

OFFICE OF THE PROVOST MARSHAL  
MARINE CORPS BASE  
CAMP LEJEUNE, NORTH CAROLINA 28542

14B/CDP/jpf  
25 July 1967

From: Base Provost Marshal  
To: Base Commander, Marine Corps Base, Camp Lejeune, North  
Carolina 28542

Subj: Green-tree water impoundment area, establishment of

Encl: (1) Map of proposed impoundment location

1. In March, 1967, Mr. Sumner Dow of the Federal Fish and Wildlife Service visited Camp Lejeune at the request of Base G-4, Colonel R. O. Dillow, for the purpose of technical advice and information for the improvement of the wildlife habitat at Camp Lejeune. Among other things, Mr. Dow urged that we establish at least one green-tree impoundment for migratory waterfowl.

2. Mr. Otto Florschutz, state waterfowl biologist, visited the base in May, 1967 to examine one such area which had been tentatively selected by Mr. Carroll Russell, Base Forester and Mr. C. D. Peterson, Base Wildlife Protector. After his examination of the proposed impoundment site, Mr. Florschutz rated its size, location, and vegetation excellent in all respects. The location of the proposed impoundment site is indicated by the shaded area on the enclosed map. With the size of the feeder stream and the approximate one hundred acre watershed, Mr. Florschutz recommended that a two-foot section of twenty-four inch culvert should be used to allow for overflow drainage and spring drawdown. The fill dike would have an emergency spillway to one side and be seeded with grass to aid in stabilization. By impounding the water level to the planned maximum of three feet at the control structure, the proposed impoundment would cover approximately ten acres.

3. Annual management of the area would be quite simple. The impoundment would be flooded in September and completely lowered in March for maximum use by waterfowl. This schedule would insure normal tree growth to provide continued mass production and permit plant growth on the swamp floor. The impoundment will serve as a feeding and resting area for mallards, black ducks, green-winged teal and wood duck.

4. The estimated cost of construction for the impoundment is \$236.54 which includes a bulldozer and operator and truck crane and operator to establish the dike and position the control structure. The material



[The text in this section is extremely faint and illegible. It appears to be a multi-paragraph document, possibly a report or a letter, but the specific words and sentences cannot be discerned.]

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for the control structure is on hand and is of the used surplus variety so additional cost to the government will not be involved. Construction expenditure can be drawn from project 64-002 funds which totaled \$5,737.00 as of 30 June.

5. The proposed area location has been discussed with Range Control and does not conflict with any current or future range plans for the base.

O. IVAR SVENSON, JR.

THE UNIVERSITY OF CHICAGO  
DEPARTMENT OF CHEMISTRY  
530 SOUTH EAST ASIAN AVENUE  
CHICAGO, ILLINOIS 60607

TO: THE DIRECTOR, NATIONAL BUREAU OF STANDARDS  
4300 RESISTANCE AVENUE  
GAITHERSBURG, MARYLAND 20885

RE: [Illegible]



# State of North Carolina

## Wildlife Resources Commission

RALEIGH, N. C. 27602

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THURMAN BRIGGS, LEXINGTON  
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1120 Market Street  
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May 16, 1967

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JAY WAGGONER, GRAHAM

Mr. Charles D. Peterson  
Base Game Protector  
Office of the Provost Marshal  
Marine Corps Base  
Camp Lejeune, North Carolina 28542

Dear Pete,

I enjoyed being afield with you and Mr. Carroll Russell last Friday to examine your proposed green-tree impoundment for waterfowl. This letter should summarize what we discussed that day. If you have any additional questions or if I have not sufficiently explained some points, just contact me.

The site size, location and vegetation appear to be excellent. Ashes, hornbeams, black and tupelo gums should furnish good quantities of good quality mast foods. Ridge trees of hornbeam, oaks and poplars will supplement this supply. Semi-aquatic annuals and perennials of duck food value observed included penny-wort, three species of sedges and smartweed. Perhaps these can be supplemented in later years by hand seeding of millets or smartweeds. So, from the food standpoint, your proposed area is in fine shape.

Now to proceed to the engineering aspects. The dam site you have picked appears fine. It's height will depend on the amount of drop in the swamp floor from the upper end of the impoundment and the drop from the widest swamp to the dam. Probably a four to six foot fill and dam would be sufficient. The size of the feeder stream and the approximate 100-acre watershed indicates to me that a 20-foot section of 24 inch culvert should be large enough to allow for overflow drainage and spring drawdown of the area. However the fill dike should have an emergency spillway to one side just in case. The pond side end of the culvert should then be fitted with an elbow or riser which has slots for stop-boards. The bottom board should be set at the swamp floor while the top board should be pre-set at your desired or "land-elevation drop" level. As I mentioned on the inspection, this riser can be purchased from "Armco" in Raleigh or you can observe the smaller one in use at the lower pond at Holly Shelter and build a larger one accordingly. I believe the purchase price is around one hundred dollars while the culvert is approximately two hundred dollars.

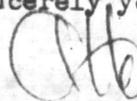


The dam water level line, emergency spillway and around the culvert should be reinforced with sandbags of a dry 5 to 1 sand-cement mixture to prevent washing, erosion and leakage at these critical points. And the dam and fill should be seeded to a shade-tolerant grass and fertilized to aid in stabilization.

The annual area management would be quite simple after construction. I would recommend dropping the boards in the riser to begin flooding in mid to late September and de-watering in mid to late March. This schedule should allow normal tree growth for continued mast food production and permit the annual appearance of swamp floor flora. I also recommend the erection of 10 to 12 wood duck boxes in the impoundment because with early spring flooding you will establish a local wood duck population. As you know also, this impoundment will serve as a feeding area for migratory mallards, black ducks, green-winged teals and hooded mergansers.

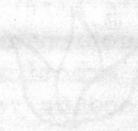
Pete, I was impressed with your continued interest in wildlife and with your and Mr. Russell's foresight in picking such a potentially valuable wildlife area on Camp Lejeune. As I said previously, call on me if I can be of any further help.

Sincerely yours,



Otto Florschutz, Jr.  
Waterfowl Biologist

cc/T. S. Critcher  
Col. O. I. Svenson, Jr.



Will consider only  
After I see  
detail +  
costs

C/S	W/B
C/S	W/B
B-A	W/B

Return to Pro Mar

1120 Market Street  
Washington, D. C. 27839  
May 16, 1967

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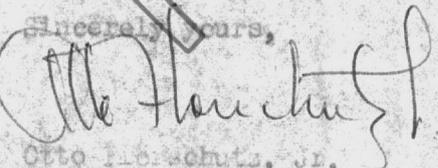
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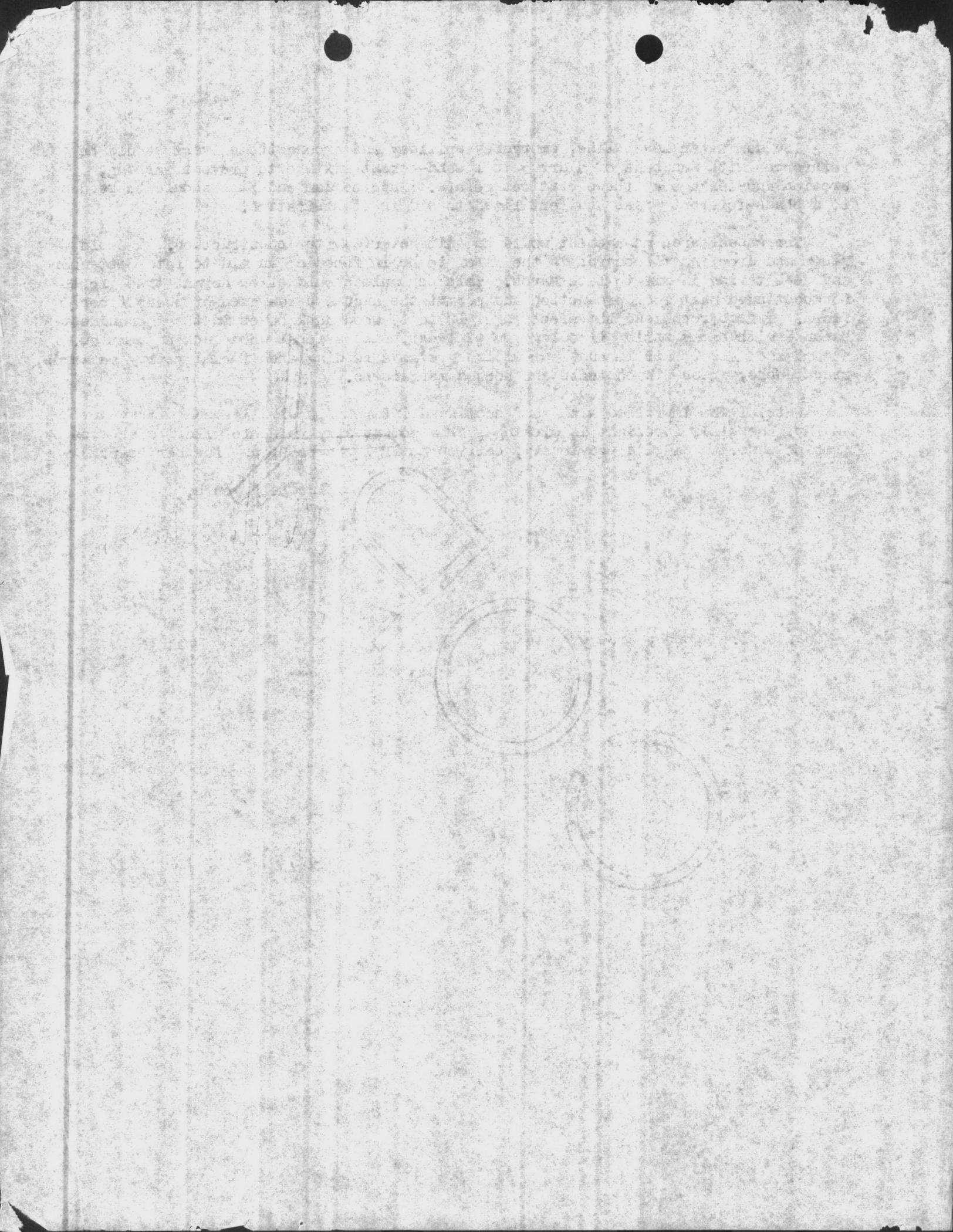
Sincerely yours,



Otto Henschels, Jr.  
Wildlife Biologist

cc/T. E. Cliftner  
Col. C. T. Swanson, Jr.

COPY

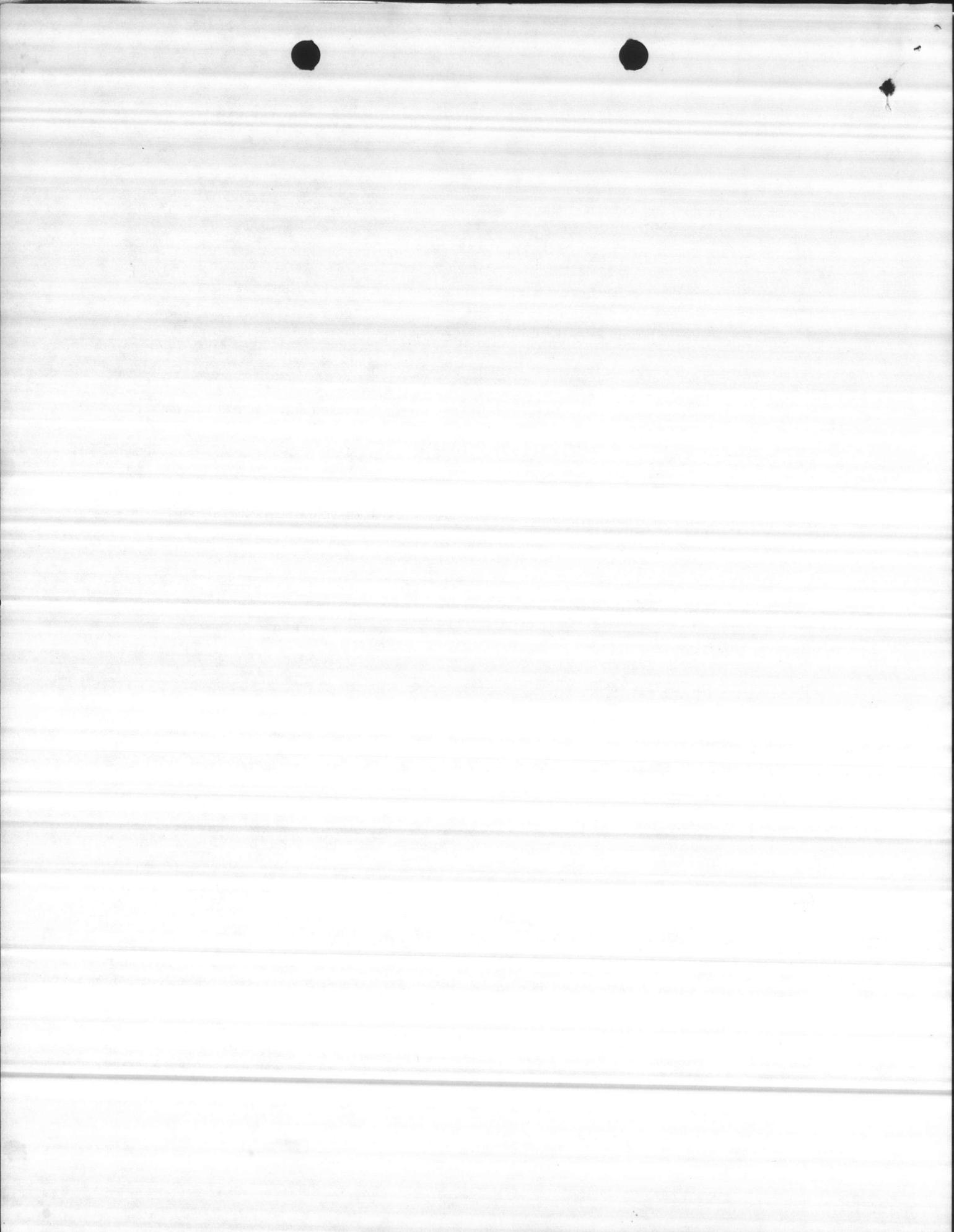


FRESH WATER MARSHES -- PRESENT AND POTENTIAL

On August 28, 1973, Mr. Jack Donnelly, Waterfowl Biologist for the North Carolina Wildlife Commission visited Camp Lejeune to assist in an inventory of wetlands. The following discussion pertains to a series of fresh water ponds and marshes located south of Marines Road and west of Sneads Ferry Road (see attached map). The area contains 16 ponds and marshes ranging in size from 1/4 acre to 3 acres. Ponds A and B are managed for fish and not included in this discussion. Water in some ponds extends to a depth of 5 feet, but fluctuates with the rainfall. The PH ranges from 4.2 to 5.

Characteristic Vegetation - The marshes are interspersed throughout an area dominated by long leaf pine. Dense clumps of Titi (Cyrilla racemiflora) grow at the high water line and in some instances, completely surround the marsh. Dulichium arundinacean, a rank grass of medium height grows from the marshes edge out to a water depth of one foot. Two species of spike rush (Eleocharis equisetoides and Eleocharis sp.) were also found in this zone. Water-lily (Nymphaea odorata) and yellow pond-lily (Nuphar luteum) grow in the deeper water.

Use by Waterfowl - The fresh water marshes receive only a very limited amount of use by waterfowl. The two largest marshes (No. 1 & 4) and occasionally some of the smaller marshes were surveyed approximately



once a week from November to January. On 10 November 1972, 10 black ducks and 14 wood ducks were observed; however, the majority of visits yielded no birds. During this period the ducks may feed on the drupaceous fruits of titi and on the seeds of spike rush and yellow pond-lily. An occasional wood duck may be seen on the marshes during the spring and summer feeding on insects and aquatic invertebrates.

Use by Other Animals - Several species of water birds commonly visit the marshes, including the great blue heron, green heron, king fisher, pied-billed grebe, snipe, and snowy egret. Raccoon and deer feed along the edges of the marshes, and in mid-summer a wondering alligator may pay a visit.

Marsh Improvement for Waterfowl - Due to the lack of natural foods and invasion of open water areas by dense stands of grass, the fresh water marsh areas offer poor habitat for wintering waterfowl. By lowering the water level of selected marshes (see attached map) 18 - 24 inches in mid-summer and planting the exposed shoreline with a variety of millett (Echinochloa sp.) then reflooding the marsh in mid October, these wetlands can provide excellent habitat for wintering waterfowl.

The key to improving these marshes is the manipulation of water levels. In mid June of 1960, millett was planted along shorelines exposed by



receding water levels. By mid July some of the plants were six inches tall. Then came the rains of July and August. The marsh filled and the millett was drowned.

The first step is to lower the water level in selected ponds. It might be impractical to lower the water level in ponds 2 and 3 because of the dense vegetation surrounding the pond and the steep banks. Therefore, the discussion will be limited to ponds 1 and 4 (see map). Lowering the water levels in these ponds 18 to 24 inches would expose sufficient bank area for planting. The water can be lowered by digging drainage ditches (represented by solid black lines) from the ponds to areas of lower elevation. Simple structures utilizing stop planks can be constructed at the outlets to regulate water levels. September and October rains would then fill the marshes to the desired levels.

If the ponds didn't completely fill due to a dry fall, there would still be sufficient water present and the ducks would be able to utilize the adjacent plantings.

The improvements discussed above would provide food for large numbers of mallards, black ducks, and wood ducks. The increase in birds would also provide additional recreation in the forms of limited hunting (three days a week) bird watching, and nature photography.



# FRESH WATER MARSHES



