FERN FORAYS: An Example of Partnerships in Biodiversity Research

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Volunteer Training

Sampling occurred along established trails within the Great Smoky Mountains National Park following an 8-step process.

Interested in Volunteering?

http://discoverlifeinamerica.org/

The All Taxa Biodiversity Inventory (ATBI) has species information via the Web

Over 60 fern species are known in the Park.

Ferns reproduce through the production of spores.
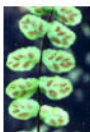

Photo by A. Murray Evans

Photo by Thomas G. Barnes

Asplenium trichomanes

The spore sacs can often be seen on the underside of the leaves.

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*Athyrium filiz-femina asplenioides*

Dryopteris goldiana

Data Collection

4: Record observed ferns

Great Smoky Mountains Fern Foray Field Data Collection Sheet

1 & 2: Measure 200 meters. Measure 15m round plot.

3: Take GPS coordinates.

5: Determine Density

6: Record associated tree species

7: Record observations of ferns and density between plots

National Geographic Society Education Foundation ~ Building a Toolbox of Skills Program

Photo by Edward W. Chester

Polystichum acrostichoides

Upward Bound students at UT's Math and Science Regional Center use geo-referenced data to create distribution maps.

Photo by A. Murray Evans

Polystichum acrostichoides

Data Entry

Field sheets are then entered into the database.

8: Rest!!!
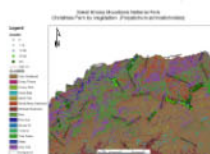
Predicting Hay-Scented Fern Locations in Deep Creek Watershed

Photo by A. Murray Evans

Dennstaedtia punctilobula

Using GIS, the characteristics associated with hay-scented fern locations were analyzed in relation to vegetation, slope and aspect.

Photo by A. Murray Evans

Producing a model showing least and most likely areas for finding this fern.

NEXT STEPS: Field truth test of model. Inclusion of soil information.

Background fern is *Cheilanthes alabamensis*. Photo by Paul Durr.