

## Declining Mallards in the Atlantic Flyway

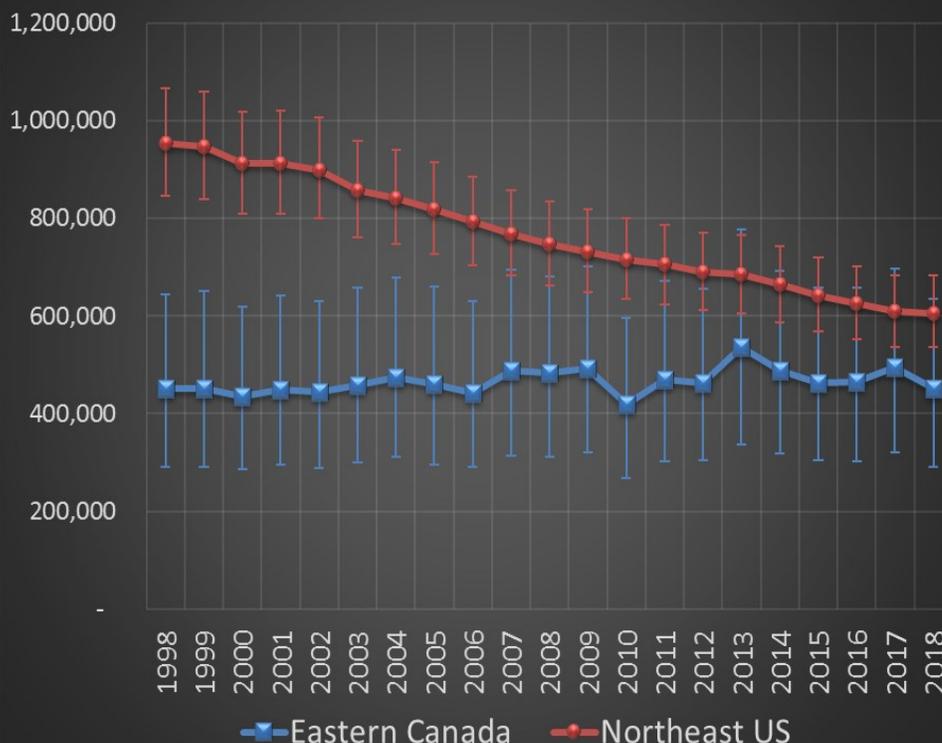
### The decline of eastern mallards

Mallards became prominent in the Atlantic flyway during the 1950s to 1970s, likely as a result of released live decoys and game farm birds starting in the early 1900s. Over the past 40 years, mallards have consistently been one of the most abundant duck species in eastern North America. However, in the past 20 years, eastern mallards have been on the decline. Spring surveys conducted throughout eastern Canada and northeastern U.S. have provided reliable annual estimates of the breeding population size of eastern mallards. Those surveys indicate that mallard numbers in eastern Canada have not changed much, but they have decreased steadily in northeastern U.S.; declining by about 36% since 1998 (graph below). When these two survey areas are combined, the total breeding mallard population in eastern North America is declining at a steady rate of over 1% per year. To put the decline in perspective, mallards are now only marginally more abundant than American black ducks in eastern North America.



In addition to population surveys, harvest data also suggest a significant decline in eastern mallards—harvest estimates from the annual USFWS survey of waterfowl hunters suggest the mallard harvest in the U.S. portion of the Atlantic Flyway has decreased by about 45% from 1998 – 2018. Mallard harvest peaked in 2000 with hunters harvesting 523,000 followed by a steady decline to a low of 286,400 in 2017, even though bag limits and season length have remained constant. Based on banding data, about 75% of the mallards harvested in New York are hatched in the northeastern U.S.; given the decline is primarily occurring in the most important production area, the result of fewer mallards available to New York and Atlantic Flyway hunters is not surprising.

**Eastern Mallard Breeding Population**



At this time, biologists are unable to pinpoint a clear cause of the decline. Breeding population size in any year depends on how many birds from the previous year's population survived the full year (survival rate), and how many young-of-the-year birds from the previous year's nesting season made it through the winter and early spring (production rate). A long-term decline means that either survival or production (or both) is too low to maintain the population size. However, banding data indicate that eastern mallard survival rates are not measurably different now than they were in the 1990s, when the population was stable. Production estimates obtained from the USFWS Parts Collection Survey have not decreased from that time either. Yet the population decline is evident. This indicates a problem with either one or both of these critical data streams.



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### **Changes to the mallard bag limit**

Based upon biologists' present understanding of eastern mallard population dynamics, contemporary harvest rates from a 60-day season with a 4-mallard daily bag limit may result in harvest rates that are above a sustainable level. Thus, the USFWS approved the Atlantic Flyway Council's recommendation to reduce the mallard bag limit from 4 birds (no more than 2 of which may be hens) to 2 (no more than 1 of which may be a hen), beginning in the 2019-20 hunting season. Hopefully, this change will stabilize the eastern mallard population. Should the population start to grow again, biologists will have a better understanding of the effects of harvest on the population and the

potential for additional harvest opportunity (i.e., larger bag limits). Meanwhile, biologists from the Atlantic Flyway and USFWS will keep trying to determine what caused the mallard decline in northeastern U.S. and if that mechanism can be mitigated. Further, biologists will work toward a new eastern mallard harvest strategy that incorporates the best available population data, demographic data (i.e. survival and productivity), and hunter preferences.

### **How future duck season frameworks will be set**

Since 2000, the status of eastern mallards has been used to set the general duck hunting season frameworks (season length and total duck bag limit) in the Atlantic Flyway. The declining trend in mallard population levels nearly resulted in the general duck season being closed or restricted to 30 days in recent years. Thankfully, mallard population levels were just high enough to avoid a closure or shortened season. Setting all duck seasons based on mallards' status is no longer the optimal approach because most other important duck species in the Atlantic Flyway (such as wood ducks, ring-necked ducks, and green-winged teal) are either stable or increasing while mallards continue to decline. Recent hunter surveys suggest hunters value maximizing season length rather than bag limits. Managing overall frameworks based on multiple important species while reducing the bag limit on mallards increases the likelihood of continued liberal season lengths in the Atlantic Flyway.

Over the past five years the Atlantic Flyway Council and USFWS have been developing a new approach to duck harvest management by using an Adaptive Harvest Management strategy based on the status of 4 species (green-winged teal, wood ducks, ring-necked ducks and goldeneyes) instead of relying solely upon the status of eastern mallards. By moving away from a reliance on mallard population status to set the general duck hunting season, the objective is to continue maximizing hunting opportunity commensurate with the population levels of a more representative suite of duck species that breed and are harvested largely within the Atlantic Flyway. Removing eastern mallards from the "driver seat" for setting general duck seasons and bag limits, and managing them independently, is a more reasonable strategy at this time. There is precedence for this type of management approach for other duck species that are below population objectives (i.e. pintails, scaup) while being within a larger duck harvest management framework. Waterfowl managers have implemented the new framework for setting general duck seasons for the 2019-20 hunting season.

