

# OHIO SWAN MANAGEMENT PLAN

## INTRODUCTION

Ohio has two breeding populations of swans: the state-threatened trumpeter swan (*Cygnus buccinator*) which was extirpated from the state and reintroduced in the late 1990s and the mute swan (*Cygnus olor*) which is a non-native, invasive species that originated from Europe. The tundra swan (*Cygnus columbianus*) is another swan that is seen in Ohio, but it is only in Ohio in the spring and fall during its migration. Therefore, this management plan only addresses trumpeter and mute swans. Archaeological evidence (Rogers and Hammer 1998) indicates that trumpeter swans were found in Ohio before European settlement; however, unregulated harvest of swans extirpated the birds from Ohio in the early 1700s. No records indicate that swans nested in Ohio; however, French missionaries in the 1600s did report breeding swans at the mouth of the Detroit River (Hennepin 1697 in Thwaites 1903). At that time the Lake Erie marshes were continuous from Detroit to Sandusky; hence, it was likely that trumpeter swans nested in Ohio (Lumsden 1984).

A restoration effort was undertaken in 1996 as part of the International Restoration Plan for the Interior Population of Trumpeter Swans (Nelson 1997). The Division of Wildlife has worked cooperatively with the Mississippi Flyway Council, the Cleveland Metropark Zoo, The Wilds, and Ducks Unlimited to restore trumpeter swans to Ohio. The reintroduction plan called for the release of about 150 trumpeter swans in selected Ohio wetlands with a goal of at least 15 breeding pairs by 2006. This unique reintroduction was initiated to restore diversity to Ohio's fauna and to promote wildlife enjoyment opportunities on Division-managed wetland areas. The success of the restoration process is shown by the number of trumpeter swans counted during the Christmas Bird Count (Fig. 1) and the Midwinter Waterfowl Survey (Fig. 2).

Mute swans are native to Eurasia and were introduced into North America during the late 1800s as decorative waterfowl (Ciaranca et al. 1997). They have now established wild populations in all 4 flyways from escaped and released birds. Mute swans were first recorded in Ohio in 1911 at Silver Lake, Akron where they were wing-clipped annually until 1934 when the birds were allowed to fly away (Lever 1987). The first published record of non-captive mute swans occurred during the winter of 1936, but they did not regularly winter in Ohio until the 1960s (Peterjohn and Rice 1991). By 1987, mute swans were successfully nesting at Ottawa National Wildlife Refuge, Buckeye Lake, and Senecaville Lake (Peterjohn and Rice 1991).

Mute swans are sedentary birds that typically only migrate short distances when dictated by weather severity (Ciaranca 1997). In addition, mute swans feed extensively on aquatic vegetation (up to 8 pounds per day), and in high densities can severely reduce food availability (Cobb and Harlan 1980). Intensive feeding activities from mute swans have a direct effect on plant diversity, fish assemblages, water quality/erosion control, and food availability for native waterfowl. Aggressive behavior towards other species, including humans, is another concern. Although the severity of aggression varies among breeding pairs and within seasons, mute swans aggressively defend their nesting territories against other native wildlife including Canada geese (*Branta canadensis*), ducks, waterbirds, and mammals (Ciaranca 1990, Ciaranca et al. 1997). Mute swans may even kill native species and their young (Stone and Masters 1970, Reese 1980, Kania and Smith 1986, Therres and Brinker 2003). People have also been subjected to the swans' attacks while boating (Ohio Div. Wildlife, Michigan DNR, Illinois DNR, unpublished data).

Competition between mute swans and the state-threatened trumpeter swan occurs frequently in the Lake Erie marshes (Dave Sherman, Ohio Division of Wildlife, pers. observ.). Mute swans establish territories (3-15 acres) and initiate nesting about 3 weeks earlier than

trumpeter swans and then successfully defend these areas against trumpeter swans. With only about 100,000 acres of marsh existing in Ohio (National Wetland Inventory), competition for limited habitat has the potential to negatively impact the success of ODNR Division of Wildlife's (Division) trumpeter swan restoration program. This is even more likely to occur as the mute swan population continues to increase. Petrie and Francis (2003) estimated that the Great Lakes mute swan population had an annual growth rate of at least 10% which would cause the population to double every 7 or 8 years. Christmas Bird Counts (Fig. 1) and Midwinter Waterfowl Surveys (Fig. 2) conducted in Ohio have also indicated a general trend of increasing mute swan abundance.

As the mute swan population grows, wildlife managers have an increased need to manage mute swans to protect native wildlife species and their habitats. In addition, human safety is threatened by increasing numbers of mute swans since most human-swan conflicts occur over water where there is a risk of drowning. Therefore, the Division of Wildlife has the responsibility to implement plans to reduce mute swan populations in Ohio through humane lethal methods.

## **LEGAL STATUS & SWAN POLICY**

### **A. Legal Status**

Trumpeter swans are a native species of migrant waterfowl and are thus protected under the Migratory Bird Treaty Act (MBTA). Conversely, the U.S. Fish and Wildlife Service has traditionally excluded non-native species from the list of migratory birds (50 CFR 10.13) which are protected by the MBTA. In December 2001, the United States Court of Appeals for the District of Columbia Circuit ruled that mute swans are covered by the MBTA and all Anatidae should be included in the list of migratory birds that are protected under federal 50 CFR regulations. However, the Migratory Bird Treaty Reform Act (MBTRA) of 2004 invalidated that ruling and removed federal protection from all nonnative avian species, including the mute swan.

There is no central federal authority over exotic bird species; however, there are some federal oversights with federal funds relating to exotic and invasive species. An invasive species is defined as a species that is (1) non-native (or alien) to the ecosystem under consideration and (2) whose introduction causes or is likely to cause economic or environmental harm to human health (National Invasive Species Council 2006). Several federal, regional, and state policies address the concerns associated with invasive species and some are specifically directed at the management of mute swans.

### **B. The Migratory Bird Treaty Reform Act of 2004**

The MBTRA amends the MBTA to clarify that the MBTA's prohibition on taking, killing, or possessing migratory birds applies only to native migratory bird species whose occurrence in the United States results from natural biological or ecological conditions. Bird species occurring as the result of human assisted introduction are excluded from coverage under this act unless the species: (1) was native to the United States and extant in 1918; (2) became extinct throughout its range thereafter; and (3) was reintroduced as part of a Federal program (Sec. 103). It requires the Secretary of the Interior to publish a list of all non-native, human introduced bird species to which the MBTA does not apply and that belong to biological families of migratory birds covered under any migratory bird conventions with Great Britain (for Canada), Mexico, Russia, or Japan.

### **C. The National Invasive Species Act of 1996**

The National Invasive Species Act of 1996 amends the Non-indigenous Aquatic Nuisance Prevention and Control Act of 1990 and creates the Aquatic Nuisance Species Task Force (ANSTF). The purpose of the act is to prevent the unintentional introduction and dispersal of non-indigenous species into the waters of the United States, and to develop and implement environmentally sound control methods to prevent, monitor and control unintentional introductions of non-indigenous species from pathways other than ballast water. Whenever the ANSTF determines that there is a substantial risk of unintentional introduction of an aquatic nuisance species by an identified pathway and that the adverse consequences of such an introduction are likely to be substantial, the ANSTF shall, acting through the appropriate federal agency, and after an opportunity for public comment, carry out cooperative, environmentally sound efforts with regional, state, and local entities to minimize the risk of such an introduction. Under Sec. 1202 € Control – The ANSTF may develop cooperative efforts to control established aquatic nuisance species to minimize the risk of harm to the environment and the public health and welfare. The ANSTF can develop a control program to achieve a targeted level of control of mute swans.

#### **D. State Policy**

The mission of the Division of Wildlife is to conserve and improve fish and wildlife resources and their habitats for sustainable use and appreciation by all. Under Ohio Revised Code 1531.04 and 1531.08, the Chief of the Division of Wildlife has broad authority to plan, develop and institute programs and policies pertaining to the protection, preservation, propagation, possession and management of the fish and wildlife resource. This is interpreted to include matters related to invasive non-native free-ranging terrestrial vertebrates. Furthermore, Ohio Revised Code 1531.04(A) directs the Division to plan, develop, and institute programs and policies based on the best available information, including biological information derived from professionally accepted practices in wildlife management. Maintaining healthy wildlife populations as well as quality habitat is the most basic function of the Division. Addressing competition from invasive non-native free-ranging terrestrial vertebrate species is a critical part of maintaining healthy wildlife populations and their habitats. If they become established these nonnative invasive free-ranging terrestrial species can and do out-compete and displace native wildlife.

In Ohio, swans were initially defined as nongame species because they were not listed as a game species (Ohio Administrative Code 1501:31-1-02 [SS & WWW]; Ohio Revised Code 1531.01[S-T]). Verbiage in the 2006 omnibus bill changed the definition of migratory game birds to include the family Anatidae which incorporates swans (Ohio Revised Code 1531.01-AAA), and the current Ohio Administrative Code definition of waterfowl (OAC 1501:31-1-02 [LLLLL]) was clarified to make specific reference to swans as a member of the Family Anatidae.

Following the lead of several other Midwestern states (e.g., Minnesota and Wisconsin) the Ohio Division of Wildlife enacted a mute swan control program in 2010 after releasing the Mute Swan Action Plan. The plan has 7 objectives for reducing the negative impacts of mute swans on native species and their habitat. Authority for Division of Wildlife employees or persons authorized by the Chief of the Division of Wildlife to conduct a management program for migratory game birds, including mute swans, was established in August 2010 in Ohio Administrative Code 1501:31-7-06 [L].

Division of Wildlife Policy 41: Invasive Non-native Free-ranging Terrestrial Vertebrate Policy, authorizes the Ohio Division of Wildlife to humanely dispatch invasive non-native free ranging terrestrial vertebrates found on Division owned or managed lands. The Division will strongly encourage other land managing agencies to also eliminate these species from their lands. The “American Veterinary Medical Association’s 2013 Guidelines For Euthanasia” will

continue to be the standard followed by the Division of Wildlife to humanely euthanize terrestrial vertebrates.

#### **E. Mississippi Flyway Policy**

The Mississippi Flyway Council is a group of 13 states and 3 Canadian provinces that have management responsibility for migratory bird resources within the Flyway. Member states and provinces of the Mississippi Flyway include Alabama, Arkansas, Indiana, Illinois, Iowa, Kentucky, Louisiana, Michigan, Minnesota, Mississippi, Missouri, Ohio, Tennessee, Wisconsin, Ontario, Manitoba, and Saskatchewan.

The Mississippi Flyway Council's management goal is to "Maintain mute swan populations in the Mississippi Flyway at levels that will minimize or eliminate their harmful ecological impacts to native waterfowl species and habitats." The objective is to reduce the Flyway population to 4,000 or fewer birds by 2030 and prevent mute swans from establishing new breeding populations in areas where they do not currently exist. There are no Flyway Policies regarding trumpeter swans.

#### **F. Great Lakes Mute Swan Task Force**

The Great Lakes Mute Swan Task Force is a collaborative group consisting of USDA APHIS Wildlife Services (WS) and state wildlife agencies in Ohio, Indiana, Illinois, Michigan, and Wisconsin. The goal of the task force is to advance development of mute swan management strategies at the regional scale and address barriers that prevent effective management. There are more mute swans in the Great Lakes region than the rest of the United States combined, so a regional approach will be the most effective method to address the mute swan situation. Ohio will participate in this group or any other appropriate professional resource management group.

### **MANAGEMENT GOALS AND OBJECTIVES**

The Division's trumpeter swan management goals are to increase its range within Ohio from 13 counties in 2013 to 15 counties and to increase the number of breeding pairs from 28 pairs in 2013 to 40 pairs within the state by 2020. If these goals are met for three continuous years, then the trumpeter swan will be considered for delisting. These goals will be achieved by continuing wetland restoration on both public and private property and reducing the number of mute swans in potential trumpeter swan nesting habitat.

The management goals for the mute swan are to have zero mute swans on public lands and zero population growth on all other lands by 2020 in an effort to: 1) minimize the impacts to Ohio's native wildlife, important habitats, and local economies; 2) minimize conflicts with humans; 3) comply with Policy 41 (Invasive Non-native Free-ranging Terrestrial Vertebrate Policy); and 4) comply with the Mississippi Flyway Council's Policy. These goals will be achieved by conducting mute swan management in a manner that is effective, efficient, and in accordance with accepted wildlife management practices. These goals can be broken down into the following categories: (A) Public Outreach and Education, (B) Feral Population Management and Resource Protection, (C) Relief of Human Safety and Nuisance Conflicts.

#### **A) Public Outreach and Education**

Public outreach and education efforts regarding trumpeter and mute swans will be conducted by ODNR – DOW and partners. Outreach programs will inform Ohio's citizens about the status of the swan populations, the difference between the two species, their impacts on natural resources, and the conflicts mute swans may cause. Technical assistance and support will be given to any agency/organization or private landowner to help

control mute swans on lands they own or manage. Efforts will be made to encourage the public to view native trumpeter swans and recognize their threatened status.

**Objective A-1:** Increase public awareness and education regarding mute swans and their impact on Ohio's natural resources.

Strategy A-1.1: Develop a web based clearinghouse of information to allow exchange of information. This website could include information on swan biology and allow Ohioans to post reports of swan sightings, survey reports, and current information on swan management and research, current laws and policies regarding management of swans, and outreach materials.

Strategy A-1.2: Develop informational materials on mute swans and trumpeter swans describing swan ecology, identification, current status, issues, and research. Materials should be made available as web resources on the ODNR-DOW website.

Strategy A-1.3: Develop materials with technical information for natural resource managers and landowners regarding the status of both swan species, issues surrounding mute and trumpeter swans, and management options for mute swans.

Strategy A-1.4: Educate legislators and Policy makers on mute swan issues.

Strategy A-1.5: Work with partner agencies to address mute swan issues and formalize public outreach messages and strategies.

Strategy A-1.6: Obtain statements from relevant conservation and biological organizations that support the Division's Swan Management Plan

## **B) Population Monitoring and Research**

**Objective B-1:** Monitor the abundance and distribution of swan populations and the effectiveness of management actions.

Strategy B-1.1: DOW shall monitor trumpeter and mute swan populations through Audubon's annual Christmas Bird Counts (CBC) and as part of the breeding goose survey. The CBC survey provides a "snap shot" of swan distribution and minimum count of swans in Ohio. The breeding goose/swan survey will provide an index to the number of breeding trumpeters and mutes statewide.

Strategy B-1.2: Participate in a Mid-Summer Trumpeter and Mute Swan Survey similar to the Atlantic Flyway if the Mississippi Flyway Council initiates the survey. This survey would be conducted every third year during the birds' mid-July through mid-August molt period to determine distribution and population size.

Strategy B-1.3: Wildlife Services (WS), with Great Lakes Restoration Initiative support, may assist in conducting surveys and monitoring mute swan populations and movements.

Strategy B-1.4: DOW will create a database of known trumpeter and mute swan locations that are reported by field staff and the public throughout the year. These locations can be investigated by DOW or WS personnel on a bi-weekly or monthly basis. It would also be beneficial to have an online reporting system where staff and general public would be able to report mute swan sightings.

## C) Feral Population Management and Resource Protection

The number of free-ranging mute swans in Ohio has increased since mute swans were first consistently detected on surveys (Christmas bird counts) in the early 1970s. Efforts by DOW to manage feral swans in Ohio should be continued and dramatically enhanced. Control programs addressing both reproduction and adult survival are needed to curb population growth. As noted above, mute swans may limit trumpeter swan use of wetland habitats for breeding. Trumpeter swan territory sizes (4 - 245 acres) are larger than those of mute swans (3 - 15 acres) so any mute swans on small to moderate-sized wetland areas may preclude use by trumpeter swans. Thus, mute swans on or near public lands, which could be used by trumpeter swans, will be removed whenever possible. Likewise, efforts will be made to educate and work with landowners and local residents on private lands with similar circumstances to aid in removal of mute swans. Ohio's trumpeter swan reintroduction program has been successful to date, but the species is still listed as threatened in Ohio; thus, removal of mute swans from areas potentially used by trumpeter swans is necessary to ensure the long-term success of the program. A cooperative effort will be required from a variety of state, federal, and local natural resource agencies as well as land owners to be effective.

**Objective C-1:** Implement actions that will prevent mute swans from increasing their range in Ohio and reduce the mute swan population as quickly and efficiently as possible, consistent with activities to protect, restore, and enhance Ohio's natural resources.

Strategy C-1.1: Remove mute swans through humane lethal take on DOW owned and managed lands. Population modeling and experience in other states demonstrates that the use of only non-lethal controls, while a valuable tool, is unlikely to reduce the size of the mute swan population (Maryland Dept. Natural Resources 2001). Further, egg addling does not address the competition with Ohio's threatened trumpeter swans nor the impacts on submerged aquatic vegetation (SAV) and other living resources caused by an overabundance of mute swans. To achieve the management goals, it is essential to remove sub-adult and adult swans. Lethal methods will include shooting or capture and euthanasia.

Strategy C-1.2: DOW and WS will provide technical assistance to other public agencies that wish to control mute swans on their property. The assistance may range from direct removal to providing guidance on best management practices for capturing and handling of live birds, addling eggs, etc. DOW will also encourage public agencies to allow lethal control where feasible.

Strategy C-1.3: DOW and WS will provide assistance to private landowners who wish to control mute swans on their property. DOW will continue to require a permit to kill mute swans. The assistance may range from direct removal to technical guidance. DOW will discourage ownership of male/female pairs through public education/outreach and will encourage pinioning at least one wing of captive birds so that the birds remain on the owner's property.

## D) Relief of Human Safety and Nuisance Conflicts

**Objective D-1:** DOW, and WS will continue to provide technical information and assistance to property owners who are experiencing nuisance, safety, and habitat degradation problems caused by swans.

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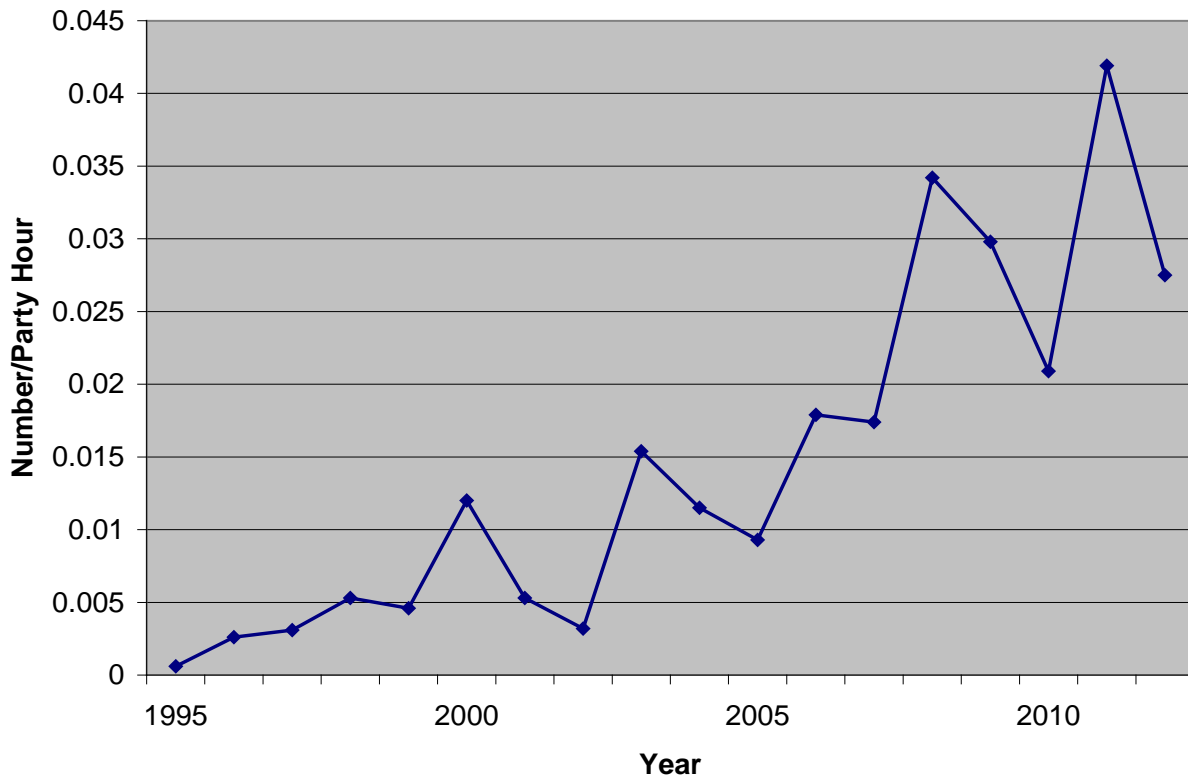


Fig. 1. Number of trumpeter swans per party hour counted on the Christmas Bird Count in Ohio, 1995-2012.



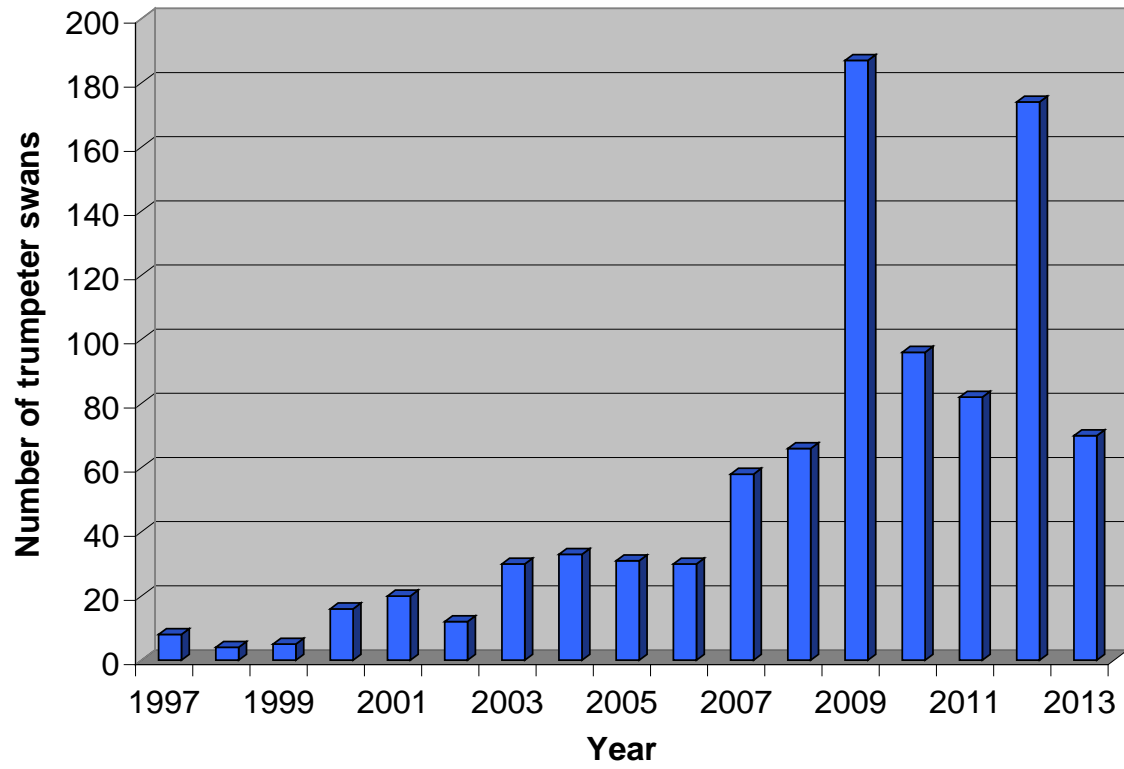


Fig. 2. Number of trumpeter swans counted on the midwinter waterfowl survey in Ohio, 1997-2013.

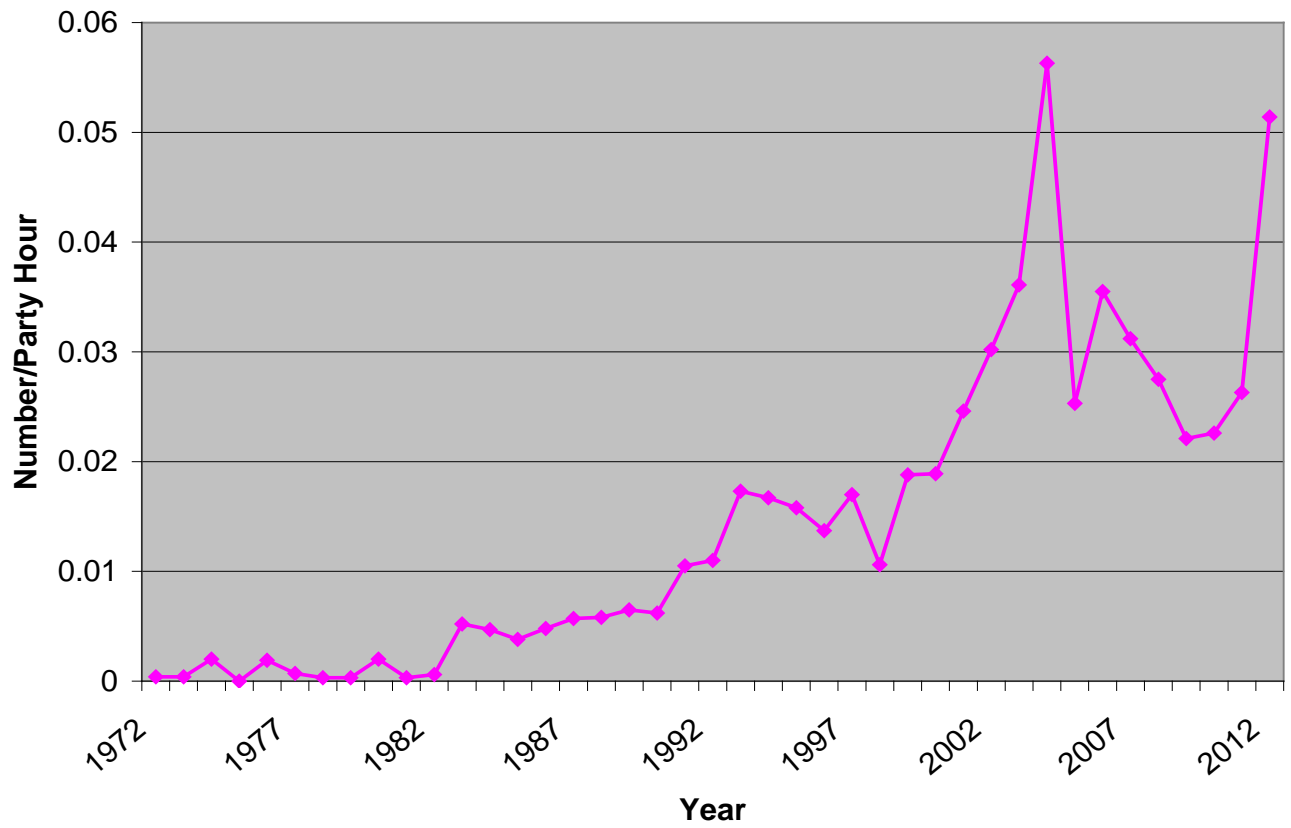


Fig. 3. Number of mute swans per party hour counted on the Christmas Bird Count in Ohio, 1972-2012.

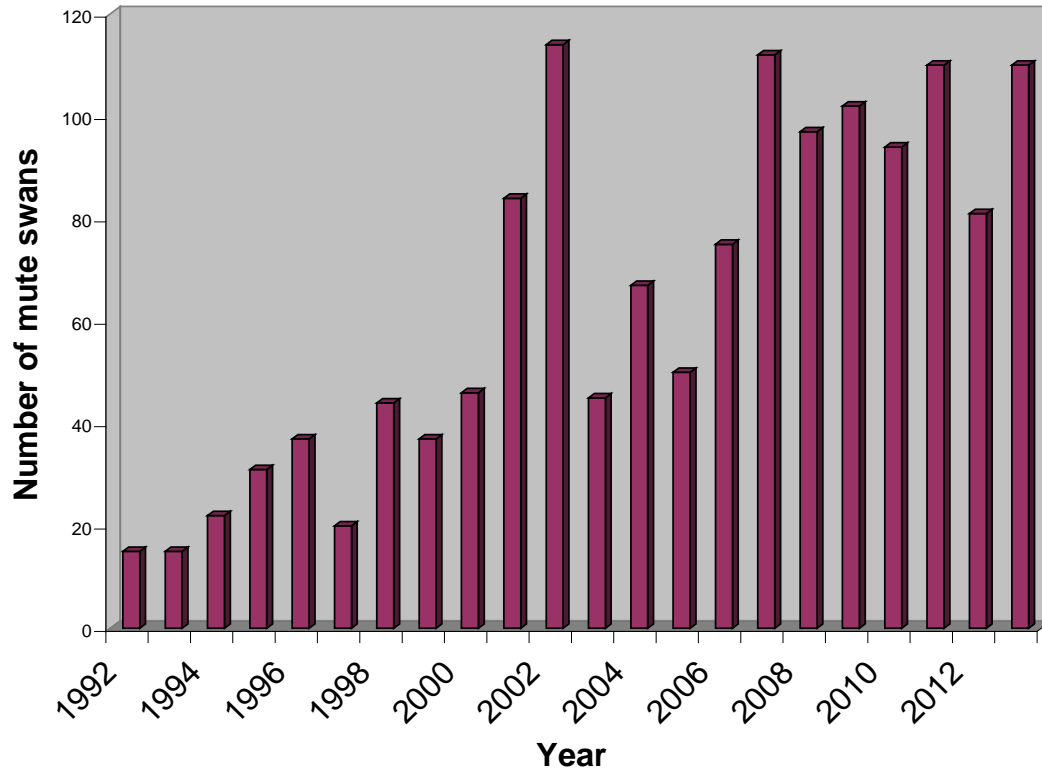


Fig. 4. Number of mute swans counted on the midwinter waterfowl survey in Ohio, 1992-2013.