

WATERFOWL BREEDING SUCCESS

by Theodore H. Atkinson, Acton

A report published by the U.S. Fish and Wildlife Service forecasts that the 1980 fall flight of geese and ducks should be quite similar to that of 1979. Each year the U.S. Fish and Wildlife Service joins in a cooperative effort with the Canadian Wildlife Service, various state and provincial conservation organizations, and Ducks Unlimited, to evaluate the breeding success of ducks and geese and forecast the magnitude of the fall flight. Information on goose and brant population estimates are based on Fall 1979 production surveys, winter surveys conducted in December 1979 and January 1980, spring staging area counts, localized breeding ground surveys, satellite imagery, and vertical photography.

In 1980, a network of U.S. and Canadian ground stations plus NOAA 6 Satellite imagery High Resolution Picture Transmission (HRPT) and Landsat 2 and 4 microfiche were used to assess when snow and ice had melted sufficiently to permit nesting in key goose production areas in the Arctic. The satellite analysis is particularly valuable because the initiation of nesting and reproduction success in Arctic geese is strongly influenced by the extent and duration of snow cover on their breeding grounds. In 1980, snow-melt arrived early on the lowland adjacent to southern Hudson and James Bays; the area was quite snow-free by the middle of May. However, spring was late on northern Hudson Bay and to the northeast. Snow-melt was generally delayed past the third week in June, especially on Southampton and Baffin Islands. This caused below average reproduction due to late nesting, lack of nest sites, and high predation rates.

The Atlantic Canada Goose population, which nests in Newfoundland and in Quebec on the Ungava Peninsula south to the eastern shore of James Bay enjoyed better spring conditions. Despite a January 1980 wintering population of 768,000, some 7% below the January 1979 winter population, an increased fall flight is forecast for this year.

The Spring 1980 St. Lawrence River photographic inventory of Greater Snow Geese yielded 180,000 birds compared to 170,000 the previous spring. However, the Greater Snow Goose's breeding grounds, principally around Greenland, the northern Foxe Basin, and the islands of Bylot, Baffin, Axel Heiberg, and Ellesmere, had lingering snow cover and poor weather during most of June. The fall flight to the wintering grounds of the mid-Atlantic coast, from southern New Jersey to Cape Hatteras, is expected to be similar to that of 1979.

The January 1980 inventory of Atlantic Brant on the Atlantic Flyway was 69,000, up 57% from the 44,000 tallied in 1979. However, this increase included a relatively high percentage of non-breeding young. This factor, along with poor weather on the nesting grounds in the eastern Arctic, from Southampton and Baffin Islands north to Ellesmere Island, and in northern Greenland west and south to the Queen Maud Gulf lowlands, should produce a fall flight only slightly larger than that of 1979.

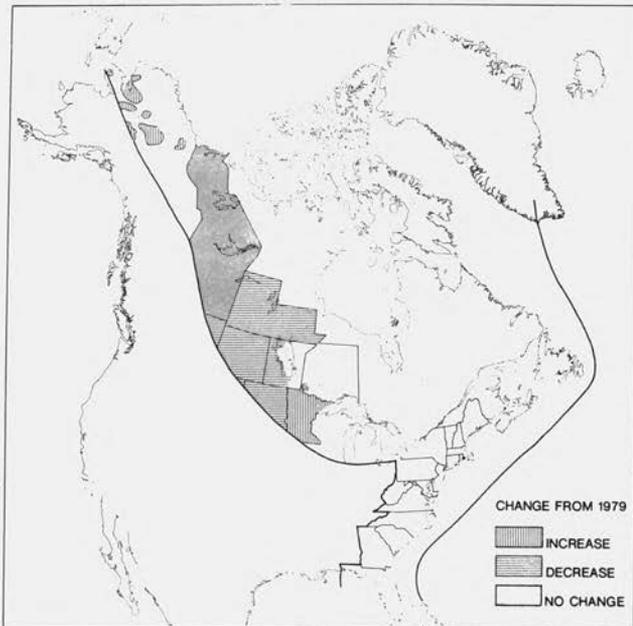
Throughout the United States and Canada the 1980 duck breeding population was estimated to be 6% lower than in 1979, but 6% above the 1955-79 average. In 1980 substantial increases in breeding populations were reported only in Alaska and Minnesota. The Mallard population decreased 6% from 1979, and was 9% below the 1955-79 average. Pintail populations declined 11%, and were 11% below the long-term average. Gadwall, Blue-winged Teal, Northern Shoveler, and scaup all declined in 1980, although their populations remained near or above the long-term average. Increased breeding populations were recorded for Wigeon, Green-winged Teal, Redhead, and Canvasback. The apparent increase in Redhead numbers (up 48% over 1979) may well be due to altered distribution and higher visibility during the drought year.

No population estimates of Black Ducks are available from breeding grounds. Black Duck population trends must be measured by winter surveys, along with appraisals of habitat conditions and selected breeding studies. In the Atlantic Flyway Black Ducks were 14% below the January 1979 estimate and 22% beneath the 10-year average. Scattered reports indicate that Black Duck pair counts were down in Maine, but breeding populations were on a par with 1979 in the Maritimes.

Drought conditions throughout much of the duck breeding range appeared to be responsible for the decline in population and limited 1980 breeding success. There is a close correlation between annual rainfall and duck breeding success. During the 1950's North America enjoyed large fall flights of ducks, compared to the flights during the drought years of the 1960's. Between 1969 and 1979 habitat conditions and duck populations were satisfactory, except for 1973 and 1977, when drought conditions prevailed. Moderate increases in the fall flight occurred in 1978 and 1979 following the small flight of 1977. The age ratios of ducks taken during the 1979-80 hunting season were generally higher than in the previous year, indicating a more successful breeding season. However, rainfall during 1979 and 1980 did not provide the best duck breeding habitat. Thus, 1980 was not a good year for ducks, although the forecast is for a flight similar to that of 1979.



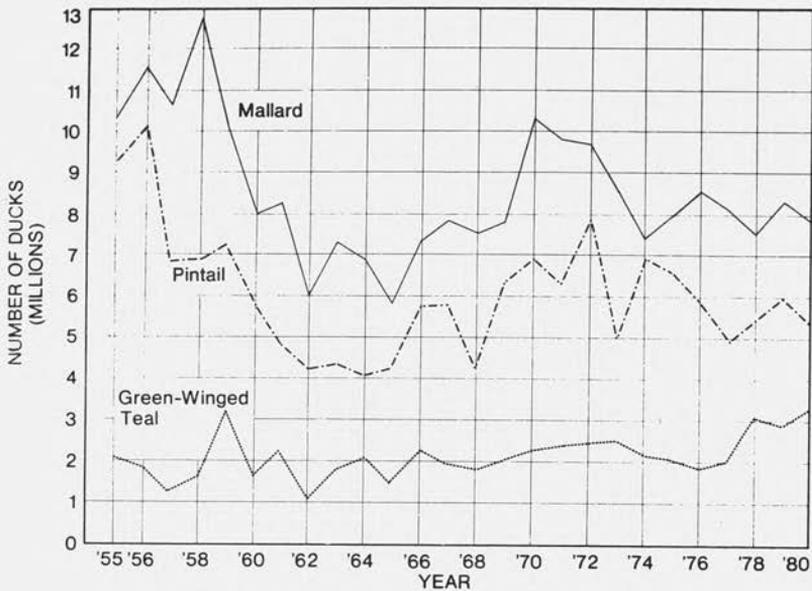
JUNE 7, 1980 SNOWLINE COMPARED TO JUNE 7 SNOWLINE ON A YEAR OF GOOD PRODUCTION.



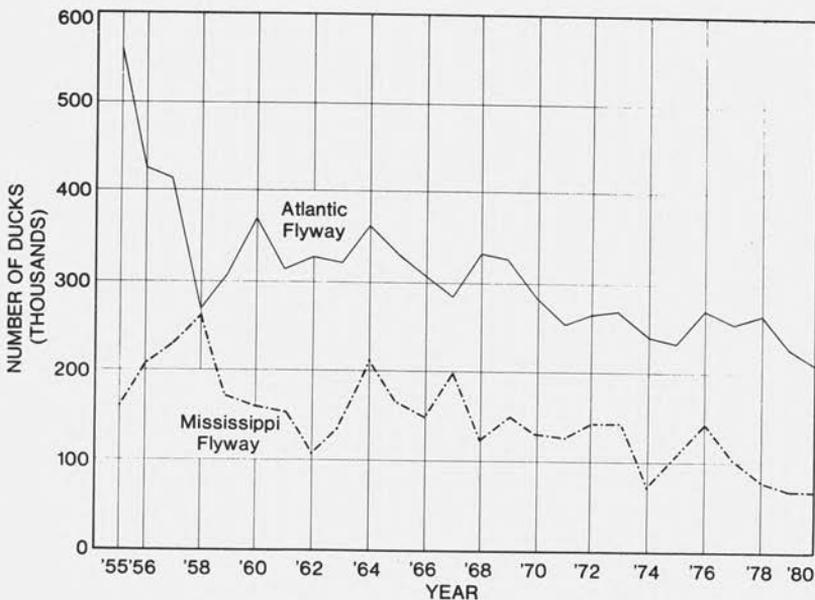
**1980 DUCK FLIGHT FORECAST, ATLANTIC FLYWAY
FORECAST: NO CHANGE FROM 1979**

Breeding population estimates for 10 species of ducks, 1955-80 (in thousands)

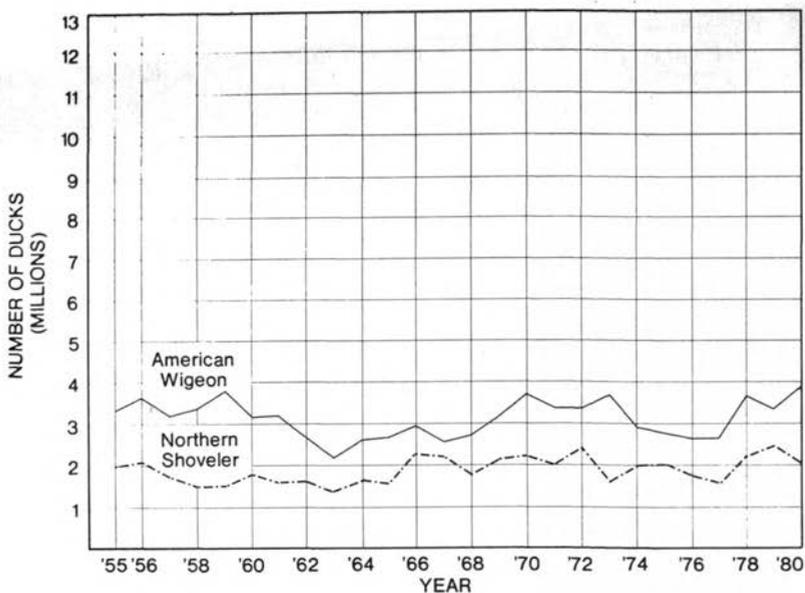
Year	Mallard	Gadwall	American wigeon	Green-winged teal	Blue-winged teal	Northern shoveler	Pintail	Redhead	Canvas-back	Scaup
1955	10,345	1,106	3,333	2,076	6,436	1,965	9,251	733	595	7,100
1956	11,711	1,202	3,712	1,898	6,267	2,084	10,124	928	692	6,595
1957	10,946	1,102	3,208	1,293	5,449	1,744	6,856	684	600	6,535
1958	12,904	687	3,372	1,618	5,799	1,515	6,889	524	713	6,040
1959	10,292	683	3,779	3,153	5,300	1,649	7,228	641	481	8,220
1960	8,206	873	3,165	1,630	4,303	1,859	5,769	542	575	5,566
1961	8,290	1,422	3,219	2,216	4,833	1,625	4,860	437	396	6,764
1962	6,144	1,610	2,721	1,119	3,890	1,633	4,299	664	385	6,398
1963	7,360	1,578	2,209	1,754	4,587	1,435	4,361	396	523	6,564
1964	6,974	1,223	2,630	2,051	4,943	1,685	4,111	560	658	6,326
1965	5,948	1,692	2,695	1,526	4,628	1,607	4,301	568	505	5,383
1966	7,401	1,976	2,901	2,219	5,616	2,272	5,777	747	683	5,421
1967	8,205	1,638	2,637	1,944	4,715	2,244	5,870	846	556	5,877
1968	7,586	2,098	2,783	1,805	3,697	1,811	4,225	502	557	5,971
1969	8,065	1,837	3,192	1,991	4,514	2,150	6,390	759	530	6,338
1970	10,379	1,698	3,752	2,259	5,633	2,269	7,004	834	601	6,930
1971	9,843	1,733	3,425	2,352	5,426	2,052	6,291	693	441	6,149
1972	9,867	1,776	3,428	2,407	5,673	2,505	7,875	489	429	9,527
1973	8,686	1,198	3,665	2,444	4,866	1,657	5,114	754	696	7,535
1974	7,296	1,562	3,003	2,221	5,437	2,060	7,165	613	493	7,045
1975	8,005	1,672	2,862	2,038	6,441	1,994	6,387	974	706	7,846
1976	8,563	1,478	2,699	1,844	5,023	1,818	6,045	946	686	6,973
1977	8,166	1,546	2,678	1,952	4,626	1,616	4,971	688	702	7,490
1978	7,615	2,019	3,808	2,978	4,497	2,162	5,664	833	423	7,125
1979	8,349	2,344	3,388	2,920	5,278	2,555	6,070	774	606	9,135
1980	7,866	1,459	3,857	3,280	4,903	2,050	5,420	1,146	688	7,690
1955-79 Average	8,686	1,510	3,131	2,068	5,115	1,919	6,116	685	569	6,834
Percent Change in 1980 from:										
1979	-6	-38	+14	+12	-7	-20	-11	+48	+14	-16
1955-79 Ave.	-9	-3	+23	+59	-4	+7	-11	+67	+21	+13



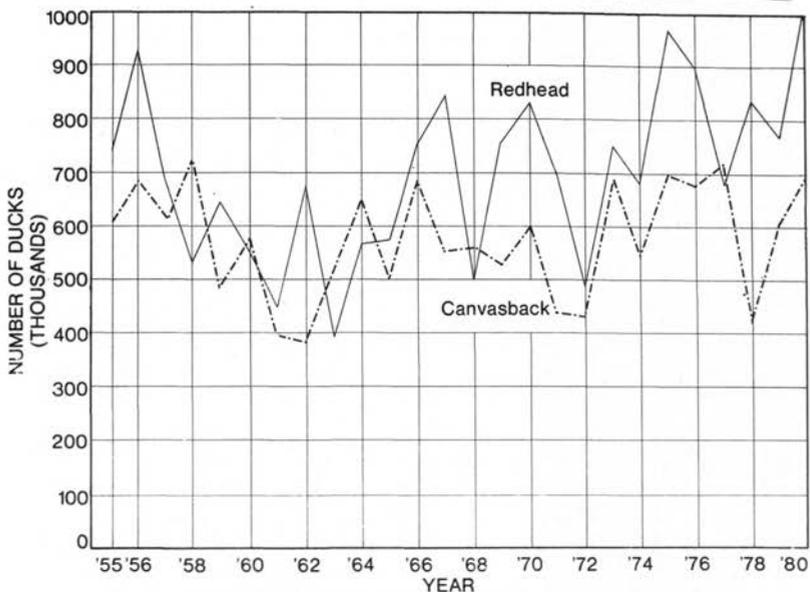
MALLARD, PINTAIL & GREEN-WINGED TEAL BREEDING POPULATION ESTIMATES, 1955-80, ADJUSTED FOR BIRDS NOT RECORDED BY AERIAL CREWS; INCLUDES AREAS WITH COMPARABLE ANNUAL SURVEYS



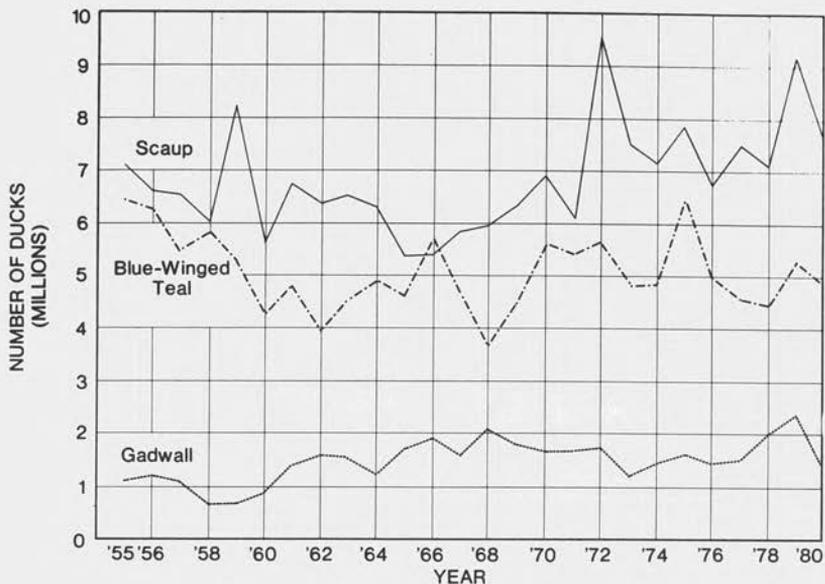
TRENDS IN BLACK DUCK POPULATIONS AS SHOWN BY THE MID-WINTER SURVEY, 1955-80



AMERICAN WIGEON & NORTHERN SHOVELER BREEDING POPULATION ESTIMATES, 1955-80, ADJUSTED FOR BIRDS NOT RECORDED BY AERIAL CREWS; INCLUDES AREAS WITH COMPARABLE ANNUAL SURVEYS



REDHEAD & CANVASBACK BREEDING POPULATION ESTIMATES, 1955-80, ADJUSTED FOR BIRDS NOT RECORDED BY AERIAL CREWS; INCLUDES AREAS WITH COMPARABLE ANNUAL SURVEYS



SCAUP, BLUE-WINGED TEAL & GADWALL BREEDING POPULATION ESTIMATES, 1955-80, ADJUSTED FOR BIRDS NOT RECORDED BY AERIAL CREWS; INCLUDES AREAS WITH COMPARABLE ANNUAL SURVEYS

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