

Vital Sign: Fire Return Interval Departure [shortened name: Fire_Return]

Parks Where Vital Sign will be Implemented:
EVER, BICY – SFCN will synthesize fire data

Justification/Issues being addressed: Fire Return Interval Departure ranked 29th among the 44 SFCN vital signs. Fire is a major driver in vegetation community distribution, structure, and composition across the landscape. Maintaining a fire regime that mimics the historical pattern while ensuring public safety is important for conserving such communities as the pine rocklands from being encroached by hardwood hammocks, marshes from being encroached by forests and mangroves, etc. Monitoring fire return interval departure is an important tool for assessing the health of ecosystems with respect to fire, and provides key information for fire management decisions.

General Monitoring Questions to be Addressed by the Vital Sign:

- What is the extent and distribution of areas across the landscape where a departure from native fire regimes exists?

Measures

Fire location, fire size expressed in acres, perimeter in digitized shapefile, dates of fire event, ignition source (lightning, human), time since last burn

Basic Approach:

Each fire within the parks has a folder of information that is compiled by the NPS fire ecologists.

U.S. Geological Survey researchers Tom J. Smith and Ann Foster are compiling all fire history records at Everglades National Park and Big Cypress National Preserve into a GIS database showing the fire location, fire size expressed in acres, perimeter in digitized shapefile, dates of fire event, ignition source (lightning, human) and allowing calculations across the landscape of time since last burn. This product is due to be delivered by December, 2007.

The EVER Fire Ecologist would like to have the annual fire data compiled into the above geodatabase (or a new one if necessary) and have a queryable version made available to fire management and park botanists/ecologists. SFCN will work with the EVER Fire Ecologist to develop a protocol and/or SOP for maintaining the geodatabase and analyzing the results and to make the geodatabase queryable. Currently the fire program is already GPS'ing the boundaries of fires and if the program is user-friendly, could enter the data into the geodatabase themselves.

EVER resource management staff also have requested assistance creating better links between the fire effects monitoring, effects on rare and endangered species, and appropriate burn intervals and timing in the pinelands. SFCN is volunteering to host a workshop for EVER and BICY resource management staff, fire management staff and

others involved in pineland fire research.

Principal Investigators/Key Contacts and NPS Lead:

- Andrea Atkinson, National Park Service, South Florida/Caribbean Inventory and Monitoring Network. Andrea_Atkinson@nps.gov,_305-252-0347 [SFCN lead]
- Brian Witcher, National Park Service, South Florida/Caribbean Inventory and Monitoring Network. Brian_Witcher@nps.gov,_305-252-0347
- Rick Anderson, Fire ecologist, National Park Service, Everglades National Park, 305-242-7853, thomas_r_anderson@nps.gov
- Jim Snyder, Fire ecologist, U.S. Geological Survey-Big Cypress National Preserve, (941) 695-2000 ext. 21, jim_snyder@usgs.gov
- Tom Smith, U.S. Geological Survey- St. Petersburg, 727-803-8747 x3130, tom_j_smith@usgs.gov
- Ann Foster, U.S. Geological Survey – Gainesville, (352) 372-2571, ann_foster@usgs.gov

Development Schedule, Budget, and Expected Interim Products:

A GIS database containing the fire history through the 2005 is due to be completed and delivered to the parks by December 2007.

The immediate next step after the database is complete will be to write a protocol for how it is updated and analyzed and make the geodatabase easily queryable which should be completed in 2008.

Expected SFCN staff time requirements once program is fully implemented in 5 years:

SFCN Staff	Full Time Equivalent (FTE)
Coordinator	
Marine Ecologist	
Fisheries Biologist	
Marine Biologist Technician (So FL)	
Marine Biologist Technician (VI)	
Community Ecologist	
Wildlife Technician (Wildlife)	
Wildlife Technician (Vegetation)	
Quantitative Ecologist	0.02
Data Manager	0.02
GIS/Data Tech	0.08
Interns	
SFCN Total	0.12