

Nature Awareness

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Question 1: Describe the customs of two or three Indo-European cultures regarding the land and natural resources, and compare and contrast these practices with the prevailing modern attitudes. (minimum 300 words)

In most neo-Pagan religions there is a pervasive myth that the ancient cultures lived in harmony with nature and were conscious of the effects of their behavior on the environment. It seems obvious to me that the ancient Celts of Ireland, while aware of seasons and how they work, were probably not as aware of the repercussions their activities would have on the ecosystem. This is evidenced by the fact that the people of this area clear-cut so many trees in ancient times that the country is still trying to recover from the devastation of deforestation.

The belief that the Celts understood nature, because their survival depended on successful farming and fishing, is romanticized throughout neo-Pagan traditions. Research on the relationship between religion and ecology has found that many of the environmental ideologies attributed to the Celts may be inaccurate. Recent analyses have established that peat bogs are possible sources not only for palaeobotanical research, but can also be effectively used to reconstruct the atmospheric pollution of a given period. This period of forest clearing and expanded human activity arising in the middle of the Iron Age and continuing into the Roman period is noted at other locations in the area as well.¹ Widespread forest clearing during the Iron Age was also verified at White Moss from two cores, dated 600 cal bc and 460 cal bc, in the Duddon Estuary in the county of Cumbria in North West England.² Iron Age wood clearing has also been documented from 620 cal bc at Deer Dyke Moss, also in the county of Cumbria,³ though peat deposits from Cumbria's Lyth Valley suggest extensive clearing beginning only from 150 cal bc.⁴

Likewise, the Romans were also extremely insensitive to the environment. They were perhaps the least environmentally sensitive of the Indo-European cultures. This disregard for nature may even have contributed to the fall of Rome. The huge amount of wood necessary for military operations alone permanently altered the landscape. To move legions into forested areas roads had to be cleared and wood was needed for "siege terraces, catapults, battering rams, and

¹ Colin Wells, Elizabeth Huckerby, and Valerie Hall, "Mid- and late-Holocene vegetation history and tephra studies at Fenton Cottage," *Vegetation History & Archaeobotany*, 6, 3, 1997, 53-166.

² Guy Wimble, Colin E. Wells, and David Hodgkinson, qtd. in Sarah Lomas-Clarke, Keith Barber, and Keith Barber, "Human Impact Signals from Peat Bogs - a Combined Palynological and Geochemical Approach," *Vegetation History & Archaeobotany*, 16, 6, 2007, 422.

³ Wimble qtd. in Barber 422.

⁴ Wimble qtd. in Barber 422.

beacon fires.”⁵ In one section of Trajan’s Column a beacon fire of 144 logs is depicted.⁶ Forts, camps, warships, and bridges also took an enormous amount of wood. Deforestation and erosion were a huge issue for the Romans and were the principal causes of soil exhaustion.⁷ This agricultural crisis was responsible for rising costs and shortages of food. It also led to labor shortages.

Even further, air and water pollution were issues in the Roman Empire. Studies of polar ice caps have shown that the amount of lead in the atmosphere increased during the Roman times.^{8, 9, 10} Garbage and toilet refuse were emptied out windows and into the streets in many cities and in Pompeii the sludge was so deep that stepping stones were provided for pedestrians.¹¹

The primary differences in the way that modern humans treat the environment is that we have more knowledge of the effect our activity has on the environment than our ancestors did and that there are a lot more of us than there once were. In my mind this makes our treatment of the environment even more deplorable because we know better yet we continue to treat our environment with such blatant disregard.

Question 2: Describe your understanding of the term "Nature Spirits"? Discuss this concept in relation to both ancient Indo-European and modern ADF practices. (minimum 300 words)

I see the Nature Spirits in a few different ways. Sometimes they are spirits of locality, some are a force within specific animals, plants, stones, or waterways and others may be beings that are in-between being Nature Spirits, ancestors, or deities in their own right. The spirits of locality are the ones I honor the most often. They have a presence that may sometimes even feel sentient and their presence is often tangible.

⁵ Johnson Donald Hughes, An Environmental History of the World: Humankind’s Changing Role in the Community of Life, (New York: Routledge, 2002), 73.

⁶ Hughes, An Environmental History, 73.

⁷ Johnson Donald Hughes and J. V. Thirgood, “Deforestation, Erosion, and Forest Management in Ancient Greece and Rome,” *Journal of Forest History*, 26, 2, 1982, 68.

⁸ Hughes, An Environmental History, 74.

⁹ David Keys, “How Rome Polluted the World,” *Geographical*, 75, 12, 2003, 45-48.

¹⁰ Boutron, Claude, Kevin Rosman, Carlo Barbante, Michael Bolshov, Freddy Adams, Sungmin Hong, Christophe Ferrari, Kevin Rosman, Carlo Barbante, Michael Bolshov, Freddy Adams, Sungmin Hong, and Christophe Ferrari. "Anthropogenic Lead in Polar Snow and Ice Archives. (French): L'archivage Des Activites Humaines Par Les Neiges Et Glaces Polaires : Le Cas Du Plomb (French)." Comptes Rendus Geoscience, 336.10 (2004): 848.

¹¹ Hughes, An Environmental History, 75.

In ADF we honor the spirits of nature in ritual and in daily activities. We form **ghos-ti* (reciprocal) relationships with them by making sacrifices to them and asking for their gifts in return. We show our respect for them by being respectful to the earth, protecting and conserving natural resources, reducing our footprint on the earth by recycling or reducing our use of various products, and by being active in our communities in regards to environmental issues.

The ancient Indo-Europeans (IE) probably did little of these things. While they understood to some extent the effect they had on nature, their understanding was likely limited to agricultural issues. They did; however, appear to show respect for certain elements of nature, particularly bodies of water like springs, rivers, and lakes by making votive offerings to the waters. This respect for water and its power is evident by the number of river and ocean gods and goddesses worshipped by IE cultures.

It is also likely that they honored other elements of nature. Mounds and mountains were often said to be ruled by a deity or deities and worship in sacred groves of trees is also apparent.¹² So there was at least some reverence for the powers of nature but the way ancient people honored them was likely very different from the way modern ADF Druids do.

Question 3: Describe the park or patch of untended nature closest to your home and what kind of park it is. (minimum 100 words)

Butte County is home to a number of excellent parks and recreational areas, including Bidwell Park, which is over 3,670 acres and the third largest municipal park in the United States.¹³ There are many wonderful areas to bird watch, fish, hike or enjoy the local wildlife.

The wildest area of this park is Upper Bidwell Park. The Upper Park area is in the foothills of the Sierra Nevada Mountains and has steep terrain. There are a number of interesting and unique geological formations in this area, including the Chico Formation sandstone¹⁴ and Lovejoy Basalt rocks.¹⁵ The Big Chico Creek flows through this area and a diverse selection of flora, fauna and geology may be observed there.

Question 4: Explain where your household water comes from; what waterway is nearest to your home, and where its source is; where it drains; if there are any large bodies of water (lakes, ocean) near your home; what you know about the quality of water in your region; and what the major concerns in your area regarding your water supply are. (minimum 300 words)

¹² Antony Augoustakis, "Cutting Down the Grove in Lucan, Valerius Maximus and Dio Cassius." *Classical Quarterly*, 56.2 (2006): 634-638.

¹³ "Bidwell Park," http://www.chico.ca.us/parks/Bidwell_Park.asp (19 September 2007).

¹⁴ "The Chico Formation," <http://www.csuchico.edu/atec/projects/tigers/site/formations/chico.html> (19 September 2007).

¹⁵ Philip A. Lydon, "Geology Of Bidwell Park: An Outline Summary," January 1997, <http://www.friendsofbidwellpark.org/lydongeo.html> (19 September 2007).

The Butte County Agricultural Department estimates that approximately 60% of the household water in Butte County comes from ground water.¹⁶ The best known water sources in Butte County include “Lake Oroville, Thermalito Afterbay, and the Feather and Middle Fork Feather Rivers” the Sacramento River defines the county’s western boundary.”¹⁷ In my neighborhood the closest waterway is the Little Chico Creek which flows past my street about two houses down from me. It flows into the Sacramento River near Hwy 45.

“Larger surface water bodies bordering or within Butte County include the Sacramento River, the Feather River and Lake Oroville facilities, Big Chico Creek, and Butte Creek. Smaller local streams include Little Chico Creek, Rock Creek, Dry Creek, Little Dry Creek, Clear Creek, Angel Slough, Wyandotte Creek, and Honcut Creek.”¹⁸

The water resources of Butte County are defined as "major drainage basins" in The California Water Plan¹⁹ and are considered part of the Sacramento River Hydrologic Region. Most of the county’s surface water drains into the Sacramento River and into the Sacramento-San Joaquin Delta where it joins with the Pacific Ocean.

The largest body of water in our region is Lake Oroville. It provides “750,000 acre-feet of flood control storage, recreation, and freshwater releases to control salinity intrusion in the Sacramento-San Joaquin Delta and for fish and wildlife protection.”²⁰ At 770 feet in height Lake Oroville is even taller than Hoover Dam (726.4 feet high),²¹ and is the highest dam in the United States.²² Lake Oroville also provides water habitat for a number of local animals. It is currently at the lowest level I have ever seen.

As far as the quality of our groundwater is concerned, according to the Butte County Department of Water and Resource Conservation “groundwater in the Sacramento Valley

¹⁶ From a conversation with “Helmet,” the Butte County Agricultural Department Supervisor, August 2007.

¹⁷ “Butte County in Northern District,” <http://www.nd.water.ca.gov/IndexFiles/WaterResources/Butte/index.cfm> (1 October 2007).

¹⁸ “Ground Water Management Plan, Section 2,” http://www.buttecounty.net/waterandresource/GWmgmtPlan/Section_2__1-6-05_%20_2_.pdf (1 October 2007).

¹⁹ “California Water Plan,” <http://www.waterplan.water.ca.gov/> (1 October 2007).

²⁰ Department of Water Resources, Lake Oroville Recreation, “Facility Statistics; Lake Oroville, Oroville Dam,” <<http://www.lakeoroville.water.ca.gov/about/stats/orodam.cfm> (1 October 2007).

²¹ Andrew J. Dunar and Dennis McBride, Building Hoover Dam: An Oral History of the Great Depression, (Reno: University of Nevada Press, 2001) xvii.

²² Department of Water Resources, Lake Oroville Recreation, “Facility Statistics; Lake Oroville, Oroville Dam,” <<http://www.lakeoroville.water.ca.gov/about/stats/orodam.cfm> (1 October 2007).

portion of Butte County is typically of good quality, as evidenced by its low total dissolved solids (TDS) concentrations, which range from 67 parts per million (PPM) to 232 ppm.”²³ Despite this a comparison of annual spring groundwater levels points to a decrease in groundwater levels during droughts in 1976-77 and 1986-94, which was followed by “a recovery to pre-drought conditions.”²⁴ With our current drought conditions we are likely having the same problem now.

Question 5: Explain where your household garbage ends up and what recycling is available in your area? (minimum 100 words)

Very little of my household garbage actually ends up in the hands of the waste collection company. First, most of my trash is recyclable and all funds from those recyclables are donated to my Protogrove. All my vegetable scraps are saved for my composting bin or for one of our Grove members, who keeps chickens. The meat bones are usually boiled to make soup stock and then discarded (they are not good for composting because of rats). What few things are left are disposed of in my trash can (we might fill one per month).

Our waste collection agency is NorCal Waste Systems. They collect the trash and take it to a local landfill. They also operate “a materials recovery facility, a transfer station, a household hazardous waste facility, a scrap metal public drop-off center, a recycling buyback center, plus providing green waste, recycling, construction and demolition service.”²⁵

Question 6: Briefly describe the major sources of air and water pollution in your area, what the biggest source of pollution in your area is, and what impact it has. (minimum 100 words)

The major source of air pollution in Butte County is agricultural burning²⁶ and the major source of water pollution is from agricultural runoff.²⁷

The quality of air in Butte County does not meet the state’s health standards. The two pollutants; ozone and particulate matter, are of the greatest concern in regard to air quality. A

²³ Vickie Newlin, qtd. in “Ground Water Management Plan, Section 2,” http://www.buttecounty.net/waterandresource/GWmgmtPlan/Section_2__1-6-05_%20_2_.pdf (1 October 2007).

²⁴ California Department of Water Resources, qtd. in Butte Basin Water Users Association, “Groundwater Status Report” *Butte County Water Commission*, 21 February 2001, http://buttecounty.net/waterandresource/BBWUA/2000_%20Measure%20G%20Report.pdf (08 October 2007).

²⁵ Norcal Waste Systems, Inc., “Norcal Waste Systems of Butte County,” 2006, <http://www.norcalwastesystemsofbuttecounty.com> (08 October 2007).

²⁶ Butte County Air Quality Management District, “Air Pollution: A Growing Problem,” <http://www.bcaqmd.org/> (08 October 2007).

²⁷ Butte Environmental Council, 2007, <http://becnet.org> (10 October 2007).

combination of mountains and valleys which trap pollutants, along with a growing population also add to this problem.²⁸

Particulate Matter in Butte County is primarily from fine soot, smoke and dust particles suspended in the air. Particulate matter less than 10 microns in diameter can be inhaled and permanently lodge in the most sensitive areas of the lung and can cause respiratory problems.²⁹

Water pollution and air pollution can affect native plant and animal species in a number of different ways. For example, increased silt from erosion and agricultural runoff can increase the temperatures in our waterways making breeding grounds for fish and amphibians useless.

Question 7: Describe the basic climate of your region, the primary influences on your weather patterns, major economic resources of your region (for example, crops, minerals, ranching, tourism, manufacturing) and how are these affected by climate and weather conditions. (minimum 300 words)

Butte County's rich top soil, moderate climate and plentiful supply of water help generate a wide range of food crops. Principal crops include: rice, almonds, walnuts, prunes, peaches and kiwi fruit.³⁰

Northern California typically is subject to a type of warming wind several times during an average year. The warming effect is the consequence of dense air which is thermally insulated and is forced to surge down the Coastal Mountain ranges and southern Cascades. This kind of wind happens commonly during the transitional months between summer and winter.³¹

The north wind is primarily created by high surface pressures that form over the Great Basin and the Pacific Northwest, which combine with the lower pressures associated with the central coast of California. This type of weather is ideal for growing a number of crops that need a temperate climate but it also brings an increased fire risk to the area.³²

Recently, a number of fires have decimated thousands of acres of our agricultural lands. While these fires are crucial to the fertility of the soil in our area they have affected the grain supplies for local cattle and have increased the particulate matter in the air that we breathe. The fires have also displaced a number of people, their pets, and their livestock all of which place a higher demand on resources in the towns they have been evacuated to.

In order for crops to be their most productive the area requires a perfect balance between warm winds and adequate water fall. The maximum average precipitation in a year happens in

²⁸ Norcal Waste Systems, Inc., "Norcal Waste Systems of Butte County," 2006, <http://www.norcalwastesystemsofbuttecounty.com> (08 October 2007).

²⁹ Ibid

³⁰ Butte County Economic Development Corporation, 1 July 2007. <http://www.butte-edc.com/Agribusiness/Intro.asp> (10 October 2007).

³¹ Ibid

³² Alexander Tardy, "A Cooling North Wind Across Northern California," *The National Weather Service*, October 2000, <http://www.wrh.noaa.gov/sto/COLDN.php> (25 June 2008).

January.³³ Abnormally wet conditions in the spring and summer decrease the production of rice, which needs a wet winter to be most productive. While abnormally hot weather decreases the quality and quantity of prunes, peaches and kiwi.

Question 8: Name and provide the following information for each of three species of animals (birds, mammals, insects, fish, etc.) and three species of plants native to and currently found in your area: Its status (endangered, threatened, thriving, overpopulated), A brief physical description of the species, noting if you have seen it, and where, Describe at least one of the following: a way it is or has been used by humans (for example, as food source, medicinal use, raw materials for tools, clothing, housing, etc.), a way in which it has been affected by human presence or development, and a way in which it has adapted to or entered into an ecological relationship with human presence or human development.

The Ferruginous hawk (*Buteo regalis*) is a large bird of prey. While it is called a hawk, it is not a true hawk, but rather belongs to the broad-tailed buteo hawk family. The Ferruginous hawk is the largest of the buteos and is often mistaken for an eagle due to its size. They have broad wings and broad grey, white or rust colored tails. These birds are currently listed on the federal "Species of Special Concern" and California "Species of Special Concern" lists. Its primary habitats are annual grasslands which are being replaced by agricultural lands and housing developments in our area. I have seen this bird a number of times in the buttes on the way to Mystic Valley Retreat Center in Pulga, CA.³⁴

The American badger (*Taxidea taxus*) is another animal that is native to our area.³⁵ They are significant consumers of small rodent prey. They are an important key to controlling the population of venomous snakes, insects, and rodents (Long, 1999).³⁶ Currently the California

³³ "Monthly Averages for Chico, CA," *The Weather Channel Interactive, Inc.* http://www.weather.com/weather/wxclimatology/monthly/graph/95928?from=36hr_bottomnav_undeclared (25 June 2008).

³⁴ Kevin Hunting, "Ferruginous Hawk (*Buteo regalis*)," *California Department of Fish and Game; PRBO Conservation Science* <http://www.prbo.org/calpif/htmldocs/species/grassland/fehaacct.html> (1 June 2008).

³⁵ Walter P. Taylor "The Status of the Beavers of Western North America, with a Consideration of the Factors in their Speciation," Eds. William Emerson Ritter and Charles Atwood Kofoid, *Berkeley University of California Publications in Zoology*, 12, 15, 1916, 469.

³⁶ Long, qtd. in Nancy Shefferly, "*Taxidea taxus*: American badger," *University of Michigan, Museum of Zoology* http://animaldiversity.ummz.umich.edu/site/accounts/information/Taxidea_taxus.html (1 June 2008).

badger population is listed on the California Species of Special Concern list.³⁷ I have never been unlucky enough to see one of these animals and I hope that I never will; they are very aggressive.

The Sacramento Splittail (*Pogonichthys macrolepidotus*) is large fish that can grow in excess of 30 cm. Their body elongated with a blunt head. The fish are silver on the sides and a dark green-grey on the underside. They primarily feed on opossum shrimp (*Neomysis mercedis*) but will also eat “earthworms, clams, insect larvae, and other invertebrates.” Their primary predators are striped bass and other predatory fishes, though they have been eaten by native human populations. The splittail has vanished from much of their original range due to dams and agricultural development. Access to upstream spawning habitats has been blocked by dams and splittail seem incapable of navigating existing fishways, which were designed for spawning salmon. They are now restricted to waterways below the Red Bluff Diversion Dam on the Sacramento River, the Nimbus Dam on the American River, and the Oroville Dam on the Feather River.³⁸ I do not think that I have seen this fish before, it is pretty distinctive and I believe I would remember if I had.

The California wild grape (*Vitis californica*) is a native grape vine that is distributed all over California and Oregon.³⁹ It is not endangered or threatened in any way though some populations have been displaced by Himalayan blackberry. It is a major component of mixed-oak riparian habitats, providing ground cover, forage, and shelter for a number of species. The leaves are large, and similar in appearance to other grape species, and turn red during autumn months. It grows all over the Bidwell Park (where my Protogrove works on removal of invasive plant species) and in Mystic Valley Retreat Center in Pulga, CA (where our Nemeton is located). It has been used for thousands of years by the local native human populations as a food source and the fruit (grapes) are still eaten in the early autumn by humans and local wildlife; blue jays jealously guard their “stash” from thieves.

The Valley Oak (*Quercus lobata*) is a dicot in the Fagaceae family and is found only in California. It is not endangered or threatened.⁴⁰ It is the largest of North American oaks and has a thick, tough bark and deeply lobed leaves. The Native Americans used the nut (acorn) of this oak as an important food source. Our own Protogrove collects, leaches, and grinds these acorns to make honey-acorn cakes as to eat and give as offerings at Lughnasadh. The children of our Protogrove have a lot of fun using the grinding stones to make the acorn meal and eating them with homemade blackberry syrup from breakfast.

³⁷ “Endangered, Threatened and Sensitive Species Potentially Occurring Within the Chico Planning Area,” May 1997, *Endangered Species Fair: Butte Environmental Council* www.endangeredspeciesfaire.org/localspecies.html (15 May 2008).

³⁸ Peter B. Moyle, *Inland Fishes of California*, (University of California Press, 2002), 146-150.

³⁹ “*Vitis californica*, California wild grape,” *Natural Resources Conservation Service: United States Department of Agriculture* <http://plants.usda.gov/java/profile?symbol=VICA5> (1 June 2008).

⁴⁰ “*Quercus lobata*, valley oak,” *Natural Resources Conservation Service: United States Department of Agriculture*, <http://plants.usda.gov/java/profile?symbol=QULO> (1 June 2008).

The California Sycamore (*Platanus racemosa*), also known as the Western Sycamore, is a native dicot in the Platanaceae family. The leaves of this tree are palmate, it produces hairy ball-like fruit clusters, and the bark peels off in large white and brown sheets. It is frequently found in riparian areas like Bidwell Park (where our Protogrove conducts a number of its philanthropic activities). The Western Sycamore is not endangered or threatened. It has a very coarse-grained wood which makes it inappropriate for building but makes it an excellent wood for chopping blocks and musical instruments.⁴¹

Question 9: Identify one species of plant or animal in your local area which is threatened, endangered, or locally endangered, or which became extinct in historic times. Explain what destroyed or threatens this species locally, how does or might the absence of this species affect your locality, and what, if any, steps were taken or are being taken to preserve the species. (minimum 100 words)

The winter run Chinook salmon (*Oncorhynchus tshawytscha*) is on the federal and state endangered lists⁴². They are anadromous, born in freshwater then migrate to the ocean and return to their birth place to spawn. They are the latest of all Salmon and frequently exceed 40 pounds, although some have been discovered that were over 120 pounds.

The largest single factor in Salmonid species decline on the west coast of the United States has been human manipulation of the aquatic environment. Water storage and withdrawal, especially hydropower manipulations have reduced and, in many cases, eliminated the spawning habitat of the Chinook salmon.⁴³ These alterations to the natural environment increase water temperatures, change water flow, and flush necessary sediments from spawning grounds.⁴⁴

Salmon are an important food source for a number of native animals and their death after spawning provides important nutrients for a variety of plant and aquatic animal species. The ecology of the entire region is affected by their decline.

⁴¹ "Platanus racemosa, California sycamore," *Natural Resources Conservation Service: United States Department of Agriculture* <http://plants.usda.gov/java/profile?symbol=PLRA> (1 June 2008).

⁴² "Endangered, Threatened and Sensitive Species Potentially Occurring Within the Chico Planning Area," May 1997, *Endangered Species Fair: Butte Environmental Council* www.endangeredspeciesfaire.org/localspecies.html (15 May 2008).

⁴³ "Pacific Salmonids: Major Threats and Impacts," NOAA Fisheries, *Office of Protected Resources; National Oceanic and Atmospheric Administration: United States Department of Commerce* <http://www.nmfs.noaa.gov/pr/species/fish/salmon.htm> (2 May 2008).

⁴⁴ "Ecosystem Restoration: Spring-run Chinook Salmon in Butte Creek," *CALFED Science Program* http://science.calwater.ca.gov/pdf/eco_restor_spring_chinook.pdf (2 May 2008).

In 2000 The Pacific Coast Salmon Recovery Fund (PCSRF) was established by Congress to support the restoration of salmon species in the United States.⁴⁵ There are currently no salmon on the IUCN red list of endangered species.⁴⁶

Some of the efforts that are being incorporated in our area to mitigate this effect have been captive-rearing in hatcheries and removal or modification of dams that obstruct salmon migration.

Question 10: Identify one plant or animal species which was introduced to your area and explain how its introduction and continued presence has affected the local ecology and what, if any, steps are being taken to mitigate those effects. (minimum 100 words)

Himalayan Blackberry (*Rubus discolor*) is a very invasive and pervasive plant species that our Protogrove has a kind of love-hate relationship with. While we love the plump juicy berries in the fall the plant is invasive and has squeezed out a number of other native plants like the California blackberry (*Rubus ursinus*) and California Grape (*Vitis californica*).

Animals in the area have also come to rely on it and ignore other native species when it is in fruit. The seed of the fruit is often destroyed in the human digestive tract and will not sprout after it has been excreted. However, a bird's digestive tract is perfectly designed to encourage the growth of these seeds, providing just the right amount of natural fertilizer for the new plant. Since birds are the largest consumers of Himalayan blackberries and their territories are very wide, this means dispersion of this plant is extensive.

It is also very difficult to totally remove blackberries manually, since even a tiny segment of root can re-sprout if in contact with the earth. Due to the thorns in blackberry patches many volunteers aren't generally willing to work on removing blackberries from infested areas. The most effective way to remove them is to cut them down to a few inches above the soil then dig the roots out of the earth. The plants then have to be burned or chipped into tiny pieces that can then be composted in a very hot compost pile.

Question 11: Based on your experiences, meditations, and research, describe what, in your opinion, makes a place seem "natural." (minimum 100 words)

Areas that do not appear to have been developed or "improved" by humans seem the most natural to me. Areas that seem especially natural to me are areas that have been allowed to grow over, where fallen plant materials like leaves and branches are left to decay on the ground where they can return to the earth.

Even if these conditions are met, the "natural" quality of the space can be diluted by noisy highways, overhead power lines, litter, presence of invasive species, and encroachment from suburban development.

The very best natural spaces are those that feel untouched by human civilization. They are wild and un-groomed. They pulse with the force of life that flows within them and they call

⁴⁵ "Pacific Coastal Salmon Recovery Fund," *NOAA Fisheries, Office of Protected Resources; National Oceanic and Atmospheric Administration United States Department of Commerce* <http://www.nwr.noaa.gov/Salmon-Recovery-Planning/PCSRF/> (2 May 2008).

⁴⁶ "IUCN Red List of Threatened Species," 2006, *International Union for Conservation of Nature and Natural Resources* <http://www.iucnredlist.org/> (11 May 2008).

to us in powerful unspoken ways that I am totally unable to articulate in the written word. The most powerful natural spaces just have a different feel or vibration to them. I don't use the word "energy" in my spiritual practice often but perhaps it is the best word that intangible quality that I am trying to describe. The most "natural" spaces just "feel" natural.

Question 12: Based on your research for Questions 1 above, describe what sort of offering would be appropriate to make to the Nature Spirits in your area, and what would be an appropriate way to make such an offering and why. Discuss the potential ecological consequences of making this offering and ways to modify the offering in order to minimize any negative environmental impact. (minimum 100 words)

I believe that the Clergy of ADF should be responsible for modeling conscientious nature spirit offerings. The widely practiced tradition of throwing bird seed is irresponsible to our environment. It encourages birds to rely on humans for food, many of the seeds sprout and become invasive plant species, and the offerings do not encourage the growth and strength of native plant populations.

There are many different appropriate offerings that I make to the spirits of nature. I rarely offer bird seed as I do not wish to introduce an invasive non-native species to the local habitat. If I do use seed it is a native grass or wildflower variety.

I also rarely offer food items in my ritual space or near campgrounds and trails as it may attract animals to human-infested areas. This can be, at the least, uncomfortable for both human and animal. At worst, it can result in harm to animal or human.

Instead I choose to offer blood or bone meal. Sometimes I choose ground corn or oats. Other times I offer herbs or tobacco. If I am offering to the spirits of locality, on lands used frequently, by native people I offer tobacco. When hiking I offer herbs before and after the hike. In ritual and when doing invasive species removal with my Protogrove I offer blood or bone meal which are excellent fertilizers and will eventually enrich the entire ecosystem.

My favorite offerings are blood and bone meal combined. They enrich the soil, which produces stronger plants and help support native wildlife. It is truly an offering for all the spirits of nature.

For the Sidhe, who I do not consider spirits of nature but lineal beings that transcend our kindred categories, I offer dairy; usually goat's milk or ghee with some type of cereal grain if offered to the Sidhe in ritual. These items are poured at the foot of our world tree.

The responsible management of our lands (whether in our own yard or in the wild) should be practiced by all Druids in ADF. If we are a religion devoted to the Nature Spirits (among the other Kindred), then we should be making special effort to show our reverence for the land and the spirits that dwell upon it.

Question 13: Based on the research and conclusions you have drawn from question 1 through 12, describe how you might further extend your personal and/or group spiritual practices to include the Nature Spirits and other natural elements. (minimum 300 words)

I will be making a vow to decrease my footprint on the Earth. I have already made some efforts toward this by recycling whenever possible, decreasing my intake of meat, and lowering my energy use.

I plan to take the next step and build a home from rice straw bales, a common waste product in our area. We have begun our plan for our min-ranch and have started the process of looking for a parcel of land.

In the meantime, I am making a vow to grow more of my own fruits and vegetables, raise chickens for eggs, and purchase more organic local produce. I will also vow to decrease my energy use by 20% in the next year. This will be difficult since I live in a very thin-walled mobile home which loses heated and cooled air far too easily.

I plan to improve the weather stripping, lower my thermostat, and improve the insulation by lining the walls with thermal panel curtains. I have already reduced our costs by moving our sleeping area into the living room. This has eliminated the need to heat/cool the other rooms of the house.

We also plan to increase our Protogrove activities with the local Environmental Council and our Bidwell Park invasive species eradication efforts. At the moment we already do one work afternoon, currently about 5-12 workers for about 4-5 hours, a month.

We also do work weekends at Mystic Valley Retreat Center (MVR); this usually consists of 3-12 people for about 16 hours a weekend. At MVR we have removed thousands of square feet of invasive Himalayan blackberry plants, built stone walls to prevent erosion, and removed plant debris from the creek to prevent flooding.

We will be discussing how we can improve our practices with nature further at our next monthly meeting but I expect it will involve planting more native plants in place of the invasive ones we have already removed. I plan to offer a challenge to each member of our Protogrove that each of them give me the names of three native plants they would like to plant in the area. Then we can all vote on which ones to purchase and plant.