

Wildland Fire Risk

Webster's dictionary defines risk as "The possibility of suffering harm or loss." As one can see, there needs to be an "effect of an action" before one can incur a risk from an action. Traditionally, fire management personnel have used the term "risk" to refer to "what starts wildland fires." Within the Florida Fire Risk Assessment (FRA) and the Southern Fire Risk Assessment (SWRA), the **Level of Concern** is the best measure of wildland fire risk. The Level of Concern is calculated from the likelihood of an acre burning, called the **Wildland Fire Susceptibility Index (WFSI)**, and the expected effects of the fire (Fire Effects Index).

The Level of Concern (LOC)

LOC is a value between 0 and 100. It is calculated as the Wildland Fire Susceptibility Index (WFSI) times the Fire Effects Index (FEI). It is one of the two primary outputs of the FRA and the SWRA and is a measure of wildfire risk. LOC can be used to complete a more detailed analysis at the local level and communicate wildland fire management concerns.

LOC can be used to: identify areas where mitigation options may be of value; allow agencies to work together and better define priorities; develop a refined analysis of a complex landscape and fire situations using GIS; and increase communication with local residents to address community priorities and needs.

The Wildland Fire Susceptibility Index (WFSI)

WFSI is a value between 0 and 1. It was developed consistent with the mathematical calculation process for determining the probability of an acre burning. The WFSI integrates the probability of an acre igniting and the expected final fire size based on the rate of spread in four weather percentile categories into a single measure of wildland fire susceptibility. Due to some necessary assumptions, mainly fuel homogeneity, it is not the true probability. But since all areas of the State have this value determined consistently, it allows for comparison and ordination of areas of the state as to the likelihood of an acre burning.

Additional information about FRA and SWRA can be located at:

http://fl-dof.com/wildfire/wf_fras.html

<http://www.southernwildfirerisk.com/>

Future Information Update

This information should only be used as a guide. An update to the information is scheduled to be incorporated into the SWRA by January, 2011.

The table below provides a relative ranking of Florida counties using LOC. It lists the counties based on the percentage of acres falling into the top three highest LOC levels. The data comes from the 2002 Florida FRA data, all calculations performed through ESRI ArcGIS ArcInfo application; acreages calculated from geometry may differ from official recorded total acreage for each County.

County	% of county acreage in LOC level 7, 8, & 9		County	% of county acreage in LOC level 7, 8, & 9
LEE	39.42%		PALM BEACH	9.21%
CITRUS	32.32%		DIXIE	9.12%
SARASOTA	28.10%		CLAY	8.72%
SEMINOLE	28.05%		COLUMBIA	8.30%
HERNANDO	25.29%		ST. JOHNS	7.88%
POLK	25.22%		SUMTER	7.80%
MARTIN	24.74%		GLADES	7.64%
HILLSBOROUGH	23.66%		BROWARD	7.51%
ORANGE	22.47%		NASSAU	7.49%
VOLUSIA	21.83%		BRADFORD	7.36%
LAKE	21.54%		LEON	6.96%
PASCO	20.56%		BAY	5.85%
BREVARD	20.53%		UNION	5.78%
CHARLOTTE	19.83%		GADSDEN	5.76%
MARION	19.32%		SANTA ROSA	5.58%
FLAGLER	19.25%		BAKER	5.37%
ST. LUCIE	17.84%		CALHOUN	5.15%
HIGHLANDS	17.41%		HAMILTON	5.09%
OKEECHOBEE	16.98%		MADISON	4.83%
INDIAN RIVER	14.97%		ESCAMBIA	4.77%
COLLIER	14.48%		TAYLOR	4.49%
PINELLAS	14.06%		WALTON	4.49%
LEVY	12.63%		LAFAYETTE	3.69%
SUWANNEE	12.53%		WASHINGTON	3.61%
MANATEE	12.52%		WAKULLA	3.58%
DESOTO	12.36%		OKALOOSA	3.33%
GILCHRIST	11.74%		JEFFERSON	3.14%
OSCEOLA	11.69%		FRANKLIN	2.88%
HARDEE	10.92%		LIBERTY	2.32%
HENDRY	10.58%		JACKSON	2.27%
PUTNAM	10.30%		HOLMES	2.13%
DUVAL	9.95%		GULF	2.07%
DADE	9.28%		MONROE	1.51%