self. Poults production was noted this year in the Eagle Creek area and also in the upper bottoms of Duck River Unit. More will be said about the turkey situation under Section G. 12. Wildlife Propagation and Stocking.

Bob-white quail had a reasonably good productive season during 1982. Inclement weather and severe rain was not extreme during the nesting periods.

11. Fisheries Resources. Approximately 400,000 fingerling rockfish were released into the Tennessee River adjacent to the Duck River Bottoms. The Tennessee Wildlife Resources Agency is sponsoring this project. Rockfish have done well in other Tennessee lakes but have never gotten a good foothold in Kentucky Lake. The release site near Old Mill Landing was chosen because of good cover and adequate food supply.

Crappie, bass, catfish, and sauger are probably the four most sought after fish in Kentucky Lake. The 1982 season was an excellent period for crappie fishermen. Reports were that crappie were bigger and more numerous throughout the season. Local fishermen do not appear to have slowed down in their efforts to dump brush and other fish attractors into the lake. T.W.R.A. is also assisting this project with establishment of additional fish attractor sites in the lake. T.W.R.A. primarily uses tires with holes cut in them plus plenty of sunken brush.

Commercial fishing on Kentucky Lake remains as high as ever. White catfish is the most sought after target species due to the favorable prices received at the market and its relative abundance in the lake. Spoonbill catfish have also jumped into prominence during recent years as the wholesale price of roe has jumped into the \$20-28 per pound category.

Commercial musseling also remains high on Kentucky Lake. While most successful musselers use a diving apparatus, some still brail from a boat while others "toe" barefoot for mussels in shallow water.

12. Wildlife Propagation and Stocking. The 1978 stocking of fifteen hens and five gobblers in the Eagle Creek area of the refuge has apparently met with very good success. A recent stocking in the Dug Hill section has also met with some reasonable indication of success. The Tennessee Wildlife Resources Agency has indicated that they would like to trap some turkeys from some of our more productive flocks for reintroduction into other areas of Tennessee. The Eagle Creek-Nix Landing site may be one area where T.W.R.A. will eventually set up their rocket nets for turkey trapping.

15. Animal Control. Beaver have been discussed earlier in the narrative so an in-depth report will not be given in this section. However, it will be stated that one does have to be imaginative with a backhoe, conibear traps,

dozer, etc. to keep up with the persistent beaver. The price of beaver pelts would have to escalate tremendously to adequately control beaver in West Tennessee.

16. Marking and Banding. Waterfowl banding turned into a very frustrating event for the second consecutive year at Tennessee Refuge. High water within Duck River Bottoms during the key banding periods (January and February) made it necessary to pull up our cannon nets on frequent occasions. By mid-February our banding efforts became so unproductive that all three of the cannon nets were pulled for the season and not used again until the wood duck trapping period in July and August. Wood duck trapping success was the one bright spot in our banding efforts and we actually met our quota in this category. The fall of 1982 was also a frustrating period as the geese did not want to work well and two of our more productive net sites were almost continually under water. Big Sandy Unit also put out a cannon net in an effort to help realize the goose banding quota. Waterfowl banded during 1982 included 188 Canada geese, 671 mallards, 86 black ducks, and 537 wood ducks.

Tennessee Refuge was alerted to be on the lookout for neck banded Canada geese which may be migrating through. A total of nineteen neck collared geese were spotted, identified, and their numbers and colors submitted for tracking and identification purposes.

The following is a compilation of the total banding activity at this station:

Banding Record Data - As of December 31, 1982

<u>Species</u>	<u>BIRDS BANDED</u>		<u>RECOVERED (KILL RETURNS)</u>		
	<u>Banded 1982</u>	<u>Total Banded</u>	<u>1982</u>	<u>Cumulative Total</u>	<u>Percent of Total Banded</u>
Canada Goose	188	14,479	135	2,344	16.2
Hutchin's Goose	-	-	-	-	-
Blue Goose	-	37	-	4	10.8
Snow Goose	-	4	-	-	-
White-fronted Goose	-	1	-	-	-
Mallard	671	14,280	93	1,823	12.8
Mallard x Black	-	52	-	5	9.6
Black Duck	86	4,976	37	581	11.7
Gadwall	-	4	-	-	-
Wigeon	-	397	-	47	11.8
Pintail	-	120	-	6	5.0
Mallard x Pintail	-	2	-	-	-
Green Winged Teal	-	10	-	2	20.0
Blue Winged Teal	-	440	-	12	2.7
Wood Duck	537	9,022	44	669	7.4
Ring Necked Duck	-	21	-	5	23.8
Scaup	-	3	-	1	33.3
Coot	-	9	-	-	-
Mourning Dove	-	2,954	-	166	5.6
<b>TOTALS</b>	<b>1,482</b>	<b>46,819</b>	<b>309</b>	<b>5,665</b>	<b>12.1</b>

CUMULATIVE DOVE AND DUCK RECOVERIES, (kill returns) BY STATE, PROVINCE OF COUNTRY - AFTER BANDING AT TENNESSEE REFUGE - AS OF DECEMBER 31, 1982. 25

<u>STATE, PROVINCE OR COUNTRY</u>	<u>NUMBER</u>
Alabama	75
Arizona	1
Arkansas	131
Colorado	3
Delaware	2
Florida	21
Georgia	16
Illinois	192
Indiana	54
Iowa	48
Kansas	4
Kentucky	101
Louisiana	206
Maine	1
Maryland	7
Michigan	115
Minnesota	180
Mississippi	157
Missouri	40
Montana	2
Nebraska	11
New Jersey	2
New York	5
North Carolina	11
North Dakota	102
Ohio	41
Oklahoma	2
Oregon	1
Pennsylvania	9
South Carolina	14
South Dakota	50
Tennessee	1,148
Texas	47
Virginia	11
Washington	1
Wisconsin	151
Wyoming	0
TOTAL U.S.	<u>2,962</u>
Alberta	12
British Columbia	2
Manitoba	92
Ontario	103
Quebec	12
Saskatchewan	<u>104</u>
TOTAL CANADA	<u>325</u>
Venezuela	2
Dominion Republic	<u>1</u>
TOTAL OTHER COUNTRIES	<u>3</u>
GRAND TOTAL	3,289

CUMULATIVE RECOVERIES (kill returns) BY YEAR - AFTER BANDING AT TENNESSEE REFUGE - AS OF DECEMBER 31, 1982. (GEESE, DUCKS, DOVES)

<u>YEAR</u>	<u>NUMBER OF RECOVERIES</u>	<u>PERCENT OF TOTAL RECOVERIES</u>
Same Year Banded	1,477	26.16
1st Year After Banded	1,471	26.05
2nd " " "	934	16.52
3rd " " "	587	10.37
4th " " "	360	6.37
5th " " "	281	4.97
6th " " "	174	3.08
7th " " "	116	2.05
8th " " "	76	1.34
9th " " "	70	1.23
10th " " "	41	.72
11th " " "	23	.40
12th " " "	14	.24
13th " " "	13	.23
14th " " "	4	.07
15th " " "	2	.03
16th " " "	2	.03
17th " " "	2	.03
21st " " "	1	.02
	<u>5,648</u>	<u>100.00</u>

CUMULATIVE GOOSE RECOVERIES (kill returns) BY STATE OR PROVINCE - AFTER BANDING AT TENNESSEE REFUGE - AS OF DECEMBER 31, 1982.

<u>STATE OR PROVINCE</u>	<u>NUMBER</u>	<u>STATE OR PROVINCE</u>	<u>NUMBER</u>
Alabama	3	Alberta	2
Arkansas	73	Manitoba	3
Colorado	1	Ontario	645
Illinois	108	Northwest Territories	97
Indiana	76	Quebec	<u>15</u>
Iowa	6		762
Kentucky	144		
Maryland	15		
Michigan	378		
Minnesota	19		
Mississippi	6		
Missouri	14		
Nebraska	2		
New Jersey	2		
New York	7		
North Carolina	5		
North Dakota	1		
Ohio	194		
Pennsylvania	106		
South Carolina	7		
Tennessee	231		
Virginia	10		
Washington	3		
West Virginia	1		
Wisconsin	162		
Wyoming	<u>1</u>		
	<u>1,579</u>		

CUMULATIVE TOTAL OF BIRDS TRAPPED AT TENNESSEE NATIONAL WILDLIFE REFUGE WHICH WAS BANDED ELSEWHERE - AS OF DECEMBER 31, 1982. 27

The following is a tabulation of birds trapped at Tennessee Refuge that were previously banded elsewhere.

Agassiz NWR	2
Alabama Department of Conservation	6
Arkansas Game and Fish Department	1
Black Bay NWR	1
Big Lake NWR	2
Blackwater NWR	1
Bombay Hook NWR	1
Canadian National Resources Department, etc.	74
Crab Orchard	22
Cross Creeks NWR	52
Deslacs NWR	1
Ducks Unlimited	3
Florida Game and Fish	1
Hatchie NWR	1
Horican NWR	26
Illinois Department of Conservation	97
Indiana Department of Conservation	7
Iowa Department of Conservation	1
Iroquois NWR	2
J. Clark Sayler NWR	1
Kellogg Bird Sanctuary	12
Kentucky Fish and Wildlife Resources Commission	16
Kentucky Woodlands NWR	9
Lake Andes NWR	1
Lower Souris NWR	3
Mark Twain NWR	2
Maryland Department of Natural Resources	1
Michigan Department of Conservation	9
Minnesota Game and Fish Commission	8
Mississippi Game and Fish Commission	3
Montana Game and Fish Commission	1
Necedah NWR	4
New York Department of Conservation	2
North Carolina Resources Commission	1
Noxubee NWR	4
Ohio Department of Natural Resources	43
Ottawa NWR	43
Presquile NWR	4
Pungo NWR	1
Reelfoot NWR	1
Rice Lake NWR	3
St. Marks NWR	2
Sand Lake NWR	2
Santee NWR	5
Seney NWR	7
Shiwassee NWR	63
South Carolina Game and Fish Commission	1
Swan Lake NWR	7
Tamarac NWR	1

CUMULATIVE TOTAL OF BIRDS TRAPPED AT TENNESSEE NATIONAL WILDLIFE REFUGE WHICH WAS BANDED ELSEWHERE - AS OF DECEMBER 31, 1982 (continued).

Tennessee Wildlife Resources Agency	67
Upper Souris NWR	3
Virginia Commission of Game and Inland Fisheries	3
Wauby NWR	1
West Virginia Conservation Department	2
Wheeler NWR	49
Wisconsin Department of Conservation	10
Wyoming Department of Fish and Game	1
Game Management Agents and All Others	<u>49</u>
TOTAL	746

TRAPPED BIRDS - BANDED PREVIOUSLY AT TENNESSEE

The table below itemizes the Tennessee Refuge banded birds that have been re-trapped at Tennessee Refuge after a period of 90 or more days, during the past seventeen years. Numbers indicated are separate returns for individual bands and do not include repeats.

<u>YEAR RE-TRAPPED</u>	<u>NUMBER</u>
1965	16
1966	23
1967	73
1968	43
1969	23
1970	46
1971	68
1972	56
1973	23
1974	65
1975	29
1976	25
1977	45
1978	14
1979	11
1980	8
1981	17
1982	<u>2</u>
TOTAL	587

17. Disease Prevention and Control. The first indication that the Tennessee Refuge deer herd was infected with hemorrhagic disease was in the fall of 1981. During the refuge deer hunts of that period, we noticed sloughing and cracking of the hoofs of several deer that came through the deer checking stations. Dr. Rober Lang of the National Fish and Wildlife Health Laboratory at Madison, Wisconsin, was contacted in early 1982 and he agreed at that time to come and make an analysis of our problem. Mr. Lang visited Tennessee Refuge on February 23 and 24, 1982, and collected one deer from the refuge but no signs of hemorrhagic disease were detected in the blood sample from the specimen taken. The deer harvested during the fall refuge hunts were

examined but no visible indicators of the disease could be detected. Apparently the disease had pretty well run its cycle by this period.

#### H. PUBLIC USE

1. General. Outdoor Recreation Planner Ries Collier vacated his position at Tennessee Refuge on March 7, 1981, and to date the slot has not been filled. With this void, the refuge does not have as close a rein on the public use activities on the area as we would like.

Certain public use activities invariably accelerate each spring as folks are drawn toward outdoor activities. Litter control and the periodic cleaning up and maintaining of the 66 plus public use areas shoots up dramatically each April and May as people head for the lake. Numerous negotiations are also performed with adjacent refuge neighbors as they seek to take advantage of lands between themselves and the refuge waters of Kentucky Lake.

4. Interpretive Foot Trails. Even though Chickasaw Nature Trail, located on the Big Sandy Unit, was officially designated as a "National Recreation Trail" by Interior Secretary James Watt on November 27, 1981, utilization by the public still remains low. Only an estimated 195 people utilized this foot trail during calendar year 1982.

A draft leaflet for Chickasaw Nature Trail was re-worked and submitted in July, 1982. No interpretive leaflets have apparently been printed up as yet for this trail.

5. Interpretive Tour Routes. Utilization of the self guiding tour route on the Big Sandy Unit changes very little from year to year despite the economy. Estimated usage ranges from 11,265 visits in 1980 to 10,825 visits in 1981 and then up again to 11,330 visits in 1982. People will always drive down to the refuge to see the geese.

6. Interpretive Exhibits/Demonstrations. A class of thirty-five students from nearby Briarwood School in Camden, Tennessee, made their annual trip to Duck River Unit during January and took in the banding demonstration of ducks and geese. Eight students majoring in Wildlife at the University of Tennessee, Martin, Tennessee, also made their annual trek to Duck River Unit during January to get a first hand demonstration of the trapping and banding techniques. A wood duck banding demonstration was presented to approximately thirty individuals at Paris Landing State Park on September 4, 1982, who were taking advantage of "Family Day at the Park".

7. Other Interpretive Programs. "Wildlife Week" programs were shown to 965 fourth, fifth, and sixth grade students within Henry County during mid and late March, 1982. An excellent slide series and tape was secured from the National Wildlife Federation entitled "We Care About Eagles".

Tennessee Refuge participated in career day activities at Henry County High School on February 25, 1982. More than ninety sophomores were talked with concerning careers in conservation.

Tennessee Refuge presented three programs (June 23, July 7, and July 21, 1982) to the Girl Scouts at Camp Hazlewood. Approximately 100 girls were



82-7-2. Public drawings were held in the refuge headquarters office for all five managed deer hunts on the refuge. (LR)



82-7-27. Four muzzleloader hunts and one traditional gun hunt for deer highlighted the hunting activity on Tennessee Refuge during 1982. A total of 207 deer were taken during these five hunts. (LR)

present at each program. The wildlife week program "We Care About Eagles" was utilized this year.

Twenty additional programs were presented to local civic and garden clubs during the year. One of the key programs during the year included Refuge Manager Ryan's keynote address to the fall Ducks Unlimited meeting at Dickson, Tennessee.

Seven press releases were issued during 1982 to keep the public informed of hunting opportunities and other activities on Tennessee Refuge. Numerous written and oral requests were responded to by this office.

A "Calendar of Wildlife Events" leaflet was drafted and submitted as requested during 1982. This leaflet may become standard to most refuges sometime in the future.

8. Hunting. This office submitted the 1982/83 hunt proposals to the Regional Office on March 19, 1982. These proposals listed increased hunting opportunity for deer and the adding of two new huntable species (squirrel and raccoon). This decision was made after consultation and concurrence with the State (TWRA). Our hunt brochure was revised and submitted for printing but the 1,200 copies arrived about a month after heavy demand started for this document.

A total of seven managed hunts were held on the refuge during 1982. The following is a brief summary on each hunt.

a. Britton Ford Peninsula - Sulphur Well Island Muzzleloader Deer Hunt

The annual muzzleloader hunt on Britton Ford Peninsula and Sulphur Well Island took place on this 750 acre area during January 9, 1982. A total of forty-six hunters spent 245 hours in harvesting nineteen deer. The largest was a thirteen point buck which field dressed 158 pounds.

b. Squirrel Hunt. For the first time in many years, a squirrel hunt was held on Tennessee Refuge. Areas open to hunting included the Big Sandy Peninsula, Duck River Unit south of I-40, and all of Busseltown Unit. The total huntable area amounted to 10,447 acres. An estimated 370 squirrels were harvested on this hunt.

c. Raccoon Hunt. The first ever managed raccoon hunt was held on Tennessee Refuge during 1982 and took place during the month of September. An estimated forty raccoons were harvested on the 2,100 acre portion of Duck River Unit located south of I-40.

d. Duck River Bottoms Muzzleloader Deer Hunt. A total of 4,000 acres of land was open within the Duck River Bottoms area of the refuge on October 2 and 3, 1982. Some 138 hunters spent 1,464 hours in harvesting forty-five deer by muzzleloaders. This is Tennessee Refuge's earliest deer hunt of the season. Hunter success was up sharply from last year when only fifteen deer were taken.

e. Busseltown Unit Muzzleloader Deer Hunt. The first managed deer hunt at Busseltown Unit took place on October 23, 1982, on this 3,200 acre area. The sixty-three hunters involved with the event were quite pleased as they harvested thirty five deer in 468 hours of hunting time. Hunters reported seeing plenty of deer.



82-6-3. A tornado ripped thru one section of boat slips at Sugar Tree Marina at 3:30 P.M. on June 30, 1982. The remaining portion of the marina concession only received minor damage. (RC)



82-3-3. Refuge visitors do not always take their litter home. Litter barrels sometimes help and at other times they appear to compound the problem. (LR)

f. I-40 Muzzleloader Deer Hunt. The I-40 deer hunt on Duck River Unit is divided by the Tennessee River making it basically a two compartment hunt of approximately 2,100 acres. The 1982 hunt was held on November 6 and 7 when 139 hunters spent 1,558 hours in taking forty-six deer.

g. Big Sandy Gun-Deer Hunt. More than 1,800 persons applied for what has become the most popular deer hunt on Tennessee Refuge. A public drawing was held in the headquarters office on November 8, 1982, when one hundred permits were drawn for December 4 and another one hundred permits drawn for December 5, 1982. A total of 159 hunters spent 1,352 hours in harvesting sixty-two deer on this hunt. What is thought to be the largest buck ever taken on the refuge came from this hunt which was a thirteen point buck that field dressed 187 pounds.

9. Fishing. The 1982 crappie season on Kentucky Lake was reported to be one of the best in years. Fishermen were catching large "slab" crappie and in good numbers throughout much of the season. April and May were two of the better months for crappie fishing during 1982. Total activity hours spent for fishing in 1982 amounted to 1,079,800 hours, nearly identical to the amount recorded in CY-81. It is estimated that just over one quarter million people took advantage of fishing in refuge waters during 1982.

11. Wildlife Observation. Although most wildlife observation comes via some sort of land vehicle, boats and foot traffic also account for a sizeable portion in this category. Our 1982 public use reports show where 76,110 visitors spent 124,783 activity hours in wildlife/wildlands observation on Tennessee Refuge.

Tennessee Wildlife Resources Agency employees, Robert Hatcher and Don Miller, visited the refuge on April 16, 1982, to examine Pace Point on the Big Sandy Unit as a possible wildlife observation area in their state-wide system of WOA's. Several weeks later they also paid a visit to Duck River Bottoms for the same consideration. The statewide WOA system has been set up as key areas where the public can witness either abundant, critical, or unique wildlife populations at particular times of the year.

12. Other Wildlife Oriented Recreation. Camping and picnicking have remained rather consistent over the past several years. The only wildlife oriented camping permitted on Tennessee Refuge is at Sugar Tree Marina plus that permitted to the Boy Scouts at Britton Ford Peninsula. There are many weekends at Sugar Tree Marina where the entire fifteen camp sites are filled. The Boy Scouts utilized the Britton Ford camp site twice during 1982.

Birdsong boat landing (locally known as Peckerwood Landing) was completely re-worked this period. Trees were pushed back and gravel was hauled in to enlarge the parking area. This site is a favored area by local commercial fishermen and musselers.

Litter barrels were removed from a few public use areas during the year where home garbage and scattered litter had been a problem. Sometimes litter attracts litter and we're better off without a garbage barrel at some locations.



82-6-19. A field was discovered adjacent to the refuge that had obviously been baited for doves. Some of the wheat had even been scattered on refuge lands. (LR)



82-1-18. Elevated boundary line markers continue to be placed at locations where the refuge boundary enters Kentucky Lake. (LR)

16. Other Non-Wildlife Oriented Recreation. Attention was given this year to Indian mounds (or artifact sites) which were located in agricultural fields or areas that might be disturbed by mechanical equipment. Four sites were located (two within Duck River Bottoms and two at Busseltown Unit) which needed protection from agricultural operations. These sites were noted, marked, and removed from farming operations. Two of these sites were sown to Bermuda grass.

One congressional inquiry was received during 1982 concerning some shoreline improvements of adjacent landowners in the Britton Ford Subdivision. A reply by the Asheville Area Office held firm to the 1985 date that the shoreline improvements were scheduled for removal.

Non-Wildlife oriented recreation such as swimming, boating and water skiing continue to exist at Tennessee Refuge in spite of the fact that these activities are not encouraged whatsoever. They will probably never be completely eliminated regardless of what approach is taken.

17. Law Enforcement. A total of nineteen cases were made on or adjacent to Tennessee National Wildlife Refuge during 1982 and were processed through the Middle and West Tennessee Federal Court system. This compares to twenty-one cases encountered in 1980 and twenty-seven cases in 1981. A breakdown of the violations encountered during 1982 are as follows:

Firearms in Possession	5
Littering	3
Closed Area Violation	6
Firearms Corridor Violation	2
Unauthorized Facility on Refuge	1
Excessive Boat Wake	1
Unplugged Gun	1
TOTAL	19

Biological Technician Eddie V. McKissick finally received his law enforcement authority in June of 1982, after having graduated from law enforcement training at Glynco, GA (F.L.E.T.C.), in November of 1981. Mr. McKissick attended a one week training session at Glynco, GA during 1982 which dealt with refuge regulations and Service procedure.

At approximately 9:00 P.M. on June 18, 1982, someone (or some party) forcibly entered the shop building at Busseltown Unit and made off with several items. Government items stolen included a pair of binoculars, a six gallon marine gas tank, and a set of keys. There were also two refuge vehicles tampered with, one of which was driven to the bank of the Tennessee River about a mile away and left. The incident was reported to the Nashville SAC and the FBI in Dyersburg, Tennessee. The Decatur County Sheriff's Department did the primary investigation of the incident.

Special Agent James Blakemore visited the refuge on August 6, 1982, to re-qualify four employees at this station who have law enforcement authority. Three staff members from Reelfoot Refuge also came and took advantage of being re-certified with the pistol for law enforcement use.



82-8-14. The newly constructed dike-road at Waverly Pump Station received its first test as a levee in late December when the Duck River went beyond 364'. (RC)



82-8-11. Numerous tons of gravel were washed from various roadways within the Duck River Bottoms due to the flooding. Extensive road repairs will be necessary. (RC)

Unlawful camping is still a problem at Tennessee Refuge and frequent checks were made throughout the summer months in order to control this activity. Contact was made with twenty-three individuals who had set up unlawful camp sites on the refuge during 1982.

19. Concessions. Two marina concessions are located on Tennessee National Wildlife Refuge. Mansard Island Marina is located on the west bank of the Big Sandy River and Sugar Tree Marina is located just south of I-40 on the west side of the Tennessee River. Both of these marinas provide specific services and supplies such as slip rental, boat and motor rental, mooring and anchoring facilities, gasoline/petroleum products, packaged food and drinks, camping, and picnic facilities.

To insure that the concessions are operating in compliance with the conditions of the existing contracts, an annual audit and inspection is held annually. During 1982, Sugar Tree Marina was audited on February 9 and Mansard Island was audited on March 23.

A tornado hit Sugar Tree Marina at 3:30 P.M. on June 30, 1982. This twister completely destroyed one set of large yacht type boat slips plus inflicting damage to other parts of the marina. This is the second tornado to hit Sugar Tree Marina during its existence on the refuge. Owners of the marina have already started rebuilding the demolished set of slips.

## I. EQUIPMENT AND FACILITIES

1. New Construction. Tennessee Refuge applied for a TVA 26a Permit and a Corps of Engineers 404 Permit in January of 1982, concerning the proposed 1.1 mile dike-road at the Waverly Pump Station. This dike would serve as a diversion levee for flood waters that frequently break over at this location. The Corps of Engineers visited the site on March 25, 1982, and notified this station that no permits would be necessary.

Construction was started on raising the existing road an average of eighteen inches over its entire 1.1 mile length in late March. Equipment utilized included dozers, tractors, earth pans, dragline, 3-gang sheepsfoot roller, road grader, etc. By mid-May the levee was more than eighty five percent complete with the projected work staying pretty much on schedule. Top grade of the diversion levee was 364 feet, high enough to turn back most high flood waters from the Duck River. The sides of the levee were sloped at a 3:1 ratio and were sown to Bermuda grass after being disked and fertilized. The side slopes were actually seeded a second time after a poor stand resulted from dry weather on the first seeding.

The refuge was fortunate to have TVA contribute \$19,000 to this dike-road project. From their contribution, we were able to purchase 3,000 tons of crushed Camden chert, 500 tons of rip-rap, 3,000 gallons diesel fuel, 1,500 pounds of ammonium nitrate, 400 pounds of Bermuda seed, etc.

The 1.1 mile dike-levee was finally completed in September 1982, as the final loads of rip-rap were received and spread at key locations. TVA was pleased with the finished product and felt they more than got their money's worth in the cooperative construction venture.



82-8-33. The roads and dikes within Duck River Bottoms became impassable at times as the December flood waters rose. (RC)



82-8-12. One benefit derived from the flood waters was the making available of numerous acres of standing corn in Duck River Bottoms. (RC)

2. Rehabilitation. A new linoleum floor was installed in the headquarters office at Paris, Tennessee, this year. The old linoleum had more than served us well. However, the holes, cracks, and worn spots did not make a good impression.

Three culverts (totalling 80 feet in length) were moved to the Busseltown Unit and installed by backhoe in the Gray's Bottom area. These three culverts, all thirty-six inches in diameter, cured a run-off and erosion problem that had troubled one of our access roads for years. A single twenty-four inch culvert was installed at Nix Landing and a one quarter mile road constructed with a dozer to give a local cooperative farmer access to refuge lands under contract.

A 200 foot section of water line was replaced between the well and the old shop building at the Big Sandy Unit. The old black plastic line had been troubled with numerous leaks and the entire section was replaced with the improved PVC pipe.

The old fuel furnace at the Big Sandy shop finally proved to be unrepairable. After several trips by the Lennox service man, we were finally told that it could not be fixed. A wood stove has been put in this building which will get us by the critical times until a new furnace can be purchased.

This station's two Wabco road graders were completely gone over during the year. The units had not been used extensively in some time and considerable work was necessary to bring them up to normal operating condition.

3. Major Maintenance. The Tennessee Refuge road system is maintained on a periodic basis throughout the year. An estimated 2,000 tons of gravel were spread on the refuge road system during 1982.

The old shop building at the Big Sandy Unit had numerous pieces of siding replaced and repainted during the year. The trim on Big Sandy's new shop building was also painted.

The refuge boundary line was repainted at several locations. This included the section between Holiday Acres and Broadview, from Cooley Bottoms to Ward Hill, and the west side of Cub Creek.

Several pieces of heavy equipment received major maintenance during the year. The radiator on our D-7 dozer was completely reworked after it would no longer cool the engine. The transmission in the Busseltown's Austin-Western road grader went sour and the cure required that every major bearing in the transmission be replaced. The starter motor on Big Sandy's Cat road grader broke a piece off which eventually got into the clutch and pressure plate. It was necessary to pull the engine to make the repairs to the clutch and starter motor. Repairs to some of our over the road vehicles included a new spider gear for one Dodge pickup and a new bearing and axle for another.

The boat trailer for Big Sandy's work boat was completely reworked during the summer. The axle was repositioned and new runners and pads were installed.

Routine grounds maintenance and housekeeping chores were accomplished at all three field units during the year. Courtyard lawns were frequently mown, litter was picked up from the various public use areas, dikes and roadways were mown, and limbs were cut back from roadsides.

The chlorinator on the Big Sandy Unit water system required a complete overhaul during the year. The unit developed numerous leaks and it failed to meter chlorine into the system accurately.

A 300 yard section of road between Morgan Creek Road and Nix Landing was completely rebuilt. Proper drainage was installed, the road was raised approximately six inches, and new gravel was added to the roadbed before the repair crew left the area.

4. Equipment Utilization and Placement. Tennessee Refuge was notified by GSA that seven or eight road graders were available through surplus sources at Albany, Georgia. Don Temple, Refuge Manager at Eufaula Refuge was asked by this station to take a look at the units and tell us of his appraisal. The Service ended up screening six of the Wabco road graders, two of which came to Tennessee Refuge and the other four to other refuges in Region 4. This station's diesel truck and low boy unit made the trip to Alabama to pick up the two graders. Eufaula Refuge was extremely gracious in providing storage, logistical help, and loading assistance with the road graders.

Tennessee Refuge was fortunate to receive several pieces of equipment from the Asheville Area Office when that office closed out. We received a K-car sedan, an IBM typewriter, and a Sharp calculator.

A K-car station wagon arrived during the year which replaced the AMC Concord sedan that Soil Conservationist Reese was utilizing. A mobile two-way radio was transferred to this station from Wildlife Services. A new compact station wagon was ordered during the year from GSA to replace a 1975 model located at Tennessee Refuge.

A desk, several chairs, a bookcase, and a credenza were obtained from the Office of Surface Mining at Crossville, Tennessee.

A new Moody boat trailer was received during the year to carry the refuge's Ski Barge work boat.

A hydraulically controlled wick bar unit was fabricated in our shop prior to the pest plant season. The unit was built to fit our John Deere 3020 farm tractor. Many acres of Johnsongrass were successfully treated in 1982 with this wick bar.

Our Ford 9000 diesel truck and lowboy unit have proven extremely valuable this year for moving refuge equipment over the area. It was extremely useful in moving many pieces of heavy equipment to the 1.1 mile dike-road construction site. This heavy truck became even more valuable as an "over the road" unit when a new set of ring and pinion gears were furnished by Ford Motor Company. The Ford 9000 truck had always been miserably slow on the highway and research into the problem found that Ford had installed a 5.43 differential gear instead of the proper 4.11 size. Ford Motor Company complained to us that it cost them approximately \$2,800 in parts to repair our problem. Tennessee Refuge bore only the cost of installation.

This station's Oliver 1900 diesel farm tractor quit functioning during the season. The transmission let go and it won't move at all now. The tractor is old, well worn, and probably not worth repairing. It is presently stood up.

Three surplus fuel tanks were obtained from GSA sources and picked up in Chattanooga, Tennessee. Our fuel storage capacity was enhanced by the use of these three tanks.

A 3-gang sheepsfoot roller, sixteen feet wide, was obtained from TVA at Muscle Shoals, Alabama. This heavy dirt compactor was quite useful in the construction of the 1.1 mile dike-road.

5. Communications Systems. Two-way mobile radios were placed in two individual refuge vehicles. The K-car transferred from the Asheville Area Office received a new radio and our heavy Ford 9000 diesel truck was also fitted with a two-way radio.

Three Lanier tape recorders and one transcriber were purchased during the year. The units not only will be used at the headquarters office, but also in the field during wildlife surveys and other work.

6. Energy Conservation. Soil Conservationist Eddie Reese completed Tennessee Refuge's Energy Contingency Plan which was submitted to the Regional Office in September. Possible avenues of energy reduction were outlined in this plan.

Various ways of reducing this station's fuel consumption were explored this year. No doubt that most future purchases of refuge pickup trucks will be that of the compact or sub-compact size.

7. Other. The "1850 Homeplace" dwelling at Land Between the Lakes burned on the night of April 19, 1982. This office was notified soon after that a replacement log cabin was being sought. We alerted L.B.L. that the old Bussell House at Busseltown Unit just might be of the style and era for a suitable replacement for their log house that burned. L.B.L. looked at more than a dozen log houses in the area that were offered as replacements before finally settling on the Bussell House. L.B.L. then officially requested transfer of the house to their agency and the Service recommended that it be undertaken.

After L.B.L.'s official request, things really started to happen in a hurry. The appropriate paperwork moved quite rapidly considering all the Government agencies involved. What really sped things along was the Corps of Engineers who offered L.B.L. the use of a barge to float the log cabin intact downstream to L.B.L. (about 80 miles) if they could have it ready by June 14, 1982, when their barge was passing through the area. This prompted the Service, the State Historical Commission, TVA, LBL, actually everyone involved, to make the transfer of the old log house top priority on their list. Somehow the paperwork did not get caught up in the bureaucratic bowels of the Government and this office was advised just hours before the scheduled departure time that we could release the old poplar log structure to L.B.L.

The accountable property at Tennessee Refuge changed hands twice during the year. V.L. Childs signed over the property to Assistant Manager Rhodes just prior to his retirement in May, 1982, and Assistant Manager Rhodes signed over the station's accountable property to Complex Manager Carrell Ryan in October, 1982.



82-5-1. The poplar log Bussell house located on the Busseltown Unit of the refuge was transferred to Land Between the Lakes when their log dwelling burned at their living history site called "1850 Homeplace". (LR)



82-5-11. The Corps of Engineers provided a barge for the 80 mile trip down the Tennessee River to TVA's Land Between the Lakes recreation area. (LR)

J. OTHER ITEMS

1. Cooperative Programs. Henry County Port, located on Little Sulphur Creek of Tennessee Refuge, showed a significant increase in administrative activity during 1982. Several companies have expressed an interest in shipping their products from the port, these being grain and pulpwood business. The Henry County Port Committee applied for a \$400,000 federal grant in June, 1982, for construction of a modern port facility but the grant application was turned down. There are still many local people who are very much interested in seeing the Port expand from its present lethargic existence and be able to serve the county in a financial manner when barge traffic is enhanced on the Tennessee River by the opening of the Tombigbee Waterway. Several local businessmen have expressed a sincere interest in seeing grain products shipped by barge from the port.

Seventeen special use permits were issued to individuals or organizations during 1982. Thirteen of these permits were issued to cover privately maintained facilities such as boat docks and electric lines for individuals primarily located in the Britton Ford and Killibrew Subdivision area on public lands. Special use permits were also issued to the Reelfoot Girl Scout Council, the West Tennessee Area Council Boy Scouts, the Elkhorn Community Club, and for private storage space.

Tennessee Refuge participated in six other cooperative programs of significance. These programs included the reporting of neck collared and color marked birds, the mid-winter waterfowl inventory, the annual eagle count, the experimental hardwood study plots, the annual goose survey, and the regional gypsy moth survey.

2. Items of Interest. Refuge Manager V.L. Childs reached forty-five years of service within the U.S. Fish and Wildlife Service as of March 15, 1982. At that time he was presented a plaque by his fellow staff members commemorating the event.

The Asheville Area Office officially terminated business with field stations as of August 1, 1982. The Asheville Area Office had been our first line of authority for more than five years before a decision was made to dissolve the Area Offices and return that function to the Regional Office.

Visitors to Tennessee Refuge during 1982 included:

Wilbur Vaughn	TWRA	1-28-82
Ged Petit	TWRA	1-28-82
Jack Colwick	TWRA	1-28-82
Scott Atkins	TVA	Various visits
Tom Montgomery	TVA	Various visits
Vernon Anderson	Kentucky Wildlife Commission	2-18-82
Bob Lange	Nat. Wildlife Health Laboratory	2-23-82
Jim Burbank	TVA	2-24-82
Joe Farrar	TWRA	3-16-82
John DeLime	Former FWS	5-11-82
Jeff Blakemore	Nashville LE	5-12-82
Ernest Rauber	Santee NWR	5-14-82
Roger Stiener	Former FWS	5-14-82
Robert Fisher	Wildlife Services	Various visits

## Visitors to Tennessee Refuge (continued)

Don Orr	Atlanta Regional Office	9-22-82
William Hickling	Asheville FWS	12-8-82
J.C. Bryant	Hatchie NWR	Various visits
Sam Barton	Cross Creeks NWR	Various visits

3. Credits. The major portion of the F. Habitat Management Section of the narrative report was written by Soil Conservationist Eddie Reese. All other sections of the narrative were written and compiled by Assistant Refuge Manager Leon Rhodes. The entire document was typed by Refuge Clerk Dorothy Easley.

K. FEEDBACK

1. As disappointing waterfowl seasons continue to come and go for the waterfowlers in this area, a mood has arisen for some drastic action to be taken. More and more waterfowlers are now voicing their opinions that the entire flyway should be closed for a year or more to all waterfowl hunting.

2. Shoreline encroachment continues to grow with the ever increasing number of residential developments along the Refuge/Kentucky Lake boundary. There is "no buffer" zone left in many areas of the refuge today. A stronger and more enforceable "shoreline" policy will have to be established to guard against any further detriment of wildlife habitat at Tennessee National Wildlife Refuge.

3. There is the ever increasing "ceiling and funding" problem. This, no doubt, is an echo of all other stations. However, it appears to be very pronounced at Tennessee, so we welcome a critical review of the situation.