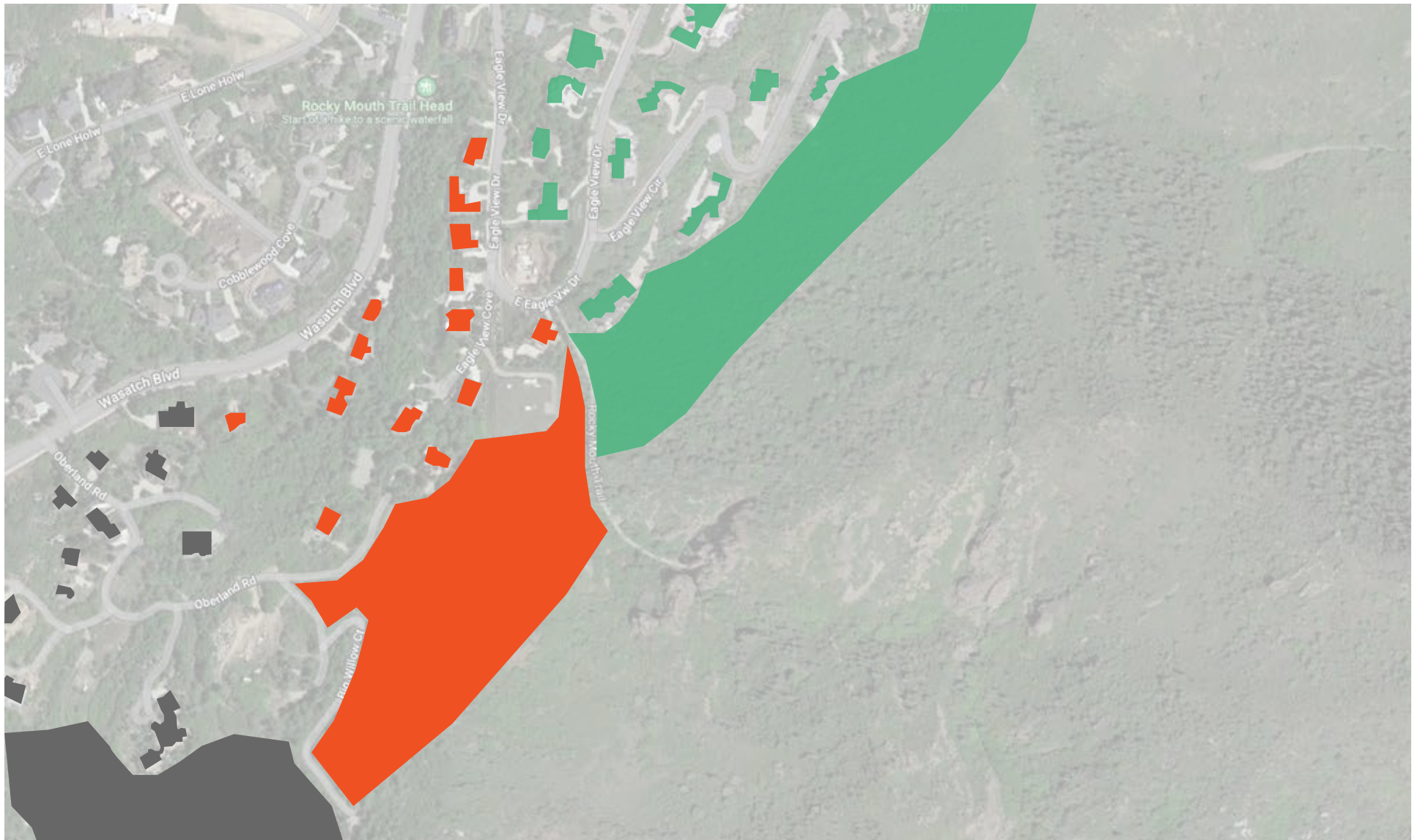


A Community Of Fire



A Community of Fire

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Design Product Studio 2

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Id like to acknowledge the fact that collective land management methods have been used by indigenous peoples all around the world long before this project came to be.

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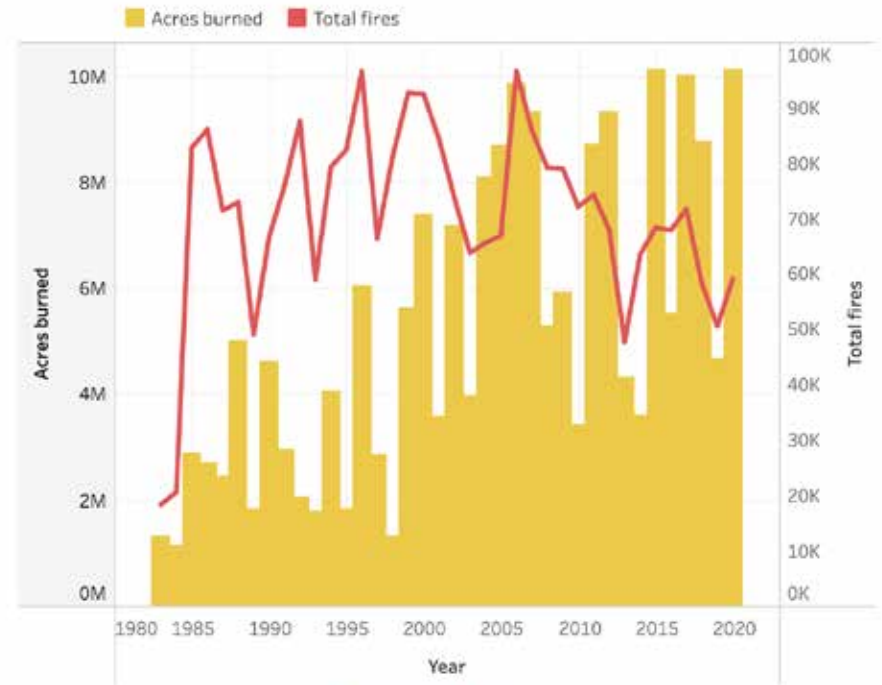
The commons are a **community** & process involving all humans & non humans

I used these readings to define commons for myself; Introduction from *Matters of Care* by Maria Puig De La Bellacasa, chapter 13 from *Design Commons: Practices, Processes and Crossovers* Edited by Gerhard Bruyins and Stavros Kousoulas, and the chapter titled Commons against and beyond capitalism from *Re-enchanting the World: Feminism and the Politics of the Commons* by Silvia Federici. These readings helped me to understand what the commons are and how i wanted to define them for myself and this project as a whole.

I started by researching wildfires as a whole because they are becoming a larger and larger problem and it is something we see the effects of here in Salt Lake City. Looking at some of the statistics about wildfire I found out that we are actually having less fires but they are burning more and more acres. This can be seen in the graphs below. I was also really drawn to the regrowth of the forest after wildfires. I think it's really amazing how such a traumatic event in our eyes can actually be quite beneficial to the forest and the surrounding wildlife.

Fewer fires, but more acres burned

While the number of wildland fires in the U.S. has declined in recent years, those fires are burning more land.



<https://theconversation.com/how-years-of-fighting-every-wildfire-helped-fuel-the-western-mega-fires-of-today-163165>

<https://www.frontlinewildfire.com/wildfire-news-and-resources/how-forest-recovers-wildfire/>

For the next phase of my research I looked into why we fight fires the way we do. Since European colonization in America we have moved to a system of complete suppression. This suppression is a leading cause in the mega fires we are seeing today. The suppression allows fuel to build up because it isn't being burned off. I found some really interesting images to these findings. The image on the right shows how a previously burned area of forest didn't burn at all when the surrounding forest caught on fire. This led me to look at alternative firefighting methods that are more proactive rather than the current reactive model.



https://www.researchgate.net/figure/Fires-in-the-Illilouette-Creek-Basin-in-Yosemite-National-Park-before-and-after-the_fig3_237474355



<https://theconversation.com/how-years-of-fighting-every-wildfire-helped-fuel-the-western-megafires-of-today-163165>



The photos on the left show the same ridge in 1936 and again in 2012. You can see how much the forest has changed over time, with 1936 being significantly more patchy than 2012. The 2012 forest might seem healthier because of the condensed tree cover but in fact it is not. The condensed tree cover caused by wildfire suppression leads to extreme wildfire risk in the future. The 1936 forest would have supported more animals due to the open areas in which to graze and pollinate.

The fire fighting/management method that I found most intriguing was prescribed fire, which is a method of land management where a fire is started intentionally to provide benefits to the forest and humans alike. It is often used to burn off fuel to decrease risk to future wildfires. Unfortunately it isn't used very often because of a lack of personnel. The images below are taken in the same area when it was burned the year previous and when it was left unburned the year prior. You can see how much healthier the forest that had been burned looks. This doesn't even begin to display all of the benefits that prescribed fire provides for the forest.

Burned

April 28, 2019



- Improved grazing for animals
- Reduced invasive plants
- Allows new plant growth
- Improved biodiversity
- Protect sensitive plants
- Richer soil
- Improved pollinator habitat and population

VS.

Unburned

April 30, 2020



- Fuel Buildup
- Blocks sun for new growth
- Allows invasive species to take over
- Pushes pollinators away
- Pushes other animals away

<https://theconversation.com/how-years-of-fighting-every-wildfire-helped-fuel-the-western-megafires-of-today-163165>

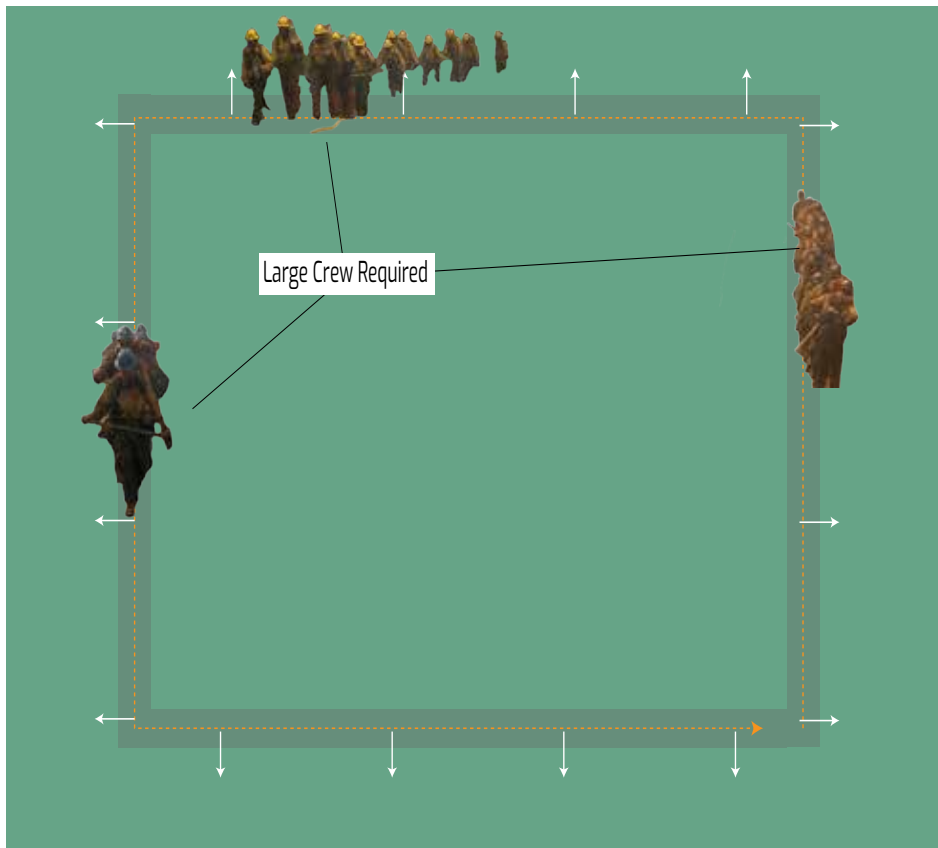
Design something in regards to prescribed fire that aids in the creation of a **healthy mixed age forest**



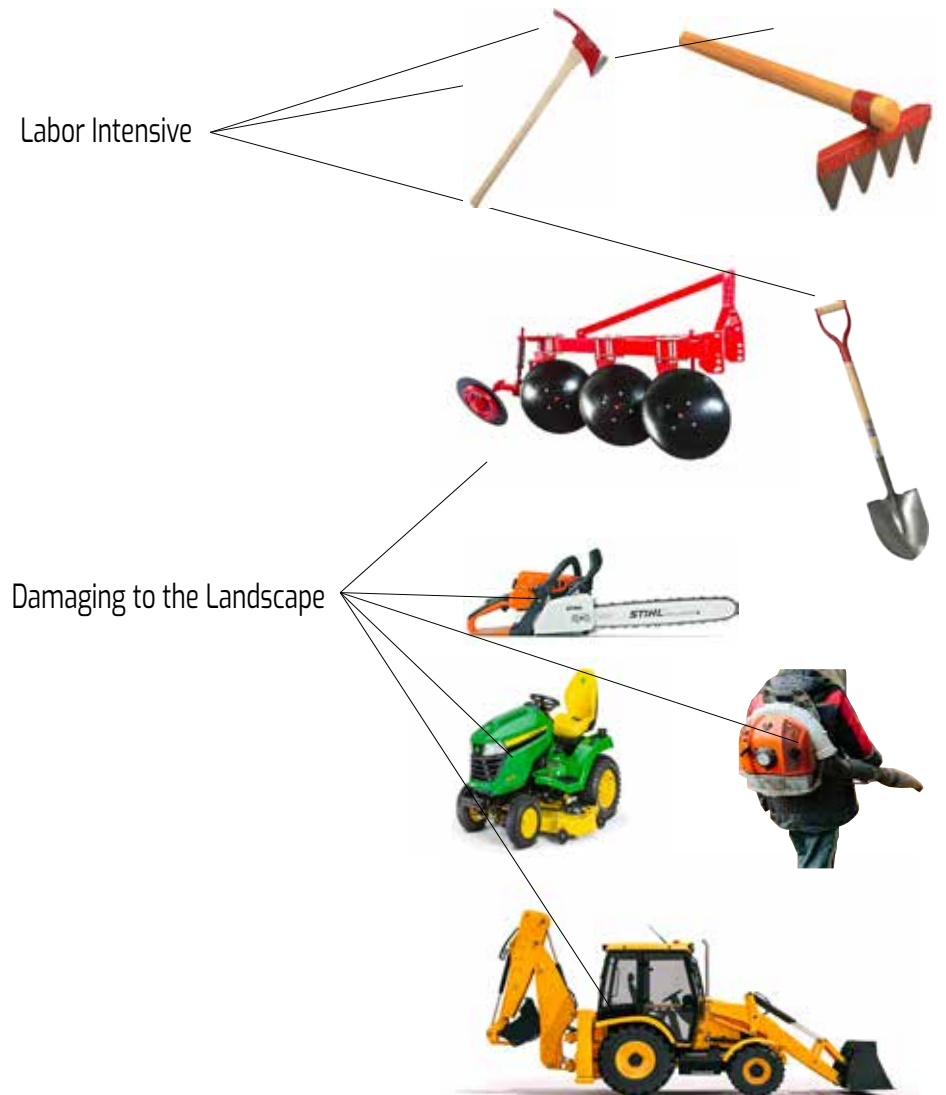
Fire allows the forest to create natural barriers to fire which reduces the risk of the mega fires that have become more and more common. It also kills off invasive species and improves biodiversity in the forest. The forest needs fire to be healthy so why aren't we working towards a healthy fire-forest relationship. This is an opportunity for mutual benefit; to the forests and people alike.

My parameters for design included: Provide for the forests need for fire, Consider human needs in regards to wildfire, Consider non-human forest inhabitants

Based on the brief I created for myself I started to look into the tools and processes that are currently used in prescribed fire in an effort to improve them based on my design parameters. I was noticing an issue with a step in the process called fire break cutting, which is where firefighters come in and cut a path of forest out around the burn area. This felt like a contradiction to the goals of prescribed fire, which are to help the forest.

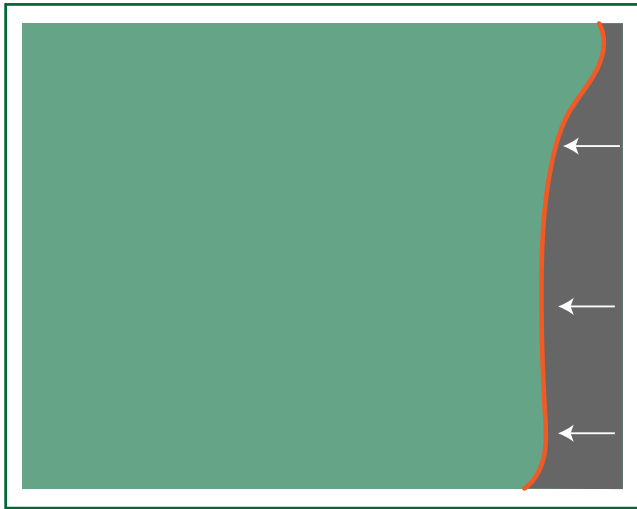


Design Process



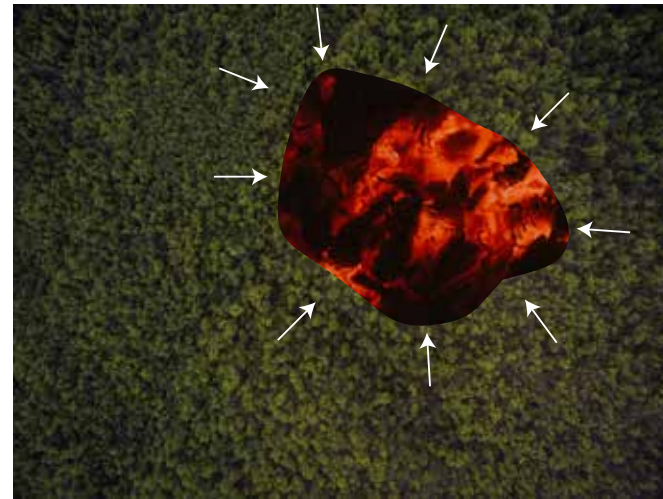
My initial concept to change the tooling was a containment method that fit the goals of the fire better than the current method. I came into the semester wanting to make something physical so that's what most of my ideas were. I wasn't super convinced by any of them though because none of them seemed like they were very feasible. I was feeling pretty stuck at this point in the process, I think this was due to my desire to make something physical. During the concept review there were a lot of questions about who was doing the firefighting. These questions got me excited about the project again and revealed an area that might be more accessible for an intervention.

Containment Method/Tool



Goals:

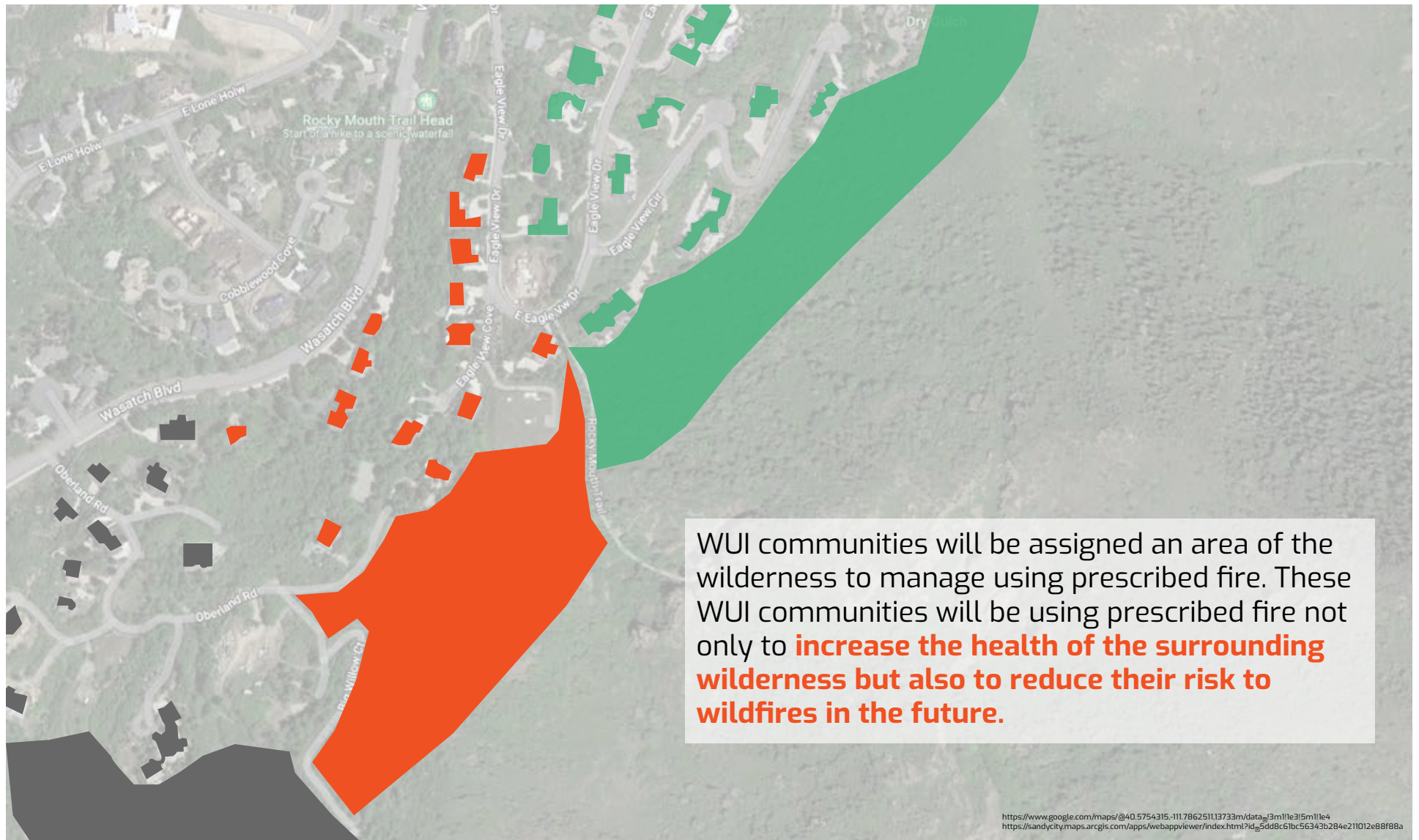
- Reduce workload
- Reduce crew size
- Reduce damage caused to the forest



Potential Ideas:

- Portable wall made with naturally fire resistant materials
- Planting lines of fire resistant plants
- Bubble placed around burn area

A Community Of Fire



The communities assigned to an area will be broken up into three crews. The people closest to the wilderness will be tasked with being crew leaders as they are at the most risk if a wildfire were to occur. People with skills and/or tools that relate to a certain crews responsibilities will be placed in that crew.

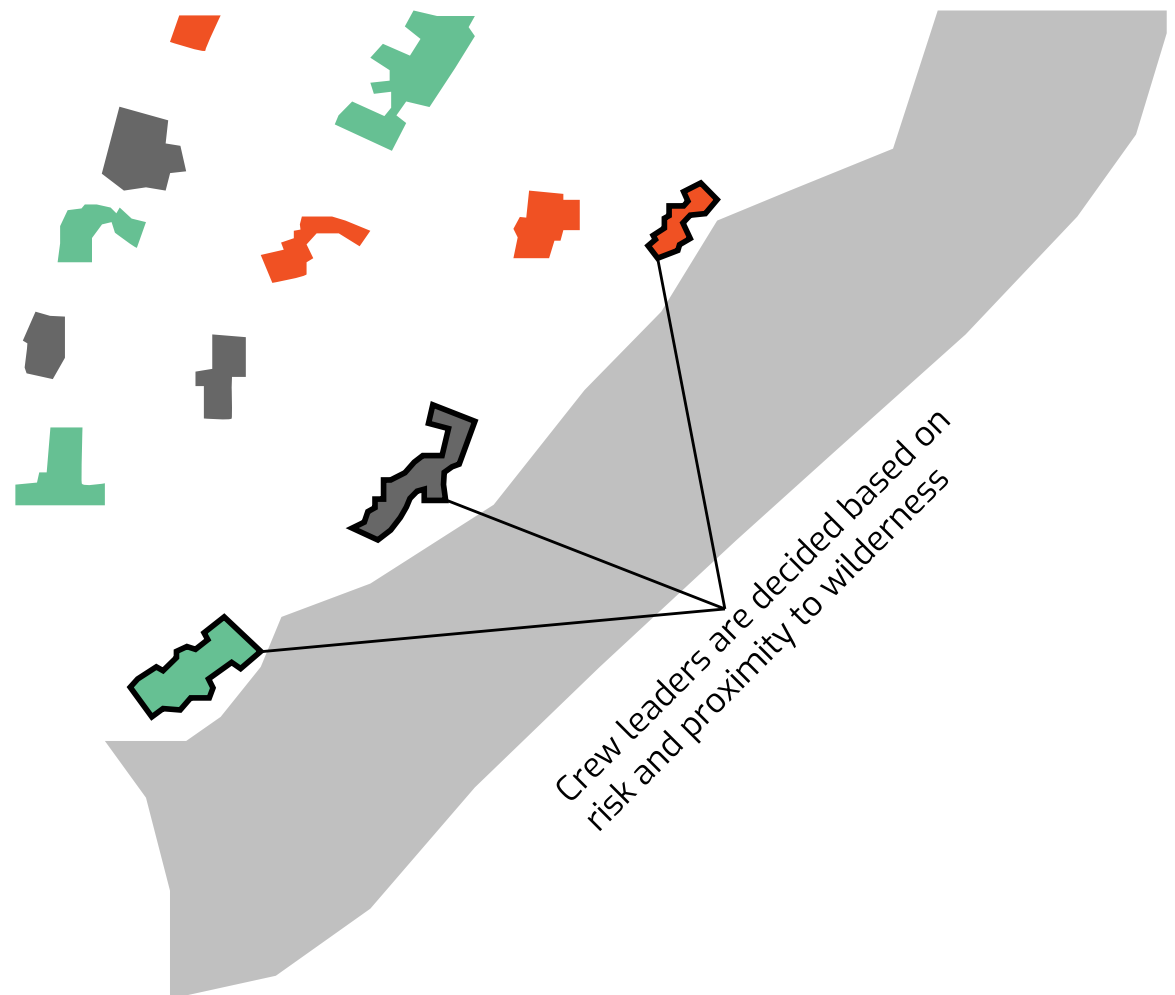
Fire Break Crew

Fire Crew

Support Crew

Crews will be decided using the following criteria:

- Capable of physical labor
 - Posses power tools
 - Posses hand tools
 - Posses mowers
 - Landscaping experience
- Posses gas can/s
 - Physically able
 - Posses Work Clothes
 - Previous fire knowledge
 - Posses hand tools
- Cooking experience
 - Posses coolers
 - Posses folding tables
 - Posses shade structures
 - Posses camp chairs



The crews are expected to complete the tasks listed below in order for everything to work as it was designed. The photos below show what those tasks might look like. These tasks directly relate to how the crews were assigned in the first place in order to get the most out of each community members skillsets and tools.

Support Crew

- Duties:
- Provide food for burn crew
 - Provide water for burn crew
 - Watch fire from afar
 - Weather reporter



Having someone assigned to providing extra water and snacks can be very important

<https://agrilife.org/rxburn/burn-boss/fire-crew-duties/>

Fire Crew

- Duties:
- Assess conditions
 - Light fire and monitor fire
 - Post burn mop up
 - Stop any spot fires



Responsible for lighting the fuel for a prescribed burn and patrolling the perimeter in search of spot fires

<https://agrilife.org/rxburn/burn-boss/fire-crew-duties/>

Fire Break Crew

- Duties:
- Initial fire break cutting
 - Maintain every 6 months
 - Pre fire cleanup



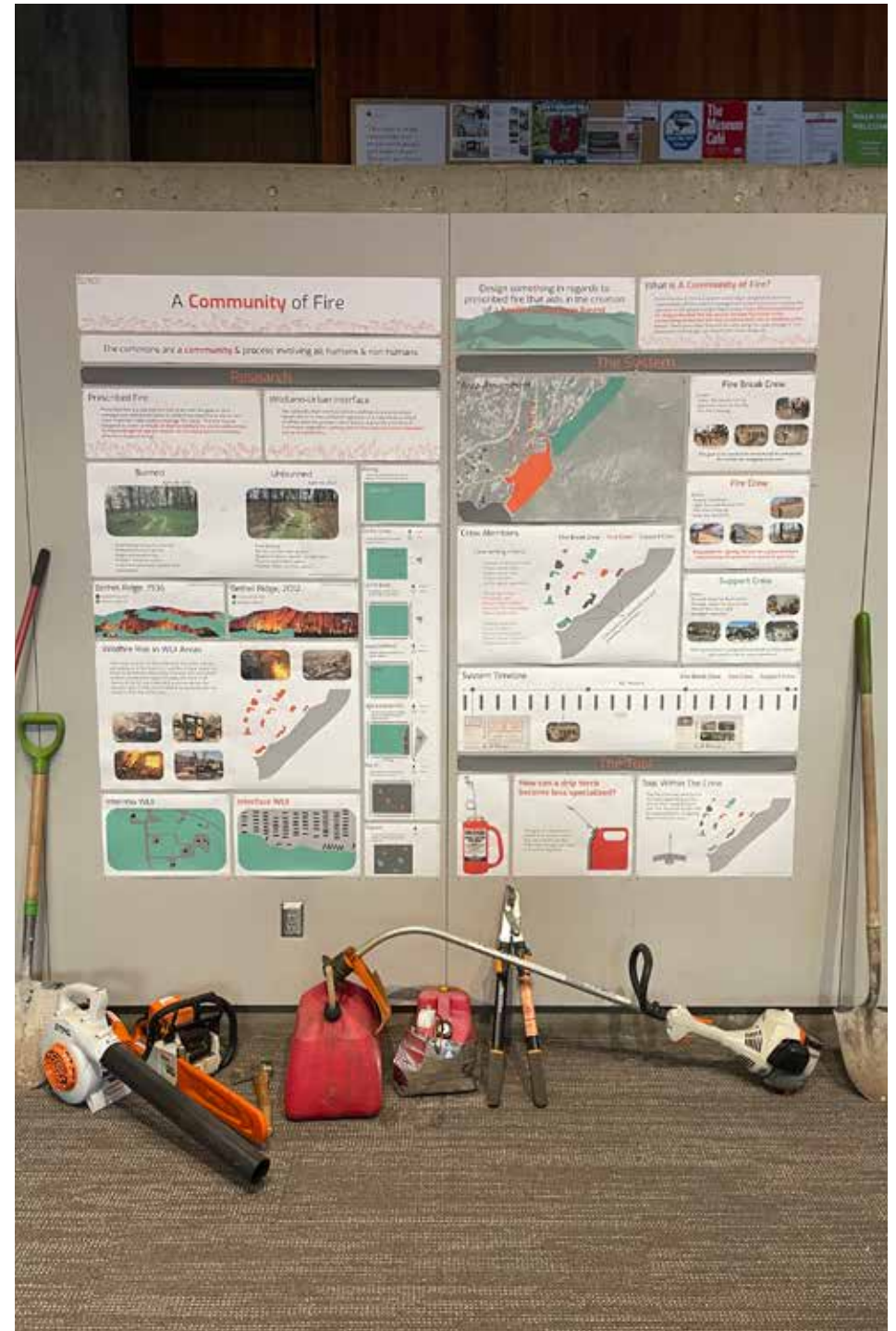
The goal is to reveal bare mineral soil to contain the fire within the assigned burn area

<https://agrilife.org/rxburn/burn-boss/fire-crew-duties/>

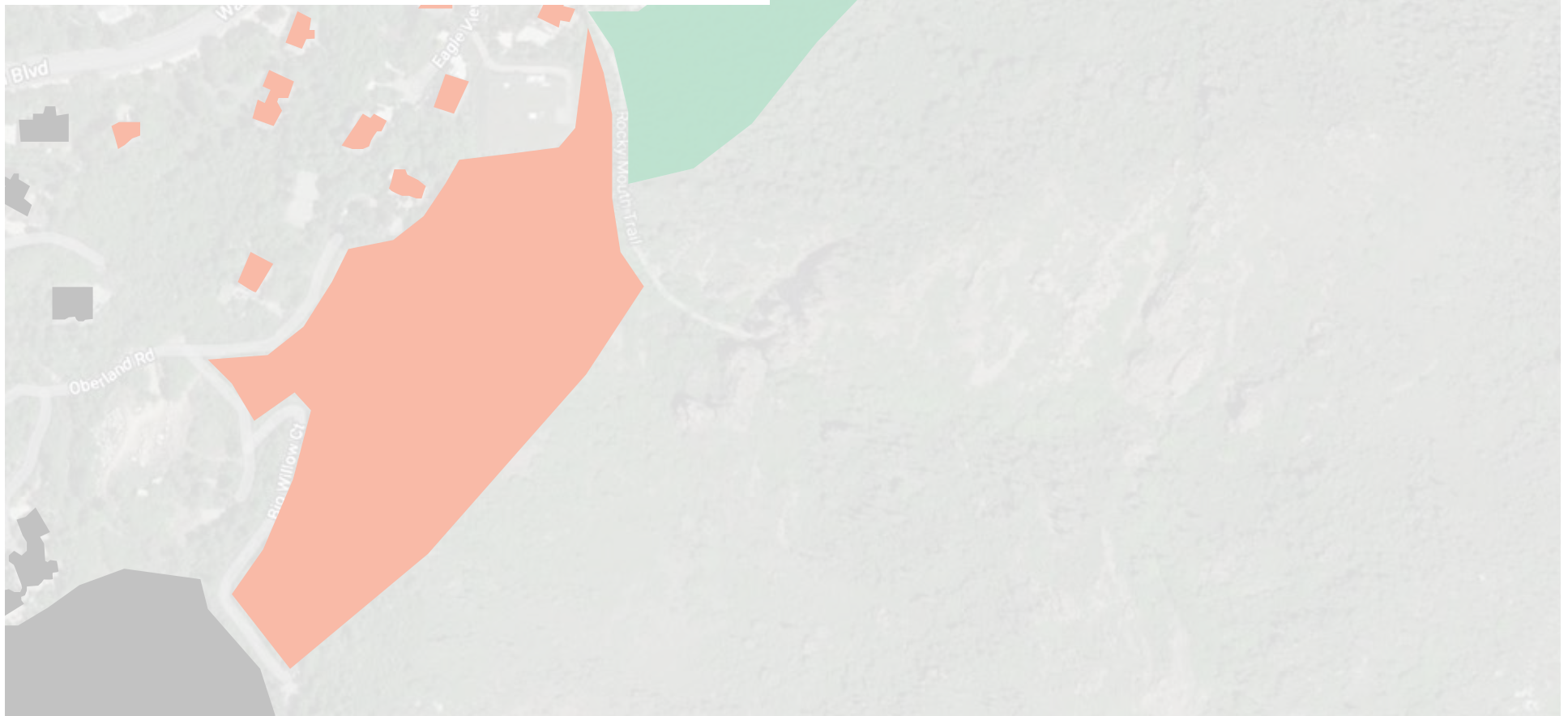
The community outside of the fire crews will be involved through a larger education system about fire's relationship to the forest. There will also be annual Fire Days to educate about the risk of living so close to wilderness. These Fire Days will also provide an opportunity to celebrate fire and the wilderness as a whole.



This my pin up for the Final Review, I chose to bring some of the tools that are used for prescribed fire in an effort to set the scene for what the people in WUI communities will be expected to have/use in order to work in the system I have designed. I have since chosen to remove the section about the tool I started to design because it felt a bit forced and the system was the important part. The tool ended up feeling like an unnecessary addition.



I envision this system creating a significantly healthier forest by allowing it to burn on a regular basis. I also see it decreasing the amount of money that is currently spent on fire suppression. I think the most important impact would be a decrease in mega wildfires like the ones we are seeing more and more often today. It would also serve as an educational tool to a large amount of people and could lead to more respectful use of the wilderness in WUI areas and potentially elsewhere. I see it providing mutual benefit to all involved parties.



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Acknowledgments

I'd like to thank everyone in MDD and especially those in this studio with me for providing a safe space to explore and learn. I would to thank my instructor Elpitha for the guidance and feedback throughout the semester.

Colophon

This document was created in Adobe InDesign using Exo typeface in regular and light styles. Graphics and drawings were created using Adobe Illustrator or sourced from the location cited.