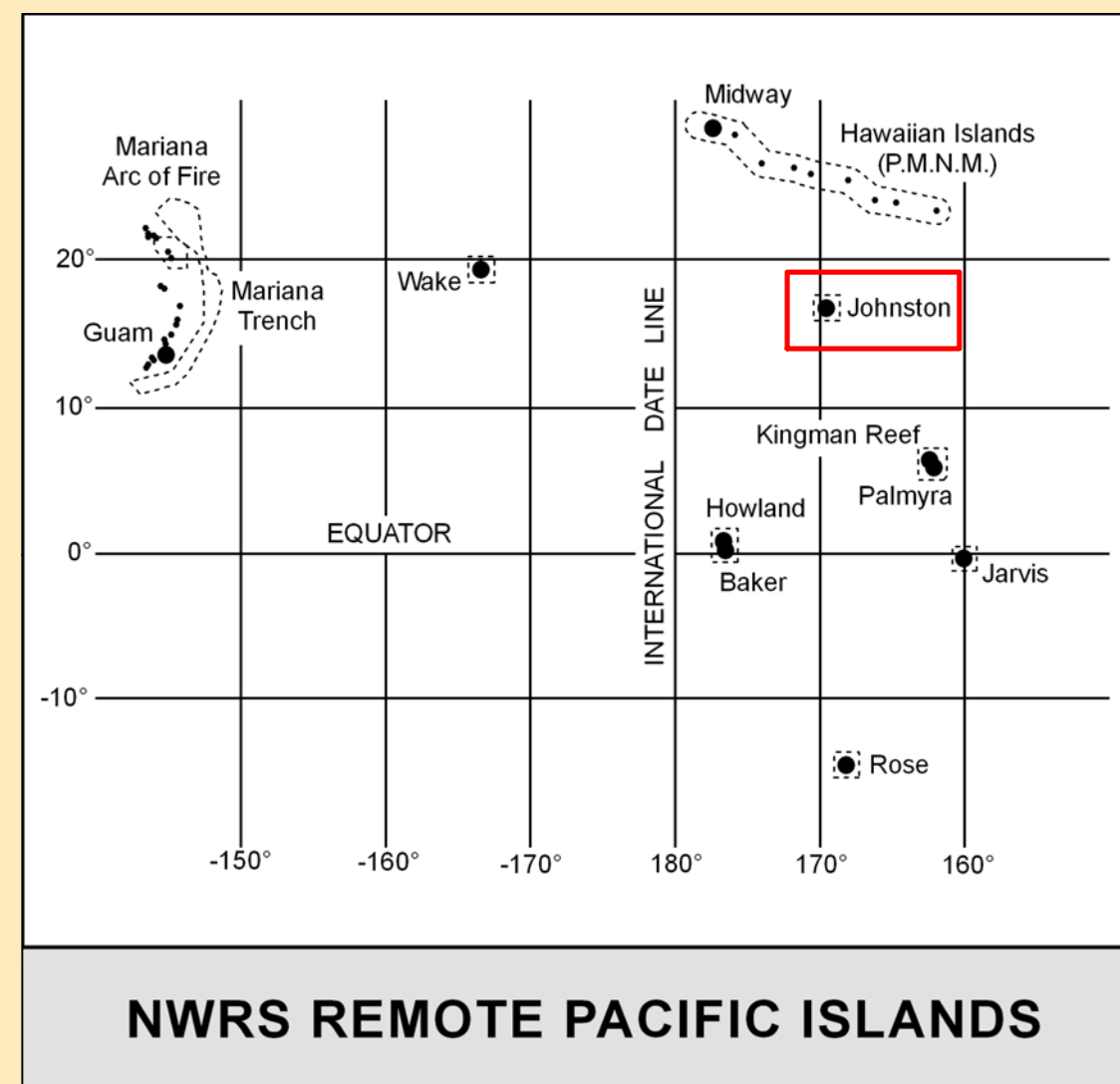
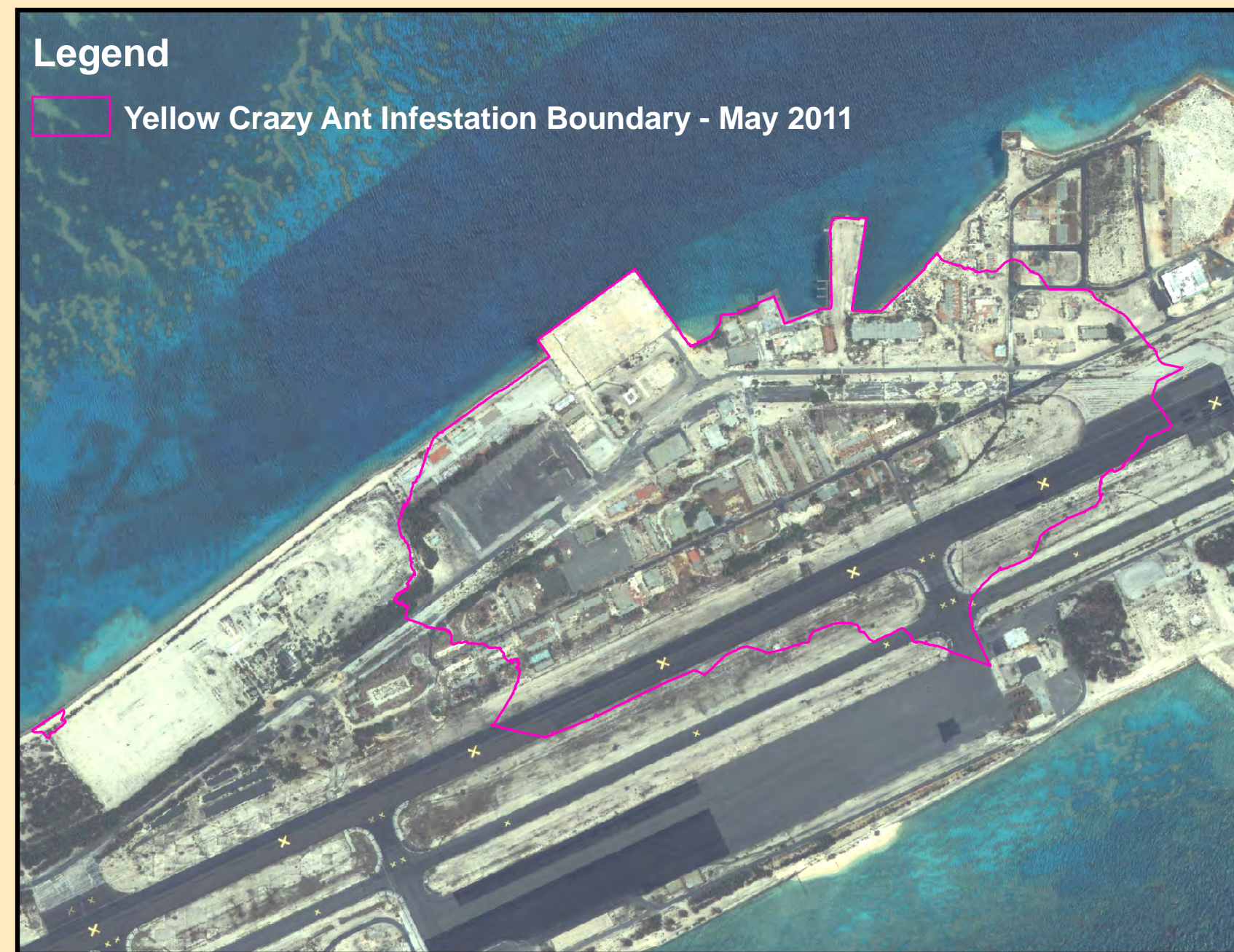


The yellow crazy ant infestation boundary is approximately 120 acres and seems to be isolated to Johnston Island. Field surveys performed September 2010 and May 2011, confirmed there are no yellow crazy ants on the outer islands within the atoll. These outer islands (North, East, and Sand Islands) have been surveyed each time the strike team is exchanged for new crew and will be monitored as this project continues.



The recent introduction of yellow crazy ants (*Anoplolepis gracilipes*), named for their erratic behavior when disturbed, to Johnston Atoll National Wildlife Refuge threatens the only available breeding habitat for 14 species of seabirds found in a 750,000 square mile ocean area. Since August 2010, Johnston Atoll has been a focus of attempts to improve our understanding of yellow crazy ant ecology and its impacts on wildlife while developing effective eradication techniques.

Since August 2010, staff and volunteers have been using standardized surveys and GIS tools to monitor the extent and severity of the infestation on a regular basis. The GIS tools used in the field include Trimble GeoExplorer units used for navigation to and collection of various types of information from the sample plots. ArcGIS software is then used to create and map the sample plots giving the team a better understanding of the results from the various sampling strategies. Standardized surveys are being used to examine the seasonal behavior of the ant population and its response to bait treatments. Bait treatment strategies were developed after extensive literature reviews, expert consultations and pilot studies on the island of Oahu. Based on the collection of these information resources two promising bait techniques were selected for application on Johnston Atoll. So far, review of the results found that both techniques failed to adequately reduce the population when applied in the field.

Additional research studies were developed to investigate the observed variations in ant response between the pilot and field sites to better direct future management actions. A series of trials examined the relative palatability of five commercial baits and experimental treatment plots and used to measure the efficacy of the three best baits. The results of palatability trials within the infestation were in agreement with those of the initial pilot studies in identifying which baits attracted more ants. However, the results from the experimental treatment plots indicated that application methods and pesticide type may need to be adjusted to the specific conditions found on Johnston.

Poster Organizers:
Kendra Maty, GIS and GPS Support, USFWS-R1- Regional Office (kendra_maty@fws.gov)
Lee Ann Woodward, Project Manager, USFWS-Pacific Reefs NWRC (lee_ann_woodward@fws.gov)
Stefan Kropidowski, Crazy Ant Strike Team Leader, USFWS-Pacific Reefs NWRC (stefan_kropidowski@fws.gov)

Poster Date: July 2011

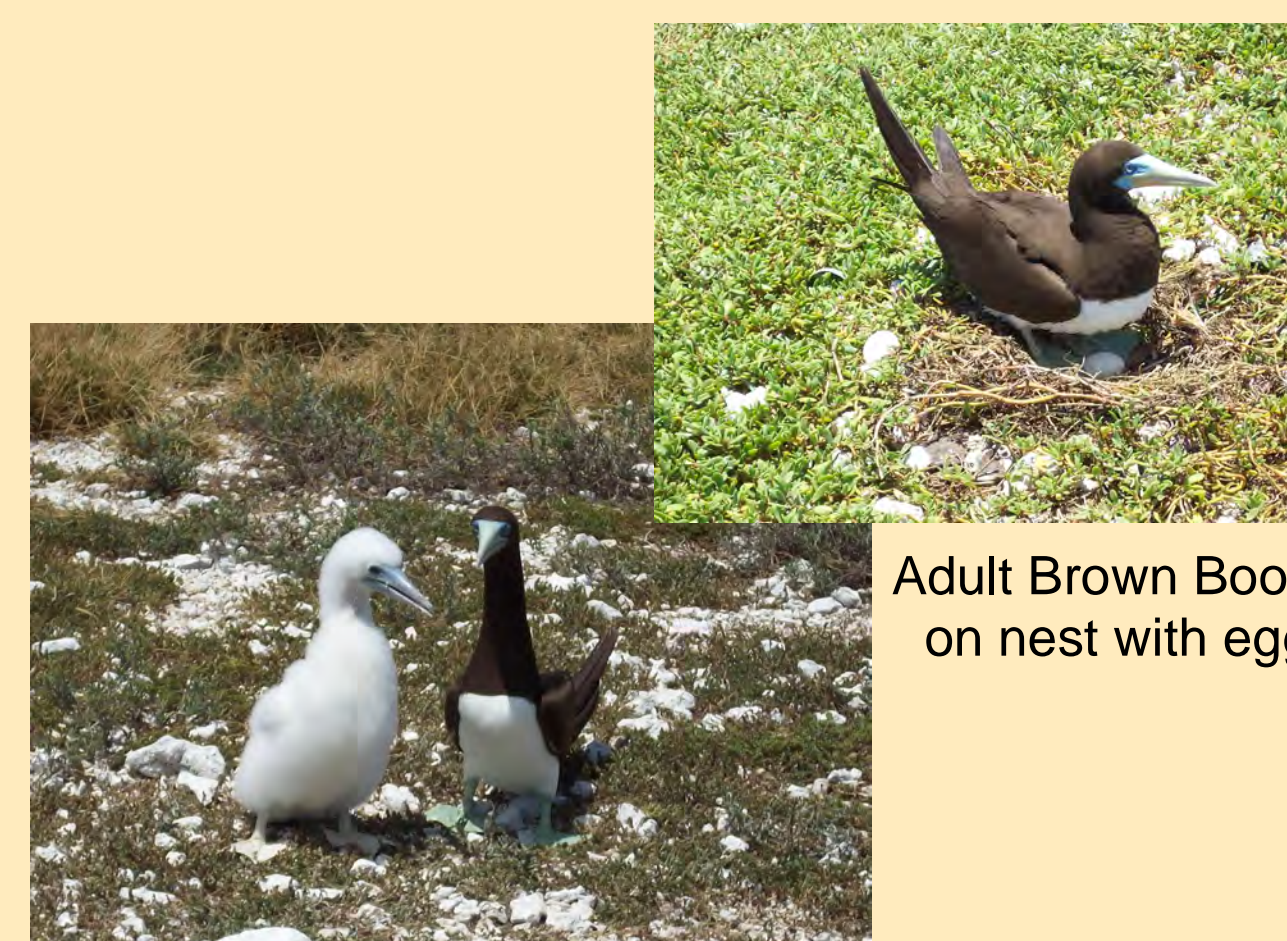
Examples of Seabirds Threatened by Yellow Crazy Ants



Ground nesting Sooty Terns and a juvenile Red-footed Booby (foreground)



Red-tailed Tropicbird adult (right) and chick (left)



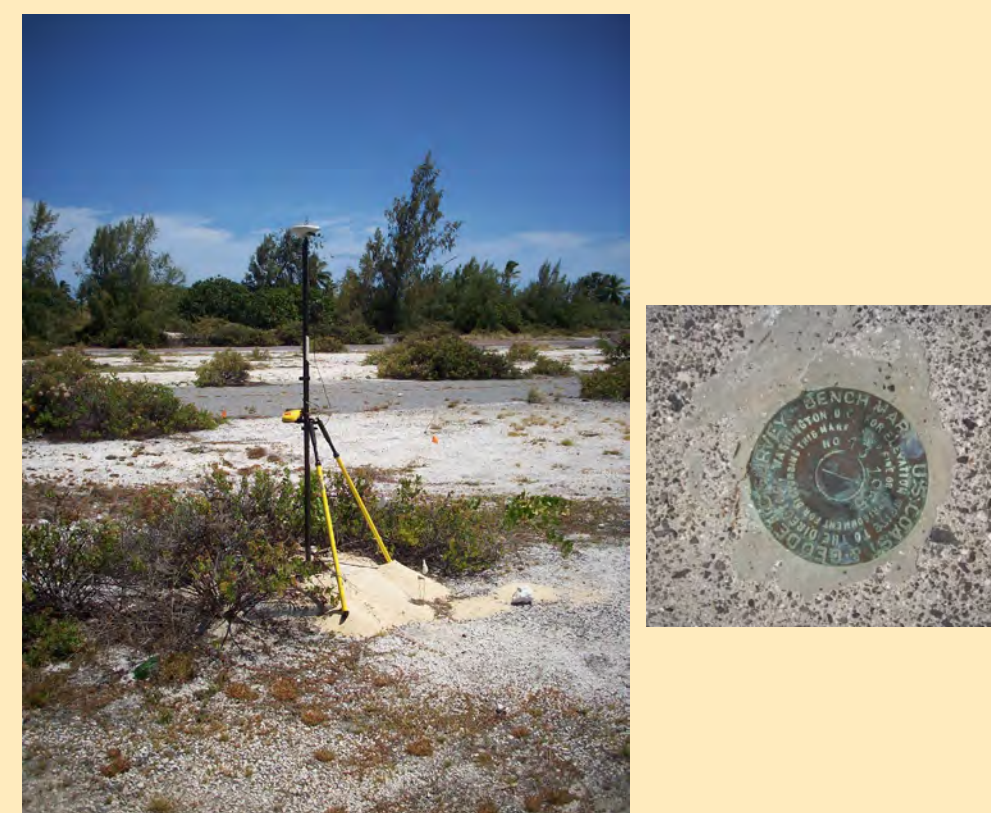
Brown Booby adult (right) and chick (left)



Ground nesting Brown Noddies and Sooty Terns



Red-tailed Tropicbird invaded by yellow crazy ants. The birds eye is swollen likely due to a reaction from the ants release of formic acid. Longterm effects could include blindness or starvation due to inability to fly to sea to forage.



Left photo: Base station used for post processing of GPS field data. Right photo: Geodetic Survey Bench Mark used as known location to set up base station.



Yellow crazy ants (*Anoplolepis gracilipes*), named for their erratic behavior when disturbed.



Crew preparing for field work. (from left: Meg, Lee Ann, Sheldon, Sky, Kendra)



Additional studies being set up to help better direct future management actions. (from left: Kelsie, David, Sheldon, Cynthia)