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Authors

Mittiga, Mary
Sharpe, Vicki

Publication Date

2005-08-29



Poster Presentations

THE AFTERMATH OF HURRICANE IVAN: RECONSTRUCTING ROADWAYS WHILE RECOVERING SPECIES

Mary Mittiga (Phone: 850-769-0552, Email: mary_mittiga@fws.gov), Ecologist, U.S. Fish and Wildlife Service, 1601 Balboa Avenue, Panama City, FL 32405, Fax: 850-763-2177

Vicki Sharpe (Phone: 850-414-5326, Email: vicki.sharpe@dot.state.fl.us), State Transportation Ecologist, Central Environmental Management Office, Florida Department of Transportation, 605 Suwannee Street, M.S. 37, Tallahassee, FL 32399-0450, Fax: 850-414-4443

Abstract

Reconstructing roadways following Hurricane Ivan presented both challenges and opportunities for protected-species recovery. A major challenge was balancing the desire for rapid restoration of major transportation linkages with the regulatory need to minimize harm to rare coastal species. Animals like the Perdido Key beach mouse (PKBM) were already severely impacted by the storm and additional losses could have affected their continued survival. Lessons learned from Ivan will assist state and federal transportation agencies, state resource agencies, the Federal Emergency Management Agency (FEMA), and the U.S. Fish and Wildlife Service (FWS) in responding to future natural disasters.

Hurricane Ivan made landfall as a Category 3 storm on September 16, 2004, passing between the cities of Mobile, Alabama and Pensacola, Florida with the eye located just west of the Alabama-Florida line. Storm surge, winds, and waves resulted in heavy damage to many miles of coastal roadway, major bridges, numerous residential and commercial structures, state and federal park facilities, and coastal habitat for federally protected species. Winds were in excess of 111 mph. The tidal surge was 12-14 feet, with a peak wave height of 53 feet. Erosion occurred inland for up to 200 feet. Road damage in Florida included the collapse of a portion of the I-10 bridge, damage to bridge approaches, and extensive pavement destruction on SR 292, SR 399, and US 98 in Santa Rosa and Escambia counties. Some of the protected species and their critical habitat that occur in the area include the Gulf sturgeon, PKBM, piping plover, and nesting beaches for sea turtles.

Road repairs began after the storm using Endangered Species Act (Act) Emergency Consultation Procedures. Recognizing that emergency road work could affect remaining beach mouse habitat, the FWS and Florida Fish and Wildlife Conservation Commission (FWC) distributed road-repair guidance for county, state, and federal transportation agencies. After initial contact by the Florida Department of Transportation (FDOT) for specific projects, the FWS provided recommendations to minimize effects on listed species or their critical habitat. In situations where listed species or critical habitat may have been adversely affected by the emergency response, formal consultation takes place after the emergency work is completed. Normal consultation procedures on repair work began once the emergency situation was past. In preparation for future emergencies, guidance on Emergency Consultation Procedures is provided on the FDOT Central Environmental Management Office's website at: <http://dot.state.fl.us/emo/> as well as the FDOT's Permitting Handbook.

The framework of Florida's new Efficient Transportation Decisions Making (ETDM) process assists in providing a rapid response to emergencies. ETDM designates specific personnel within the natural resource agencies to coordinate transportation-project review. Having a central point of contact prevents time lost in determining consultation responsibility.

Emergency restoration funds received by counties, state agencies, the Federal Highway Administration (FHWA), and FWS have greatly assisted in hurricane and endangered-species recovery efforts. State park facilities at Perdido Key and Big Lagoon are being rebuilt as an interagency cooperative effort between the Florida State Parks, FHWA, and FDOT. Roads are being repaired or replaced as needed. Sea oats and other dune vegetation are being planted to re-establish dunes, providing both improved habitat and protection from future storms. New fencing along park boundaries will help control parking and direct visitor access, preventing the continual "wear and tear" on dunes by pedestrian traffic. Control of predators attracted by storm-debris piles is also underway.

In states prone to fire, flood, hurricanes, and other catastrophic events, it helps to have a plan in place before a natural disaster strikes! Resource agencies should have a central point of contact for transportation projects, which often require coordinating multi-species and multi-county concerns. Rapid completion of damage assessments by state and federal biologists is needed to acquire the emergency funds critical for restoring habitat after a natural disaster. Finally,

a willingness to cooperate between agencies is essential to achieving multi-agency goals in emergency situations. The experience of Hurricane Ivan demonstrates that crucial transportation systems can be restored rapidly while incorporating measures to protect our invaluable natural resources.

Biographical Sketch: Mary Mittiga is an ecologist and has worked since 1998 with the U.S. Fish and Wildlife Service in Panama City, Florida. Her current position as transportation liaison is dedicated to review of transportation projects and policies, including NEPA review, ESA consultations, streamlining initiatives such as ETDM, regional-conservation planning, and Clean Water Act Section 404 review. Mary holds a bachelor's degree in biology from the College of Wooster in Wooster, Ohio and a master's degree in environmental engineering from Florida State University, Tallahassee, Florida.

Vicki Sharpe currently works in the Central Environmental Management Office of the Florida Department of Transportation (FDOT) as the State Transportation Ecologist. Since 1989, she has been employed by state government agencies in Florida to manage environmental programs involving a broad range of ecological issues related to phosphate mining, surface-transportation planning, and large-scale development projects. She has more than 10 years of emergency-management experience serving various functions in response to hurricanes and other natural disasters. Vicki manages the statewide wildlife and ecology programs for FDOT. Her primary interests include wildlife and fish-habitat initiatives, habitat connectivity, landscape ecology, long-term regional conservation planning, and overall natural-resources and ecosystems management. She is also the Project Manager for environmental-research projects funded by the agency pertaining to wildlife and habitat research.