



United States Department of the Interior

FISH AND WILDLIFE SERVICE
South Florida Ecological Services Office
1339 20th Street
Vero Beach, Florida 32960



October 4, 2012

Memorandum

To: Anne Morkill, Refuge Manager, Key Deer National Wildlife Refuge

From: *for* Larry Williams, Field Supervisor, South Florida Ecological Services Office
Neusaund Witsch

Subject: Integrated Pest Management Plan for the Florida Keys National Wildlife Refuges Complex

This memo serves as a revised version of the memo dated August 22, 2012, sent with your Intra-Service section 7 consultation concurrence for the Integrated Pest Management Plan (IPMP) for the Florida Keys National Wildlife Refuges Complex. The IPMP includes a range of non-lethal and lethal methods for controlling exotic species that prey upon or compete with native species. Specifically, the Intra-Service section 7 consultation address potential affects to the key deer (*Odocoileus virginianus clavium*), lower keys marsh rabbit (*Sylvilagus palustris hefneri*), silver rice rat (*Oryzomys palustris natator*), Key Largo woodrat (*Neotoma floridana smalli*), Key Largo cotton mouse (*Peromyscus gossypinus allaptilicola*), piping plover- (*Charadrius melodus*), roseate tern (*Sterna dougallii dougallii*), red knot (*Calidris canutus rufa*), American crocodile (*Crocodylus acutus*), Eastern indigo snake (*Dymarchon corais couperi*), green sea turtle (*Chelonia mydas*), hawksbill sea turtle (*Eretmochelys imbricate*), loggerhead sea turtle (*Caretta caretta*), Schaus swallowtail butterfly (*Heracles aristodemus ponceanus*), Miami blue butterfly (*Cyclargus thomasi bethunebaker*), Bartram's scrub hairstreak butterfly (*Strymon acis bartrami*), Florida leafwing butterfly (*Anaea troglodyta floralis*), and the Stock Island tree snail (*Orthalicus reses* (not including *nesodryas*) on lands managed by the U.S. Fish and Wildlife Service (Service).

Concurrence with your determination of not likely to adversely affect (NA) for the species listed above, is based on several factors listed in the IPMP. Concurrence for the key deer, piping plover, roseate tern, and red knot was based primarily on the fact the control measures will not trap, entangle, snare, or otherwise directly harm these four species. Traps will occasionally be placed within occupied habitat for these species; however, any species present in areas where traps are set or checked, may incur a brief period of disturbance to feeding or sheltering during checking of track plots/trapping activities. Any such effects are expected to be insignificant or discountable.

We concurred with your determination of NA for the lower keys marsh rabbit, silver rice rat, Key Largo cotton mouse, Key Largo woodrat, and Eastern indigo snake based on the trapping techniques proposed. Traps will be set at dusk and closed each morning, reducing exposure of trapped animals to adverse diurnal weather conditions (e.g., solar heat, humidity). Any non-



targeted species that are inadvertently captured will be immediately released alive at the trap site. This method is the same as conservation measures used in similar projects and has proven to be effective in avoiding and minimizing adverse effects to the species. As such, any of these five species present in areas where traps are set or checked may incur a brief period of disturbance to feeding or sheltering during checking of track plots/trapping activities, but any such effects are expected to be insignificant or discountable.

The concurrence for the American crocodile, green sea turtle, hawksbill sea turtle, and loggerhead sea turtle is based on the fact the control measures will not trap, entangle, snare, or otherwise directly harm these four species. Efforts to control raccoons on Crocodile Lake NWR may benefit the American crocodile by reducing predation on nests and destroying eggs. Strategies for controlling green iguanas on offshore islands in the Key West NWR may benefit the sea turtle species by reducing competition for limited nesting substrate. Intensive monitoring and marking of turtle nests should avoid incidental damage or disturbance to turtle nests from removal of iguana nests.

Concurrence with your determination of NA for the Schaus swallowtail butterfly, Miami blue butterfly, Florida leafwing butterfly, Bartram's scrub hairstreak butterfly, and Stock Island tree snail is based on the fact the control measures will not trap, entangle, snare, or otherwise directly harm these five species. Additionally, the control for fire ants will be through the use of a Service-approved insecticide. The use of insecticides will be targeted to known exotic ant colonies and will not be broadcast applied.

The proposed control of all the pests listed in the IPMP will result in a net benefit to all the Threatened and Endangered species addressed in this Intra-Service Section 7, as it will reduce or eliminate direct predation on individuals, eggs and/or larvae, and reduce competition for limited nesting substrate and foraging.

If you have any questions, please contact Brian Powell of our office, at 772-469-4315.

cc: electronic only
Service, Atlanta, Georgia (Holly T. Gaboriault)