

Bluegrass Woodland Restoration Center

Julian J.N. Campbell

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Position

Independent Consultant
Bluegrass Woodland Restoration Center
Lexington, Kentucky

Education

Ph.D./1980/Biological Sciences/University of Kentucky (USA)
M.Sc./1975/Ecology/University College of North Wales (Wales)
B.A. /1974/Natural Sciences/University of Cambridge (England)

General Qualification and Experience

Dr. Campbell has over 30 years of experience in botanical survey, taxonomy, ecological analysis and conservation planning. He has been based largely within the central Bluegrass region, but has worked professionally across all regions of Kentucky and in several nearby states. He has also participated in scientific expeditions to remote parts of China and India.

He worked for The Nature Conservancy during 1987-2006, mostly as the Conservation Scientist for the Kentucky Chapter. His activities for the Conservancy included botanical inventory of all districts in the Daniel Boone National Forest, spread over a decade, with discovery of numerous locations for endangered and threatened species, detailed description of forest types, and initial analysis of ecological gradients. He also conducted botanical inventory for the Arkansas Chapter in several parts of the Ouachita National Forest or nearby. He produced detailed reports on rationale for fire management at Mammoth Cave National Park, and at the Big South Fork National River & Recreation Area.

While at TNC, he also helped to organize general information for ecoregional planning in Kentucky, leading to the production of maps for focusing conservation in specific areas. He produced a detailed modern map of natural regions in Kentucky and parts of adjacent states, by adapting the USDA's mapping of soil associations (STATSGO). He worked to develop means for incorporating basic data on floristics and vegetation into a geographic information system that can be used for exchange among conservation biologists. He helped to secure a million dollar donation to the Conservancy for its acquisition of the Griffith Farm in Harrison County, Kentucky—the best opportunity for restoration of Bluegrass Woodlands.

During his spare time, with considerable financial support from East Kentucky Power Cooperative, he has assembled an Atlas of Vascular Plants in Kentucky, together with coauthor Max E. Medley. The University Press of Kentucky is securing reviews for this book, and publication is anticipated in 2008-2009. His floristic research in southeastern states has led to descriptions of four new species for science, and a focus on the grass genus *Elymus* (wild ryes), for which he contributed to the Flora of North America (Volume 24). He is currently engaged in revisionary work on difficult sections of *Helianthus*, *Monarda*, *Rudbeckia* and *Solidago*.

After much trial and error in his own garden, he has established a non-profit nursery at the Griffith Farm, in partnership with Melinda Boyer (Friends of Griffith Woods). This facility is currently focused on propagation of selected native plant species for restoration within the Bluegrass region, including the endangered running buffalo clover, other rare species, and several woody species. Several projects are being developed at the farm and elsewhere that will allow further propagation, demonstration and experimentation in order to guide restoration of native vegetation in the region. He is working with potential partners to begin offering restoration services as a non-profit organization or cooperative, based hopefully at the Griffith Farm.

As Adjunct Professor at Western Kentucky University, and in cooperative work with the University of Kentucky and the University of Louisville, he has worked to secure the Herbaria (critical reference collections of dried plants specimens) at these institutions. He acquired Max E. Medley's collection for donation to WKU, and is currently working to consolidate most of the U-of-L herbarium into the WKU facility. He is available for presentations, field trips and teaching involving the flora and vegetation of Kentucky.

Consulting Experience.

As a paid private consultant, Dr. Campbell has worked on numerous environmental projects, as exemplified below.

Jessamine County, Camp Nelson area, Heritage Land Conservation Fund project, Jessamine Co. KY: Biological Survey (2007). Dr. Campbell conducted a detailed botanical survey of ca. 120 acres recently acquired using a grant from the state

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(HLCF). He provided a report on flora and vegetation, with notes on rare species and invasive alien species, and with appended GIS materials. Rare species included some grasses on xeric cliff ledges (*Elymus svensonii*, *Melica nitens*). He subcontracted a zoological study to provide a list of vertebrate species.

East Kentucky Power Cooperative, J.K. Smith Powerplant Proposal, Clark Co. KY: Endangered Species Consultation (2007). Dr. Campbell provided a report on flora and vegetation in the ca. 3000 acre J.K. Smith powerplant site. Special attention was given to potential habitat for the federally endangered running buffalo clover (*Trifolium stoloniferum*) and other endangered or threatened species. Unusual habitats were mapped using GIS, including remnants of native grassland and rocky glades. Within the rocky glades, a state-listed grass (*Bouteloua curtipendula*) was rediscovered after 30 years, and unusual collections of *Gaura biennis* with relatively small flower parts were made, to be studied further in the herbarium.

Western Kentucky University, Green River Bioreserve, Heritage Land Conservation Fund project, Hart Co. KY: Botanical Survey (2007). Dr. Campbell provided a report on flora and vegetation in the ca. 150 acre Goebel Tract, recently acquired using a grant from the state (HLCF). Field work include inspection of the Green River banks from canoes, as well as terrestrial exploration. No endangered species were found, but several rare or conservative species were found, including some obscure taxa (*Rudbeckia tenax*, *Solidago rupestris*). Field work was coordinated with student projects and provided general education value.

Fuller, Mossbarger, Scott and May Engineers, Inc., Kinniconick Creek and Indian Creek Stream Restoration, Lewis Co. KY: Endangered Species Consultation and Wetland Survey (2007). Dr. Campbell conducted a survey for rare species along streambanks proposed for redesign. Special attention was given to the federally threatened Virginia spiraea (*Spiraea virginiana*), but none was found. An list of flora was provided for streambanks and some adjacent wooded terraces and slopes.

Fuller, Mossbarger, Scott and May Engineers, Inc., Vintage Club at the Reserve, Cincinnati OH: Endangered Species Consultation and Wetland Survey (2007). Dr. Campbell conducted a survey for rare species at sites proposed for redesign of streambanks and some associated revegetation. Special attention was given to the federally endangered running buffalo clover (*Trifolium stoloniferum*), but none was found. A detailed inventory of the flora was provided at some wetland sites.

City of Alexandria VA: Review of Grass Collections for Local Flora Project (2007). Dr. Campbell annotated specimens of wild ryes (*Elymus* spp.) at the George Mason University herbarium, providing data to the local government's forest managers.

Sisler-Maggard Engineering, Inc., waterlines in Nicholas Co. KY: Endangered Species Consultation (2003-2007). Dr. Campbell conducted surveys along over 30 miles of proposed water line, where several rare plants are known, including the federally endangered Short's goldenrod (*Solidago shortii*). No rare plants were discovered, but recommendations were made for minimizing damage to wooded sections. Detailed botanical notes were provided for more natural sites.

East Kentucky Power, various new powerline proposals: Endangered Species Consultation (2000-2006). Dr. Campbell conducted botanical surveys along several sections of proposed powerlines in central and eastern Kentucky, to search for rare species listed by state or federal agencies. In order to consolidate efforts and increase overall efficiency in such surveys, he developed checklists for the flora of Kentucky and simple GIS materials for keeping track of multiple project data. This effort led, with support from EKPC, to the drafting of the Atlas of Vascular Plants for Kentucky.

U.S. Forest Service, Land-Between-the-Lakes, various projects in open lands, trail use and road widening, KY & TN: Botanical Survey (2003-2005). Dr. Campbell and subcontracted botanists conducted a rapid assessment of virtually all old fields and wildlife openings at LBL, in order to allow the USFS better planning for their management. Special attention was given to rare species, and several locations were found. He outlined the significance of some sites as apparent remnants of open grassy woodland that was probably maintained by fire before Virginian settlement. They also conducted botanical surveys, and noted eroded areas, along ca. 15 miles of trail system that has been proposed for more active recreational use with bicycles. And they conducted botanical surveys in areas where US 68 has been proposed for widening.

Work on National Forests and National Parks

As an employee with The Nature Conservancy, and as a paid private consultant, Dr. Campbell has worked on numerous projects for the following National Forests and National Parks. These are listed from east to west.

Great Smoky Mountains National Park (NPS). In 1984-85, he was contracted to conduct a survey of the experimental exclosures for European wild boar, mostly within higher elevation beech forests. Adjacent controls were also surveyed. Data were entered into the NPS system for their analysis, and a provisional report was supplied indicating general contrasts between areas with and without wild boar.

Big South Fork National River and Recreation Area (NPS). From 1995 to 2003, as a Conservancy employee, he conducted various surveys for rare plant species and invasive aliens. These include special searches for the globally imperiled white fringeless orchid. For much of this work, he was responsible, with subcontractors, for reports on potential impacts of proposed oil-and-gas development in the park. In 1998-2000, he was charged with producing a report for ecological justification of fire management in the park, along the lines of the similar project for Mammoth Cave (see below). He conducted field work in remote sections of the park to document fire-enhanced features in the flora and vegetation. He produced a report with details of palaeoecological, archaeological, historical, botanical and zoological (contributed by M. Hines) information that is relevant to designing a fire management program at the park.

Daniel Boone National Forest (USFS). From 1987 to 1994, as a Conservancy employee, he conducted surveys for rare plants across all seven districts, with a report produced on a district after each year. For most of this time (except the first year), he was responsible for the overall conduct of the projects and the reports. These surveys resulted in hundreds of new records for officially listed species plus a wealth of additional floristic and vegetational information. He described a new species to science, together with subcontractor Max Medley: *Aster saxicastellii* (now *Eurybia* s.), and documented several new sites for other newly described species (*Cypripedium kentuckiense*, *Silphium wasiotensis*, *Solidago faucibus*). The reports include details of geology, soils and vegetation, allowing insight to the major ecological gradients within the forest. In 1994-1996, he conducted further work, in cooperation with Martina Hines (KSNPC) and David Taylor (DBNF), to survey over 700 forest plots (15 m radius) for woody and herbaceous vegetation. These data have provided a foundation for ecological analysis of the forest.

Mammoth Cave National Park (NPS). In 1996-1998, he participated with other Conservancy employees or subcontractors in a project to provide the park with justification for managing vegetation with fire. A general field survey of vegetation and flora was conducted in order to document features that would be enhanced by fire. A general review of historical and ecological background was conducted for insight to the effects of fire before settlement. A detailed report was submitted, including maps of botanical features and recommended areas for various types of fire management. In 1998-1999, further work was conducted for the park in order to assemble vegetation data for calibrating the remote-sensing maps produced by Murray State University. These projects provided a provisional classification of the vegetation and mapping ability.

Land-between-the-Lakes National Recreation Area (USFS). In 2003-2005, as a private consultant, Dr. Campbell and subcontracted botanists conducted several projects. These included a rapid assessment of virtually all old fields and wildlife openings at LBL, in order to allow the USFS better planning for their management. Special attention was given to rare species, and several locations were found. He outlined the significance of some sites as apparent remnants of open grassy woodland that was probably maintained by fire before Virginian settlement. They also conducted botanical surveys, and noted eroded areas, along ca. 15 miles of trail system that has been proposed for more active recreational use with bicycles. And they conducted botanical surveys in areas where US 68 has been proposed for widening.

Ouachita National Forest (USFS). In 1993-1996, as an employee of the Conservancy through their Arkansas Chapter, he participated in a botanical survey of lands proposed for exchange with the Weyerhaeuser Timber Company. This involved rapid assessment of about 50,000 acres of USFS land and 150,000 acres of WEYCO land. This exchange has been one of the largest in the South involving federal land, adding 105,000 acres to the Ouachita National Forest near Broken Bow Lake in southeastern Oklahoma, 28,000 near Lake Ouachita in Arkansas and 25,000 as part of the Cossatot National Wildlife Refuge in southwestern Arkansas. With political contention in the community, the Conservancy was contracted to provide an objective, science-based assessment of the biological values in the exchange.