FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION
WATERFOWL PERMIT PROGRAM
2009-2010 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 2009-10.

Waterfowl management activities fall into two categories: population monitoring and habitat management. The Waterfowl Management Program (WMP) coordinated the banding of 930 mottled ducks and 585 wood ducks during 2009. 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 2009-10.

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 waterfowl permit. The proceeds are devoted to management of Florida's waterfowl resource. In 2009-10, 11,521 waterfowl permits (including 277 five-year permits) were sold. Sportsman's licenses also include a waterfowl permit, and 37,945 of these licenses were sold. Revenue from waterfowl permits and sportsman's licenses totaled $115,245. These revenues supported 18% of the $634,220 that was expended on the conservation, research, and management of waterfowl.

During 2009-10, 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 several important stakeholder groups, including Ducks Unlimited (DU), Delta Waterfowl (Delta) 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.

The Waterfowl Management Strategic Plan, approved for implementation by FWC Commissioners on February 6, 2008, continues to guide waterfowl management efforts. 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 2009-10 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 samples from live-captured mottled ducks and wood ducks and 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 worked closely with the U.S. Department of Agriculture-Wildlife Services (USDA-WS) to exceed our combined statewide goal of 1,200

samples from all sources combined. Nationwide, the HPAI sampling effort totaled 59,818, comprised of samples from both migratory and resident birds and environmental samples. The Asian H5N1 strain of HPAI was not identified in North America during 2009-10 surveillance efforts. The WMP will continue to work with other state and federal agencies in surveillance efforts for HPAI.

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 14,261 mottled ducks during the 2009-10 hunting season, which accounted for approximately 8% 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 2009, 930 mottled ducks were captured and marked with leg bands. Over the past ten years, 6,216 mottled ducks have been banded (Figure 1). Periodically, we analyze the band recovery data to estimate annual survival rates and the proportion of the population that is harvested, as well as to monitor movements.

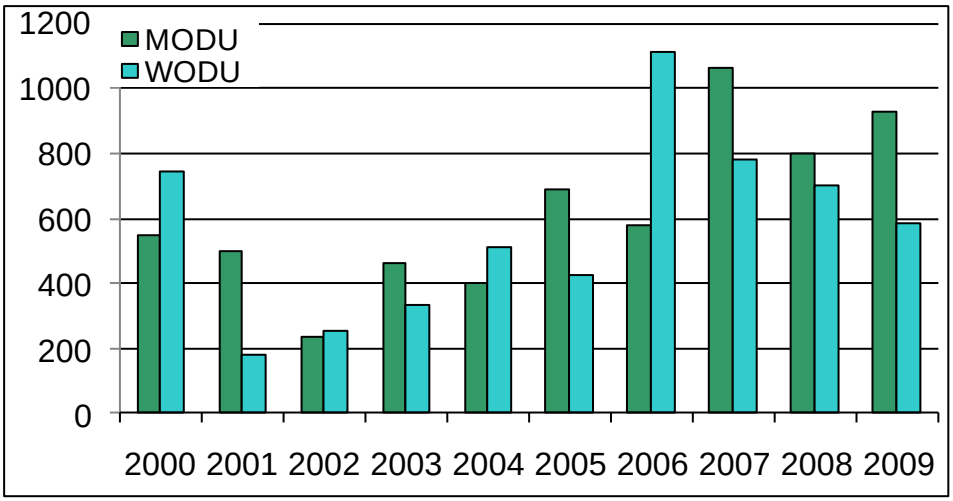

Figure 1. Numbers of Florida mottled ducks (MODU) and wood ducks (WODU) banded statewide by FWC staff, 2000-2009.

The March breeding population survey has been conducted since 1985 and FWC waterfowl biologists evaluated a new survey method during 2003-2009. The new method, point-transect sampling, replaced the original line-transect design. There are three important benefits of this new survey design as compared to the previous design. First, a point-transect method 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 are 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.

Survey results indicate that the mottled duck population continues to be relatively stable, however, what we continue to be unsure of is the proportion of mottled duck x mallard hybrids in the population. Without this key piece of information, population estimates will continue to be suspect, as changes in status or trends may be masked or even driven by hybrids. With our current resources, we have been able to fund the population survey, but have only made minor steps in developing techniques to identify hybrids. A short term (2-3 year) shift in priorities is needed so that we may focus on and fund efforts to develop techniques to identify hybrids and assess the proportion and distribution of hybrids in the population. During this time period, we will discontinue the annual survey (including the 2010 survey) so that we may use funds for hybridization work. We plan to resume the survey in March 2012, with a better handle on the impact hybrids may be having on our survey results.

Mottled Duck Conservation- During fiscal year 2009-10, we secured funding to initiate the third phase of a research project examining habitat use, survival, and movements of Florida mottled duck females in the Everglades Agricultural Area and adjacent urban/suburban areas. The project began in August 2008 and will continue into 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 pure mottled ducks, (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 2009-10, FWC biologists and researchers at the University of California Davis began collaboration to identify morphometric characteristics of mottled ducks that will distinguish them from mallards and mottled duck x mallard hybrids. Data were collected from museum specimens at Harvard's Museum of Comparative Zoology in Cambridge, MA and the National Museum of Natural History in Washington, DC. These data are currently being analyzed.

The results of these analyses should allow us to develop a key (i.e., field guide) to identify pure mottled ducks by plumage and structural characteristics. If successful, such a morphometric key could reduce the need for costly genetic sampling to identify pure mottled ducks. Similar techniques have recently been shown to be effective for the endangered Hawaiian duck (*Anas wyvilliana*).

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 2009-10, 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 fifth in hunters' bags and made up approximately 5% of the total duck harvest in Florida in 2009-10. The USFWS estimated that 8,515 wood ducks were harvested in Florida during the 2009-10 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 2009, WMP coordinated the banding of 585 wood ducks prior to the hunting season. Over the past 10 years, 5,646 wood ducks have been banded (Figure 1). 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 1,231 wood ducks and 7,695 teal in Florida during this special season in 2009. 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 and Delta 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 have 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 2009-10 hunting season totaled 173,900 birds. This is a 2% decrease from the 2008-09 season estimated harvest (177,100) and somewhat lower 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 the WMP participates in several 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 2009-10 fiscal year to evaluate numerous wetland habitat conservation projects. Entities included DU, the Natural Resource Conservation Service Wetlands Reserve Program, ACJV, Water Management Districts, the USFWS, and several local and county governmental offices. More than 40 projects, totaling over 100,000 acres were evaluated in the southern half of the peninsula (primarily in Brevard, Lake, Indian River, Hardee, Hendry, Palm Beach, 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 and (2) the use of triploid grass carp for aquatic plant management to improve fish and wildlife habitat. 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.

T. M. Goodwin Waterfowl Management Area. -- This 6,270-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).

Waterfowl hunting is permitted on the opening day of each phase and every Tuesday and Saturday during the established waterfowl season. The 2009/2010 season dates include the early teal/wood duck season (September 26 through 30, 2009), Phase One (November 21, 2009 through November 29, 2009), and Phase Two (December 12, 2009 through January 31, 2010) of the regular waterfowl season. A total of 1,919 hunters bagged 6,020 ducks (average 3.14 ducks/hunter), a management area record harvest. Blue-winged teal, ring-necked and black-bellied whistling ducks comprised the majority of species harvested. Additional species included green-winged teal, mottled ducks, fulvous whistling ducks, wood ducks, and Northern shovelers, among others. In addition to the regular season, a special youth waterfowl hunt was held on February 6 and 7, 2010. The special youth hunt included a variety of events targeted for youth hunters including overnight camping, hunter safety

instruction and catered meals provided by DU, UW-F, and the Brevard County Airboat Club. Snipe hunting is permitted on Tuesdays and Saturdays following the closure of the regular waterfowl season (excluding youth hunt) until the closure of the snipe season February 15th. This year, 3 days of snipe hunting was available in which 47 hunters bagged 135 snipe (average 2.87 snipe/hunter). Other public use activities included scouting/wildlife observing, birding, biking, hiking, and fishing.

Management Activities

Mechanical treatments for the managed impoundments include disking and roller chopping primarily during the dry season (March, April, May, and June); however, these activities may be implemented anytime during the growing season depending on water level regulation schedule. Disking and roller chopping are used to set back plant succession and maintain vegetation in an early succession stage (i.e., grasses and herbaceous plants). Disking is used to remove noxious and perennial vegetation and encourage the germination of moist soil annuals, whereas roller chopping, which is similar to mowing, is used to reduce the height of existing vegetation to create a greater interspersion of open water after flooding an impoundment. Over 1,224 acres were roller chopped and disked on the WMA during 2009. This includes 228 acres of disking (203 acres on Goodwin; 25 acres on Broadmoor) and 996 acres of roller chopping (496 acres on Goodwin; 500 acres on Broadmoor). Mechanical treatments conducted during the fall were aided by leasing a large, center articulating tractor to compliment existing equipment. Funding to lease this tractor was provided by FWC's Aquatic Habitat Restoration and Enhancement Subsection.

We continue to implement a para grass control program following a regime of herbicide spraying, prescribed burning, disking and deep flooding. In the past, treatment efforts have focused on the use of glyphosphate for controlling efforts; however, Weed Specialist researchers from the University of Florida/IFAS (UF) indicated that other herbicides may be more effective. In 2007, the Commission entered an agreement with UF to compare the affects of various application rates of glyphosate and imazapyr on controlling para grass. This study continued during 2009 and one additional impoundment (Goodwin impoundment 2) was included in the project study area. During fall 2009, researchers applied herbicide via FWC contracted helicopter applicator on 210 acres of test plots. UF researchers will continue to monitor test plots throughout 2010 and are expected to summarize results of the study by spring 2011.

In addition to herbicide research activities, Commission staff continued with their annual herbicide application program. This year, a total of 2,236 acres were treated on the WMA. This included helicopter application of 909 acres of para grass and 58 acres of water primrose in the lower Goodwin impoundments, and 402 acres of cattails, spatterdock, and floating vegetation (tussocks) in the Goodwin reservoir. Approximately 163 acres of para grass were treated utilizing a tractor mounted spray unit in the lower Goodwin impoundments. On the Broadmoor unit, 355 acres of para grass and 176 acres of water hyacinth were treated via helicopter application and 173 acres of para grass were treated via tractor mounted spray unit.

Maintenance Activities

In September 2009, the observation tower on the lower Goodwin unit was closed to

public access due to a lightening strike that damaged one of the main support pilings. Engineers and contractors made on-site observations of the damage and developed an acceptable structural repair plan. The work was completed in January 2010.

After terminating the cattle lease on the Goodwin unit in 2007, approximately 10-miles of barbed-wire fencing was left on three impoundments and the reservoir. After contacting the Department of Corrections in Cocoa, FL, we were able to schedule the use of inmate labor at no cost. Over several visits, a crew of 10-inmates was able to remove approximately 4-miles of fencing before the beginning of the regular hunt season. The remaining fencing is scheduled to be removed during 2010.

A variety of maintenance and remodeling upgrades were conducted for the main office complex which included new flooring, interior painting, and re-surfacing the interior office ceiling, purchase and installation of a diesel powered generator, and miscellaneous repairs to the pole barn.

Additional maintenance activities conducted throughout the WMA included minor levee repairs (e.g., filling in low sections, re-shaping and re-grading), maintaining parking areas, public use facilities, and management equipment, and mowing levees during the growing season.

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 all unfunded needs.

Table 1. Entities that received technical assistance from waterfowl personnel during fiscal year 2009-10.

Florida State Agencies

- Florida Fish and Wildlife Conservation Commission
  - Division of Habitat and Species Conservation
  - Division of Hunting and Game Management
  - 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
- Florida Department of Health
- 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, Polk and Leon counties
- City of Jacksonville's Preservation System

Universities

- University of Florida,
  - Institute of Food and Agricultural Services
  - Department of Wildlife Ecology and Conservation
  - School of Veterinary Medicine
- University of Iowa, College of Public Health

Table 1 (continued). Entities that received technical assistance from waterfowl personnel during fiscal year 2009-10.

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
Montalbano and Company – Consulting Biologists, LLC
St. Joe Land Development Company
Universal Orlando
CF Industries
Glatting Jackson Kercher Anglin, Inc.
Duda and Sons, Inc.

Citizens

(numerous)

Table 2. List of waterfowl management reports and publications, fiscal year 2009-10.

Bielefeld, R. R. 2009. 2009 mottled duck survey report. Unpublished report. Florida Fish and Wildlife Conservation Commission, Tallahassee, Florida, USA.

Bielefeld, R. R. 2009. Mottled ducks genetics update. Unpublished report. Florida Fish and Wildlife Conservation Commission. Tallahassee, Florida. USA.

Dugger, B. D. and J. C. Feddersen. 2009. Using river flow management to improve wetland habitat quality for waterfowl on the Mississippi River, USA. Wildfowl. 59:62-74.

Florida Fish and Wildlife Conservation Commission. 2008. A Final Project Report for Mottled Duck Production Area, 2002-2008. Unpublished report. Florida Fish and Wildlife Conservation Commission, Tallahassee, Florida, USA.

Florida Fish and Wildlife Conservation Commission. 2008. Waterfowl permit program -- 2007-08 annual report. Unpublished report. Florida Fish and Wildlife Conservation Commission, Tallahassee, Florida, USA.

McMunigal, J. M., and S. V. Rockwood. 2009. 2008 Annual Report for the T. M. Goodwin Waterfowl Management Area. Unpublished report. Florida Fish and Wildlife Conservation Commission, Tallahassee, Florida, USA.

Walker, B. and S. V. Rockwood. 2010. 2009 Annual Report for the T. M. Goodwin Waterfowl Management Area. Unpublished report. Florida Fish and Wildlife Conservation Commission, Tallahassee, Florida, USA.