



Natural Resource Assessment of Wake Island After Feral Cat Eradication and Super Typhoon Ioke

07-371

Background:

Efforts to eradicate feral cats from Wake Island Air Station were completed in 2005 knowing a few nonbreeding cats remained on the island. Two years later, on Aug. 31, 2006, Wake Island was struck by Super Typhoon Ioke. Winds over 130 mph knots damaged many structures and broke many trees. An initial forecast that a 50-foot storm surge from the typhoon would submerge the entire island did not materialize. Damage to the island infrastructure was significant and the island was operating at a reduced level.



Super typhoon Ioke drove high surf onto Wake Island, tipping a historic pillbox from World War II. Photo by Mark Rauzon

Objective:

Following up on our multi-year program to eradicate feral cats from Wake Island, we re-visited Wake Island from May 28 to June 7, 2007 to monitor changes to the cat, rat and bird life populations, and assess damage to vegetation and shorelines from the recent super typhoon.

Summary of Approach:

During our summer visit to Wake, we determined that a few cats survived. As we tried to learn more about them, we visited the entire island, noting changes to shorelines and vegetation, as well as to the wildlife. We attempted to capture the last cats and test if a novel rodent bait station excludes hermit crabs.

Benefit:

Our work allows DoD to comply with the Presidential Executive Order 13112 requiring each federal agency to prevent, detect and respond to the introduction of invasive species; and to monitor and control invasive species and provide for restoration of native species and habitat. USAF managers can also plan for a rat eradication based on our groundwork and augment their Integrated Natural Resources Management Plan with our data. Perhaps the best benefit is a lasting legacy of increased avian

biodiversity and populations in one of the most remote parts of the Pacific.

Accomplishments:

We found that the natural island resources were quickly recovering from the typhoon and from years of cat predation. We also found two feral cats and two pet neutered cats, but no kittens were detected. To help reduce the adverse impacts of rats, 300 newly designed bait stations that exclude hermit crabs were developed and delivered to Wake Island. These may be used for a future rodent eradication program.

The bird colonies that had developed since cats were removed continue to thrive despite some typhoon damage. White Terns and Black Noddies appeared to benefit from the storm damage. White Terns used broken snags to nest on and noddies nested on remaining tree limbs. Shearwaters, terns, tropicbirds, frigatebirds and boobies have essentially recovered from decades of harassment and have returned to pre-World War II population levels. We have laid the groundwork for rat eradication and for the possible introduction of the endangered Guam Rail to act as a surrogate species for the Wake Rail that went extinct in World War II.



A White Tern cradles an egg laid on a branch broken by the typhoon. The nest is at about eye level, evidence of no cat predation. Photo by Mark Rauzon

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