CANADA GOOSE INTERCEPTIONS IN THE SOUTHEASTERN UNITED STATES, WITH SPECIAL REFERENCE TO THE FLORIDA FLOCK[1]

E. DALE CRIDER, *Game and Fresh Water Fish Commission*
Wildlife Research Projects, Suite 21, 412 N.E. 16th Avenue
Gainesville, Florida 32601

Abstract: Band recovery locations of Canada geese (*Branta canadensis*) banded in Florida are discussed in regard to the Canada goose decline in Florida and other southeastern states. Flock inventories of traditional wintering areas in the South and newly-established mid-continent wintering sites are reported. Limited data indicate refuges with grain farming located along migration routes have intercepted Canada geese enroute to their ancestral wintering areas. The resulting problems are stressed.

* * * * *

The U. S. Fish and Wildlife Service's 1967 winter waterfowl survey reports the highest Canada goose population in history (Gottschalk 1967). For nearly a half century, most goose concentrations have consistently increased, but certain wintering flocks in the South have dwindled. Only remnant flocks remain along the Atlantic and Gulf coasts from South Carolina to Texas. If this decline continues, these flocks will probably perish by 1975.

The purpose of this report is to discuss the Canada goose decline in Florida and other southeastern states, and to stress the need for restoring former wintering numbers. The lack of complete data on the decrease of any particular flock requires general speculation in discussing this problem. But limited data imply geese which traditionally wintered in the South have been intercepted by goose management practices along fall migration routes. More detailed study will be required before definite conclusions are made.

PROCEDURE

Information discussed in this report was obtained from recoveries of Canada geese banded by the staffs of St. Marks National Wildlife Refuge and the Florida Game and Fresh Water Fish Commission. All banding took place in the Tallahassee-St. Marks, Florida vicinity during winters from 1932 through March 1967.

Population data for Florida was obtained from total population inventories of the Florida Game and Fresh Water Fish Commission's Waterfowl Research Project. Survey data on other flocks was made available by the U. S. Bureau of Sport Fisheries and Wildlife and respective state game and fish departments. Both mid-winter aerial survey data and ground estimates for various flocks were included.

Plotted band recovery locations from Canada geese banded in Florida are presented. This procedure was also used to show interception recoveries and probable interception recoveries.

A band recovery on a winter date subsequent to the date the goose was banded in Florida during a former winter is an "interception recovery." Approximately 68 percent of Florida banding occurred between January 1 and March 15, thus relatively few interception recoveries were obtainable. A "probable interception recovery" as shown in Fig. 3 is a Florida banded goose recovery on a date later than geese possibly migrating to Florida would be normally found in the respective state of recovery. Only recoveries north of Florida between December 1 and February 28 are included. The Florida flock peaks during November or early December and spring migration does not start until late March. Therefore, probable interception recoveries are conservative.

[1] A Contribution of Federal Aid to Wildlife Restoration Program, Florida Pittman-Robertson Project W-48-R.

RESULTS AND DISCUSSION

Prerequisites for Wintering Canada Geese. It has long been an accepted theory that Canada geese traditionally retain particular migration routes, nesting and wintering grounds. But today most managers agree that major prerequisites for geese to establish new wintering areas are the availability of food, drinking water, grit, and possibly, protection from predators — including man. LeFebvre and Raveling (1967:544) state that northern wintering limits for various Canada geese are limited by the heat production equivalent to an assumed maximum, sustained food intake. They imply refuge foods and habitats reduce barriers to more northward wintering. As more northern refuges are established, Canada geese progressively winter northward until that limit imposed by the cold stress factor is reached. This phenomenon is referred to idiomatically as "short-stopping," but *interception* is a preferred term.

Coastal bays, marshes, large freshwater lakes, and rivers that remained free of ice were with few exceptions the original wintering areas for geese east of the Rocky Mountains. Lakes and streams in the mid-continent and northward froze during the winter and the uncleared forests prevented terrestrial feeding by geese. The Mississippi River from the mouth of the Ohio River to the Gulf was the only dependable source of open water and food for the interior. Prehistorically, changes in migrational homing to ancestral wintering areas were probably infrequent among geese and were limited to the southern coasts.

Effects of Agriculture on Wintering Distribution. Since the initial corn plantings by the Indians, man's influence on the landscape has affected the wintering distribution of Canada geese. According to translations from La Vega's narrative of De Soto's invasion in 1528, irrigated rice and corn farming was practiced by natives along certain rivers of the Southeast (Varner 1951, and Williams 1962). White settlers cleared and farmed larger tracts which had an even greater impact on goose wintering habits. But, accelerated grain farming in the mid-continent, about the dawn of this century, led Canada geese to shift their wintering ranges northward.

Response to Waterfowl Management. In 1928 Canada geese began to feed in the corn fields which had been specifically provided at Horse Shoe Lake Refuge in southern Illinois. This first goose habitat management attempt demonstrated that geese could be baited to and wintered on an area that had never before attracted them. Since then, many federal, state, and private waterfowl refuges have established grain feeding practices. Such projects attract and intercept geese during fall migration. As a result, winter ranges farther south are probably deserted.

Interception Evidence and Problems. Band recoveries of bandings at the Jack Miner Sanctuary, Kingsville, Ontario, plotted for successive years, show the Horse Shoe Lake flock increase with geese that previously wintered southward in the Mississippi River Valley (Hanson and Smith 1950). The annual controversy over the goose build-up at Horicon National Wildlife Refuge in Wisconsin results from delayed migration of geese that winter at Horse Shoe Lake. Vaught and Kirsh (1966) present paramount evidence of Swan Lake National Wildlife Refuge's interception of geese that formerly wintered in Louisiana, Texas, and Arkansas. This paper reports similar interceptions within Florida and other southeastern states east of the Mississippi River.

William H. Elder was probably the first to stress interception problems. In writing of the Canada goose build-up at state-owned Horse Shoe Lake Refuge in southern Illinois, he states, "Since the Fish and Wildlife Service has made so much progress in developing a far-reaching and effective system of refuges for migratory waterfowl, many of us have been lulled into a feeling of false security" (1946:441). Elder pointed out that the two-fold interception question was: What can be done when such a concentration of geese has become established, outstripped of its food supply, and provided an unprecedented kill? And, what will happen when other states try to establish "Horse Shoe Lakes"

of their own (1946)? Still there is little effort to halt the establishment of similar refuges at northern latitudes. More interceptions are inevitable with current management techniques. The threat of starvation at a time of prolonged blizzard or crop failure is catastrophic. Kill figures of major goose concentrations are becoming more severe and unbalanced. Depredations on private lands near concentrated wintering areas are overwhelming. Yet, experiments have shown once geese abandon their traditional wintering areas for one generation or more, the tradition may be impossible to revive.

Canada Goose Races of the Southeast

In 1950 Hanson and Smith reported distinct flocks of Canada geese that winter on large inland rivers and man-made reservoirs of Virginia, North Carolina, South Carolina, Alabama, Georgia, and on the Gulf coast of Florida. They named this heretofore undescribed group the "Southeast population" and defined its migration route, breeding ground, and wintering range by plotting recoveries from bandings at the Jack Miner Sanctuary in Kingsville, Ontario. From more recent information on the morphology and other physical traits of type specimens, Hanson (1967, Personal communication) writes that the "Southeast population" as originally described actually consists of two races, primarily a large type *B. c. interior* that nests on the Akimiski and Charlton Islands and on the Ungava Peninsula, and a similar race, *B. c. delacouri,* which nests only on Baffin Island. He states that during primitive times, *delacouri* was largely restricted in mid-winter to the Gulf coast of Florida, but now winters on Tennessee refuges and on the South Atlantic coast from Back Bay in Virginia to Pea Island and Mattamuskeet in North Carolina. One specimen each of two easily distinguished specimens collected in Florida were recently identified by Hanson as *canadensis* and *delacouri.* He also identified a single specimen from the flock at the Blackwater National Wildlife Refuge in Maryland as *delacouri* (1967, Personal communication). Band recoveries from the Florida flock correspond to flock designations by Hanson. They also show close relationships between the Florida flock and birds which winter in Alabama and Kentucky, and along the Chesapeake Bay in Maryland and Delaware.

Canada Geese in Florida

The literature reveals that about two decades ago few Canada geese wintered inland in the mid-south compared to current wintering inventories. However, inland migration records are plentiful. One may, therefore, assume these accounts to be of geese enroute to or from a wintering area further south.

History of Canada Geese in Florida. Pleistocene formations near Tampa and Melbourne, Florida contain fossils of Canada geese (Brodcorb 1964), but historically the major concentration has been along the Gulf from Apalachicola Bay to the mouth of the Chassahowitzka River (Maynard 1881:439, Pennock 1919:113, and Howell 1932). Small groups of 25 to 50 geese wintered inland as far south as Orlando (Howell 1932). Dr. O. E. Frye, Jr. (1967, Personal communication) reports seeing large flocks of Canada geese on Lake Okeechobee about 1925. Others have listed similar accounts (Howell 1932, and Sprunt 1954:53). That honkers were commonly hunted and bagged by early settlers is testimonial of the large Florida flock.

Total counts are lacking in early Florida history, but several writers have noted up to 5,000 geese wintering at several well-defined points along the Gulf coast. R. G. Porter of Apalachicola in a letter to Jack Miner in 1927 estimated 10,000 geese wintered along a 100-mile stretch of Gulf coast (Hanson and Smith 1950:202). However, his son, Ned Porter, states that his father's estimate was conservative. The latter estimates that between 1910 and 1935 well over 10,000 geese wintered in Apalachee Bay alone. Smaller groups wintered in Apalachicola Bay and on nearby islands (N. Porter, 1967, Personal communication). As near as I can determine from indirect information an estimated 30 to 40 thousand Canada geese wintered in Florida until about 1935.

Records at St. Marks National Wildlife Refuge on Apalachee Bay

show annual increases from the date it was established in 1938 until the mid-1950's. In 1956 the refuge flock peaked at about 12,000. This increase was probably due to local geese moving into the refuge for protection and food. During the last 15 years, 95 to 100 percent of the Canada geese in Florida have wintered on or within 25 miles of this refuge.

Interceptions in Florida. Band recoveries suggest Florida wintering geese have been consistently intercepted since the late thirties, though the loss was not detectable until statewide inventories began in 1954. It is assumed from data on small wintering groups north of the St. Marks Refuge that interceptions occurred within Florida.

About 1948 small groups of geese began to use private plantations and sanctuaries about 20 miles north of the St. Marks Refuge. There were no previous records of geese in this vicinity. Attractive corn fields and protection probably were responsible for the change. Until 1957 these wintering groups increased in proportion to the decrease at St. Marks. Since 1957 most have declined.

Mississippi Flyway Flock Relationships to Florida

The lack of Canada goose banding in Florida up to 1950 has resulted in too few band recoveries to explain the relationship between the Florida flock and those elsewhere. However, plotted recoveries for this period (Fig. 1) emphasize the proportion of geese from each Flyway wintering in Florida. Plotted recoveries since 1950 (Fig. 2), represent about four times the number of recoveries in Fig. 1. They stress the proportion from each Flyway since 1950.

The flock histories of the previously mentioned Horicon National Wildlife Refuge and Horse Shoe Lake Refuge reveal that no geese wintered on either area before the refuges were established. Flocks at Wheeler National Wildlife Refuge in Alabama and similar areas in Tennessee, Kentucky, Ohio, and Indiana are equally unique.

Canada geese have always been considered common during migration through Kentucky, Tennessee, and Alabama. They arrived from the north in October and passed through until December. In western Kentucky and Tennessee scattered groups took refuge during the winter on sand bars in the Mississippi River.

Migrating and Wintering Geese in Alabama. Along the coast of Alabama, wintering geese have been uncommon since about 1900, but large migrating flocks were reported until recently. On November 6-7, 1921, W. H. Hoffman reported many thousand transient Canada geese along the coast at Mobile (Imhof 1962:117). There have been no recent wintering concentrations between Mobile and Apalachicola Bay, Florida, so these birds were undoubtedly enroute to the latter or elsewhere in Florida.

Brown (1878) was probably the first to write of wintering Canada geese in Alabama. He reports that a flock spent the winter of 1877-78 in a corn field on the banks of the Coosa River in central Alabama. Three additional early records for wintering Canada geese are by Howell (1928:67). Included is a flock of about a hundred which the author observed December 19, 1915 at Muscle Shoals on the Tennessee River. He wrote that during the winter Canada geese occur more abundantly on the Tennessee River than on other rivers in Alabama. But, the number he reports is far below that which would be considered abundant here today.

Not until Wheeler Reservoir was completed on the Tennessee River and the Wheeler National Wildlife Refuge establishd in 1938 were Canada geese attracted to this locality. Only about 100 Canada geese wintered here when the Refuge first displayed its captive decoy geese. In subsequent years, the flock grew. Atkeson and Givens (1952) described how geese, shy toward new areas out of established flight lines, were attracted when farm grain was made available. The refuge offered protection, the reservoir provided mud-flats for loafing, and the farming

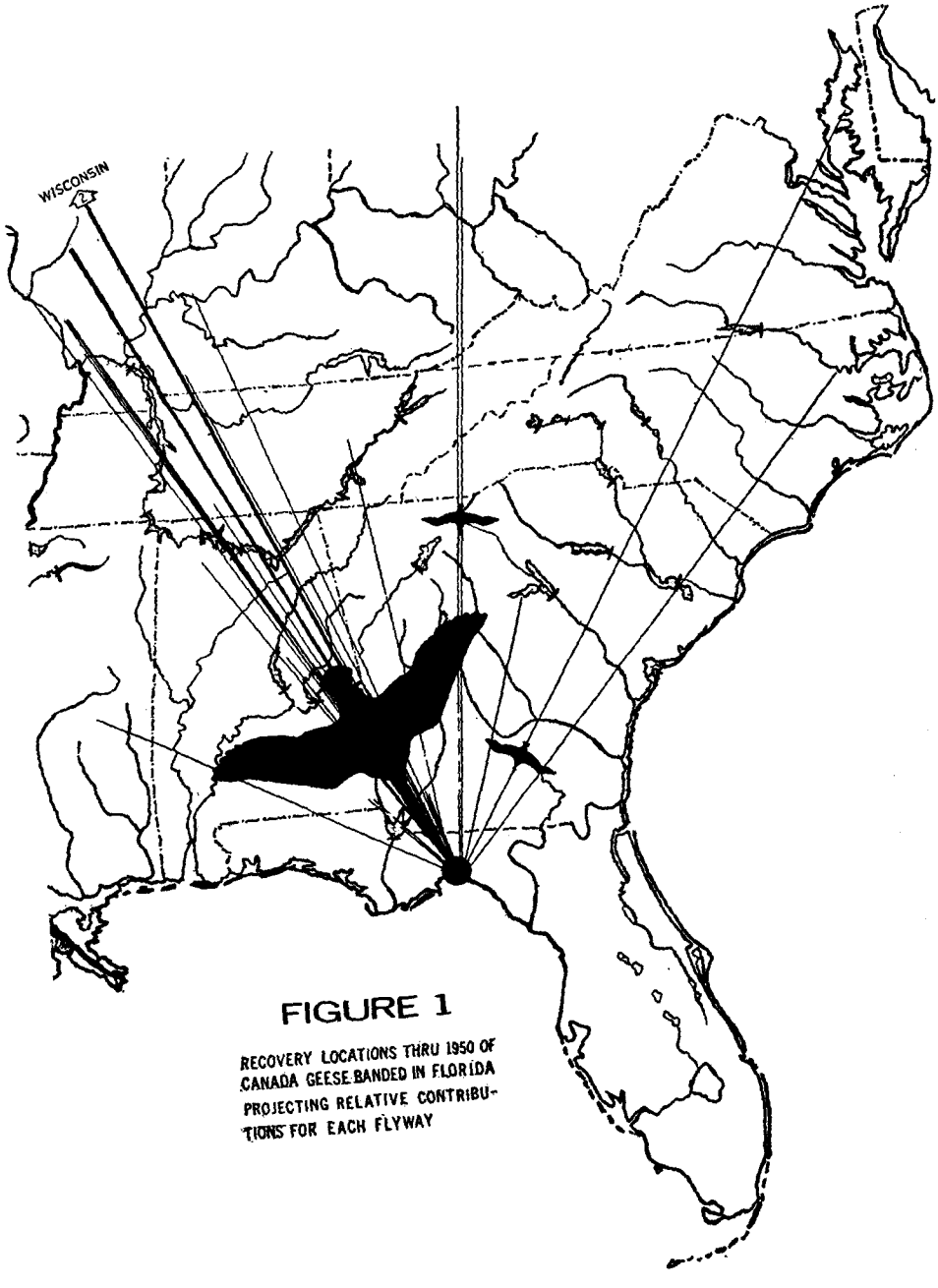

FIGURE 1

RECOVERY LOCATIONS THRU 1950 OF CANADA GEESE BANDED IN FLORIDA PROJECTING RELATIVE CONTRIBUTIONS FOR EACH FLYWAY

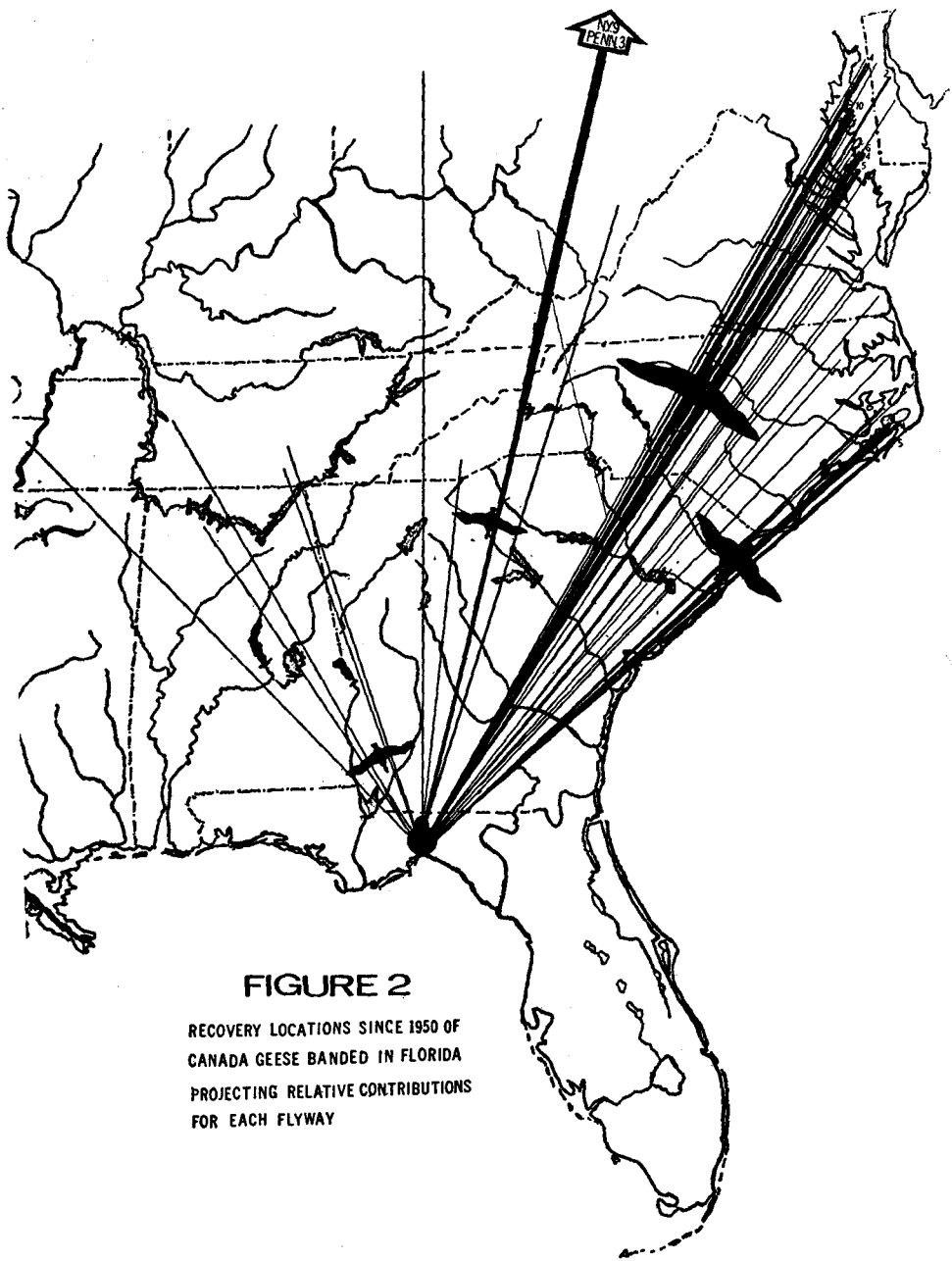

FIGURE 2

RECOVERY LOCATIONS SINCE 1950 OF CANADA GEESE BANDED IN FLORIDA PROJECTING RELATIVE CONTRIBUTIONS FOR EACH FLYWAY

made grain foods available through the winter. Once geese became established here, they no longer traveled farther south to winter. In recent years 90 to 95 percent of the geese in Alabama are on or near this refuge (Beshears 1966).

The Wheeler flock reached a peak of over 60,000 in the winter of 1963-64. The population has since leveled off. Perhaps interceptions on newly-developed refuges in Tennessee and northward are the reason.

Tennessee Wintering Geese. The history of the Tennessee National Wildlife Refuge also on the Tennessee River is similar to that of Wheeler. In 1946 only 42 geese visited the refuge. The flock has grown to 43,000. Barstow (1963) reported on the Tennessee Game and Fish Department's plan to winter geese at Old Hickory and Cheatham lock and dam projects. This flock is reported to be gradually increasing (Allen, 1967, Personal communication). In 1940 the state-owned Hiwassee Island Refuge on the Chickamauga Reservoir of the Tennessee River wintered 20 Canada geese. By 1947-48 this flock had increased to 2,500 (Smith 1948). An average flock of 7,500 geese has wintered there since 1957. Last year the population decreased to 6,100. Just northward, the newly-developed Point Rock state area on Watts Bar Lake wintered 1,100 geese last year (Allen, 1967, Personal communication). Harold C. Hanson has identified geese at both of these areas as *delacouri.* He states that they probably wintered in Florida originally.

Kentucky Wintering Geese. Kentucky Woodlands, though no longer a National Wildlife Refuge, still winters several thousand geese. The state-owned Ballard County Refuge in western Kentucky winters about 10,000 geese. If the trend to winter geese farther northward continues, areas in Indiana, Illinois, Ohio, Michigan, and perhaps Canada will intercept geese from more southerly flocks.

Atlantic Flyway Flock Relationships

Since 1950 only 3.3 percent of Florida banded Canada goose recoveries were in the Mississippi Flyway. Approximately 75 percent were taken in eastern Canada and in the Atlantic Flyway north of Florida. The remaining (approximately 22.2 percent) were recovered in Florida. One-third of Florida recoveries were made by hunters, two-thirds were retrapped. Recovery locations of Florida banded geese in the Atlantic Flyway since 1950 are shown in Fig. 2. From these recoveries we may assume most Atlantic Flyway geese wintering in Florida either travel inland routes non-stop to Florida from the Chesapeake Bay and North Carolina coast, or they have arrived via a coastal route. Only one Florida banded goose has been recovered inland in the South Atlantic states since 1950.

Numerous migrant Canada goose reports are received annually from coastal areas in northeastern Florida. Geese have been observed migrating southward to a point on the coast about 20 miles north of St. Augustine, Florida where they changed to a westerly course. Bill Baldwin (1967, Personal communication) stated that while employed as a biologist for the U. S. Fish and Wildlife Service about 1950, he saw large flocks migrate along the coast of South Carolina. This, when analyzed with the location of bands recovered, implies geese currently reach Florida via coastal or seaward routes.

Interceptions on Mid-Atlantic Coast. Bombay Hook, Eastern Neck, and Blackwater National Wildlife Refuges in Delaware and Maryland, combined with many private goose management projects in these states, appear to be the major interception site for geese that winter in Florida. While Chesapeake Bay has traditionally wintered large numbers of geese, grain farming on adjacent uplands has provided the stimulus for astounding increases in wintering numbers (Table 1).

Interceptions on South Atlantic Coast. State, Federal, and private goose management projects in Virginia, North Carolina, South Carolina, and Georgia have also intercepted geese in migration to Florida (Fig. 3). Most State and Federal areas are also listed in Fig. 3. The flock at

Table 1. Mid-winter survey of Canada geese.

STATE	Year												
	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
Maine	130	2	0	0	166	Tr.	200	200	200	200	100	Tr.	500
New Hampshire	1,331	224	1,050	1,515	265	1,100	1,100	1,900	1,000	1,600	2,500	2,000	2,600
Vermont	0	0	0	0	0	0	-				0	Tr.	Tr.
Massachusetts	4,486	3,302	4,914	3,817	3,240	0	5,900	8,300	6,600	10,800	8,000	7,800	11,700
Connecticut	0	175	105	110	190	300	300	100	500	100	400	400	600
Rhode Island	13	222	35	139	77	0	100	600	300	700	300	700	200
New York	3,099	1,810	2,856	-	1,819	3,400	1,900	3,900	1,900	2,800	3,100	3,000	2,700
New Jersey	2,468	1,737	3,238	1,355	1,235	1,000	1,400	2,100	3,100	3,300	3,400	3,600	4,900
Pennsylvania	1,687	2,317	2,546	1,665	3,020	31,000	1,200	2,400	3,300	4,600	3,800	6,400	68,000
Delaware	2,756	4,737	6,842	2,789	11,949	14,100	22,200	24,400	23,900	39,200	48,500	52,000	83,000
Maryland	260,033	223,816	180,800	95,510	69,200	137,700	241,300	192,900	196,600	221,900	242,000	352,700	359,900
Virginia	55,235	50,700	30,600	27,770	27,000	31,500	49,900	26,200	49,700	31,300	36,600	44,000	35,000
West Virginia	46	2	136	-	0	0	Tr.	0	-	100	0	Tr.	Tr.
North Carolina	155,700	185,868	103,100	146,875	152,000	148,200	189,100	128,100	149,500	162,200	99,500	91,500	65,900
South Carolina	3,200	6,135	(?) 200	11,275	11,800	19,400	15,800	16,400	33,600	44,400	26,800	29,900	25,300
Georgia	950	141	0	206	0	Tr.	200	100	200	600	500	200	500
Florida	19,145	26,750	18,600	17,815	13,000	11,200	8,200	8,300	7,000	4,400	7,000	6,000	6,300
FLYWAY TOTAL	510,279	507,938	355,022	310,841	294,961	398,900	538,800	415,900	477,400	528,200	482,500	600,200	667,100

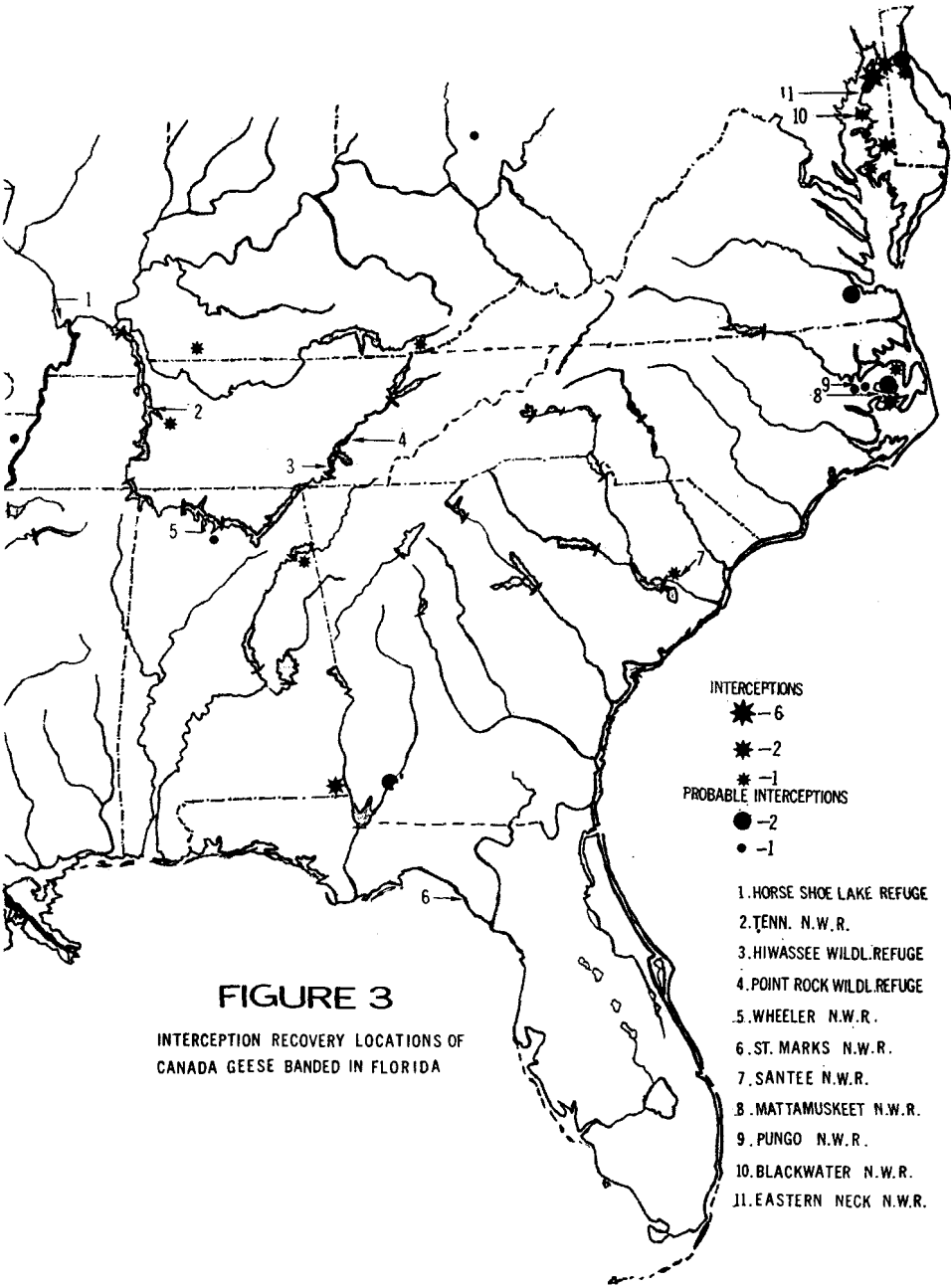

FIGURE 3

INTERCEPTION RECOVERY LOCATIONS OF CANADA GEESE BANDED IN FLORIDA

Mattamuskeet National Wildlife Refuge in North Carolina has been the primary area involved.

All major Canada goose flocks in the Atlantic Flyway south of Chesapeake Bay have declined recently. Table 1 shows mid-winter Canada goose inventory figures for the Atlantic Flyway. Note the concurrent increase in goose numbers from Virginia northward as states southward decline.

CONCLUSION

To state the Canada goose build-up on either newly-established or traditional wintering areas in the midsouth is proportionate to Florida's decline is erroneous. This is particularly true if early estimates of the Florida flock is compared with recent inventories on newly-established refuges. However, plotted band recoveries of Florida banded geese show the relationship between Florida's flock and those at northerly latitudes. Both interception recoveries and probable interception recoveries were made during this period.

Hunting has undoubtedly contributed to this decline. Southerly flocks are exposed to hunting pressure constantly from Canada southward. But the primary factor appears to be interceptions at more northerly latitudes.

The interception dilemma will not be easily solved. But, the sooner its threat is realized by affected states, the more hastily measures will be initiated to reverse trends toward continued interceptions. The flock decline in Florida has been relatively gradual and unnoticed. Few people became concerned until recently. However, the recent decline in North Carolina has alarmed many. If this rate of decline continues, efforts must be launched now if a solution to the problem is discovered before the North Carolina and perhaps other flocks are reduced to a remnant of its former numbers.

LITERATURE CITED

Atkeson, T. Z. and L. S. Givens. 1952. Upland farming as a method of supplementing the natural waterfowl food supply in the southeast. J. Wildl. Mgmt. 16(4):442-446.

Barstow, C. J. 1963. Waterfowl management on two U. S. Army Corps of Engineers multiple purpose reservoirs in middle Tennessee. Proc. Annu. Conf. Southeastern Assoc. Game and Fish Commissioners 17:50-60.

Beshears, W. W., Jr. 1966. Alabama waterfowl program. A report to the Tech. Sec. Mississippi Flyway Council. Multilith. 5 pp.

Brodcorb, P. 1964. Catalogue of fossil birds, Part II. Bull. Fla. State Museum. 8(3):236-237.

Brown, N. C. 1878. A list of birds observed at Coosada, central Alabama. Bull. Nutt. Orn. Club 3:168-174.

Elder, W. H. 1946. Implications of a goose concentration. Trans. of the N. A. Wildl. Conf. 11:441-445.

Gottschalk, J. S. 1967. Status of waterfowl as presented to the waterfowl advisory committee. Bureau of Sport Fisheries and Wildlife. Multilith. 24pp.

Hanson, H. C. and R. H. Smith. 1950. Canada geese on the Mississippi Flyway: with special reference to an Illinois flock. Bull. Ill. Natural History Survey, Urbana, Ill. 25(3):210pp.

Howell, A. H. 1928. Birds of Alabama. Birmingham Printing Co., Birmingham. 384pp.

Howell, A. H. 1932. Florida bird life. Coward-McCann, Inc., New York. 579pp.

Imhof, T. A. 1962. Alabama birds. University of Alabama Press, University. 591pp.

LeFebvre, E. A. and D. G. Raveling. 1967. Distribution of Canada geese in winter as related to heat loss at varying environmental temperatures. J. Wildl. Mgmt. 31(3):538-545.

Maynard, C. J. 1881. The birds of eastern North America. C. J. Maynard and Co. Newton, Mass. 532pp.

Pennock, C. J. 1919. Notes on birds of Wakulla Co., Florida, Wilson Bull. 31:103-117.

Smith, P. 1948. Three years of waterfowl management on T.V.A. power reservoirs. Southeastern Wildl. Conf. Lexington, Kentucky. Mimeographed. 8pp.

Sprunt, A., Jr. 1954. Florida bird life (revised edition). Coward-McCann, Inc. New York. 527pp.

Varner, J. G. 1951. The Florida of the Inca. Univ. of Texas Press, Austin. 655pp.

Vaught, R. W. and L. M. Kirsh. 1966. Canada geese of the eastern prairie population with special reference to the Swan Lake flock. Tech. Bull. Missouri Dept. of Cons. 3:91pp.

Williams, J. L. 1962. The territory of Florida. Univ. of Florida Press, Gainesville. 304pp.

DEVELOPMENT AND MANAGEMENT OF THE BLYTHE FERRY GOOSE MANAGEMENT AREA, MEIGS COUNTY, TENNESSEE

WILLIAM R. ALLEN
Tennessee Game and Fish Commission

INTRODUCTION

Twenty years ago, Canada geese (*Branta canadensis)* were rarely observed in east Tennessee, and then, only as they were migrating to points farther south. The first known wintering geese were observed on Hiwassee Refuge, which was developed on land licensed to the Game and Fish Commission by the Tennessee Valley Authority after the impounding of Chickamauga Lake in 1940; twenty geese were known to have wintered on the refuge during this year (Wiebe et. al. 1950: 116). The wintering flock continued to grow until average populations of 6-8000 geese were attained 6 to 8 years ago. Since that time, the wintering flock has more or less become stabilized. The Tennessee Game and Fish Commission has spent considerable time and money, through Pittman Robertson federal-aid programs, to develop this refuge and related public hunting areas. However, until 1964, emphasis was placed primarily on refuge development.

As the goose flock on Hiwassee continued to grow, so did the interest in goose hunting. By 1964, nearly all private farm land surrounding Hiwassee Refuge had been leased for goose hunting. Although the Commission had developed areas for public hunting, these areas were restricted to TVA lands and waters and none had the geographic proximity to Hiwassee Refuge that *favored* the private leased areas.

Past records indicated annual goose harvests ranging from 2 to 8 percent of the censused wintering population on Hiwassee Refuge. The majority of the geese were killed by a few individuals hunting private leased areas. State developed public hunting areas provided poor goose hunting and low kill success. The Tennessee Game and Fish Commission recognized the need for initiating a system of managed hunting because of skewed kill distribution, low yearly harvest, and the growing discontent of a large segment of east Tennessee goose hunters, who felt their conservation dollar was not providing the returns gained by a minority hunting leased, private lands.

Blythe Ferry is a 525-acre tract located in southwestern Meigs County, Tennessee. The area lies adjacent to the Hiwassee River 0.2 mile from Hiwassee Island and separated from it by the Hiwassee River. The area is composed of 400 acres of rolling upland and 125 acres of lake-filled slough. Land capabilities were classified primarily as Class II, III, and IV. Major soil types were Sequatchie, Etowah, Cumberland, Wolftever, Emory, Hamblen, Colbert, Melvin and Taft.