



DDT Contamination of Migrating Birds Using White-Faced Ibis as an Indicator Species

03-1875

Background:

The White-Faced Ibis (*Plegadis chihi*) is a migratory bird with its habitat in wetlands and irrigated croplands. Much of the White-Faced Ibis nesting grounds are located on or near Naval Air Station Fallon (NASF), Nevada with its wintering areas in California and Mexico. These long-legged, wading birds are highly social colonial nesters that feed mostly on invertebrates. Concern for this species regarding pesticide vulnerability and limited habitat has put them on the US Fish and Wildlife Service (USFWS) list as a species of management concern. DDE/DDT chemicals are ingested by the birds resulting in deleterious impacts. The shells of their eggs have shown a decrease of 18.3% thickness and the level of DDE/DDT in their blood is greater than 4ppm. The sources of these chemicals must be managed to reverse the chemical induced eggshell thinning and thereby help conserve and protect the White-Faced Ibis and their habitat.

Objective:

Past research has indicated that White-Faced Ibis are not subjected to the chemicals DDE/DDT in their nesting grounds in Nevada. The goal of this project was to find out where on wintering grounds the White-Faced Ibis were picking up these chemicals. Finding the source or sources of chemical contamination would be a critical step in the conservation and management of this species.



Photo by FWS

Plegadis chihi – White-Faced Ibis

Summary of Approach:

With funding from the Legacy Resource Management Program, Earthspan Inc. and Boise State University worked to monitor and track a set of 10 white-faced ibis to their wintering lands. The wintering lands were believed to be the location of the contamination and ingestion site of the DDE/DDT. Discovering the wintering grounds of these migratory birds was accomplished using satellite Platform Transmitter Terminals (PTT) to track the birds

movements. Blood data from 2003 nesting grounds, on site visits to wintering areas, fieldwork and analysis, and reporting were conducted for this project. Visits to the wintering fields location helped researchers: to locate the species find food resources and prey, detect the DDE/DDT in the prey, and observe other species in the ibis wintering area. Results from this study provided helpful information regarding the management and conservation of the White-Faced Ibis and provided a useful educational tool for the public.

Benefit:

DDE/DDT contamination of birds carries through to the next generation and affects other species. This study helped verify the past years results and confirm that winter areas were the source of DDE/DDT contamination and not the nesting grounds on NASF, Nevada. This permitted NASF to focus on other management needs.

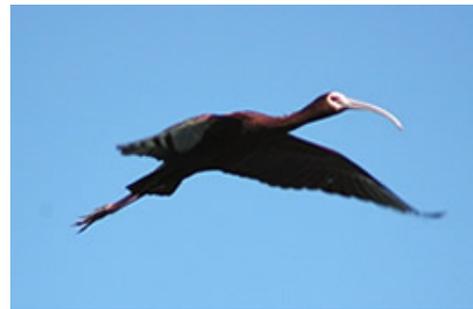


Photo by FWS

Adult White-faced Ibis in flight

Accomplishments:

Tracking White-Faced Ibis helped to determine that the source of DDE/DDT contamination was in the wintering areas. This information helped land managers of contaminated areas focus their needs for management and relieved non-contaminated areas of that burden. Earthspan also used the information gathered for educational purposes. For example, "Eye of the Falcon," an education tool promoted by Earthspan allows the scientist to be shadowed, via the internet, by the public and students as they track the White-Faced Ibis.

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