

SUSTAINABLE HARVEST

Approaching Wildcrafting with Knowledge & Intent

The contents of this booklet are presented within an ethical framework wherein the continued survival of other species and the general health of an ecology are valued as of very great importance. It seems impossible to conceive a sustainable society outside of this context. When viewed narrowly, the notion that we can harvest sustainably when it comes to our own actions seems imminently doable, and this may be true; but, if we look a step beyond to who actually harvests most of our resources for us and how that is accomplished, the picture looks less rosy. It is our hope that by offering ideas that may assist people in developing their own sustainable gathering ethic, based on their values, wants and needs, we might open a doorway of awareness onto a bigger picture – a picture in which the authors currently see hope dwindling and the human disease wreaking havoc on the green planet that we all love. Shifting to a more holistically detailed resource-based world view, where various species and even individuals in our local ecology are better understood and more valued, can give the problems we face more tangible meaning and throw light on possible solutions. We don't save what we don't value. One may read, attend lectures, watch movies and go to meetings, but there is no better path to finding actual personally felt value in our ecologies than by direct participation.

A few years ago, we were gathering ferns along the roadside when a passerby stopped to tell us that we had no right to “steal” nature from everyone else. We tried to explain to her that we were just selectively cutting a few Woodwardia Fern fronds for basketry out of this very healthy dense patch and that we were not making a large negative impact on the area, but she was not impressed. The possibility that we could utilize nature without destroying it seemed incomprehensible to her. As she sputtered off down her long driveway to her huge house made of Redwood, built on what was previously Fern habitat, we couldn’t help but laugh cynically at the irony of the situation.

There has arisen an imagined separation between people and natural systems, that often culminates in a desire to isolate areas of “nature” so that they might be protected from our ravages. Since very little in the modern world is done sustainably, it’s often hard for people to realize that it is possible to gather what you need in a manner which guarantees that the resource will be there in the future. However, armed with knowledge, intent and intelligence, it is indeed possible to harvest plants and animals in a sustainable manner.

Of course, in this day and age not everyone can wildcraft as much as we do personally or things would get pretty well wrecked. Hunter/Gatherer cultures have always kept their populations at or below the carrying capacity of foraging areas out of absolute necessity. For them, deviations from this safeguard have drastic and easily foreseeable consequences in the near future.

On the other hand, the practice of agriculture can produce an expandable carrying capacity, mostly by developing new land into food production, but also, to an extent, by increasing production on already developed land. This way of living can leave us with a view that there are always possibilities for expansion. Indeed, industrial agriculture, based on fossil fuels, has allowed even greater artificial population expansion and has led to the impression that you can always just expand agricultural systems to feed more people. As a result, the human population has very long ago grossly expanded out of the range of the carrying capacity of the planet in a Hunter/Gatherer paradigm (or any other paradigm for that matter). Only a small portion of the population may currently be harvesting wild plants in your area, so

add that fact to your list of considerations in developing a gathering ethic.

In order to promote better understanding, it's helpful to clarify and define the basic concepts of sustainably utilizing a wild resource—especially true when introducing the inexperienced into the world of wildcrafting. Everyone's values and experiences are most certainly not the same, but we can still find some largely common denominators; wherein, instead of viewing the natural world as a possession to mindlessly consume, we can earn our rightful place in it by respectfully protecting and utilizing that which we need and want.

We don't intend to write this as a do's and don'ts of harvesting (although it's likely to end up reading that way), but rather as a group of ideas which bring into consideration the many factors at play in developing a personal harvesting ethic and harvesting guidelines. In the end, no one makes your choices for you. If we want to harvest sustainably, each of us must develop our own value system, acquire the requisite knowledge and then apply these to the different situations which we encounter. Further, not only is there no society-wide moral/ethical structure upon which to base harvesting decisions, real in-depth considerations of sustainable harvesting actually go against the current social grain. Theoretically this paradigm can be changed one person at a time. Still, a socially accepted moral system of rules and ethics will always be subject to corruption and is no substitute for your personal values and ethics based on knowledge and experience.

We must in writing this publication proceed, more or less, on the working assumption that the importance of sustainability is a commonly accepted idea. Unfortunately, that assumption is not accurate. The American mindset is still largely driven by the idea that there is always unlimited abundance to be consumed from somewhere. While this is clearly not true, by and large we continue to behave as if resources actually are endless or that the consequences of our actions are minor. It's way past time for us to take a good long (like a lifetime long) look at where we live and what we are doing. We may be so bold as to say that people might lead more fulfilling lives if we were to start taking a closer look at where we live and how we might live there like permanent residents of the local ecology, instead of like cogs in a machine of destruction tossed bits of junk food and toys to keep us working

diligently away at our job of fouling the planet. Not only is it a necessity for sustainable wildcrafting to understand the need to measure our impacts, but there is a feedback loop where the more we learn, the more we realize the impacts we are having and how they may affect our quality of life and certainly the quality of life, or even ability to survive, of the next, and subsequent, generations. In short, if we don't understand where we live and how our ecology functions, we can't make appropriate decisions regarding our impact on it.

SOME FACTORS TO CONSIDER

The basic core idea of sustainable wildcrafting is that you must leave more than enough. Since we are not the only factor that can affect a plant or plant populations' health we must leave the remaining plant or population in a condition that can sustain further impacts, even those that are unforeseen.

In today's modern world we have many more factors to consider than our ancestors did. With the encroachment of our human population, wildlands are constantly being adversely affected by loss of space, competition with introduced non-native species, development, pollution, toxic contamination, and loss of water tables; therefore, we need to take these factors into consideration before we do what might be sustainable under other circumstances. If we're not mindful, we could inadvertently strike the final blow to a species on the verge of collapse. If we believe that our activity may be detrimental, then we need to be prepared to make the choice to do without so that the balance can survive. In addition, we can try to help these struggling plants and animals out. Lending a hand can range from tearing out competitive invaders to trying to keep toxic contamination or development of sensitive areas at bay.

Managing the natural world is not a new concept. Aboriginal peoples worldwide have long manipulated and altered their surroundings to make them more fruitful and comfortable. The ability to drastically alter our environment is one of the qualities which makes us human. Annual burning, pruning and coppicing, transplanting or seeding desired plants closer to living centers, discouraging pests and encourag-

ing certain species are all widespread practices that have altered ecosystems in ways which have now been largely forgotten. It is when we try to change our role and mindset from participant/caretaker to master, or when we simply fail to consider our impact at all, that we begin to lose our understanding of how to sustainably reap the bounty that is available to us.

Another factor to consider in the modern world is legal restrictions. If private property is respected, permission is asked, and things are left “better” than when they were found, the chances of property owners being willing to accommodate wildcrafters is greatly increased. State and National Parks and wildlife preserves have been established to protect wild plants and animals and even though we may disagree with the “no human interaction” policies they often adopt, we can still recognize and respect the role these places are playing in safe-keeping important areas of land. Recreation areas are often so highly impacted by the immense number of people streaming through them that gathering in such areas may be detrimental and/or illegal. Many plants are also protected and even harvesting them in an “appropriate” manner may be against the law.

Roadsides can offer the modern forager an ideal place for gathering. They are easily accessible, the plants are often going to be cut down anyway to keep the road clear and this regular cutting often stimulates lots of usable growth. Just keep in mind that roadways are often sprayed with toxic herbicides and that runoff from the roadway is probably toxic in itself. Also, gathering in such places may be hazardous or illegal; so, watch out for the willow police.

BASIC CONCEPTS

When harvesting any plant material, rate of growth, population density and reproduction patterns are the main concepts to keep in mind. The impact of harvesting on the general area also needs to be considered. In order to be able to continue harvesting in the future, one must have an understanding of what the plant likes, its role in the local ecosystem, what hardships it can easily overcome, and what might be deadly to it. As one accumulates more knowledge and experience, these decisions become more natural and intuitive.

When we first started getting into using wild plants we could hardly tell one from the other and really just didn't have a clue. Such ignorance coupled with the desire to do the right thing resulted in agonizing decisions over harvesting situations. Now decisions are generally made rapidly and comfortably, but lacking that initial intent to do right we never would have accumulated the requisite knowledge to make what we now think to be good decisions.

Plants are divided into different groups based upon their growth and reproduction habits. The words perennial, biennial, and annual describe the life-span of the plant. Perennials have a life cycle of more than two years, biennials develop their roots and leaves one year and their fruit and flowers the next, and annuals live for one year only. These classifications are not set in stone and good or bad conditions can either shorten or lengthen the normal life-span and reproduction pattern of a plant. Perennials can either be short or long lived and the difference may be one of many centuries. The terms deciduous and evergreen tell you whether or not the tree or shrub drops its leaves in the winter. All of these distinctions affect decisions on how and when to best gather various parts of plants.

It's not uncommon to encounter competitive introduced species. While it might often be desirable to eradicate many of them from the area, some are relatively non-invasive and/or so entrenched in the ecosystem that it is just as well to leave them.

ROOTS, BULBS, RHIZOMES, TUBERS & CORMS

When digging bulbs, corms, and taproots, the individual plants are obviously killed. If the area is densely populated with a certain species, then more can be harvested than if there are only sparse patches or single plants. Dense populations indicate that the species is well adapted to grow in that spot and can probably match fairly heavy harvesting, while sparse patches indicate that the species is having difficulty and heavy harvesting might set it back to a great degree. Rare single plants or any members of a rare/endangered species should obviously not be dug at all.

ROOTS: usually underground plant structures which serve the dual purposes of providing anchorage for the plant and absorbing water and nutrients. Further, roots aerate the soil by creating pathways for air and water infiltration and dead roots provide food for healthy soils and soil life.

BULBS: composed of scales or layers as in an Onion. They store food and water for later growth of the plant. The plate at the base of the bulb is important for growth of the plant and without the plate the bulb will not grow.

CORMS: swollen underground stem bases which store food and moisture for later growth. They are easily confused with bulbs, but are solid rather than layered. The plate at the base of the corm is important for growth of the plant and without the plate the corm will not grow.

TUBERS: swollen underground stems which store food and moisture and serve as a reproductive structure. The Potato is a common tuber, the planting of which will grow a new potato plant with more tubers.

RHIZOMES: usually underground, and usually horizontal, creeping stems which are often thickened with food stores. Iris is a good example of a plant with rhizomes.

Even if an area can easily sustain heavy harvesting, the quantity as well as the pattern of harvesting both need to be considered. There are various rules applied to this idea. Some say that only 2 for every 10 should be taken or something along those lines. Other times it's to take 3 or 4 from every square foot. The actual numbers need to be adapted to each situation, but the basic idea is to thin out the thickly growing plants instead of clearcutting a single area. Using a digging stick instead of a shovel can be gentler on the landscape since, in the

best circumstances, the tip of the stick slides right next to the root of the selected plant and allows it to be easily pulled up without excessive disturbance of the surrounding area.

The growth patterns of some species can encourage a different approach. For instance, in digging Sedge rhizomes for basketry, a selected area in a healthy patch is dug thoroughly and every suitable rhizome down to 6 or 8 inches is removed. The Sedge tops with a section of rhizome are then replanted and new roots and rhizomes grow very quickly, happily spreading through the freshly aerated soil; however, this technique should only be practiced in the late winter or spring when the plant is ready to start new growth and the soil is wet enough to encourage it.

Many bulbs and corms actually appreciate the aeration that digging gives the soil and the whole patch may even stay healthier when kept from choking itself out. In some species, small bulblets break free of the main bulb or corm during digging and growth quickly takes off in the fresh soil which has been freed from competitive roots. If they don't break off on their own when harvesting a bulb or corm, it's quick and easy to snap them off, drop them back into the hole, and cover them with soil.

Pieces of roots can usually be dug without killing the tree or shrub, but if too many are taken the plant might not be able to recuperate. Most trees and shrubs have extensive root systems which grow well down beyond our reach, but those closest to the surface are the most active feeder roots and taking too many of them would be detrimental. Also, certain roots may be critical anchors for a tree or plant and removing them could undermine its foothold. Instead of taking all the roots from one tree or shrub, take some from one and some from another. Cuts which are made cleanly heal more easily. Long rips and tears are both harder to heal and more prone to infection than a clean small cut. Replacing the soil or duff is also important so that the exposed roots aren't left to dry out.

LEAVES & BUDS

Photosynthesizing leaves are a plant's source of energy; if all of them are removed it will have a difficult time of it. Generally, there are so many leaves on a tree that it is quite easy to get enough for most purposes without leaving a bare spot. In shrubs and trees or perennial and biennial herbs, the energy collected by the leaves is stored in the roots for the winter. In the spring, this stored energy is used to swell buds and produce new growth. While many trees can overcome these new buds being destroyed by frost or insects, it's still best not to strip whole branches. Removing some buds is no problem so browsing selectively instead of grazing extensively in one spot is the best approach. Spread your impact out.

The young leaves of perennial herbs are often more desirable for spring greens than older leaves, and, in most species, can be picked pretty hard because the energy stores in the root can support new growth. Even so, try to take a few prime leaves from each plant in the patch instead of taking all from one. Annuals, on the other hand, don't have large energy stores and are more dependent on the energy they are getting from their young leaves; therefore, they cannot be picked as heavily when young and be expected to live through such a trauma. Once well established, they may sustain more aggressive harvesting.



bracken fern "fiddlehead" frond

FLOWER STALKS & FLOWERS

Flowering stalks are often produced near the end of the plant's growth cycle. Annuals and biennials will subsequently die while perennials will subsequently go dormant. If the stalks are harvested after the seeds have formed and dispersed and the plant has died or gone dormant they can all be cut without a problem, because the plant has already accomplished its reproductive goal. Annuals depend solely on their seeds while perennials often also reproduce through their roots, bulb-

lets, or underground runners. If you need to cut stalks earlier for some reason, or you want to harvest some flowers, thin instead of clearcutting. Some species, if harvested early enough, will produce either another stalk or flowering side shoots before the season is finished.

SHOOTS & WITHEs (Nascent Growth)

Shoots and withes are the result of a tree or shrub's nascent growth. Nascent growth is the fast, straight, minimally-branching or non-branching single year's growth that is often produced after a plant is cut, burned or broken. This type of growth is perfect for basketry, arrows, hand drills for firemaking and the like. Some shrubs create a lot of nascent shoots while others don't produce any at all and simply die if severely damaged. Many of the trees and shrubs which produce a lot of nascent growth are found along waterways and are thus adapted to being battered by floods each winter. Others grow in fire ecologies where they are likely to be burned every so many years. These well



coppicing basketry willows for next season's withes

adapted plants can take very heavy cutting. Look in areas already hit hard by some "disaster" such as fire, flooding, or clearcutting in the past few years to find a plethora of good shoots. In times of old when and where burning was practiced regularly, nascent growth must have been exceedingly abundant.

The practices of coppicing and pollarding involve cutting back a tree or shrub which will readily resprout to create a proliferation of shoots. Generally coppicing refers to plants cut

at ground level while pollarding refers to trees with taller trunks cut up high out of the reach of grazing animals. The frequency with which cutting is carried out depends on what size of growth you wish to harvest and how tolerant the plant is of frequent cutting. The length of time between harvests can range from 1 to 20 years. For smaller flexible withes like those used in basketry, some species of plants (notably willow) may be coppiced year after year, each cutting setting the plant up to grow another batch of shoots the next year. Keep this in mind before harvesting from a newly found perfectly maintained patch of basketry material somewhere. The person who cares for it is probably planning to return to harvest the new growth. Cutting back each year keeps the shrub from continuing its normal life cycle of growing larger and reproducing, but other than that is not detrimental in those species that are tolerant of it. In climaxed willow and elder trees, to name a couple, coppicing can even reinvigorate the plants. Some species don't react positively to continuous annual coppicing; so you may have to research, experiment, and observe to find out if the plant can handle it. In the wild, you can usually find naturally occurring nascent growth if you roam far and wide enough. You can also encourage more by cutting selected shrubs and then plan to return in subsequent years. Here in California we like to use Buckeye shoots for handdrill fire kits but it is difficult to find enough without either chasing fires or coppicing.

Coppicing and other severe cutting are best done either in the spring just as the sap is rising (at which time the bark peels) or in late fall or winter when the plant is dormant (at which time the bark sticks). Clean cuts allow the plant to heal itself easily. Cutting right above a bud or branch encourages faster healing and helps keep infection from setting in, but is not really necessary in most plants that coppice well.

BRANCHES & TREES

When cutting larger branches, a thoughtful selective pruning job which leaves the tree in a balanced state is the ideal. Taking too many main branches from one side leaves the tree out of balance and with a lot to replace and heal. When cutting off the ends of branches it is considerate to the tree to cut back to a point where another branch emerges. In this way, the cut which the tree has to heal is located in a path already well traveled by the plant's sap and no stub of wood is left to rot.



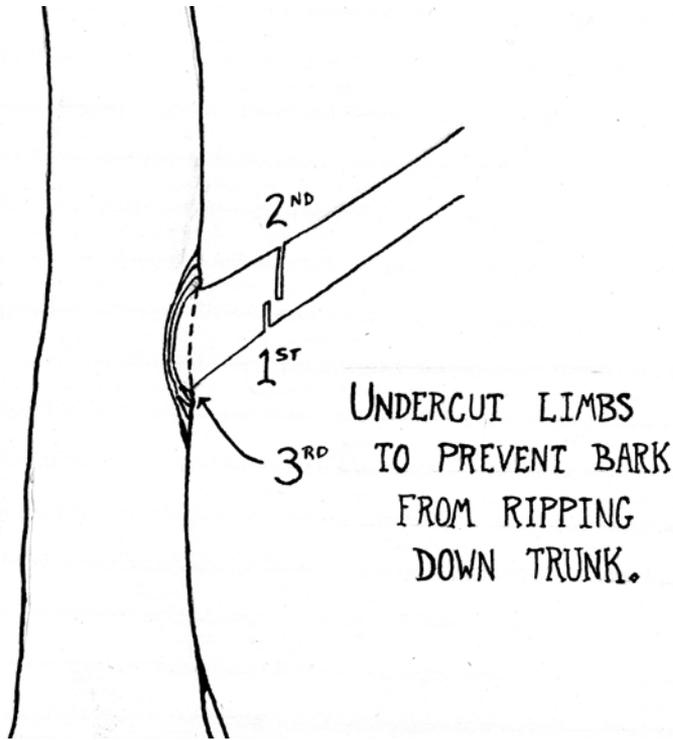
note meristematic tissue wrinkles at base of branch, and rapidly healing tissue on two year old 2" cut

The area of bark on the trunk immediately encircling an existing branch is comprised of meristematic tissue. This tissue has evolved to heal over dead or broken branches without letting rot into the rest of the tree. If you cleanly cut a branch right at the edge of this tissue, the chances of the tree successfully healing are that much better. Oak trees show this phenomenon very well. Look at one and note how the meristematic tissue forms an enclosing burl around the base of a dead branch. In spite of this specialized tissue, cutting branches which are too large can

leave an expanse of bare wood that the new bark may not be able to cover over before decay sets in.

When cutting branches of any appreciable weight, it is best to make an undercut first to prevent the falling branch from peeling away wood and bark from the trunk.

If an entire tree is to be taken, it can sometimes be thinned out of an already crowded situation. Often times, one can be found which is already losing the battle for light and is on its way out. Such trees are abundant in many logged areas, which is most areas really, and may even comprise the majority of trunks in a given stand. Trees which grow along waterways frequently fall over and provide a good opportunity for the easy acquisition of a whole tree. When selecting a live tree for felling, rate of growth is an important consideration. Some species grow exceptionally fast while others may take decades or even



centuries to reach the largest sizes. More importantly, some trees can also take decades to reach an age at which they begin to bear a significant amount of seed. Tree species can also vary greatly in expected lifespan from those which are normally very short lived to those that can live for centuries or even millennia.

Trees are a major regulating force of a forest. The density of tree cover dictates what can or can't grow beneath it. Shading and leaf litter conserve soil moisture, and the canopy keeps the the under-story cool during the day while holding in heat at night. Therefore, the removal of large numbers of trees can have drastic, although not always altogether negative, effects on an area.

SECOND BEST: JUST ABOVE A SMALL BRANCH IN FAIRLY RECENT GROWTH.

BEST: JUST ABOVE A BUD IN VERY RECENT GROWTH.

THIRD BEST: WHERE SIDE BRANCH LEAVES MAIN BRANCH.

WORST:

FOURTH BEST: JUST ABOVE LARGER BRANCH.

CUT RIGHT UP TO THE COLLAR OF MERISTEMATIC TISSUE WHEN REMOVING BRANCHES.

PRUNING CUTS

Edge habitat where two plant communities come together, such as where meadow meets forest, are very productive and are sometimes managed to increase edge for wildlife and/or plant diversity. Certain wildlife thrive on disturbed re-growing forest areas while others rely on mature, stable climax forests.

LICHENS

Lichens are actually two organisms (an algae and a fungus) living in a symbiotic relationship with one another. They are generally slow growing. In many cases, substantial amounts can be picked from fallen branches or collected from the ground.

MUSHROOMS

The actual part of the mushroom that we see and/or eat is just the fruiting body of a larger unseen organism. The current convention among fungiphiles seems to be that these fruiting bodies can be harvested heavily without significant long term impact on mushroom populations. The main body of a mushroom is the often very extensive mycellium which grows in the ground or in wood, depending on the species, and the destruction of which means the death of the organism. Many kinds of mushrooms have formed relationships with specific species of plants and the plants may actually benefit from this relationship. Many, though not all, mushroom species grow well in more established little disturbed plant communities. If this foundation is undermined, as in say clearcutting the trees, removing all of the leaf litter, etc....., the area can not longer be expected to support the same bountiful diversity of fungal life.

BARKS

The bark layer of a tree is more than just a protective skin. The cambium layer where the bark meets the wood carries water and nutrients, a lot like our circulation system. If too much of that cambium layer is removed or exposed, as when removing a piece of bark from all the way around a tree, the trunk and branches above that point are virtually cut off from the roots and the tree will die if it cannot repair itself in a hurry. This practice is known as ringing and should be avoided if

you want the tree to live. Conversely, if you want to kill a tree ringing can be an effective way to do it as long as you remove a wide strip of bark which the tree can't bridge over and heal.

When removing sheets of bark from live trees it is important to consider whether or not the tree can cope with the loss. Many trees, especially from drier climates, can heal and deal with such wounds remarkably well, while others may develop disease or fail to thrive. The wider and more close to a ring the piece is, the harder it



peeling bark off of a Maple branch

is to heal. In many cases, it might be better to cut a branch or select and cut down a smaller crowded tree and remove all of the bark from it instead of removing a big piece from a larger trunk. It's amazing how large of a piece you can get from a relatively small diameter tree or branch. Bark removal is easiest in the spring when the sap is up. There are some trees like Paper Birch and Cork Oak in which the outer bark is easily separated from the inner bark. If this specialized outer layer is removed correctly, the cambium layer can be left totally intact and the tree will continue to grow. While the Paper Birch will never grow another usable layer of outer bark, the Cork Oak will; so, new cork is harvested on a cycle of every ten years or so without impacting the health of the tree.

SEEDS, FRUITS & NUTS

Generally, seeds, fruits, and nuts are produced in such abundance that it is no problem to gather as many as possible. There are usually tons of them and collecting large amounts of what is within our reach does not adversely affect the other animals depending upon that food source. In lean years however, it's important to keep in mind that we are not the only living beings looking for food.

Another thing to remember is that the seed, fruit, or nut is more than just a food source. Their primary purpose is as a method of reproduction. While gathering and foraging, it doesn't take much time to cast around some seeds or plant sprouting Acorns or Buckeyes in a good location.

Often times gathering activities themselves help disperse seeds. When beaten from the seed heads, seeds will frequently avoid the container and be sent flying off to an area they wouldn't have otherwise reached. Seeds are often carried for long distances and end up getting dispersed by cleaning processes and small spills. Some are also adapted to pass through a digestive system before they can sprout, so you can become a walking seed bank and leave deposits all over the forest. By these means, the plants are successfully using us to help expand their range and promote their continued existence. Conversely, be conscious of transporting the seed of invasive/obnoxious species which often hitchhike on clothing or in the crevices of shoes.

DEAD & DOWNED MATERIALS

There is usually an abundance of standing dead or dead and downed material in a forest; after all, this decomposing biomass is the foundation of the forest itself. While there is most likely plenty for the taking, keep in mind the invaluable services that dead trees and piles of dead plants provide for living things in the area. This habitat might be especially important in highly impacted zones or on the fringes of human society where animals need a little cover. Many of us have a tendency to try and clear up the brush, which can serve the useful purposes of keeping fire danger down and increasing maneuverability. Just keep in mind that a decomposing pile of brush is both a valuable habitat

for many creatures as well as a nutrient rich compost heap. The same goes for logs, leaf litter and other plant materials.

The various types of plant debris found on the ground in all but desert, rocky or heavily impacted areas also provide some other invaluable services. Dead materials close to the ground disperse the energy of water falling as rain which can otherwise erode and compact soils. They also slow the flow of water across the ground, preventing it from gaining the momentum which causes erosion and allowing time for it to percolate into the soil which recharges soil moisture and underground water stores.

Finally, the vegetative cover, both living and dead, shades and shields the soil surface from wind and the sun's rays, greatly slowing evaporation of soil moisture. We recently had to move a large Madrone tree that had fallen around 8 years ago. Aside from providing habitat for the many bugs, ants, lizards, rodents and a rattlesnake, the trunks and branches served as an effective nursery for an Oak tree, several Poison Oak plants, a Madrone tree, a Raspberry bush, and a couple of Fir trees, all of which would have been hard pressed to become established in the otherwise open meadow habitat.

We saved a pile of less decayed wood for firewood, piled more decayed stuff around the Raspberry, Madrone, and Oak, made two 7 foot diameter rings of large mulch material to plant Chestnut trees in, and still have a couple of fireside bench logs and some more mulch habitat material for another spot. The piles and mulch rings around saplings will continue to nurse them: cooling the soil, conserving moisture, reducing competition, attracting many soil cultivating creatures, and feeding the soil for years or even decades. They also provide habitat for various creatures including many Blue-bellied Lizards which help reduce the infection rate of Lyme disease in Deer Ticks.

MORE PHILOSOPHY

The above points may seem to some like “common sense” or “preaching to the choir”, but it's helpful to enunciate philosophies and concepts clearly in order to reinforce and define our own values and knowledge.

Others can then understand what we're doing and may think about what they're doing.

In many traditional cultures there are ceremonies and rituals that go along with harvesting and hunting. Whether it's vocalizing intent, asking permission, or offering something in return, these acts serve as reminders to be conscious of the relationship and to reinforce appreciation for the life that is being taken. Still, empathy and respect are only half of the picture, and all the prayers in the world don't make for a sustainable harvesting ethic without a body of knowledge upon which to base your decisions.

Any ecosystem is a complicated interrelationship between all of the plants, minerals, bacteria, fungi and animals which call it home, and all ecosystems are connected to the greater ecosystem of the planet. By paying only a little attention to how these systems function, we can try to insinuate ourselves into them in a less than ravaging manner. If we ignore them and selfishly fulfill our desires without giving thought to, or feeling gratitude for, those that give us what we need, then we are cutting ourselves off from our roots and our lifeline which can make for unhappy environments and ultimately, unhappy people.

In a world where the population is sky-rocketing at a fatalistic rate, such concerns are obviously more pressing. Indiscriminate blanket laws prohibiting harvesting, intended to protect plants and animals, will no doubt continue to become more common, leaving people like us with a distressing problem that to other "normal" people may seem like the necessary step that must be taken to preserve the remaining "nature". While our individual actions have little impact on this seemingly unavoidable future, a conscientious harvesting mindset can make you feel more in accord with your environment and increases your awareness of the world around you.

Remember that most of the ideas presented here are just general concepts—the kind of stuff that we keep in mind when out cutting and gathering—which must be adapted to individual ethics and situations. Under most circumstances, there should be little need to get overly uptight about every little detail. After all, we are still predators which take lives a handful at a time, and the natural order is extremely re-

silient and adaptive. If you go out trying to find the exactly right, straight-grained, long, branch-free bow-stave that also fits into your predetermined idea of a light-starved-and-overcrowded-ideal-tree-to-cut-without-making-a-significant-dent-on-the-ecosystem, you will probably be looking for a very long time! Good bow stave trees can be hard to find, so your options may be limited and you are likely to decide to cut a “not-so-ideal” tree. On the other hand, if it’s one of the few Yew trees left in the entire area because a bunch of commercial bark harvesters just went through.....

All of these considerations leave a newcomer with a load of plant knowledge to accumulate, but learning about the plant kingdom is truly a great thing that goes beyond the scope of practical utilization and making good harvesting decisions. The person who is solely a nature observer knows the name of a plant and maybe where it grows and what eats it. The nature participant, on the other hand, learns these things and more. Can I eat it? What does it taste like? What is the wood like?—and so on. These kinds of intimate bonds run very deep. When we see a Hazel bush, we really know it inside and out and have hundreds of tactile and visual memories relating to its character. Seeing a plant that you know so well is like seeing an old friend, like—“Hey! It’s Salsify. How the hell are ya. It’s been what ...a year? Let’s do lunch!”



©1998/2005/2008
Tamara Wilder & Steven Edholm
www.paleotechnics.com
PO Box 876
Boonville CA 95415

*The Illustrations in this booklet were drawn
with a feather quill pen using homemade carbon ink
made from pine soot & collagen glue.*