

Vital Sign: Landbirds
[shortened name: Landbirds]

Parks Where Vital Sign will be Implemented:
BICY, BISC, BUIS, DRTO, EVER, SARI, VIIS - deferred

Justification/Issues being addressed: Landbirds ranked 24th among the 44 SFCN vital signs.

Birds are good indicators of ecosystem health and integrity and are early responders to change across the landscape, responding quickly in foraging and nesting patterns to both habitat degradation and to habitat improvement and restoration. The USVI and South Florida hold a variety of native species and are important migratory stop-overs for many non-native bird species, providing over-wintering habitats. Two habitats deserve special mention: SFCN Parks (coupled with State Parks and 10000 Islands NWR) contain some of the largest, intact tracts of mangrove forest left in North America. However, little is known about the ecology of mangrove ecosystems and especially mangrove landbirds, of which several are thought to be at risk of becoming endangered (e.g., White-crowned pigeon and Florida Prairie Warbler). Pine rocklands, an important upland habitat and a globally imperiled ecosystem, are almost entirely found within EVER and the southeast corner of BICY (with some remnants in the Bahamas). Habitat loss, and altered fire and hydrologic regimes have contributed to the extirpation of seven breeding bird species within pine rocklands in EVER, of which five are cavity-nesting species. Efforts are underway to re-establish two of these species (eastern bluebird and brown-headed nuthatch) with hopes of later re-establishing others. Monitoring fecundity and nestling survival would provide an early indicator of habitat quality and causes of change.

General Monitoring Questions to be Addressed by the Vital Sign:

- What are the status and trends in the abundance and distribution of land birds (residential and migratory) overall and in specific habitats (e.g. pine rocklands, mangroves)?
- In specific habitats (e.g. pine rocklands), what are the status and trends in fecundity and nestling survivorship?

Measures:

Abundance, distribution, community composition

Basic Approach:

SFCN will seek to get reports on the pine rocklands monitoring using point counts being conducted by Gary Slater in EVER (Long Pine Key) and BICY (Raccoon Point) and the pilot mangrove bird monitoring project at BISC and post summaries as well as copies of the reports. However the long-term funding for these programs is not yet assured.

Otherwise, this indicator is deferred due to lack of funding/staff time.

While Christmas Bird Count and Breeding Bird Survey routes are being conducted within these parks, in other parts of the U.S. these data have been found to be more useful for assessing trends from a region-wide level (multi-state) than at a park-wide level. However the Quantitative Ecologist will take a look at the Christmas Bird Count, Breeding Bird Count, and another data set from a park ranger in VIIS who does weekly counts at a salt pond to see if the data can be useful for assessing trends at these sites in abundance and/or in timing of migrations.

Principal Investigators, NPS Lead and other important resources:

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Development schedule, budget, and expected interim products:

SFCN will seek to get reports on the pine rocklands monitoring being conducted by Gary Slater in EVER and begin posting summaries to the SFCN web page in 2008.

Otherwise, this indicator is deferred due to lack of funding.

If SFCN were to take on this indicator, the estimated effort required is *at least* 100 point counts/habitat or park. Point Reyes Bird Observatory estimates that approximately 6-12 points can be done per day. Assuming that just 100 points/park are needed, about 6 weeks of work for two people including data entry and basic analysis would be needed (assumes protocols and sampling design are established). To cover all parks this would take about 1.5 FTE. To outsource the monitoring would take about \$30-50K per 100 points (or \$210-350K for all 7 parks).