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Introduction
The permaculture plan for Alderleaf Farm is a guiding document that describes the vision of sustainability at Alderleaf. It describes the history, current features, future plans, care, implementation, and other key information that helps us understand and work together towards this vision of sustainable living. The plan provides clarity about each of the site elements, how they fit together, and what future plans exist. As an interactive work in progress, new ideas and input are always welcome.

What is Permaculture?
Permaculture is an approach to designing human settlements and agricultural systems that mimic the relationships found in natural ecologies. It is a philosophy of working with, rather than against nature. It is a design science that is rooted in the observation of nature. It is a positive, solution-based way of thinking, using a practical set of ecological design principles and methods. The principles of permaculture provide a framework that enables people to provide for food, energy, shelter, and other material and non-material needs. It encompasses diverse but inter-related fields, including gardening/horticulture, natural building, ecology, and much more.

Vision for Alderleaf Farm
Alderleaf Farm was born out of the dream of Alderleaf Wilderness College having a permanent home for which to run courses and implement its permaculture, wilderness survival, wildlife tracking, ethnobotany, and forest stewardship curriculum.

Alderleaf’s mission is to inspire and empower people to become lifelong stewards of the natural world. The farm provides a living example of the school’s mission in action.

Alderleaf’s vision of sustainability creates a unique marriage between the permaculture approach and hunter-gatherer living skills (including wilderness survival, wildlife tracking, and ethnobotany). With this in mind, we value equally both the resources created on the farm as much as the resources provided by the natural world. We believe that this dual respect and care for both forest and farm, wild and tended lands, provides the greatest opportunity for true sustainability.
Site Description

The Alderleaf land consists of fifteen acres in the foothills of the Cascade Mountains. It lies on the edge between rural and wilderness areas above the Skykomish River. This orientation makes the land perfect for integrating hunter-gather living skills with permaculture farming. The land is approximately eight miles southeast of Monroe, WA and four miles southwest of Sultan, WA. The proximity to nearby towns provides the ability to acquire supplies within the distance of a long walk, medium bicycle ride, or short drive.

The front five acres is relatively flat, with a slight north aspect slope, and consists of a pasture, gardens, a meadow, lawn areas, two homes, two cabins, a barn, various outbuildings, parking areas, classroom/office building, two ponds, and a green belt along the south property edge. This area is well suited to intensive permaculture activities.

The back ten acres is forested and bisected by McCoy Creek which flows onto the land from the eastern property edge and flows out through the northern property line. The creek is located within a significant ravine and has a small waterfall with a shallow swimming hole. The back ten acres also contains a network of trails, an outdoor classroom, flint-knapping area, many tenting sites, and a pond. The forest consists of a mix of both coniferous and deciduous trees of various ages. This area is ideal for practicing hunter-gather/wilderness survival skills, harvesting wild foods & medicines, and forest stewardship activities.

The property is bordered by 299th Ave SE to the west, with undeveloped land directly across the street. One neighbor is located directly north of the Alderleaf land and several neighbors’ properties are adjacent to the south side of Alderleaf. To the east, Alderleaf is bordered by expansive forested timberlands that are part of the Cascade Mountains.
History of the Alderleaf Property

In recent geological history, this land was scoured by glaciers which receded approximately 15,000 years ago. Evidence of glacial activity can be seen in certain features of the property such as the rocky soil, and a glacial erratic (large boulder) next to the parking area. The receding glaciers allowed soil to accumulate and forests to develop, creating a rich landscape of old-growth forests.

We know from two stone points found on the property that the human history of this property likely goes back at least between 4,500 to 9,000 years ago. This land was likely part of the hunting and gathering grounds for the people living here at that time and likely continued to be utilized by various Native peoples until much more recent history. This demonstrates the vitality of the area and its value as a place for people to live and thrive.

European settlers came to the area approximately 100 years ago. At this time, most of the old-growth forests were clear cut in the entire region, including this land. In the 1940s, a family moved to the area and began farming land that is now Alderleaf as part of a much larger parcel of land. In the 1980’s, a second owner purchased the property from the original farming family. This family lived on the site for over twenty years. They added both houses, the barn and four outbuildings, and created a pasture for raising horses and cows. They also planted fruit trees and other cultivars along the driveway and selectively harvested second growth timber (primarily Douglas fir and cedar) from the back ten acres. The property came into ownership by Alderleaf in the spring of 2008.

Since Alderleaf acquired the property, numerous changes have been made as part of permaculture, sustainability, self-reliance, maintenance, and school plans. During the first year of being on the land, natural systems were observed and permaculture site plans were developed and refined. During the second year, Alderleaf completed strategic earthworks, including ponds and swales, as part of the overall permaculture design. Alderleaf then added a large circular central vegetable garden area, surrounded by a chicken run, a chicken coop at the north end of the run, and a small greenhouse on the south side of the barn. The peach and apple trees were incorporated into a food forest system.

Three large western red cedar trees that had been terminally damaged by the previous land owner’s pasture clearing activities were carefully taken down and used for key projects. A significant amount of the wood from these trees went into the construction of an outdoor classroom and fence posts for the central garden chicken run. Raised garden beds were added around the cabins and west house as part of efforts to reduce lawn and increase food production.

The completion of these site elements set the stage for a need to update, add, and refine the site’s permaculture plan for this new phase of implementation.
Climate: Alderleaf is located in a lowland temperate coniferous forest zone that has influence from both the high mountains above and the valley below. Snowfall on the property is infrequent and rainfall is generally around 60 inches per year. Winter is moderately cool, with many overcast days. The USDA Plant Hardiness Zone for the Alderleaf land is Zone 7.

Temperature: Alderleaf has a range of temperatures, though in general they are moderate with the lowest temperature at 8 degrees F, and the highest at 104 degrees F. Generally, in the warmer parts of the year, temperatures are between the 60s and 80s. During the cooler times of the year, temperatures are between the upper 30s and 50s.

Wind: Winds at Alderleaf are generally mild. Occasionally, during winter storms, winds will reach 30 to 40 mph or more. Typical summer winds are out of the northwest, while typical winter winds are out of the southwest. Occasional winter cold snaps arrive on winds out of the north and east.

Habitats: Alderleaf has a variety of different habitats available to many wildlife species. There are five main habitat types: stream-side riparian, pond, meadow, mixed coniferous forest, and farm.

Water: Water is an abundant feature of the property, with a year-round large stream, two large ponds and a small amphibian pond. Rain falls relatively consistently throughout the fall, winter and spring. The region experiences a dry season during July and August that can cause drought-like conditions. Water conservation is important especially during the dry season. The site receives on average about 60 inches of rain per year.

Sun: Though the northwest is infamously cloudy, the farm portion of the property receives a good amount of light due to its openness to the sky and lack of a forest canopy. The summer dry season provides consistent direct sunlight to most of the front five acres, while in the winter the southern portion is shaded or receives dappled sunlight. Much of the current site elements have been arranged to best utilize light and heat from the sun and many plans are in place to further utilize this valuable resource.

Soils: The soils on the Alderleaf property are mostly sandy gravelly loams with brown colorations in the 10YR 4/4 range (coloration description based on the Munsell soil color chart). The soils are slightly acidic with pH between 6 and 6.5. The nutrient most lacking is nitrogen. Alderleaf is continually adding to the soil fertility through composting systems and strategic placement of dynamic accumulators and nitrogen fixing plants.
Site Elements

The site elements on the property have been organized according to the permaculture zones they fit into best. Each site element within the zone has a description of its existing conditions, future plans and maintenance needed for its upkeep.

Zone 0
Zone 0, the high-use built environment, includes indoor living spaces — residences, barn, office and indoor classroom. The zone is characterized as shelters where you spend a significant amount of time living, working, or sleeping.

Residences:
The two houses and two small cabins serve as homes for some of the staff, students, and others involved with Alderleaf. These include the east house, (nearest the classroom), west house (nearest the pasture), the north cabin (nearest the barn), and the south cabin (near the future rabbit hutch). These structures were built before Alderleaf moved to the property. Although they may not have been originally built with ecological principles in mind, all repairs and modifications are being done in as environmentally sound a manner as possible. Caring for the structures by maintaining, repairing, and modifying is far more ecologically responsible than total replacement. Also, two septic systems are located on the land. One services the west house with a tank located directly west of the house and a drain field located in the pasture. The other septic system services both the east house and the classroom building. Its tank is located directly northeast of the indoor classroom and the drain field is located directly east of the well house.

Future Plans: A variety of plans are in place to improve the residential buildings. Eventually a wood stove will be installed into the east house to reduce electricity usage and utilize on-site resources (firewood) for heat. Some of the buildings may be equipped with a series of solar panels to generate on-site electricity and/or hot water. Solar tubes may be added to several of the residences to increase light and reduce the need of electric light. Environmentally-sound, non-VOC paints are being used where repainting is needed.

Over both the front and rear decks of the east house some type of trellis covering could be created to allow for enjoyment of the deck area during rain or hot, sunny weather as well as provide a support system for food producing vines. When roof repair replacement is needed, environmentally friendly materials will used to allow potable rain water catchment and storage from the roof and gutters. Pit toilets or composting toilets and grey-water systems, could be set up to utilize water more efficiently and increase the longevity of the septic systems.
Maintenance & Monitoring: Homes can last indefinitely if maintained, repaired, kept clean and cared for. Residents work together to keep living spaces organized and clean. Everyone who lives, works, studies, or otherwise utilizes the Alderleaf land can keep an eye out for any needed repairs and notify the land steward or property manager of these observations. Ideas for other modifications are always welcome. Septic systems should be inspected every few years.

Barn
The barn is a multi-purpose structure which is a vital part of the Alderleaf property. A message board, community mailboxes and tools are located in the main entry way. The barn's rooms include two workshop areas, a resident storage room with a chest freezer, a storage room for school related tools and gear, and two storage rooms for building materials. Along the east side of the barn is a metal roof extension that provides a covered area for firewood and a variety of larger farm tools and salvaged building materials. Several rain water catchment barrels are placed along the edge of the roof that are used for the farm's water needs during the dry season.

Maintenance & Monitoring: Alderleaf monitors for any needed repairs or upkeep of the building and community tools, as well as water flow from heavy rainfall which are being evaluated for the potential need for French drains. Re-organize storage areas for salvaged materials if needed. Be frugal with firewood use and replenish as needed.

Indoor Classroom and Office
Built by the previous owner, this large building was converted into an indoor classroom, library, nature museum, community gathering space, and office for Alderleaf Wilderness College. The office provides the needed administration including staff desks, reception area, and storage.

Future Plans: A woodstove will be installed in the indoor classroom where there is already a concrete floor on which to stand. It would add a cozy feel to the classroom and reduce electric heating bills in winter.

A community kitchen addition will be added to the classroom to provide cooking space for workshops and special events. Plumbing and a door frame are already prepared and located inside the northern section of the east wall.

A reception area may be added to provide additional office space and room for a small school store. The reception area will allow more privacy for the office. This will also free up a significant amount of space in the main office room, allowing more space for additional staff members.

The large metal roof on the indoor classroom makes it ideal for rainwater catchment. A great deal of rain water could be captured and directed to the dry creek bed to flow into the frog pond. This will help supply oxygenated water to this small pond.
Zone 1

Zone 1 is an outdoor area that is high yielding and intensively cultivated. It is an area that benefits from continual observation and often includes primary vegetable & herb gardens, chickens, and plant nurseries. It is characterized as an area that benefits from multiple visits per day. At Alderleaf, Zone 1 includes the central gardens, chickens, the plaza area, greenhouses, and related site elements.

Central Gardens and Chickens

The goal of the central gardens is to create as much food as possible to lower our ecological footprint and be as self-sufficient as possible. The gardens are located north of the east house and are arranged in a circular fashion, surrounded by a double fence. This double fence serves as a chicken run, which is attached on both sides to the chicken coop (the fencing also provides a trellis system for raspberries, grapes, hops, and other vines & climbing plants). There are also arbor gates at the east and west sides of the chicken run.

The inner garden space is arranged into a series of “pea patch” beds full of a variety of food plants, primarily vegetables and herbs, tended by students, staff and residents. Several composting bins are located in the northwest section of the inner gardens.

The chicken run is also thought of as a “chicken moat”. It serves to exclude deer and other wildlife from the vegetable gardens while also providing an ideal area for chickens to forage. Garden scraps and weeds can be easily tossed to the chickens, chickens help reduce slugs from entering the gardens, chicken manure is easily added to compost, and the chickens can run in the gardens during the off season to fertilize and turn the beds.

Alderleaf planted food plants that are healthy for chickens outside of the fencing of the chicken run, in beds surrounding most of the circumference of the run. Current species selected include buckwheat, oats, sunflowers. The intent is to grow enough chicken feed to reduce or remove the need to buy additional feed.

Future Plans: Extra garden beds are being added to a managed plan of food production to benefit all who share in the labor. The land steward is organizing this coordinated effort of food production. A larger greenhouse is planned to be added on to the chicken coop (see greenhouses section).


Plaza Area

This area is located between the north and south cabins, east of the west house and west of the chicken run/central garden. This location is a growing collection of irregularly shaped beds for future plantings of perennial food and medicine plants, as well as fruit and nut trees. Currently, the beds are located mainly along the peripheries of the open space: beds surround the north cabin and a collection of beds follows the eastern wall of the west house. Already established in the plaza is a fire ring for small informal gatherings, playing acoustic instruments, and campfire cooking. Residents often set up hay bales as targets for archery practice in the plaza.
Future Plans: There are plans for extensive perennial keyhole garden systems in this area. These areas will be planted as edible forest gardens. The plaza garden complex will consist of a pattern of keyhole gardens, likely radiating away from the wellhead in all directions. These gardens will be used to grow a wide variety of perennial edible and medicinal plants, shrubs, and trees. This design may include a small herb spiral near the south cabin, as well as many additional fruit and nut trees. The area immediately around the wellhead and a path from the driveway to the wellhead will be left open so that the well can be accessed in case repairs are needed.

This garden complex will not only create aesthetic and functional diversity, providing significant amounts of food, but also minimize lawn areas which currently dominate the space.

A previous resident at Alderleaf kept bees along the edge of the plaza between the south cabin and east house. He took them with him when he moved on. We would love to have bees again at Alderleaf, and the same location may work well.

Maintenance & Monitoring: Care for existing perennial herbs, nut and fruit trees, etc. Continually add more species to plaza beds. Mow paths with push mower. Monitor well head to keep it from getting overgrown.

Greenhouses
A small passive solar greenhouse is attached to the south side of the barn, near the main barn door. This greenhouse has two large black steel drums full of water which act as the heat sinks, absorbing heat during the day and emitting it at night, helping provide a constant warm temperature without the need for electricity. The interior of the green house is used for raising seedlings and growing heat-loving plants such as tomatoes and peppers.

Maintenance & Monitoring: Monitor and readjust clips on exterior of plastic cover, especially after windstorms and snow. Replace greenhouse plastic as needed (possibly replace with glass). Monitor plant health of greenhouse plants, routine watering, amendment of greenhouse garden bed soil. Add more barrels to increase passive solar gain.

Future Plans: A larger second greenhouse will be created off of the south side of the chicken coop. This will allow the warmth generated by the chickens to be utilized in the green house and vice versa. This beneficial connection will be especially useful in the colder months of winter. A section of this greenhouse will be used for plant propagation. The new greenhouse will also provide a much larger space to grow seedlings and starts, giving us the jump start on getting plants in the ground in springtime at the beginning of the growing season. The larger space will also allow for the opportunity to grow large heat loving species such as banana and avocado. Rain water will also be collected from the roof of the coop/greenhouse.

Courtyard
The courtyard is the flat graveled area directly in front of the indoor classroom and office. Over time the area is being converted into an outdoor gathering space. Benches for seating and plants have been added to this area. A bamboo hedge has also been installed to provide privacy to the nearby east house. This area may be an ideal candidate for a cob oven and other infrastructure to further improve the feng-shui as a gathering space.
Zone 2 is a less intensively managed area than Zone 1 and often includes orchards, food forests, and livestock pasture areas. It is often adjacent to Zone 1 and is characterized as areas that benefit from at least one visit per day. At Alderleaf, this area includes the food forest and pasture areas.

Food Forest
The existing peach and apple trees were incorporated into a permaculture food forest system. The grass was suppressed with layers of cardboard, aged horse manure, and straw. Then companion plants were introduced to create a multi-layered ecosystem of food and medicine plants. The area now includes a tremendous diversity of species, including nitrogen fixing edible berry shrubs, many perennial vegetables, edible ground covers, and much more.

Future Plans: Currently, the food forest is flourishing. There are, however, signs of potential fire-blight on the apple trees. The peach appears unaffected. If the apple trees are indeed infected by fire-blight, they may have to be removed and replaced. When this is done, it may present an opportunity to restructure the food forest. If new trees are introduced, they can be spaced more widely apart allowing better air flow and creating a more natural growing pattern than just a straight line of trees. Disease resistant varieties can also be selected. The plan is to continue extending the food forest towards the west house and eventually integrate it with other food-forest type plantings in the plaza area.

Maintenance & Monitoring: Periodic, yet minimal, pruning to remove dead, damaged, diseased, or rubbing branches. The fruit from the apple and peach trees needs to be harvested when fruit is ripe, at the end of summer in August and September. The health of the plants should be monitored. Overpopulated species can be thinned and while other species can be further propagated. A detailed maintenance plan is located in the appendix.

Pasture
The rectangular pasture is located in the far west section of the property, just south of the food forest and west of the west house, and adjacent to the road. It is fenced off on all four sides, and has two gates. One gate is in the northwest section, and the other gate is located near the southeast corner. The pasture is currently home to two sheep, a Friesian mixed breed, and a Friesian/Black Mountain Welsh cross. The sheep are being raised to provide wool, milk, meat, manure, and free mowing. The west side of the pasture is also bordered by a line of young douglas fir trees which provide a buffer from 299th Ave SE.

Future Plans: Pasture Paddock System: The pasture will be separated into four paddocks to create a rotating grazing system for domestic livestock. This system allows for the animals to graze in a given section for a period of time, then moved into an adjoining section. This allows the land to recover and minimizes impact. Part of this system will include a centrally located animal shelter which will allow access from any of the four paddocks. This will give the livestock a safe place to shelter during inclement weather or when needed.
Living Fence around the Pasture: This project will involve planting a living fence made of plants such as willow, ash, poplar, hawthorn and others that can be woven into a thicket. These same plants could serve multiple functions such as fodder for the livestock and utilitarian materials via pollarding for use in basket making and other projects.

Also, the young Douglas firs along the west side of the pasture, if left unmanaged, will eventually grow so tall as to shade important food forest areas, while losing lower foliage and providing less of a buffer from the road. A sensible plan may be to plant lower growing evergreens such as shore pines while thinning out the douglas firs for firewood over time. This would maintain a significant audio and visual buffer while avoiding shading out important gardens and food forest.

Maintenance & Monitoring: Fence maintenance, planting and trimming/harvesting from living fences, create and monitor healthy paddock rotation, monitor plants potentially hazardous to sheep. Provide care and monitor the health of the sheep and any other livestock added to the system. Maintain a sound animal shelter. Implement road buffer replacement plan.

Rabbitry
A plan for creating a rabbitry out of the old chicken house has been developed. Rabbits provide one of the most efficient means of meat production on a small permaculture farm. Modifications have begun in the eastern portion of the old chicken house which would allow space for one buck and two does. These three rabbits would provide enough offspring to harvest one rabbit per week, year round.

Root Cellar
Work has begun on a root cellar located between the indoor classroom and east house. A superabobe earth bag construction method is being utilized to create the cellar. The root cellar will provide an excellent space for storing root vegetables and hardy fruits without electricity.

Future Plans: Complete the root cellar and build a custom shelving system.

Maintenance & Monitoring: Monitor the temperature and humidity inside the root cellar and adjust the venting as needed.
Zone 3

Zone 3 typically consists of both commercial production areas and also cultivated areas that require less maintenance than zones one and two. Elements in this zone often benefit from at least weekly monitoring. Zone 3 is sometimes referred to as the “farming” zone, meaning that resources produced in this area are meant to be used for barter or for sale. This zone can also include large water storage ponds, windbreaks, hedgerows, extra pastures/meadows, and cultivated timber. At Alderleaf, this zone includes the farm pond, frog pond, back meadow, native food forest, biotechture structure, parking areas, future bamboo forest, and hedgerow.

Farm Pond

The farm pond is located in the southwest section of the property, just south of the west house. This pond was planted with a variety of cultivars as well as native species of plants that have edible and utilitarian qualities. This pond is also being managed to raise fish as food. Useful plants including Japanese arrowhead, aronia, perennial wild rice, pickerelweed, wild mint, hardy waterlily and cattails were added to the pond edge habitat. Hornwort and jungle val were added to the submerged zones of the pond to help oxygenate the water.

On the east end of the pond there is an inflow swale that has been dammed up to channel water through a pipe to oxygenate the pond. On the west end of the pond is located an outflow pipe and an emergency overflow. Currently, the outflow of the pond moves excess water out in the blackberry thicket south of the pasture.

There is a sizeable patch of stinging nettles just north of the forest pond. This is a tremendous resource for nutritious food and strong fiber materials.

The farm pond is a work in progress. Like many aspects of the permaculture farm, the pond has and will have multiple uses. Most obviously, it catches and stores water. It is also becoming an excellent habitat for many small native animals, especially amphibians. Rock piles have been added as habitat for amphibians and other small wildlife, as well as serving as access points for humans to get to the water’s edge.

The biggest challenge with the pond currently is that it is low in dissolved oxygen, which prevents us from raising fish in it. The inflow has recently been bermed so that water is directed through a pipe that pours a steady flow into the pond, helping to oxygenate the water.

A bat house has been placed on a sunny snag west of the pond. The bats benefit from the abundance of insects around the pond as well as using it as a drinking source.

Future Plans: Fish species will be selected and added to the farm pond as soon as the pond shows signs of having enough vegetation and oxygen to support the fish without the need for electrical aeration or fish feed. Bluegill is a species that may be a good fit for the farm pond.
Ducks may also be introduced to the farm pond. A floating island could be created to provide shelter and protection from predators. They would provide excellent slug control, additional eggs and meat, and other benefits.

Around the margins of the pond, various plants are being planted to provide food and materials for humans as well as habitat for wildlife. This includes a variety of native and cultivated plants. More emergent vegetation will be planted into the water’s edge to provide more shade for the water, and structure for fish and other wildlife. This is especially vital to amphibians which will likely be predated upon by some of the fish.

The inflow is also an area that could be utilized to grow a variety of plants such as wild mint, peppermint and cattails. The banks around the inflow need to be more vegetated to create more soil stability, reducing or preventing erosion. Species such as willow, red-osier dogwood, serviceberry and others will be planted to serve this function as well as provide materials and food.

On the outflow of the pond, there is the possibility to capture the water again and utilize it further. This could be done in the form of another, smaller pond. Also, water could be partially channeled to the pasture to water the livestock.

**Maintenance & Monitoring:** Monitor drainages (inflow and outflow) by keeping them clear and flowing, monitor temperature and oxygen levels. Monitor and maintain cultivars by observing production and health, monitor health of amphibians and other wildlife, keep an eye out for bullfrogs (an invasive species which destroys native wildlife) (none observed there yet in this pond). Maintain and tend the excellent patch of stinging nettles north of the forest pond.

**Meadow & Native Food Forest**
The meadow is an area of open space full of grass and wildflowers and is located east of the indoor classroom. This space is utilized for a variety of activities, games and occasionally as a space for camping for students in weekend and week-long programs. Lots of clover has been intentionally planted here as wildlife food.

An experimental biotecture structure was created in the northwest corner of the meadow. Biotecture is the use of living material in structural design. This biotecture structure is circular and made of red alder saplings. Eventually these saplings will be woven together and bound at the top, where they will graft together and form a continuous wall and roof of living wood.

An example of a wilderness survival shelter, called a debris tipi, was constructed along the north edge of the meadow. This structure may be maintained or rebuilt as needed.

**Future Plans:** The meadow will be kept open for a variety of activities such as games, graduation and class activities. An archery range may be created in this area too. At the north end of the meadow, the native plants already growing there will be encouraged and additional food producing native plants introduced to create a second food forest consisting of all native plants.

Much like the existing food forest, the native food forest will utilize knowledge of plant guilds to create a self-supporting woodland full of useful edible and medicinal native plants. Introduced small plants may include wild strawberry, salal, common camas, nodding onion, tiger lily, and yarrow. For the shrub layer, species may include blackcap raspberry, Saskatoon, evergreen huckleberry, salal, Indian plum, Nootka rose, baldhip rose and blue elderberry. For the tree layer, species such as black hawthorn, Pacific crabapple, and beaked hazel could be introduced. There are already several tree and shrub species present which would be retained for the native food forest including red huckleberry, salal, bitter cherry and thimbleberry.
A small forest of timber grade bamboo is proposed in the westernmost portion of the meadow, where the driveway, dry creek bed, and small pond create barriers on three sides. This would allow us to produce edible and utilitarian bamboo while preventing it from spreading invasively.

**Maintenance & Monitoring:** Monitor drainage and water flow, add species to the native food forest, maintain as open space – occasional mowing. Weave and bind the biotecture structure as needed. Maintain the debris tipi as needed.

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**Small Amphibian Pond**

Located north of the indoor classroom and office building is the water system that was built by the previous property owners. This system includes a small pond with a plastic liner bottom and an artificial creek that borders the north side of the staff parking and connects with the pond. A small wooden foot bridge is located where the creek meets the pond.

The pond has become an excellent habitat for breeding amphibians and has been set aside mainly for that purpose.

**Future Plans:** Secure the pond liner and cover it so that it doesn’t degrade via exposure to the sun. The pond has azola and duckweed introduced into it. These are being grown to provide food for chickens as well as habitat and food for tadpoles in the pond. The presence of these floating plants should also help to keep the pond cooler and expose less surface area to evaporation.

**Maintenance & Monitoring:** The azola and duckweed can be harvested when in abundance, and fed to the chickens or added as nutrient rich additions to the compost bins. The pond also needs to be monitored for presence of bullfrogs, and if found, bullfrogs should be removed.

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**Parking Area and Hedgerow**

The parking area includes all of the areas covered in gravel that area located along both sides of the driveway. The hedgerow is the area north of the driveway starting north of the food forest and continuing along the boundary of the north fence line until it connects with the alder thicket northwest of the small amphibian pond and smoking area. There are flowering cherry trees inside of planter boxes between the southern parking spots. Guilds of supportive plants have been added to the planter boxes and edible cherries have been grafted on to two of the flowering cherry trees.

**Future Plans:** A section of the hedgerow has been planted with a row of Douglas fir, Sitka spruce and western red cedar. Walnut trees will also be added to this area. The intention is to encourage these trees to fill in, so that they help block strong winds, retain heat, limit invasive blackberry growth, provide food, and create a visual barrier with our neighbors to the north.

North of the barn there are several young plum trees and transplanted pines that will perform a similar function. Several beneficial guild plants have been planted underneath them.
Maintenance & Monitoring: The invasive plants in the hedgerow area need to be cut frequently to allow the young trees to grow. These young trees are easily overtaken by the fast growing Himalayan blackberry and this area needs to be cut back several times a year, especially in spring and summertime. The plum trees need to be monitored for health, pruned, as well as mulched and watered during the dry summer periods. More plants can be added underneath.

Well House
The well house is located to the south of the indoor classroom and east house. The structure houses a 1200 gallon water storage tank. Water is pumped from the well in the plaza, up into this tank and then distributed throughout the property via a pressure pump and gravity. The purpose of the well house storage tank is to provide a consistent water source, especially during periods of high water use or low refill capacity of the well. The well house should be checked occasionally to ensure proper operation of the pumps and related equipment.

Future Plans: Insulate the well house to minimize the possibility of frozen pipes and/or ice in the water tank.

Zone 4
Zone 4 is defined as managed forests. Typically these areas border on wilderness and are tended for wild gathering, firewood needs, water storage, and improved wildlife habitat. It is typically composed of wild native species, yet humans interact in a significant way, helping with forest stewardship, habitat restoration and enhancement. Zone 4 typically requires even less maintenance and monitoring, benefiting from monthly or seasonal activity. At Alderleaf, this zone covers the area between the meadow and creek ravine, which includes the forest pond, trail system, tenting sites, outdoor classroom, and flint-knapping area. A forest stewardship plan is being developed for this zone which will be included in the appendix (the forest stewardship plan will outline methods for sustainably harvesting forest products, including firewood, timber, etc.).

Forest Pond
The forest pond is located along the main trail, on the way to the outdoor classroom. This horseshoe shaped pond is several meters deep in some spots. The pond has a variety of logs, stumps and submerged boulders spread throughout to provide cover for amphibians and fish. Along the water’s edge, there is a variety of plants which were introduced to the pond to provide habitat, food, materials or medicine. These plants include wapato, cattail, variegated bulrush, bog bean, several species of willow and water cinquefoil.

Ponds need significant oxygenation to support fish. A natural oxygenation system was devised and put into place on the south side of the pond. It is made up of a long, narrow channel for collecting the rain-fed runoff, a berm that helps dam it up and a pipe to direct the flow from the channel into the pond. The pipe creates a drop for the water to provide vital oxygenation without the need for expensive electrical aerators, fountains, or pumps. The west end of the pond has an inflow swale that comes all the way from behind the main classroom building. This inflow provides an alternative pathway for wildlife to travel from the open meadow to the pond and beyond.
In the northwest part of the pond is an overflow, which passes underneath the bridge as well as an outflow pipe that feeds excess water from the pond towards McCoy creek. This pond already provides habitat for a wide variety of wildlife. Several amphibian species breed in and live around the pond. Many bird and small mammal species utilize the pond for water, bathing, and as a place to forage.

The forest pond is being maintained for native wildlife, to provide some materials for human use and consumption, as well as to encourage the biodiversity of the Alderleaf land. The pond also provides the function of water storage and allows for proper drainage of the back meadow behind the classroom. The trees, shrubs and herbs planted around the pond are all natives of the region.

**Future Plans:** Fish will also be introduced into the forest pond and utilized as a food source. A small native species will be selected that can tolerate the conditions in the pond (temperature, oxygen levels, size, etc.).

The outflow of this pond may also be turned into a series smaller pond that will help utilize the water several times before it flows into McCoy Creek below. These could provide wetland habitats for a variety of plant and animal life. The location where the outflow feeds the water already has a tendency to be very wet and retains water for much of the year.

**Maintenance & Monitoring:** Monitor drainages (both inflow and outflow) by keeping them flowing and clear, monitor temperature, monitor health of edible/medicinal plants, monitor/control bullfrog population, and maintain pathways around the pond.

**Trail System & Tenting Sites**
The Alderleaf property has a network of trails that crisscross the forested portion of the land. The main trail cuts through the property on a mostly east-west trajectory. It connects with the north and south trails, as well as the bridge trail that connects down to the creek trail. The north trail travels past the sweat lodge, to the swimming hole and connects to the creek trail. The creek trail follows the creek from the swimming hole, past the gravel bar, past the log bridge, and eventually connects with the creek overlook trail. The south trail starts near the end of the main trail, travels past the flint-knapping area, and ends back at the meadow. Tenting sites (small cleared spots) have been created along many of the trails. These tenting sites are utilized during short courses (weekend and week-long classes) for participant camping.

**Future Plans:** Alderleaf has a trail network system that is utilized for different purposes. Given the prodigious growing season in this region, many plants grow tremendously each year. This can limit or inhibit trail use in a very short time, and so trails must be maintained using a machete every summer. More tenting sites and trails may need to be created as class sizes grow over time. The trail to the creek bridge is quite steep and stairs need to be added.

**Maintenance & Monitoring:** Cut back trails at least two or three times per year (especially in the spring/summer growing season), monitor water drainage, monitor the young cedar and Douglas fir trees planted near the trails.
Outdoor Classroom

This cedar structure is located in the ten acre wooded section of the property, along the main trail. This hand-made structure was constructed using largely materials harvested from the property, mainly from three large standing dead red cedar trees. It has a built-in bench, a fire ring, and plexi-glass windows for extra light in the wintertime. The roof is made of hand split cedar shakes and the posts are quartered rounds from onsite cedar trees.

**Future Plans:** A small wood shed will be added next to the outdoor classroom to serve as a more significant source of firewood storage. This structure will be created largely out of the cedar shakes split from the same trees that went into the creation of the outdoor classroom.

**Maintenance & Monitoring:** Monitor the structural integrity, keep stocked with firewood, pay attention to drainage around the structure, maintain fire pit, sweep out debris from interior.

Flint-knapping Area

This area is located along that South trail. It is designated as a spot to practice stone working and flint-knapping. It currently has a set of three benches surrounding a central fire pit.

**Future Plans:** A roof structure will be designed and built over the flint knapping area to serve as a shelter. This will likely be an A-frame style roof, with handmade cedar shakes with skylights. The roof will have corner posts to help support the structure. This will create a much more comfortable place to flint knap, especially during the more inclement weather common during parts of the winter. Some form of firewood storage may also be helpful.

**Maintenance & Monitoring:** This area needs to be maintained for the purpose of flint-knapping. No one in bare feet or in open-toed shoes should enter this area due to the abundance of extremely sharp obsidian shards. Once the roof is constructed over this site, it will need to be monitored for proper water flow and structural integrity.

Zone 5

Zone 5 is characterized as natural, unmanaged wilderness. It is typically an environment utilized for occasional foraging, recreation, and education; where nature is allowed to run its course. It serves as natural habitat for wildlife and indigenous plants. It is an un-managed zone where one can observe and learn from nature. At Alderleaf, this zone covers the creek corridor and all the property east of the creek. The only site element in this zone is the primitive camp, a place for practicing wilderness survival and primitive living skills.

**Primitive Camp**

The primitive camp area currently contains two debris hut shelter sites that are used for demonstrations during wilderness survival classes.
Future Plans: The area could be enhanced into more of a primitive village by adding a fire pit and a longer term survival shelter such as a debris tipi; where students could practice wilderness survival skills.

Maintenance and Monitoring: This area should be occasionally monitored to ensure we are not leaving any trash or negatively impacting the environment.

McCoy Creek
McCoy Creek is a natural creek that flows through the back ten acres of the Alderleaf land. It flows onto the property from the east, extending many miles from the backcountry where it drains several lakes. McCoy Creek leaves the Alderleaf land to the north where it flows for about a mile before joining with the Skykomish River. There is a large waterfall (approximately 80 feet tall) along McCoy Creek about a quarter mile north of the Alderleaf land.

Within the bounds of Alderleaf, McCoy Creek ranges from about eight to sixteen feet wide, with a depth that varies from inches to several feet. It flows year round with the highest waters in early winter and the lowest flows in late summer. There are several shallow “swimming holes” and one very small waterfall. An old growth tree had fallen across the creek many years ago and now serves as a footbridge to get to the other side of the creek, where a trail continues beyond the Alderleaf land into the foothills. A variety of wildlife has been observed in and around the creek including river otter, beaver, mink, raccoon, dipper, trout, crayfish, etc…

Current plans are to care for this creek in its natural state. Invasive plants such as Himalayan blackberry should be removed. Some feeding sign from beavers has been observed and we would welcome a beaver building a beaver dam – as it would create another pond at Alderleaf. Ideas for potential micro-hydro power generation may be considered in the future.

Implementation
Permaculture plans are often implemented in phases – sensible ecologically-minded steps that allow one to work with nature rather than creating disasters. Phases also allow changes to be made in an intelligent sequence over time, using logical steps to undertake projects of the highest priority based on available time and resources.

Phase 1: Observation
Phase one in permaculture design is often a phase of observing natural systems throughout four seasons. This includes observing how different natural elements flow through a site, such as sunlight, water, winds, wildlife, etc… An observation phase was a large focus of our first year on the site in 2008. Existing conditions were observed and mapped, including wildlife travel routes, sun sectors and water flows. This observation period provided valuable information for choosing the most ideal, ecologically-sensible locations for wildlife corridors, chickens, swales, ponds, gardens, greenhouses, and other site elements.

Phase 2: Earthworks and Structures
Phase two in permaculture design often consists of major one-time site modifications, such as earthworks or creating primary structures. These projects are often best undertaken after the observation phase, yet before major planting phases. During the second year on the site, 2009, Alderleaf undertook a phase two set of projects. This primarily consisted of major earthworks. We created two swales and two ponds to better direct...
water flows (prevent flooding), store water, and improve habitat. They also provide the opportunity to raise fish and aquatic edible plants. Other major projects undertaken in this phase included construction of the outdoor classroom, a new chicken house, central gardens with a double fence/chicken run moat around the perimeter. A food forest, greenhouse, and root cellar hole were also created at this time.

Phase 3: Propagation and Food Production Systems
Phase three is often a phase when more intensive planting of perennial food systems is the focus. Once major site changes and earthworks have been completed, it is often an ideal time to concentrate energies on increasing the diversity and abundance of food production on a site. In 2010, Alderleaf has begun this phase of implementation. The central gardens are producing more food, with plans for improved production. Additional species have been added to the food forest and at various locations around the farm, including plum trees, an Asian pear, and a hardy almond. Several species of aquatic plants (including edible, medicinal, utilitarian, oxygenating, and wildlife plants) have been added to the ponds. The chicken system is going well and there is space for more chickens. Dairy sheep have been added to the front pasture and there is room for more livestock (such as a goat, llama, pig or cow). The pasture will be sectioned off into a paddock system. Plans are in the works for adding rabbits to the site. Much more propagation and introduction of cultivars is planned for 2010 and 2011. There is a significant effort underway to bring more plant diversity to the farm and propagate those species throughout the property.

Phase 4: Refinement
Phase four can be a period of refinement. Once internal systems of food production are in place, additional sustainable living projects can be undertaken, such as gray water systems, alternative energy sources, developing small cottage industries / farm products for barter and trade, etc…

Conclusion
We hope this permaculture plan has given you an overview of the vision of sustainability at Alderleaf Farm. By providing details about the diverse site elements, how they fit together, and what future projects are planned, you can begin to get a sense of the unique opportunities of the site, what has been accomplished, and where the land is headed. We hope the plan serves to inform, inspire and promote creativity for interaction and further refinement.

Resources
Jacke, Dave. Edible Forest Gardens I & II.
Seymour, John. The Self Sufficient Gardener.
Bubel, Mike & Nancy. Root Cellaring.
Riotte, Louise. Carrots Love Tomatoes.
Kiffmeyer, Donald. Earthbag Building.
Brenzel, Kathleen. Sunset Western Garden Book.
Toensmeier, Eric. Perennial Vegetables.
Appendices

List of Sensitive Natural Resources at Alderleaf

These species and resources are found in very low quantities at Alderleaf and should not be harvested. Efforts should be made to preserve and care for these species.

**Plants:**
- Devil’s club (*Oplopanax horridus*)
- Vine maple (*Acer circinatum*)
- Saskatoon (*Amelanchier alnifolia*)
- Western Skunk Cabbage (*Lysichiton americanus*)
- Clasping Twistedstalk (*Streptopus amplexifolius*)

**Animals:**
- Red-legged Frog (*Rana aurora*)
- Western Toad (*Bufo boreas*)

Invasive Species at Alderleaf

These species are non-native invasive species that damage the native environment. Efforts should be made to reduce and/or control these species.

**Plants:**
- Himalayan Blackberry (*Rubus discolor*)
- Reed canary grass (*Phalaris arundinacea*)

**Animals:**
- Bullfrog (*Rana catesbiana*)
Master List of Species Found at Alderleaf

Birds

Blue Grouse (*Dendragapus obscurus*)
Brown Creeper (*Certhia americana*)
Ring-necked pheasant (*Phasianus colchicus*)
Black-capped Chickadee (*Poecile atricapillus*)
Chestnut-backed Chickadee (*Poecile rufescens*)
Golden-crowned Kinglet (*Regulus satrapa*)
Ruby-crowned Kinglet (*Regulus calendula*)
Bushtit (*Psaltriparus minimus*)
American Robin (*Turdus migratorius*)
Varied Thrush (*Ixoreus naevius*)
Swainson’s Thrush (*Catharus ustulatus*)
Stellar’s Jay (*Cyanocitta stelleri*)
American Crow (*Corvus brachyrhynchos*)
Common Raven (*Corvus corax*)
Pileated Woodpecker (*Dryocopus pileatus*)
Hairy Woodpecker (*Picoides villosus*)
Downy woodpecker (*Picoides pubescens*)
Red-breasted sapsucker (*Sphyrapicus ruber*)
Northern Pygmy Owl (*Glaucidium gnoma*)
Barred Owl (*Strix varia*)
Barn Owl (*Tyto alba*)
Black-headed grosbeak (*Coccothraustes vespertinus*)
American Dipper (*Cinclus mexicanus*)
Great Blue Heron (*Ardea herodias*)
Bewick’s Wren (*Thryomanes bewickii*)
Northern Flicker (*Colaptes auratus*)
Red-breasted nuthatch (*Sitta Canadensis*)
Sharp-shinned hawk (*Accipiter striatus*)
Cooper’s hawk (*Accipiter cooperii*)
Bald eagle (*Haliaeetus leucocephalus*)
Osprey (*Pandion haliaetus*)
Canada Goose (*Branta canadensis*)
Cedar Waxwing (*Bombycilla cedrorum*)
Western Tanager (*Piranga ludovicianna*)
Osprey (*Pandion haliaetus*)
Belted Kingfisher (*Ceryle alcyon*)
Turkey Vulture (*Cathartes aura*)
Red-tailed Hawk (*Buteo jamaicensis*)
Wilson’s Snipe (*Gallinago delicata*)
"January 19, 2011"

Amphibians

Red-legged Frog (*Rana aurora*)
Pacific Treefrog (*Hyla regilla*) also called (*Pseudehrhachus regilla*)
Western Toad (*Bufo boreas*)
Bullfrog (*Rana catesbeiana*)
Rough-skinned newt (*Taricha granulosa*)
Ensatina (*Ensatina eschscholtzii*)
Northwestern Salamander (*Ambystoma gracile*)
Western red-backed salamander (*Plethodon vehiculum*)
Northern alligator lizard (*Elgaria coerulea*)
Common gartersnake (*Thamnophis sirtalis*) 2 subspecies present (*T.s. pickeringii* & *T.s. fitchii*)
Mammals
- Black-tailed deer (*Odocoileus hemionus*)
- Black bear (*Ursus americanus*)
- American Shrew-mole (*Neurotrichus gibbsii*)
- Pacific Jumping Mouse (*Zapus trinotatus*)
- Cougar (*Felis concolor*)
- Bobcat (*Lynx rufus*)
- Northern Raccoon (*Procyon lotor*)
- Douglas Squirrel (*Tamiasciurus douglasii*)
- Townsend’s Chipmunk (*Tamias townsendii*)
- Coyote (*Canis latrans*)
- Wandering Vole (*Microtus oregoni*)
- Townsend’s Vole (*Microtus townsendii*)
- Deer Mouse (*Peromyscus maniculatus*)
- Norway rat (*Rattus norvegicus*)
- Mink (*Mustela vison*)
- River Otter (*Lontra canadensis*)
- Southern Mole (*Scapanus townsendii*)
- Vagrant Shrew (*Sorex vagrans*)
- Silver-haired bat (*Lasionycteris noctivagans*)
- Little brown bat (*Myotis lucifugus*)
- Short-tailed weasel (*Mustela erminea*)

Fish
- Cutthroat trout (*Oncorhynchus clarki*)

Molluscs
- Pacific sideband snail (*Monadenia fidelis*)
- Robust lancetooth snail (*Haplotrema vancouverense*)
- Ufous garden slug (*Arion ater*)
- Leopard Slug (*Limax maximus*)
- Banana Slug (*Ariolimax columbianus*)

Spiders
- Zebra jumping spider (*Salticus scenicus*)
- Cross orb-weaver (*Araneus diadematus*)
- Flower crab spider (*Misumena vatica*)
- Common house spider (*Achaearanea tepidariorum*)
- Long-bodied cellar spider (*Pholcus phalangioides*)
- Bowl and doiley weaver (*Frontinella communis*)
- Wolf spider sp. (*Pardosa sp.*)

Crustaceans
- Common pillbug (*Armadillidium vulgare*)
- Signal crayfish (*Pacifastacus leniusculus*)

Insects
- Black Lampyrid (*Ellychnia hatchi*)
- European Ground Beetle (*Carabus nemoralis*)
- Seven-spotted ladybird beetle (*Coccinella septempunctata*)
- Convergent ladybird beetle (*Hippodamia convergens*)
- Small flat diving beetle (*Acilius semisulcatus*)
- Red net-winged beetle (*Dicytoperus simplicipes*)
- Icon clad beetle (*Phellopsis obcordatus*)
- Whirligig beetle sp. (*Gyrinus sp.*)
- Snail eater (*Scaphinotus velutinus*)
- Sacken’s robber fly (*Laphria sackeni*)
- Giant crane fly (*Holopus rubiginosus*)
- European crane fly (*Tipula paludosa*)
- Green Stink Bug (*Acrosternum hilare*)
- Cooley Spruce Gall Aphid (*Adelges cooleyi*)
- Blue-green leafhopper (*Graphocephala atropunctata*)
- Mixed bumble bee (*Bombus mixtus*)
- Yellow-faced bumble bee (*Bombus vosnesenskii*)
- Hornail sp. (*Urocerus albicornis*)
- Western thatching ant (*Formica obscuripes*)
- Bald-faced hornet (*Vespula maculata*)
- Yellow-spotted tiger moth (*Lophocampa maculate*)
- Banded wooly bear (*Isia Isabella*)
- Western tent caterpillar (*Malacosoma californica*)
- The herald (*Scoliopteryx libatrix*)
- Lorquin’s admiral (*Limenitis lorquini*)
- Mourning cloak (*Nymphalis antiopa*)
- Red Admiral (*Vanessa atalanta*)
- Painted lady (*Vanessa cardui*)
- Western tiger swallowtail (*Papilio rutulus*)
- Polyphemus moth (*Antheraea polyphemus*)
- Common Whitetail (*Libellula lydia*)
- Cardinal meadowhawk (*Symptetrum illota*)
- Twelve-spot skimmer (*Libellula pulchella*)
- Meadow spittlebug (*Philaenus spumarius*)
- Water boatmen (*Arctocorixa sp.*)
- Common backswimmers (*Notonecta sp.*)
- Common water striders (*Gerris sp.*)
- European earwig (*Forficula auricularia*)
- Pacific dampwood termites (*Zootermopsis angusticollis*)
Trees

Douglas fir (*Pseudotsuga menziesii*)
Western Hemlock (*Tsuga heterophylla*)
Sitka spruce (*Picea sitchensis*)
Shore Pine (*Pinus contorta var. contorta*)
Western Red Cedar (*Thuja plicata*)
Red Alder (*Alnus rubra*)
Bigleaf maple (*Acer macrophyllum*)
Black cottonwood (*Populus balsamifera ssp. Trichocarpa*)
Paper birch (*Betula papyrifera*)
Bitter cherry (*Prunus emarginata*)
Oregon ash (*Fraxinus latifolia*)
Black hawthorn (*Crataegus douglasii*)
Vine maple (*Acer circinatum*)

Mushrooms

Oyster Mushroom (*Pleurotus ostreatus*)
Angel Wings (*Pleurocybella porrigens*)
Red-cracked boletus (*Boletus chrysenteron*)
Zeller’s boletus (*Boletus zelleri*)
Conifer boletus (*Boletus coniferarum*)
Chanterelle (*Cantharellus cibarius*)
Sulfur Tuft (*Hypholoma fasciculare*)
Emetic russula (*Russula emetic*)
Deer mushroom (*Pluteus cervinus*)
Questionable Stropharia (*Stropharia ambigu*sa)
Red-belted conk (*Fomitopsis pinicola*)
Turkey Tail (*Trametes versicolor*)
Witch’s Butter (*Tremella mesenterica*)

Shrubs

Indian plum (*Oemleria cerasiformis*)
Pacific ninebark (*Physocarpus capitatus*)
Rugosa rose (*Rosa rugosa*)
Salmonberry (*Rubus spectabilis*)
Blackcap raspberry (*Rubus leucodermis*)
Thimbleberry (*Rubus parviflorus*)
Himalayan Blackberry (*Rubus discolor*)
Trailing Blackberry (*Rubus ursinus*)
European raspberry (*Rubus idaeus*)
Devil’s club (*Oplopanax horridus*)
Red-flowering currant (*Ribes sanguineum*)
Pacific willow (*Salix lucida ssp. lasiandra*)
Cascara (*Rhamnus purshiana*)
Sitka willow (*Salix sitchensis*)
Beaked hazelnut (*Corylus cornuta var. californica*)
Dull Oregon-grape (*Mahonia nervosa*)
Tall Oregon-grape (*Mahonia aquifolium*)
Oceanspray (*Holodiscus discolor*)
Red elderberry (*Sambucus racemosa ssp. pubens*)
Common snowberry (*Symphoricarpos albus*)
Sitka mountain-ash (*Sorbus sitchensis*)
Saskatoon (*Amelanchier alnifolia*)
Red Huckleberry (*Vaccinium parvifolium*)
Oval-leaved Blueberry (*Vaccinium ovalifolium*)
<table>
<thead>
<tr>
<th>Wildflowers</th>
<th>Longleaf Plantain (<em>Plantago lanceolata</em>)</th>
</tr>
</thead>
<tbody>
<tr>
<td>False Solomon’s Seal (<em>Smilacina racemosa</em>)</td>
<td>Common Plantains (<em>Plantago major</em>)</td>
</tr>
<tr>
<td>Clasping Twistedstalk (<em>Streptopus amplexifolius</em>)</td>
<td>Cleavers (<em>Gallium aparine</em>)</td>
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<tr>
<td>Western Trillium (<em>Trillium ovatum</em>)</td>
<td>Skunk Cabbage (<em>Lysichiton americanum</em>)</td>
</tr>
<tr>
<td>False lily of the valley (<em>Maianthemum dilatatum</em>)</td>
<td>Wapato (<em>Sagittaria latifolia</em>)</td>
</tr>
<tr>
<td>Western coralroot (<em>Corallorhiza maculate</em>)</td>
<td>Cattail (<em>Typha latifolia</em>)</td>
</tr>
<tr>
<td>Sheep sorrel (<em>Rumex acetosella</em>)</td>
<td>Bogbean (<em>Menyanthes trifoliata</em>)</td>
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<tr>
<td>Curled Dock (<em>Rumex crispus</em>)</td>
<td>March Cinquefoil (<em>Potentilla palustris</em>)</td>
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<tr>
<td>Siberian Miner’s Lettuce (<em>Claytonia siberica</em>)</td>
<td>Reed Canarygrass (<em>Phalaris arundinacea</em>)</td>
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<tr>
<td>Chickweed (<em>Stellaria media</em>)</td>
<td>Sweet Vernal Grass (<em>Anthozanthum odaratum</em>)</td>
</tr>
<tr>
<td>Little Western Bittercress (<em>Cardamine oligosperma</em>)</td>
<td>Orchard Grass (<em>Dactylis glomerata</em>)</td>
</tr>
<tr>
<td>Western Bittercress (<em>Cardamine occidentalis</em>)</td>
<td>Slough Sedge (<em>Carex obscura</em>)</td>
</tr>
<tr>
<td>Shepherd’s Purse (<em>Capsella bursa-pastoris</em>)</td>
<td>Common Rush (<em>Juncus effusus</em>)</td>
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<tr>
<td>Fringecup (<em>Tellima grandiflora</em>)</td>
<td>Bracken Fern (<em>Pteridium aquilinum</em>)</td>
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<tr>
<td>Piggyback Plant (<em>Tolmea menziesii</em>)</td>
<td>Deer Fern (<em>Blechnum spicant</em>)</td>
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<tr>
<td>Foamflower (<em>Tirella trifoliata</em>)</td>
<td>Sword Fern (<em>Polystichum munitum</em>)</td>
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<tr>
<td>Creeping Buttercup (<em>Ranunculus repens</em>)</td>
<td>Lady Fern (<em>Athyrium felix-femina</em>)</td>
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<tr>
<td>Woodland Strawberry (<em>Fragaria vesca</em>)</td>
<td>Spiny Wood Fern (<em>Dryopteris expansa</em>)</td>
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<tr>
<td>Large-leaved Avens (<em>Geum macrophyllum</em>)</td>
<td>Oak Fern (<em>Gymnocarpus dryopteris</em>)</td>
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<tr>
<td>Vetch (<em>Vicia spp.</em>)</td>
<td>Licorice Fern (<em>Polypodium glycyrrhiza</em>)</td>
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<tr>
<td>White Clover (<em>Trifolium repens</em>)</td>
<td>Maiden Hair Fern (<em>Adiantum pedatum</em>)</td>
</tr>
<tr>
<td>Red Clover (<em>Trifolium pratense</em>)</td>
<td>Common Horsetail (<em>Equisetum arvense</em>)</td>
</tr>
</tbody>
</table>
**Perennial Cultivars**

Alberta Spruce  
Apple  
Arborvites  
Aronia  
Artichoke  
Asian Pear  
Asparagus  
Autumn Olive  
Azalea  
Bamboo  
Barberry  
Black Currant  
Black Locust  
Blue Spruce  
Blueberries  
Ceonothus  
Chives  
Comfrey  
Wild Rice  
Creeping Raspberry  
Crocosmia  
Daffodil  
Dianthus  
Elecampane  
Fall Crocus  
Flowering Cherry  
Frost Free Peach  
Fruiting Cherry  
Garden Sorrel  
Good King Henry  
Gooseberry  
Grape  
Hardy Almond  
Hazelnut  
Hops  
Hydrangea  
Iris  
Japanese Arrowhead  
Jerusalem Artichoke  
Kiwiberry  
Lavendar  
Lilac  
Marshmallow  
Maximillian Sunflower  
Mints  
Mum  
Oregano  
Pickerelweed  
Plum  
Raspberries  
Red Currant  
Rhododenron  
Rosemary  
Schisandra  
Sea Buckthorn  
Shasta Daisy  
Stawberries  
Thyme  
Waterlily  

**Maps**

General Map  
Future Map  
Central Gardens Detail Map  
Plaza Detail Map  
Food Forest Detail Map
Frequently Asked Questions for Course Participants at Alderleaf

Listed below are answers to questions that relate to our weekend, week-long, and day-long courses.

What kind of weather can I expect?
Western Washington has a temperate climate, which means we have cooler summers and warmer winters than many other places across the country. Summer temperatures often range from the 50s at night to the 70s and 80s during the day. Typical winter temperatures range from the 30s and 40s at night up to the 50s during the day. While our summers are typically dry, light rain is common in fall, winter, and spring. We recommend bringing layered clothing, rain gear, and hiking boots for varying weather conditions.

What kind of camping and accommodations are available?
Participants in our short courses (day-long, weekend, and weeklong classes) may camp out at Alderleaf for the duration of the course. There are designated tenting spots throughout our forest. You can download a map of Alderleaf to see tenting spots. Please let us know if you plan to camp out during your course. Though most students camp during the course, you are welcome to travel home at night or stay at a hotel/motel in the area. There is a Best Western Inn and Guesthouse Inn in downtown Monroe for those that prefer not to camp out.

What kind of amenities are on site?
Our indoor classroom contains a bathroom with a sink, toilet, and shower. The bathroom remains unlocked 24 hours a day while classes are in session. The shower’s hot water tank is very small to encourage water conservation. Please only use biodegradable soap. In summer, we enjoy taking a dip and bathing in the creek. When bathing in the creek, be sure to rinse soap at least 50 feet away from the creek using a bucket. For drinking water, there is a spigot located outside the indoor classroom.

There is wireless internet access and electrical outlets for charging phones and laptops in the indoor classroom. There is not a public computer available. Cell phone reception at Alderleaf is good for most cell phone carriers.

Should I bring food, is any provided?
Please bring your own food while attending classes at Alderleaf. Bring bag lunches that can be eaten in the field and do not require cooking. For breakfasts and dinners, feel free to cook over our outdoor campfire and/or utilize hot water from our tea dispenser. Coffee and tea is often available at the indoor classroom. You can also travel into town for breakfast (before class) or dinner (after class), though there is typically not enough time to do so during lunch.

Is water available on site?
Yes. All of the water from our sinks and spigots is potable. The best location to fill water bottles is at the spigot located on the outside of the southwest wall of the indoor classroom. Alderleaf receives water from an on-site well. With careful management there is plenty for people and gardens. Please be mindful of water usage on-site, especially during the dry season.

How do I get to Alderleaf?
Alderleaf is eight miles outside of downtown Monroe and four miles outside of Sultan. We send out driving directions once you register for a course.

What airport is closest?
The closest major airport is the Seattle-Tacoma Airport (SEATAC). To travel from the airport to Alderleaf you can rent a car, take a taxi, or ride the bus system and walk the last four miles from Sultan.
Where should I park?
Please park in the angled parking on the left side (north side) of the gravel driveway and walk to the green classroom building at the end of the driveway. It is possible to camp in your vehicle in the parking area during your course. Please let the office know if you plan to do so.

Are there private areas?
Yes. Alderleaf is also home to several staff, interns, and residents. Please feel free to enjoy the entire property while being respectful of personal space around the houses and cabins on the western portion of the site. Though we are in a rural/wilderness area that borders the Cascade Mountains to the east, we do have neighbors to the northwest and south. Please respect the private property of our neighbors.

Are there quiet hours?
Yes. Quiet time is from 10pm to 7am. Please be considerate of others by keeping noises and voices low after 10pm.

Do you have a library?
Alderleaf has a small reference library in the indoor classroom. This is a private collection that we are happy to share with you while you are in class. You are welcome to use the books, though please do not take them outside of the classroom. Please put them back to the correct shelf when you are done.

Are pets allowed?
Alderleaf values the diversity of wildlife that inhabits our site and thus pets are not allowed. Please refrain from bringing pets onto the property.

Is smoking allowed?
Smoking is not allowed anywhere on the Alderleaf land except for the smoking spot adjacent to the parking area. Please be sure to fully extinguish butts and take them with you.

What should I bring?
For all classes bring a notepad and pen, bag lunch, water, and warm layered clothing including rain gear. For our survival classes you will also need a sturdy knife with a three to six inch long fixed blade. If you plan to camp out overnight, be sure to bring the appropriate camping gear, such as a tent, sleeping bag, food, cookware, etc…

How do I learn more??
Please feel free to contact us if you have more questions. We’re happy to help out and answer any questions you have.

General Rules for Residents of Alderleaf Farm

As a resident of Alderleaf you have a unique opportunity to take part in our ever-evolving farm. While you reside here know that you have a responsibility to yourself, the land and the community. Your level of participation with stewardship of this land is up to you, but these rules are part of the rental agreement and must be honored. They have been created for the mutual benefit of all current and future tenants of Alderleaf. Their intent is to promote social and environmental sustainability, encourage healthy relationships with the land and its residents, and facilitate the long term health of Alderleaf Farm.
1. Absolutely no illegal drugs, violence, harassment, and other illegal activities. Alcohol is allowed for residents of legal age, although excessive use and/or drunken and disorderly conduct are not acceptable. Alcohol is prohibited in all classrooms/teaching areas.

2. Should maintenance needs arise, report it immediately, (this could be as small as broken blinds or as big as a water leak). We wish to maintain the property in good working order.

3. Freezing: We do experience frosty mornings, freezing temperatures and occasional snows. Residents are responsible for maintaining a clear path on the decks and steps. Also, leave the heat on low (at least), drip the faucets and close the barn pump faucet to protect pipes during freezing weather.

4. A clean home creates a healthy environment. Routine cleaning is the simplest way to detect maintenance needs and is one of the first steps in being eco-friendly in the sense that it keeps things running more efficiently and prolongs the need for replacement. Clean up after yourself and maintain a routine schedule with your housemates for deep cleaning especially of the living/dining rooms, bathrooms, and kitchen.

5. All common areas, such as the living rooms, bathrooms and kitchens, are to be kept neat. Please do not leave personal items outside, on decks or in yards, (except in designated areas, such as bikes at the bike rack or drying clothes on a clothes line).

6. Septic safe supplies: A septic is a living ecosystem that when kept healthy, many micro-organisms are at work breaking down our wastes. To help them out, please use biodegradable products, do not flush feminine products, do not use excessive amounts of water, etc…

7. Hot water heater and smoke alarm per Washington State law: The hot water is set at 120 degrees Fahrenheit; do not change the water heater temperature settings. Operable smoke detectors are provided by Alderleaf. Maintaining the operating condition and changing of the batteries is the responsibility of the residents. Alarms in the East House are hardwired, not battery operated.

8. Please use the designated parking areas (those posted as resident and guest parking) to minimize the compaction of soil. Inoperable vehicles may not be stored here and must be fixed or towed within two weeks or they are subject to being towed at your expense.

9. Conflict resolution: If a challenge arises with another tenant, please be proactive in resolving the issue. Do your best to come from a place of peace, empathy and compassion. Try to understand the perspective of others. Approach the other party and strive to come up with a consensus resolution. If needed, the Alderleaf land manager can act as a mediator.

10. Please no firearms on the premises.

11. No smoking in or near the buildings or in view of school visitors. Smoking is only allowed in the designated smoking area.

12. Noise: We love the diversity of those who live here. We all have different sleeping, eating, and being habits. To be respectful of all, we honor a 10pm to 7am quiet time in the buildings as well as the entire property. This means minimizing the banging and clanging of elaborate feast preparations in the kitchen, lowering music and speaking volume, ceasing the drumming at the fire rings, etc. At all times noise volumes shall be kept at levels which cannot be heard outside the buildings to disturb the peace, comfort and enjoyment of others on site or the neighbors.
13. Guests are welcome to visit. You are responsible for your guest’s behavior. If you plan on having guests staying overnight, be considerate of your housemates and let them know in advance if possible. Also, please do not have guests stay longer than two weeks.

14. We love dogs but they are not allowed to live on the premises. They can often chase off wildlife, harass farm animals, and/or disturb students. Cats are allowed to live in the cabins but not in the houses due to issues with allergies. Other pets or visiting animals please have approved by the farm manager before bringing them to the farm as well as making sure they are not in the houses or roaming freely.

15. Above all, always be respectful, kind and considerate with other residents and people visiting the property. Treat others as you wish to be treated. Remember, requests for quiet or cleaning (for example) are not personal attacks but simply requests.

**Forest Stewardship Plan** (needs to be completed – Phil B. is working on it)

**Potential Future Micro-businesses / Cottage Industries** (list w/ descriptions needs to be created)

Extra chicken eggs from Alderleaf hens have started to be sold to neighbors to help supplement costs of raising chickens. In the future, eggs and other surplus foods produced at Alderleaf could be sold using a small, honor-system cart or vegetable stand at the end of the driveway, or taken to local farmers markets.

**Blank Pages for Input and Ideas**