

**FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION
WATERFOWL PERMIT PROGRAM
2007-2008 ANNUAL REPORT**

Abstract: Florida is visited by more than 20 species of migratory waterfowl each year. Four species of ducks regularly nest in the state during spring and summer. Waterfowl provide significant economic and recreational benefits to the citizens of Florida. This report documents efforts by the Florida Fish and Wildlife Conservation Commission (FWC) to manage Florida's waterfowl during fiscal year 2007-08.

Waterfowl management activities fall into two categories: population monitoring and habitat management. The Waterfowl Management Program (WMP) coordinated the banding of 1065 mottled ducks and 785 wood ducks during 2007. Mottled ducks and wood ducks were captured at bait sites and by night-lighting. Reports of band encounters allow us to measure hunting pressure on these ducks. Hunters can dial 1-800-327-BAND (inscribed on the band) or visit www.reportband.gov to report band information.

A main concern for mottled duck conservation is hybridization between introduced domestic mallards and mottled ducks. The resulting genetic swamping of mottled ducks by mallards could lead to the loss of Florida's mottled duck as a distinct species. The WMP devoted substantial effort to this issue in 2007-08.

Providing appropriate waterfowl hunting opportunities for Florida's citizens is a primary mission of the WMP. Hunting seasons are established in Florida to maximize hunter opportunity within the constraints of sound resource stewardship and guidelines mandated by the U.S. Fish and Wildlife Service (USFWS). The WMP participated in the national process for setting waterfowl hunting regulations and developed recommendations for the FWC Commission concerning appropriate regulations in Florida.

Habitat management allows us to improve the habitat quality and quantity necessary to support Florida's waterfowl and other wetland wildlife. Waterfowl biologists provided technical assistance on wetland conservation and management issues around the state. We worked with many agencies, organizations, and private landowners to cooperatively manage wetlands.

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Waterfowl are among the most recognized and economically important wild animals in North America. In Florida, naturalists, bird watchers, and hunters spend countless hours enjoying these birds. As human impact on the environment has increased, negative impacts on waterfowl populations also have increased. The Florida Fish and Wildlife Conservation Commission's (FWC) Waterfowl Management Program (WMP) is charged with ensuring the continued well-being of these popular birds.

The passage of the Florida Duck Stamp Act in 1979 created the WMP and provided a mechanism for funding. This act requires that all Florida waterfowl hunters purchase a three-dollar waterfowl permit. The proceeds are devoted to management of Florida's waterfowl resource. In 2007-08, 11,159 waterfowl permits (including 275 five-year permits) were sold. Sportsman's licenses also include a waterfowl permit, and 27,477 of these licenses were sold. Revenue from waterfowl permits and sportsman's licenses totaled \$120,034. Consistent with legislative provisions, 5% of this revenue was expended on administration, 25% on waterfowl research, and 70% on waterfowl management. These expenditures represented 20% of the \$595,892 that was spent on waterfowl administration, research, and management.

During 2007-08, the WMP continued its efforts to increase public awareness of Florida's waterfowl resource through a web site, Florida's Waterfowl (www.MyFWC.com/duck). The web site provides information on Florida's resident and migrant waterfowl, habitat conservation, and waterfowl hunting, as well as results from waterfowl population surveys in Florida and links to other sites of interest to waterfowl enthusiasts.

The WMP worked cooperatively during the year with two important stakeholder groups, Ducks Unlimited (DU) and United Waterfowlers of Florida (UW-F). UW-F is an organization dedicated to representing the interests of Florida's waterfowl hunters. WMP activities with these groups included coordinating cooperative projects and providing technical assistance on issues of mutual interest.

FWC's Waterfowl Management Standing Team completed the Waterfowl Management Strategic Plan to guide future waterfowl management. FWC Commissioners unanimously approved implementation of this plan on February 6, 2008. The plan has three goals: (1) conservation and enhancement of resident waterfowl populations and habitats, (2) leadership in the conservation and enhancement of continental waterfowl populations and habitats, and (3) recreational use and public support resulting in the enhancement and conservation of waterfowl populations and habitat.

The WMP participated in disease surveillance efforts during fiscal year 2007-08 to monitor for highly pathogenic avian influenza (HPAI). FWC assisted in efforts to monitor for HPAI in Florida as part of the national early detection system for Asian H5N1 in migratory birds. WMP staff coordinated collection of 200 samples from live-captured mottled ducks and wood ducks and 226 samples from hunter-harvested waterfowl at several

waterfowl check stations throughout the state. FWC's overall sampling efforts also included birds found dead of unknown causes. We exceeded our statewide goal of 650 samples from all sources combined. Nationwide, the HPAI sampling effort totaled 83,500. The Asian H5N1 strain of HPAI was not identified in North America during 2007-08 surveillance efforts. The WMP will continue to work with state and federal agencies in surveillance efforts for HPAI.

Staff secured two separate grants from the U.S. Fish and Wildlife Service to conduct additional HPAI surveillance during fiscal year 2008-2009. The first grant provides \$11,380 for targeted surveillance of wood ducks. The second grant provides \$22,280 for targeted surveillance of mottled ducks and migrant waterfowl.

The remaining waterfowl management programs are best understood if grouped biologically. Florida wetlands support breeding (resident) and migrant (wintering) waterfowl, and our management targets the populations and habitats of these birds.

POPULATION AND HABITAT MANAGEMENT

Population monitoring allows us to track the number of ducks over time. Annual population estimates and other population parameters help us manage for maximum hunting opportunity while sustaining healthy waterfowl populations. Moreover, accurate population information provides a basis for directing waterfowl conservation efforts where they are most needed and effective.

Habitat management helps us provide the greatest quantity and highest quality habitat possible to support Florida's waterfowl and other wetland-dependant wildlife. Without a large habitat base that includes breeding, migration, and wintering areas, waterfowl populations will decline. Habitat management and conservation have importance beyond their value to waterfowl because wetlands benefit many other plant and wildlife species.

Two external programs enhance FWC's ability to conserve and manage wetland habitat for both resident and migratory waterfowl. DU provides matching money to help states acquire and enhance wetland habitat. FWC's matching funds for these projects in Florida are budgeted through the legislature. Since this program's inception, FWC's projects completed by partnering with DU have helped restore and enhance more than 16,000 acres of wetland habitat in Florida. Florida is part of the Atlantic Coast Joint Venture (ACJV) of the North American Waterfowl Management Plan. Joint ventures create partnerships to plan, fund, and implement wetland habitat projects within their respective geographic areas. The ACJV, like the other joint ventures, serves to implement wetland habitat management objectives and establish and maintain waterfowl population goals identified in the plan. ACJV partnerships will provide substantial benefits to Florida's fish and wildlife resources. The WMP provides input on ACJV activities in Florida.

RESIDENT SPECIES

The four species of ducks that regularly breed in Florida are the mottled duck, wood duck, fulvous whistling duck, and black-bellied whistling duck. All four species nest during spring and summer. Mottled ducks remain in Florida throughout the year. Many wood

ducks and fulvous whistling ducks remain year-round as well, but some of these birds migrate from Florida for part of the year. Black-bellied whistling ducks also occur in Florida year-round, but we have no information on seasonal movement patterns. Current management for mottled ducks is guided by FWC's mottled duck conservation plan (A Conservation Plan for the Florida Mottled Duck, 2004-2009).

Florida's Mottled Duck

The Florida mottled duck is one of approximately 25 closely related, mallard-type species worldwide. This subspecies occurs only in Florida and does not migrate from the state; therefore, management and protection of Florida's mottled ducks are primarily the responsibilities of the State of Florida. Hunters favor this bird because of its large size and palatability. Florida hunters harvested an estimated 11,493 mottled ducks during the 2007-08 hunting season, which accounted for approximately 6% of the statewide harvest of ducks. We remain concerned about the long-term status of Florida's mottled duck population throughout its range because low reproduction and survival have been documented, important habitat in Florida continues to be altered or lost, and hybridization with feral mallards continues. Because of these concerns, the conservative daily bag limit for the harvest of this species remains at one.

Mottled Duck Population Monitoring and Management. – Annual mottled duck population monitoring includes banding and a March aerial survey of the breeding population. During the summer of 2007, 1,064 mottled ducks were captured and marked with leg bands. Over the past ten years, 5,233 mottled ducks have been banded (Figure 1). Banding data are periodically analyzed to estimate annual survival rates and the proportion of the population that is harvested, as well as to monitor movements.

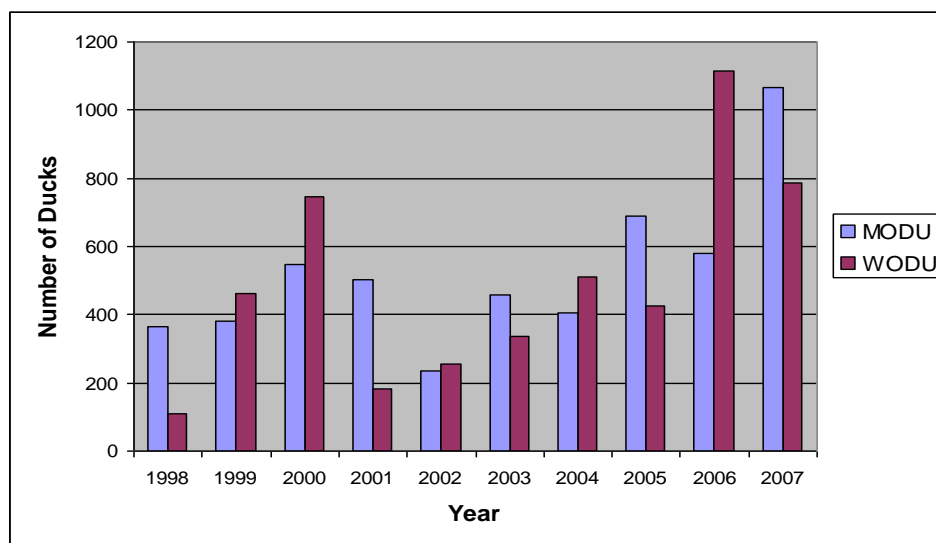


Figure 1. Numbers of Florida mottled ducks (MODU) and wood ducks (WODU) banded statewide by FWC staff, 1998-2007.

The March breeding population survey has been conducted since 1985, and FWC waterfowl biologists evaluated a new survey method during 2003-2007. The new method, point-transect sampling, was intended to replace the original line-transect design. There are three important benefits of this new survey design as compared to the previous design.

First, point-transect methods allow more efficient and accurate data collection from all types of mottled duck habitat, including urban/suburban areas. Second, point-transect sampling is physically less taxing on observers and utilizes direct distance measurements (i.e., employs laser range finders to measure distance to duck(s)). As a result, data collected is more accurate and therefore more flexible analysis can be employed. Perhaps most importantly, this design is safer for the participants because much less time is spent flying at low altitudes and slow speeds.

We sampled the entire mottled duck survey area in 2008, due to additional funding (\$25,000) supplied by the U.S. Fish and Wildlife Service (USFWS). This is the second year we have been able to conduct a complete survey with the new design. Results from the 2008 survey indicated that the mottled duck density within peninsular Florida was an estimated 3.0 birds/km² of wetland habitat, or a population size of 53,328 (SE = 12,058) ducks. This compares to 1.8 birds/km² and 31,754 (SE = 7,244) birds within the survey area in 2007. While this estimate is similar to previously published work on Florida mottled ducks from the 1980's (est. pop. 40,000), we still consider these conservative estimates. Our confidence in this new survey technique continues to grow based on the similarity of the estimates to the estimates from the previous survey methods.

Mottled Duck Habitat Management. -- The WMP completed work on the Mottled Duck Production Area (MDPA), a 1,400-acre, state-owned tract in Highlands County. The MDPA was a cooperative project between FWC and DU.

The greatest density of nesting mottled ducks in the state occurs in prairie habitats of peninsular Florida. These habitats are used extensively for cattle ranching and other agriculture, which are important in Florida's economy. The MDPA was used primarily as a research area to examine viable grazing systems that might benefit mottled duck nesting and brood-rearing conditions. In 2007, we completed our cooperative work with Mr. Matt Pearce of Rock Hill Ranch in Okeechobee to graze cattle on the MDPA.

The 5-year agreements with Division of State Lands' Board of Trustees and the cooperating rancher expired in December 2007. The Waterfowl Management Standing Team, after considering the MDPA evaluation, recommended discontinuing the MDPA project. The Team made this recommendation because we have learned as much as is practicable, given the capabilities and limitations of the property. Thus, we did not renew any lease or use agreements with our cooperators and discontinued the project at the MDPA.

The results of the project were summarized in *A Final Project Report for Mottled Duck Production Area, 2002-2007* (FWC 2007). Additionally, staff is preparing a manuscript entitled, "Grazing System Effects on Vegetation Characteristics Important to Nesting Mottled Ducks in Peninsular Florida" for submission in a peer-reviewed publication in 2008-2009.

The 5-year agreements with Division of State Lands' Board of Trustees and the cooperating rancher expired in December 2007. The Waterfowl Management Standing Team, after considering the MDPA evaluation, recommended discontinuing the MDPA project. The Team made this recommendation because we have learned as much as is practicable, given the capabilities and limitations of the property.

Mottled Duck Conservation.- Waterfowl biologists completed the data-collection portion of a study of habitat use, survival, and movements of Florida mottled duck females in the Upper St. Johns River Basin (USJRB) in 2003. A manuscript entitled "Habitat Use and Movements of Adult Female Mottled Ducks in East-Central Florida" was prepared during 2007-08 and will be submitted for publication during FY 2008-09. Additionally, during fiscal year 2007-08, we secured all of the necessary funding to initiate the second phase of this research, which will take place in the Everglades Agricultural Area and urban/suburban areas to the east and west from August 2008 through August 2011. In addition to objectives related to habitat use, movements, and survival of mottled ducks; the study also will characterize, in detail, the wetlands used by mottled ducks and blue-winged teal. This additional information is needed to improve wetland conservation and enhancement efforts within Florida.

The FWC's overall plan for addressing the mallard x mottled duck hybridization problem has three objectives: (1) develop techniques to identify hybrids, (2) assess the proportion and distribution of hybrids in the mottled duck population, and (3) identify and implement mechanisms to reduce hybridization. During fiscal year 2004-05, FWC biologists and Boston University researchers completed their initial work to develop a technique to identify hybrids. This effort revealed six genetic markers that provide a composite genetic fingerprint for mottled ducks and feral mallards in Florida. Using this fingerprint, researchers estimated that between seven and 12 percent of the Florida mottled duck population was of hybrid origin. This is a significant proportion and indicates a serious hybridization problem, which, if not reduced, could result in the extinction of the Florida mottled duck.

During the past two years, we extended the study and identified seven additional genetic markers, which may greatly refine our ability to detect hybrids. During fiscal year 2007-08, we obtained additional genetic samples from "pure" mallards and mottled ducks to assess the current set of 13 genetic markers. Once we have assessed the utility of the markers and have identified sufficient samples of known mallards, mottled ducks, and hybrids, we will begin to develop a key (i.e., field guide) to identifying hybrids by plumage and structural characteristics. Such a key could reduce the need for costly genetic analyses. When this genetic work is complete, we plan to periodically monitor the ingress of mallard genes into the mottled duck population and the effectiveness of efforts to stop it. Currently this work is on hold, pending additional funding.

We continued progress on identifying and implementing mechanisms to reduce hybridization. We believe that the most important strategy for reducing hybridization is an education and communication program. FWC's efforts focus on maximizing public awareness of the issue. Strategies are to reduce the sale and subsequent release of mallards, gain wider acceptance for reduction of the mallard population, and create an awareness of the problem among identified stakeholders. In 2007-08, we continued to develop and distribute informational material, make presentations and contacts to groups and organizations, and coordinate media coverage. We continued to work with FWC's Division of Law Enforcement to remind businesses selling ducks (e.g., feed stores, auctions) about mallard possession and sale regulations.

We will continue to address the hybridization problem, as resources allow.

Wood Duck

Wood ducks are perhaps the most beautiful duck in North America and are admired by people throughout the state. The most abundant resident duck species of Florida, wood ducks also are highly valued by Florida hunters. Wood ducks ranked sixth in hunters' bags and made up approximately 4% of the total duck harvest in Florida in 2007-08. The USFWS estimated that 8,432 wood ducks were harvested in Florida during the 2007-08 duck hunting seasons.

Wood Duck Population Management. -- Wood ducks inhabit wooded, brushy, or other vegetated wetland areas. Therefore, unlike other duck species, wood ducks cannot be counted reliably during aerial surveys. Consequently, populations have been monitored through banding, experimental monitoring of nest boxes, and harvest surveys. These efforts have been critical to continuing the special September duck season for Florida's hunters.

In 2007, WMP coordinated the banding of 785 wood ducks prior to the hunting season. Over the past 10 years, 4,928 wood ducks have been banded (Figure 1). The 2007 banding effort was aided by an avian influenza grant of approximately \$11,000 from the USFWS. This funding allowed us to hire a seasonal technician to help with wood duck banding and collection of samples for avian influenza monitoring. Information from band recoveries indicates that hunting pressure on Florida's wood ducks is lower than for wood ducks in other Atlantic Flyway states. Previous analysis of banding data indicated that a high proportion of wood ducks banded during the summer in Florida that are harvested by hunters are taken within the state. This information supports increased opportunity for hunting Florida's wood ducks.

Estimates of hunter effort and harvest are used to help determine whether the extra harvest allowed by the special September duck season in Florida is compatible with the well-being of Florida's wood duck population. Hunters harvested an estimated 2,312 wood ducks and 8,228 teal in Florida during this special season in 2007. Previous work by the WMP provided no evidence to suggest that the September season negatively affected wood duck populations.

Wood Duck Habitat Management. -- Wood ducks are cavity nesters. Many areas with adequate brood-rearing habitat do not contain trees large enough to have suitable nesting cavities. Fortunately, man-made nest boxes can provide nest sites. WMP biologists and other FWC staff maintained nest boxes existing on Wildlife Management Areas and other public water bodies. WMP personnel provided technical assistance to private citizens, government agencies, and groups such as local DU chapters and Boy Scout troops to erect and maintain nest boxes.

Fulvous and Black-bellied Whistling Ducks

Whistling ducks are more closely related to geese than to ducks. Fulvous whistling ducks have separate populations in Asia, Africa, Madagascar, South America, and North America. Prior to about 40 years ago, neither species of whistling ducks nested in Florida. Today, nesting fulvous whistling ducks are abundant in South Florida where rice is grown. In winter, many fly south, apparently to Cuba. Florida's black-bellied whistling duck population seems to have increased dramatically in recent years, with reports of successful breeding in many areas of the state.

Whistling Duck Population Management. -- Lack of funds and personnel has prevented the WMP from extensively monitoring or managing these populations.

Whistling Duck Habitat Management. -- To promote good management for fulvous whistling ducks and black-bellied whistling ducks, the WMP encourages shallow flooding of fallow agricultural fields and rice culture in place of sugar cane.

MIGRATORY WATERFOWL

This large group includes waterfowl that breed in northern North America and migrate to Florida during the fall and winter. Approximately 20 species of waterfowl regularly spend the winter in Florida, and the migratory ducks constitute at least 80% of all waterfowl harvested by Florida hunters. Resident waterfowl species compose the remaining 20%. The estimated duck harvest in Florida during the 2007-08 hunting seasons totaled 198,500 birds. This is a 21% increase from the 2006-07 season estimated harvest (163,600) and somewhat higher than the 1981-90 average of 181,000.

Habitat in wintering areas, such as Florida, is important in the annual cycle of migratory waterfowl. Habitat conditions during this non-breeding period influence survival and subsequent reproduction. Ducks must maintain or improve their body condition during winter to avoid mortality during the spring migration and to meet the physiological demands of the nesting season (i.e., egg laying, incubation). The WMP devotes considerable resources to monitoring and managing these migrant birds and providing quality habitat.

Migrant Waterfowl Population Management

Ring-necked ducks are particularly important in Florida because they constitute a large proportion of the state's annual waterfowl harvest. A majority of the ring-necked ducks in the Atlantic Flyway spend the winter in Florida, and, on average, approximately 66% of ring-necked ducks harvested in the flyway are harvested here. The WMP provides funding for cooperative banding efforts in Canada and remains vigilant in encouraging Canadian waterfowl managers to continue banding ring-necked ducks on the breeding grounds. These efforts are important for justifying continued harvest opportunities for this species.

Florida participates in international waterfowl management by sending FWC representatives to serve on the Atlantic Flyway Council and its Technical Sections as voting members. Representatives from 17 states and six Canadian provinces participate. This council coordinates international research, monitoring, and management in the flyway and makes recommendations to the USFWS concerning appropriate waterfowl hunting seasons. The WMP coordinator is Florida's technical representative for game birds and has represented the Atlantic Flyway on a national technical working group tasked with

developing Adaptive Management procedures for waterfowl harvest management. The Adaptive Harvest Management Working Group is composed of two representatives from each administrative flyway and biologists from the USFWS. Florida participates in several other cooperative flyway projects, helping to ensure that Florida's waterfowl enthusiasts continue to have access to this valuable resource.

Providing appropriate waterfowl hunting opportunities for Florida's citizens is a primary mission of the WMP. Hunting seasons are established in Florida to maximize hunter opportunity within the constraints of sound resource stewardship and guidelines mandated by the USFWS. The WMP develops recommendations for the FWC Commission concerning appropriate waterfowl hunting regulations in Florida.

Migratory Waterfowl Habitat Management

Florida lost approximately 260,000 acres of freshwater, emergent wetlands between 1985 and 1996. This habitat type is essential for waterfowl, yet losses continue. Waterfowl management staff manages habitat through technical assistance to various agencies, groups, and individuals (Table 1) and through administration of public waterfowl areas. Not all technical assistance produces a tangible increase in waterfowl habitat, but this input does cause the welfare of wetlands and associated wildlife to be considered when resource management decisions are made. As a result, waterfowl habitat in the state is conserved and enhanced.

Staff continued to work with several entities and private landowners during the 2007-08 fiscal year to evaluate numerous wetland habitat conservation projects. Entities included DU, the Natural Resource Conservation Service Wetlands Reserve Program, ACJV, Water Management Districts, Florida Department of Environmental Protection, the USFWS, and several local and county governmental offices. Approximately twenty projects totaling over 58,900 acres were evaluated in Glades, Highlands, Martin, Okeechobee, Osceola, Polk and St. Lucie counties. Staff is also involved in several on-going planning efforts as they relate to restoring and enhancing water level regulation for Lakes Istokpoga, Okeechobee, Tohopekaliga, Cypress, Hatchineha, and Kissimmee.

Waterfowl staff participated in FWC teams responsible for coordinating (1) management of fish and wildlife habitat on the Kissimmee Chain of Lakes, Lake Istokpoga and the Orange Creek Basin, (2) the use of triploid grass carp for aquatic plant management to improve fish and wildlife habitat, and (3) management of Lake Lafayette. As part of the team effort on the Kissimmee Chain of Lakes, the WMP coordinator leads an effort by a sub-team to set quantitative objectives for managing the aquatic vegetation to provide fish and wildlife habitat. The WMP coordinator also participated in a multi-agency group to develop a risk-assessment for stocking triploid grass carp in public waters for aquatic plant control.

T. M. Goodwin Waterfowl Management Area. -- This 6,300-acre area in the upper St. Johns River Basin continues to provide important habitat for migrating, wintering, and resident waterfowl and other wetland-dependent wildlife, as a result of intensive management. The WMA is composed of two management units: T. M. Goodwin (Goodwin) and Broadmoor Marsh (Broadmoor).

The 2007-08 waterfowl hunting season provided for 1,562 hunter-trips on these two units, during which hunters harvested 5,175 ducks, for an average of 3.3 ducks per hunter-

trip. Blue- and green-winged teal made up the majority of ducks harvested. Additional species included mottled duck, black-bellied whistling duck, northern pintail, ring-necked duck, American wigeon, wood duck, and others. Youth waterfowl hunts occurred on February 2 and 3, 2008, followed by three days of snipe hunting in early February. People also used the area to scout for waterfowl hunts, observe wildlife, fish, bike and hike.

A change to the hunt reservation system was put into place two years ago utilizing FWC's internet-based Total Licensing System. This new system appears to be working well and is favored by the majority of the area's hunters.

Major construction projects included replacing the Broadmoor West pump station, rebuilding the Goodwin pump station including the replacement of two pump culverts, and replacing eight flash-board riser water control structures. Herbicide activities included treating cattails on Broadmoor reservoir (875 acres) in December 2007 followed by a secondary treatment in June 2008. Approximately 900 acres of the exotic para grass were treated on both Goodwin and Broadmoor units in the fall and spring of 2007-08. Additional management during the year included enhancing wetland habitat by disking, roller-chopping, prescribed burning, and water level manipulations to encourage growth of desirable native plants. Routine maintenance included levee repairs (e.g., filling in low sections, reshaping and regrading), maintaining parking areas and other public use facilities, and mowing levees.

PROGRAM DIRECTION AND NEEDS

Florida's WMP has been in existence for more than 25 years. Our challenge has been large and our resources limited. During this time, we have made substantial contributions to the knowledge and habitat base needed to manage and sustain waterfowl in Florida and internationally. Our population monitoring efforts yield information necessary for management. Informing the public is an important part of our efforts to ensure the well-being of the waterfowl resource (Table 2).

Our challenge for the future is to continue population monitoring and management, while using up-to-date information to increase involvement in habitat issues. We believe the biggest opportunity to reduce the hybridization threat to mottled ducks by feral mallards is through public education and marketing of the message. The extent to which we are able to accomplish this is substantially limited by funding. Further, we have insufficient recurring funds for conducting the annual mottled duck survey. Efforts to conserve and manage mottled duck habitat are limited because we need additional scientific information on which to base sound recommendations. However, we have insufficient funds to obtain this scientific information. Coordinating activities between the WMP and other entities involved in habitat and conservation issues will remain a challenge. Continued funding of cooperative habitat projects with DU programs is still vital. However, this program is intended only for acquisition and development of habitat projects. Additional funding is necessary to operate and maintain these and any other new waterfowl habitat projects after they are developed. We continue to seek funding from external grants and other sources to meet these unfunded needs.

Table 1. Entities that received technical assistance from waterfowl personnel during fiscal year 2007-08.

Florida State Agencies

Florida Fish and Wildlife Conservation Commission
 Division of Habitat and Species Conservation
 Division of Freshwater Fisheries Management
 Division of Law Enforcement
 Office of Community Relations
 Fish and Wildlife Research Institute
 Office of Recreation Services
 Office of Licensing and Permitting
 Department of Environmental Protection
 South Florida Water Management District
 St. Johns River Water Management District
 Suwannee River Water Management District
 Florida Department of Health
 Florida Park Service, Myakka River State Park
 Subcommittee on Managed Marshes
 Florida Department of Elderly Affairs

Other State or Provincial Agencies

South Carolina Department of Natural Resources
 Georgia Department of Natural Resources

Federal Agencies

U.S. Department of Agriculture--Wildlife Services
 U.S. Fish and Wildlife Service
 Natural Resource Conservation Service (NRCS)
 U.S. Park Service--Gulf Island National Seashore
 U.S. Geological Survey

State-Federal Cooperative Entities

Southeastern Cooperative Wildlife Disease Study

Local Government

Lake, Alachua, Indian River, Palm Beach, Lee, Duval, and Leon counties
 City of Jacksonville's Preservation System

Table 1 (continued). Entities that received technical assistance from waterfowl personnel during fiscal year 2007-08.

Universities and High Schools

University of Florida, Institute of Food and Agricultural Services
University of Florida, Department of Wildlife Ecology and Conservation
University of Florida, School of Veterinary Medicine

Non-governmental Organizations

Ducks Unlimited Inc., national, state chapter, and various local chapters
United Waterfowlers – Florida, Inc.
National Wildlife Federation
Florida Wildlife Federation
Boy Scouts of America
North American Wetlands Conservation Council
Atlantic Coast Joint Venture
Space Coast Audubon Society
Delta Waterfowl
Wildlife Management Institute
Tall Timbers Research Station

Businesses

Bass Pro Shops
Okeelanta Corporation
Walt Disney World Corporation
Anheiser Busch Corporation
Montalbano and Company – Consulting Biologists, LLC
St. Joe Land Development Company
Universal Orlando
CF Industries

Citizens

(numerous)

Table 2. List of waterfowl management reports and publications, fiscal year 2007-08.

Bielefeld, R. R. 2008. 2008 mottled duck survey report. Unpublished report. Florida Fish and Wildlife Conservation Commission, Tallahassee, Florida, USA.

Bielefeld, R. R. 2008. Mottled ducks genetics update. Unpublished report. Florida Fish and Wildlife Conservation Commission. Tallahassee, Florida. USA.

Florida Fish and Wildlife Conservation Commission. 2007. A Final Project Report for Mottled Duck Production Area, 2002-2007. Unpublished report. Florida Fish and Wildlife Conservation Commission, Tallahassee, Florida, USA.

Florida Fish and Wildlife Conservation Commission. 2007. Waterfowl permit program -- 2006-07 annual report. Unpublished report. Florida Fish and Wildlife Conservation Commission, Tallahassee, Florida, USA.

McMunigal, J. M., and S. V. Rockwood. 2008. 2007 Annual Report for the T. M. Goodwin Waterfowl Management Area. Unpublished report. Florida Fish and Wildlife Conservation Commission, Tallahassee, Florida, USA.