

Wading Birds (Wood Stork & White Ibis)

Summary Findings

Conditions for nesting were exceptional for wading birds in 2009, with relatively long hydroperiods and long inter-drying intervals prior to the nesting season, and weather conditions that led to a long, uninterrupted drying pattern throughout early winter through spring. As a result, crayfish biomass was very high and the proportion of the freshwater marsh that was available for foraging was very high in winter/spring 2008/09. Spring 2009 saw the largest nesting event recorded since the early 1940s, with nearly all species responding positively, and both large colonies and large numbers of colonies throughout the system.

There were encouraging trends in three of the four indicators in 2009. Storks nested earlier than has been typical (late January and February), a considerably larger proportion of nesting took place in the mangrove ecotone (20%), and it was an ibis supercolony year (over 43,000 nests initiated). One indicator (ibis supercolony) now consistently exceeds the target. While trends are encouraging for the other three indicators, thresholds for restoration have not been achieved, and remain numerically distant. However, 2009 also showed exceptionally high reproductive success for ibises, great egrets, and wood storks, suggesting that the Everglades in 2009 became a net production site rather than a reproductive sink for these species. In addition, it seems quite

likely that the very large increase in numbers of nesting storks and the novel colonies of storks in the coastal zone were both fueled in part by a large cohort of young storks produced in the Everglades and throughout the southeastern United States in 2006. While productivity is not something that can be compared quantitatively with the historical Everglades, it seems very likely that the Everglades did function as a net exporter of birds, and the evidence from 2009 suggests that the ecosystem may be functioning in this capacity again. Taken together, these indicators suggest marked progress towards desired restoration goals. Finally, the very dramatic increases in most indicators in 2009 indicates that wading bird populations have the ability to respond to restored conditions very rapidly.

Key Findings

Conditions preceding the breeding season in 2009 were excellent both for production of crayfish biomass, particularly in the southern Everglades, and for making food available over very large expanses of the Everglades (83% of the landscape). The latter feature was due to a long, uninterrupted drying from November through May. Over 43,000 nests were initiated throughout the Everglades, which is more than in any year since the early 1940s. Increases in nesting compared to recent years were seen in all species except for snowy egrets. Novel nesting locations were found by many species including wood storks in coastal regions of the Everglades.

Indicators:

1. Wood storks initiated nesting earlier than has been typical of the last 20 years, beginning in January in 2009. The nesting date index is numerical, with a 1 (March) being less desirable than a 5 (November). The 5-year running average index in 2009 was 2.0. The restoration target corresponds to nesting dates earlier than December 30th (4 – 5). While the earlier nesting in 2009 is indeed hopeful, the trend is only slightly increasing, and does not meet the restoration target.



Wading Birds (Wood Stork & White Ibis)

2. The proportion of nesting birds occurring in the headwaters/ecotone in 2009 was 21.1%. This is a considerable increase over the average of 8.1% over the last ten years. There were also a number of novel colonies in the coastal zone, which suggests that conditions there were generally favorable, and independent of effects of colony fidelity. This is a considerable uptick in the nearly flat trend of the last 10 years. However, the goal of 70% or greater of the birds nesting in the coastal zone remains distant.
3. The ratio of ibis and stork nests to great egret nests in 2009 (3.5:1) is still far below the 30:1 characteristic of predrainage conditions. In addition, there has been only a slight increase over the average of the last ten years (2.97), especially compared with the target ratio.
4. The frequency of exceptionally large ibis nesting events has improved dramatically since the late 1990s, and the mean interval between these events has changed from over 40 years to less than three in most recent years. The large nesting of ibises in 2009 (43,415 nesting pairs) easily qualified as a supernormal nesting, bringing the five-year running average to 1.20. Recent research strongly supports the hypothesis that the change is due to increased production and availability of prey, particularly crayfish, to ibises. Restored conditions are expected to result in an average interval of 1.45 years. This indicator of restored conditions therefore appears to have been met.

PERFORMANCE MEASURE	LAST STATUS	CURRENT STATUS	2-YEAR PROSPECTS	CURRENT STATUS	2-YEAR PROSPECTS
Wading Bird Indicator Summary				Three out of the four Wading Bird Indicators are red based on the most current data available. Overall, wading bird populations and indicators are well below recovery goals.	All four indicators have positive trends, suggesting they will move closer to recovery goals in the near future.
Ratio of Wood Stork + White Ibis nests to Great Egret nests				Current ratio is well below 30:1 considered representative of healthy nesting conditions.	This ratio appears to have stabilized and did not improve much even in a good nesting year.
Month of Wood Stork nest initiation				2009 initiation was in January, but mean initiation dates in past five years are well below the recovery goal of November or December.	December and January nestings have been recorded recently, suggesting improvement. Stork nests continue to fail because of late initiation.
Proportion of nesting in headwaters				Proportion nesting in the headwaters was 21.1% in 2009, a considerable uptick.	Recent trends are mildly positive, but distant from the 70% target.
Mean interval between exceptional ibis nesting years				This interval now consistently exceeds the target for restoration, and has shown dramatic improvement in last decade.	The trend is positive and consistent in recent years.

Note: Data in the Current Status columns are inclusive of calendar year 2007. The 2-Year Prospect forecast assumes that no large-scale hydrological restoration projects are implemented during this time period, which would result in significant ecological response of this indicator. The occurrence of significant climatological events during this period may affect the forecast.