Ivory-Billed Woodpecker
Accomplishments Report
2007

Introduction

On February 11, 2004, kayaker Gene Sparling caught a glimpse of a large woodpecker in the Cache River National Wildlife Refuge of Arkansas. The encounter spurred an extensive scientific search for additional proof that a species that many feared extinct was still living. The initial video captured by David Luneau remains controversial and debated in ornithological circles. However, additional brief sightings and recorded evidence from a region-wide search effort have indicated that the Ivory-billed Woodpecker may still exist in the Southeastern United States.

Under the leadership of the Secretary of Interior, the U.S. Fish and Wildlife Service, and numerous partners launched an ambitious recovery program to bring the Ivory-bill back from the brink of extinction. It was our responsibility to act upon the evidence, given the possibility of saving this iconic species.

Current conservation efforts have focused primarily on learning more about the status of the species, distribution and condition of habitat, as well as completing the Draft Recovery Plan. Restoration of bottomland hardwood habitats on public and private land and National Wildlife Refuge land acquisitions were completed as part of existing program direction. As additional information is gained concerning the location and biology of the Ivory-billed Woodpecker, the Fish and Wildlife Service will focus on bottomland habitat restoration, basic research efforts, analysis tools, and development of protective measures.

RECOVERY FUNDS (1113)

Recovery Plan, Team and Support of Recovery Actions

The Recovery Team Executive Committee, Biology and Habitat Working Groups, and the Steering Committee collaborated on a first draft of the Recovery Plan. This required cooperation of about 70 members. The Draft was published and public comment received. The peer review process was managed, under contract, by The Wildlife Society.

Communication, coordination, and collaboration are all key to this conservation effort. Biologists, foresters, managers, and administrators have contributed to these efforts. In 2007, $95,916 was obligated for staff support of recovery planning efforts and the peer review (attachment 1($77,916 + $18,000)).

Field and Regional Office Staff supported recovery actions by coordinating searches, analyzing technical information to develop outreach materials, developing partnerships, and providing field assistance. A total of $205,202 was expended on this ($58,482+ $146,720).

Search Teams

It is critically important to learn where birds are currently located and develop a clearer idea of the bird's status. Our partnerships with State resource agencies, conservation groups, and others have made a region-wide search possible. Focusing on bottomland hardwood ecosystems, these groups have covered a lot of ground under difficult conditions.

Arkansas: Cornell reports 6,033 hours of searches covering about 27,366 acres. A robotic camera, developed by UC Berkeley and Texas A&M University, was placed on Bayou DeView (power line right of way between Stab and PawPaw lakes). One million images from 79 reconyx camera deployments captured no potential IBWO images.

The official search team logged 24 (13 acoustic, 11 visual) possible encounters during the 5 month field season, none definitive. Six of these were reported by members of the public. This includes 2 visuals in Wattensaw Wildlife Management Area from Ross Everett, a duck hunter (December 31, 2006, March 25, 2007). Visual and acoustic encounters took place in both the Cache and White River National Wildlife Refuges as well.

Florida: Through a cooperative agreement with FWCC, a paid researcher and volunteers searched for the Ivory-billed Woodpecker (*Campephilus principalis*) in the Apalachicola and Chipola river basins from January through early June 2007. They covered 23 500 acre search patches during an effort of approximately 820 hours in the field using 33 volunteers. **There were no visual or audio detections of Ivory-billed Woodpeckers.**

The Auburn University Search Group spent five months of searching the forested wetlands along the Choctawhatchee River on the Florida panhandle. **On 7 occasions searchers saw what they identified as Ivory-billed Woodpeckers. On 47 occasions, searchers heard what they thought were kent calls or double knocks. Listening stations recorded 94 putative kent calls and 58 putative double knocks.** These encounters provide additional supporting information that Ivory-billed Woodpeckers persist in the forests along the Choctawhatchee River, but not definitive evidence for the woodpecker's existence.

On December 24, 2006, Tyler Hicks, an experienced birder, observed a female Ivory-billed Woodpecker perched on the trunk of a tree at a distance of 15 m. Hicks was able to clearly see a black crest, white dorsal stripes, an ivory-colored bill, a large area of white across the lower portion of the folded wings of the bird. Hicks was drawn to the bird by kent calls, and two other observers heard kent calls and double knocks in the same area just prior to this sighting.

South Carolina: TNC hired a full-time coordinator to organize and coordinate IBWO search activities in accordance with the SCIBWO Working Group. Searching began on December 7, 2006 and ended on May 13, 2007. The TNC Crew, Cornell Mobile Search Team, NPS, and volunteer searches logged 4190 hours covering Congaree National Park and public areas within the Wambaw Creek and the Pee Dee River system. No definitive encounter with an Ivory-billed Woodpecker was documented. A total of 1.3 million Reconyx images were recorded. Analysis to date has only provided images of non-target woodpeckers, raptors, ducks, and mammals. **Thirteen autonomous recording units were deployed recording one kent call and three double knocks that were plausible Ivory-billed Woodpecker.**

The majority of the search effort occurred in Congaree National Park based upon findings from the previous search. Thirty-one volunteers were utilized in search efforts at Congaree National Park. **A total of 15 participants reported 29 acoustic encounters consisting of kent calls or double knocks.** Six of these occurred on May 11, 2007. **One participant described a single brief visual encounter of a flying bird**—as a large black and white woodpecker (February 11, 2007).

Tennessee: Possible visual and auditory encounters in January 2006 on federal and private land led to research into the presence of IBWO in Tennessee. In addition, a follow up on records submitted to the Cornell IBWO sighting database has added great interest to two focal search areas in west Tennessee. TWRA personnel focused their search on Meeman-Shelby Forest State Park and Shelby Forest WMA abutting a heavily forested landscape and the Mississippi River. About 100 hours was spent in the field conducting transects, kayaking, and sitting, watching, and listening in areas of interest. **One possible single rap was heard by 2 observers.**

About 102 hours of additional effort were spent searching and cavity monitoring on the Hatchie River, the Lower Hatchie NWR, and Chickasaw NWR. One Reconyx camera was deployed for 13 days on private land, recording approximately 108,000 images. The crew surveyed 3560 acres of federal land transects, 2010 acres at Chickasaw NWR and 1550 acres at Lower Hatchie NWR. **Possible encounters include single and double raps heard on January 8th and 9th, 2007.**

Texas: Randomized patch surveys were completed in the Big Thicket National Preserve, Trinity River NWR, and the adjacent Wallisville Lake Project. **No encounters were recorded.**

Cornell Mobile Search Team: Total field effort was 469 person-days. A total distance of 2,218 miles was covered by canoe or on foot during daylight hours. The four main study areas were Congaree National Park, SC (177 person days), Choctawhatchee River, FL (62 person days), Atchafalaya Basin, LA (51 person days) and the Apalachicola River basin, FL (40 person days). Another 10 areas, including Ebenezer Creek—GA, Big Thicket—TX, Santee, Wateree, and PeeDee Rivers—SC, Pearl River—LA, Pascagoula River—MS, and the Appalachicola and Escambia Rivers—FL were searched consuming 3 to 36 person days each. No sightings of IBWO were made by the team, and no possible *kent* calls were heard. **There were two incidents of possible double knocks heard by team members, on April 6th and 10th in Congaree National Park.**

In Fiscal Year 2007 $668,264 was spent on cooperative search efforts.

Biological Planning

In Fiscal Year 2007 $169,227 was spent on Biological Planning.

Cooperators at the University of Georgia provided a survey design and field protocol for the Ivory-billed Woodpecker search effort that will: (1) allow estimation of occupancy, use, and detection probability for habitats at two spatial scales within the bird's former range, (2) assess relationships between occupancy, use, and habitat characteristics at those scales, (3) eventually allow the development of a population viability model that depends on patch occupancy instead of difficult-to-measure demographic parameters, and (4) be adaptive, allowing newly collected information to update the above models and search locations. The approach features random selection of patches to be searched from a sampling frame stratified and weighted by patch quality, and requires multiple visits per patch. It is adaptive within a season in that increased search

activity is allowed in and around locations of strong visual and/or aural evidence and adaptive among seasons in that habitat associations allow modification of stratum weights. This statistically rigorous approach is an improvement over simply visiting the "best" habitat in an *ad hoc* fashion because we can learn from prior effort and modify the search accordingly. Results from the 2006-07 search season indicated weak relationships between occupancy and habitat and a very low detection probability.

One significant obstacle to the recovery of Ivory-billed Woodpeckers is the lack of information about this species' biology and ecology. Arkansas State University is studying other large woodpeckers in bottomland hardwood forests in the southeastern U.S. may significantly help in understanding ivorybills. Using Pileated Woodpeckers as a model species *preliminary* data suggest that certain characteristics of nest trees, cavity trees, and forage trees selected by large woodpeckers were different between the lower and higher bottomland habitats. In addition, nesting, roosting, and foraging locations were documented for radio-marked and unmarked individuals. Adult Pileateds exhibited smaller home-ranges than reported in the literature, suggesting high-quality habitats. Four of 13 radio-marked individuals were depredated in the lower bottomland habitat, perhaps suggesting dispersal or mate searching could be very dangerous in this environment.

Recovery Activities

The National Wildlife Refuges in Arkansas have focused on planning and management that will enhance the survival and recovery of the Ivory-billed Woodpecker in addition to search effort coordination and educational outreach.

The Tensas National Wildlife Refuge in Louisiana obligated $15,954 to develop a portable, interactive History Display about 1935 Cornell Expedition to educate refuge neighbors and local communities about the Ivory-billed Woodpeckers once found and studied there.

Approximately $36,596 was used for these activities.

ACCOMPLISHMENTS SUPPORTED BY OTHER FUNDS

The Lower Mississippi Valley Joint Venture Office played an important role in developing projects and partnerships to accomplish key components of Ivory-billed Woodpecker conservation. Their work is a model of collaborative development and use of technology, engaging many diverse partners. Habitat Characterization projects continue, by Mapping the Potential Natural Vegetation of the Tensas Basin and Mississippi River in Northeastern Louisiana. This expands the series of projects conducted in Arkansas over the past 5 years to construct Potential Natural Vegetation (PNV) maps at a level of detail appropriate for the planning and design of lowland forest restoration efforts. The Lower Mississippi Valley Joint Venture office (LMVJV) and other partners have recognized the utility of the PNV maps for planning habitat restoration in the region, and specifically for restoration of potential Ivory-billed Woodpecker habitat. The Arkansas Delta maps cover the core of the region of interest for this purpose, but additional potential habitat lies outside of Arkansas, particularly in Louisiana and Mississippi. The mapped community types are classified according to hydrogeomorphic (HGM) criteria, based on geomorphic setting, water source, and water dynamics. This basic classification approach allows application of the existing Arkansas Delta HGM guidebook to mitigation and restoration planning; identifies the same hydrologic and geomorphic features and characteristics that influence plant community distribution and characteristics; and these data can be generated as spatial information that can be used in the context of a Geographic Information System (GIS) to produce maps. This approach also relies on soils as modifiers of the basic hydrogeomorphic data to establish criteria that produce maps with a sufficient level of detail to support restoration planning and design. The classification system, community characterization, and mapping criteria are developed based primarily on field evaluations of the plant communities on particular combinations of geomorphic setting, hydrology, and soils. Participants include the U.S. Army Corps of Engineers Engineer Research and Development Center (ERDC), and 5-Oaks Wildlife Services of DeWitt, Arkansas.

Additional Projects underway include Decision Support Modeling, Web-enabled Forest Management database, Historic Habitat Analysis, Remote-Sensing Habitat evaluation, Woodpecker Density/Forest Structure and Composition Assessment, Woodboring Beetle Study, Ecological Dynamics of Tree Mortality and Forest Regeneration. Partners included Ducks Unlimited, Louisiana State University, Colorado State University, University of Georgia, University of Maryland, University of Arkansas, USDA Forest Service, Southern Forest Experiment Station and Rocky Mountain Research Station, US Geological Survey, and the National Wetlands Research Center.

Planning efforts for an Ivory-billed Woodpecker Science Conference were started in 2007. This 2008 Conference will bring together the scientists in the listed ongoing studies to share information needed to complete the recovery plan and guide additional management.

In Fiscal Year 2007 approximately $406,000 in Migratory Bird Funding was obligated for these efforts.

CONSERVATION PARTNERSHIPS

State Search Teams gathered in Atlanta, Georgia, in July to report results from the region-wide surveys. The teams consist of natural resource organizations, non-government partners, and universities from Texas to Florida and north to Canada. Their remarkable dedication and professionalism confirms the importance of the search. Their ongoing partnership with the Fish and Wildlife Service is essential to any recovery effort.

State Search Group Reports from South Carolina, Texas, Florida—FWCC, Auburn (Professor Geoff Hill's group), Arkansas, Louisiana, and Tennessee were presented. Mississippi and Illinois are just starting searches. FWS presented analyses of evidence and historic sightings.
Cornell Laboratory of Ornithology provided updates on their coordination, the Mobile Search Team, and Equipment Loan Program (Reconyx Cameras, Autonomic Recording Units).

The group discussed audio recordings, sightings, and accumulated evidence from organized searches and public reports. Preliminary results from a key feature of this year's search effort, development of an occupancy model, were presented. Developed in partnership with University of Georgia, it allows some prediction of where to search as well as potentially (with more occurrence data), some habitat relationships information. It is based on multiple site visits and vegetation sampling in randomized search patches. While the definitive confirmation photograph or video was not obtained in this search season, several encounters were documented and multiple recordings are still viewed as very interesting.

A $30,000 Challenge Cost Share Project was initiated between the White River National Wildlife Refuge, Anderson-Tully Worldwide, Arkansas Game and Fish Commission, Delta National Forest, Dahomey National Wildlife Refuge, and the Mississippi Department of Corrections to study Rates of Beetle attack and larval establishment. This study aims at addressing questions concerning Ivory-billed Woodpecker food resources.

Private Stewardship Grant Program

Partnerships with The Nature Conservancy, Mississippi River Trust, and the Audubon Society are underway to restore over 2,500 acres of habitat on private lands in Arkansas, including reforestation of bottomland hardwoods, and foraging habitat enhancement. These projects are being accomplished with $800,000 in 2005 funds. The projects were awarded funding in FY 2006 following the FY 2005 commitment of support following the announcement of rediscovery in Arkansas.

Restoration of Benson Creek ($380,950) Project Status: Ongoing. The Nature Conservancy of Arkansas is working to restore 440 acres of agricultural field to native bottomland hardwood wetland habitat for the Ivory-billed woodpecker and other targeted species. The project involves the hydrological restoration of approximately 9,000 linear feet in the Benson Creek Watershed to its natural flow regime. The project is expected to be completed in late fall 2008. Pictures of accomplishments to date may be seen at the following website: http://streamrestoration.typepad.com/bensonslashcreek/.

IBW Recovery Initiative ($100,000) Project Status: Ongoing. The Mississippi River Trust is working with a number of partners to restore, through reforestation 900 acres and strive to combine it with a carbon sequestration program, and to enhance 1,100 acres of habitat by injecting Arsenal in primarily sweet gum and sugarberry to increase food supply for the Ivory-billed woodpecker. Project completion expected in 2009.

PSGP to Benefit IBW ($247,781) Project Status: Ongoing. Audubon Arkansas is working with private landowners to undertake restoration activities to improve habitat for the Ivory-billed woodpecker. The project involves reforestation of cleared and degraded sites and forest habitat improvement on 800-1300 acres. Activities include bottomland hardwood tree planting, prescribed burning, thinning, and exotic species control within 35 miles of where the bird was originally seen. To date, 250 acres have been enrolled in the Wetlands Reserve Program with 100 acres pending. Bottomland hardwood reforestation is expected to occur on an additional 270 acres in February, 2008. Project completion is not expected until 2010.

Enhancement of Foraging Habitat ($71,269) Project Status: Ongoing. The Nature Conservancy of Arkansas is working in collaboration with five private landowners to enhance 350 acres of foraging habitat for the Ivory billed woodpecker. They have met with landowners, developed habitat management agreements with three of the landowners, have developed site specific foraging enhancement plans for four sites, identified three treatment sites, implemented girdling and herbicide injection, developed prescribed burn plans, and are providing technical assistance to two additional private landowners. Baseline biological data as well as monitoring data has been collected at all treatment sites so the different treatment strategies can be assessed to ultimately assist management. The project is expected to be completed in early fall 2008.

In 2007 the Black Bear Conservation Committee was awarded $82,211 by the Private Stewardship Grant Program grant to increase size and connectivity of bottomland hardwood forest patches for the Louisiana black bear and thereby aid in the restoration of 404 acres. This ongoing project is also expected to have long term benefits for the Ivory-billed woodpecker.

Partners for Fish and Wildlife Program

Focused on wetlands restoration, twenty three projects totaling approximately 1383 acres in Arkansas and Louisiana are underway in Fiscal Year 2007. The Fish and Wildlife Service has committed $86,312 matched by partner contributions of $55,781to these projects. They will improve and increase habitat for many species including the Ivory-billed Woodpecker. During Fiscal Years 2005-2006, $1,000,790 was committed to this effort with 2,709 acres of bottomland forest habitat restoration completed in 2007.

Habitat Conservation Planning Grant Program

Since the rediscovery of the Ivory-billed Woodpecker local interests in eastern Arkansas have been concerned that their traditional economic activities; such as farming, hunting, fishing, and forestry might be disrupted. The Big Woods of Arkansas Habitat Conservation Plan will allow the continuation of these activities and promote the recovery of the Ivory-billed Woodpecker and five other endangered species. In 2005, The State of Arkansas received a $250,250 grant and was successful in competing for a second year in 2006 and third year in 2007. They received $231,250 each of those years. This funding supports a collaborative process for habitat conservation and future decision-making for the Big Woods.

Progress to date includes identifying and prioritizing important habitats for each of the listed species, including the Ivory-billed Woodpecker, in order to increase protection and restoration as well as to reduce forest fragmentation. Public outreach has improved cooperative efforts between private landowners and conservation groups to better protect federally listed species in the Big Woods. Five meetings of the Corridor of Hope have communicated on-going Ivory-billed Woodpecker conservation efforts to its members, which include a wide spectrum of interests such as private citizens; elected federal, state, county, and city officials; local business men and women; and representatives of non-governmental organizations, chambers of commerce, newspapers, and state and federal agencies. The Steering and Technical Committees were formed and are functional. The Nature Conservancy developed a questionnaire on local attitudes toward endangered species conservation and distributed it to stakeholders. Thirty-three completed questionnaires have been received and a brief report will be prepared summarizing the results. A report summarizing the impacts of existing land use on endangered species has been prepared and is under review by the Steering Committee.

Additional Arkansas Efforts

The Big Woods Conservation Partnership is working to restore 200,000 acres in the next 10 years. Brochures, maps, and interpretive displays have been created and distributed by the Service, State partners and other cooperators to improve the public's knowledge and appreciation of the species. The Arkansas Game and Fish Commission has begun development of a Conservation Easement Program for Bottomland Hardwood Restoration.

Land Acquisition

In 2007, 750 acres were added to the Cache River National Wildlife Refuge. This purchase benefits waterfowl and a host of other species as well as reducing fragmentation by enlarging blocks of bottomland hardwood and providing corridors between areas of suitable habitat. Migratory Bird Conservation Funds ($641,335) and Land and Water Conservation Funds ($909,466) were used to purchase these acres.