

## **Miscellaneous Notes on Conservation in Kentucky, especially Central Regions.**

Julian Campbell: [julian.campbell@twc.com](mailto:julian.campbell@twc.com); 859 229 7711; [bluegrasswoodland.com](http://bluegrasswoodland.com)

These notes will form a growing series of commentaries on important problems for Nature Conservation within Kentucky and perhaps elsewhere across the Ohio Valley.

My interest in this subject was precipitated by the problems at Griffith Woods, about which details are presented on the “Griffith Woods” page of [bluegrasswoodland.com](http://bluegrasswoodland.com). Details of the lawsuit that developed around the initial gift to TNC can be found at:

<http://law.justia.com/cases/federal/district-courts/kentucky/kyedce/5:2013cv00077/72118/115/>

<http://lawprofessors.typepad.com/nonprofit/2014/12/register-v-the-nature-conservancy1-million-donation-constituted-a-restricted-charitable-gift.html>

<http://cypresstxattorney.com/index.php/contact-r-w/lawdiscussion/register-v-the-nature-conservancy-1-million-donation-constituted-a-restricted-charitable-gift-1>

<http://www.wagenmakerlaw.com/blog/restricted-gifts-clarity-best-policy>

## Current Contents

Page

Abbreviations .....	4
The Three Ages of Conservation: Led by Roosevelt, Nixon and Trump? .....	5
Nurture Nature but Demand Dialogue (HL editorial Aug 23, 2016) .....	6
A Theory of Conservation (in Kentucky and the Central Ohio Valley) .....	12
We Need a Broader Approach to Conservation .....	13
Problems to be Solved through the Broader Approach .....	15
Collaboration would Improve Conservation in the Bluegrass .....	16
The Ideal Cooperative Meeting for Conservation in an Ecological Region .....	20
The Ideal Cooperative Research Program for Conservation (broadly defined) .....	21
Memorandum: Review of Griffith Woods project (Oct 21, 2013) .....	23
History of Significant Events in the Griffith Woods Project (written in 2007) .....	35
Statement to Kentucky's Heritage Land Conservation Fund Board (Jan 9, 2006) .....	50
The Way Forward for Nature Conservation (at least in the Central Ohio Valley).....	55
To all my colleagues at TNC; from Henry M. Paulson, Jr. (Feb 4, 2004) .....	63
Response to above message from Julian Campbell (Feb 5, 2004) .....	68

## Abbreviations

EQIP: Environmental Quality Incentives Program (of NRCS)  
HLCF: see KHLCF  
KCC: Kentucky Conservation Committee  
KDFWR Kentucky Department of Fish & Wildlife Resources  
KHLCF: Kentucky Heritage Land Conservation Fund  
KOFS: Kentucky Organization of Field Stations  
KSNPC: Kentucky State Nature Preserves Commission  
NRCS: Natural Resources Conservation Service  
TNC: The Nature Conservancy (especially Kentucky Chapter)  
UK: University of Kentucky  
USDA: United States Department of Agriculture  
USFS: United States Forest Service  
WKU: Western Kentucky University

## **THREE AGES OF CONSERVATION?**

**FIRST: 1900-1940! MASSIVE FEDERAL COMMITMENT (NPS, USFS, USDA...)**

“Conservation of natural resources is the fundamental problem. Unless we solve that problem, it will avail us little to solve all others.”

Theodore Roosevelt, Address to the Deep Waterway Convention in Memphis; October 4, 1907.

**SECOND: 1960-2000! EXPANSION OF LAW AND SCIENCE (End Spp Act, EPA, NEPA...)**

“Nothing is more priceless and more worthy of preservation than the rich array of animal life with which our country has been blessed. It is a many-faceted treasure, of value to scholars, scientists, and nature lovers alike, and it forms a vital part of the heritage we all share as Americans.”

Richard Nixon, Statement on Signing the Endangered Species Act; December 28, 1973.

**THIRD: 2020-2060? BUILDING CONSENSUS ACROSS COMMUNITIES (global to local...)**

“This is magnificent land. And we have to be great stewards of this land. And the hunters do such a great job—I mean, the hunters and the fishermen and all of the different people that use that land... This is going to be a beautiful and loving country...”

Donald Trump, Field and Stream; January 21, 2016 etc.

At the end of the second age, we now have an excessive diversity of professional divisions and public ideologies, often lacking clear support for local efforts.

We need a third age of conservation, centered on a rediscovered sense of human ecological community, deeper academic work in these matters, and broader building of consensus.

**\*From the Lexington Herald-Leader:**

**<http://www.kentucky.com/opinion/op-ed/article97447247.html>**

---

---

## **Nurture nature but demand dialogue on state conservation**

OP-ED BY JULIAN CAMPBELL

AUGUST 23, 2016 6:34 PM

In April, Kentuckians were urged to lobby for restoration of the Heritage Land Conservation Fund, which is supposed to receive proceeds from sales of nature license plates. I complied but became determined to address the broader issue: Why does Kentucky not yet have sufficient consensus, mutual support and public education to maintain vigorous, transparent and appreciated programs for conservation?

After working here for 40 years on natural history and ecology, I have often seen discord thwart progress.

President Theodore Roosevelt, who founded the U.S. Forest Service and several national parks, said: “Conservation of natural resources is the fundamental problem. Unless we solve that problem, it will avail us little to solve all others.” Richard Nixon advanced a second great age of conservation through creation of the Environmental Protection Agency, the Endangered Species Act and other institutional developments.

We now need a third age.

The proliferation of diverse agendas with associated professionals — academics, bureaucrats, consultants, engineers, lawyers, managers — discourages consensus-building across communities. Could presidential hopefuls Clinton, Johnson, Sanders, Stein or Trump lead this new effort?



Conservationist Julian Campbell helped replant this stand of native cane along Cane Run Creek in northern Fayette County. Herald-Leader file photo

Much obvious discord is among what I call “the three levels of conservation”— protection of landscapes or watersheds, restoration of degraded habitats and recovery of imperiled species. In Kentucky, legal protection of land has generally not been followed by adequate cooperative planning, staffing and funding for future restoration.

Moreover, there is insufficient connection between these lands and design of useful academic programs to improve technical understanding and popular appreciation.

We still lack agreed lists of appropriate native species for all of Kentucky’s varied habitats. There is little relevant educational material or regular involvement of schools with conservation, especially during the growing season.

Yet much local stewardship and horticultural support could be developed. With clearer goals, for example, students or homeowners could grow many rare wildflowers and grasses for use in restoration. One source of funding to start such programs is the National Fish and Wildlife Foundation.

What is the best scale for building consensus? Kentucky is too large and unwieldy for much work. It is most useful to focus on natural regions with five to 15 counties, such as the Jackson Purchase (and parts of adjacent states), central Green River watershed, central Bluegrass (with Palisades and South Fork of the Licking River) and upper Cumberland watershed (including adjacent Tennessee).

We desperately need to have regular meetings for each of these regions, inviting interested professional conservationists to give brief presentations; workshops would focus on collaborative projects and public education would flow.

Of course, larger regions (such as the Ohio River watershed) and smaller ones (such as individual counties) also deserve coordination, but intermediate scales offer the most enduring, practical centers of excellence.

Clear goals form the core of conservation. What landscapes or watersheds are the focus for each community? Which habitats are most degraded and how should restoration proceed? Which species need help, even in restored habitats, deserving propagation or other micromanagement? The Nature Conservancy started to develop such targets in the 1990s, but that effort became divorced from databases at the Kentucky State Nature Preserves Commission.

Conservation, broadly defined, seeks to balance respect for nature with extraction of resources. A more recent division has developed between traditional preservationists, as at the Nature Preserves Commission, trying to understand and restore past ecology, versus heralds of a human-dominated era, apparently at The Nature Conservancy, as climate change and invasive alien species wreck our chances of true restoration.

But extreme positions are often unreasonable; deeper understanding of the past should help with restoration or recovery, and public interests are served when cooperative consensus replaces dysfunctional discord. More regular field trips, workshops and meetings would help mend fences.

Potential hosts for such events should include state agencies, The Nature Conservancy and the insufficiently appreciated Kentucky Conservation Committee. There would be time for questions from the public, especially potential cooperators who walk and work on wilder lands.

*JULIAN CAMPBELL IS A CONSULTANT IN BOTANY, ECOLOGY AND CONSERVATION PLANNING.  
HIS WEBSITE IS [BLUEGRASSWOODLAND.COM](http://BLUEGRASSWOODLAND.COM). EMAIL HIM AT [JULIAN.CAMPBELL@TWC.COM](mailto:JULIAN.CAMPBELL@TWC.COM).*

**Submitted text as follows: “Nurture Nature but Demand Dialog!”** [650 words maximum]

Julian Campbell: 3525 Willowood Road, Lexington KY 40517; julian.campbell@twc.com

During April, citizens were urged to lobby for restoration of Kentucky’s Heritage Land Conservation Fund and its whittled-down State Nature Preserves Commission (KSNPC). I complied but became determined to address the broader issue—Why do we not yet have sufficient consensus, mutual support and public education to maintain vigorous, productive and transparent programs for conservation in Kentucky? After working here on natural history and ecology for 40 years, I have seen progress often thwarted by discord.

Teddy Roosevelt, who founded the US Forest Service and several National Parks, said: “Conservation of natural resources is the fundamental problem. Unless we solve that problem, it will avail us little to solve all others.” A second great age of conservation was advanced by Richard Nixon, with the Environmental Protection Agency, Endangered Species Act and many other institutional developments. We now need a third age, since proliferation of diverse agendas with associated professionals (academics, bureaucrats, consultants, engineers, lawyers, managers) is generally disconnected from building of consensus across communities. Could Clinton, Johnson, Sanders or Trump lead this new effort?

Much obvious discord is between what I call “the three levels of conservation”— protection of landscapes or watersheds, restoration of degraded habitats, and recovery of our most imperiled species. In Kentucky, legal protection of land has generally not been followed by adequate cooperative planning, staffing and funding for future restoration. Moreover, there is insufficient connection between these lands and design of useful academic programs to improve technical understanding and popular appreciation. At the “species level”, we still lack agreed lists of appropriate natives for all varied habitats of Kentucky. There is little relevant educational material or regular involvement of schools with conservation, especially during the growing season. Yet there is much local stewardship and horticultural support that could be developed. For example, with clearer goals there are many rare wildflowers and grasses that students or homeowners could grow for use in

restoration. Obvious sources of funding to start such programs include the National Fish and Wildlife Foundation.

The best scale for building consensus is a critical issue. Kentucky itself is too large and unwieldy for much work. It is most useful to focus on natural regions with 5-15 counties, such as the Jackson Purchase (and parts of adjacent states), central Green River watershed, central Bluegrass (with Palisades and South Fork of Licking), and upper Cumberland watershed (including adjacent Tennessee). We desperately need to have regular meetings for each of these regions, where all interested professional conservationists would be invited to give brief presentations; workshops would focus on collaborative projects; and public education would flow. Of course, larger regions (such as the whole Ohio watershed) and smaller ones (such as individual counties) also deserve coordination, but intermediate scales offer the most enduring, practical centers of excellence.

Clear goals form the core of conservation. What landscapes or watersheds are the focus for each community? Which habitats are most degraded, and how should restoration proceed? Which species do not recover on their own even in restored habitats, and then deserve propagation or other micromanagement? The Nature Conservancy (TNC) started to develop such “targets” in the 1990s, but that effort became divorced from KSNPC’s databases.

Conservation, broadly defined, seeks to balance respect for nature with extraction of resources. A more recent division has developed between traditional preservationists (as at KSNPC), trying to understand and restore past ecology—versus heralds of an “Anthropocene” era (apparently at TNC), with climate change and invasive alien species wrecking our chances of true restoration. But extreme positions are often unreasonable; deeper understanding of the past should help with any claimed restoration or recovery; and public interests are served when dysfunctional discord is replaced by cooperative consensus. More regular field trips, workshops and meetings would help mend fences. Potential hosts for such events should include state agencies, TNC and the insufficiently appreciated Kentucky Conservation Committee—allowing plenty of time for questions from the public.

**A Theory of Conservation (in Kentucky and the Central Ohio Valley).** Julian Campbell: [julian.campbell@twc.com](mailto:julian.campbell@twc.com); [www.bluegrasswoodland.com/uploads/KenConStatement.pdf](http://www.bluegrasswoodland.com/uploads/KenConStatement.pdf)

Born out of trials and tribulations—both personal and ecological—this theory seems to hold water and it deserves much more testing through designed efforts. First let us define conservation broadly as: “the pursuit of harmonious balance between reverence of nature and extraction from nature.” The focus here is on regional or local aspects of conservation, rather than massive continental or global efforts to stabilize the planet’s climate and its flows of air, water or energy. Also, we assume that conservation should seek transparency, debate and consensus through “science” and “community”.

This theory has three parts, allowing interesting comparison with other unifying theories of life.

**1. Optimal Regions.** The most effective teamwork among professional conservationists, or among the general public, emerges from relatively homogeneous areas that can be traversed easily within an hour or so, so that regular meetings can be held. The most obvious regional sections include about 5-15 counties (such as the Jackson Purchase, central Bluegrass, or upper Cumberland River watershed). Broader gatherings at annual intervals are reasonable in ecological aggregates of these basic units (such as three divisions of the Interior Low Plateaus). Given similar geology, topography, soils, vegetation and human interests across each of these areas, there is then more potential for efficient cooperation to solve common problems.

A fundamental aspect of such cooperation should be to develop a new set of more detailed “Natural Heritage Programs”. These would be developed through regional partnerships of biologists as subcenters for the state programs and the national NatureServe. There would be much applied academic power from local union of these people’s efforts.

**2. Meaningful Goals.** Since biological diversity and ecological complexity are often overwhelming subjects for human comprehension, it is essential that a limited number of specific goals for conservation in each region become defined well for general understanding, and become tied well to priorities for action. Based on The Nature Conservancy’s initial guidelines for “conservation targets” in the 1990s, it is reasonable to outline essential components of biological diversity at three levels of organization.

- (a) Selected landscapes or watersheds as priorities for general protection of naturalistic features.
- (b) Selected types of degraded habitat as priorities for restoration, after land is protected.
- (c) Selected groups of species as priorities for recovery, after habitats are protected and restored.

With this sequential thinking, it is possible to summarize about 5-10 targets for each regional section or other major project area. In (a), larger connectable blocks of land (or stream corridor) are identified for action. In (b), there is focus on habitats that will not recover without human intervention. In (c), there is focus on species that will not return except through micromanagement or propagation; and ecological or taxonomic groups of species are advisable to simplify planning.

**3. Building Consensus.** Since attitudes to nature and conservation are highly varied, even within the most relevant organizations, it is essential to have a regular process for seeking common ground, for identifying critical differences, and for comparing results of varied actions. Regular meetings, more than distant communication, can provide an efficient means to these ends, if there is true commitment to cooperation. Then we can focus on uncertainties and arguments that are most problematic, and decide together what further research is needed for resolution. Such work should range from purely descriptive research (improving Natural History with deeper classifications, surveys and mappings), to experiments with varied types of restoration or resource-extraction.

## **We Need a Broader Approach to Conservation in Kentucky, Linking the 3 Levels: Land-&Water, Habitat and Species.**

Julian Campbell: [julian.campbell@twc.com](mailto:julian.campbell@twc.com); 859 229 7711;  
[www.bluegrasswoodland.com/uploads/KenConStatement.pdf](http://www.bluegrasswoodland.com/uploads/KenConStatement.pdf)

It has now been 40 years since the ‘second wave’ of conservation took root across the U.S.A. (after Teddy Roosevelt’s first). In Kentucky, this second wave included the formation of new organizations that focussed on “pure” conservation (especially Ky. Nature Preserves Commission and Ky. Nature Conservancy), plus those that focussed on lobbying and legal work (especially Cumberland Chapter of Sierra Club, Ky. Conservation Committee, and Ky. Resources Council). But increasing environmental and economic problems during these past 40 years have made it clear that we need to think more deeply about how to merge conservation—broadly defined—with diverse interests of the community.

It is useful to conceive of three levels in conservation.

1. Protection of lands and waters from excessive development;
2. Active restoration of habitats that have been most degraded.
3. Micro-management of selected species for recovery—or for reduction in the case of invasive aliens.

Although legal and physical protection of lands and waters (1) can of course be highly beneficial, we also need careful focus on those habitats that need restoration (2), and then efficient action to recover truly imperiled species or to reduce aliens (3).

Our ‘targets’ for conservation should be scientifically defined at these three levels in clear language that can then be communicated among diverse professionals and with the general public.

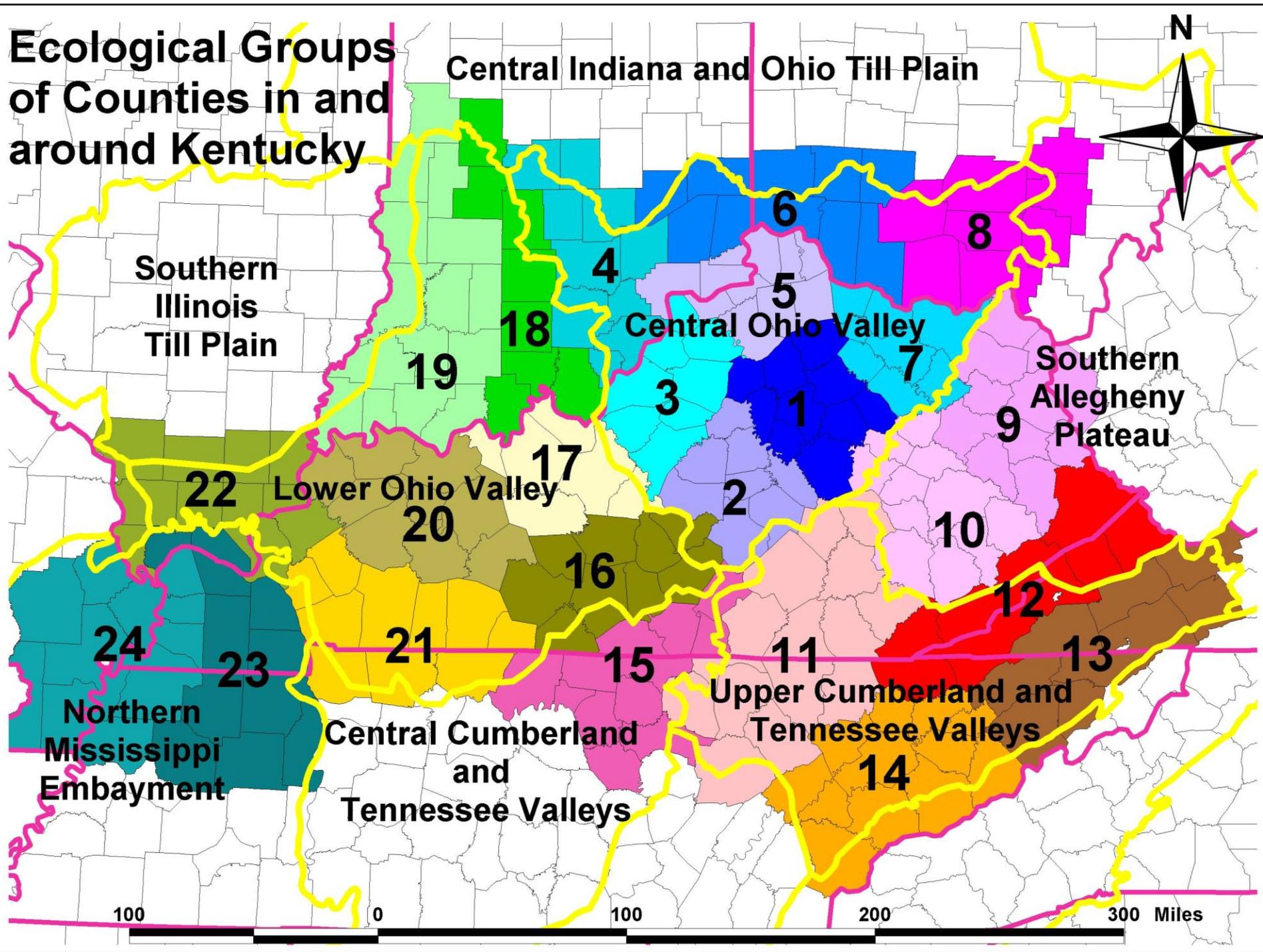
Sadly, an initial effort by The Nature Conservancy to implement this kind of integration, through their ‘ecoregional planning’, did not persist or lead to the broad, deep partnerships that we need. Money—mostly from government—has continued to flow into land acquisition, usually at worthy sites but often with inadequate allowance for basic stewardship. Serious problems have occurred in some cases, with little or no effort at resolution (e.g. Griffith Woods). For good restoration of habitats and species, we usually need more historical insight, more functional understanding, more scientific evaluation, and more transparency.

Although there is general agreement about the most important areas for protection, there are several types of habitat that have been neglected, usually because they are highly degraded, fragmented or misunderstood. Also, there is still a great need to prioritize species, or groups of species, for micro-management. In particular, we still do not have effective planning for those plant species that need to be rescued and grown in more or less artificial conditions before their habitats can be restored. Lack of funding is not the basic problem—it is lack of coordination among botanists, growers and restorationists.

How should we proceed with tighter integration of these three levels? It is essential, first, that more effective communication be advanced between interested people, ideally focussed on ecoregional sections that are of moderate, manageable size. The map (overleaf) shows some obvious examples of such sections, typically with about 10-12 counties in each. It would be very useful to have an annual meeting within each section, plus series of field-trips and work-shops throughout the year. Professional conservationists and allied academics who work in each section should outline the general targets for conservation, plan continued action, and interact with the public for general education. It is only through such dialog that adequate consensus and material support will be achieved.

As outlined elsewhere (see web-reference above), we do not yet have effective leadership for such integration. Moreover, most organizations do not welcome transparent review of their programs. But if conservation is to be based on science and community (as TNC often states), then we do need more open review, more mutual evaluation, more polite debate about how to proceed, and then more real collaboration. So KSNPC should broaden their partnerships with biologists and ecologists to build our Natural Heritage database. KCC should become more proactive throughout the year, rather than largely reactive to legislation. KHLFCF should engage in more outreach to support stewardship of the lands it has funded. KOFs should explore the critical questions for research that would help conservation as a whole. These organizations—with TNC and others—should together seek the consensus we need across each region.

# Ecological Groups of Counties in and around Kentucky



## **Problems to be Solved through the Broader Approach**

(versus dominance by a few decision-makers within each area). The USFS does at least have a process for broad public input to their planning. State government has no such process, although they should respond to questions, especially through legislators. Non-profits have boards but their workings are often secret.

Following are some brief notes on problems, organized initially by region. A more detailed account should outline the varied habitats within each region, and seek agreement on what action is most needed. Also, most of these regional sections deserve special efforts to select, grow and recovery rare plants. And we need realistic programs to reduce alien plants.

Upper Cumberland River. In addition to obvious problems for aquatic ecosystems, there is growing interest in restoration of the open grassy woodland that used to occur here before settlement. However, we do not yet have a professional definition of this 'target' in terms of the vegetation types and plant species for recovery, and there is no effective plan for restoration of the best remnants. In addition to relatively extensive areas on the plateau, there are unusual outlying remnants to the west, which deserve much more attention. Sadly, the Hazel Dell meadow remains poorly managed despite being partially protected by TNC and KHLCF, then transferred to Pulaski County.

Robinson Forest. There is continuing controversy about the university's 14,000 acres that could be resolved, somewhat, through a deeper analysis of some basic questions. What would be the overall value from promoting old-growth forest on the university's land? How did the recent logging experiment contribute to our understanding of forests in this region?

Kentucky River Palisades. Although TNC has announced that they are producing an overall conservation plan for this area, there has been virtually no public meeting or other transparent update with all stakeholders. A common problem is what to do with old fields and young woods full of aliens—Diverse approaches exist but not enough comparison of ideas and results. It especially important to consider compatible economic uses of these fields, such as orchards of native fruits and nuts.

South Fork Licking River. This is the most degraded section of the Lower Licking River watershed. It would be good to assess results of initial efforts to improve water quality. Sadly, TNC gave up on the most important site for restoration on the uplands, Griffith Woods, and was legally forced to return their restricted gift for this site. Critical questions remains, such as: How can effects of buffaloes be simulated?—How can we best recover locally extinct cane, clover, peavine, wild hyacinth, mid-western lily, etc.?

Fort Knox-Bernheim Forest etc. These large blocks of forested land have clear significance, and there are good plans to extend the protection. But how are we to increase and manage the remnants of rocky glades and other grassy openings in more peripheral sections? What timber-management is appropriate?

Elizabethtown Plain. This northern section of the former Big Barrens in Kentucky has several scattered remnants of the original grassland. Eastview has one of the best, but much land here remains unprotected and unrestored. How are we to improve our inventory of this region, plan for more protection and better management? Although TNC has tried to advance a "Northern Barrens Project", and claims to be restoring 1000s of acres, it is not clear that any coordinated action is being taken.

Middle Green River and Mammoth Cave area. Conservation has generally been focussed here on the subterranean and aquatic ecosystems. There has been much initial planting of grassland, especially through the CREP program, but mostly of low quality, lacking good native composition. NPS and TNC have done some work to restore a few true remnants of the original grassy openings, but better sites are mostly neglected.

Western Pennyrhile region, with Fort Campbell and LBL. Formerly core of the Big Barrens, this area now has almost no remnants of native grassland, except at Fort Campbell, where military training is the priority for management. In a more wooded peripheral zone, LBL has recently promoted an "oak-grassland" concept for extensive "restoration" but ran into strong public opposition. We need a lot more good research, education and implementation. For example, an effort to involve WKU in management of some small nature preserves near Bowling Green was halted.

## **Collaboration would Improve Conservation in the Bluegrass (and Other Regions)**

Julian Campbell: [julian.campbell@twc.com](mailto:julian.campbell@twc.com); [bluegrasswoodland.com](http://bluegrasswoodland.com)

During late 2015, there were two useful meetings for those of us interested in conservation and restoration of natural features within the Bluegrass region: the “Second Kentucky Botanical Symposium” in Lexington; and the “Kentucky Habitat Management Symposium” in Louisville. With surprisingly little overlap in the topics covered, in the speakers and in the audiences, those of us who attended both meetings came away with a good feeling of potential complementarity.

I was struck, however, by the general lack of clear and specific goals expressed at both meetings—just what are the things we want to conserve or restore or manage in this region? Shouldn't we be rooted in Natural History? And do we, as a community, want to coordinate work at the three distinct levels of conservation? I mean: (1) the landscape or watershed level, protecting large blocks of land or connecting corridors; (2) the habitat level, restoring and managing the most degraded types of habitat; and (3) the species level, with micro-management or artificial propagation of species that have declined the most. I heard rather little about such integration, except from Tom Smarr, our inspiring new Director of Horticulture at The Park Lands of Floyds Fork.

After trying to become a conservationist in Kentucky for 40 years, I have seen the heights and depths of supposed collaboration. During the 1970s and 1980s, faced with the huge challenges presented by 200 years of degradation across our state, a core of cooperative spirit did exist. The two new organizations dedicated to “pure” nature conservation even shared office space for several years: the Kentucky State Nature Preserves Commission (KSNPC) and our state chapter of The Nature Conservancy

(TNC). Regular meetings were held, at least annually, for these two and other partners to discuss varied efforts around the state.

During the 1990s, an important new funding source emerged from state government, the Kentucky Heritage Land Conservation Fund (KHLCF), allowing many new natural areas to be acquired by governmental agencies and universities. But most of the sites initially funded by KHLC now have pending problems in management that could be reduced through cooperative work. For a few years, there was also hope that TNC's "ecoregional planning" could lead to an integrated program for deeper cooperative planning across the state, rooted in detailed scientific analysis of landscapes, habitats and imperiled species. However, because leadership at TNC had begun to drift away from close partnerships with KSNPC and its allies, the potential for these two organizations to share information, plan together, educate and inspire others across the state was not realized. Agencies, schools and citizens remain often ill-informed.

I will note three diverse examples of recent problems in conservation or restoration—broadly defined—that are especially relevant to the central Bluegrass. In each case, these problems could have been avoided through deeper consensus-building, or more exchange of information, or more timely response to inquiries, or more transparent debate about plans. Compromises with "pure" interests are possible!

1. In 2003, the Griffith Woods project in Harrison County was initiated as a partnership between the University of Kentucky, TNC and KSNPC; this 745-acre farm provides the best opportunity for restoration of something the original woodland in this region. But it became impossible for the distinct agendas of these three organizations to be merged. We could not even reach consensus on the basic questions: what do we want to

restore and how? TNC's initial donor for this project successfully sued to get his restricted donation returned, after TNC (and the University) eventually sold the land to Kentucky Dept. of Fish & Wildlife, whom we now hope will become more open-minded about diverse goals for the farm. The site should become a model for the region.

2. Fayette County was allowed by the federal Environmental Protection Agency (EPA) to plan a "supplementary" project for rebuilding 0.7 miles of stream along Cane Run in the Coldstream Park, costing \$1.25 million. This project was negotiated with EPA after 2007 so that the county could avoid being fined for past mismanagement of water. It was proposed as a "restoration" of stream, floodplain and wetland, with several claimed environmental benefits. However, Cane Run here has been sinking naturally into limestone for millions of years—there is almost natural floodplain or wetland. This is a "feel-good" project with little or no value for the environment. It would actually rip through a small remnant of original woodland and destroy much of the first "Reforest the Bluegrass" tree-planting that was conducted here in 1999. There have been significant protests, then some promised changes, but the final plan is unclear.

3. Red mulberry is a formerly widespread native tree that has largely disappeared from urban areas such as Lexington and Louisville, where the invasive alien white mulberry has become a weed instead (and locally hybridizes, increasing the confusion). I discovered a few years ago that the nursery of Kentucky Division of Forestry (KDF) was selling white mulberry under the name red mulberry. After I pointed out this error, their label has been changed to just unspecified "mulberry" as a valuable "fruit-producer", but KDF is still selling an invasive species to citizens, while claiming also to be involved in programs that reduce invasive aliens. I visited a disappointed landowner in Shelby County who had bought and planted over 1000 seedlings from KDF, and I am

aware of several other restoration projects that have bought their material. Communications from KDF have been somewhat defensive, but it is clear that common ground could be established through a cooperative program to collect accurately identified seed for proper nurseries and productive orchards. This would be a relatively easy, cheap, useful program leading to local recovery of the species.

Rather than good goals for conservation, financial issues dominated decisions in these cases, as in TNC's reuse of donated funds elsewhere in the state, or Fayette County's desire to avoid being fined by EPA, or KDF's decision to keep selling what they had mistakenly grown. But lack of funds is not the fundamental problem, it is lack of good, cooperative, ethical planning. Several potential sources of funds for management of Griffith Woods have been neglected; Fayette County could just pay the fine rather than wasting the same amount of money; the KDF could just dump their nursery stock, which generates little or no net income. Another theme in all three examples is lack of good botanical advice, or even downright denial of advice.

How can we rectify this situation? We should begin by holding annual meetings and regular field trips to sites of interest within small convenient regions, such as the central Bluegrass. The focus, again, should be on integrating action at the three levels: landscape/watershed, habitat and species. Interested people should share information, define common goals, and seek synergy in activities. So who should lead or host such events?—That is the problem! We need, ideally, all of the few dozen professional conservationists in this region to participate. Leaders should include a refocused alliance of agencies, non-profits and local governments. But which organizations really want to pursue naturalistic restoration and agreeable management, as opposed to just throwing money into land with insufficient control over what happens to it?

## **The Ideal Cooperative Meeting for Conservation in an Ecological Region.**

This would be focussed on a regional section of moderately small size, perhaps 10-12 counties in general, with only two or three major project areas (such as the Kentucky River Palisades and South Fork of Licking Water). At first, it is unrealistic to expect an annual meeting to last more than one day, but 2-3 day meetings could be eventually conceived. Organizations often send staff to larger regional or national or even global meetings.—But to what extent do such events increase support for local agendas?

There are three fundamental goals for such meetings, without which they will fail.

1. To allow regular, convenient and useful interaction among all potential partners, ideally associated with series of field trips to significant sites throughout the year.
2. To agree on definition and monitoring of “conservation targets” at the three levels: landscape or watershed level; habitat (or “natural community”) level; and species level, with efficient biological groupings of species rather than recitation of complete lists.
3. To advance consensus-building, ideally based on the above targets and then seeking agreement on actions, or at least productive comparison of varied actions.

We should not expect rapid success, since much discord does exist. Even within most organizations, it is sometimes hard to coordinate the diverse views of staff.

As meetings become repeated, a standing organizational committee, representing major partners, should become formed. This committee could even become a distinct non-profit “project” or a distinct fiscal organization. Such evolution would be especially useful for producing a regular annual report after each meeting. Reports should summarize agreed cooperative goals, careful measures of success versus failure, technical summaries, minority opinions in controversial subjects, and definitions of uncertainties or disagreements that could be resolved through objective research.

This effort would only be useful—but then essential—if partners are truly committed.

## **The Ideal Cooperative Research Program for Conservation (broadly defined).**

This should deal with definition and inventory of “targets” in an ecoregion (prioritized blocks of land, habitats for restoration, groups of species for micromanagement, etc.), with monitoring of carefully selected parameters for targets (especially measures of success or failure), and with influence of management or other actions on targets.

1. GENERAL QUESTIONS: focus on critical uncertainties and disagreements.
  - A. What was the original condition before settlement and its ecological function?  
E.g. Bluegrass Woodland, Cumberland Barrens, the “Big” Pennyrhile Barrens.
  - B. How has the condition changed, and how have varied threats influenced targets?  
E.g. trends in well-defined vegetation types, and in rare or conservative species.
  - C. How do varied aspects of management, or lack of management, influence targets?  
E.g. compare burning, browsing, mowing, etc., to increase natives versus aliens.
2. SPECIFIC PROPOSALS: focus on projects with good replication at different sites.
  - A. Long-term monitoring of targets with diverse parameters at “field stations” / RNAs.  
Include “succession” and other long-term trajectories of vegetation.
  - B. Experimental comparison of effects on conservation targets from selected actions.  
Include multivariate responses of vegetation to prescribed burning, browsing etc.
3. REVIEW & SYNTHESIS: focus on critical data-sharing, management applications.
  - A. Develop cooperative aspects of natural heritage program, plus relevant collections.  
Form deeper partnerships to gather, organize, improve and apply the data.
  - B. Build conceptual or computer models of ecological dynamics, using initial results.  
Form interdisciplinary teams to compare ideas and seek common uses of models.
  - C. Produce educational material for public, schools & colleges, using research results.  
Form organization of partners to share in funding mechanisms for all of above.

## **The Ideal Research Program: example of landscape with “Cumberland Barrens”**

It may be useful eventually to develop three geographic components, with linkage to overall watershed interests: the Rockcastle River watershed; main Cumberland River corridor; and the Big South Fork watershed. For overall goals in forest-management, there are benefits from combining data on all conservation targets within each area.

1. GENERAL QUESTIONS: focus on critical uncertainties and disagreements.
  - A. What was the original condition before settlement and its ecological function?  
Gather more historical data; improve mapping of conservative / indicator species.
  - B. How has the condition changed, and how have varied threats influenced targets?  
Compare map of best remnants with original extent; correlate to land-use history.
  - C. How do varied aspects of management, or lack of management, influence targets?  
Detail differences in vegetation between different forest management histories.
2. SPECIFIC PROPOSALS: focus on projects with good replication at different sites.
  - A. Long-term monitoring of targets with diverse parameters at “field stations” / RNAs.  
Select a few sites: e.g. Keno Road, Marsh Branch, Duck Run, Grove Road.
  - B. Experimental comparison of effects on conservation targets from selected actions.  
Deepen research already initiated with Univ. of Tenn. and Ky., adding more sites
3. REVIEW & SYNTHESIS: focus on critical data-sharing, management applications.
  - A. Develop cooperative aspects of natural heritage program, plus relevant collections.  
Incorporate all new data acquired on rare / conservative species since 1990s.
  - B. Build conceptual or computer models of ecological dynamics, using initial results.  
Integrate models of vegetation pattern and dynamics with models of fire effects.
  - C. Produce educational material for public, schools & colleges, using research results.  
Form organization of partners to share in funding mechanisms for all of the above.

**Memorandum: Review of Griffith Woods project**

**Date:** October 21, 2013

**From:** Julian Campbell [see contact info at end]

**To:** Kentucky Heritage Land Conservation Fund Board; with copies to Derek Beard, Ky. Dept. of Fish and Wildlife Resources; Terry Cook, The Nature Conservancy (Ky. Chapter); John Cox, Dept. of Forestry, Univ. of Kentucky; Nancy Cox, College of Agriculture, University of Kentucky; Don Dott, Ky. Nature Preserves Commission; Scott Gleeson, Dept., of Biology, Univ, of Ky.

Given that over a decade has past since I helped to initiate the Griffith Woods project, and that significant problems have occurred, I am interested in a general review. Progress was clearly made in securing the whole farm for conservation and restoration. Moreover, some useful survey, management and experimentation has occurred, but results from this initial work are somewhat obscure—or have lacked general evaluation. In my opinion, several poor decisions were made that have wasted a lot of initial effort—much of which has been funded by government (tax-payers). I urge the HLCF and partners to review this initial decade of work in order to learn more about how these problems occurred, to improve the conditions at Griffith Woods, and to help guard against similar problems in the future, here and elsewhere.

This memorandum outlines the problems, from my perspective. I have not yet reviewed all relevant documents and there has been little communication with some relevant people in recent years. So I am of course open to comment, and I would like to know what you all think about these issues. I am currently going through written materials that are available to me, and I hope to gain a clearer picture during this coming winter. It will be important to estimate more precisely how much various activities have cost, especially those using governmental funding, and how much success or failure has resulted from these expenditures.

**1. Targets for conservation remain unclear.** The basic problem, on a professional level, is that there has been disagreement about the ecological and biological goals for the site. There has been a tendency to ignore my review of historical and floristic data (e.g. Campbell 1989; see also material at [bluegrasswoodland.com](http://bluegrasswoodland.com)), and even to downplay recent work on dendrochronology by McEwan & McCarthy (2008). This research indicates that most of the region, including Griffith Woods, was covered by woodland with relatively deep shade or only “intermediate” openness. Truly “savanna-like” areas with open-grown oaks, locust thickets, dense canebrakes and other brushy or grassy openings appear to have covered just 1-10% of the landscape when Virginians arrived. Moreover, there is zero evidence that typical native warm-season grassland (with big bluestem, Indian grass, etc.) occurred on the relatively deep, fertile soils in the central Bluegrass, or that the typical vegetation here was influenced by fires. In contrast, such conditions do appear to have occurred locally in transitions from the Bluegrass to foothills of the Knobs (as at the Bluegrass Army Depot).

W.S. Bryant has been considered by some to be the official expert on these woodlands, being a personal friend and academic colleague of W.H. Martin, chairman of the HLCF. Their “savanna-woodland” hypothesis was first published in 1980 (Bryant et al., 1980). I have assembled a comprehensive set of historical sources that contradicts this hypothesis (see references). Nevertheless, WSB (pers. comm.) has continued to maintain his view that the natural woods were mostly savanna-like with dominance of oaks and ashes. Schaffer (2013) cites Bryant but, amazingly, none of my work: “Therefore, it is anomalous to think that the Bluegrass, thought to be fire maintained, would have sugar maple consistently listed as a common tree by the early botanical explorers to Kentucky.” Is there a continuing campaign to ignore my work?

The “Efroymsen” planning of TNC and partners—which excluded myself—did list “mesic” woods as one of the seven targets for conservation. But their concept included both deeper woods dominated by maple plus intermediate woods with much walnut—types that tend to have rather different ecology. The planning, confusingly, did list both “savanna” and “savanna / woodland / meadow landscape” as targets—treating the latter as a broad embracing concept for the whole site. The planning also specified running buffalo clover and cane as targets, but did little to detail the many other plants that deserve special work for recovery (e.g., peavine, the most common legume in the original canebrakes).

I maintain that a simple three-tiered approach to targets is needed for forging stronger collaboration around agreed goals, for advancing general educational purposes, and for explaining conservation for the public. This approach would focus on the landscape level, habitat level and species level, in accord with the original format for defining target and conservation planning by TNC during the 1990s.

- At the landscape level, one would address goals for the ultimate extent of a protected area, and seek productive interaction with the neighborhood in any “buffer zones.”
- At the habitat level, one would outline changes in ecological conditions that are desired, together with the methods we need to maintain them.
- At the species level, one would detail those groups (especially plants) that deserve individual efforts for recovery—other than just restoring habitats in general (as is useful for most birds).

**2. My proposals have been repeatedly deferred without any substantial response.** I have submitted proposals for work at Griffith Woods four times since 2003, but these have been ignored or deferred with no clear rejection or reasons for inaction. At one point the formatting rules were changed for proposals, and I complied. I hypothesize that this behavior stems from three factors: (1) academic disagreements about the original vegetation (especially with WHM and WSB); (2) divergence of my interests from those of TNC; (3) and a power struggle that developed with the designated contacts at UK. The initial primary objective of TNC seems to have been transfer of the whole property to UK, and TNC decided not to let my interest and knowledge hinder the dominating role that our UK contacts sought to exert.

Central to my proposals is the theme: we need organized plantings of species that deserve special effort for recovery. Within a few years the incipient nursery began to produce 1000s of blue ash, roughleaf dogwood and other species. An effective system for propagation of running buffalo clover was developed (see photos in Campbell 2013b etc.). We showed that blue ash was not limited by seed-eating weevils (as previously suspected), and that it reproduces well in woods with “intermediate” shade. Roughleaf dogwood plantings can now be shown to play an important role in combating the bush-honeysuckle problem, since the dogwood is easy to propagate and self-seeds into woods and fields instead of the honeysuckle. The cane plantings, especially in front-central fields, have been generally successful and can now provide much material for research and further plantings on site. Rare seed production of the cane in Harrison and Bourbon Counties during 2009 allowed production of 1000s of seedlings, but by then there was no interest by TNC, UK or even KSNPC. All of this work was begun under TNC’s initial management of the site. But for reasons that remain obscure, after the farm committee was established, no formal permission was granted for me to continue this work.

### **3. Some expenditures were made with insufficient rationale, oversight or followup.**

Several funded activities are cited here.

- UK applied much of the HLCF funds for Archaeological Survey to the TNC portion of the farm (ca. 354 acres of the whole 745 acres). Funds were supposed to be restricted for the UK portion.
- Using further funds from HLCF (over \$10K), UK established an elaborate system of grid markers over the whole farm, using buried ceramic blocks and insertable metal posts. This system covered the TNC portion of the farm as well as the UK portion, but HLCF funds were supposed to be used only for the UK portion. Moreover, there appears to have been zero use of this system—it was a complete waste of effort!
- Using HLCF funds (over \$2.5K), UK established some very sturdy deer exclosures in the “southern savanna”. Although a student did some initial survey of the vegetation in these plots, that work was abandoned. There appears to have been no effective use of these exclosures so far for any research or management objective.
- Using HLCF funds and NFWF funds, UK and various volunteers did much work to reduce bush-honeysuckle during 2003-2009. Although the effort was continued in some areas, other areas have not been followed up and the honeysuckle has grown back. Is there any map or database that identifies areas treated, and that accounts for costs and benefits?
- UK was allowed to plant corn in some fields during 2006-9, including the “front-central” fields where their rows of corn disrupted initial plans for establishment of cane and associated

research on the vegetation. The rationale for corn was that the funds would help support work at the farm. Based on documentation reviewed so far, it does not appear that significant income was derived from the corn. And although I had previously been mowing down the hemlock between cane plots in the front-central fields, after UK's effort was abandoned the hemlock increased again to become a major problem.

- UK planted two large fields in 2009-10 with a odd mixture of prairie grasses and forbs that was largely composed of species that were not known in the original vegetation, and some are not native to Kentucky at all (Schaffer 2013). Why on earth were grasses typical of longleaf pine savanna planted here—*Aristida stricta*, *Ctenium aromaticum* and *Sorghastrum secundum*? [See his Table 2.2] Schaffer's tree plantings in these fields are supposed to guide restoration, but their context is now even more artificial.
- Other plantings by UK at the farm need further review, but details are not yet available. From available information, I suspect that the blocks of planted shrubs are not all well suited to the site—and some are probably not native to uplands of this region (e.g. witch-hazel). The supposed “shumard oak” planted behind the old collapsing corn-crib (right side of gravel road) is actually pin oak, and it should be removed.
- UK (and to a lesser extent TNC) invested many thousands of dollars into the two tenant houses on the farm, and initial partners agreed that it was critically important to have resident managers on the site. Yet during 2009-12, both structures were abandoned, and thieves caused much damage with removal of copper pipe, etc. Why could no one be found to act as caretaker, perhaps rent-free, to prevent such damage?

- The historic Tavern, although not directly related to the conservation project, became an object of wasted time, effort and funding—initially by UK and then the Friends of Griffith Woods. Why did our initial contacts at UK pursue renovation of this building so much, when it is now clear that the President and Deans at UK were opposed to it all along? And why then did the Friends invest so much after being told by TNC that the Friends could take over the building, but were then told that TNC would not follow through with this offer?

**4. No biological survey has yet been assembled despite much field work.** There are line items in the budget of HLCF and the Efroymsen Planning that indicate expenditures on surveys of vegetation and flora, and W.S. Bryant did conduct some work at the site ca. 2006-09. My vegetation survey—with map and notes of type—has been available for use, as well as my annotated floristic list. Other people—mostly at UK—did conduct surveys of vertebrates during 2003-10: including J. Cox (Forestry), J. Krupa (Biological Sciences), L. Register (TNC) and a student (Sara Martin) who worked on indigo buntings. C. Covell (Univ. of Louisville, retired) surveyed lepidoptera. R.J. Barney (Ky. State Univ.) surveyed beetles. Why was none of this assembled? Why was I not contacted about my data? How much funded effort remains unrequited?

**5. No official management plan has been assembled.** Despite a decade of work by several people, still no plan is available for public review, even as a draft. [The Efroymsen Planning, on which TNC expended significant funding, is represented only in an Excel file that is difficult to interpret and use.] Is this a responsible way to proceed?

**6. There has been no concerted effort to investigate the potential use of livestock.** It is clear that animal effects were a significant factor in the original disturbance regime of Bluegrass

Woodland, with browsing probably much more influential than burning (Campbell 2012b). Some plants that are now endangered in the region, such as running buffalo clover, appear to have largely depended on such disturbance before settlement (Campbell et al. 1988). Moreover, it seems likely that intense seasonal use of livestock could reduce the abundance of several alien plants, including sprouts and seedlings of bush-honeysuckle and the evergreen “winter-creeper”—*Euonymus fortunei* (Campbell 2013a). Experimental use of livestock was conceived as an important aspect of the project when it was initiated, and most of the initial EQIP funding from USDA was designed to support that use.

## **Conclusion.**

Griffith Woods remains our best opportunity to restore something like the original Bluegrass Woodland. However, the project has presented significant problems for the community of conservationists in this region. While we all knew that there would be challenges in scientific work and development of economic support, the degree of discord among interested people has been an additional unfortunate impediment. In my view, we need a revival of basic ethical principles (and thus effective procedures) for planning and implementation of difficult conservation projects such as Griffith Woods. We need such principles in order to build a truly cooperative community of conservation-minded people in this region, based partly on good scientific work that resolves problems through sharing of information, exchange of ideas, and transparent debate. It is especially important for interested staff, volunteers, researchers and the general public to tour the site, work together where appropriate, and thereby engage in cooperative learning that increases our ‘common sense’ around agreed goals. We need to move towards a situation where workers on site become knowledgeable, effective guides for daily activities and for long-term planning.

## Selected References

These include all known post-1970 theses, dissertations, self-published or peer-reviewed publications that are largely based on work at Griffith Woods or similar sites in the Central Bluegrass. It is remarkable that Schaffer (2013) only cited three of these sources: Bryant et al. (1980), Wharton & Barbour (1991) and McEwan & McArthy (2008)—and provided no discussion of the discord between conclusions of these studies: Bryant et al. (with Wharton) versus McEwan & McArthy (and my own work).

- Adkins, J.K. 2007. Efficacy of herbicides to restore understory cool season grassland communities in central Kentucky. M.Sc. thesis, Univ. of Kentucky (Department of Forestry).
- Adkins, J.K., & T.G. Barnes. 2013. Herbicide treatment and timing for controlling Kentucky bluegrass (*Poa pratensis*) and tall fescue (*Festuca arundinacea*) in cool season grasslands of central Kentucky, USA. *Natural Areas Journal* 33: 31-38.
- Berry, A.I. 2007. Creation of a geodatabase for Griffith Woods. M.Sc., Univ. of Ky. (School of Biological Sciences).
- Bryant, W.S., M.E. Wharton, W.H. Martin & J.B. Varner. 1980. The Blue Ash-Oak Savannah Woodland, a remnant of presettlement vegetation in the Inner Bluegrass of Kentucky. *Castanea* 45:149-165.
- Campbell, J.J.N., D.B. Richards & L.R.F. Crowley. 1978. Regression analysis of sapling abundance in the Inner Bluegrass of Kentucky, with special reference to seed source. In P.E. Pope (ed.). *Proceedings of the Second Central Hardwood Forest Conference*, p. 258-268. Purdue University, West Lafayette, Indiana.
- Campbell, J.J.N. 1980. Present and presettlement forest conditions in the Inner Bluegrass of Kentucky. Ph.D., Univ. of Ky., Lexington.

- Campbell, J. N. 1985. The Land of Cane and Clover: Presettlement Vegetation in So-called Bluegrass Region of Kentucky. Report from the Herbarium, University of Kentucky, Lexington. [Although just published by the author, this extension of my dissertation is available in the UK library and widely cited in ‘gray literature’, especially by archaeologists.]
- Campbell, J.J.N., M. Evans, M.E. Medley & N.L. Taylor. 1988. Buffalo clovers in Kentucky (*Trifolium stoloniferum* and *T. reflexum*): historical records, presettlement environment, rediscovery, endangered status, cultivation and chromosome number. *Rhodora* 90:399-418.
- Campbell, J.J.N. 1989. Historical evidence of presettlement forest composition in the Inner Bluegrass of Kentucky. In G. Rink & C.A. Budelsky (eds.). Proceedings of the Seventh Central Hardwood Forest Conference, p. 231-246. North Central Forest Experiment Station, USDA Forest Service.
- Campbell, J.J.N. 2000. Notes on North American *Elymus* species (Poaceae) with paired spikelets: I. *E. macgregorii* sp. nov. and *E. glaucus* ssp. *mackenzii* comb. nov. *Journal of the Kentucky Academy of Science* 61: 88-98 [*E. macgregorii* is one of the most abundant grasses in Bluegrass Woodland but undescribed until this paper.]
- Campbell, J.J.N. 2004. Comparative ecology of warm-season (C4) versus cool-season (C3) grass species in Kentucky, with special reference to Bluegrass Woodlands. Pages 96-115 in: T.G. Barnes (ed). Proceedings of the 4<sup>th</sup> Eastern Native Grass Symposium. Univ. of Kentucky, Lexington.
- Campbell, J.J.N. 2010. Rebuilding the concept of Bluegrass Woodland. *The Lady-Slipper [Journal of Ky. Native Plant Society]* 25 (1): 6-9.
- Campbell, J.J.N. 2012a. Revised notes (again) on native vegetation types of uplands in the Central Bluegrass Region. Published by the author at [http:// bluegrasswoodland.com/](http://bluegrasswoodland.com/)

- uploads/ Notes\_on\_Central\_Bluegrass\_Vegetation.pdf [includes historical material and a floristic list].
- Campbell, J.J.N. 2012b. The Herbivore Hypothesis for Bluegrass Woodland. Published by the author at [http://bluegrasswoodland.com/uploads/Herbivore\\_Hypothesis.pdf](http://bluegrasswoodland.com/uploads/Herbivore_Hypothesis.pdf).
- Campbell, J.J.N. 2013a. Evergreen Vines in Deciduous Woods. Published by the author at [http://bluegrasswoodland.com/uploads/Evergreen\\_Vines\\_in\\_Deciduous\\_Woods.pdf](http://bluegrasswoodland.com/uploads/Evergreen_Vines_in_Deciduous_Woods.pdf)
- \*Campbell, J.J.N. 2013b. Bluegrass Woodland and its eutrophic nature. Published by author at: [http://bluegrasswoodland.com/uploads/Bluegrass\\_Woodland\\_and\\_Its\\_Eutrophic\\_Nature.pdf](http://bluegrasswoodland.com/uploads/Bluegrass_Woodland_and_Its_Eutrophic_Nature.pdf)
- Cilles, S.E. 2008. Impacts of vertebrate seed predators, seed dispersers, and herbivores on tree regeneration in a Bluegrass savanna. M.Sc. thesis, University of Kentucky. [This is erroneously listed in some bibliographic websites as a Ph.D.]
- Howell, J., & S. Martin. 2008. Nest site characteristics related to cowbird parasitism and predation in the indigo bunting. Posted [jdhowe2.files.wordpress.com/2010/03/poster-to-print.ppt](http://jdhowe2.files.wordpress.com/2010/03/poster-to-print.ppt); this study does not appear to have been fully published.
- McEwan, R.W., & B.C. McCarthy. 2008. Anthropogenic disturbance and the formation of oak savanna in central Kentucky, USA. *Journal of Biogeography* 35: 965–975.
- McEwan, R.W., M.K. Birchfield, A. Schoergendorfer & M.A. Arthur. 2009. Leaf phenology and freeze tolerance of the invasive shrub Amur honeysuckle and potential native competitors. *J. Torrey Bot. Soc.* 136: 212–220.
- McEwan, R.W, M.A. Arthur & S. Alverson. 2012. Throughfall chemistry and soil nutrient effects of the invasive shrub *Lonicera maackii* in deciduous forests. *Am. Midl. Nat.* 2012, 168, 43–55.
- Poulette, M.M 2012. Ecosystem impacts of the invasive shrub *Lonicera maackii* are influenced by associations with native tree species. Theses and Dissertations--Biology. Paper 6 [available at [http://uknowledge.uky.edu/biology\\_etds/6](http://uknowledge.uky.edu/biology_etds/6)].

Poulette, M.M., & M.A. Arthur. 2012. The impact of the invasive shrub *Lonicera maackii* on the decomposition dynamics of a native plant community. *Ecological Applications* 22:412–424.

Shaffer, J.D. 2013. Factors influencing the establishment and survival of native hardwood tree seedlings of the Kentucky Inner Bluegrass blue ash-oak savanna-woodland. Theses and Dissertations—Biology. Paper 15 [available at [http://uknowledge.uky.edu/biology\\_etds/15](http://uknowledge.uky.edu/biology_etds/15)].

Wallingford, K.D. 2006. Restoration of blue ash (*Fraxinus quadrangulata*) in the Inner Bluegrass of Kentucky. M.Sc. thesis, Univ. of Kentucky (School of Biological Sciences).

Wharton, M.E. & Barbour R.W. 1991. *Bluegrass Land & Life: Land Character, Plants, & Animals of the Inner Bluegrass Region of Kentucky*. Lexington, KY: The University Press of Kentucky..

\* See also other relevant material at [bluegrasswoodland.com](http://bluegrasswoodland.com), especially the “Griffith Woods” page, including: [bluegrasswoodland.com/uploads/Griffith\\_Woods\\_\\_Summary\\_Fliers\\_.pdf](http://bluegrasswoodland.com/uploads/Griffith_Woods__Summary_Fliers_.pdf). Files will be added that deal with further history of the woods, relevant correspondence, results from research, current proposals, and future amendments to this memorandum.

Julian Campbell  
3525 Willowood Road  
Lexington KY 40517  
Email: [julian.campbell@twc.com](mailto:julian.campbell@twc.com)

## **History of Significant Events in the Griffith Woods Project [written in 2007]**

This is a rough draft—many dates and other details are being checked.

1970s

The farm, with its ancient trees, has become fairly well known to botanists and ecologists in Kentucky, but their focus is largely drawn to the ‘southern savanna’ that covers 80 acres on relatively shallow soil, rather than the northern sections with bur oak on deeper soil.

Bill Bryant, Bill Martin, Mary Wharton and Johnnie Varner survey remnants of ancient woodland here and elsewhere in the central Bluegrass region.

Willem Meijer, the famous UK professor, visits the farm a few times and gets to know Billy Griffith, discussing war-time experiences in Europe.

JC arrives in USA and does PhD at UK during 1977-1980 on Inner Bluegrass ‘forest conditions’; he visits the farm once, and has tea with Mr & Mrs Griffith in their kitchen at the back of the old house.

Dan Boone, a young botanical enthusiast descended from pioneer Daniel Boone, visits the farm, and gets to know Billy Griffith.

1980s

Bryant et al. publish 1980 paper outlined evidence that ‘ash-oak savanna-woodland’ was the predominant vegetation in the central Bluegrass region at the time of settlement; this evidence however, is largely based on species composition in the scattered remnants of woodland pastures, including Griffith Woods, rather than a thorough analysis of historical information.

JC completes PhD in 1980 and continues historical work (unpublished 1985 ms “The Land of Cane and Clover”) that confirms deeper shade for much of region before settlement, but publishes only one summary paper (in 1989 Central Hardwood Forest Conference); this work however is cited in several archaeological publications.

Billy Griffith dies (1983) and the farm eventually is transferred to his second cousins, Adnée Hamilton, Virginia Amons, and Mary-Cloud Hollingshead (three sisters). Continuing the general decline in management that began in the 1940s, additional parts of the woodland become less intensively grazed, and the hickory thicket grows up in the ‘southern savanna’ after mowing is relaxed in more gullied areas.

1990s

Wharton and Barbour (1991) complete their book, “Bluegrass Land and Life”, which elaborates the ‘ash-oak savanna-woodland’ view; this book includes a very thorough listing of plants and animals for the region; however, a close reading reveals rather selective citation of evidence for the savanna view, and an unrealistic conclusion about the influence of past climate.

TNC (and later NatureServe) conduct many meetings with JC, KSNPC and others on vegetation classification, in order to establish a national standard; JC's historical information is worked into definitions of deep shade (sugar maple-bitternut), intermediate/submesic woods (walnut, buckeye, etc.), and more open woodland (with bur oak, but still referring largely to woodland pasture remnants).

Dan Boone discovers running buffalo clover at several places in the hickory thicket area at Griffith Woods in mid-1990s; this is 100s of yards from the place where an earlier planting had been made in the 1980s, and is considered to represent an original native population.

2000

JC meets with Hamilton et al. in the hall of the tavern at the farm to discuss potential sale of the farm to TNC; we walk around and see running buffalo clover in the hickory thicket.

2001

JC meets further with owners and develop several scenarios for protection of the farm; these options include, in less desirable scenarios, possible resale of some parts of farm by TNC for development. We meet with several local conservationists at Marriott etc. to discuss options (including Marc Evans, Margaret Graves, Libby Jones).

2002

LR offers \$1 million to TNC to help with acquisition; TNC (with Tom Dupree and others) discusses various options with LR, including his possible acquisition of a portion of the farm as a 'conservation buyer', but LR elects for an outright gift to be used for acquisition of the farm and its stewardship. Another option would have been for TNC to market a portion (or portions) of the farm to other conservation buyers, then use proceeds from such sale to do other work elsewhere in the Licking River watershed. But LR wanted his gift to be used only for the farm—if significant funds were left over after the project was established, the excess funds should be used for management of the site.

JC invites UK to become involved in the farm, and their HLCF proposal is entertained.

JC seeks to meet with Marc Evans (KSNPC), Chuck Rhoades (UK) and others to begin serious conservation planning for the farm; unfortunately, ME is generally too busy and CR leaves UK by end of year; however, they do meet once at the farm, walk about and discuss general concepts for restoration and research.

TNC and UK meet with Toyota to request \$1.5 million for: (a) 1 million for endowment of research based at the farm; (b) \$500K for a revolving fund for TNC to pursue buying and selling of nearby tracts to establish conservation easements.

Oct: Toyota conduct a volunteer day at the farm with ca. 120 people to create trail through the back woods; elaborate cook out (w/porta-potties, tent) and talks by Bill Bryant et al. is very successful, despite previous rain and other stresses preparing for the event; in addition to trail

work, boy scouts and others accumulate first data set on size distributions of ancient trees in more shady parts of the woods.

2003

Feb (check date): severe ice-storm in central Bluegrass brings down several large limbs at the farm; a few of these become sampled by JC and Ryan McEwan, providing definitive evidence that the open grown character of the so-called savanna trees was actually initiated ca. 1800-1850, during thinning of the woods for woodland-pasture, when growth rates of remaining trees increased by x 2-4.

Spring: deal between TNC and Hamilton et al. closed; the ca. 745 acre farm is sold for \$2; at field trip on farm with TNC and supporters, JC provides updated information about reasonable biological targets for planning at Griffith Woods.

Spring: regular monthly volunteer days established; also JC, LR, Boyers and others become regularly engaged at the farm, focusing on cleaning up old dumps, cleaning up trash along road frontage, taking out honeysuckle along front fencerows of farm, filling holes in roads on farm, taking out old useless fence (on TNC); LR and MB establish small horticultural area near barn; we reduce hemlock and other weed problems in the front of the farm; LR pays for mowing of driveway area from now until end of 2005.

Spring: seedlings salvaged from the Toyota Trail are planted out at the back of the Collection Field for future use (especially blue ash); data from the trail provide insight to regeneration of trees in the more shady back of the farm.

Spring: at initial meetings with project participants, KSNPC wants to focus on ‘ash-oak savanna’ and opposes definition of forest with deeper shade as a conservation target, despite JC’s evidence from many historical sources; they propose a three-phase restoration, (1) eradicate aliens (with much human labor, herbicides, etc.), (2) plant natives, (3) manage native vegetation, primarily as ‘savanna’; JC and others point out that, if applied to whole farm at once, this approach will be expensive and troublesome, and that it is possible to combine such activities in small-scale initial trials rather than spread them out through time; JC maintains that while some focused alien-reduction is clearly warranted, it is also important to try broader macro-management that uses browsing/burning coupled with plantings of aggressive natives that can outcompete aliens.

April: JC organizes field trip and round-table discussion attended by 20-30 people at Cynthiana library; this is good for general expression of views, but it becomes clear that a power struggle may develop rather than a reasonable discussion and resolution of issues.

Summer: initial planning committee is developed further, with procedures for formal proposals to do work at the farm; JC submits several proposals and reports on activities to date.

Summer: UK Archaeology complete field work on survey at farm on UK and TNC land; report remains appears to be finished by 2005, but has still not been provided to all interested project participants, including TNC.

Summer: UK’s Jim Krupa and students conduct small mammal survey at farm; he finds very low diversity and generally ‘boring’ results; data may be available but report is still not written.

Summer: U of Louisville's Charlie Covell and students conduct survey of lepidoptera; data may be available but report has not been distributed to all interested participants.

summer: Lawless, Elkins, Campbell and others collect initial plant material for the farm from the mouth of Townsend Creek at the Licking River and elsewhere; material is planted in the Collection Field and the Nursery Field (hickories).

Summer: HLCF proposal submitted by UK for ca. \$1.2 million for UK to acquire 390 acres; proposal includes clear language and location for native plant nursery, but excludes JC's initial suggestion for three zones from open front to shady back; 'savanna' semantics is emphasized despite increasing evidence of more varied presettlement conditions.

Summer: PC and others at UK draft proposal for ca. \$300K to Ky. Dept of Transportation for funding to rehabilitate the tavern; with JC an emergency proposal for \$8,000 for urgent roof repair, gutters and window covering, but TNC refuses to accept this proposal due to its requirement for a legal covenant regarding the tavern.

Summer: JC secures USDA (EQIP) funding for pond improvements, pasture improvement in some small paddocks, a gully fencing, and 10 acres of warm-season-grass planting; this work is mostly conducted during 2003-2004.

Summer: Joshu Goebeler (a UK Historic Preservation student) leases the cabin by the driveway in exchange for caretaking at farm and basic tidying up other urgent work around the tavern, including some heroic bracing under the floors; he stays until winter 2004/5; JC and Goebeler use approved TNC funding to make significant improvements to the cabin, which had become seriously run-down.

Fall: JC arranges with neighbor Jess Burrier to graze the southern savanna and some of the central fields for a few weeks, with the hope that running buffalo clover might reappear, to gain other general experience with cattle, and as a trade for his help with the EQIP pond project; KSNPC disapprove, and claim excessive damage to the hickory savanna, and seem to favor fire rather than grazing for recovery of RBC; however, many small blue ash seedlings later appear in the hickory thicket area (apparently germinating in spring 2005).

Fall: although JC and other staff (Dickerson, Hatter, Sole) have been working towards a general understanding about goals for management (restoration and research) at the farm before sale to UK, JRA decides (with input from WM and PC?) that TNC will wait until after the sale for any significant negotiation; “are you trying to insert yourself into the process” (WM to JC).

Fall: proposal developed by Lawless, Crowley and JC to initiate native plant collection at the farm with UK funds provided by Maelor Davies (KTDRRC).

Fall: JC works with Elkins to design Collection Field with rows for various ecological contexts; from fall to spring 2003, volunteer days are used to plant 120+ blue ash saplings (grown by JC/associates in Lexington area) to produce eventual shade for appropriate rows; small surplus of saplings is sold through TNC for ca. \$40 each as fund-raising experiment.

Fall: ‘Savanna Symposium’ is held at UK, with several invited speakers prominent in savanna or grassland ecology; this is good for discussion of basic ecological issues, but there is little follow-up or integration in farm or research planning; on his own, JC does follow-up with some of the speakers/associates with regard with statistical design issues but is unable to pursue

discussion with UK people; initial research proposals from UK Forestry (?to Pew Foundation and TNC research fund?) did not include TNC or KSNPC as coauthors.

Fall: as end of previous lease of TNC with Barnett & Prows to farm fields west of US 62 approaches expiration (grandfathered in from Hamilton et al.), TNC establishes new lease with them to run from spring 2004 to spring 2007; lease covers haying, alfalfa and corn on ca. 140 acres.

Fall: from Nov-Mar, 250 cane seedlings from the Madison County flowering planted in the front-central fields by JC, Boyers and many other volunteers.

Fall: \$300K is awarded to UK by Ky Dept of Transportation for work on the tavern (see photo-op with Governor Patton covered in media); UK administration remains very cautious, having required additional fund-raising from PC and Historic Preservation for \$200K to endow minimal maintenance of the building; they put off decision about the tavern again.

Winter: PC and Sharon Buford promote emergency work on the tavern with Tracy Farmer Center for the Environment funds and private donations; contractor Bob Settlemire is selected by PC & SB, and JC agrees to front half of the \$7800 from his private donation, pending TFCE's initial payment; work is conducted, but first payment delayed by 2 months due to lack of authority to pay from UK; the work is completed more or less (at difficult time of year) but Settlemire is disgruntled and there is little or follow-up or quality control by UK.

2004

Feb: 390 acres sold by TNC to UK.

April-May: celebration of HLCF grant to UK at farm, with media, invited community, picnics in barn, tree plantings in front-central fields for initial experiments and ‘savanna extension’ (in accord with plan submitted to HLCF). JC is reimbursed by UK (TFCE) for cost of blue ash trees, which he bought from a cooperating nursery in Woodford County.

Summer: graduate student Katherine Wilkinson conducts field work on planted blue ash seedling growth in relation to competition from large trees; this is completed in 2006.

Sep: JC is excluded from central planning committee, after further disagreement about targets and designs, and perhaps falling out with PC, apparently due to conflicts in discussion of statistical matters (my ignorance?) and potentially insulting language (my mistake?), for which I have apologized.

Fall: JC and MB increase focus on growing selected woody species (especially blue ash, roughleaf dogwood) and wildflowers for the farm and its applications; small areas near barn are used to accumulate potted material.

Fall: Andrew Berry moves into cabin by driveway, to help with caretaking and conduct his graduate work with remote sensing and vegetation survey at the farm.

Fall: Scott Gleeson (with Joe Engelberg) arranges for two meetings for presentation and discussion of the interdisciplinary aspects of the project in the library at UK; while these meetings help us our various state positions, there is little or no follow or integration with farm planning.

Fall: JC, MB, LR and others hand-harvest 100+ lbs of prairie mimosa seed (*Desmanthus illinoensis*) from a low meadow in nearby Scott County for cleaning by Roundstone Seed; the site is apparently an unusual remnant of native full-sun vegetation, perhaps connected with old bison trails between Stamping Ground, the 'Great Crossing' and other areas frequented by bison before settlement; the seed can become an important component of full sun restoration at the Griffith Farm and elsewhere; potential relationship with Roundstone Seed is discussed.

Winter: JC meets with UK provost Mike Nietzel, who states clearly that he is opposed to UK getting involved in the tavern; "do not expect any help from me if you are here to promote Phil's plans for the tavern"; JC is not focused on that purpose, but to seek good overall planning for the farm.

Winter: 'Efroymsen' planning process is conducted by the official planning committee, with Pamla Wood contracted by TNC to facilitate; JC is promised input, and is told that there will be attempts to resolve difficult issues, but these issues remain unresolved; target definition does not follow standard TNC procedure.

2005

Spring: LR decides to withdraw from regular involvement given the lack of good communication and progress in cooperative planning.

Spring: JC and MB, with several assistants and volunteers conduct initial cane plants on TNC for the USDA (WHIP) grant; survival is not good however due to severe drought in 2005 and rather small size of material; also, it become apparent that prior herbiciding of fescue (suggested by USDA) may be a mistake, due to intense weed release (including local thistles, hemlock).

Spring: final phase of EQIP project is prepared, with herbiciding of fescue for warm-season-grass plantings; however, intense weed problems and lack of time delay completion until 2006 (a year beyond initial plan).

May: 'Efroymsen' planning process is completed, despite several lingering doubts about management details and overall teamwork.

May: JC buys tractor for maintenance of the front-central fields, nursery field and plant collection field, plus other general farm uses as needed; he and Andrew Berry mow some of worst hemlock areas in front of farm, the EQIP pasture improvement, essential trails.

Summer: UK expends ca. \$50K (?) on reduction of honeysuckle in ca. 30 acres, on installation of 12 (?) deer exclosures, and some other work. Steve Bishop leads the crew, who work valiantly under difficult conditions, and he keeps good records. But much of the honeysuckle

work seems somewhat inefficient due to summer heat and inexperience of the crew. There is little or no follow-up in the fall of 2005 or 2006, and some honeysuckle is now resprouting.

Summer: UK mows most of fields on their land, plus the back TNC field in the SE corner of farm.

Fall: JC gives long talk to UK Forestry Dept. outlining evidence for the nature of Bluegrass Woodlands before settlement, and a logical basis for conservation targets; he distributes copies of drafted materials for a generic grant proposal to address fundamental problems in the ecology of eutrophic woodlands and ungulates, for application to Griffith Woods; much of this draft was based on a week JC spent in the Botany Library at the University of Cambridge during August; he has yet to receive any comments from UK about this effort.

Fall: it becomes clear (for the second time) that UK's administration will not accept the tavern project; there is hope however that a non-profit organization can revive the project.

Fall: JC transfers a grant he wrote for \$30,000 from TNC to UK; the goal of this grant, from National Fish and Wildlife Foundation, is to establish a team of institutions and individuals in the central Bluegrass region focused on reduction of woody alien plants, with several demonstration projects and connection to research programs; some of the work is planned for Griffith Woods; however, JC has yet to be contacted about any team meeting or further planning now that UK is administering the grant.

2006

Spring: Friends of Griffith Wood start to organize, and by end of year will become 501(c)3 organization; PC maintains that there is still a chance that UK will take on the tavern, but for the third time, with the new provost, they say no.

Spring: as Friends get organized, PC and others oppose nursery function within the Friends purposes; this causes further friction—JC continues to note that many species need to be defined for recovery at the farm, and initial efforts at propagation of selected species need to advance.

Spring: JC and MB, with several assistants and volunteers (including a good group from Georgetown College) plant more cane on TNC for the USDA grant, with much better success using larger material, wider spacing, and put into fescue without any herbiciding.

Summer: funding from UK or HLCF allows graduate student Sarah Cillis to conduct survey of deer exclosures, and other students visit for class project; JC assists with initial id issues. Bill Bryant is paid to conduct selected vegetation survey in older woods. JC and others remain curious about the extent to which BB and others realize that blue ash seedlings are locally frequent in the deeper woods on the farm (e.g. in the hickory thicket and beyond the powerline by Gray's Run). Is there an assumption that blue ash should regenerate in sun?

Summer: Mary Arthur and students conduct studies on honeysuckle and soil effects; details of this plan remain unknown to several people involved with the farm.

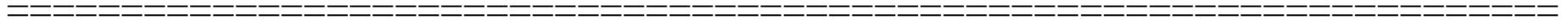
Summer: JC focuses on finishing draft for Atlas of Kentucky Flora, and delays inventory of planted material at the farm.

Summer: UK's administration of the NFWF grant apparently excludes JC from communication; apparently demonstration/research plots may be designed for the previously planned nursery field?

June: JC finishes warm-season-grass planting covering 10 acres for the EQIP project; most areas are successful, but in 1 or 2 acres, there was apparently too much herbicide application—the “Journey” (imazopic and glyphosate) formulation in 2006 is too toxic under some conditions (R. Seymour, pers. comm.); reseeded of these can easily occur in the spring, after further evaluation.

July: JC receives memo from GMAC threatened exclusion from farm unless many requirements are met by end of September; several of the requirements are impossible or unreasonable to carry out within this period.

Aug-Sep: JC conducts thorough inventory and vegetation survey in front-central cane fields.



**Statement to Kentucky's Heritage Land Conservation Fund Board. Julian Campbell  
Jan 9th , 2006.** I have a general point and specific example that relates to today's proceedings.

A. You are concerned primarily with acquisitions of lands for conservation, but also involved with regulation of the way in which these lands are subsequently managed. You all realize that management can sometimes become difficult, due to different perspectives by various partners, scientific uncertainties, shifting threats, and inadequate commitments of resources. But over the past few years, I have become acquainted with several unsatisfactory cases involving tracts of land with which this board has dealt, and there has not been enough airing of these problems. This has been a brewing crisis in Kentucky for some time, as the acreage of protected tracts has increased, thanks in large measure to the actions of this board, but as our applied finances, governing organizations, and cooperative human abilities have been severely strained in trying to manage these lands. This is not just the old story about poor funding; it is a deeper tragedy at times due to poor communication between people, even within the same organization, and inadequate sharing of data; due to different concepts of natural features, their relative significance, perceived threats, and priorities for action; and due to absence of the special human bonds that can be made through cooperative working, rambling and dreaming on these lands. The most tragic case that I am closely involved with, though still salvageable, is Griffith Woods, where I have had a lot of trouble getting people to pay attention to basic information on Bluegrass Woodlands, their history and their needs; where lack of communication has held back details of biological targets, development of dynamic models, goals and hypothesis; and where lack of cooperative physical work and play at the site has led to avoidance of simple human relationships, disaffected donors, and lost philanthropic opportunities. Around the state, one can point to various other tracts that have been struggled over (such as the Reynolds Tract in Livingston Co.), and to general disagreements between groups in how to manage our forests.

The solution must involve better networks between conservationists at a reasonable geographic scale. We can best focus our bodies, minds and souls on particular tracts or types of tract that lie within the same general ecological realm. We need a ‘neotribal agglomeration’ within each of the half-dozen natural regions of the state and related parts of adjacent states. In this parallel universe, it is absolutely essential that institutional barriers be broken down, for example reviving the relationship between Kentucky State Nature Preserves Commission and The Nature Conservancy, with proper data sharing and polite discussion of the many difficult issues that confront us both. But being spread too thin across Kentucky, with excessive driving about, tends to stretch such organizations enough internally, leaving insufficient time or energy for deeper human relationships within each region. The Alliance for the Cumberlands may offer some such hope for the southern Appalachian parts of Kentucky and adjacent Tennessee. I want to develop a similar alliance within the urban and agricultural region of the Central Ohio Valley, embracing the Bluegrass and the Knobs around it. I would like your help. Let’s at least organize some of our meeting around this region, perhaps with a rotating theme, such as Bluegrass Woodlands, invasive alien plants, watershed issues, loss of farmland, forest management in the Knobs, wetlands, and the small remnants of native grassland.

B. The example today is the Hazel Dell Meadow, in Pulaski County. Although TNC acquired this land 10-15 years ago, its financial position has led it to negotiate a sale to the county, and there is still no clear picture of how this land will be managed. With insufficient management, the precious little meadow at the center of this tract has become grown up, and some rare plant species may have disappeared. A clear simple plan for management should be developed now, with consideration of rare species in the meadow, the need to extend the opening into adjacent woods, and the need for good scientific study of the site. I urge this board to consult with experts, and to approve a plan with commitments to appropriate management from the

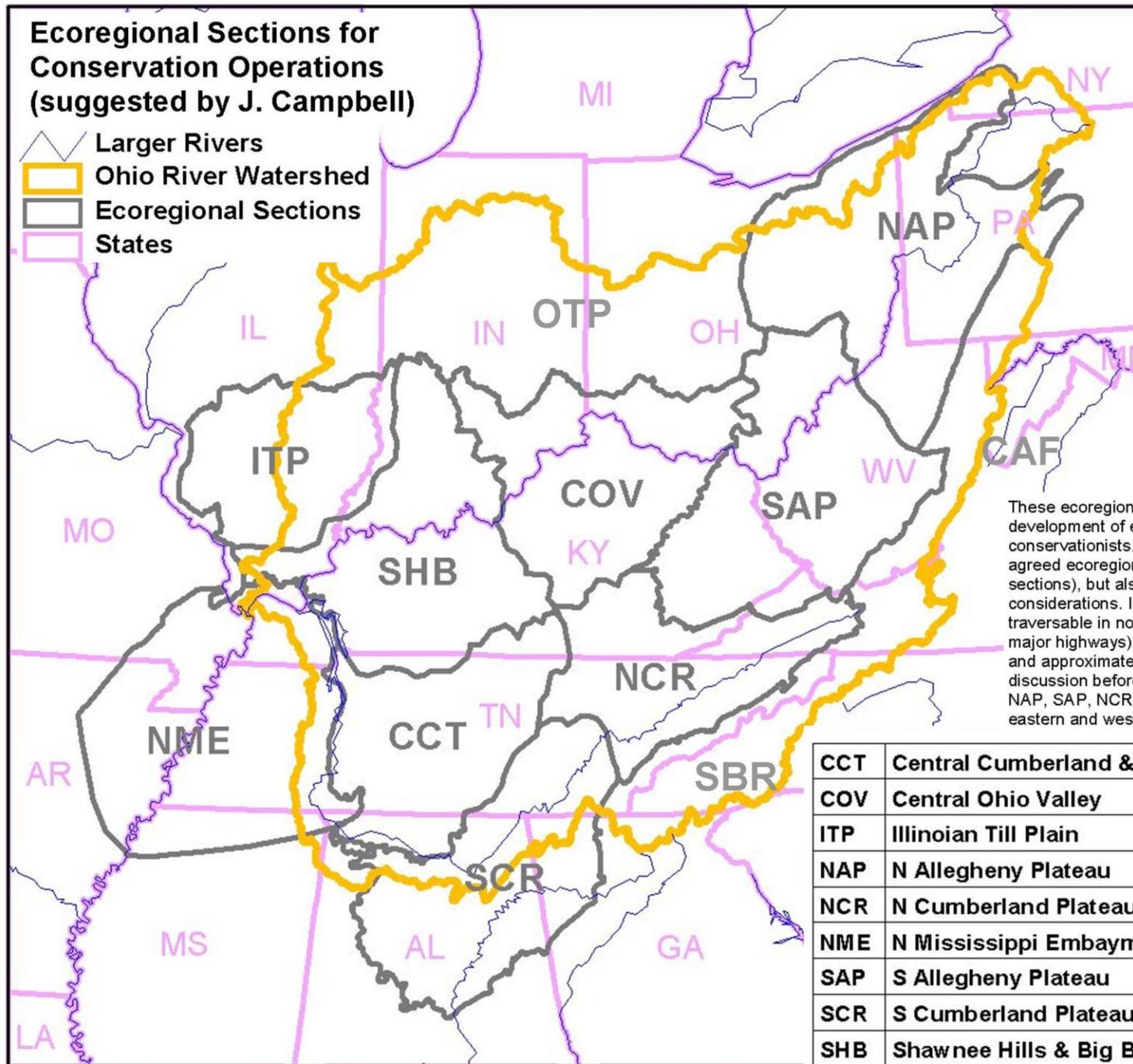
organizations involved, before agreeing to fund the acquisition of the site by the county. I am not necessarily opposed to this sale to the county, but Pulaski County has little tradition of involvement with nature conservation and associated biological or ecological matters. We should get to know one another better--those of us already involved with the site, and those who may become interested. It is important that the work of Ralph Thompson and his students at Berea College be incorporated; also Martina Hines and others at KSNPC have become familiar with this site and similar ecological sites in south-central Kentucky. It would be very healthy for our overall relationships to engage in discussion soon, develop a plan, and begin doing the work that this site so desperately needs.

This Hazel Dell site was discovered and studied ca. 1980-1990 by faculty and students at the University of Kentucky and Berea College. I have become particularly interested in the overall ecology and history of the site, in addition to the sundew and other endangered species. It is a small remnant of the damp infertile grasslands that apparently used to occur in several regions of the state, now largely converted to agriculture (with draining and fertilizing) or allowed to grow up into woods. Browsing by large herbivores, especially near mineral licks, and burning, especially by native people, probably maintained these unusual glades in the largely forested presettlement landscape. Barton's 1794 map marks "glades" in the area of Pulaski and Lincoln Cos. where unusual damp acid sandy soils occur on the uplands (see USDA Soil Maps). Hazel Dell site provides a link to ancient times, an opportunity for deeper understanding of our original landscape, and a good place to experience the many rare and unusual species that remain.

The meadow urgently needs to be bush-hogged, before the 2006 growing season. Herbicides may need to be applied to many of the encroaching woody stems. Ditches need to be checked and plugged if necessary to maintain wet conditions. A plan for prescribed burning

needs to be developed that includes much of the woodland around the meadow, but that divides the meadow and woods into different units for rotation (perhaps with a central meeting point in the meadow). Fire-breaks are needed in thoughtful locations, since the sundew and other rare plants may well benefit from the soil disturbance, and the fire-breaks could become significant extensions for their populations. Some peripheral blocks of woods should be left unburned to allow varied habitats and species, and for long-term controls as we try to understand the effects of fire. And it is critical that botanical data from the site be reviewed, mapped, and archived for reference in future monitoring.

TNC is now committed to several large projects across the state, and it has become sometimes difficult to devote resources for the relatively intensive stewardship that special unusual sites like Hazel Dell require. This brings me back to my basic point—we need an independent organizational framework to conduct much of the planning, management and assessment that nature conservation needs. It is dangerous to expect any single organization to assess itself, but a regional network of conservationists from different institutions could become committed to deeper understanding, sharing and service to the community. For example, oversight for a place like Hazel Dell should become linked with discussions about similar sites further south (e.g. May Prairie in Tennessee) and east (e.g. the highly damaged upper Laurel River wetlands). Ultimately, I would hope that alliances like this in the upper Cumberland region would provide the essential complement in managing natural areas that we need. Such alliances should be closely associated with academic institutions, as well as local governments, land-trusts and other non-profits. They should develop plans for the stable long-term funding that land stewardship so desperately needs—they should adopt the maxim “we manage land the old-fashioned way, we endow it--with financial, intellectual and social resources.”



**Peripheral Sections**  
**CAF** = Central Appalachian Forest (from TNC).  
**OTP** = Ohio Till Plain; this is a provisional definition, excluding land north of the Ohio River watershed that can be reasonably included with regions around the Great Lakes.  
**SBR** = Southern Blue Ridge (from TNC).

These ecoregional sections are proposed for development of efficient networks of cooperating conservationists. They are generally close to agreed ecoregional sections (or groups of sections), but also incorporate some practical considerations. In general, these should be traversable in no more than two hours drive (on major highways). The boundaries are provisional and approximate, and they deserve thorough discussion before implementation. For example, NAP, SAP, NCR & SCR might be subdivided into eastern and western sections for some purposes.

<b>CCT</b>	<b>Central Cumberland &amp; Tennessee Valleys</b>
<b>COV</b>	<b>Central Ohio Valley</b>
<b>ITP</b>	<b>Illinoian Till Plain</b>
<b>NAP</b>	<b>N Allegheny Plateau</b>
<b>NCR</b>	<b>N Cumberland Plateau &amp; Ridge-and-Valley</b>
<b>NME</b>	<b>N Mississippi Embayment &amp; Alluvial Plain</b>
<b>SAP</b>	<b>S Allegheny Plateau</b>
<b>SCR</b>	<b>S Cumberland Plateau &amp; Ridge-and-Valley</b>
<b>SHB</b>	<b>Shawnee Hills &amp; Big Barrens</b>

## **The Way Forward for Nature Conservation (at least in the Central Ohio Valley).**

Julian Campbell, The Nature Conservancy, Kentucky Field Office, 642 West Main Street, Lexington, KY 40508 (next to the Salvation Army); December 2004.

I am not altogether content with the Conservancy and I want to outline, as objectively as possible, why I have differences in some areas. I am familiar with the retort that I myself am part of the problem. It is true that I am intensely opinionated on occasion, but these opinions have evolved over several decades of observation and interaction with the conservation community. I am not a complete nutcase.

In a nutshell, the Conservancy is not functioning enough in true teams of regularly interacting, sharing people; we are not basing our plans, actions and measures on sufficient data; and we are not building cordial consensus on the difficult trade-offs among competing needs.

While we have made considerable progress in ramping up the organization to confront the huge global, regional and local challenges for nature conservation, we must now realize, deeply, that the job is at least 10 to 100 times bigger than what The Nature Conservancy can handle. We have climbed a tall mountain in the conceptual landscape, from a relatively gentle side, but now find ourselves atop huge cliffs, and can see that other organizations and individuals are on their own peaks. We must become like birds, learning to fly, sing, flock and perch in new associations.

Being spread too thin, especially with inadequate strategic planning and quality control, becomes excessively stressful. Some people find relief by focusing on a few relatively rewarding, exercising projects, often involving field work and physical labor. I spent eight consecutive 12 hour days in December planting cane (that I have raised) at the Griffith Farm—

this is the most strenuous activity I have performed in a decade. Perhaps we should all spend at least one day per week in the field. Ultimately, returning humanity to the land should be a key theme in our work.

We are in danger of throwing out the baby with the bathwater. The Conservancy must rediscover or regrow its scientific and cultural roots, at the same time as reaching out without hyperbole or arrogance to the whole world, seeking collaboration with communities, corporations and agencies who may not be natural partners. Our central, gut-wrenching trade-off is to balance intense efforts in those areas with clear concentrations of targets (or restorable targets), where our original philanthropy was rooted, versus more diffuse efforts to improve the landscape with compatible economies around these remnants. We must establish core areas of sufficient quality, if only to understand relatively natural systems better; we can use this knowledge to restore some components more widely, and to help design surrounding landscapes.

The original philanthropy was partly based on the idea that the Conservancy would establish natural areas, especially at beloved sites, and then endow them for sufficient stewardship. Some components of science and stewardship in designed natural areas depend on stable, endowed funding, and the Conservancy's drift away from this—a pursuit promised and formulated for decades—might even be regarded as fraudulent on a cynical day. If the Conservancy is really abandoning this duty, the solution may lie ultimately in fostering local land trusts and academic partners to take it on. Such stewardship should be associated with volunteers, trips for members, annual meetings, educational activities, and other bonding with communities. Perhaps clearer understandings should be reached with potential donors about how contributions should be balanced between land protection, endowment for stewardship, other operational support, and less predictable ventures.

The new economic challenges across whole landscapes are vast and we have only just begun to estimate our needs. Because of these uncertainties and the shifting sands of our modern economy, we risk much in these new arenas, but there is no question that we must proceed in several directions. Far from being opposed to change, I am in favor of much further advancing along the following lines.

- We need more aggressive conservation buyer programs in appropriate sections of our project areas, especially in buffer and matrix zones where relatively simple easements can be set up through real estate programs; in designed natural areas, stricter easements should be promoted.
- We must get involved more with sustainable wood production and use, but with the clear understanding that we are looking for old growth opportunities in appropriate core areas, and that ultimately natural resources may best be managed as a ‘green’ investment by informed, integrated communities.
- We must get continue to extend our ‘macromanagement’ of appropriate habitat with prescribed fire, and delve deeper into the science of fire regimes, their presettlement interactions with natural systems, and their potential resurgence in selected areas designed for restoration. In addition, we must experiment more thoroughly with interactions between native or domestic ungulates and natural systems; there is much we do not understand about the role of megafauna in maintaining biodiversity.
- We must help implement agricultural practices designed to benefit our conservation targets and that form a reasonable part of the economy. Native plantings in converted farmland should be truly native to the region and any net benefits for economy or ecology (e.g. hay, seed, livestock, wildlife) should be properly documented.

- The horrendous problems from invasive alien species must be more seriously addressed; more research into control and funding is urgently needed. Some reduction of alien plants might well be linked with proceeds from sales of native material—nature conservation may have to move directly into the restoration business.
- We must develop better guidelines for propagation and reintroduction of native species (or genotypes) at appropriate sites. Species (or genotypes) deserving propagation must be carefully selected; coordination with botanical gardens, other horticulturalists, zoos, and other relevant institutions should be developed in order to foster the optimal allocation of effort in these costly endeavors.

In all such plans, it is important to find out if funds generated from transactions in the matrix zones can help pay for more intense conservation in the core zones. To what extent can new local economies evolve in politically fair and ecologically sustainable ways across whole landscapes? Many other people are working on such issues other than the Conservancy, and it is critical that we get involved with appropriate regional networks. We cannot expect our local staff to cover all the bases—we need new organization of internal support and external partnerships.

As attempted in previous diatribes, I am indeed trying to stir things up within the Conservancy. We cannot make our big pitch to save the world, based on initial planning with inadequate data (“ecoregional” and “Efroymsen”), and then expect to hunker down and go to work. We have only just started to think about how to combine—if we even can in one organization—diverse local, regional and global missions. In science, we must continually challenge ourselves through new hypotheses, observations and arguments; in culture, we must continue to probe the essential truths for binding us together in common purposes. After 15

years with the Conservancy, I am still trying to discover where we are going and what role I should play. Maybe I can even exert some influence on our essential policies.

I am not just concerned with Kentucky or the Central Ohio Valley. Elsewhere in the world, there seems to be a continual danger that large, international conservation organizations fall short in developing projects that properly involve people with local connections for lasting results. How can we learn from mistakes in a transparent fashion—rather than having media like the Washington Post rub our nose in the dirt? The Conservancy has surely had knocks and bruises already during the past decade or so of international activity. Why must we just read of “25 Conservation Success Stories” (Landmarks, Winter 2003) and the like?

I recently learned from Dr. Willie Smits—director of BOS (Balikpapan Orangutan Society), the largest non-governmental organization for nature conservation in Indonesia—that the Conservancy’s fledging projects there have experienced significant problems, but he has had little interaction with TNC to share plans and resources. The Conservancy’s bragging may be partly counterproductive. Landmarks (p. 22) claims that we “hit pay dirt” in 2001 when satellite imagery indicated less disturbed forest, where “Conservancy scientists then canvassed the area” to survey orangutans. Willie—who would never speak out critically on this—indicated that such general information was already available to insiders, and that the Conservancy’s public pronouncements have actually endangered this orangutan population further by notifying the criminal poaching system. And the Conservancy has tended to pull back from essential law enforcement after violent confrontations.

We have at least lessened our rather ridiculous claims of so-many millions of acres “protected”, without any indication that most of these acres are probably still threatened to a significant degree or not even managed natural areas at all, as in protected farmland or buffer

zones. And we are acknowledging that a good design of core, buffer and matrix zones is needed in project areas. But how are we to design such zones fairly, realistically and scientifically, who will develop these designs, and who will assess their results? In my experience, we need to focus much more on these critical, difficult questions.

In summary, here is my carefully distilled, three-point plan to reform the Conservancy, at least in this part of the country. These principles have become more than suggestions—they are imperatives in my view. I will try to proceed in these directions—please comment and, hopefully, join forces.

1. TEAMS. ‘Recombobulate’ planning, implementation and review of operations into real ecoregional teams or other appropriate geographic groups of projects with manageable size, traversable in a few highway hours (along the lines also suggested by Greg Low, Rodney Bartgis and others). Establish these teams as a partial separation of powers from the more political, public-relations and fund-raising arm of the Conservancy.

There is a critical need for practicing, hands-on conservationists—especially those working directly with the land, soil, flora & fauna—to become integrated, neo-tribal agglomerations of people who really know the biological diversity of their region, agree on the conservation targets & threats, and revere the remnants of nature. These teams would of course cut across state lines (for example, in the former Shawnee lands of the ‘Central Ohio Valley’ that comprises the Bluegrass and Knobs regions of KY, OH & IN). While non-profits such as TNC could form the initial backbone for each team, there should ultimately be equal input from government and academe.

2. **TARGETS.** Develop more precise, comprehensive and consistent definitions & goals for our conservation targets at landscape, habitat & species levels, and gradually incorporate all relevant information into useful databases and spreadsheets. (Kentucky's planning is almost laughable in some areas due to lack of good data.)

Lest we let worthy targets fall through the cracks, I am using a sequential logic, whereby we first target good examples of different landscapes for conservation programs (based largely on 'landtype associations' and significant watersheds); then target habitats (or 'communities') of various types that still deserve special protection or management within each landscape; then target species (or other taxa) that still deserve special action within each habitat. Threats to targets can then be listed more analytically, and their aggregated effects can be assessed and attacked more confidently. We can become more forthright in balanced plans to carefully 'micromanage' selected sites (for example, to recover an imperiled species or to extirpate an invasive alien); as well as to broadly 'macromanage' particular habitats (for example, to restore open grassy conditions with fire or ungulates); as well as to extensively 'megamanage' whole landscapes (for example, using conservation-buyer programs, compatible forestry, or USDA funds channeled into 'best-management practices').

3. **TRADE-OFFS.** Deal with the generally contentious problem in balancing 'quality', as focus on core areas with potential for relatively natural systems, versus 'quantity', as widespread compromises with compatible uses throughout the landscape matrix; establish a process for cordial, transparent discussion, decision and review of the trade-offs we must make in this balancing act.

We need to express consensus in terms of realistic, meaningful designs for core, buffer and matrix zones. These designs should be largely maintained by the ecoregional teams, who would comment on any significant land deal or other proposal in terms of its adherence to the designs. While there is clearly excellent justification for developing compatible land uses in our ambitious schemes for extensively managed landscapes, we must also focus on protection and restoration of designed, wilderness-like or presettlement-like, natural areas. Focus on these areas, to some extent as ‘sacred groves’, will ensure continued investigation, imagination and inspiration for what we are really trying to conserve throughout the world. The quality of whole places is our appropriate obsession, as well as the quantity of widespread components in harmony with humanity.

To quote my new acquaintance, and recent member of the Kentucky Chapter, Wendell Berry: “The problem, as it appears to me, is that we are using the wrong language. The language we use to speak of the world and its creatures, including ourselves, has gained a certain analytical power (along with a lot of expertish pomp) but has lost much of its power to designate what is being analyzed or to convey any respect or care or affection or devotion toward it. As a result we have a lot of genuinely concerned people calling upon us to “save” a world which their language simultaneously reduces to an assemblage of perfectly featureless and dispirited “ecosystems,” “organisms,” “environments,” and the like. It is impossible to prefigure the salvation of the world in the same language by which the world has been dismembered and defaced.” (Life is a Miracle, Counterpoint, 2000, p. 8).

---

---

**To: All TNC Staff  
State, Country and Chapter Trustees  
Members of the President's Conservation Council**

**From: Henry M. Paulson, Jr., Chairman**

**Date: February 4, 2004**

---

**Enclosed is a message to all my colleagues at The Nature Conservancy.**

---

**Julian Campbell, Conservation Scientist  
The Nature Conservancy, 642 West Main Street  
Lexington, Kentucky, 40508;  
tel: 859 259 9655 (w); 229 7711 (c); 271 4392 (h)  
email: jcampbell@tnc.org; sjjnc@earthlink.net**

**Dear Colleagues:**

I am honored to serve as Chairman of the Board of Governors of The Nature Conservancy. I am also mindful of the responsibilities this job brings with it given the challenging issues the organization faces today and the great opportunities the future holds for us. It is my deep respect for the people of The Nature Conservancy – the staff, trustees, volunteers, donors and Board of Governors – coupled with my total commitment to our conservation mission that led me to assume these responsibilities at this time.

Over the years, I have had the privilege of getting to know many of you and of working closely with a number of you, witnessing firsthand your dedication and professional excellence. I have also made a number of trips to extraordinary TNC projects. It has always been eminently clear to me that the heart of the Conservancy rests with the state and country programs which are so ably planned, funded and executed by staff, trustees, donors and volunteers from around the world collaborating to "save the last great places on earth". The entrepreneurial spirit you bring to this enterprise and the commitment to our mission are, without question, the foundation of our success. You have my admiration as well as my respect.

## **Challenging Times: External and Internal Changes**

We are now at a critical juncture.

Increased government scrutiny into the operations of all nonprofit organizations, negative media stories about TNC, and the highly charged atmosphere caused by the investigations of various business sectors in relation to the public trust require that we do not proceed with a "business as usual" mentality. We need to tighten up our oversight and risk management controls to ensure we operate at the highest standard. And I don't say that just because of the increased level of scrutiny and heightened awareness; I say it because it is the right way for the Conservancy to operate.

Next to our people, TNC's most valuable asset is our reputation. In my judgment, and notwithstanding some recent negative press coverage, our reputation is intact. In order to preserve and enhance that reputation in the current environment, however, we must review every aspect of our operations, at every level in the organization, to assure our supporters –

including volunteers and donors – that we fulfill our mission according to the highest ethical standards, and in rigorous adherence to our policies and, of course, to all applicable laws and regulations. The reality is that almost everything we do is done right and done well. But in today’s world this is not good enough. Reputation can be seriously diminished or even destroyed by a single individual or a single decision or action. Ours must be a culture of always doing the right thing. If that is the course that we follow, I am confident that our reputation will only improve and increased success in our critically important mission will follow.

In addition to the changing external environment, TNC itself has changed over the course of the last 50 years, growing on an almost incalculable scale. (See Appendix A: Growth of The Nature Conservancy.) We have gone from an organization where most people knew each other and we could rely largely on an apprenticeship culture for training, quality control and to reinforce our values to a vast and intricate array of more than 400 offices with over 3,200 paid staff, some 900,000 donors and thousands of volunteers.

## **TNC Response**

Given this growth and the new environment we are facing, the Board of Governors recognized the need to become more directly involved in the governance of TNC. In September of 2003 we empanelled a group of preeminent experts on governance and, under the able leadership of Ira Millstein, the Governance Advisory Panel, working with members of the Board of Governors, produced recommendations to restructure the Board in order to strengthen our governance and accountability. (See Appendix B: Governance Advisory Panel.) Two overriding themes underlie the Panel’s recommendations: 1) the need for the Board to assume a more active oversight role and 2) the need to do a better job of defining and managing the

important relationship with our state chapters and their trustees. To accomplish these goals, the Panel recommended restructuring the Board of Governors, creating an Executive Committee which will meet frequently (at least 4 times a year and as needed) and revitalizing the Board's committees which will be directly engaged in oversight and strategy. The Executive Committee will be comprised of the chairmen of the new committees, and the Chairman, Vice Chairmen and Secretary of the Board. The Board of Governors enthusiastically adopted these recommendations at our meeting on January 30, 2004. (See Appendix C: Executive Committee and Board of Governors Committees.)

The Board is committed to supporting our state and country programs and to fulfilling its oversight responsibilities, especially with regard to managing risks. We intend to improve communications throughout the organization, particularly between headquarters and our field operations, to ensure a sense of unity as well as collective accountability. It is clear that the strength of TNC is its decentralization; at the same time, we, like all nonprofit organizations, have a responsibility to have all necessary controls and procedures in place to guarantee that we operate at the highest standards. It is this balance – between centralized oversight and decentralized functioning – that we must achieve together to protect our excellent reputation that is so essential to our continued effectiveness in conserving our last great places. With the help of Steve McCormick and TNC staff, we are conducting an extensive and intensive examination of all of our policies and risk control procedures.

I want to assure you that we are working diligently to move things in a positive direction. I look forward to being with those of you attending the Senior Managers meeting in February to hear your views, learn from your insights and share with you my own assessment of where we are and where we need to go.

This is the beginning of what I hope will be ongoing communications with you. Should you wish to communicate with me at any time, the best and most immediate point of access is through e-mail at [henry.paulson@gs.com](mailto:henry.paulson@gs.com).

Again, I am grateful for the trust that has been placed in me, and I look forward to working closely with our two Vice Chairmen, Leigh H. Perkins, Jr. and Phillip J. James. Together we pledge our best efforts in the tasks ahead.

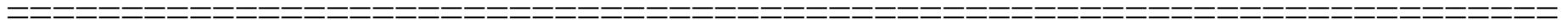
I view our current situation as an opportunity – to continue to be a best-of-class organization and more, to set the standard in both corporate governance and environmental conservation.

Sincerely,

Hank Paulson

Chairman, Board of Governors

The Nature Conservancy



**From: Julian Campbell [JCampbell@tnc.org]**

**Sent: Thursday, February 05, 2004 7:34 PM**

**To: hpaulson@tnc.org**

**Cc: Jim Welch [Chairman, Kentucky Chapter of The Nature Conservancy]**

**Subject: Constructive feedback on: Report on Nature Conservancy Governance Activities**

**Attachments: key questions.doc**

Dear Henry,

I hope you will be able to get to the bottom of the problems that plague us by getting to the heart of the matter. You note that the heart of the organization rests with the state and country programs. But they are so varied in their approaches; are they not really semi-independent creatures, still primordial in many respects, to be nurtured by the global organization so that they can develop their own independent hearts? How can we really be One Conservancy, unless, paradoxically, the global Mother allows her Children to grow up with complete independence in many local or regional ways? What issues should the Mother focus her passion on: should this simply be to act as a glorious world bank for conservation, while enforcing appropriate ethical, legal and financial controls? Should she also focus on the truly global threats to biodiversity such as population pressures; other socio-economic disruptions of habitat; climatic change; and inter-continental transfers of invasive species? Can she please leave the local details to her Children, so long as they play well together and with their friends?

Whereas you have noted the careful balance needed between central authority and local autonomy, to me the central operational problem at all levels is this: we are torn internally, and

often with partners and donors, between "quality", as emphasis on relatively expensive natural areas with stabilizing management, versus "quantity", as in more diffuse effort spread over larger landscape projects, often "ramped up" with staff thrown into the "deep end". You must know that many employees and partners have been concerned about this over the years; many have left partly because of what they perceive to be too much swing towards "quantity". Decisions have apparently often been made at various levels in the organization that maximize apparent gains in terms of acreage that can be claimed as "protected", versus gains in terms of the aggregated values for biodiversity at individual sites, including small sites or those that need more intense stewardship. In scientific terms, there has been an ascendancy of the view that bigger is better; whereas many of us in the biological world know that to work on a balanced portfolio of sites across the world, we must include some carefully selected smaller sites in landscapes that have been decimated by human development and other changes, even though such sites will require more effort per acre.

This kind of tension has at times led to outcomes that appear dubious to some staff, membership or the public, especially where there are compromises between biological and financial factors that are not well explained, eg allowing oil drilling in an otherwise protected area; or allowing timber to be extracted from a large area leaving little room for eventual old growth; or allowing grazing, haying or seed collection from semi-natural grasslands without understanding the long-term role of such systems for true native biodiversity.

These decisions between "quality" and "quantity", or economy versus ecology, are really difficult to make in many cases, and we cannot assume that we have the right answer, especially when a relatively few staff make decisions with relatively little review by their peers. Indeed, I believe there really is no right answer in many cases, at the present time, because conservation

science (and conservation economy) is not sufficiently developed. In the meantime, we must make seat-of-the-pants decisions. But this is all the more reason to have an completely open transparent discussion of views and relevant data, and to continually review difficult decisions in case we can fine-tune them ("adaptive management"). In my opinion we need a somewhat independent sector of the organization that assesses the operational results. How can we claim to be science-based, when there is no effective means for energetic debate around difficult issues? You state that "Ours must be a culture of always doing the right thing". But will we become right or just arrogant?

You are right: we are at a critical juncture. I believe it is imperative that the organization go through another complete self-assessment, soliciting views from all employees, partners and donors in a carefully structured way. Because the organization has grown in size and ambition so much, we must keep adjusting the regional divisions, fine-tuning them with careful interstate realignments. Within North America at least, I strongly advocate a more permanent establishment of ecoregional, science-based teams who would foster and service interstate cooperation, also acting as a sounding board for more difficult decisions by state-based chapters. Indeed, since the initial ecoregional planning has been questionable in many areas, we need to stay the course and keep improving this function until it becomes a part of regular assessment. I believe, further, that these ecoregional teams should become more tightly interlocked with our partners, forming councils of "neotribal agglomeration" that eventually assume more local authority in various matters, such as securing major federal or foundation grants that can be more carefully managed than by small local units. As you know, the job is at least 10-100 times bigger than what TNC can do, and good permanent partnerships are essential.

There is so much more than I have to say. I am accused sometimes of being too negative in voluminous emails, but I have quite definite views about improvements that can be made to the organization. I simply do not yet find a forum to express these views effectively. Please let me know if you want more input from me.

Thank you for your attention.

PS. I am attaching a list of Key Questions that I think the organization should address.

Julian Campbell, Conservation Scientist, The Nature Conservancy  
642 West Main Street, Lexington, Kentucky, 40508

---

**The Key Questions.** The Conservancy would benefit from an open discussion of key issues that seem to divide us, as presented through the following questions. These questions should be discussed in the appropriate forum within the Conservancy, and we should also seek renewing advice from our members, donors, and partners. This would certainly relieve stress from recent problems in the KYFO: <e.g. the need for transparent planning and accounting in conservation buyer deals; need for consensus-built maps indicating designed natural areas and buffer zones for partial or gradual conservation; need for science-based selection of true natural targets; need for more careful treatment of warm-season-grass plantings in areas where not native, perhaps as strategy rather than target; need for much more strategic planning on future goals and funding for the KYFO, given huge challenges from invasive plants and restoration of natives, as well as habitat management and land protection.> [Previous material within < > was apparently deleted “so as not to aggravate local matters”.]

1. Does The Nature Conservancy accept that ideal nature conservation—embracing all partners with full attention to all worthy components of biodiversity—should involve a carefully coordinated balance between: (a) protection of land or water with legal and financial means; (b) special management or other attention to habitats that are relatively degraded or dwindled; (c) carefully targeted reduction of invasive alien taxa and recovery of deserving natives? Do we accept that (c) is already a large problem and will become the predominant problem in future decades?
2. Do we intend to give priority in our direct actions to (a) and only selected aspects of (b), leaving the rest of (b) and most of (c) to other partners? Does the Conservancy's leadership consider (b) and (c) to be overemphasized by some of its offices and partners? How can (b) and (c) be secured and stabilized to an acceptable degree?
3. Do we still accept the useful role of relatively small, intensely managed preserves in some landscapes, as significant refuges of biodiversity, models of management, bases for research, and sources of propagules for restoration in adjacent areas? If there is an accepted role for smaller preserves in some areas, do we still want to avoid direct involvement with them?
4. In relatively small or degraded remnants of significant natural systems (or imperiled species populations), where restoration to, and continued viability, of an acceptable condition is dependent on relatively expensive management, do we have guidelines for effort by itself or partners? In the worst cases, what efforts, if any, should be made to conserve at least some features (or genes) of a virtually extinguished ecosystem type (or almost extinct species)? Should we have any direct interest in these worst cases?

5. In designing conservation areas, do we intend, consistently, to identify areas suitable for more natural conditions (presettlement-like or wilderness-like), buffer zones for partial or gradual protection, and general matrix areas for improving the context of conservation targets?
6. Do we intend to pursue a consistent rationale for such designs at large landscape levels and at more local levels (as in traditional preserves)? Should all operational units be required to maintain at least provisional maps of such designs and goals for management in each zone?
7. Where economic interests are closely incorporated with our plans for more natural conservation targets, how can we measure the economic benefits to us or partners, and balance these with benefits for our targets? Where a truly natural target becomes adjusted in some buffer or matrix zone, in accord with economic interests, how can we make appropriate designs (eg leaving sufficient forest for eventual old growth; or avoiding excessive emphasis on grazing, hay or seed production in semi-native grasslands)?
8. Do we recognize the fundamentally difficult and frequently divisive aspects of these questions, especially the latter (7)? Can existing “5S” spreadsheets and workshops reach satisfactory consensus? How extensive and transparent should the discussion be in difficult, divisive cases? Should these be resolved at the local level, among a few interacting staff, or should there be wider review, perhaps at the ecoregional level? To be science-based, do we not need careful open argument to resolve matters of fact and improve risk-assessment?
9. To what extent has the general problem in balancing “quality” in natural areas versus “quantity” in more diffusely conserved landscapes contributed to uncertainty, confusion and discord among our staff, membership, major donors, and the general public? How much has this problem contributed to the critical coverage by the Washington Post and other external commentators?



Christmas in Spain, December 2003; between Balaguer and Tremp, viewed from east on C-1412b