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Geography 565

Cultural Parallax and Ethnobotany

We will describe our project on Ho-Chunk ethnobotany in a narrative form implicating our roles in the research process. Our initial intention was to understand the cultural and scientific link between traditional, medicinal plant uses and contemporary Ho-Chunk women's health issues. This work included quantitative and qualitative research approaches. Our four initial research methods were making a map of American Indian sites and original vegetation cover along the Wisconsin River, a table of local plants within the lower Wisconsin Riverway and their medical values, a study of Ho-Chunk cultural aspects of healing, interviews with women to gain insight on health issues. We carried on the quantitative methods but we shifted our intention due to ethical conflicts that arose during the interview process. This shift led to new research goals and arguments. To explain this shift we use the model of stellar parallax and finally we analyze the research using environmental ethics and surveys of identity politics.

Methods

Southern Wisconsin American Indian communities historically lived closely with their natural environments. Food, clothing, and medicines are examples of native people's cultural interactions with local plants. The Ho-Chunk American Indian tribe is one of eleven federally recognized Wisconsin tribes, that exemplifies a lifestyle infused with available natural resources, using plants for community traditions and tribal well-being. Physical ailments were treated using medicinal plants and herbs, in addition to shamanistic and spiritual healing methods. Female health, in particular was supported using natural remedies through plant-based medicine,

specifically for reproductive purposes. The importance of plant-based healing for Ho-Chunk women's well being is complicated by the politics of Wisconsin land rights. Ownership and access to land directly impacts the availability of useful plants to Ho-Chunk people, which in turn dictates consumption of plant-based medicines. Land politics is thus connected to the Ho-Chunk community's health and cultural practices. In order to understand how land access has influenced women's health, we explore Ho-Chunk relationship had with medicinal plants. Then reevaluate that relationship in terms women's roles in the Ho-Chunk community.

This project will explore links between traditional plant uses and contemporary women's health issues in the Ho-Chunk community. Ethnographic and historical texts and pictures will provide a perspective of the role plants played in Ho-Chunk health practices before immigrating Europeans began appropriating land and imposing new legal and cultural standards. Knowledge of specific plants, their names, cultural and medicinal uses, and their geographic occurrences will be our basis for contemporary comparison.

Recent health statistics will generate a picture of health issues afflicting American Indian communities in Wisconsin, compared to other demographics in the United States. Interviews with Ho-Chunk health officials and community leaders may suggest a concurrent usage, or lack thereof, of medicinal plants to treat those contemporary ailments. We then hope to align these issues with Ho-Chunk land use politics, ethnobotany, and cultural practices.

Anthropologist Nancy Lurie interviewed Mountain Wolf Woman, a Ho-Chunk woman, to learn about her perspective as a woman (this sentence has too much *woman*). This ethnographic study offers a unique look into Native American lives. This is something that was widely missing from Radin's work because he lacked a female connection to the Ho-Chunk community. *Mountain Wolf Woman* is an autobiography that describes the life span of Mountain

Wolf Woman. Lurie recorded the autobiography in 1957 and offers her notes as an addendum to the story. This is helpful in deconstructing the cultural practices and meanings behind Mountain Wolf Woman's accounts. One theme that played a large role in Mountain Wolf Woman's life was her connection to the plant peyote. Peyote, a southwestern cactus which produces hallucinations, was part of Native American religious practices. Mountain Wolf Woman believed that Peyote has medicinal properties. She was inspired to learn traditional medicine because she was unable to pay for a doctor. This knowledge depended on her familiarity with the surrounding environment.

Ethnobotany studies the complex relationship between human culture and plants. Native American groups have been a large focus of ethnobotany in the United States due to the varying and unique interconnections between the people and plants found in their surrounding environments. Many Native American people had a well-rounded knowledge of plant attributes and created remedies for health ailments and other cultural purposes. Plants were woven into everyday life and behavior. Past ethnobotanical studies in Wisconsin explore the Ojibwa, Menominee, and Ho-Chunk tribes' connections to their surrounding flora.

Ethnobotany is founded upon the geographic relationship between the physical environment and local cultural practices. It is therefore necessary to analyze the surrounding landcover to deduce the type of vegetation in a given inhabited area. Ecologist J.T. Curtis inspected Wisconsin's ecosystems and described in detail their distribution across the state in his book, *The Vegetation of Wisconsin* (1959). Boreal forests, hardwood forests, oak savannas, and prairies are just some of the various ecosystems found in the state. Within these habitats, specific species pertinent to our research thrive. We will generate a table including plants found in the counties that touch the lower third of the Wisconsin River. The Wisconsin State

Herbarium offers public access to their web based data sets of Wisconsin plants, called "Wisflora." Through "Wisflora" one can search by name (family, genera or common name), habitat, status or country. Photos, habitat information, distribution maps and herbarium specimen data are also available through the database. Drawing from Curtis' work and the Wisconsin Herbarium data, the table will list the plants accordingly: the common name, the Latin name, medicinal uses, and county of occurrence. Some of these plants are documented as having important cultural value. We will cross-reference Curtis' documentation of flora occurrences in Wisconsin with their cultural uses. In addition to the plant table, we will draw from Curtis' documentation of Wisconsin's vegetation distribution to create a map. It will include original vegetation cover of Wisconsin and the coordinates of ancient Ho-Chunk sites such as old villages, effigy mounds, and agricultural land (Gartner 2003). We will suggest that plants located on the Wisconsin River were accessible to Ho-Chunk communities during the mid 1800s.

Previous research explores American Indians' cultural use of plants for medicinal, food and dye purposes. Ethnobotanist Huron Smith investigated the cultural aspects of Wisconsin tribes' plant use. He spent time in the field, learning the Ho-Chunk language, and building relationships with tribes and individuals. This allowed Smith a broader perspective when reporting on the cultural importance of various Wisconsin plants. Smith wrote extensively on the Menominee, from Northern Wisconsin, but only explored the Ho-Chunk towards the end of his career. Most relevant is his compilation of Ho-Chunk myths that reference medicinal plants. Kelly Kindscher published the work "Huron Smith's Ethnobotany of the Hocak." The plants that are referenced in both Curtis' and Smith work will be included in the table. Smith's work provides a cultural framework to understand how accessible the plants used by the Ho-Chunk actually were.

Ethnographic studies, such as Smith's, are imperative in understanding how the environment's plant resources benefit cultures both physiologically and psychologically. In spite of marginal documentation of the Ho-Chunk, we will draw from Smith's inductive methods. However, as a white male, there are certain cultural and historical biases that influence even the most objective academic research. We will model our research using his ethnographic approach, while investigating the past and contemporary cultural and medicinal importance of specific plants' in the female community of the Ho-Chunk.

Native Americans used vegetation for healing and medicinal purposes. Particular plants serve different medicinal purposes across cultural and tribal boundaries, even when communities reside in similar physical environments. Local tribes' medical practices may indicate unique uses of available plants. Daniel Moerman focused on the Ojibwe's use of plants, as seen in his work, *Medicinal Plants of Native America*. His findings differ from Smith's experiences with the Ho-Chunk's plant use. We cannot, therefore, generalize about medical plant use practices among Wisconsin tribes, even when both have access to the same plants. This is a particular problem when narrowing the research, and focusing on Ho-Chunk women's health. Little has been documented on plants used specifically for women's issues within the Ho-Chunk. This void in academic research drives the reasoning behind this project specifically about the ethnobotany of Wisconsin Ho-Chunk women.

Historically, American Indian women have approached health issues in a different manner than most Americans today. Rituals, ceremonies, foods, and plants are all tools that have been documented as means to achieving a balanced life (Radin, 1970). In particular, certain plants are noted to have certain pharmacological healing properties, but are used in combination with other cultural tools. For example, plant and foods may be consumed in the context of

culturally important places, such as a medicine lodge, and in certain combinations (note recipe from Radin). Traditionally, then, health was not achieved through isolated chemical inputs, as many understand Western medicine today. Through colonization and changes in political and cultural dominance, ideas of pharmacological healing govern public health in our country. For information about traditional medicinal practices, we can look to Paul Radin and Nancy Lurie, whose ethnographic work focuses specifically on the Ho-Chunk in Wisconsin.

One of the changes in the shift from traditional medicine and food to more conventional lifestyles has been health deteriorations in a portion of Native American communities. One approach to combating problems such as childhood obesity and diabetes has been to revert back to traditional ways of eating. A project has been started for Ho-Chunk children. "Children of the Wicawas" was set up to teach Ho-Chunk traditional gardening and cooking. "Before we can start talking about nutrition," Lorelei DeCora, an Indian Health Service nurse and member of the Ho-Chunk says, "we have to renew the spiritual connection our people had with food as a gift from the creator. It makes sense for us to renew our bodies with that traditional source." This is another way that plants heal, by being the right nutrients. A plant use is often dismissed as a healer if it can't help the physically in pain or ailing, but there is a new meaning to ailment with obesity and updated diseases.

Trends in Indian Health 2000-2001 is a report that compiles data from the U.S. Department of Health and Human Services and depicts the health trends in recent history. The report includes tables, charts, and expository narrative, rendering the figures more comprehensible. The chapter, "Natality and Infant/Maternal Mortality Statistics" is particularly relevant, providing infant and mother statistics, mortality rates, and causes of various birth issues. However, this source categorizes all American Indian and Alaska Natives in one category

and compares that group with “U.S. All Races” and “U.S. White.” This grouping hides geographical and cultural variations in health issues. The Great Lakes Center annually publishes a health profile based on statistics from Wisconsin, Michigan and Minnesota, and sites *Trends* as a data source. Compared to *Trends*, this resource provides a more up to date and narrow view of American Indian women’s issues, found in the chapter, “Maternal and Child Health” (2008). This report is similar to the "American Indians" section of the *Wisconsin Minority Health Report* from 2005. The Great Lakes EpiCenter also produced a pamphlet called “Mother and Infant Health,” (1999) which offers statistics that we could most closely attribute to the Ho-Chunk of Wisconsin. but this source is the most out of date.

Results

Compared to other groups, these American Indian women are shown to suffer disproportionately in various health areas such as diabetes and infant birth weight. This means, generally speaking, that the group is not meeting the American cultural expectation of certain health standards. Since health is a culturally constructed term, the charts may or may not signify unhealthy behavior or occurrences. The disproportionate degree of suffering may indicate a mismatching of the group’s needs and available health resources.

These tables and charts suggests that American Indian women are unhealthier compared to other American women. While this may be the case according to the institutionalized health reviews, the numbers do not take into consideration the embedded cultural assumptions. The demographic categories and the highlighted health problems reflect an American medical ideology and assumption of attainable health standards. The imposition of this ideology poses a problem for various ethnic groups that adhere to different notions of medicine and wellness.

Susan Shaw addresses this issue in her article "The Politics of Recognition in Culturally Appropriate Care" found in the *Medical Anthropology Quarterly*. Her article focuses on a Latino community in New England, eager for a health clinic that meets their cultural needs in conjunction with their health needs. The ideas of cultural difference and sensitivity are important and applicable to the Wisconsin Ho-Chunk communities. However, the Ho-Chunk have community health centers already. Understanding the more specific role of the Ho-Chunk Health Care Center, House of Wellness and the five satellite offices will inform our study about contemporary health issues and how they intersect with traditional practices. According to the Ho-Chunk Nation's health mission statement, the Division of Health believes that "Every individual has the fundamental right to the highest attainable standards of physical, social, and spiritual well-being...With an emphasis on traditional Ho-Chunk way of life" ("Health"). Different cultural groups have varying conceptions regarding medicine, well being, balance. For many, the culturally defined idea of health depends on interaction and balance with the surrounding environment.

We will never know statistics about reproductive issues from the 1900s, because no one documented that information. According to Radin's qualitative account, reproduction was not a remarkably unhealthy affair. Since his ethnographic work and today, many cultural changes have befallen the Ho-Chunk people, such as geographic displacement and cultural pressures to change from institutions and the state. These changes imply a change in daily activity, diet, ritual, and medicinal practices, all of which may affect the physical, mental and spiritual health of community members. Looking back to traditional medicinal practices, we see that plants and the natural environment play an integral role in the health rituals (Radin). Overtime, lifestyles and cultural behaviors of daily life have changed.

The tables (see appendix) created are valuable concrete evidence illustrating plant specimens used by the Ho-Chunk people. Information gathered relied heavily upon Huron Smith's work from the article *Huron's Smith Ethnobotany of the Hocak*, and Kindshcer's own research *Plants of the Prairie*. As previously stated, the American Indian tribes vary greatly within their cultural practices and in the manner in which they utilize plants. The same species can be directed to remedy different ailments contrasting from tribe to tribe. Therefore, it is not appropriate to generalize how the Ho-Chunk apply their plant specimens by solely observing neighboring tribes, therefore the sources listed which concentrate on the Ho-Chunk were ideal.

To begin, the plants noted were solely used medicinally from Smith's and Kindscher's work. To organize the species, they were ordered alphabetically in descending order by Latin family name, within the Latin family they were further alphabetized by species. The tables also include the common family names as well as the common species' names in order to facilitate an ease to the general public to comprehend the array of information surrounding the plants.

Table one is titled, *Medicinal Plant Remedies and Species by Family in the Lower Third of the Wisconsin Riverway*. It consists of five categories in the following sequence, Latin name, common family name, Latin species name, and common name. The species also have a corresponding medicinal use of the variety for ailments they remedy or suppress and at times, the table incorporates how it is used such as in a tonic, tea, or sweat bath.

It was interesting to see common plants that are familiar to most, used for medicinal reasons and how knowledgeable the Native Americans are about them. Because, often times, the plants can render one ill due to the toxicity of the plant, yet if used correctly provides as a

medicine. For example the following common plants have medicinal use such as stiff goldenrods can be used as a blood purifier and the seeds of squash can be used to dispel worms.

To illustrate the tables further, a pie chart (see appendix) was constructed to quantify the results. The chart demonstrates the breakdown of the medicinal use of plants by symptoms. Frequently, each specimen has multiple remedies depending on which part of the plant is used or in which concoction it is implemented. The pie chart only counts one plant for one remedy to escape complicating the data. It is apparent that the largest categories are symptoms relating to viruses colds, influenza, and measles or digestive discrepancies.

After this was completed, it was necessary to reference the University of Wisconsin's Herbarium collections. The curators promoted and demonstrated how to use the university's herbarium site effectively. The site provided information allowing one to confirm that the specimens listed in the sources fell upon the lower third of the Wisconsin River or within the county bordering the river: Crawford, Dane, Iowa, Grand, Richland, and Sauk are the chosen sites.

The second table is titled *Medicinal Species' Habitats in the Lower Third of the Wisconsin River Way*. It remains in a similar structure as the previous table, but excludes the family names in order to be less repetitive and to allow as an easy reference back to the other table if further information is desired. This table concentrates on the habitats where the species are located. It is important to acknowledge the habitats on which the species rely to better understand the type of vegetation that composes the ecosystems distributed on the River Way and their affiliation with the Ho-Chunk tribes who use them. In addition, the tables support the map and vice versa, because it helps one visualizes where the species reside within their habitat

and illustrates and the general vicinity of the Ho-chunk to make a proper image of their connection.

The Kindscher sources did not supply the habitats in which the plants belong. Therefore, we searched plant databases such as the *United States Department of Agriculture (USDA)* and *Plants of the Future*, to retrieve this information. At times, this deed was complicated because some of the common names listed by Smith did not correspond to the common names listed at the sites. This is because the époque that Smith investigated medicinal plants is a few decades past and some of the names are common names given by the Ho-Chunk such as “ghost sneeze” for “giant puffball,” *Scleroderma citrinum*, a type of fungus.

Overall, there are a variety species accounted for. The tables record one hundred and sixteen species deriving from forty-eight families. In addition, there are numerous habitats corresponding to these species. The spectrum ranges from prairies and barrens to swamps and meadows. Together, the tables and the chart show that the lower third of the Wisconsin River way is enriched with a compilation of species and habitats.

Mapping the original vegetation cover present at Ho-Chunk sites along the Wisconsin River was a process facilitated by William Gartner's knowledge of Ho-Chunk history and his dissertation, "Raised Field Landscapes of Native North America" (2003) and by the Wisconsin Archaeological Site Inventory (Wisconsin State Historical Society). These coordinate points were superimposed onto the Wisconsin Department of Natural Resources' "Original Vegetation Cover of Wisconsin" data. That information was compiled and categorized from the first survey of Wisconsin in the mid 1800s.

The original vegetation cover data was digitized from a 1976 map created from land survey notes written. The Wisconsin Department of Natural Resources' data of "Original

"Vegetation Cover" (1976) features sixteen categories of landcover. Seven of the sixteen landcover types are found around the lower third of the Wisconsin River, demonstrating the diversity of vegetation along the riverway. In addition, due to the small scale of the map, it is probable that other ecosystems also occur, but the units of data collection do not expose those other categories. The seven important categories are 1. Sugar maple, basswood, and oak; 2. Oak; 3. Oak openings; 4. Prairie; 5. Lowland hardwoods; and 6. Marsh and sedge meadow. The Ho-Chunk sites tend to fall on the convergence of two or more ecosystems. The map and tables suggest that the Ho-Chunk had access to a wide variety of plants, including those with medicinal qualities. These six categories are also applied to the table of Wisconsin botany. "Plant Habitat" lists the species, common name, and habitat of plants that may occur along the Wisconsin River. The map's legend also serves as a key for the table, since the six categories can be found in the habitat descriptions. We suggest, then, that plants found in the original vegetation of the Wisconsin River, as described by the table, may have been accessible to Ho-Chunk residing near the sites, as described by the map. The reader may cross-reference both resources to identify specific plants, in particular locations near those ancient places.

It is pertinent to examine briefly the ecosystems, or plant communities, residing along the lower third of the Wisconsin River way where the vegetation comprises of numerous species which are capable of being used locally for medicinal purposes by the Ho-Chunk. Some of the major ecosystems along the river include prairies, savannas, and sand barrens. Each ecosystem is a rich source of applicable plants.

Prairies consist of areas governed by grasses and forbs instead of trees. "A prairie is defined as an open area covered by low-growing plants, dominated by grasslike species of which at least one-half are true grasses, and with less than one mature trees per acre (Curtis, 262)." Thus

type of plant community transitions often between other communities such as oak savannas to oak forests or marshlands consisting of sedges in au lieu of grass (Curtis, 262). “On occasion there may be a rather abrupt boundary between grassland and forest, particularly at rivers or at places of rapid topographic change (263)”. There are five different units of moisture gradients and topographies that divide prairies into subcategories with species corresponding to their range of moisture tolerance. In descending order, xeric, lowland prairies, mesic prairies, as well as original prairies fall upon the river way.

Furthermore, savannas are an important component in this region. Savannas are a mixture of grasslands and forests. Therefore, the land is covered with grasses, a few shrubs, and widely spaced tall trees (Curtis, 325). Oak openings fall within this category of plant community because they are commonly the principle type of the tall trees that are dispersed at low density. The upper limit between savanna and forest is generally considered to be a tree canopy with 50% coverage or less (Curtis, 304) . This low frequency allows grasses and other low herbaceous species to grow amongst the scattered trees.

Similarly to prairies, pine barrens and or sand plains are part of the composition of the southern region of Wisconsin. Because of their dynamic nature and the variability in structural types and species composition, they are difficult to describe and classify. “The sand barrens are most closely related to the dry-mesic prairies and to the oak barrens (Curtis, 309).” Pine barrens contrive of dry, acidic, and infertile soils. The vegetation is grasses, forbs, lows shrubs, and scattered trees. Frequently, these plant communities fall upon outwash plains, lakebeds, and outwash terraces along rivers due to sandy glacial deposits from melting glaciers (Curtis, 310). Many pines such as Red Pine and Jack Pine and oaks are the foliage as well as grasses for the understory and some shrubbery.

The following images are photographs taken between 1880 and 1940 of Ho-Chunk women working within their activities and landscapes. Visual documentation of American Indian female connection to medicinal practices and plant uses indicates an important human and cultural relationship to surrounding natural resources. The issues and influence of European land appropriation and subsequent geographic displacement are not addressed in the photographs and their descriptions. Readers should note the European cultural influences apparent in some of the photos. Black River Falls and Wisconsin Dells are not towns on the Wisconsin River, however the images are a representation Ho-Chunk cultural practices within Wisconsin.



"Cutting Roots for Medicine" by [Gerend, Alphonse](#) September 1923 Black River Falls, Wisconsin 45753



“Ho-Chunk Medicine Dance and Lodge” [Van Schaick, Charles](#) Black River Falls, Wisconsin 63762 View from behind a group of Ho-Chunk men, women, children, and one dog sitting outside Ho-Chunk lodge with flaps raised on the side to allow them to see inside. Probably the Ho-Chunk medicine dance and lodge. Many of the women are wrapped in shawls.

Parallax

With the ever-growing concern of environmental degradation and climate change there has been a subsequent interest in the preservation of natural resources. In accordance with the current awareness about the state of the environment, there is equal questioning about both how to maintain a healthy eco-system, but also the ethical dilemmas connected to humans and our place in environmental debates. The ethics of human-environment interactions and preservation follow similar scrutiny of the ethics of cultural preservation. A question that arises for both is how much human involvement is necessary?

This question first arose in regards to how much involvement should we, as students,

have in the preservation of American Indian cultural tradition. This question spiraled out into what it means to do ethnographic research and outsider involvement. From these concerns we became involved in a highly ethical debate about our role in the project. In order to examine the ethics behind our research, we first wanted an overview of the environmental ethics involved specifically in the relationship that humans have with their environments.

Two terms that often come up in discussions on the environment are conservation and preservation. Drs. Sara Warber, Michael Fetters, and Peter Kaufman write in the article “Environmental Ethics: Finding a Moral Compass for Human-Plant Interaction” that there are three environmental ethical models, anthropocentric, pragmatic and ecocentric. Anthropocentric is a predominately Western concept that holds humans in the highest rank. Humans hold the power to make decisions and take actions. Additionally, there is a connection between all humans, a connection that does not include plants or animals. A pragmatic model stresses the practical components of environmental awareness. This includes an argument for environmental protection in attempts to alleviate the detrimental effects of a degraded environment. This is the stance is that adopted by many contemporary environmental groups. The third model is ecocentric, which supports minimal or no human involvement in natural environments.

All of these models are attempting to solve the problem of how to preserve natural environments. In the context of natural medicine, Warber, raises the dilemma of over-consumption of plants that could result in an extinction of certain species. Reminiscent of problems seen in the debate over the *Convention on International Trade in Endangered Species* of Wild Fauna and Flora, which offers strict protection over plants. However, the problem is that undiscovered plants would be lost if not actively preserved. In order to solve these issues, Warber stresses the need to look elsewhere from the three environmental ethical models. To do

this, she turns to an American Indian healer to learn from their traditional theories and practices of land preservation.

Overall, Warber describes how American Indians practice plant preservation through a following of the plant gathering principles, which include, respect, purpose, stewardship and regeneration. These principles combine the human needs of practicality with an awareness of plant protection. This paradigm shift in how we look at our relationship to plants demands a consciousness around the structure of the power roles present. These principles can have various meanings based on who is defining them and controlling the standards.

The role of control and power that impacts environmental practices presented within our research from an ethnographic standpoint. We were forced to challenge what it meant that we, as academic students, had the power to investigate the culture and history of American Indians, but at what cost? When we learned that we were beginning to cross boundaries of cultural respect and history, we were forced to examine our role within the ethical debate. Cultural place determines access to knowledge and subsequently defines the hierarchy of knowledge. With knowledge comes power and our ethical dilemma was largely in part due to our potential manipulation of that knowledge and power structure. In response to both cultural and environmental ethics there must be an acknowledgment of what we know and what we will never know. This acknowledgment affects our research in shifting our focus from an acquisition of information without the cultural sensitivity, to awareness about the larger scope of our work.

The Ho-Chunk are a particularly secretive tribe for most of their cultural practices which becomes obvious while searching for information that is not accessible. Due to a long history of oppression and resistance they were forced to work extremely hard to maintain their culture and practices, especially those based around an ever changing medicine- plant community. Scattered

settlements in and around the Midwest caused by an exclusion of reservation status gave them more of a will for the preservation of their culture. Rather than allowing written history, mainly by outsiders such as anthropologists and people within the academic realm, many Ho-Chunk members keep to oral traditions exclusively. In an interview with a young female member of the Ho-Chunk tribe, Wisconsin researcher Anne Sherman noted that she "spoke briefly on traditions that today continue to hold value for many Ho-Chunk people. The medicine lodge, which she could not speak about due to the needed secrecy for the lodge, plays an important piece in her life as do many of the traditional Christian rituals." Within the same interview Sherman portrays the comment about working with white health professionals that, "Finally, it may be valuable for the professional to know that in the first contact, the Ho-Chunk person is often quietly judging your abilities. If he or she thinks you're incompetent, nothing will be said to you; but, this impression will be shared with the Ho-Chunk community." (1998)

As a way to produce more primary sources for our project we focused on ways of actually interacting with members of the Ho-Chunk and trying to gain their very important perspective on our project. One of these primary sources was in the form of conducting informal interviews. We planned to ask questions about their knowledge of traditional practices as well as how that knowledge lined up with present day health concerns and remedies. Both interviews that 2 group members had conducted had useful but rather unexpected results. One example of an interview took place in Madison. A researcher asked a Ho-Chunk classmate about a recipe from Paul Radin's ethnography. The researchers aim was to discover the specific plants traditionally used to treat a reproductive ailment. When the informant looked at the recipe her response was closed and protective of the information. She said, "This should never have been published," referencing the exploitation of American Indian tribes from a racial, academic, and

capitalistic interests. The interview was immediately stopped as the researcher felt the implication of her questions. On a larger scale after contemplation, the researchers felt the implications of the cultural sensitivity and politics of the projects on a whole. We wanted to understand many aspects of Ho-Chunk knowledge. Yet, as we were not a part of their community, this was unethical and impossible hence the informant halting conversation on the questions of our project. This reevaluation process, post interview, gave us a new perspective on the direction of our research based from that moment on in a call to action that was based in cultural sensitivity.

A parallax can be best described through tangible objects though for our purposes we use it in metaphor form. It is best to image a parallax as looking at one particular object, say a star in the sky, from one particular position. Then image looking at the star from a physically different place, a different viewpoint or perspective. Though the star has not moved its position *seems* to have changed. The change in direction was the path we took on our project due to a growing realization throughout our research that gave us a new line of site or a new perspective. Because of certain facts or truths we are still telling the same story with the same results but we see the entire project in a new light. (http://en.wikipedia.org/wiki/File:Parallax_Example.svg)

Often times in any category of academic inquiry or research topic there is a period of time for stepping back, reflecting on a topic, and critiquing its purpose. At any point in time during a project it is an effort well spent. For the purposes of our venture we will use the metaphor of parallax to explain how we stepped back from our research trying to understand a plant human connection in the lower third of the Wisconsin River. Seeing something as a parallax involves looking at an object or concept from one direction then moving to another position or perception and seeing it in an entirely different way. The object is of course still the same, in the same

position but the perspective has changed, often dramatically. The metaphor of a parallax allows us to explain how we displaced ourselves from intensive searching for a connection between Native American women and their traditional and present day plant uses. As female geographers living in Wisconsin we chose this topic because we were particularly interested in gender related plant use revolving around reproductive issues. Originally though, we did not see our topic and questions from all cultural and feasible directions. As we carried on our research we began looking at our chosen subject from a changed perspective and began to ask why we made the association between plants and these Native American communities. It is important to note that we do not believe studying something as fascinating and useful as ethnobotany or any other cultural practices in general are unimportant or wrong. We in fact strongly support the interest in other cultures and their connection to their environment around them. We do take more issue with the process of gathering information to understand a culture.

This concept of imposing research was an idea each group member was quite familiar with on the level of environmental justice issues. More surprising was how simple it was to take ethical issue with the research being undertaken. Though we had no intention of marching into these Native American communities and demanding their cultural information, even the most timid and entirely innocent attempts at research were of course blocked by a traditional secrecy within tribes discussed above.

As undergraduate geographers with only three months to understand a very important cultural question we were unprepared for how the situation was going to lean against our original predictions and theories. More important than this tough yet valuable lesson in cultural etiquette we saw where most of the issue lay when we changed our positioning to see the project from another more informed place.

The parallax for our group research was seen from the perspective that we wanted to more fully understand Wisconsin Native American culture and how over many years the female specific plant use had changed and why that might be. After a few enlightening experiences both verbal, in the form of interviews, and literary we moved from our original position and our questions became much bigger. We began to wonder why no one had researched communities like this before. Why can we not access the information we need or only small portions of what we need? These questions led to larger inquiries about whether or not our attempts at gaining this information were valid. What kind of conclusions would it allow and at what cost? Rather than taking this project any further we now believe that this is a project for a different demographic of researchers to ask these as well as many new questions. We have a belief that the answers can only come from within Ho-Chunk communities and from there only within their own specific tribe. If the answers are not known, then that is a respect for their culture that we must maintain. We think that there is a different way to make sense of human experiences within our topic choice but it is not our place outside of the American Indian realm to take on this task. This call to action attempts to study the ethics of environmental history behind every query.

In response to the parallax in our research, we were forced to question our own ethics and our cultural role in this project. Our own identities do come into the discourse of the research and portray both questions and truths about our place in this work. Although none of us are American Indian, we all identify as women and since we began this work with questions specifically geared towards women our gender is relevant in our research. Just as Nancy Laurie was able to ascertain a deep firsthand understanding of Ho-Chunk culture from a women's perspective simply for being female in her interviews with Mountain Wolf Woman, we assumed that our gender would give us grounds for solidarity with American Indian women due to similar

interests in women's health. However, this clearly appeared to not be the case. The attempts at interviews proved that our identities as non-American Indians took precedent over our identities as women.

Another element of our identity that arose in this research was our place as students within an academic institution. By doing this work in the context of a university, we were automatically connected to the politics of institutional knowledge. This limited our ability to portray our own interest in the subject matter, without displaying an agenda for using the information to further our academic careers.

This project evolved into a much larger topic and issue than we first anticipated when we began asking questions about American Indians in the lower Wisconsin Riverway. This evolution demonstrates the importance of geography as a discipline in showing the value in interdisciplinary learning. Using our geography educations we were able to combine physical sciences and quantitative research with a larger investigation of the social sciences. It was through this combination that we were able to come to the following conclusions in our research. It is clear that there is a need for more conservation of indigenous plants in Wisconsin. This is intertwined with an argument for more autonomy of American Indian communities over their land in attempts to promote health and the continuation of traditional medicine. In our involvement in studying American Indians we learned the importance of evaluating identity politics and overall the critical responsibility to question and challenge academic research.

Community Profile Minnesota, Wisconsin, and Michigan Tribal Communities, 2008 (66-73)

Table 5.2b- High Birth Weight Births (greater than 4,000 grams), by Percent, 2002-2006

AI/AN Michigan	12.4	All Races Michigan	12.3
AI/AN Minnesota	15.1	All Races Minnesota	12.1
AI/AN Wisconsin^	14.7	All Races Wisconsin^^	10.8
AI/AN 3-State Area	14.2	All Races 3-State Area	10.8
IHS Total*	12.2	All Races U.S.	-
HP 2010	-		

Sources: 2002-2006 Birth and Death Files from Michigan Department of Community Health, Minnesota Center for Health Statistics, and Wisconsin Bureau of Health Information

^2002-2006 Birth Files, Wisconsin Department of Health and Human Services

^^WISH, 2002-2006

*Data from Trends in Indian Health, IHS, 2002-2003 Edition (1999-2001 Data)

Table 5.3a- Births with Prenatal Care Beginning in the First Trimester, by Percent, 2002-2006

AI/AN Michigan	81.9	All Races Michigan	85.9
AI/AN Minnesota	67.2	All Races Minnesota	86.3
AI/AN Wisconsin^	74.8	All Races Wisconsin^^	84.8
AI/AN 3-State Area	73.7	All Races 3-State Area	85.7
IHS Total*	67.3	All Races U.S.**	83.9
HP 2010	90.0		

Sources: 2002-2006 Birth and Death Files from Michigan Department of Community Health, Minnesota Center for Health Statistics, and Wisconsin Bureau of Health Information

^2002-2006 Birth Files, Wisconsin Department of Health and Human Services

^^WISH, 2002-2006

*Data from Trends in Indian Health, IHS, 2002-2003 Edition (1999-2001 Data)

**National Center for Health Statistics, 2004

Table 5.3b- Births with Late (3rd Trimester) or No Prenatal Care, by Percent, 2002-2006

AI/AN Michigan	3.9	All Races Michigan	3.2
AI/AN Minnesota	7.9	All Races Minnesota	2.2
AI/AN Wisconsin^	6.2	All Races Wisconsin^^	3.0
AI/AN 3-State Area	5.9	All Races 3-State Area	3.9

Sources: 2002-2006 Birth and Death Files from Michigan Department of Community Health, Minnesota Center for Health Statistics, and Wisconsin Bureau of Health Information

^2002-2006 Birth Files, Wisconsin Department of Health and Human Services

^^WISH, 2002-2006

Table 5.6- Births to Mothers who Smoked During Pregnancy, by Percent, 2002-2006

AI/AN Michigan	30.2	All Races Michigan	14.3
AI/AN Minnesota	35.2	All Races Minnesota	9.8
AI/AN Wisconsin^	32.8	All Races Wisconsin^^	14.2
AI/AN 3-State Area	33.0	All Races 3-State Area	13.1
IHS Total*	19.8	All Races U.S.**	10.7
HP 2010	1.0		

Sources: 2002-2006 Birth and Death Files from Michigan Department of Community Health, Minnesota Center for Health Statistics, and Wisconsin Bureau of Health Information

^2002-2006 Birth Files, Wisconsin Department of Health and Human Services

^^WISH, 2002-2006

*Data from Trends in Indian Health, IHS, 2002-2003 Edition (1999-2001 Data)

**National Center for Health Statistics, 2004

Table 5.7- Percent of WIC-Enrolled Children Who Are Overweight, 2006

Age	Michigan		Minnesota		Wisconsin	
	AI/AN	All Races	AI/AN	All Races	AI/AN	All Races
0-11 Months	12.5	9.9	8.7	7.4	14.6	9.7
12-23 Months	22.9	14.7	33.5	15.7	25.9	15.5
24-59 Months	17.2	13.3	25.0	13.1	21.0	13.0
Total	17.1	12.4	23.1	12.1	20.1	12.4

Source: U.S. Pediatric Nutrition Surveillance System, Table 16-2, Annual Summaries for Michigan, Minnesota, and Wisconsin

Table 1: Medicinal Plant Remedies and Species Used by the Ho-Chunk by Family in the Lower Wisconsin River Way

Latin Family Name	Common Family Name	Species	Common Name	Medicinal Uses
<i>Acoraceae</i>	Sweet Flag	<i>Acorus americanus</i>	Sweet Flag	A very important medicine for physic and colds
		<i>Acorus calamus</i>	Calamus/Sweet flag/ Flag root	The root used in tea for bowel pains
<i>Anacardiaceae</i>	Cashew	<i>Rhus hirta</i>	Staghorn Sumac	The green leaves at the top are cooked to cure stomach-ache and diarrhea and cramps. It is also a stomachic to clean out the system. The inner bark and the root bark are both used for poultices for sores.
		<i>Rhus toxicodendron</i>	Poison Ivy	Chop a little very fine and open up a boil or carbuncle and put a little in, and it will draw the swelling.
<i>Apiaceae</i>	Carrot	<i>Cicuta maculata</i> L.	Common water-hemlock	The roots are used to restore lost appetite
		<i>Heracleum maximum</i>	Cow Parsnip	The roots are used for the sweat bath. The Hocak sweat bath has a three foot pit over which a small wigwam is erected . . . The covering is burlap or flour sacks
<i>Apocynaceae</i>	Dogbane	<i>Apocynum androsaemifolium</i>	Spreading Dogbane	The leaves are used as a medicine for babies when they have the colic.
<i>Aquifoliaceae</i>	Holly	<i>Nemopanthus mucronatus</i>	Northern Holly	To induce vomiting
<i>Araceae</i>	Arum	<i>Arisaema triphyllum</i>	Jack-in-the-pulpit	The root is made into a bitter compound for neuralgia and rheumatism
<i>Araliaceae</i>	Ginseng	<i>Aralia nudicaulis</i>	Sarsaparilla	When [one is] cut with a sharp instrument, the root is cut and mashed to make a poultice to cure.
		<i>Aralia racemosa</i>	American spikenard	The root is boiled for sores, boils and carbuncles.
<i>Asclepiadaceae</i>	Milkweed	<i>Asclepias exaltata</i>	Poke milkweed	A tiny piece boiled is a lactuary, to increase lactation
		<i>Asclepias tuberosa</i>	Orange milkweed/Butterfly milkweed	The root is chewed and placed in a wound to heal. In case of hemorrhage one should drink it [the root].
<i>Asteraceae</i>	Sunflower	<i>Achillea millefolium</i>	Yarrow	The smoke is an important medicine used to revive consciousness. It also treats coughing and throat irritations

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<i>Ageratina altissima</i>	White snakeroot	The root is macerated and used to poultice a rattlesnake bite and cure it
<i>Ambrosia artemisiifolia</i>	Ragweed	The tops of this are used to make a wash to cure headache.
<i>Artemisia ludoviciana</i>	White sage	To revive consciousness. Can be made into a tea from boiled root for use as an oral contraceptive
<i>Artemisia vulgaris</i>	Common wormwood	Infusion of plant top sprinkled on the body for fevers
<i>Aster cordifolius</i>	Silky aster	Used in the sweat bath.
<i>Aster furcatus</i>	Burgess	Used in the sweat bath
<i>Aster sericeus</i>	Western silvery aster	For colic and diarrhea, eat the leaves only
<i>Echinacea purpurea moench</i>	Purple coneflower	Leaves and roots made into a tea and used for rheumatism, arthritis, mumps and measles
<i>Erechtites hieraciifolia</i>	Pilewort	Used in the sweat bath to tincture steam with healing ingredients.
<i>Erigeron strigosus</i>	Prairie fleabane	Used in the sweat bath.
<i>Eupatorium maculatum</i>	Joe Pye	Used as a smudge for illnesses
<i>Eupatorium perfoliatum</i>	Boneset	The tea is used to cause sweating and break up a fever.
<i>Helianthus strumosus</i>	Rough leaved sunflower	The fumes of the leaves on coals are used to cure headache.
<i>Helianthus giganteus</i>	Giant Sunflower	Used for the sweat bath.
<i>Liatris scariosa</i>	Wild blazing star	The root extract cures sunburn. The powdered root is a healing, dusting powder for cancer, sore throat, etc.
<i>Solidago rigida</i>	Stiff goldenrod	Blood purifier and a great female remedy
<i>Prenanthes alba</i>	White lettuce	"When a boy goes swimming some- times he gets lumps all over his body. Then he rubs with this, and they all go away."
<i>Pseudognaphalium obtusifolium</i>	White balsam	Dried leaves steamed as an inhalant for headache. Leaf smoke blown into nostrils to revive one who had fainted.

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		<i>Rudbeckia hirta</i>	Black-eyed Susan	Used for the sweat bath.
		<i>Silphium perfoliatum</i>	Cup plant	Used as an emetic and to treat head colds
		<i>Solidago canadensis</i>	Canada goldenrod	Used for the sweat bath.
		<i>Solidago speciosa</i>	Showy goldenrod	For in- continent urine. The best blood purifier of the Hocak.
		<i>Solidago uliginosa</i>	Northern bog-goldenrod	Used for the sweat bath.
<i>Betulaceae</i>	Birch	<i>Alnus incana</i>	Moench	Used for an upset stomach
<i>Brassicaceae</i>	Mustard	<i>Armoracia rusticana</i>	Horseradish	Used in compounds to cure old sores. Good for internal cramps.
		<i>Brassica nigra</i>	Black mustard	The seeds are ground up for tonic and used in compounds for internal ailments, colds, and stomach troubles.
		<i>Lepidium virginicum</i>	Peppergrass	When one is tired and the feet and legs ache, this plant is cooked and the tea is used to wash the tired members.
<i>Campanulaceae</i>	Bellflower	<i>Campanula aparinoides</i>	Marsh bellflower	Used to make a steam to inhale
<i>Caprifoliaceae</i>	Honeysuckle	<i>Diervilla lonicera</i>	Bush honeysuckle	The root is cooked for a tea to clean out after child-birth. Used as a diuretic
		<i>Sambucus racemosa</i>	Red elderberry	A teaspoon of the inner bark in a cup of hot water is a quick physic.
		<i>Sambucus nigra</i>	Elderberry	The bark is physic and emetic. It is also used as an injection in constipation.
		<i>Triosteum aurantiacum</i>	Tinker's weed	Injectons of the tea are given for stomach troubles and chronic constipation. They drink the tea for kidney trouble.
<i>Celastraceae</i>	Staff-tree	<i>Celastrus scandens</i>	American bittersweet	Used ina tea for a cold.
		<i>Euonymus atropurpurea</i>	Little stick berries	The inner bark and the root bark both were used in treating chills and fevers.
		<i>Cornus rugosa</i>	Silky cornel	It is used as a kinni- kinnick and the bark is efficient in a combination for measles.
<i>Cucurbitaceae</i>	Gourd	<i>Cucurbita pepo</i>	Squash	The seeds are used to dispel worms

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<i>Cupressaceae</i>	Cypress	<i>Thuja occidentalis</i>	Arbor vitae	Combined with red willow bark and cedar leaves pounded together, it is drunk cold, for curing measles.
<i>Dennstadedtiaceae</i>	Bracken	<i>Pteridium aquilinum</i>	Bracken fern	Used in several remedies, most of them for female complaints.
<i>Ericaceae</i>	Heath	<i>Vaccinium angustifolium</i>	Blueberry	This is the type of tonic used to stimulate a lost appetite. A piece of the root 2 1/2 inches long is used to clear out the stomach. The leaves are steeped to make a tea to cure a baby's colic.
<i>Euphorbiaceae</i>	Spurge	<i>Euphorbia corollata</i>	Wild spurge/Flowering spurge	
<i>Fabaceae</i>	Bean	<i>Amorpha canescens</i>	Leadplant	The leaves are medicine for scalds.
		<i>Baptisia alba</i>	Vent	The root is a single remedy to use for injured womb alone.
		<i>Gleditsia triacanthos</i>	Honey locust	The root is used in a hot bath or sweat bath.
		<i>Gymnocladus dioica</i>	Kentucky coffee tree	For colds, take a hot bath, and drink this tea as hot as you can stand.
		<i>Lespedeza capitata</i>	Bush-clover	The root is used in the sweat bath.
		<i>Robinia pseudoacacia</i>	Black locust	The root is used in the sweat bath.
<i>Fagaceae</i>	Beech	<i>Quercus alba</i>	White oak	The bark and root bark are used in mixture for curing flux
		<i>Quercus ellipsoidalis</i>	Northern pin oak	The root bark is a medicine used in compounds
		<i>Quercus macrocarpa</i>	Bur oak	The bark is used in combinations of medicines.
		<i>Quercus rubra</i>	Red oak	The inner bark is mixed with apple bark for worms
<i>Gentianaceae</i>		<i>Gentiana puberulenta</i>	Downy gentian	Promotes appetite and aides digestion. Used for many forms of dyspepsia
<i>Grossulariaceae</i>		<i>Ribes americanum</i> L	Wild currant	Roots in infusion dysentery, hydrophobia, Anti-inflammatory, Diuretic
<i>Iridaceae</i>	Iris	<i>Iris versicolor</i>	Blue flag	A strong physic and a quick one.
<i>Juglandaceae</i>	Walnut	<i>Juglans cinerea</i>	Butternut	The bark is boiled down with maple sugar until it is about the consistency of black strap molasses, and used for a blood tonic.

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<i>Lamiaceae</i>	Mint	<i>Monarda fistulosa</i>	Wild bergamot	Used in the sweat bath. They inhale the fumes to cure a cold.
		<i>Nepeta cataria</i>	Catnip	A sweetened tea is given to babies when they are prone to cry and not sleep.
		<i>Prunella vulgaris</i>	Self heal	The plant itself is used to heal up sores.
<i>Liliaceae</i>	Lily	<i>Allium atrovirens</i>	Wild onion	Infusion of the bulb for ear infections. Treats opened and unopened carbuncle
		<i>Clintonia borealis</i>	Northern clintonia	Used to kill worms
		<i>Maianthemum racemosum</i>	Link/ False spikeweed	The root is a physic
<i>Monotropaceae</i>	Indian Pipe	<i>Monotropa uniflora</i>	Indian pipe	Used as smudge to revive consciousness in one ill who has fainted.
<i>Myricaceae</i>	Bayberry	<i>Comptonia peregrina</i>	Sweet fern	Used in a sweat bath to cure a cold
<i>Nymphaeaceae</i>	Water-lily	<i>Nymphaea odorata</i>	Sweet white water lily	The root is cooked to make a female remedy to cure after a woman gives birth.
<i>Osmundaceae</i>	Royal Fern	<i>Matteuccia struthiopteris</i>	Ostrich fern	Decoction of leaf stalk base from the sterile frond taken to speed expulsion of the afterbirth
<i>Oxalidaceae</i>	Wood Sorrel	<i>Oxalis stricta</i>	Yellow sorrel	Give to a baby sick with colic.
<i>Papaveraceae</i>	Poppy	<i>Sanguinaria canadensis</i>	Bloodroot	Root used in smoke treatment for rheumatism and neuralgia
<i>Pinaceae</i>	Pine	<i>Larix laricina</i>	Tamarack	The gum is used on wounds and cuts.
		<i>Pinus resinosa</i>	Red pine	They also cook the inner bark and make a poultice to cure burns and make them heal quickly. The leaves are also used in the sweat baths.
		<i>Pinus strobus</i>	White pine	They use the gum boiled out of the cones to cure sore throat, and also to apply on a sore which would be apt to leave a scar when it heals.
<i>Plantaginaceae</i>	Plantain	<i>Tsuga canadensis</i>	Hemlock	Grind the red part of the bark to cure diarrhea
		<i>Plantago media</i>	Plantain	The leaves heal old sores.

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<i>Polygalaceae</i>	Milkwort	<i>Polygala senega</i>	Seneca snakeroot	The plant made into a tea to remedy coughs, sore throats, colds, as well as snakebite
		<i>Polygala sanguinea</i>	Milkwort	Used for sunburn. If there is cancer in the throat, this is gargled.
<i>Polygonaceae</i>	Buckwheat	<i>Rumex orbiculatus/Rumex hydrolaps</i>	Greater water-dock	Decoction of root taken as an antidote for poison.
<i>Potamogetonaceae</i>	Pondweed	<i>Potamogeton natans</i>	Floating pond-weed	This is much used in combination with other medicines. They use the fuzz part to chew up and put on boils or carbuncles and bandage, the root is used in tea as an eye lotion for sore eyes.
<i>Ranunculaceae</i>	Buttercup	<i>Anemone cylindrica</i>	Anemone	The root is used to cure sores in a baby's or an adult's mouth.
		<i>Coptis trifolia</i>	Goldthread	
<i>Rhamnaceae</i>	Buckthorn	<i>Ceanothus americanus</i>	New Jersey Tea/Deer food	The root is fine medicine for women
		<i>Rhamnus alnifolia</i>	Buckthorn	The inner bark is a strong physic
<i>Rosaceae</i>	Rose	<i>Aronia arbutifolia</i>	Chokeberry	When the berries are dry in the fall, they are ground up and used to stop flux or diarrhea
		<i>Potentilla norvegica</i>	Strawberry-weed	The root is a remedy to clean up the afterbirth. The cherries are dried for medicine, pounded in a mortar to a powder and then steeped to make a tea to stop flux.
		<i>Prunus pensylvanica</i>	Pin cherries	
		<i>Prunus serotina</i>	Wild black cherry	Used as a tonic and 20 combinations
		<i>Rosa carolina</i>	Pasture rose	The root is cooked for a baby medicine when the mother is going to have another baby. The root of rose is for diarrhea.
<i>Rutaceae</i>	Rue/Citrus	<i>Zanthoxylum</i>	Prickly ash	A strong expectorant, cough syrup, stop hemorrhages. The powdered inner bark used for a toothache.
<i>Salicaceae</i>	Willow	<i>Populus grandidentata</i>	Large tooth aspen	This bark mixed with red oak was used to cure worms.
		<i>Populus tremuloides</i>	Trembling aspen	This bark mixed with red oak was used to cure worms.

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		<i>Salix amygdaloides</i>	Peach-leaf willow	The root bark is used in a mixture for soreness and for female weakness.
		<i>Salix bebbiana</i>	Beaked willow	The root bark is used in compounds
		<i>Salix candida</i>	Sage-leaved willow	The root is used in compounds
		<i>Salix humilis</i>	Prairie Willow	Used to make a medicine for spasmodic colic, dysentery, and diarrhea.
<i>Sarraceniaceae</i>	Pitcher-plant	<i>Sarracenia purpurea</i>	Pitcher plant	It is a female remedy to drink when sick at the stomach of pregnancy.
<i>Scrophulariaceae</i>	Figwort	<i>Verbascum thapsus</i>	Great mullein/Sheep's ear	Heat the leaves and apply to reduce a swelling
		<i>Veronicastrum virginicum</i>	Culver's-root/Medicine root beer	Used for constipation, kidneys, and drunk by women who were weak or in labor. Also used as a physic, but also is used for a poultice for a pain anywhere.
<i>Smilacaceae</i>	Catbriar	<i>Smilax tamnoides</i>	Bristly sarsaparilla	The root is used in a tonic medicine.
<i>Tiliaceae</i>	Linden	<i>Tilia americana</i>	Basswood	The root is used for female weakness
<i>Ulmaceae</i>	Elm	<i>Ulmus rubra</i>	Slippery elm	Used as a sore throat lozenge and in many combinations.
<i>Verbenaceae</i>	Vervain	<i>Verbena hastata</i>	Blue vervain	The fine hair roots are used for female weakness.
		<i>Verbena stricta</i>	Blue (hoary) vervain	The root stops vomiting and spitting of blood.
<i>Vitaceae</i>	Grape	<i>Vitis riparia</i>	Wild grape	They also hard boil the root in water to get a hair tonic.
	Fungi	<i>Calvatia gigantea</i>	Giant puffball	Used for a haemostatic
		<i>Scleroderma citrinum</i>	Ghost sneeze	When the nose bleeds, a small quantity is puffed up the nose to stop it.

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Table 2: Habitat of Medicinal Species used by the Ho-Chunk on the Lower Third of the Wisconsin River

Species	Common Name	Habitat
<i>Acorus americanus</i>	American sweet flag	Wet open areas, marshes, swales, and along edges of quiet water
<i>Acorus calamus</i>	Calamus/Sweet flag/ Flag root	Wet areas along the edges of streams and around ponds and lakes, in ditches and seeps
<i>Rhus hirta</i>	Staghorn sumac	Habitats include open upland woodlands, woodland borders, thickets, rocky barrens with sparse woody vegetation, dry riverbanks
<i>Rhus toxicodendron</i>	Poison Ivy	Woods, on rocky slopes and in wooded swamps
<i>Cicuta maculata</i>	Common water-hemlock/Cowbane	Ditches, muddy waters and marshes
<i>Heracleum maximum</i>	Cow parsnip	Rich damp soils of prairies and mountains, especially along streams and in open woods in Western N. America
<i>Apocynum androsaemifolium</i>	Spreading dogbane	Open woodland, woodland edges etc, usually on drier soils
<i>Nemopanthus mucronatus</i>	Northern holly	Damp woods, thickets and swamps
<i>Arisaema triphyllum</i>	Jack-in-the-pulpit	Wet woods, bogs and swamps
<i>Aralia nudicaulis</i>	Sarsaparilla	Moist, shady, rocky woods
<i>Aralia racemosa</i>	American spikenard	Rich woodlands and thickets
<i>Asclepias exaltata</i>	Poke milkweed	Swamps and wet place
<i>Asclepias tuberosa</i>	Orange milkweed/Butterfly milkweed	Dry open sandy and gravelly soils and grassy places by the sides of roads
<i>Achillea millefolium</i>	Yarrow	Meadows, pastures, lawns etc. on all but the poorest soils
<i>Ageratina altissima</i>	White snakeroot	Low woods in river valleys

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United States Department of Agriculture

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<i>Ambrosia artemisiifolia</i>	Ragweed	Found in ruderal or waste sites associated with frequent and extensive disturbance regimes resulting from human activities. Roadsides, railways
<i>Artemisia ludoviciana</i>	White sage	Prairies, dry open soils and thin woodland
<i>Artemisia vulgaris</i>	Common wormwood	Found near streams, lakes or irrigation ditches or in overgrazed pastures and wastelands
<i>Aster cordifolius</i>	Arrow-leaved aster	Woods and thickets
<i>Aster furcatus</i>	Burgess	Waste places, especially by rivers, in lowland, and wet grasslands
<i>Aster sericeus</i>	Silky aster	Habitats include dry gravel prairies, dolomite prairies, sand prairies, hill prairies, scrubby barrens, limestone glades, and prairie remnants along railroads
<i>Echinacea purpurea moench</i>	Purple coneflower	Dry prairies and barrens
<i>Erechtites hieraciifolia</i>	Pilewort	Thickets, burns and waste places
<i>Erigeron strigosus</i>	Prairie fleabane	Prairies, open woods, waste ground, open fields, roadsides, railroads
<i>Eupatorium maculatum</i>	Joe pye	Damp thickets, meadows, shores etc, usually on rich or calcareous soils
<i>Eupatorium perfoliatum</i>	Boneset	Wet woods, scrub, fens and damp grassland
<i>Helianthus strumosus</i>	(rough leaved sunflower)	Dry woods and banks
<i>Helianthus giganteus</i>	Giant Sunflower	Damp or rich thickets, swampy woods and clearings
<i>Liatris scariosa</i>	Wild blazing star	Dry stony soils on prairies and open forest glades
<i>Solidago rigida</i>	Stiff goldenrod	Dry or gravelly open woods, thickets and prairies

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<i>Prenanthes alba</i>	White lettuce	Rich woods and thickets
<i>Pseudognaphalium obtusifolium</i>	White balsam	Pine woods and clearings in dry open habitats
<i>Rudbeckia hirta</i>	Black-eyed Susan	Fields, open woods, roadsides
<i>Silphium perfoliatum</i>	Cup plant	Rich woods, thickets, river banks and prairies
<i>Solidago canadensis</i>	Canada goldenrod	Dry to damp thickets, roadsides, slopes and clearings, avoiding acid soils.
<i>Solidago speciosa</i>	Showy goldenrod	Thickets, fields & roadsides
<i>Solidago uliginosa</i>	Northern bog goldenrod	Bogs and swamps
<i>Alnus incana</i>	Moench	Mountains, especially on poor soil
<i>Ammoracia rusticana</i>	Horseradish	Arable land, waste ground and by streams, favoring slightly damp positions
<i>Brassica nigra</i>	Black mustard	Fields, waste ground, roadsides
<i>Lepidium virginicum</i>	Peppergrass	Dry sandy soils in waste places and by roads. Avoids dense woods and wet places
<i>Campanula aparinoides</i>	Marsh bellflower	Damp meadows and swamps
<i>Diervilla lonicera</i>	Bush honeysuckle	Dry gravelly soils in woodlands
<i>Sambucus racemosa</i>	Red elderberry	Open woods, edges of beech forests, mainly in mountainous areas. Moist rocky terrain of the lower to middle mountain slopes
<i>Sambucus nigra</i>	Elderberry	Hedgerows, scrub, woods, roadsides, waste places etc, especially on disturbed base-rich and nitrogen rich soils
<i>Triosteum aurantiacum</i>	Tinker's weed	Shady positions in forests on limestone soils
<i>Celastrus scandens</i>	American bittersweet	Rich soils in dense moist thickets, woods and along river banks

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<i>Euonymus atropurpurea</i>	Little stick berries	Rich woods and thickets, the best specimens are found in deep rich humus soils
<i>Cornus rugosa</i>	Silky cornel	Dry woods and rocky slopes
<i>Cucurbita pepo</i>	Squash	Not known/cultivated beds
<i>Thuja occidentalis</i>	Arbor vitae	Swamps and cool rocky banks of streams, forming dense almost impenetrable forest
<i>Pteridium aquilinum</i>	Bracken fern	Heath, woodland and grassland
<i>Vaccinium angustifolium</i>	Blueberry	Dry open barrens, peats and rocks
<i>Euphorbia corollata</i>	Wild spurge/Flowering spurge	Dry soils in fields and along roadsides
<i>Amorpha canescens</i>	Leadplant	Dry sandy prairies, hills and woodland
<i>Baptisia alba</i>	Vent	Sandy pine woods, prairies and river banks
<i>Gleditsia triacanthos</i>	Honey locust	Usually growing singly, though occasionally forming almost pure woods, on the borders of streams and in rich woods,
<i>Gymnocladus dioica</i>	Kentucky coffee tree	Bottomlands, deep ravines and moist lower slopes
<i>Lespedeza capitata</i>	Bush-clover	Dry fields, Sandy open woods
<i>Robinia pseudoacacia</i>	Black locust	Woods and thickets, especially in deep well-drained calcareous soils[
<i>Quercus alba</i>	White oak	Dry woods, gravelly ridges, sandy plains, rich uplands and moist bottoms
<i>Quercus ellipsoidalis</i>	Northern pin oak	Dry to moist siliceous to argillaceous woods. Prairies and sandy hills in dry soils

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<i>Quercus macrocarpa</i>	Bur oak	Found in a variety of habitats from dry hillsides to moist bottomlands, rich woods and fertile slopes
<i>Quercus rubra</i>	Red oak	Dry or upland woods. Found in a variety of soils, it grows best in those that are deep and fine textured, and the largest trees are found in protected ravines or on sheltered slopes
<i>Gentiana puberulenta</i>	Downy gentian	Prairies and other grassy places
<i>Ribes americanum</i>	Wild currant	Rich thickets and slopes
<i>Iris versicolor</i>	Blue flag	Swamps, wet meadows, scrub and by lakes and rivers. Wetlands
<i>Juglans cinerea</i>	Butternut	Usually found in rich moist soils of woods and river terraces
<i>Monarda fistulosa</i>	Wild bergamot	Dry thickets, clearings and woodland edges
<i>Nepeta cataria</i>	Catnip	Roadsides and near streams. Hedgerows, borders of fields, dry banks and waste ground
<i>Prunella vulgaris</i>	Self heal	Waste ground, grassland, woodland edges
<i>Allium atropurpureum</i>	Wild onion/Dark red onion	Dry hillsides and among sagebrush scrub
<i>Clintonia borealis</i>	Northern clintonia	Rich woodlands, deep thickets
<i>Maianthemum racemosum</i>	Link/ False spikeweed	Moist coniferous and deciduous woods, clearings and bluffs
<i>Monotropa uniflora</i>	Indian pipe	Dark rich woodlands
<i>Comptonia peregrina</i>	Sweet fern	Dry rocky or sandy soils in clearings, pastures and poor open woodland
<i>Nymphaea odorata</i>	Sweet white water lily	Lakes, bog pools and slow rivers
<i>Matteuccia struthiopteris</i>	Ostrich fern	Low open ground, alluvial thickets and rich woods

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<i>Oxalis stricta</i>	Yellow sorrel	Prefers impoverished soils, growing in abandoned fields, roadsides etc
<i>Sanguinaria canadensis</i>	Bloodroot	Rich soils in open broad-leaved woodland and on shaded slopes
<i>Larix laricina</i>	Tamarack	Often forming pure forests in the south of its range in swamps and wet soils
<i>Pinus resinosa</i>	Norway/Red Pine?	Dry woods
<i>Pinus strobus</i>	White pine	Woods, especially on sandy drift soils or fertile well-drained soils, sometimes on river banks and rarely in swamps. Often forming dense forests.
<i>Tsuga canadensis</i>	Hemlock	Woods and swampy areas on cool moist sites
<i>Plantago media</i>	Plantain	Fields, meadows and lawns
<i>Polygala senega</i>	Seneca snakeroot	Rocky hills and woods
<i>Polygala sanguinea</i>	Milkwort	Grassland on heaths, dunes
<i>Rumex orbiculatus/Rumex hydrol.</i>	Greater water-dock	Near ponds and streams, also in shallow water, avoiding acid conditions
<i>Potamogeton natans</i>	Floating pond-weed	Lakes, ponds and ditches, especially on a highly organic substratum, usually in water less than 1 meter deep
<i>Anemone cylindrica</i>	Anemone	Prairies, dry, open woods, pastures and roadsides
<i>Coptis trifolia</i>	Goldthread	Coniferous woods and dark swamps and dense forests
<i>Ceanothus americanus</i>	New Jersey Tea/Deer food	Near ponds and streams, also in shallow water, avoiding acid conditions
<i>Rhamnus alnifolia</i>	Buckthorn	Lakes, ponds and ditches, especially on a highly organic substratum, usually in water less than 1 meter deep

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<i>Aronia arbutifolia</i>	Chokeberry	Prairies, dry, open woods, pastures and roadsides
<i>Potentilla norvegica</i>	Strawberry-weed	Coniferous woods and dark swamps and dense forests
<i>Prunus pensylvanica</i>	Pin cherries	Dry woods and on gravelly banks
<i>Prunus serotina</i>	Wild black cherry	Dry places in scrub and maquis
<i>Rosa carolina</i>	Pasture rose	Low woods, thickets, swamps, damp pine barrens
<i>Zanthoxylum</i>	Prickly ash	Woods, thickets, and along river banks
<i>Populus grandidentata</i>	Large tooth aspen	This bark mixed with red oak was used to cure worms
<i>Populus tremuloides</i>	Trembling aspen	This bark mixed with red oak was used to cure worms
<i>Salix amygdaloides</i>	Peach-leaf willow	The root bark is used in a mixture for soreness and for female weakness
<i>Salix bebbiana</i>	Beaked willow	The root bark is used in compounds
<i>Salix candida</i>	Sage-leaved willow	The root is used in compounds
<i>Salix humilis</i>	Prairie Willow	Upland prairies, savannas, barrens, and gravelly seeps
<i>Sarracenia purpurea</i>	Pitcher plant	Sphagnum bogs and peaty barrens
<i>Verbascum thapsus</i>	Great mullein/Sheep's ear	Sunny positions in uncultivated fields and waste ground, especially on dry soils
<i>Veronicastrum virginicum</i>	Culver's-root/Medicine root beer	Meadows, rich woods, thickets and prairies
<i>Smilax tamnoides</i>	Bristly greenbrier	Low woods and thickets
<i>Tilia americana</i>	Basswood	Rich, often moist, soils of woods and bottomlands

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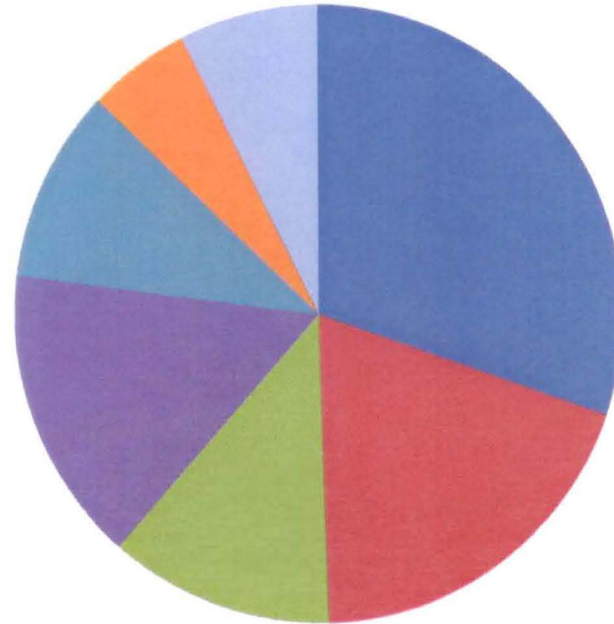
<i>Ulmus rubra</i>	Slippery elm	Rich deep soils, often calcareous, on the banks of streams and low rocky hillsides
<i>Verbena hastata</i>	Blue vervain	Swales, damp thickets and shores
<i>Verbena stricta</i>	Blue (hoary) vervain	Roadsides and other dry open places
<i>Vitis riparia</i>	Wild grape	Riverbanks, bottomlands, rich thickets and woodland margins
<i>Calvatia gigantea</i>	Giant puffball	Well-fertilized fields or pastures and hillsides where the underlying fungus has plenty of underground manure to decompose
<i>Scleroderma citrinum</i>	Ghost sneeze	Not known

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Ailments Treated through Plant Resources by the Ho-Chunk



- Viruses
- Stomach Ailments
- Dermatologic
- Women's Issues
- Head Ailments
- Blood Issues
- Other

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