GIS, History and Sustainability
In German-speaking Europe

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1 Goal and Scope
This paper describes an ongoing project aimed at uniting the technological tool of GIS with observations and inferences gained through a study of the cultural history of traditional forestry and hunting practices in the German-speaking areas of Europe to produce a GIS layer which may yield one more perspective from which to assess patterns of sustainability in the forests and wildlife of central and eastern Europe. The scope of this paper is to describe the premise and methodology of this study, and the forthcoming results, conclusions and outlook will be posted and updated on a dedicated website.

2 The concept that forms the basis for this project began with a project that was based purely in the humanities. One focus of my research on the cultural history of the environment in Europe concerns the ways in which environmental values and sustainable practices are embedded in cultural, rather than scientific, bodies of information. These bodies of information include, among other sources, folklore, folk art, traditional festivals and customs, and popular literature. One particular specialization of this focus concerns the cult of St. Hubertus, the eighth-century Christian saint who is the patron of hunters, and whose hagiography and popular legends contain not a few influences from earlier, pre-Christian nature religions. The cult of St. Hubertus, symbolized by the familiar icon of a luminous crucifix placed between the antlers of a red stag, has in fact become identified throughout Europe with an ethic of respect toward nature, the forest and wildlife, and represents the perception of the fact that nature is in some way divine, or at least spiritual, and thus worthy of respect.

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2 The site is http://www.yale.edu/forestry/pdraghi/research/sustainability-europe
My initial use of GIS in this field of research was as a tool in cataloging any sites in Europe in which there is or was a shrine, church, cathedral, forest preserve, lodge, academy, or other site dedicated in some way to St. Hubertus. Although St. Hubertus lived in the Ardennes and the site of his reliquary shrine is in Belgium, my ever-widening map of St. Hubertus, sites began to correspond with a map of Europe that falls within the cultural orbit of Germany: the vast majority of sites appear in what is now Germany, Austria, German-speaking Switzerland, or in places which were at one time within the borders of those countries and where in some cases there continues to be a German-speaking minority group of people.

1.2 Research Goal

This observation relating the incidence of sites connected to the St. Hubertus cultus to a map of what might be termed „German-speaking Europe„ has more than mere anecdotal importance when one realizes that one is dealing with the traces of a particular set of values toward nature that are part and parcel of the German hunting and forestry tradition. And because sustainability has been what might be called the subtext of German traditional forest management and hunting practices, I became intrigued with the possibility of using what is essentially a layer of cultural-historical data to gauge the history of sustainability in those areas of Europe’s forests that have seen use and management by those who subscribed to the tradition of values described.

2 Methods

Gaining a perspective from which to establish even a sampling of „traditional practices„ in German hunting and forestry must begin with the facts that scientific forestry had its birth in Germany in the work of such luminaries as Georg Ludwig Hartig (1764-1837) and Heinrich von Cotta (1763-1844), and that although certain periods of German forest production have featured practices that have sometimes diverged from an ethic that established sustainability as the paramount consideration, it is nevertheless true that sustainability has always been near the center, and often exactly at the center, of German scientific forest doctrine. However, it must also be said that the although the goals of foresters and hunters may have been consistently in agreement, there have at times been disagreements as to how these ends are best achieved. The first task of this project is to establish several representative points of reference on which German scientific forestry and traditional forest and hunting practices agree.
2.1 Research Plan

The first step is to create a GIS projection in ESRI ArcGIS 8.1 that defines the geographical limits of this study. The basis for this projection is the aforementioned site map of St. Hubertus sites, but it will be substantially expanded to include any areas that have been under German administrative forest control during the past two centuries, or have forest schools or preserves that have been clearly operated under the influence of either German academic forest doctrine or have fallen within areas influenced by German cultural values relating to hunting and forest or wildlife management.

The next step is to identify three tree species and three wildlife species that are relatively important within the traditional value structure of German forestry and hunting lore, and to consult various current and historical sources to generate GIS layers representing the relative populations of these species within the areas defined. In the case of both trees and animals, it will be important to include at least one species considered undesirable and which would therefore be expected to have experienced some degree of constraint or destruction.

In selecting these species, I am making use of a variety of literature and cultural sources in an effort to discern those characteristics of certain species that are considered desirable, and therefore worthy of being sustained, even if no scientific basis for this situation is documented. This is an example of the way in which lore influences sustainability, and also of how values about sustainability are transmitted within a culture over a period of time without resort to formal scientific training.

Finally, it will be necessary to collect data on the distributions and populations of the species selected, and for this I intend to use both existing scientific data and whatever historical data is available. Among the historical resources I intend to use are proceedings and reports of hunting expositions (Jagdausstellungen) and individual hunting diaries from archives and private collections.

3 Outlook

Ultimately, I wish to establish that the use of cultural-historical data has its place as a possible display and analytical tool in the use of GIS in charting factors that contribute to or demonstrate patterns of sustainability in a given area. The use of German hunting and forestry lore as well as established scientific beliefs from different historical periods—though anecdotal in one sense—serves to illustrate a coherent tradition of sustainability which I believe will be demonstrated to have lasting, and measurable, effects on a large landscape defined by enduring cultural values.