

Community Living and Learning in the Methow Valley

An Eco-Share Housing Concept

Sponsors

Joshua Porter (WWU/Community Learning Lab)
Leyland Whittaker (Mazama landowner & Community Designer)



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Photo of the upper Methow Valley

EXECUTIVE SUMMARY

“The shortage of affordable housing in the Methow Valley is a problem that is described by local housing advocates as acute and chronic,” begins a 2017 *Methow News* article titled “Methow Valley’s housing crunch won’t end soon.”

Like many rural areas in Washington within a day’s drive of large urban areas and surrounded by accessible public lands, the Methow Valley has become increasingly developed over the past several decades, which has driven up land and home prices astronomically. In 2000, 51% of homes were worth \$150,000 or less; in 2016, only 17% of homes were in that price range, according to a 2016 study conducted as part of the Methow Valley Long Term Recovery Effort (Brunner 2016). In 2014, 39% of households paid more than a third of their income for rent. And with the possible long-term specter of COVID-19 looming, the increased ability and motivation for people to move out of cities is expected to drive up housing demand within the Methow even further over the next couple of years as people flee crowded cities in favor of less dense rural areas (McCreary 2020).

Because housing is hard to come by in the Valley, we were tasked with considering design concepts for housing suitable for future cohorts of students completing eight-month fellowships through the Methow Valley Community Learning Lab and Western Washington University’s Huxley College of the Environment. A sustainable, “Eco-Share” house built on Leyland Whittaker’s land in Mazama and designed with the needs of both students and the community in mind could provide housing for up to eight students while also modeling ecological housing design, filling some housing needs for local residents, and functioning as a community learning and gathering space.

As students in the first cohort of the Community Learning Lab, we interviewed local stakeholders, workshopped with current WWU students, and researched sustainable building designs and co-housing communities to present strategies for an Eco-Share house that would incorporate eco-friendly, community-fostering design elements with local stewardship projects and community connections. Our team saw this as an opportunity to integrate the need for local housing into our main objective of providing housing for higher educational residency programs.

INTRODUCTION

The Methow Valley Community Learning Lab needs housing for students in future eight-month fellowship programs. The Community Learning Lab is in partnership with Huxley College of the Environment at Western Washington University, and the fellowship entails taking the Campus Sustainability Planning Studio course during the fellowship. A proposed concept of an Eco-Share house located in Mazama by Leyland Whittaker could help fill these needs both for sustainable community housing and for a conducive community learning space.

We are investigating how to successfully and sustainably build a home for a diverse group of people to come and build relationships with one another and with the Methow Valley. We plan to build a resilient system of sustainable community living and learning that will thrive far into the future by championing intra-house community, stewardship of land and relationships, and sustainable design and construction. We want to ensure the home's ability to last long into the future as well as create an environment of responsible and empathetic land stewardship and serve as an example of sustainable design and construction for future housing projects in the Valley.

Before going any further, our team wants to be attentive to the land use histories of the potential Eco-Share housing site with respect and acknowledgement for Indigenous populations that have been in the Methow Valley since time immemorial.

We also acknowledge that the Methow Valley has a pervasive housing shortage which poses a barrier to student ability to live and learn in the Valley, but poses an even greater burden to local residents. Therefore, our goal is to imagine a way for the Eco-Share student housing to serve as a possible permanent residence for a local individual or individuals, while also providing a space for students to live and participate in place based learning as well as engage with and gather skills that foster community closeness and support.

METHODOLOGY

Inventorying and benchmarking served as the core data collection methods for research into the prospective design elements of the Eco-Share house. To investigate existing shared housing concepts in order to evaluate various techniques in sustainable design, community building in shared housing, and stewardship, we researched existing co-housing communities and sustainably built homes, including the following among others:

Cobb Hill Cohousing <http://www.cobhill.org/>

Nevada City Cohousing <https://www.nccoho.org/values.html>
 Heartwood Cohousing <https://www.heartwoodcohousing.com/our-homes.html>
 Belfast Cohousing and Ecovillage <http://mainecohousing.org/>

Benchmarking our concepts against solutions already employed by other communities and housing projects, such as those mentioned above, allowed us to evaluate a wide variety of approaches to sustainable and community living relatively quickly, and learn from the successes and failures of similar projects.

We also conducted interviews with several key stakeholders to further our understanding of the project goals and develop a more nuanced understanding of the property and surrounding community. Those we interviewed include Joshua Porter (Community Learning Lab convener and WWU instructor), Leyland Whittaker (Mazama landowner and “Eco-Share” house concept designer), Sarah Thomas (neighboring McKinney Ridge co-housing community resident and Methow Housing Trust staff), and Elizabeth Hayes (Farm Director for Cloud Mountain Farms, with over a decade of experience in food systems and farming).

Finally, we conducted a design clinic with the current Community Learning Lab fellows in order to learn from their experience as Learning Lab fellows and Methow Valley summer residents to refine our ideas of what aspects of physical space and household rituals contribute to sustainable living and a sense of community among students who live in shared housing arrangements.

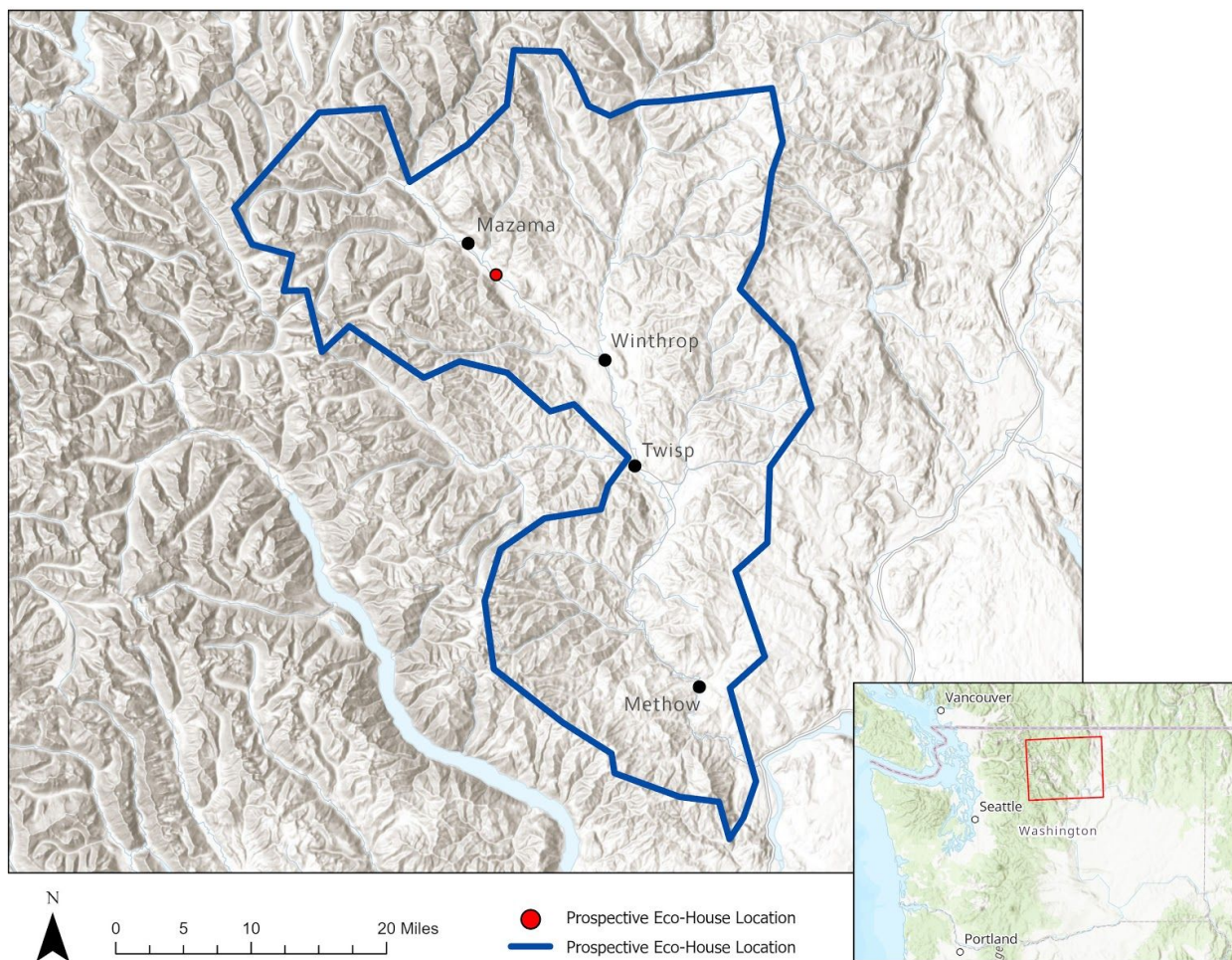
RESULTS

Information provided about the future Community Learning Lab program by Joshua Porter is as follows:

- Fellows would live in Methow for eight months during the growing season, April to November.
- Building traditions through communal eating and activities such as gardening are important to maintain continuity between cohorts, and could be encouraged/upkept by a yearly caretaker.
- Future sessions will revolve around three days/week of internship work supporting sustainability initiatives in local organizations, schools, agencies, farms, and businesses and two days/week of class time.
- Because the house wouldn’t need to house students during the winter, there is the opportunity for a winter business model to direct revenue towards the costs of yearly house upkeep, taxes, and other maintenance or project costs. During the months of December through March, the house could be used as a long term or nightly rental, for tourists, local workers such as field crews, business retreats, or similar. It could also be used for additional programming for WWU Winter quarter classes.

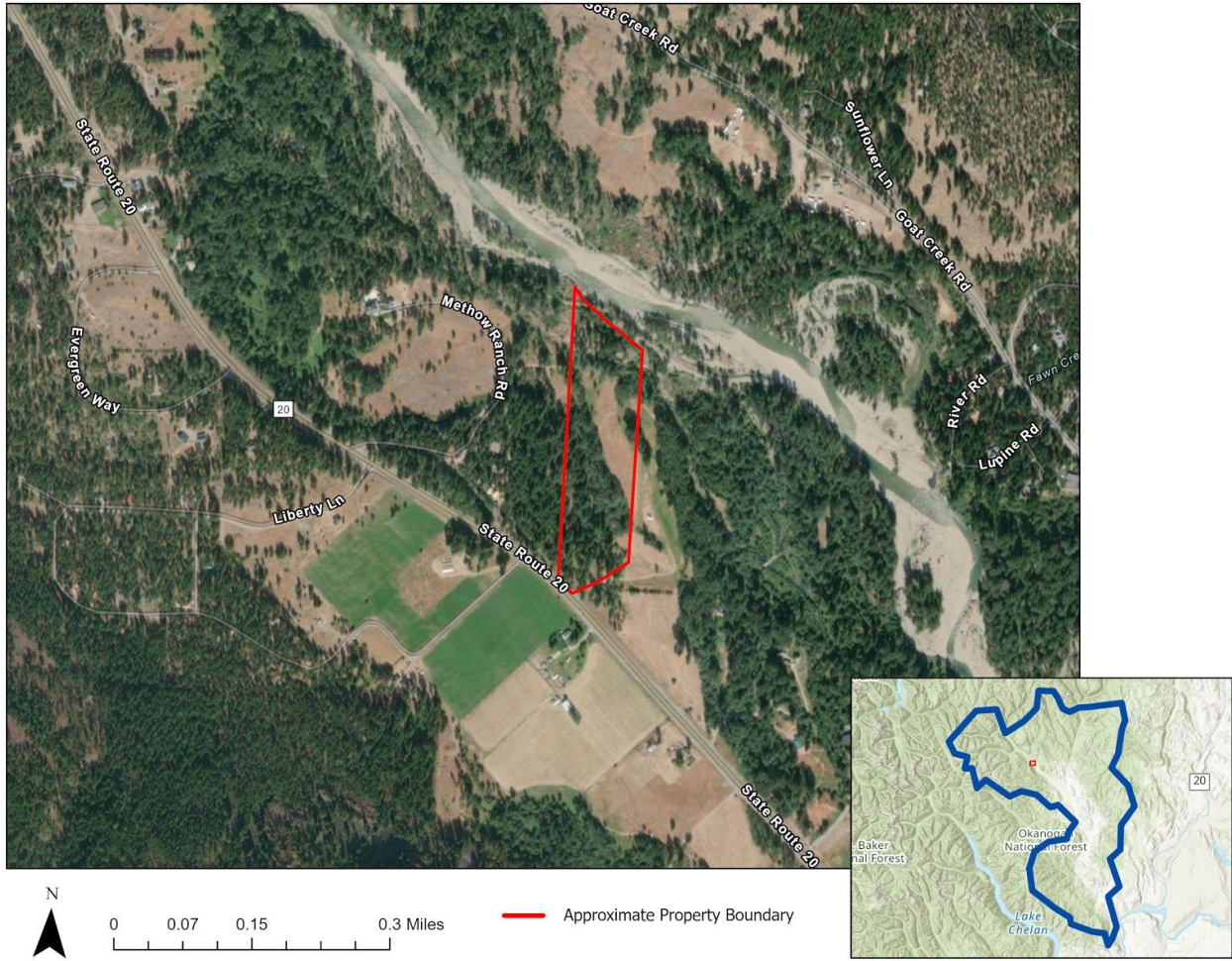
Information provided about the potential Eco-Share house site in Mazama, on Leyland Whittaker’s land, is as follows:

- The land is roughly 12 acres, with two possible home sites. Due to county restrictions, the land could only house two homes if it was divided in half, as each single family residence must reside on at least 5 acres of land. A single family residence can house only up to eight non-related people, and contain a single kitchen. An accessory guest house up to 1,500 square feet, which could exist on the property along with the single family residence without requiring any property division, is also an option.
- Most of the property is within the 100 year floodplain (as shown in the images below) and can't site permanent structures. Less than 4 acres of the property sit outside of these restrictions. Further zoning restrictions, such as for road setbacks, can be found at <https://www.okanogancounty.org/planning/zoninginfo.htm>.
- The site has an existing well, but no other water rights.



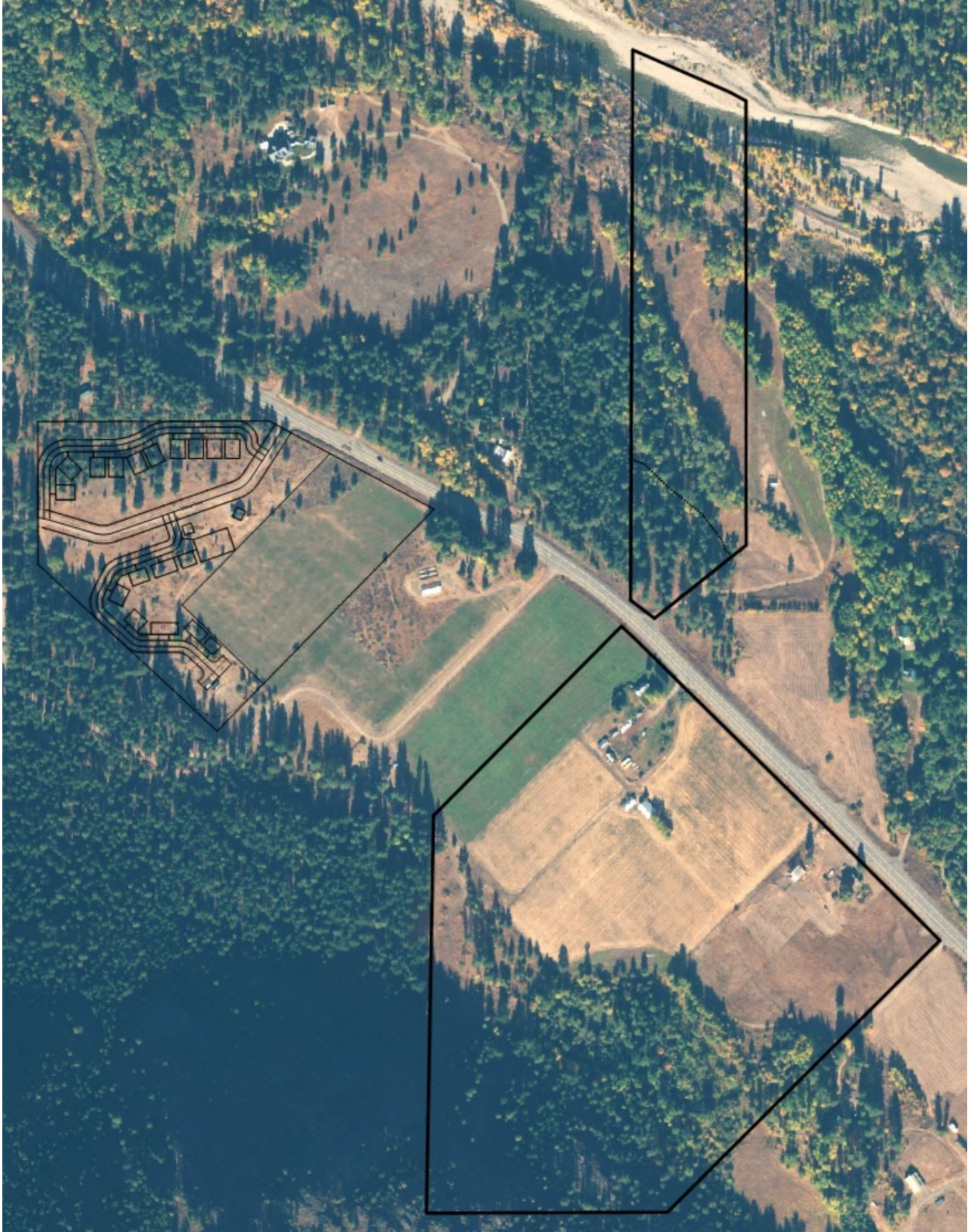
Methow Valley (blue) and prospective house location (red) within Washington State.

Data: USFS, ESRI, USGS

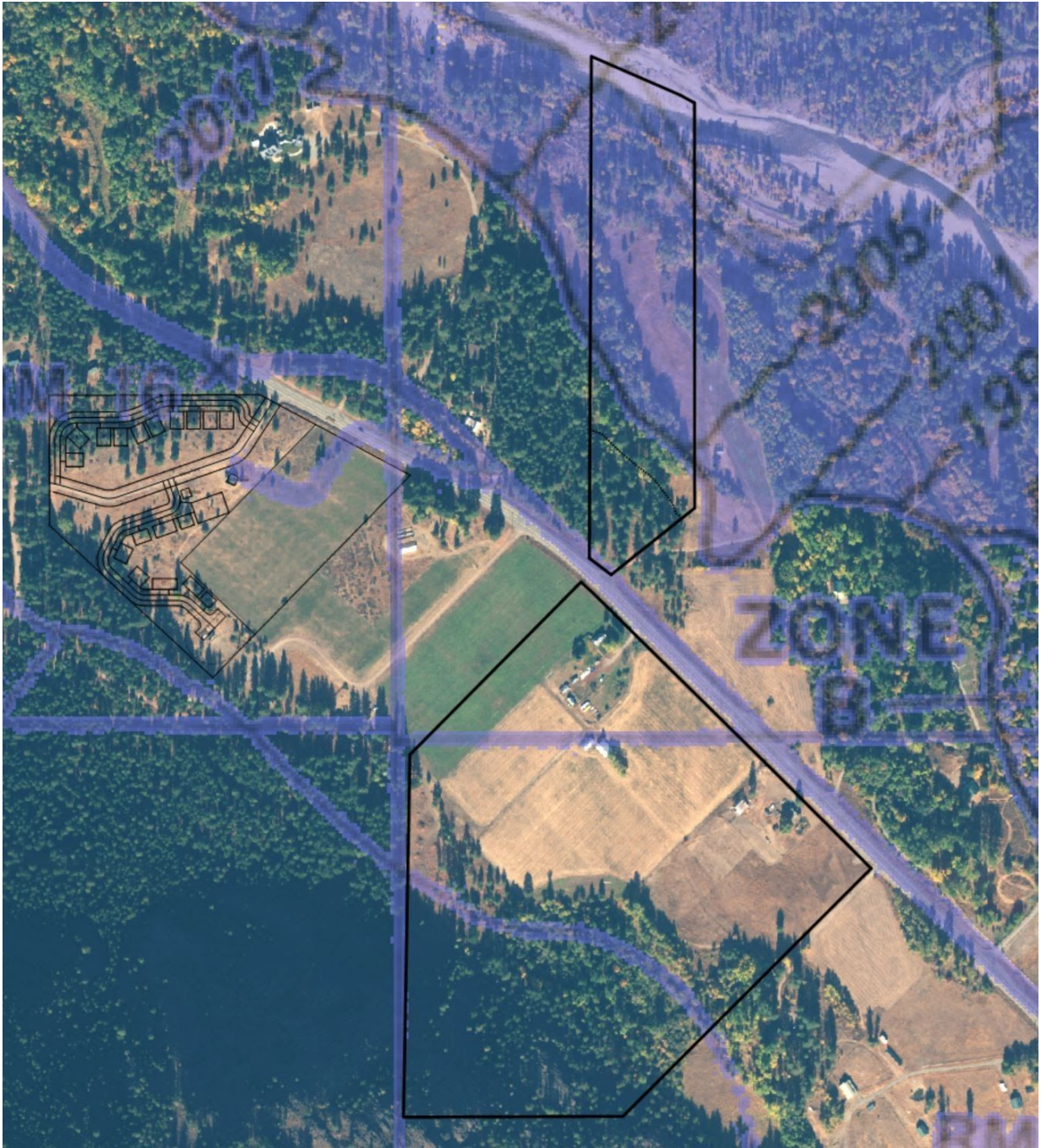


Leyland Whittaker's prospective Eco-Share house property (red) within the Methow Valley (blue).

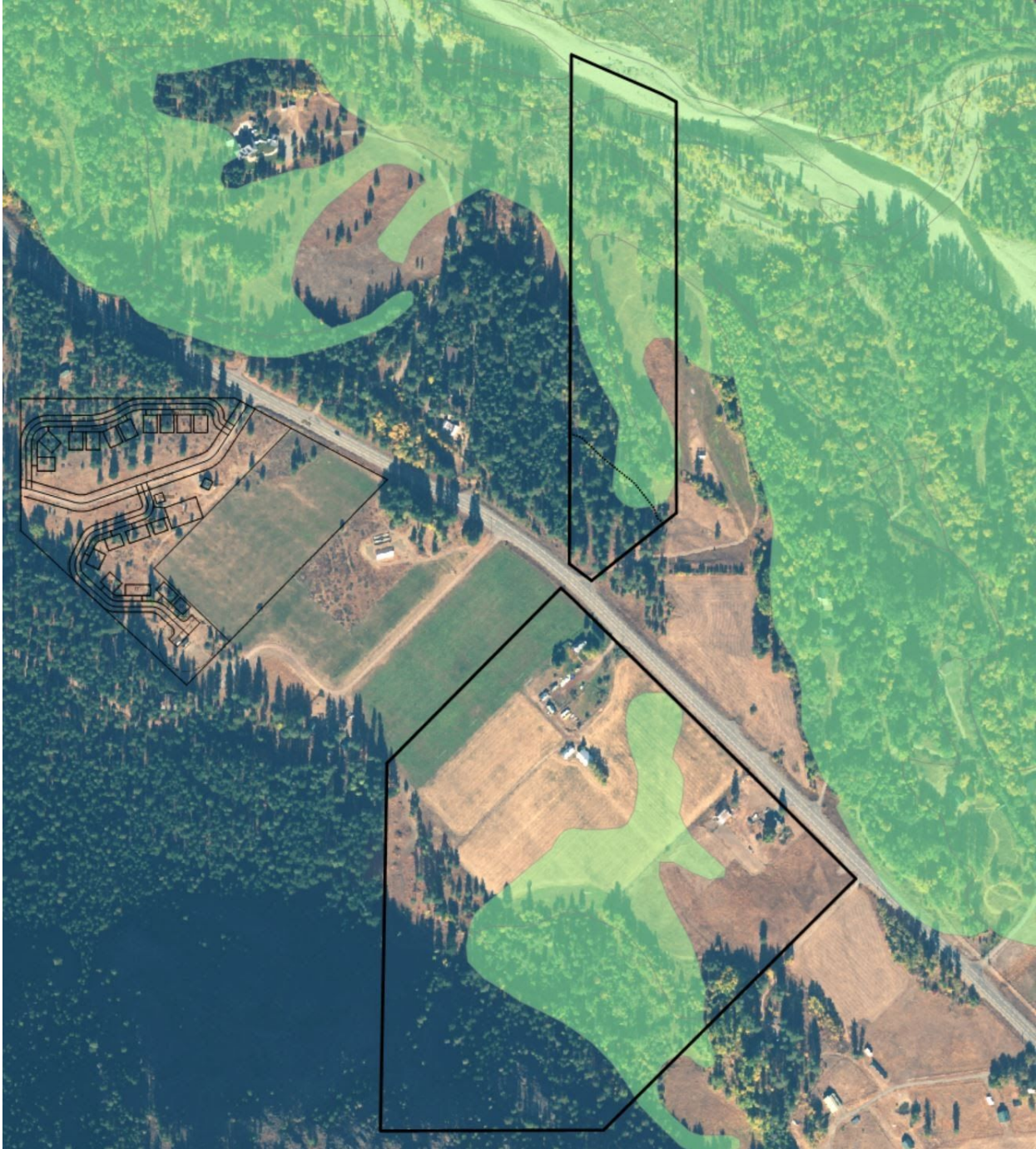
Data: USFS, ESRI, USGS, NASA



Property map illustrating Lee Whittaker's "River to Raven" concept. The proposed Eco-Share house site is nearest the river, with the McKinney Ridge co-housing community in the left of the map. The Yakama Nation owns the land to the east of the proposed Eco-Share house site, where they are working on salmon restoration. Lee's agricultural land is in the bottom of the image. Image provided by Leyland Whittaker.



Property map illustrating the 100 year floodplain (in purple). According to zoning laws, permanent structures must be built outside of this zone. There is no setback. Image provided by Leyland Whittaker.



Property map illustrating the wetland boundary (in green). According to zoning laws, permanent structures must be built outside of this zone, with additional buffers. The remaining buildable area is in the corner of the property nearest the highway. Image provided by Leyland Whittaker.



Possible building site on Lee's land parcel, outside of the wetland and floodplain restrictions. Image provided by Leyland Whittaker.

Ecologically Sustainable Design

Many of the design recommendations made in this report are based in the discussions our team had with Joshua Porter and Leyland Whittaker, and further grounded in benchmarking data from other co-housing communities, the US Department of Energy, and architecture, design, and industrial design literature.

Leyland Whittaker expressed interest in a house concept that marries artistic and sustainable design through the use of local or more environmentally-friendly construction materials, sustainable construction methods, and design that is grounded in a sense of place and fits in with the low scrub and sparse pine forests of the Mazama property. To this end, Whittaker suggested the use of cross-laminated timber, as well as a consideration of alternative construction methods such as bermed construction.

An emphasis on energy efficiency was a common theme in interviews and discussions over the course of the project. Joshua Porter suggested establishing a goal for the house concept regarding its net electricity consumption, suggesting the use of on-site solar power generation to reduce the

house's eventual reliance on the electrical grid. Climate control is also a large contributor to electricity usage in residential buildings, especially in areas with extreme summer and winter temperatures such as Mazama. Leyland Whittaker suggested that we consider working local-zone mini-split heating and cooling into the house concept. Further research into electric mini-split climate control showed that this method can yield 30% gains in efficiency over more traditional central climate control systems (US Department of Energy, n.d). Further research our team conducted into possible methods of reducing climate-control energy usage yielded valuable information about the optimal orientation and geometry of windows and sun shades to maximize wintertime passive heating while avoiding excessive heating in the summer (Stevanovic et al., 2019) (Florida Solar Energy Center, n.d).

Current Learning Lab fellows gave our team valuable input about their experiences and preferences for the design of living and learning spaces during our design clinic. Some common themes included calls for an open floor plan, good separation between communal and private spaces, and plenty of storage space.

Intra-house Community Building

The design clinic provided a plethora of student input and ideas for what is necessary to form interpersonal relationships between peers, as well as the different elements that foster community building and comfortability within a home. Multiple students agreed that preparing and sharing meals together builds community and facilitates conversation that leads to bonding. The idea of scheduling and volunteering for weekly meals was highly supported, rather than being required to participate. Antonia Parrish, a 2020 Community Learning Lab cohort member, said "community dinners make me feel really like a part of the house," while Vince Wagner, another member of the cohort, expressed that the meals should strictly operate on a volunteer basis so as to not add extra stress and obligation to members of the house.

In a 2017 study titled "Breaking bread: the functions of social eating. Adaptive Human Behavior and Physiology" conducted by R. I. M. Dunbar, the authors stated "that people who eat socially are more likely to feel better about themselves and to have a wider social network capable of providing social and emotional support" (Dunbar 2017), as well as expressing the possibility for the act of eating to produce endorphins in your brain that promote bonding, thus further showing the benefits of eating socially.

The necessity of trust and safety to allow the expression of conflict or annoyances within the house was also made clear by 2020 Cohort member Hannah Nienaber when she expressed the need for issues to be brought up without "feeling weird about it." This sentiment was further solidified by the idea of having obligatory bi-weekly house meetings, conveyed by Antonia Parrish.

When the group was asked about structured ways to implement cleaning and upkeep of the communal spaces within the house, the cohort indicated support of chore charts and chore wheels that are flexible to each individual's work and school schedules.

Through benchmark research, our team was able to look at the ways a wide array of co-housing and communal living communities have intentionally integrated elements within their design to foster interpersonal relationships and comfort for members. These elements included:

- Shared amenities
- Community meals
- Interest based committees
 - <http://www.cobhill.org/governance>
- Value Agreements
 - <http://www.cobhill.org/common-rules-and-agreements>
 - <https://www.nccoho.org/values.html>
- Community meetings

Community Based Stewardship

Many of the stewardship and sense of place recommendations in this report are inspired by suggestions made by Joshua Porter and Learning Lab fellows, and further informed through conversation with Elizabeth Hayes as well as research using local resources including Dana Visalli's "[The Methow Naturalist](#)" publication and website and Washington State University's extension programs "[Gardening in Washington State](#)" and "[WSU Tree Fruit](#)."

Joshua Porter emphasized that one of the main goals of the Learning Lab is to instill an appreciation of place and a love of lifelong learning in students. He compared it to Scandinavian folk school traditions, where young adults spend a year with a community aligned with their personal interests before continuing with their education and careers. In a broad sense, he said, this creates well-developed, informed young people, and propagates a healthier society. One of the ways to develop this social awareness is through community outreach programs like land stewardship that allow students to collaborate with community members on projects with tangible, enduring outcomes. Additionally, environmental monitoring projects can contribute to an enriched learning experience, and create a sense of ownership and belonging while perpetuating a legacy of place for future cohorts.

Current Learning Lab fellows responded enthusiastically to questions about outdoor spaces and community connections. They mentioned a desire for things like soccer balls or frisbees to encourage communal games and activities, and emphasized the importance of outdoor gathering spaces — like grills, fire pits, shade, clotheslines, and tables — to promote bonding among students and time spent outside. "A garden would be really fun," Antonia Parrish said.

At the same time, fellows expressed concerns that supplemental stewardship and volunteer activities would make workloads too heavy and cut into their down time. Joshua Porter mentioned that a two-credit course each quarter focused on food preservation, cultivation, or other land use and land management activities might be an option, which students were tentatively interested in. Hannah Nienaber said that as long as the course load and other related commitments was designed to still leave most weekends free for students, a supplemental class or projects could likely work out.

RECOMMENDATIONS

Sustainable Design

Minimizing the electricity consumption of the Eco-Share house is one of the core goals of the project's sustainable design component. To this end, our team recommends incorporating the following aspects into construction of the house:

- South-facing orientation with exterior window sunshades
Leyland Whittaker expressed interest in design that is inspired by both the function of the building as well as the place in which the building will stand. Designing the Eco-Share house from the ground-up with large, southern-facing windows will allow it to make the best use of passive solar heating and natural light in the cold winter months, while carefully designed sun shades, as described by Stevanovic et al., will reduce unwanted solar heating during hot summer days (2019). This design element will not only reduce the house's energy consumption through passive climate control, but will also provide plentiful natural light to communal spaces within the home.



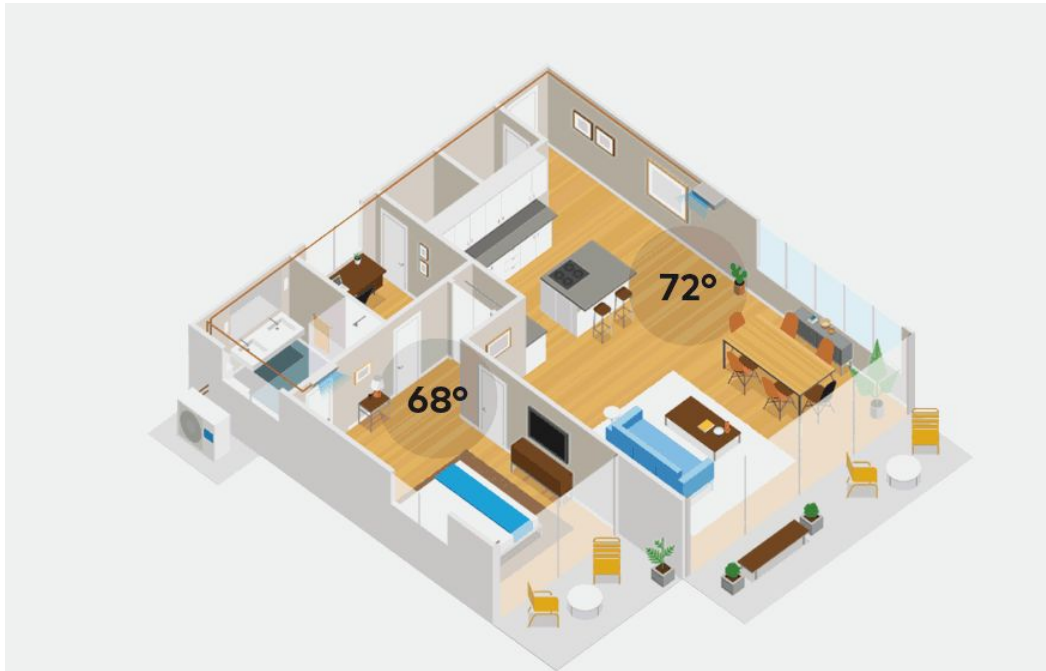
South-facing passive-solar home.

Image: Giraffe Design Build

<https://www.dwell.com/home/passive-solar-home-new-build-1e0a8475>

- Electric heating and cooling via zonal mini-splits
Heat pump mini-split climate control will allow for more granular control of temperature in different zones of the house than a traditional central heating or air conditioning system. This increased granularity allows mini-split systems to be approximately 30% more efficient than central climate control. This increased efficiency does come with an increase in cost of roughly 30%, depending on the specific system used (US Department of Energy). However, this higher up-front

cost will be mitigated over time by lower electricity bills and the lower cost of installation associated with decentralized mini-split systems (US Department of Energy, n.d).



Multi-zone climate control system.

Image: Haier

<https://www.haierappliances.com/ductless/multi-zone>

- Energy-optimized architecture

Our team's initial investigations into alternative architecture found promise in partially-submerged "bermed" housing concepts because of the natural insulative properties of partially-submerged buildings. However, the site under consideration for the Eco-Share house lies near the 100-year floodplain of the Methow River, and flood events could pose a hazard to submerged buildings. Further still, the water table depth at the Mazama location is quite shallow—according to Leyland Whittaker, just seven to ten feet deep in the spring. These factors make a bermed design too risky to justify in the face of the potential energy savings.

Instead, we recommend a more conventional above-ground design which uses intentional placement of less-used space to improve insulation to more heavily-used areas. For example, placing bathrooms, closets, and storage areas around the north and west sides of the house while keeping communal spaces and bedrooms in the south and east corners would place less-used rooms in naturally hotter locations inside the house, while sheltering more heavily-used spaces. This method effectively uses bathrooms, closets and storage areas as additional insulation for more often used rooms. This design strategy could be coupled with the individual-zone climate control capacity of the mini-split system to place less

emphasis on heating and cooling these lower-priority areas, thereby saving energy while maintaining comfortable living and working spaces inside the home.

- On-site photovoltaic panels

On-site solar panels will allow the Mazama house to produce renewable energy independently of the local power grid. Solar panel technology and availability are both rapidly-changing areas, but certain technologies that provide more efficient power generation, such as monocrystalline and bifacial panels, have been falling in price and expanding in availability in recent years. The most effective installation direction for solar panels in the northern hemisphere is toward true south (*Solar Panel Orientation*, n.d). Some buildings are conducive to roof-mounted solar panels, but because our concept's southern-facing design necessitates a northern-sloped roof, ground-mounting the panels would be an easier and more cost-effective solution. In mid-2020, the average price of solar panel installation in the Methow Valley is approximately \$2.91 per watt (*Solar Panel Cost*, 2020).

- Heavy use of windows and skylights for natural light in communal spaces

Participants in our team's design clinic expressed that natural plentiful natural light makes spaces much more inviting. Our concept's use of large southern-facing windows will allow an abundance of light into those communal spaces that are located along the building's southern wall. Lighting in other rooms away from these primary windows would be effectively supplemented by traditional or tubular skylights. In addition to creating a more inviting atmosphere inside the home, natural lighting would also further help in reducing energy usage.



Tubular skylight cross-section.

Image: Fixr

<https://www.fixr.com/comparisons/skylights-vs-solar-tubes#cQ>

- Open floor plan kitchen, dining room

Design clinic participants also suggested that an open floor plan, specifically between the kitchen, dining, and living spaces, would invite communal use and collaboration.



Open-plan kitchen, dining room and living room.

Image: Homebuilding & Renovating UK

<https://www.homebuilding.co.uk/ideas/the-best-open-plan-kitchens>

- Spatial and noise separation between private and communal spaces

During our design clinic, Joshua Porter brought up that consideration of noise is an important part of maintaining a sense of privacy among residents. Placing bedrooms some distance from open floor plan communal areas like the kitchen and living room, separated by a hallway, wall, or storage areas, would help keep noise contained in these communal areas. Additional noise insulation on the communal-facing walls of bedrooms would also reduce noise, upholding residents' sense of privacy. In much the same way that lower-priority spaces can be used to insulate higher-priority ones from extreme heat and cold, they can also serve as insulation for sound and commotion.

Intra-house Community Building

“I just want to build the canvas and let the people fill it”

-Leyland Whittaker

The community of students living on the property are the heart of the Eco-Share house. They are the individuals that will be caring for the home, the property, and also one another. Creating an environment where students feel at home and comfortable with their housemates is an incredibly important factor to the sustainability of the house and essential to fostering an atmosphere of learning, evolution, and stewardship. It is impossible to predict exactly what a group of individuals will need to feel supported and safe to build close connections with one another, but with these guiding elements we think that the Eco-Share home can foster a sustainable community of learners, peers, and stewards.

Community Meals

From our benchmark research to all the individuals we heard from, creating and sharing meals together was emphasized time and time again as a way to foster community bonding. There are many different models of community meals but for the purpose of the Eco-Share house, we recommend a voluntary meal sign up schedule. Students will have the option to sign up to cook as many meals as they want, or no meals at all. An ideal model would provide a meal Monday through Friday, and while that may be the goal we recognize the students will have busy lives here in the Valley. Therefore the goal we see achievable is to have a communal meal at least three times a week.

Our recommendations regarding communal meal logistics are as follows but are subject to change depending on the cohort’s agreement:

- All members of the home are invited to share the meal regardless of if they have cooked that week or not
- Standard times should be set for each meal, but can be flexible
 - Weekend Breakfast: 9:00 am (but can be flexible)
 - Lunch: 12:00 pm
 - Dinner: 7:00 pm
- Leftovers are saved for members who were not present
- Weekend meals are encouraged too!
- Reimbursement for the cost of the meal to the chefs will be encouraged for the students who have the ability to donate, but not required. When signing up to cook a meal, the chef will understand the possibility that not all the cost will be covered.
 - If this becomes too burdensome, it can be brought up to the meal committee and suggestions can be made at a house meeting.
- Allergies will be listed in a visible space within the kitchen and chefs should avoid those ingredients
- If a chef has something come up that disrupts their ability to cook the meal, the house will be understanding and either someone else can step in to cook, or the meal can be rescheduled

	A	B	C	D	E	F	G	H	I	J	K	L
1	DATE		Monday: 8/10		Tuesday: 8/11		Wednesday: 8/12		Thursday: 8/13		Friday: 8/14	
2												
3	CHEFS		Baylie and Hannah				Duncan		Heather and Baylie		Tone and Chloe	
4												
5	BREAKFAST, LUNCH OR DINNER?		Dinner				Dinner		Dinner		Breakfast	
6												
7	MEAL		Veggie pasta with sundried tomatos, served with a big green salad				Enchiladas with homemade guacemole and fresh salsa		Veggie stir fry with tofu and pineapple		Blueberry waffles with maple cream and honey	
8												
9	POSSIBLE ALERGENS/DIATARY RESTRICTIONS		None				Meat and veggie option, no cheese option		None		Dairy, honey	
10												
11	Who's gonna be there? Enter your name here if you want to partake in this meal		Heather, Duncan, Joshua, Vince				Baylie, Hannah, Joshua, Tone, Chloe		Lazo, Hannah, Sophia, Chloe		Baylie, Heaher, Duncan, Joshua, Vince, Sophia, Lazo	

Because there was such strong support for community meals, we highly recommend a large dining table that is able to provide space for all members of the house to eat together and share stories. The table will also serve as a work and craft space. We encourage a bar area in the kitchen to facilitate conversation while cooking between chefs and members. Some examples are as follows:



Example of kitchen with bar seating to facilitate conversation

Image: *Dwell's Favorite Kitchen Photos*

<https://www.dwell.com/favorites/browse/photos/6662632693639983104?filter=6268417501073629184>



Example of an open kitchen

Image: *Dwell's Favorite Kitchen Photos*

<https://www.dwell.com/favorites/browse/photos/6571796718321893376?filter=6268417501073629184>

The kitchen and dining spaces will be central meeting places for the Eco-Share house community and we believe that it deserves intricate and intentional planning to serve the members of the house successfully and contribute to community building. A few elements that we believe will be beneficial are:

- Two fridges to deter confusion and conflict around food
- Ample cabinet space so members can have their own personal places to store food
- Deep sinks to facilitate easy dish washing
- Quality pots and pans to encourage cooking
- Provided staple ingredients upon arrival of cohort, locally sourced if applicable:
 - Oil
 - Salt and pepper
 - Flour
 - Sugar
 - Dry beans
 - Rice



Example of large dining area

Image: *Modern Massive Wood Dining Tables That Will Amaze You*

<https://www.topdreamer.com/modern-massive-wood-dining-tables-that-will-amaze-you/>

Eco-Share House Value Statement

Through conversations with Joshua Porter and Leyland Whittaker, our team has come to realize that the potential Eco-Share home is not just a house, it is a philosophy; it is a catalyst of change; it is a space of education; it is a model of sustainability and stewardship; it is striving to be a model for the rest of the community. Because of these very intentional and important elements of the home, our team believes it is important for the students to know exactly what the house stands for and what its purpose is. The home is not only being constructed with the intention to house students, but additionally to showcase a structure that fosters sustainable community and strengthens compassionate ongoing land stewardship.

Our team recommends that the main stakeholders of the home Joshua Porter and Leyland Whittaker, take time to craft a document that states the goals of the home, and the intention behind students living within it. This provides a way for students to analyze whether or not their personal objectives align with that of the house and program. Our team has seen these types of value statements within many of the co-housing communities we explored. For example, Cobb Hill Cohousing which is located in Hartland, Vermont and was founded by Donella Meadows, have guiding principles stated directly on their website. They include equity, unity, beauty, community, sustainability, and synergy (Cobb Hill Cohousing).

Cohort Specific Contract

In addition to the Eco-share house values statement, our team is recommending that each cohort craft a community contract when they move into the home. The idea comes from our own personal experiences with living in group settings. Cohort specific contracts provide a way for the personal values of each group of students to be reflected. It also allows a space where students can express their boundaries and needs for the time they are living in the house and have their voices heard. It also allows for fluidity and flexibility with changing cohorts. Creating the cohort contract should be symbolic and fun. We recommend that all of the house members, as well as Joshua Porter, be there to share ideas and craft the agreements. We think there should be an open conversation surrounding wants and needs, but also a way to anonymously submit your thoughts before the meeting to avoid any fear, pressure or nervousness. Some of the things we see that could be useful to address are as follows:

- Cleaning and upkeep of home
- Company/visitors
- Noise/quiet time
- Conflict resolution
- Shared vs. communal food
- Allergies and dietary restrictions
- Personality types (Myers-briggs)

House Meetings

Based upon student input, house meetings are deemed essential to the cohesiveness of a communal living environment. We are recommending mandatory bi-weekly meetings where members can express their thoughts, feelings and needs. The meetings should be scheduled to best fit everyone's lives, and if possible will fall on the same day of the week and time of day routinely. We recommend that the meetings occur in the evening after a communal meal. We

recognize that this type of communication style may not suit everyone, therefore we propose the idea of an anonymous submission box as well. The submissions can be read to the group and discussed. If necessary, Joshua Porter can be asked to join the meetings to provide mediation.

Provided Games/Activities/Instruments

Another sentiment expressed by the 2020 Community Learning Lab cohort was the desire to have provided games and activities at the house to encourage play and bonding. This could include board games (ie. chess, Settlers of Catan, Checkers, Ticket to Ride), yard games (ie. cornhole, croquet), and ball sports (ie. a soccer ball, football, or volleyball). We also think it would be highly beneficial to provide equipment for students to go outside and engage with the many recreation activities the Methow Valley offers. Our suggestions include bikes, kayaks, paddle boards and river tubes. We suggest providing more than one of each of these items so that students can go explore together. We predict that most of these items could be found secondhand or by donation and would provide lasting joy, entertainment and memories. A few resources in the Valley for games and sporting goods include:

- The Methow Valley Senior Center Rummage Room
 - https://methownet.com/senior_center.html
- Winthrop Mountain Sports
 - <http://www.winthropmountainsports.com/index2.html>
- Cascades Outdoor Store
 - <https://cascadesoutdoorstore.com/>
- Goat's Beard Mountain Supply
 - <https://goatsbeardmountainsupplies.com/>

While we recognize that buying from local outdoor shops presents a financial obstacle, we remain steadfast in our goal to support local business to the fullest extent and ability. This goal is fueled by the reality of the recreation and tourism based economy of the Valley. Contributing to local business became a main objective for our team after we listened to a Julie Tate-Libby's economic study of the Methow Valley. By sourcing from local retailers, the Eco-Share home will be aligning with the communities strive for sustainability and longevity.

Additionally, the Oxford Handbook of Music Psychology, published in 2008, states that music assists in developing social identity, connecting with others, maintaining well being, experiencing and expressing spirituality, maintaining positive esteem, feeling competent and independent, and helps avoid feelings of isolation and loneliness. Therefore our team believes it is essential that the Eco-Share home provides musical instruments for the students. We also believe that a space for members to congregate and play music, dance, and express themselves is vital and should be present in the design plans of the home.

Conducive Furnishings and Decor

Our team wants the Eco-Share home to serve as a place of refuge for the students. A place where they can come home to, relax, unwind and gather with one another. The furnishing and decor of the home plays a large role in whether or not members of the home are drawn to the communal spaces. Our team has come up with a few suggestions regarding the interior design of the house:

- A large sectional couch: a sectional couch maximizes available space and provides lots of seating. It can also serve as a place to sleep for guests. We think a large couch will encourage movie nights, relaxation and storytelling.
- A plethora of blankets and cushions in the living area
- Soft fabrics
- Non-over head lighting
 - Lamps
 - String lights
- Plants
 - Also serves as stewardship of the home
- Local and student art
 - Contributes to sense of place
 - Supports local community



Example of living space with lots of spaces to sit and lounge

Image: *Dwell's favorite Living Photos*

<https://www.dwell.com/favorites/browse/photos/6133532462333800448?filter=6268417501073629187>



Example of sectional sofa

Image: *Dwell's Favorite Living Photos*

<https://www.dwell.com/favorites/browse/photos/6565690667007303680?filter=6268417501073629187>

Community Committees

Almost all of the cohousing communities that we explored have one thing in common: committees. They range from finances, to gardening, to meals, to landscape, to childcare. While the Eco-Share house is modeled much differently than an entire cohousing community, there are many facets that are applicable. While it takes much more structure to keep an entire neighborhood operating cohesively, it also takes a lot of intention to keep a group house sustainably operating. Our team thinks it would be beneficial to establish mini committees. They would need to be made up of two or three people. We recommend that the committees meet once

a month to talk over their specific topics. The committees would serve as point people for certain elements within the home. Joining a committee would be voluntary and should be based upon interest. Committees we see as beneficial are:

- Garden committee
- Greenhouse committee
- Communal meal committee
- Cleaning committee
- Community well-being committee
- Sustainability Committee

See <http://www.cobhill.org/governance> for the breakdown on the framework of committee operation.

House Upkeep and Chores

As current college students, most of us know the realities and struggles that present themselves when living with a group of people. As individuals we all have different expectations when it comes to cleanliness of the home. We recommend that during the Cohort Contract crafting meeting, the fellows discuss their needs for house cleanliness. Things we recommend discussing are as follows:

- Dishes
- Personal belongings in communal spaces
- Sweeping
- Garbage/recycling/compost
- Dusting
- Vacuuming (if there is carpet)
- Bathrooms
- Refrigerator

From previous experiences, we are aware that a system is needed to maintain initiative and consistency surrounding housework. Therefore, we propose a chore chart or chore wheel. We want to be sensitive to the work loads of the students and allow for flexibility within the structure. The details of cleaning should be discussed shortly after arrival, and agreements on chores should be made accordingly.



Example of cozy living area

Image: *Barcelona, Day One*

<https://www.dwell.com/collection/6133686252158631936/6133686197968224256>

House Calendar and Event Board

Our team feels it is necessary to have a house calendar and event board for two reasons: One, we want to encourage the students to participate in as many community engaged activities as possible (ie. restoration projects, outdoor concerts); Two, it seems essential for planning house meetings, communal meals, and house events (ie. movie nights, jam sessions, story circles). To make the house calendar fun and creative, we are recommending a big chalk wall. The chalk wall will serve as the calendar space, but also a canvas for notes and artistic expression.



Chalkboard wall

Image: *How to Create a Chalkboard Wall: 12 Top Tips and ideas*

<https://www.realhomes.com/advice/how-to-create-a-chalkboard-wall>

Project with McKinney Ridge Cohousing Community

The Eco-Share home is one aspect of Leyland Whittaker's River to Raven concept, a continuous piece of land that goes from the Methow River all the way up to McKinney Ridge that offers ample educational opportunities. A large component of the River to Raven concept is creating a flow of connection between the Eco-Share residents and the McKinney Ridge Cohousing Community members. Our team spoke to one of the residents of the community and she expressed that having a group project that each cohort works on with the McKinney Community would be an achievable way to bridge relationships between the two communities. Her ideas included building a wood fire stove, starting a restoration project, and making art pieces.



Photo of McKinney Ring Cohousing
<https://methowhousingtrust.org/mazama>

The following photos are examples of indoor-outdoor spaces our team believes would facilitate connectivity between residents of the house outside and in the house.



Concept idea for indoor-outdoor space

Image: *Dwell's Favorite Outdoor Photos*

<https://www.dwell.com/favorites/browse/photos/6133588968668442624?filter=6268417501073629189>



Concept of open kitchen and outdoor space

Image: *Dwell's Favorite Outdoor Photos*

<https://www.dwell.com/favorites/browse/photos/6606246938718679040?filter=6268417501073629189>



Concept photo for outdoor design

Image: *Dwell's favorite Outdoor Tree Photos*

<https://www.dwell.com/favorites/browse/photos/6527036876204335104?filter=6268417501073629189,6268811587396554794>

Sustainable Land Stewardship

“We abuse land because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we may begin to use it with love and respect.”

Aldo Leopold, *A Sand County Almanac*

Fostering a deep connection to place — and in turn, a lifelong commitment to sustainability, responsible land use, and healthy environmental practices — is a core aspect of the Community Learning Lab. Joshua Porter envisions the program as an opportunity for an enriched cohort experience in which students learn constantly, inside and outside class time, and share that learning with others in the program and broader community. Because the program is timed to coincide with the growing season, running from April through November, it’s also perfectly timed to coincide with a variety of agricultural and stewardship projects.

But connection to place starts first with a simple enjoyment of outdoor spaces. The following are suggestions to encourage students to spend time outside on the property, and to explore the local area. Many of these suggestions were inspired by ideas from students in the Design Clinic.

Shaded Areas

The Methow Valley is a hot, dry place in the summer, and especially for students used to mild summers on the West side, it can be hard to enjoy time outside in 100 degree plus weather. Providing enough shaded spaces outside for students to comfortably work and play outside in the summer is an important consideration.

Grape arbors, like the one pictured below, are a fun, effective solution. While young grapes require from ½ inch to 1 inch of water per week (“Growing grapes in the home garden”), water needs decrease as their root structures mature. Grape vines grow extremely quickly, and within several years young grapes can more than cover an entire arbor structure. They lose their leaves (and should be pruned back) in the winter, minimizing the risk of structural damage to the arbor from snow, and produce large quantities of fruit in the fall, which can be eaten raw or processed into grape juice or wine.



Example of grape arbor shading patio dining area

Image: 21 Best Patio Grape Arbor Decor Ideas

<https://www.pinterest.com/pin/82683343138080621/>

Trail Access

The Methow Community Trail, a roughly 20 mile multi-user trail along the Methow River that connects Mazama to Winthrop and has a gravel surface for biking, running, and horseback riding in the summer and is groomed for cross country skiing in the winter, also runs through the proposed Eco-Share house property. Building trail access from the house site to the Methow Trail would be an important way to facilitate students' ability to explore the local community. Additionally, providing several bikes at the house (and encouraging students to bring their own) would be a good way to further encourage community engagement — from the house site, it's an approximately 6.5 mile bike ride to the Mazama Store, a good source of fresh produce, place from which to send outgoing mail, and important meeting place in the community.



Map showing the Methow Community Trail (MCT), a multi-user trail which stretches from Mazama to Winthrop. The trail runs from the Mazama Trailhead in the upper left of the image to a connection with the Winthrop Trail in the bottom right of the image. To view larger, follow this link:

<https://d3mqmy22owj503.cloudfront.net/40/500040/files/MT-SUMMER-TRAILS-2020-AVENZA.pdf>

Gathering Places

Many participants in the class Design Clinic expressed their desire for outside gathering places, such as outdoor furniture, a grill, a fireplace, clotheslines, and maybe even a hot tub. While the hot tub may be on the less feasible side of the spectrum, things like outdoor furniture and a fire ring are relatively inexpensive design elements that can add a lot of usability and character to a space. Moveable fire pits, such as the one pictured below, can be especially good for changing seasons - it could be in a large open area for reduced fire risk in the summer, and moved under the arbor space in the fall and winter. Better yet, building outdoor furniture, especially things like pizza ovens or clotheslines, is something that can be undertaken as a group house project to create further community bonding.

Another important consideration for creating a welcoming outdoor space is the use of landscaping to create both open spaces (for frisbee games, outdoor picnics, and the like) as well as more enclosed hideaways for privacy. Things as simple as providing hammock or slacklining trees (or posts, if the trees aren't conveniently located), reading benches, or more vegetated areas can create more varied and private spaces - and again, creating and maintaining these areas can be a community-building group house project.



Hammock set up by the river

Image: Our beloved riverside hammock in fall

https://www.tripadvisor.com/LocationPhotoDirectLink-g58794-d3176282-i299738489-Twisp_River_Suites-Twisp_Washington.html



Movable fire pit

Image: Heavy Duty Cast Iron Outdoor Patio Fire Pit Cauldron with Cover – Moon Stars

<http://www.greenhome123.com/product/heavy-duty-cast-iron-outdoor-patio-fire-pit-cauldron-with-cover-moon-stars-sky/>

“For millennial-era growers, gardens have responded to longings for community and inclusion, especially among marginalized groups. ... As automation and better algorithms make more forms of work obsolete, that longing for purpose gains special urgency. Gardens are a reminder that there are limits to what can be done without physical presence. As with handshakes and hugs, one cannot garden through a screen.”
(Atkinson 2020)

Perhaps the most important part of any outdoor space is the garden - the area in which people can work together towards a common purpose of turning soil and seeds and sunlight and water into food. The biggest limiting factor on any agricultural activity in the Methow is water - and on the Mazama property, there is a well but no other water rights. However, Lee Whittaker has said that the aquifer is only 7-10 feet below grade in the spring, reaching 10-15 feet below in the late fall. Under the floodplain area closest to the river, that distance is much less.

Given this, any annual gardening space must be relatively small. Elizabeth Hayes of Cloud Mountain Farms advised starting small with any garden space - a quarter acre garden would keep “eight people fed and busy,” she said. However, given the labor needed to clear and fence a garden space, it’s advisable to start with more garden space than you expect to use, and plant cover crops to keep out the weeds in the extra space.

The following recommendations are for the garden space.

- $\frac{1}{8}$ acre to $\frac{1}{4}$ acre cleared and fenced garden space, with cover crops in space not used by vegetables.
- Garden should be located near a water source and ideally near the home site as well.
- **Multiple compost bins:** several large bins near the garden space for garden scraps, dead leaves, branches, etc. , with an additional compost bin (as shown below) next to the house for kitchen scraps. While compost action slows down during the winter months, it’s possible to keep microbes alive and working by protecting the compost heap from the wind (such as with a tarp or windbreak) and including plenty of insulating material (such as leaves) (“Composting in Winter”).



Type of easy-use compost bin that would be most useful near the house.

<https://www.hgtv.com/outdoors/landscaping-and-hardscaping/does-compost-bin-need-bottom>



Type of large compost bin that would be most useful in the garden space.

Image: Double Cedar Composting Bin

<https://www.cleanairegardening.com/double-cedar-composting-bin/>

- **Greenhouse:** a greenhouse should be located near the garden for use in growing plants in the shoulder season, storing surplus plants, and propagating plants. Pre-made greenhouse kits that only require setting up can be found online, and building them can be a good group or community activity.
- **Animals:** while relatively low-maintenance, high-yield animals like chickens, ducks, or bees could be a good addition to the property, they would need consistent care throughout the year. We recommend that they be considered only once the Eco-Share house and support community has been well established, and only if a year-long caretaker is in place on the property over the whole year.

The following are recommendations for plant species to have on the property. Historic weather conditions for the area can be found at <https://weather.wsu.edu/> for help in making decisions regarding planting schedules.

Fruit Trees

An orchard is not recommended due to its large water use requirements. However, several trees may be possible, as they may be able to access the aquifer less than 15 feet below the property once established. Information for establishing orchard trees can be found at <http://treefruit.wsu.edu/>.

Nut Trees

Nut trees also take substantial amounts of water. However, once established, they may be able to access the aquifer that is less than 15 feet below the property. Nuts that may do well (and need less water) include chestnuts (Hayes, personal communication, 2020).

Berries

While, again, berries do take water to grow, berry bushes are a more viable option than fruit or nut trees. With some low-flow irrigation in place, blueberries, raspberries, and blackberries would all be a possibility, among others. Commercial varieties of elderberries would do well, as would mulberries or currants (Hayes, personal communication, 2020). Goumi berries (a type of non-native berry bush from Asia) could also work.



Goumi Berry Bush

Image: Red Gem Goumi Berry

<https://www.isons.com/shop/special-limited-offer/red-gem-goumi-berry/>



Elderberry Bush

Image: Elderberry

https://foxrivervalleynurseries.com/Elderberry--2-Pack_p_12.html

Native Plant Propagation

Native plants are the easiest to grow, as they're already adjusted to the region and have relatively low water needs. Propagation from these plant species could be a student project carried out in the greenhouse, and the resulting plants could aid in the salmon restoration project near the river. A short list of native plant recommendations from Elizabeth include serviceberry, kinnickinnic,

oceanspray, mahonias, and cinquefoil, mock orange, and soapberry. Many of these plants produce seeds and/or showy flowers, and are good wildlife attractants. [Wild Hearts Nursery](#), based out of Winthrop, is a good resource for native plant advising for the region, as is [Methow Natives](#).

Stewardship Projects

One of the best parts about a yearly program is the ability to build up a large data set over multiple years. While stewardship projects will be determined in part by current conditions and needs in the Valley and on the property, the following are possibilities that could be explored further to see how they align with the interests of current cohorts.

Likely one of the easiest projects to implement, and one of the most rewarding, is daily phenology observations. An individual, or group, would be responsible every week for recording observations on weather, flora and fauna, and anything else relevant on the property and in the area. This could be as simple as the spreadsheet below, where students at the North Cascades Institute recorded simple observations about animal sightings or flowers in bloom, or a more in-depth model where students survey certain plots of land for plant growth every week or compile comprehensive lists of animal sightings every week. This is both a quick way to develop naturalist skills, and a way to eventually create a meaningful, location-specific data set.

DATE	DOY	LOCATION	OBSERVER	EVENT
3/5/2020		ELC	Lindsay McCord	Lots of deer activity close to campus
3/6/2020		Marblemount	Lindsay McCord	Calf born on farm just upriver from Diobsud Creek Bridge. Coyote observed eating the placenta in the field.
3/8/2020		Skagit River	Lindsay McCord	Eagle pairs hanging out around nest sites all up and down the Skagit River
3/17/2020		Marblemount	Sarah Meyer	Mergansers on the Skagit
3/17/2020		Marblemount	Lindsay McCord	Robins are in abundance and observed mating in the Confluence Garden
3/17/2020		Marblemount	Lindsay McCord	First day over 60 degrees of 2020
3/19/2020		Marblemount	Lindsay McCord	Red Breasted Sapsuckers drumming in the Confluence Garden
3/19/2020		Marblemount	Lindsay McCord	Most trees have buds ready to burst
3/14/2020		Marblemount	Lindsay McCord	Common Snowdrop flowering
3/15/2020		Marblemount	Tanner Johnson	Beaver tracks on Confluence Beach
3/19/2020		Marblemount	Sarah Meyer	Bees active
3/19/2020		Diobsud Creek	Lindsay McCord	Willow is flowering and leafing out, an abundance of fresh beaver chews where the power line road meets Diobsud Creek
3/20/2020		Hamilton	Molly Harrigan	Salmonberry flowering and Mullein's return
3/19/2020		ELC	Katie Manz	River Otter at dusk observed from the Peninsula Trail
3/22/2020		Marblemount	Lindsay McCord	2 Turkey Vultures soared over Confluence Garden. First ones observed back in the valley this spring!
3/24/2020		Marblemount	Lindsay McCord	Grouse are drumming quite consistently
3/23/2020		Marblemount	Lindsay McCord	Periwinkles flowering on lawn
3/25/2020		Marblemount	Lindsay McCord	Salmonberry flowering and Mullein's return
3/25/2020		Marblemount	Lindsay McCord	Bald Eagles have been noticeably absent upriver.
3/28/2020		Baker Lake	Lindsay McCord	Fresh Artist's Conks are fruiting!
3/28/2020		Marblemount	Lindsay McCord	Two Barred Owls calling back and forth for about an hour around 11pm from the direction of Diobsud Creek.
4/4/2020		ELC	Zoe Wadkins	Diurnal wind return around 1pm every day
4/5/2020		Marblemount	Zoe Wadkins	Common Blue and Downy Yellow Violets in full bloom
4/5/2020		Marblemount	Zoe Wadkins and Justin Daniels	Rufous Hummingbirds return to Upper Skagit
4/10/2020		ELC	Zoe Wadkins	Large, cinnamon colored Black Bear grazing on grass in Buster Brown
4/10/2020		ELC	Zoe Wadkins	Flowering Red Currant in bloom

Observations by students at the North Cascades Institute, early spring 2020. Data provided by Joshua Porter.

Other possibilities include the following:

- Native plant propagation
- Salmon restoration (in partnership with the Yakama Nation)
- Game cameras installed on the property
- Morning bird surveys
- Forest management to reduce fire risk and increase forest health on property

- Education outreach - environmental education in local classrooms, possibly including field trips to the Mazama property
- Trail building
- Weed control
 - For information on common weeds in the area, see <https://methowconservancy.org/weed-guide>.

Other ways to continue encouraging environmental thought and observation in students include providing well-stocked book shelves of environmental classics and field guides, decorating the house with natural artifacts and field-guide-type posters, and hosting monthly ecologically-minded movie nights.

UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS

As a project that is trying to foster sustainability both in structure and community, we recognise that it is an opportunity to incorporate the United Nations Sustainable Development Goals. The following are goals we have implemented into the Eco-Share home concept:

- *Goal 9: Industry, Innovation and Infrastructure: Build resilient infrastructure, promote inclusive sustainable industrialization and foster innovation.*
 - Example: Our concept utilizes ecologically sustainable construction techniques and materials, and incorporates technologies such as solar panels and novel climate control methods to reduce the environmental impact of the house.
- *Goal 11: Sustainable Cities and Communities: Make cities and human settlements inclusive, safe, resilient and sustainable.*
 - Example: Within our Eco-Share model we are striving to provide a structure that fosters community building and reliance through community agreements and values, communal meals and activities, and productive communication flows.
- *Goal 12: Responsible Consumption and Production: Ensure sustainable consumption and production patterns.*
 - Example: The Eco-Share home will work to utilize the ecological flows of energy through gardening, composting, and thoughtful land stewardship. This is reflected in monitoring of electricity and water usage, utilization of sustainable construction materials, generation of compost material, and further monitoring of long-term stewardship projects.
- *Goal 15: Life on Land: Protect, restore, and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.*
 - Example: Cohorts will be provided with many opportunities to care for and learn more about the land, including but not limited to aiding in salmon restoration, propagating native plants, and creating a fire-resistant property landscape.

- Goal 16: *Peace, Justice and Strong Institutions: Promote peaceful and inclusive societies or sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels*
 - Example: Through the development, construction and implementation of the Eco-Share home, it will be providing access to housing in the Valley as well as providing students with higher education field work experience. We are also working to foster an environment where constructive and expressive communication is welcomed and encouraged to make everyone feel included and heard through house meetings and committees.
- Goal 17: *Partnership for the Goals: Strengthen the means of implementation and revitalize the global partnerships for sustainable development*
 - Example: While the Eco-Share house will not be working on a global scale, it will be connecting University students with local nonprofits and strengthening partnerships and connections that would have been blocked by lack of housing.

SYSTEMS THINKING: LEVERAGE POINTS

“We humans are smart enough to have created complex systems and amazing productivity; surely we are also smart enough to make sure that everyone shares our bounty, and surely we are smart enough to sustainably steward the natural world upon which we all depend.”

-Donella Meadows

(The Donella Meadows Project 2017)

Dr. Donella H. Meadows was a Pew Scholar in Conservation and Environment. She was incredibly influential in her environmental thinking and systems approaches to global problems. Donella founded the Sustainability Institute in 1996, which is now called the Academy for System Change, with the intention of “fostering transitions to sustainable systems at all levels of society, from local to global” (*The Donella Meadows Project 2017*). A key part of Donella Meadows’s contribution to systems thinking was her list of leverage points, or places to intervene in a system. Visit <http://donellameadows.org/archives/leverage-points-places-to-intervene-in-a-system/> for Donella’s explanation of leverage points and how the idea came to her. The following is a brief description of each leverage point our team believes the Eco-Share house will be addressing and how. Donella Meadows was also the founder of Cobb Hill Cohousing, which is a thriving community in Hartland, Vermont.

Applied leverage points of the Eco-Share house:

- *12. Constants, parameters, numbers (such as subsidies, taxes, standards):* Energy use, Utility bills, Water use, Use of space.
- *9. Length of delay relative to the rate of system changes:* House will take a while to be built, the future of COVID is uncertain, planning the house vs. actual implementation,

working out the kinks, evolution of the Community Learning Lab is unknown, what future students will need

- 7. *The gain around positive feedback loops*: Self-perpetuating systems within the Eco-Share house: perennial plants → growing food → nourishment → community harvesting and care, intentional community building.
- 6. *Structure of information flows (who does and does not have access to information)*: Transparency around the resource and energy use, transparency around funding and investment.
- 5. *Rules of the system (incentives, punishments, constraints)*: Values contract, adaptable community agreements, house meetings, evaluations and implementations of new ideas from previous cohorts.
- 4. *The power to add, change, evolve, or self-organize system structure*: House meetings, encouraged open communication between Joshua and residents, anonymous submission box for thoughts on the home, new ideas broadened by changing cohorts, expansion mission of the Community Learning Lab.
- 3. *Goals of the system*: Promoting both academically formal and less-formal learning-in-place, sustainable land stewardship and communities, sustainable design, ecologically friendly construction.
- 2. *Mindset of paradigm out of which the system arises*: Eco-Share housing is trying to shift society's view of what the "American Dream" is. This constitutes fighting social isolation, reducing household resource utilization, and creating systems of interdependence that fosters and maintains the houses' social, communal and structural dynamics.

MONITORING AND EVALUATION

The ultimate near-term milestone of the project will be the actualizing the Eco-Share house concept. However, before the construction of the house begins, continued development of this concept, including additional planning and architectural drafting, will be crucial steps. Sustainable design is one key aspect of the Eco-Share model, and the consumption of electricity, water, gas, and other utilities will provide metrics for evaluating the successfulness of the project's sustainable design component. Production of waste within the house and during construction will also serve as points of measurement to this goal. Beyond the physical completion of the building, however, there are several ongoing aspects of life and operation of the house and its community that provide opportunities for ongoing monitoring. The health of the house community is key to the productivity of the learning environment within, and it will be critically important to monitor those community structures outlined by this report to evaluate their effectiveness in maintaining good morale and productivity amongst residents. One way of

monitoring intra-house community engagement and success is providing each cohort with an evaluation of how the fellowship residency went for them. Similar to college course evaluations, the Eco-house fellow evaluation will be anonymous, contain specific questions in regards to the quality of learning and housing experience, and offer space for critiques and recommendations. The input received by each cohort will be thoughtfully integrated to the fullest possible extent. It will also be essential to evaluate the long-term stewardship projects undertaken by residents. These projects will ideally be not only meaningfully productive for the community, but will also carry over from season to season, and year to year.

BUDGET

The Eco-Share house is in a very preliminary stage of concept development, and no concrete budget is yet available. Based on input from stakeholders, and in consideration of the project scope and the relative cost of construction in the Methow Valley, this concept has been developed under a presumed \$1 million eventual budget. Budget considerations will also be made for the relative utilities costs of the home, in consideration of the energy and water-saving technologies implemented in its design and construction.

After initial investments for construction of the Eco-Share house, our concept envisions a financially self-sustaining program. Funding for housing expenses during the academic season will come from local co-sponsors. During the winter season, revenue generated by renting the house out, or from additional supplementary off-season programs, will fund annual expenses such as tax and maintenance.

CONCLUSION

The Community Learning Lab's need for long-term student housing in the Methow Valley presents opportunities to exercise sustainable practices in construction and design, create and maintain a robust and resilient home community of fellows, and foster lasting and meaningful connections between students, land, and community. Our Eco-Share housing concept aims to capitalize on these unique opportunities through deliberate planning and consideration of ways fellows and community members will interact with the physical residence and the land on which it will sit. Based on interviews and conversations with experts, stakeholders, and community members, as well as benchmarking research into similar housing and learning projects, we have developed a conceptual model laying out several key aspects of the future Eco-Share house.

Among these aspects are sustainable design, with a focus on reducing the ecological impact of building and operating the residence through intelligent place-based design, such as maximizing passive solar heating through window aspect, and energy-efficient technologies, like solar panels and mini-split heating. We have also treated the design and layout of the house as an opportunity to foster community and resident morale. By encouraging the use of communal spaces through open floor plans and natural light, as well as locating communal and personal spaces in such a

way that allows for both collaboration and privacy, we have designed this housing concept as both an ecologically and socially sustainable model.

Another crucial aspect of the project's scope is maintaining a healthy and constructive community amongst residents. We have considered the effects of both physical and non-physical elements on the house community, and have shaped this concept to use both these elements to their maximum potential in creating structures that promote healthy relationships amongst residents. The Eco-Share concept strives to facilitate communal meals, promote constructive communication, and provide spaces that allow for relaxation and self expression. To predict exactly what a group of individuals will need to make a house a home is impossible. But by providing a framework that promotes bonding and interpersonal relationships we believe that the Eco-Share home will be successful in fostering a sustainable community of learners in the Methow Valley.

Finally, enabling and promoting residents' lasting and meaningful stewardship of local land and community is of utmost importance to our Eco-Share housing model. Residents will have the chance to do so by engaging with a welcoming outdoor environment, working in a large garden and greenhouse space, and picking up naturalist skills and an understanding of the region through stewardship projects that could include native plant propagation, salmon restoration, bird surveys, and wildlife camera monitoring. While each cohort will have unique interests and engage with the region and the property in a different way, planning to provide and encourage these varied ways of interacting with and understanding the local land will ensure a rich place-based learning experience.

While the Mazama Eco-Share house project is in the very earliest stages of development, we hope that the principles outlined in this early concept will set the tone and expectations for further work into the house. By focusing on sustainable design, house community, and lasting stewardship, our team has designed this conceptual plan to fulfill the Community Learning Lab's and Huxley College's needs for student housing that promotes place-based learning and sustainability.

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APPENDICES

First Stakeholder Interview

7/23/2020

Name: Joshua Porter, Community Learning Lab convener & WWU instructor

Contact Info: porterj7@wwu.edu

Comprehensive notes on this interview can be found below.

For our team's first interview we chose to have a conversation with Joshua Porter, the lead educator for The Community Learning Lab. Joshua is/will be facilitating summer internships and classes in the Methow Valley now and into the future.

Because Joshua will be choosing students and placing them in the Eco-House, he has an invested interest and vision for the potential of the home. He is working closely with Leyland Whitaker, the owner of the prospective plot of land that the home will be built upon. Lee Whittaker is the original visionary of the Eco-Share concept. Lee and Joshua connected through the alignment of Lee's Eco-Share community building goals and Joshua's hopes for the Community Learning Lab. Our conversation with Joshua focused on his vision for the future, longer-term sessions of the Learning Lab, and how he sees the Mazama Eco-Share house as integral to the program.

Interview Questions & Associated Responses

A. Where do you envision the program going in the coming years?

- A space for common living and a homespace for students where they can live in rich community
 - Enriching cohort experience - learning outside of class itself, shared learning
 - How embedded people can be in community, bring home contexts from jobs
 - Peer-to-peer learning
- Timeline
 - 8 months: April - November (growing season, farms interested in hosting positions)
- Place-based mode aligned with learning
 - energy of the spring season, emergent qualities
 - positions w/ in local schools - public schools, Bush, Bloom classroom garden, possible experimental middle school, ILC, etc.
- Place has direct tie w/ stewardship
 - Science applications - making practice for community of learners really enriching
 - Learning naturalist skills (through science, art, etc)
 - Lots of hands-on projects
 - Contributing to legacy of place
- *Example:* Scandinavian folk school tradition - young adults spend year w/ community aligned w/ personal interests
 - enrich lifelong learning

- Help people fall in love with life long learning
- People will be better equipped to make better decisions later on
- Will propagate into a healthier society
- Personal Connection
 - Methow landscape really informative for Josh
 - living on farm
 - preserving own food
 - Getting set up for winter
 - Space to grow, preserve, prepare food is important for community and stewardship
- Origination of Eco-House idea: really limited commercial places in Valley that could accommodate 16-20 students
- *Example:* Skaltitude retreat center (Carlton)
 - Set up for 16+ students
 - Problems: too remote, want places be accessible, interaction w/ broader community important
- Eco-Share Plan
 - Mazama house hosts 8 students
 - Based on interest and positions w/ local organizations, could become 20-24 students
 - multiple homes instead of just one facility: house in Twisp (4-8), Winthrop, Mazama, maybe lower Valley (Carlton)
 - Powerful thing is each facility has different attributes, characteristics
 - Ex: Twisp site has better water rights, could be more of working farm

B. With changing cohorts of students every year, how do you plan on retaining and maintaining community values and the culture of learning and stewardship?

- Being intentional with the kinds of plant foods to grow: planting perennial crops because then there would be less of a need to knowledge around annual crop production
- **Cloud Mountain Farm Center:** Elizabeth Hayes, Elizabethh@cloudmountainfarmcenter.org
- Caretaker: one or two people that will stay on for second year or come back
 - Experience during winter
 - Planning process
 - Mentorship skills
- Sustainability Minor / Certificate in Climate Leadership
 - Everybody starts together and then branches off to either stay on campus or to come to Methow. After the quarter the West side students and Community Learning Lab students will be together again: sharing projects and experiences
- Traditions: certain events built into the program
 - Community dinner that the students host once a quarter
 - Traditions with local educators - connecting to place
 - Become part of the experience, not an obligation

C. What stewardship or community projects do you see as being especially fitting for the Mazama Eco-House and property?

- Phenology station
 - vehicle for people to become astute naturalists
 - keeping track of changes season to season, year after year
 - invite Valley students, community partners to engage too
- Annual wildlife-related surveys
 - Tracking
 - Cameras
 - Bird surveys
- Yakama fisheries (**Contact:** Hans Smith, smih@yakamafish-nsn.gov) planning restoration on neighboring piece of land (salmon restoration)
 - Possible to help w/ restoration, monitoring?
- Forest inventory/health monitoring on property
 - Thinning???
- Historical land use, educational
- Students can help w/ projects on neighboring land
 - River to Raven community
 - McKinney Ridge community
- Every year cohort takes on larger project
 - pizza oven or whatever it is
 - Yearly budget, contribution
- Community Learning Lab format
 - 3 days internship
 - 2 days classes (classes ideally place-based or stewardship in part)
- Community
 - so many opportunities!
 - met w/ close to 30 organizations this fall
 - lots of excitement
 - Goal to help support organizations by finding funding
- **Idea:** host other students at workplace
 - show what people have been doing
 - gain leadership skills
- **Volunteer Methow website** -- place to find possible opportunities for volunteering and community engagement
- Emphasize social dimension -- not just land stewardship, but stewardship in the community sense (work in the senior center, etc.)

D. What form will future Community Learning Lab Internships take, and how will they impact how much time residents spend at the Mazama house?

- The shape of Learning Lab during the winter is still not concrete
 - May enable a “quieter” period of reflection, informal learning
 - Space could also be rented out to fund program, or for lodging for researchers
- There is a lot of community interest in internship opportunities for upcoming sessions
 - 30+ local organizations have expressed interest

- Most future internships will likely center around community engagement, stewardship, social programs, etc...
- Fall quarter may focus more on individual study, and during this time students would be able to spend more time away from the house
 - Reduced class time/classwork obligations during this time could enable more fieldwork internships in the early fall
- Majority of cohort will spend most/every night at the Mazama house
 - Certain fieldwork-based internships may necessitate overnight stays outside the house, but these will not be the norm/focus going forward (more emphasis on community work and stewardship projects, etc...)
 - However, fieldwork internships will still be available, and present a challenge to enable both overnight hitches and weekday-classwork (as carnivore crew now knows all too well)
- Future sessions will revolve around 3 days/week internship work and 2 days/week of class time
 - 2 days of class per week eliminates the need for very long single class sessions

E. What ways, inside and outside of the eco-house, do you want students to be connecting with the community?

- Building in space: don't over schedule
- Leaving time for reflection and meaning-making
- Time to engage with community outside of prescribed interactions
- *Example:* Human built beaver dams
- *Example:* Methow at Home
- Mazama Store and Community Center: What could happen in these spaces: Story circle, slide-jam, yoga
- Scandanavian Folk School model
- “Hubs where you tap into local knowledge”
 - Celebrating WHO the people are
- Food is central
- Food security and food access: Could the Community Learning Lab produce food to help the community?

F. Do you have any specific visions for the design of the Mazama Eco-Share house, or broader ideas for design principals therein?

- Personal preference for stone and wood
- Explore the possibility of the use of local building materials (local lumber, perhaps recycled or beetle-killed wood)
 - Flash Clark at Tall Timber Co. may have some valuable experience and knowledge of this
- Emphasis on passive heating, cooling and lighting
- An eye toward goal-setting
 - Net energy positive (through solar/renewables)? Net carbon neutral (landscaping offsetting construction/operation, limiting construction emissions)...

- Interviewer's note: perhaps look to LEED for ideas/benchmarks/possible certifications?
 - Importance of creating well-appointed common spaces that are both functional and encourage people to spend time in them
 - Explore the concept of large common spaces with discrete functional "units" (think: kitchen with separate "stations", living room with multiple places to work or relax, etc...) within them to allow multiple uses of a single space by several individuals or small groups
 - Important to balance keeping construction costs low with ensuring sustainable design and construction practices
 - Tangential: perhaps explore modular housing/building concepts
 - Each building as a part of a "campus"
 - Designing and building with consideration of future needs (both known and unforeseen), and possible expansion
 - Important: the balance of encouraging and enabling shared use and community through design while not forcing interaction all the time
 - Personal time vs community time, and how the design will allow residents privacy while encouraging community
-

Second Stakeholder Interview

7/29/2020

Name: Leyland Whittaker, owner of Mazama property

Comprehensive notes on this interview can be found below.

For our team's second interview we talked with Lee Whittaker, the owner of the Mazama property that is the potential site for the Eco-Share house. Lee is very invested in this project and is a generous benefactor to the Methow Valley community.

Lee has initiated talks with Joshua Porter on the design and function of the Eco-Share house, although plans are still very much in an initial idea phase. Our conversation with Lee focused on his vision for an Eco-Share house, zoning restrictions on the property, and the ecological and artistic opportunities in building design.

Interview Questions & Associated Responses

What is your general vision for an Eco-Share house?

- Eco share: assumes a single family residence, not an apartment type building or condos
 - How to use a single family residence in more eco friendly ways?
 - Limit of 8 people in single family residence
 - Assumes just 1 kitchen
- Lee dislikes extreme non-Eco-Share type homes

- *Example:* cabin on 5 acres that people don't visit very often
- McKinney Ridge co-housing community: people who have come in are self selecting - know they're living close to someone else, are looking for and like community
- *Examples*
 - Berm house
 - Lee is currently building it
 - technically Lee's house, but one corner is apartment, rest is guest rooms, large kitchen, meeting room for McKinney Ridge community, etc.
 - Nice idea to build place and then share it
 - Artistic/ecologically inspired home (where??)
 - look partially like a hobbit home, main residence is more traditional architecture
 - shared w/ local kids to play in hobbit like place
- Three story tiny house in grove of trees (still in planning phase)
 - On small lot next to large home Lee is building
 - middle story common living area, top and bottom floors separate apartment living areas
 - Three couples will share property, so it will actually be used
 - Trying to optimize structures so they're available for use by people who can get along with each other
- **Problem** in Methow Valley: not enough housing for local people who work in Valley
 - Lots of nightly rental areas around, not used that much
 - *Solution Idea:* Seattleite builds home w/ shared kitchen and person (caretaker?) living in home year round

How could the Eco-Share house be used during the winter when students aren't present?

- *Design Idea*
 - Large home w/ main apartment for local person (provides stability)
 - Plenty of places for guests to stay (students, etc.)
 - common kitchen, housing for students or other parties (bedrooms, separate or common bathrooms, etc)
- Not really sure how home would be used throughout year
 - Could be rented out to people who like to ski over here during winter?
- *A lot of this stuff "are kind of only half-baked ideas"*
- Looking forward to us thinking about this from the community standpoint as well

What are the zoning restrictions for the Mazama site?

- Actually thinking about several different sites
- **Water Rights:** state is pretty strict - before building permit, do you actually have the rights to water?
 - NOT PROBLEM W/ ANY OF SITES LEE IS THINKING OF
 - Sites already have wells put in -- bypasses water restrictions somewhat
- Site across the road
 - 12 acres: can't put home on anything LESS than 5 acres
 - Could split property in half, build 2 homes

- Big limitations in terms of floodplain
 - Can't build w/in 100 yr floodplain -- but NO offset (different for wetlands)
 - Out of 12 acres, only about 3, 3.5 above floodplain, and they're near the highway
- Historic ditch that went through property, so b/c of vegetation marked as wetland on official map (whole property pretty much covered by wetlands)
 - Can't build right up to wetland boundary
 - BUT in reality almost none of property is actually wetlands (Lee hired expert to confirm)
- **Prudent practice:** fire mitigation
 - site near highway has large number of very large pine trees, understory of smaller trees from past 3-4 decades
 - pretty high fire danger -- hasn't had historic fires
 - Some of it has been thinned, would need to look into further thinning for safety
- Property could be split w/ **short plat** -- but currently moratorium by county on that
- **Current zoning regulations**
 - allow guest house (w/ in 100 feet, not larger than 1500 sq ft) as well as main home
 - have to have same ownership
 - bed/bath restrictions???
- **Idea:** Eco-Share main home, with low-cost guest house (similar to McKinney Ridge houses)
 - Guest house would be place for local family to live
 - Could be donated to Methow Housing Trust
 - Legal ramifications would need to be looked into

Are there any restrictions with things like sheds, greenhouses, etc.?

- *Should be no restrictions for auxiliary buildings*
- Able to build temporary structure (like horse barn) in floodplain
- A lot will depend on who wants to work there, who Lee would be working with
- Lower pasture might be able to support a horse or two, or other animals
 - But no irrigation water rights
- Animals, garden, etc. probably doable -- county pretty lenient in supporting any agriculture
- Lee chose not to have animals on property -- animals tie you down
- Who is going to be responsible for animals??
- Working w/ Yakama for salmon restoration - could be conflict w/ animals being too close to salmon restoration side streams

Are there any construction or development techniques that would be helpful in the salmon habitat restoration?

- Agreed informally that acres nearest to river would have complete easement given to Yakama salmon restoration project -- don't want impermeable surfaces there
- Methow Trail has dike that goes right through property (impermeable surface) -- has easement through property
- Sometimes getting everything in line for restoration can take a decade or more

- Western Rivers - bought property nearby to help w/ restoration
- Fish and Wildlife owns lots of land in area too
- Lee's slice is key: if they put in opening in dike trail, had gate open up during most of years, gate would be on Lee's property
- *Side channel that goes right through property is "ripe for restoration"*

Would Lee be open to community access to the Methow Trail and the river?

- Open to community access, but careful not to guarantee anything
- Different types of access: if open to general public, there are privacy issues, insurance issues, etc.
 - Methow Trails has own insurance, etc. to cover landowners
 - Privacy big issue: people assume can go off trail onto private property
- **River to Raven:** have two access points, so community could go to river and up mountain
 - Ideally initially private and then open up to public
- **Legal stuff:** want to set up legal structure so people can make decisions later on without impediment from legal framework on property
 - *Example:* when working with Methow Conservancy on agriculture easement, put in language that would allow trails and parking spaces to cross wetlands and fields
 - Want to be careful w/ language in conservation easement -- funded by state or federal agencies, and nearly impossible to change once language of easement put in place

Do you have any concerns or advice regarding the potential Eco-Share house?

- Not really, just the opposite
 - **River to Raven project:** *large part of mission educational*
 - River, mountains, ag fields all within half a mile of each other
 - Having university involved as part of property seems to make a lot of sense
- **Concern:** 30 years from now, how does that look? Does it have stability?
 - How stable are institutions over time? -- probably a lot more stable than individuals
- **"Stewardship" is real key: who are the stewards?**
- **River to Raven:** want to protect older homesteads (which are typically torn down)
 - iconic, so many people recognize property Lee wants to protect
 - want to preserve heritage of land (who used it? Timber, farmland, etc.)
- Right now no money commercially in farming, so how do you keep it from being taken over by noxious weeds, etc.?
- **Once Lee is no longer around, how is stewardship of his property going to continue?**
- Lee has great homesite back by trees
 - Thought of having Eco-Share house back there -- people who live there must also be interested in stewardship of ag land
 - Not sure how to do that yet
- **Idea:** Combo of all homes (Lee's, University's by river)
 - Potential to put association together or something that would preserve stewardship

- When University, young people involved -- always have new ideas around to solve problems
 - 30 years in the future, students might have some wacky ideas that are pretty great that we haven't thought of

What do you prefer in terms of building design?

- Low-cost housing (McKinney Ridge) built for economy of building
 - lower cost if similar model w/ just small variations
- **McKinney Ridge:** 19 homesites (8 currently built, 11 will be market-rate homes) -- could be radically different design-wise, based on *ecological and artistic elements*
- **Market-rate community:** envisions as really cool demonstration of eco-share, eco-artistic talent, close to neighbors so able to show off and showcase talents
- **River to Raven:** ~ 10 homesites, plus old homesteads and Lee's cabin
- **Don't really have any particular druthers for specific design**
 - But want to fit site in some way or another
- **Berm home:** have schoolhouse on top as meditation center (becomes art object)
 - Low profile: doesn't dominate landscape
 - Experiment w/ cross-laminated timber (**new plant in Colville using thinned wood for cross-laminated timber**)
 - Ecologically negative: uses a lot of concrete, big user of energy -- dialogue about building tradeoffs
 - Great for passive heating: lots of insulation -- heating and cooling footprint very low

What are the most common methods of heating these homes?

- Movement away from woodstoves (b/c of wildfire, air quality)
- **Low-cost housing units:** 5-star ecological buildings (very tight, lots of insulation)
 - Low energy footprint
 - May not have to turn on air conditioning in hot weather
 - Use mini-splits: heat pump (condenser, water) -- very efficient -- can recover lots of heat from environment -- all driven by electricity
 - Gas stovetops (propane) -- also small propane heating unit as backup source in case of electricity outage
 - Main area open design, bedrooms typically kept at lower temps.
- **Berm home:** 2 mini-splits -- very involved design, also small propane fireplace

Do you have any final thoughts or suggestions for us / ideas for designs we should look into further?

- So much info out there on the Internet on homestyles
 - Lee has quite the library on tiny houses, eco-houses, artistic houses, etc.
 - Always like working with people to figure out a future to work towards
-

Third Stakeholder Interview

8/6/2020

Name: Elizabeth Hayes

Relevance: Farm Director at Cloud Mountain Farms (Everson, WA)

Comprehensive notes on this interview can be found below.

As Farm Director for Cloud Mountain Farms and a long-time member of the agricultural community in the Pacific Northwest, Elizabeth Hayes has professional and practical experience with growing food, propagating native plants, and educating first-time gardeners and farmers.

Our conversation with her focused on garden design, native plant propagation and planting, agricultural education, and the feasibility of growing various crops (including fruit trees, nut trees, berries, and various “food forest” plants) on the potential Eco-Share house site in Mazama.

Interview Questions & Associated Responses

What are setups, especially perennials, that seem to work particularly well with student groups -- especially for learning some introductory farming techniques?

- Would be pretty hesitant to plant anything that’s sourced from the West Side in the Methow -- different levels of hardiness
- Probably want to work with someone who can sell natives for mass plantings at plug levels
 - **Methow Natives** -- nursery source & native plant consulting
 - Able to get several thousand plants for ground cover at plug level for cheaper
 - **Wild Hearts Nursery** -- more focal-point plantings (serviceberry, mock orange, blue elderberry, soapberry, etc.)
 - Propagated native versions AND cultivars (typically more showy)
 - Able to propagate through hardwood and softwood cuttings instead of from seeds
 - Great project for students
- Hard part about multiple year-to-year student groups and lack of water -- orchards are typically best for students, but need LOTS of water in late spring and early summer

Do you have a figure (for very efficient irrigation) of how much water an orchard tree would require?

- Don’t want to give specific number (needs on East side very different from West side)
- Single mature orchard tree: multiple gallons of water per day
 - **Difficult to do on a single well -- possible to supplement with water catchment??**
- Will probably need higher water use for establishment of plantings, even for native plants
 - For first couple years need extra water for root development

- Native plant alternatives to cultivated orchard: currant species, serviceberry, etc.
 - Hard part: **fruit = water**
 - *Orchards can really take a beating from repeat student groups (learning how to prune trees, etc.)*
 - Native plants can be good alternative
 - Propagation, botany skills might be easier than fruit production due to water restrictions
- **Native Plant Suggestions** (from what Methow Natives propagates)
 - Serviceberry
 - Kinnickiniik
 - Oceanspray
 - Mahonias
 - Cinquefoil
 - *All have really good take when propagated at Cloud Mountain -- could be good nursery focus*

What do you recommend in terms of annual garden space?

- Start small -- cordon off more ground than you initially want, because you can always expand
 - Choose nice plot of land - easy to clear, near well, good light
- Incubator Farm: entire year's CSA with 50 CSA subscribers run off *single acre*
- **A quarter acre can keep 8 people fed and busy**
- Moving into multiple acres, mechanization become necessary
 - If you choose too much space, easy to just become a weed farm
 - An acre would be substantial (probably way more than needed)
 - Great to experiment with cover crops on land you're not using

What would you recommend for greenhouse space?

- Permanent greenhouse space affords you a shoulder season
 - When too cold, snow covered, wet, etc.
 - Can get jump start on propagation and seeding
 - More controlled environment critical if you're doing any propagation or nursery production
 - Many crops (peppers, tomatoes, etc.) need a greenhouse
 - If you build a greenhouse, you'll probably use it -- but start out with what's manageable -- growing in-ground, or just using for propagation, storage, etc?

What does Cloud Mountain Farms do for compost? / How do long cold winters affect composting?

- Don't do what we do -- just produce so much biomass
- Blower system

- Haven't personally experienced how cold winters can affect composting -- likely really slows down microbial activity

Joshua: focusing on native plants in floodplain/salmon restoration area would be fantastic

What's a short list for some of the plants that would do best in a "food forest" type concept -- what's the best way to plan and stagger those plants so everything isn't blooming/producing at once?

- At Cloud Mountain, have so much diversity that things are blooming/producing all season long
- If you go with survey of plants in area, will probably have a range of blooming and ripening
 - But don't know how to point you towards specific resource to figure that out
 - A lot of it is experiential, depends on personal observation
- **Goumis, sea berries** -- not native, but can cover a lot of ground, create a lot of habitat, and are harvestable and edible
 - Alternative to orchard -- create berries but much less water intensive
- Food forest that incorporates a lot of fruit trees: isn't really a food forest as it requires a lot of human intervention

What are some berries that would be hardier and need less water?

- Cane fruits are fairly reliant on shallow moisture
- Some blueberries would work (if you can have some low-flow watering regime)
- Some Ribes might work
 - (be careful of pine rust!)
- Selected elderberries would do well (blue elderberries, commercial varieties, etc.)
- More woody, less succulent plants would do better
- **Goumi berries**
 - "They're super rad"
 - 8 ft tall, 8 ft wide shrubs
 - Berries hanging on long stems w/ pit
 - Non-native
 - They're super weird, but popular in permaculture/food forest type plantings
 - Could be good option in flood plain
- Dwarf selections of mulberry -- larger, tree-type fruit plant

Do any of the nuts come to mind that would be lower water use?

- They use a lot of water, unfortunately
- Once established, will have really good root system -- but will need lots of water at first
- Filberts: need lots of water
- Chestnuts: might be okay
- *What's the aquifer level??*

- Microclimate important

What would experimenting with small scale cover crops be like? What does it take to grow popcorn?

- Timing, more than anything
- Popcorn doesn't take well to being transplanted -- direct sow seed crop
 - Need enough moisture, warm soil temps.
 - Spring timing on planting can be difficult
- Moisture in the field when trying to dry down the crop is problematic
- But sweet corn does really well on the East side, so might be feasible
- **Baker Creek:** sells popcorn seeds on small scale
 - Dakota Black popcorn is good variety, fits season requirement well
- Need some way to dry it down when it comes in
 - Screens w/ fan, etc.
- Fun crop, exceptionally satisfying to grow and keep in your own pantry
- Joshua saw historical mention of popcorn in area in document

Are there resources that are really accessible that have historical weather data for the area?

- **Ag Weather Net (through WSU)** - yearly data, climate summary, interactive map
- **NRCS** - web soil survey tool -- don't rely on, but gives soil type maps

Any tips for bringing students into gardening and farming?

- Propagation is really good -- can get same-season success
- Good teaching experience: botany and plant physiology
- Risk and reward in annual gardening -- able to grow your own food, but can often have disasters (fungal infections, etc.)
- ***Plants that can withstand abuse:*** berries, fruits do fairly well
 - Forgiving woody perennials
 - Common but easy to diagnose infections and problems
- Less about what crops grown, more about strategic planning and infrastructure
 - Seeding planning
 - Irrigation infrastructure
 - Usually what people want more of, because not what you're going to be able to get anywhere else
 - Infinite amounts of patience necessary

Things to Avoid?

- Try to do too much
- Always better to pick several things to do really well
- Be intentional with plan

Design Clinic with Current Community Learning Lab Fellows *7/31/2020*

Facilitators: Baylie Myers, Duncan Mullen, Heather Rolph

Participants: Antonia Parrish, Chloe Bonsen, Hannah Nienaber, Vince Wagner, Lazo Gitchos, Sophia Galvez, Joshua Porter

This clinic took place virtually over Zoom as part of CSPPS 471 class. Comprehensive notes are below; for a full audio recording, contact the authors.

As the first cohort of WWU Community Learning Lab Fellows living and working in the Methow Valley over the summer, these students were able to provide valuable insights into strategies to foster community and engage in stewardship within a potential future Eco-Share house. The design clinic took the form of a group interview.

Our team is looking for ways to create a socially sustainable community within the Eco-Share house. We want to create functional and enjoyable spaces within the house in order to foster productive use of communal spaces. What elements of physical design or architecture do you find make you feel most comfortable and promote group use of spaces?

- **Chloe:** everyone loves windows, you can't go wrong w/ too many windows (lots of natural light)
- **Antonia:** lots of communal spaces important - large living room connected w/ kitchen -- easier communication, easier to hang out -- connection b/t eating space and kitchen important
- **Chloe:** overall open floor plan helps a lot -- Mazama house open floor plan nice
- **Vince:** before front door, room to take off dirty clothes (mudroom/gear closet)
- **Hannah:** central gathering place (fireplace, etc) -- place to come and gather and warm up, or cool down (depending on season)
- **Lazo:** instead of traditional doors, open archway or curtain, etc. helps spaces feel really open -- between communal rooms -- if separation b/t common rooms, not having door can make them more usable
- **Chloe:** taller or higher ceilings makes space a lot nicer (don't use basement in Twisp b/c of short ceilings)
- **Antonia:** really tiny porch in front of house unnecessary, no one hangs out -- if going to have porch, make it big enough
- **Joshua:** sound -- ability to gather in places and make noise w/ out it being disruptive -- material inside that muffles/absorbs noise -- need really good acoustics for music night!

What aspects of a group living situation make you feel really invited and held? Are there things you've experienced that haven't made you feel this way?

- **Antonia:** Community dinners make me feel really like a part of the house -- house meetings are really important -- implement house meetings maybe every 2 weeks? Really helpful.

- **Hannah:** somehow building trust between people -- so if there's an issue people able to talk about it -- way for issues able to be brought up, resolved w/ out feeling weird about it (*anonymous issue box*)
- **Chloe:** having a group movie night, group activities in general help w/ community -- might not need to be mandated, but helpful for community

How open do you see yourself being to a soft schedule around community meals? How do you regard strategies for house upkeep (ie chore charts)? How much structure and rigidity around that would be too much?

- **Sophia:** in previous houses always had chore chart (names, chores, you can x off completed chores-- no one responsible for just one chore or all chores, can pick and choose) -- for example, roommate got up early, so always took out recycling
- **Chloe:** too much structure adds too much stress to personal schedule -- allow people to work off individual schedules
- **Vince:** important to have contingencies -- able to adjust -- if people don't complete things, able to switch things up -- less confrontational (*chore wheel*) --- as a chronic non-participator, important to have required and encouraged but not mandated activities (clear what responsibilities to housemates are)
- **Joshua:** in Fairbanks, signed up to cook meals -- every person might cook once, then able to show up for communal meal for next couple weeks -- able to have work really spread out -- nice to be able to intentionally sign up, not be obligated
- **Chloe:** good thing to have chart listing allergies, etc. if doing communal meals
- **Sophia:** if doing community meals, esp. If it's an option, good to have standard: Venmo for food, or bringing food, etc. -- good to set up system for buying community things (*community finances*)

Has anyone experienced barriers to feeling comfortable in homes or communal spaces?

- **Joshua:** storage space -- cabinets, drawers, fridge, etc. -- second fridge important! -- thoughtfulness about things that create tensions in structure can be planned for
- **Antonia:** can be lot of tension when it comes to food -- terrible when people eat food w/out asking -- when fridge overcrowded, can't divide into sections can get pretty tense
- **Vince:** cabinet space, lots of partitions for people to store things
- **Chloe:** bathroom space -- places to put personal belongings in bathroom -- if sharing bathroom space, esp. mixed gender, important to have cleaning tips for both genders

Keeping in mind that students would be here for 8 months, what are community projects that you might be interested in taking part in? Where are places you might like to volunteer at?

- **Vince:** schools in session -- cool to do presentations in classrooms
- **Hannah:** some sort of physical art piece, something each group of students passes on would be really cool -- something each group can add to or create something similar each year
- **Antonia:** garden would be really fun

What veggies, fruits, etc. do people have experience growing or like to eat? What fun plants would you like to have in the garden?

- **Antonia:** zucchini (delicious), all types of herbs to spice up your life
- **Chloe:** strawberries, rhubarb pretty easy to grow
- **Hannah:** tomatoes b/c store bought tomatoes disgusting
- **Chloe:** roses -- really easy, typically edible
- **Joshua:** native plants (berries and fruits) that would promote native bird life

Given that students will be in a similar situation to this cohort, taking class and participating in internships, what do you see as a reasonable expectation for time spent on community stewardship projects?

- **Chloe:** depends on person's courseload -- people in different situations, taking different credits, etc.

Josh: if there was a 2 credit course each of the quarters (spring, summer, fall) related to food preservation and cultivation, would that work out? Would you be interested in it?

- **Sophia:** if could make 2 credit course count for elective, could be helpful for fitting schedule and graduation requirements
- **Vince:** so much comes down to credits and internship -- might look different depending on time of year, it's hard to say this far out
- **Hannah:** if time can be worked into week, so that students will still have weekends free (or roll over into weekend if necessary, but not expected to make commitments on weekend), it could work out

What are things you'd like to see in an outdoor space to foster community?

- **Vince:** grill
- **Sophia:** soccer ball, frisbee -- things to leave in house to foster communal game, activities
- **Antonia:** outdoor furniture (table and chairs) -- fosters people sitting together talking
- **Vince:** shade if not natural shade in location
- **Chloe:** closed or covered outdoor fire -- fun to have in wintertime -- good bonding -- in summertime, good for starry cold nights
- **Hannah:** some place set up away from wind for clothes drying -- and hot tub would be really cool! (don't know how sustainable it is though)
- **Chloe:** could make hot tub sustainable by powering via solar panels
- **Joshua:** access to community trail -- probably not full public access, but certainly connecting w/ McKinney ridge community -- depends on bigger picture conservation and access
- **Joshua:** pizza oven

What community or stewardship projects would you be most interested in engaging with? (Wildlife monitoring, gardening, salmon restoration, forest management, seasonal plant monitoring, ecological community outreach, weekly varied volunteer work parties or projects, etc.)?

- **Antonia:** wildlife tracking would be really cool (cameras, etc.) -- all of those sound awesome to be honest