The Mt. Pisgah Summit

UO Landscape Architecture Design Studio Projects
Winter 2020

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Recommended Citations

Aikens, C. M. (1993). Archaeology of Oregon. Portland, Or. : U. S. Dept. of the Interior, Bureau of Land Management, Oregon State Office. http://archive.org/details/archaeologyofore9800aik

NativeLand.ca. (n.d.). Native-Land.ca- Our Home on Native Land. Retrieved September 18, 2020, from https://native-land.ca/
Our Story. (n.d.). Confederated Tribes of Grand Ronde. Retrieved September 18, 2020, from https://www.grandronde.org/history-culture/history/our-story/

(PDF) Oregon Archaeology. (n.d.). ResearchGate. Retrieved September 18, 2020, from https://www.researchgate.net/publication/255483709_Oregon_Archaeology

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Executive Summary

Ch 1: Introduction

The 2214 acre Howard Buford Recreation Area (HBRA) and Mt. Pisgah are valuable to the communities of people, plants, and wildlife in the Willamette Valley. The oak savanna habitats support high biodiversity and which have been recognized as rare and in need of protection, according to the Oregon Conservation Strategy. This beloved Lane County park suffers impacts from being so well-used, notably at the 1351 ft. Mt. Pisgah summit. Students from the University of Oregon explored ways to redesign the Mt. Pisgah summit (and approaches to it) while keeping in mind its complex native ecosystems and the needs of human users who cherish this natural space.

Ch 2: Trajectories of Change

Elaborates on the Willamette Valley's changing land use over time, and the HBRA Management Plan. Over time, management of oak savannas has shifted from regular prescribed burns of the landscape at the hands of indigenous peoples to permanent settlements from the Euro-American colonization of the west. Many of the target conservation species and habitats outlined in the HBRA Habitat Management Plan rely on regular burning of the park's landscape. This chapter discusses the challenges that HBRA and Mt. Pisgah face through rapid increases in the numbers of people using this popular natural area. As park popularity continues to grow, its vital habitats become increasingly impacted by use, and efforts to maintain the quality of native habitats need to be carefully aligned with recreational goals. User capacity of the summit was a key concern in the student designs, and students were instructed to strategically guide their designs to sustainably fit visitors at the summit and within the park. Each student imagined an 'alternative future scenario' where visitation to the summit and the greater park area could sustain different projections of future user numbers and behaviors. This chapter also contains a selection of the maps and resources students used to inform the early work of their projects, as well as their process to strategize for the needed visitor capacity at Mt. Pisgah's summit.

Ch 3: Social Assessment

Includes the methods and results of surveys and interviews students in the Social Assessment Team took to understand user perceptions and values of the parks and summit. Students were asked to devise a set of interview questions and connect with Mt. Pisgah stakeholders to better understand what brings people to Mt. Pisgah, and what they do or do not like about its current design. Themes were drawn from 16 interviews students conducted and a interpreted through lists and graphs to display general user preferences.

Ch 4: Environmental Assessment

Presents the work of the Environmental Assessment Team which surveyed the summit in search of physical traces of how stakeholders used and explored Mt. Pisgah's summit. Evidence of unofficial trails and the ecological health of fragile rock outcrop communities were mapped to paint a more detailed picture of the areas that require protection and management. Students conducted observational field work to witness and record user activity at the Mt. Pisgah summit.

Ch 5: Student Projects

The work of each student is shown, and their strategies briefly explained. Projects are arranged by shared themes between student's design goals. The introduction provides tables explaining the reoccurring features and materials used within the projects. This design work was originally presented at student's final reviews and offer unique potential solutions to various challenges at the Mt. Pisgah Summit and the HBRA.

Ch 6: Recommendations

Concludes with final take-aways from the Mt. Pisgah Studio projects and suggests ways that the studio projects can inspire action to redesign the summit to the benefit of people, plants, and wildlife. Suggestions for further research and improvements to surveys are also made in the conclusion of this document.

Chapter 1

Introduction

Introduction:

The Howard Buford Recreation Area (HBRA) and Mt. Pisgah is a cherished place to the people of Lane County. The 2,214-acre park offers a high diversity of habitats for rare and native plant and animal species, and an expansive trail system for outdoor recreators with stunning views. As Lane County's most visited county park, many trails and destinations are being loved-to-death, damaging the quality of habitat and users' experience.

In the winter of 2020, 13 students in the University of Oregon's landscape architecture program centered their studio designs on HBRA and the 1531 ft. summit of Mt. Pisgah. Students were engrossed in hours of work to familiarize themselves with the site-specific challenges of redesigning this sensitive natural area. After an in-depth research phase including user surveys and environmental assessments, each student came up with a unique design trying to balance ecological and recreational priorities in innovative ways. Students presented their projects to dozens of excited stakeholders after 10 weeks of working through their designs. This publication compiles the students' work, research, and process in redesigning HRBA trails and the Mt. Pisgah summit.

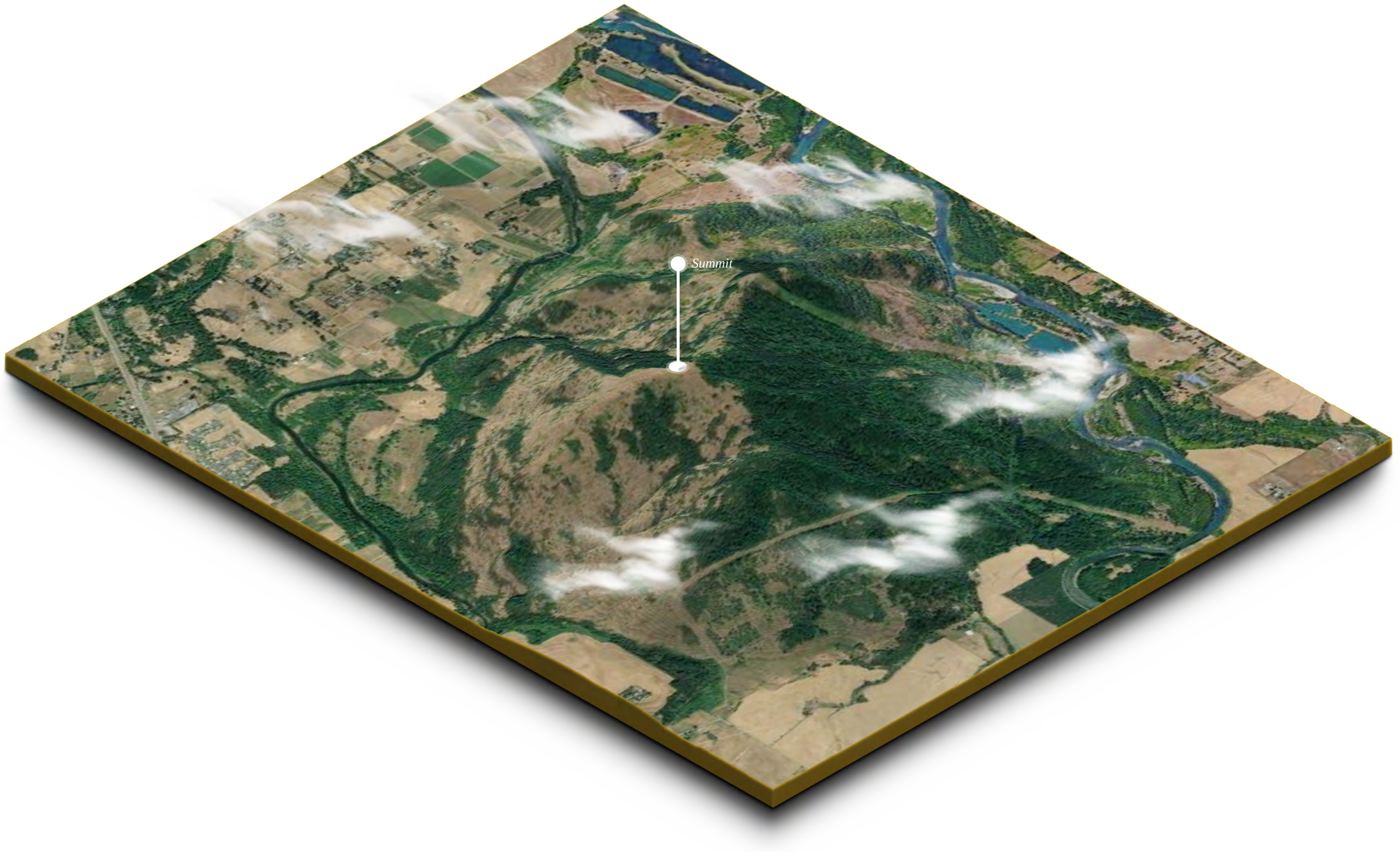


Fig. 1.1: An isometric model of Mt. Pisgah, Lane County, Oregon.

Mt. Pisgah rises 1,060-feet above the surrounding Willamette Valley river floor, making it visible for miles from several locations throughout the Eugene-Springfield area.

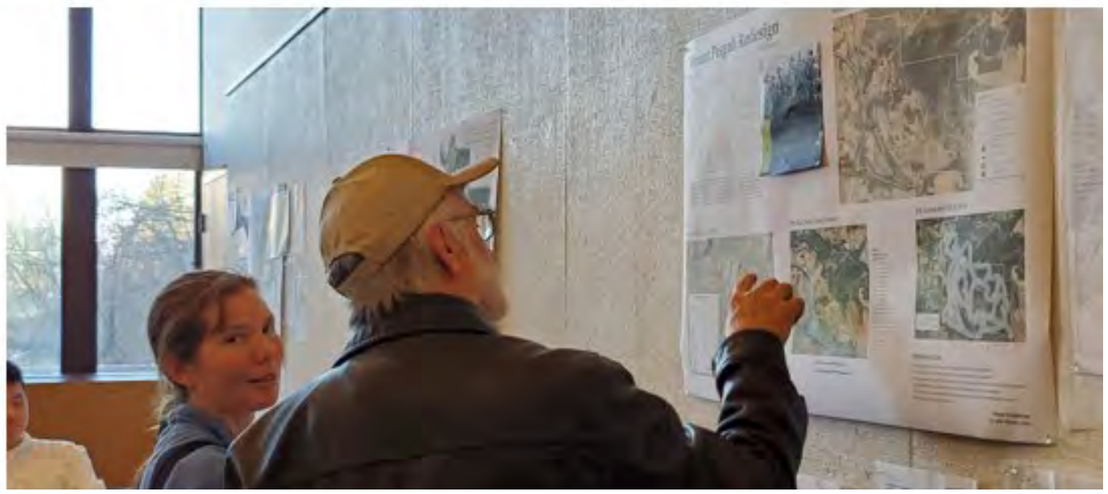


Fig. 1.1: Students receive feedback at midterm presentations.

Challenges and Context:

"The Willamette Valley's native oak and prairie habitats are among the most endangered in North America, harboring 189 species at risk of extinction, some of which occur nowhere else on Earth. Less than two percent of these original habitats survive, and what remains is subject to intense development pressures." – The Nature Conservancy

Visitation:

HBRA receives an estimated 400,000 to 500,000 visits annually, and this is projected to double over the next 20 years if growth trends continue. While Lane County Parks welcomes all visitors, they have recognized this park cannot sustain this growth and ensure the quality of the habitat that makes the park so special. Redesigning some trails and destinations within the park will become vital to protecting the plants and wildlife that people cherish. Mt. Pisgah's 1531 ft. summit is particularly impacted, as the many visitors trample the sensitive landscape seeking the beautiful 360-degree views of the southern Willamette Valley. Students focused their projects on redesigning the summit, tackling issues like uncontrolled foot traffic, and facilitating public education in their designs.

Habitat:

HBRA is home to several endangered and protected wildlife species. From Acorn Woodpeckers , to Bradshaw's lomatium, to Roemer's fescue - HBRA's diverse habitats support over 100 bird species, 440 native plant species, and countless other living things.

The Habitat Management Plan, adopted by the Lane County Commissioners in 2018, aims to improve habitat quality for target habitats and species as well as improve visitor experience in the park. The balance between wildlife habitat and human recreation can be tricky, as much of the rare wildlife can be sensitive to the presence of humans, dogs, and horses. There is strong interest in using prescribed burns to maintain much of the oak savanna and prairie habitats. These controlled burns offer great benefits to plants and wildlife but add complexity to issues of user safety and park management. Carefully supporting both habitat goals and recreational enjoyment is a key priority in the management of the park, and the strategies students approached with their projects.

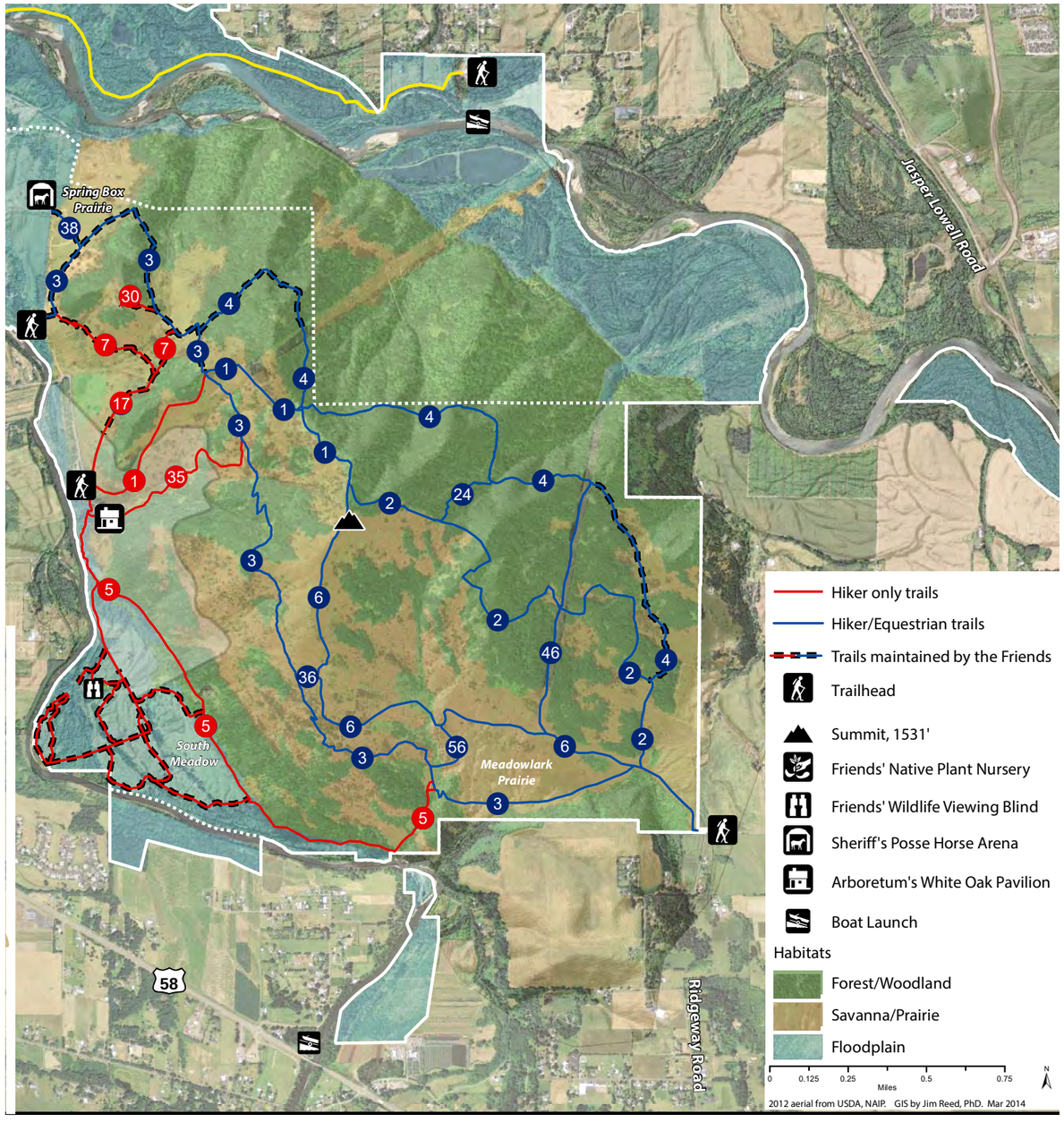


Fig. 1.2: The existing Trail system within 2214-acre of Howard Buford Recreation Area (HBRA).

Mt. Pisgah is situated between the Coast Fork and the Middle Fork of the Willamette River. Approximately 25 miles of trails leads up and around the 1,531-foot high summit. The summit is accessed through Trail no. 1, 2, and 6. Some trails are open for equestrian use, and the park also includes an outdoor horse arena.

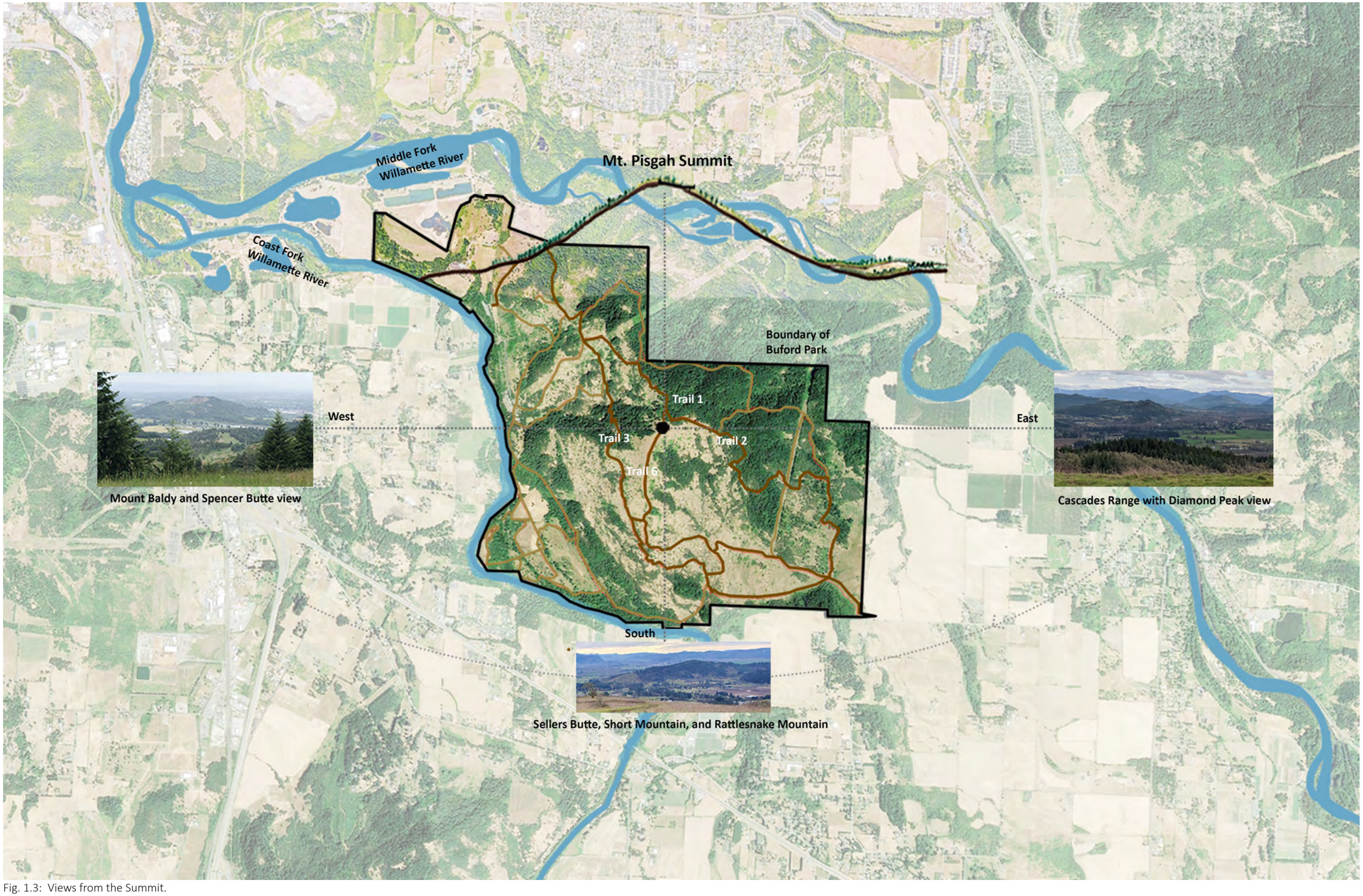


Fig. 1.3: Views from the Summit.

The areas of the summit offers an almost 360-degree view of the surrounding valley and mountains. See Viewshed Analysis in Chapter 4 to look at the name of various peak visible from the summit.

Chapter 2

Trajectories of Change

HRBA Land Management

Kalapuya Lands:

HBRA and the greater Mt. Pisgah area sit within Kalapuya ancestral lands; the Kalapuya were stewards of the Willamette Valley before the Euro-American colonization of the west. Indigenous people would routinely burn the landscape to maintain the open prairies, affording them food and easy passage. These fires prevented conifers from encroaching and eventually shading out oak prairie and savanna habitats. Colonists arrived in Oregon in the 1850s, bringing a fire-suppressive culture with them. Without frequent low severity fires, trees filled in existing savannas and open woodlands, and the fertile prairie soils were converted to agriculture. The oak woodlands, savannas, and prairies of the past have nearly vanished from the Willamette Valley, and with it, many of the diverse native species that inhabited them.

Fig. 2.1: A pictorial timeline highlighting the major trajectories of change in the Willamette Valley.

Present Management:

The greater Mt. Pisgah/Confluence area is currently owned or managed by the following stakeholder organizations: Lane County Parks, Friends of Buford Park and Mt. Pisgah, Mount Pisgah Arboretum, The Nature Conservancy, Willamalane, Oregon State Parks, and the Bonneville Power Administration. Lane County Parks completed the HBRA Habitat Management Plan (HMP) in 2018, which lays out the park's habitat goals. The HMP cites the 2006 Oregon Conservation Strategy, which identifies oak savanna and upland prairie habitats as priority conservation areas within the Willamette Valley. Students familiarized themselves with both the Oregon Conservation Strategy and the HMP, noting management goals for target conservation species, user education/ enjoyment, and restoration prescriptions among other pieces of valuable information.

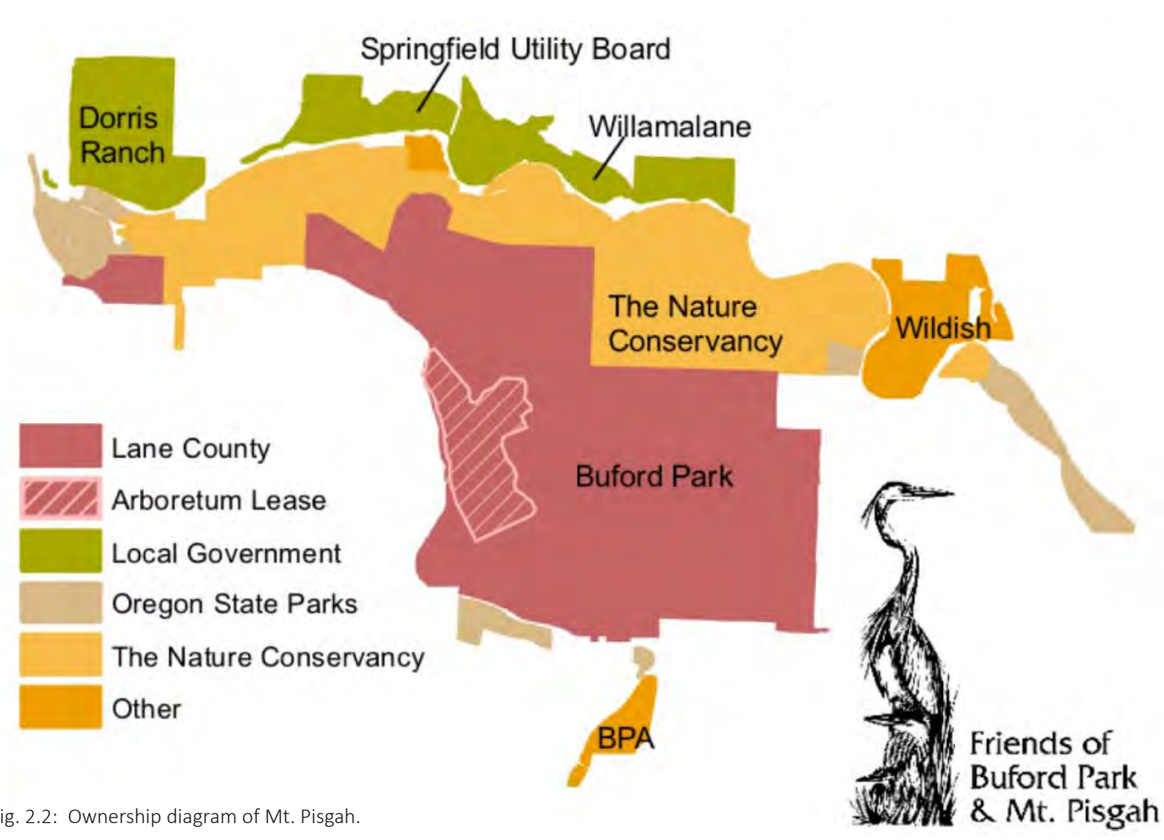


Fig. 2.2: Ownership diagram of Mt. Pisgah.

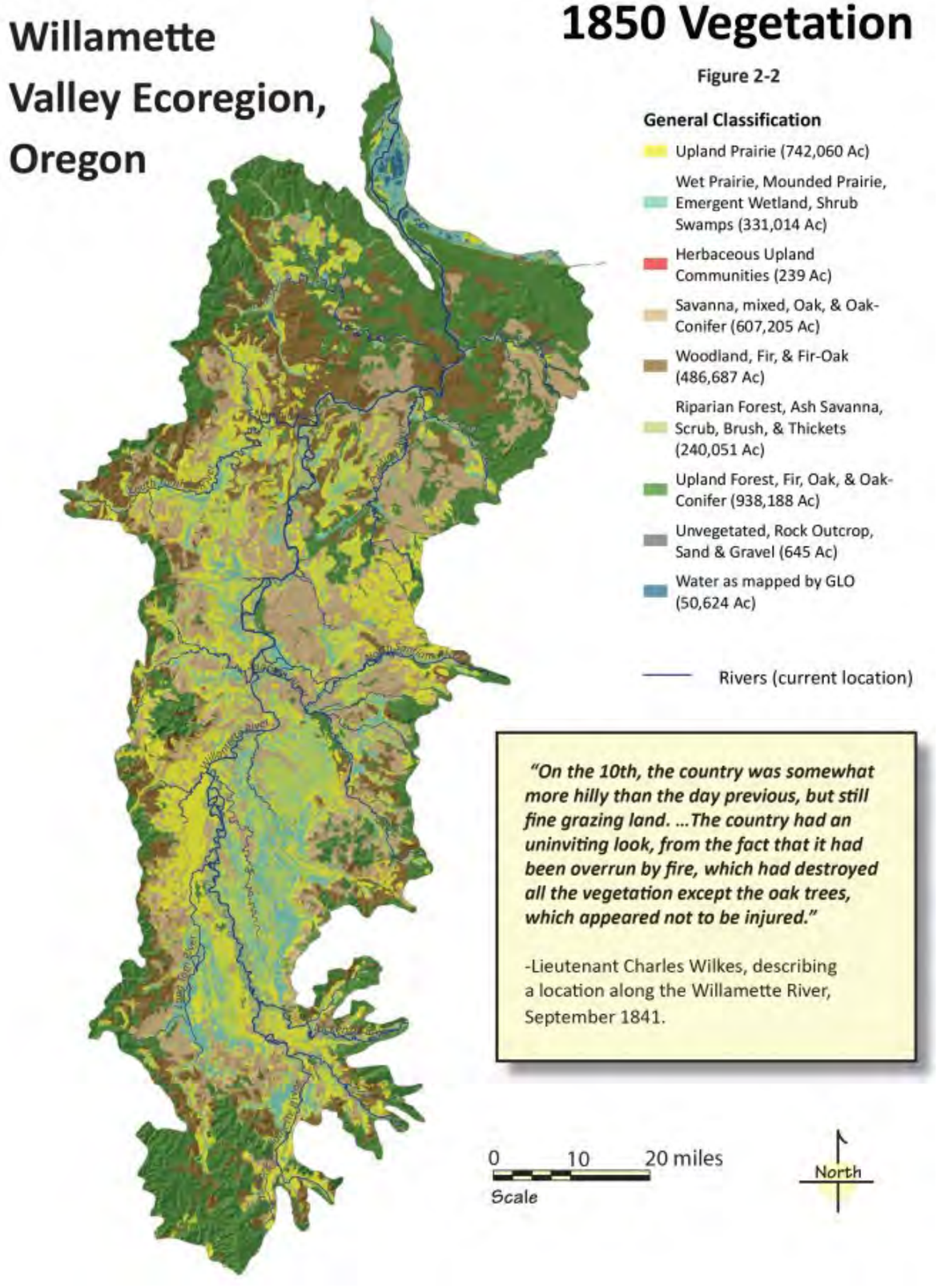


Fig. 2.3: General classification of Willamette Valley ecoregion, Oregon.

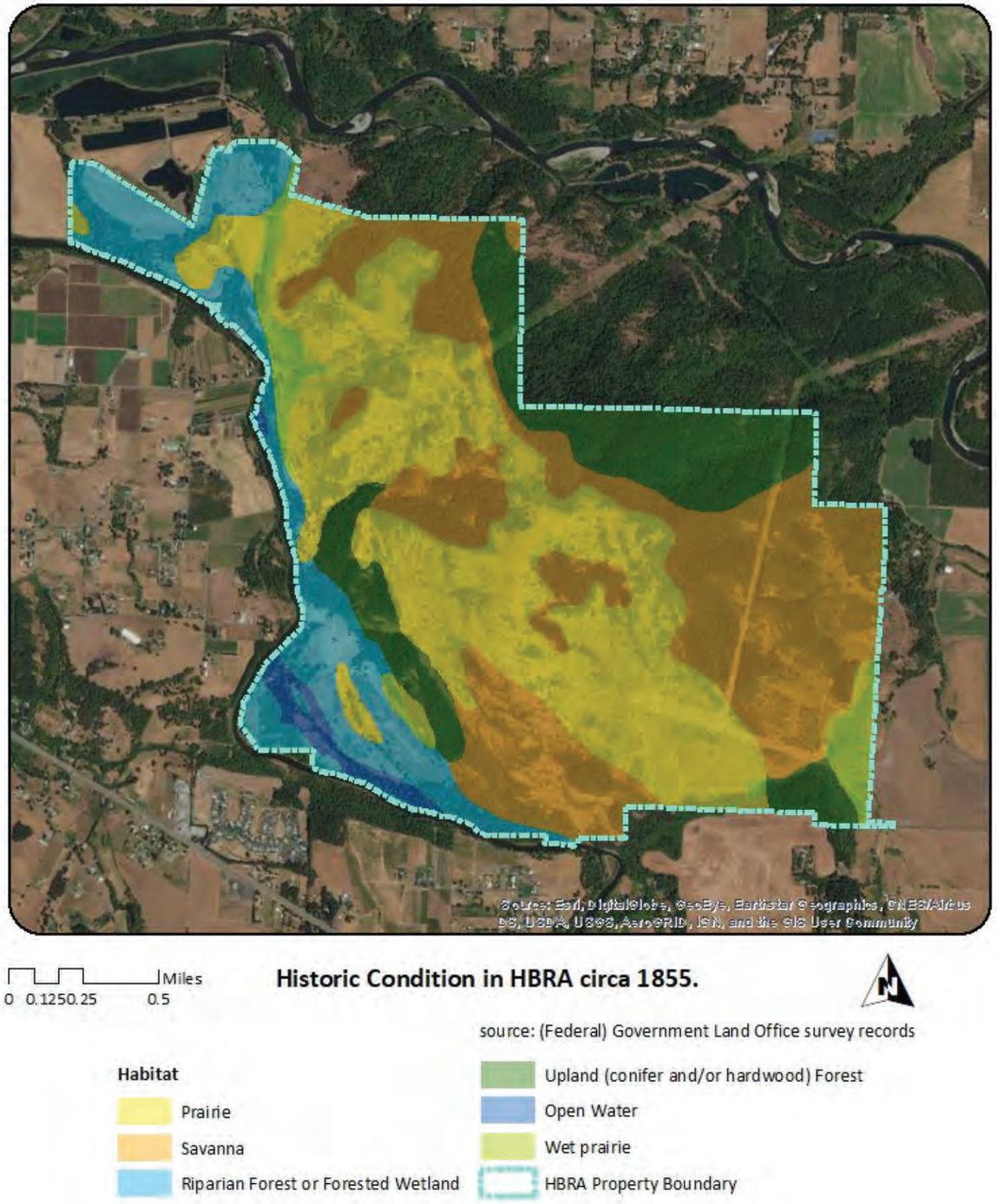


Fig. 2.4: Historic condition of vegetaion and land use in HBRA

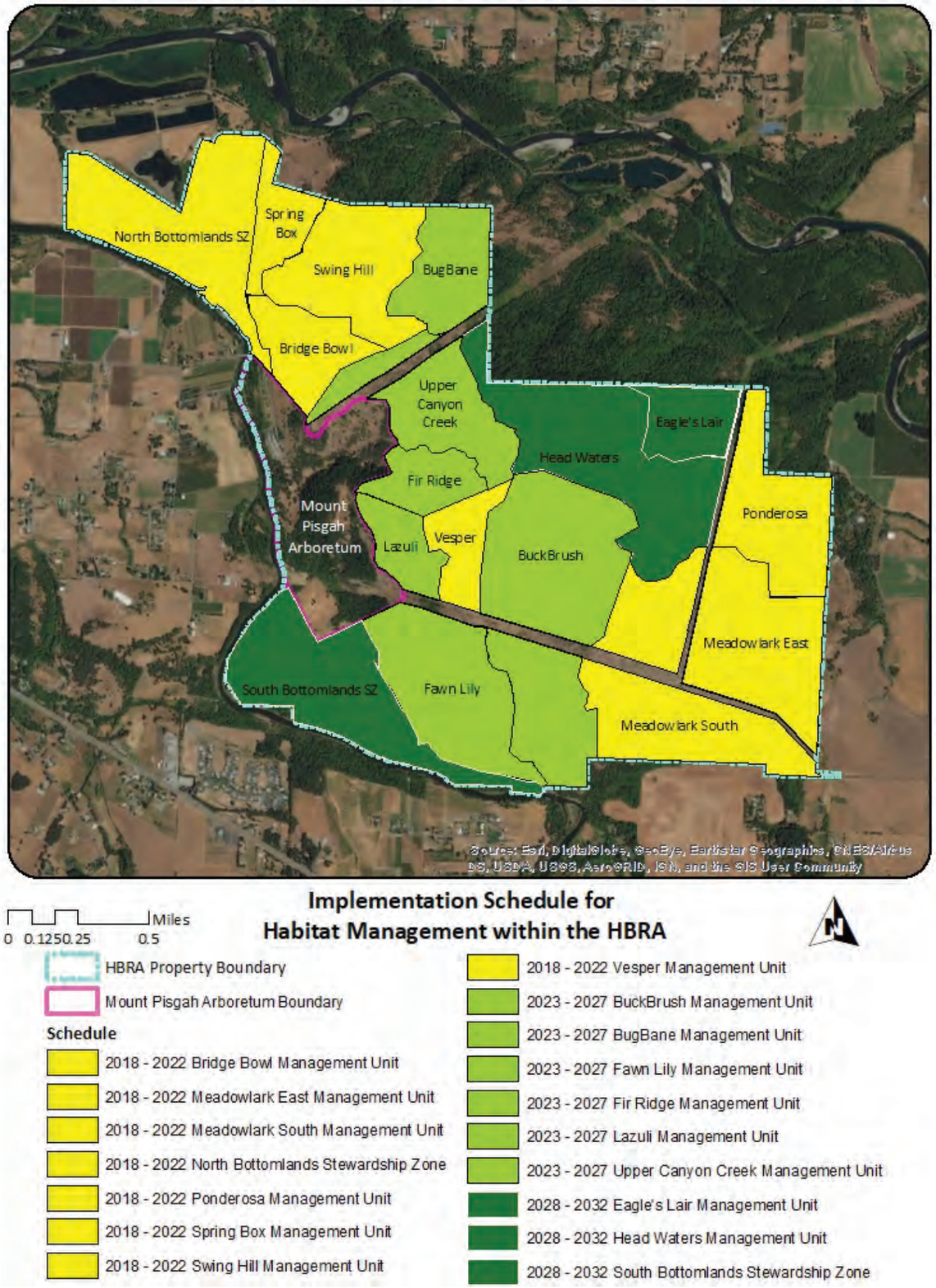


Fig. 2.5: Habitat management plan within the areas of HBRA.

Over Tracked and Trampled:

HBRA has experienced a 10-fold increase in visitors since 1984, and visitation is projected to double in the next 40 years. The popularity of the park is evidence of how important Mt. Pisgah is to the Lane County community. The need for designed facilities at the Mt. Pisgah summit is clear upon visiting the space; the earth is severely compacted and foot traffic scars narrow trails across its surface. There are no boundaries indicated to visitors, and they unknowingly trample sensitive vegetation and rock outcrops. The bench seating is limited, and the trail suffers from severe erosion in some places. Invasive plants run rampant; conifers are beginning to encroach on both views and the rare oak savanna habitat. There is a lot of work to be done at Mt. Pisgah's summit, but also opportunities to tackle these challenges in creative ways to serve the people who love the HBRA, and the wildlife that call it home.

Strategies in User Capacity

Students designed their strategies based on projections of user capacity and distribution around the HBRA- understood as 'alternative future scenarios'. The alternative future scenario graphs display annual visitation to the summit on the X-axis, and visitation of the park excluding the summit on the Y-axis. Each student considered multiple visitation possibilities and prescribed their designs according to these projections. Referencing the points on their graphs, some students designed for very high summit capacity while others tried to spread visitors to other parts of the park- many included both strategies within their projects. Students visited the HBRA throughout the studio to observe the current state of the summit and user's behavior, while also taking the time to connect with the site and ground-truth their designs.

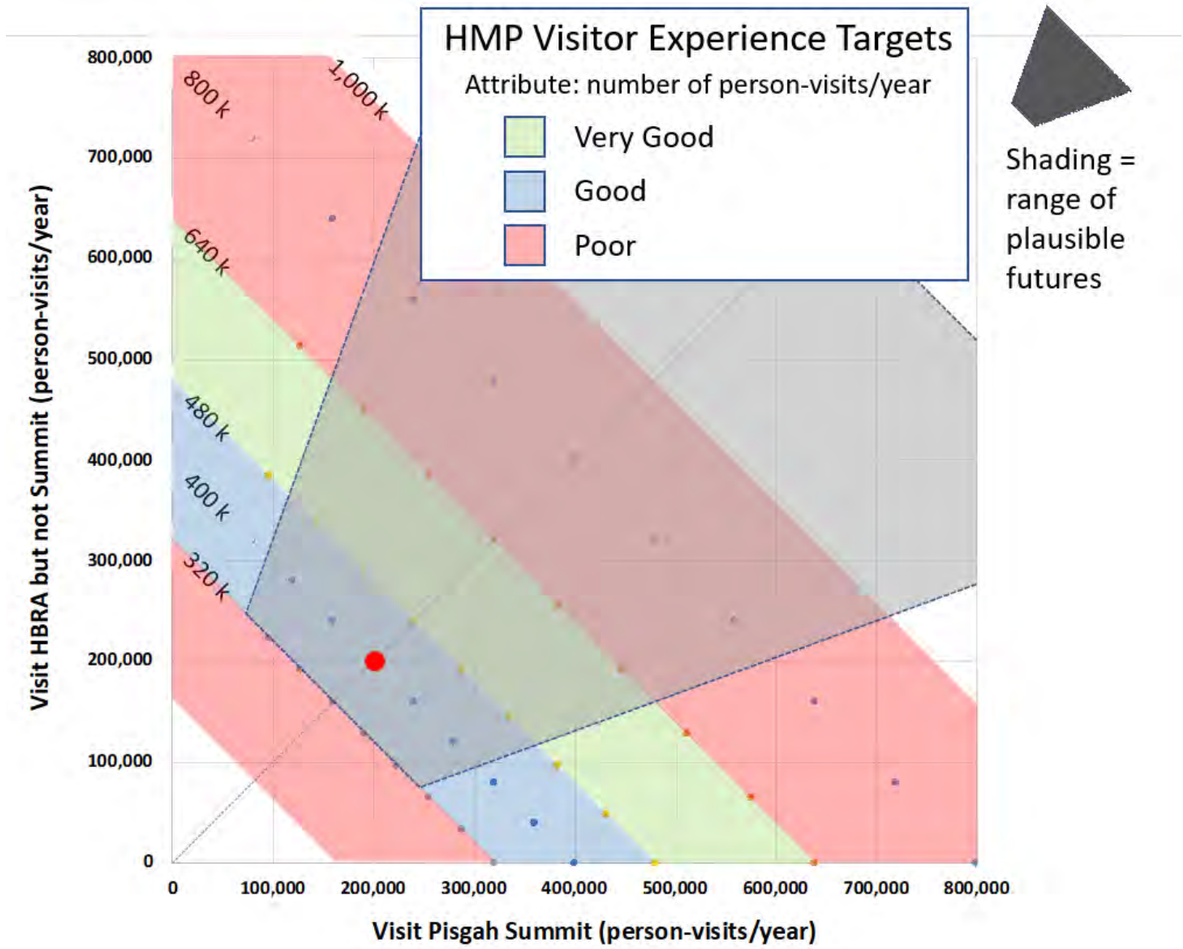


Fig. 2.6: Alternative future scenarios graph.

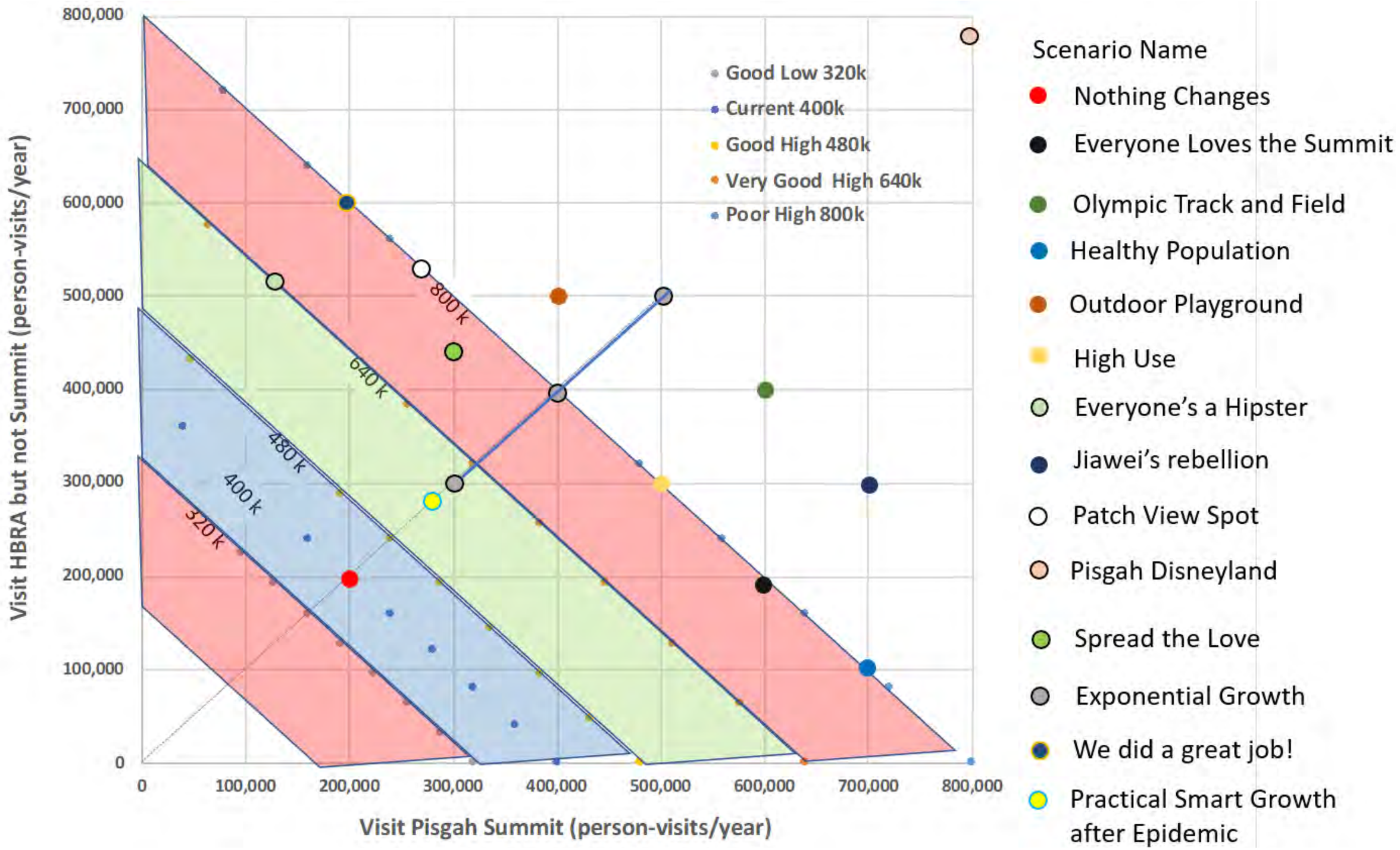


Fig. 2.7: Each student predicted multiple visitation possibilities within the framework of alternative future scenarios. The column on the right side of the graph provides a student's personalized name for the scenario. Chapter 5 shows the manifestation of these scenarios in students' work. Diagonal lines indicate equal visitation of the summit and the rest of the park, that is, half of all visitors go to the summit

Chapter 3

Social Assessment

Social Assessment Team:

To understand stakeholder needs, perceptions, and desires for Mt. Pisgah's summit, students performed informal and semi-structured interviews with park users. Interviewees were first surveyed for demographic data to assess who was represented in the survey and how these individuals used the park. Following this electronic survey, students performed hour-long semi-structured interviews to document individual narratives and listen to the experiences and values of these park users. Participants were given context and introduction to the student's studio goals to redesign the Mt. Pisgah summit.

Demographics summary:

Before interviews were scheduled, students asked interviewees basic demographic data using an online survey to get an idea of who our participants were. Most interviewees were over the age of 60, Caucasian, 50% male to 50% female, and had some affiliation with Friends of Buford Park and Mt. Pisgah, Mount Pisgah Arboretum, or other recreational groups.

The survey also asked questions about park usage. These questions revealed that interviewees were frequent park users with 65% visiting the park at least once a week and most often stayed for 1-3 hours in a visit. More than half of participants summitted Mt. Pisgah during their visits, and did not typically bring dogs, while none brought horses on their trips. Summitting in groups larger than 5 was rare.

While the demographics did not represent a high diversity of users, exploring what drew people to Mt. Pisgah in the semi-structured interviews proved to be helpful to understand what qualities of the park were considered valuable or special to individuals.

Interviews:

After receiving demographic data, 17 participants sat down individually with students for a one-hour semi-structured interview. The goal of these interviews was to better understand what connects people with the Mt. Pisgah landscape so that students could better consider how their designs would affect user experiences. Interviewees were asked the following questions and probed with sub questions if time allowed.

Question 1: What makes Mt. Pisgah special to you?

a. What draws you to the Mt. Pisgah summit?

While these questions were very open ended, there were ten themes to people's answers that the social systems team could draw from the interviews. In order from most to least mentioned was:

Beautiful views

Convenient to access

The natural park setting

High variety of habitat

Good variety of trails

Space for solitude

Good exercise

Memories associated with the park

History of the site

Social interaction

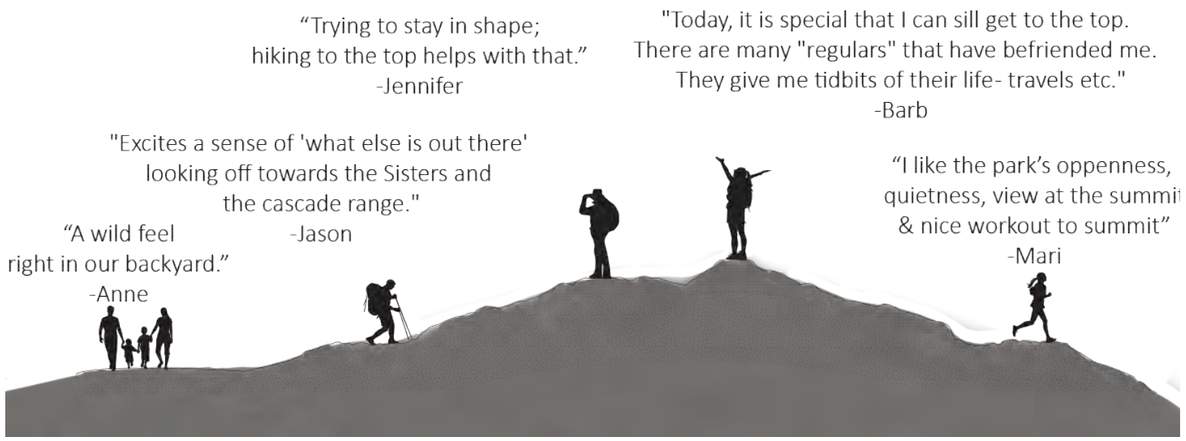


Fig. 3.1. User quotes about what makes Mt. Pisgah special to them.

Fig. 3.2. Percentage of responses shown in wheel on left.

Question 2: <u>What is your experience with the trails leading to and from the summit?</u>

a. Can you navigate the trail system easily?

b. Do you ever experience conflict/encounters between different user groups (dogs/horses/ runners)?

Our interviewees were very experienced users of the park, so most of them were familiar enough with the trails and signage to find it clear and easy to navigate; 84% of participants said that trail navigation was easy. However, 8 of the 17 participants noted that they though the trails were poorly maintained.

Some participants revealed which trails were their preferred trails: Trail 4 had four people mention is was their favorite trail, with another four people calling Trail 1 their favorite. Interestingly, the six participants that mentioned their least favorite trail all agreed that they did not like Trail 1. Users complained about the loose gravel path, crowds, or trail width as reasons they did not like Trail 1.

When asked about conflicts on the trail, 11 participants mentioned that off-leash dogs were a problem, either for wild-life or other park users. However, 14 participants felt they had no conflicts with leashed-dogs. There were very few conflicts mentioned about other park users, trail runners, equestrians, or wild-life.

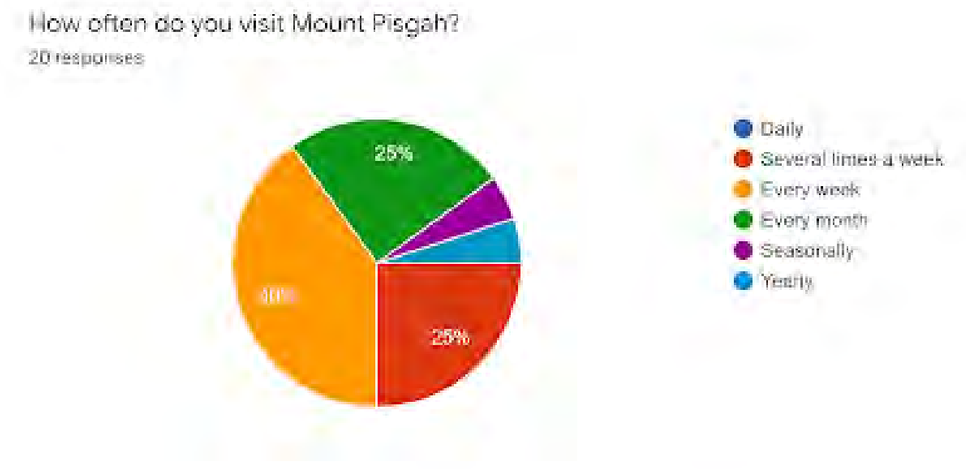
Question 3: <u>What is your favorite summit spot? (rocks, benches, desire paths, etc.)</u>

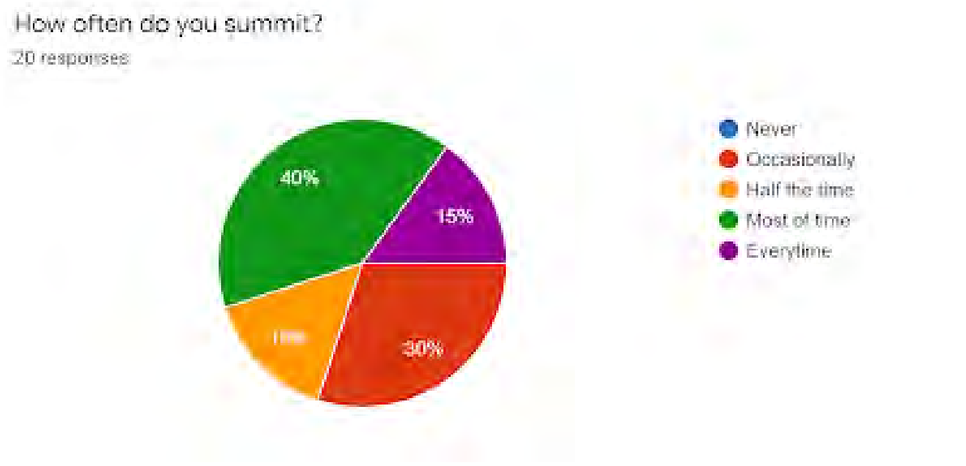
a. Draw the area you consider to be the summit (Use maps)

b. Mark the areas you like to use the most (Use maps)

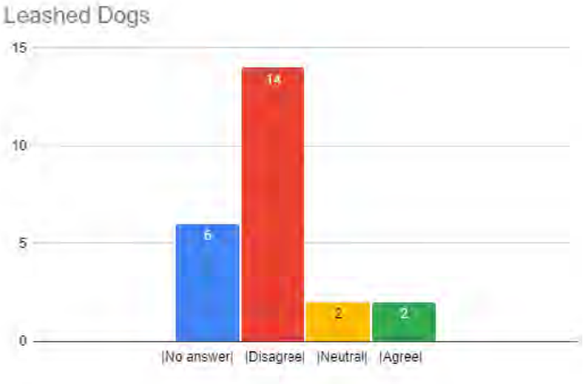
Participants were asked to draw directly on maps of the summit for these questions. Users generally considered the monument to be the summit, while some included the benches to be the boundary of the larger summit site. When asked what their favorite summit spots were, these were the areas mentioned most to least:

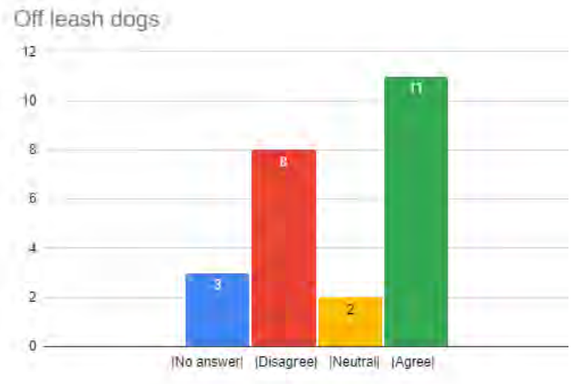
1) The summit monument
2) The benches
3) Summit White Oaks





I've had conflicts with:





4) Desire-line (unofficial) paths

5) Forested areas

6) Rock outcrops

The monument and benches were largely important to people, with some participants revealing personal connections and memories to these features. One participant who chose a bench as their favorite spot recalled their friendship with the beloved person the bench commemorated.

Question 4: <u>Does it ever feel crowded on the summit to you?</u>

a. If yes, where do you go? What do you do?

b. How many people (roughly) does it take for you to feel crowded?

Only about a quarter of participants felt that the summit was often or mostly crowded, while the others thought it was only sometimes crowded, and most not at all. Under circumstances where they felt it was crowded, most people felt they could find solitude at the summit or they would simply leave. The question of how many people they could tolerate at the summit ranged widely with no clear agreement among participants. Some felt that 1-10 people was a lot, while some tolerated up to 30 people before considering it crowded.

Question 5: <u>What would improve your experience at the summit?</u>

a. How would you suggest protecting the summit?

Question 5 was intentionally left broad, and participants offered a lot of insight as experienced users of the park. The most mentioned improvement to the summit by far was trail maintenance, but the addition of amenities and seating had several mentions.

Many interviewees answered the question by describing what they did NOT want to see at the summit. The things participants did not want to see at the summit from most mentioned to least were:

Impeded views

Permanent structures

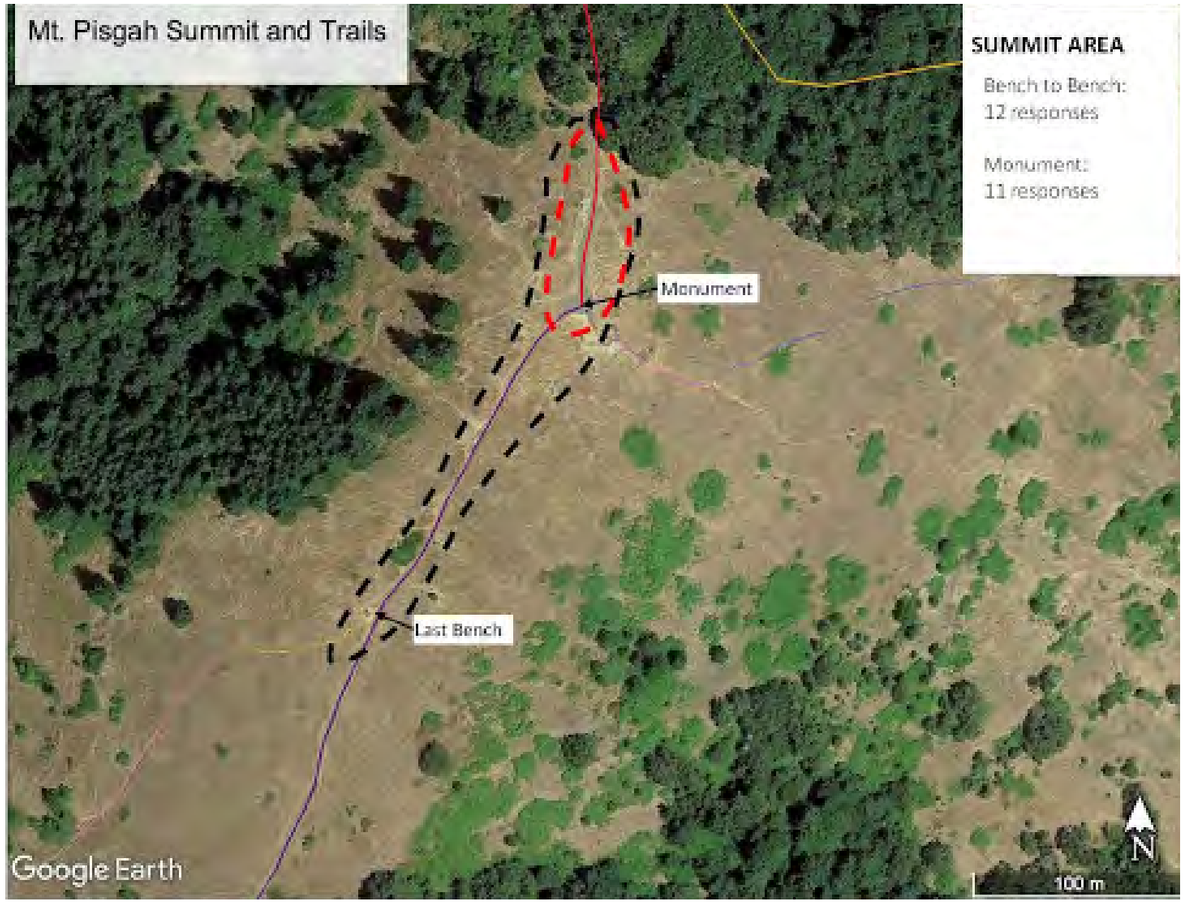


Fig. 3.3: The dotted red and black lines indicate visitors' cognitive demarcation of the summit area.

Fig. 3.4: The monument functions as an anchor for social gathering.

Off-leash dogs

Amenities (such as bathrooms)

Pavement

Some outliers worth noting were that people mentioned they would not want to see additional benches in the current design (but noted that other designs for seating would be welcome), and the summit did not need additional trails.

One suggestion (not listed) was particularly controversial, and this was whether people were okay with seeing significant change or high intervention to the summit. Six people said they would definitely not want to see significant changes, five said that significant change would not bother them, while seven fell somewhere in between. Clearly, there is some reservation for users about seeing the summit go through a lot of change, but others saw the value in more strong-handed interventions.

When asked how they would suggest protecting the summit, participants offered several suggestions, from most to least mentioned:

1) More user education
2) Use of other official trails
3) Restriction of off-trail use
4) Clearer trail boundaries
5) Additional signage

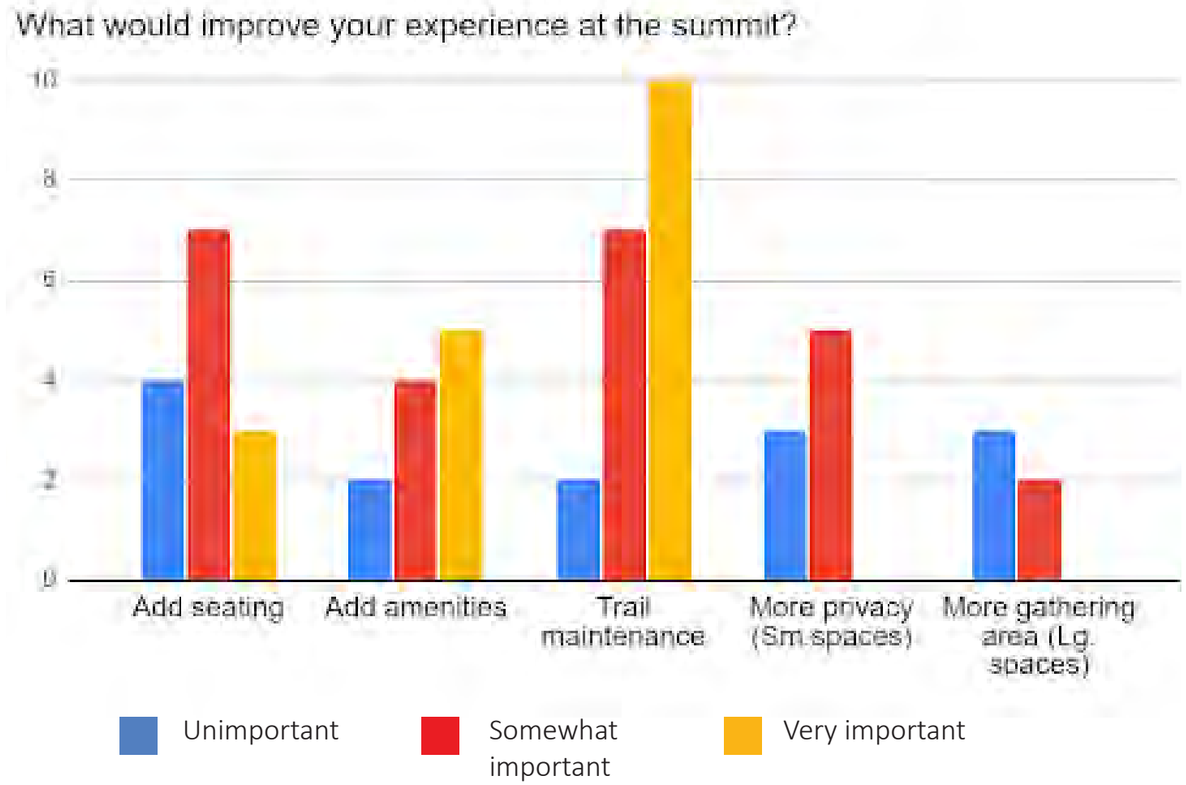


Fig. 3.5: West facing views from near the Mt. Pisgah summit.

Interview Assessment:

The people who were interviewed generally had long-standing connections to Mt. Pisgah as frequent and long-time users who were affiliated with the park. Their perspectives offered some insight into what well-informed users of the park think of potential changes to Mt. Pisgah and its summit.

Stakeholders and Park Management:

The interviews revealed the importance of independent experiences while highlighting some collective concerns about the usage and health of Mt. Pisgah and its summit. The habitat and wildlife were largely important to users, suggesting that that maintaining habitat health is congruent with the HBRA management plan's goals to improve the quality of recreator's experiences.

Conclusions:

Students recognized the limitations in translating their individual interviews into a collective understanding of user's experience of HBRA and Mt. Pisgah. The sample size lacked diversity, but the insights of these experiences park users still offered valuable insight to the place. The interviewees generously shared their personal stories and connections with HBRA and Mt. Pisgah, which the students greatly appreciated and considered within their design process. While there was difficulty in attempts to graphically organize and represent this data, the narratives from the interviews were shared among the class, and a better sense of what the park meant to users and what stakeholders found important was understood.

Chapter 4

Environmental Assessment

Environmental Assessment Team:

Half of the class made up the Environmental Assessment Team, where students were asked to study the summit area for physical evidence of activity. The Environmental Assessment Team recorded features like vegetation, trails, amenities, rock outcrops, and any visible habitat features. Students were able to identify points of interest from the existing features of the summit which would influence their designs. There is no physical demarcation of the summit, so students also took the opportunity to delineate the summit area in their designs

HBRA Site Assessment: Many of the trails within HBRA were originally old farm roads, and were converted into trails out of convenience rather than design intent. Because it was not originally designed to be a comprehensive trail system, trails may not always follow the most suitable paths or share a consistent design vocabulary.

The existing trails within HBRA (shown as orange lines in Fig. 4.1) can create impacts beyond the path's edge. Visitors using a trail can cause disruption to wildlife behavior, such as bird breeding, up to 100 meters away (Knight R.L 2007)- indicated by the blue buffer areas. This limits space and opportunity for healthy habitat of sensitive vesper sparrows among other impacted species. Only 40% of the park area is safe from visitor impacts from the trails based on this 100 m buffer

The site design intervention students suggest are site-wide alterations that would help the system feel more whole. The student site designs include educational opportunities and more naturalistic trail features. They also aim to improve the surrounding habitat by protecting hydrology and encouraging hikers to stay on trail.

The summit area coincides with the Vesper Sparrow Unit of the HBRA habitat management plan. The Oregon Vesper Sparrow is endemic to Willamette Valley ecoregions. This bird is a ground-dwelling, ground-nesting, ground-foraging, and ground-mating bird that prefers grasslands such as open dry upland prairies with short, sparse grass and scattered shrubs for open-cup nesting. This target conservation species was a high priority to many students, and there are several designs that consider the bird's life cycle and enhance its habitat in the Vesper Sparrow Management Unit.

Impact of Trails on birds in HBRA Park

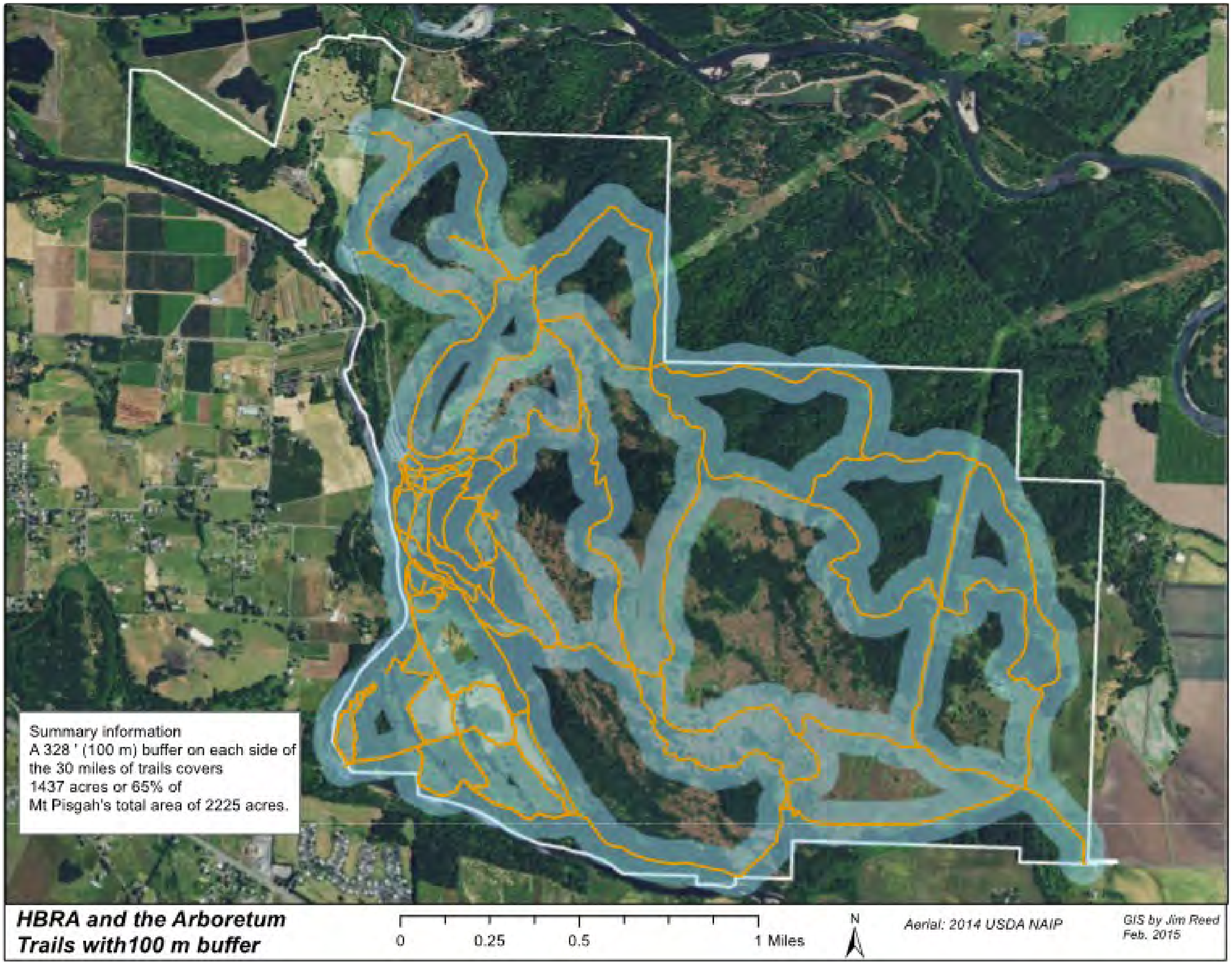


Fig. 4.1: 100 meters buffer along HBRA trails shows that only 40% of the park is outside the zone of projected recreational trail impacts on birds. Map courtesy Jim Reed and Bart Johnson.

Taxonomic data from iNaturalist

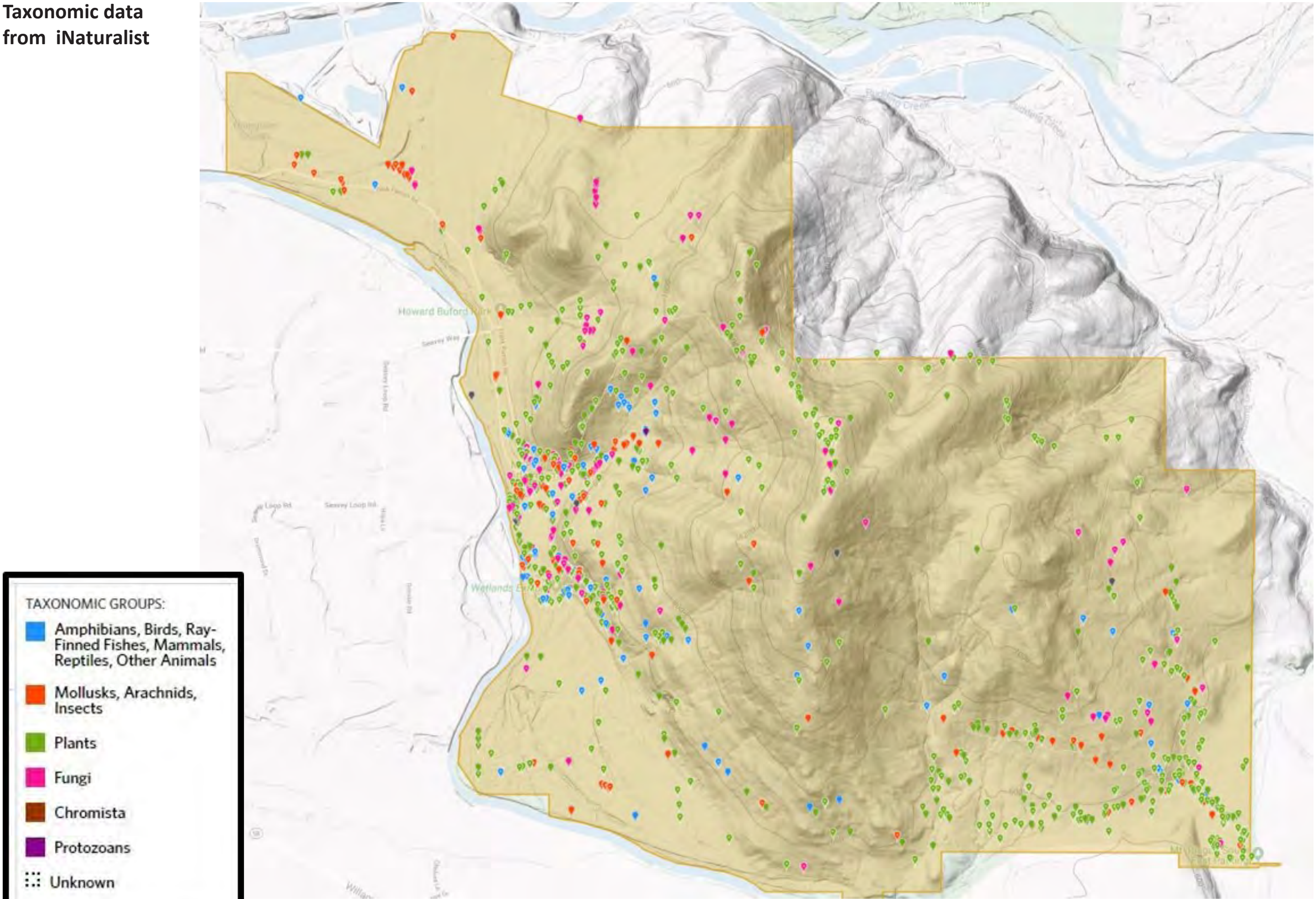


Fig. 4.2: The map identifies the complex ecological biodiversity of Mt. Pisgah

Physical traces on the Mt. Pisgah summit

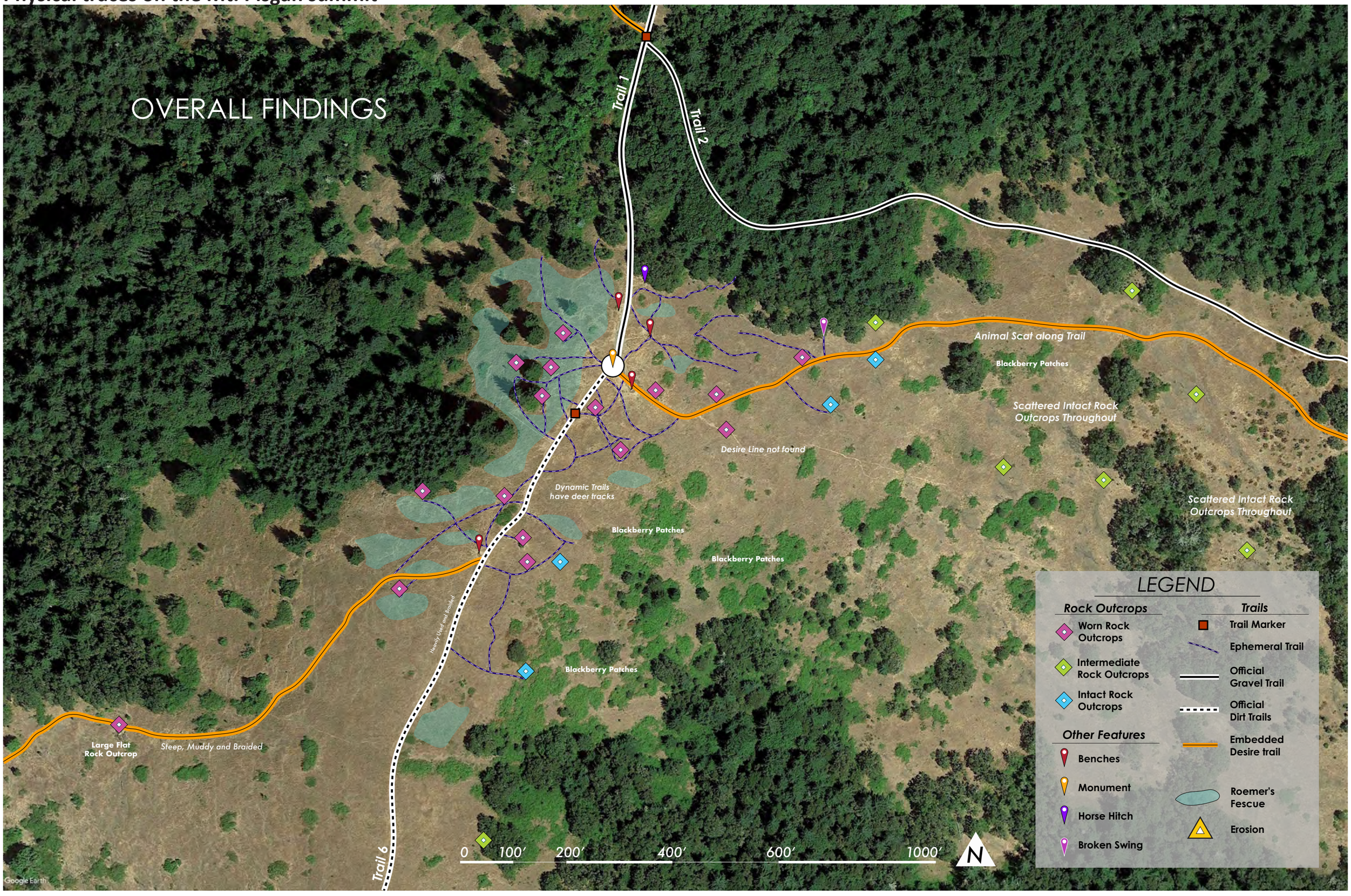


Fig. 4.3: Physical traces reveal ecological disturbances in the summit's natural habitat due to off-trail use.

Summit Assessment:

The Mt. Pisgah summit is a part of the 2,214-acre HBRA. Trails 1, 2 and 6 are the main trails that lead to the open prairie and savanna of the summit area. The summit has no physical demarcation except for a long ridgeline where Trails 1 and 6 meet. The environmental assessment map traces some of the physical features of the summit area:

1. Vegetation:

Native Oregon white oak and Douglas-fir occupy the lower peripheral slopes of the summit area, leaving the central ridgeline peak area to native grasses, including Roemer's fescue, and wildflowers. Interspersed between the swards of Roemer's fescue are tall invasive non-native grasses. Invasive blackberries dominate a large portion of the eastern lower slopes of the summit. Students have suggested planting a palette of native species and using fire as a tool to enhance the summit's biodiversity.

Approaching the site from northern slopes on Trail 1, an entrance is formed by a natural transition of Oregon white oak and Douglas-fir to the swards of Roemer's fescue. Several students have considered this location as a starting point and entrance of the summit in their designs.

Fig. 4.4: Oregon white oaks

Fig. 4.5: Roemer's fescue and native forbs during summer

2. Trails:

Trail 1 sits along the northwest side of the park, is the most frequently used trail, and is the quickest route to summit Mt. Pisgah. Trail 1 is a wide path constructed of large gravel. Trail 6 leads to the summit from the southern end of the park and in a narrower dirt trail. Due to overuse, the width of Trail 6 increases as it erodes and creates smaller strips of adjoining trails.

The documentation of physical traces of use on the summit documented two unofficial, heavily used, trails named “embedded trails X and Y” into recognition. These are unofficial trails that have been so heavily used over time they have become embedded into the soil. Trails created as a result of the wandering movement of visitors but that are not embedded into the soil were named “ephemeral trails”. The last six years of historical aerials shows yearly or seasonal shifts in the position of ephemeral trails.

Ephemeral trails mark the unintended trampling of Roemer’s fescue, and important source of cover for Oregon vesper sparrow, and also may have increased the spread of invasive grasses. Embedded trails cause an additional interruption into the habitat of the upland prairie and can lead to increased erosion. Therefore, students focused on further design to provide a trail system that can reduce the use of unofficial trails by meeting visitor needs with a redesigned trail system.

Fig. 4.6: Official Gravel Trail 1

Fig. 4.7: Official Dirt Trail 6

Fig. 4.8: Embedded Desired ‘X’ and ‘Y”

Fig. 4.9: Ephemeral trails

3. Monument:

The monument on the 1531 ft. summit of Mt. Pisgah is a 40-inch tall bronze monument designed by the sculptor Peter Helzer in 1990. The bronze sculpture illustrates the geographical features of the surrounding viewshed whereas the sides are embellished with historical fossil records of marine life in the Willamette Valley. The slots designed into the pedestal are oriented toward the northwest and the southeast to highlight views of the sunrise or sunset during the summer and winter solstices.

For people who visit Mt. Pisgah, the monument is not only sacrosanct but also serves as a landmark of the summit. Considering the importance of the monument, all the students decided to leave the monument unchanged. Some students enhanced the location of the monument, suggesting a design for its peripheral paving where others integrated the function of the monument as inspiration of their conceptual designs.

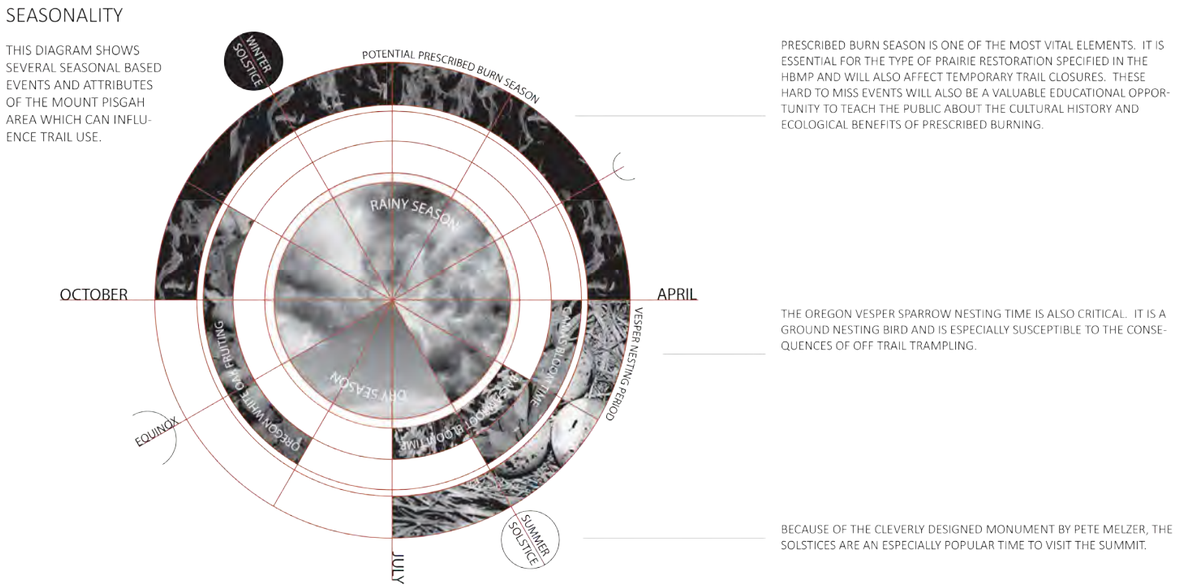


Fig. 4.10: The seasonality map documents the socio-ecological events that influence the use of the summit.

Fig. 4.11: Monument during a winter solstice sunrise.

Fig. 4.12: Monument after a heavy snowfall.

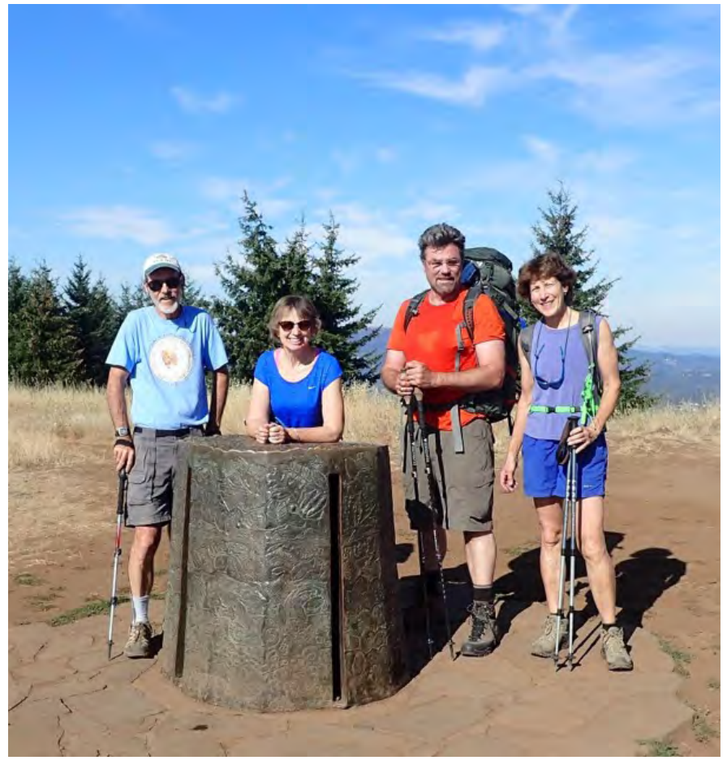


Fig. 4.13: Monument at most of the day during the year.

4. Rock Outcrops:

Numerous rock outcrops are found on the summit of Mt. Pisgah. The team of students in environmental studies scrutinized the health of xerophytic species growing on each outcrop. Based on the findings, rock outcrops were divided into three categories: worn rock outcrops, where xerophytic species have been scoured off by human use; intermediate rock outcrops, where the outcrop community shows signs of wearing; and intact rock outcrops, where the outcrops were still covered with xerophytic species. Almost all the rock outcrops close to the trails and ridge crest were well-worn, whereas rock outcrops on the steeper slopes along the edge of the summit were either in intermediate or intact condition.

Outcrops on the summit near the ridge crest are used by people to stand/sit and view the vistas. Visitors unintentionally disturb the life growing on these outcrops when they sit and stand on them. Many students took action in their designs to protect the rock outcrops. Some of them have highlighted the growth of xerophytic species, while some of them have added more intentional stone seating so the original outcrops of the summit stay intact.

Fig. 4.14: Worn Rock Outcrop

Fig. 4.15: Intermediate Rock Outcrop

Fig. 4.16: Intact Rock Outcrop

Summit Views:

The prairie landscape of the summit facilitates extraordinary views and vistas of the Willamette Valley. The summit offers contiguous, almost 360-degree peripheral views of mountain ranges such as Mount Baldy and Spencer Butte in the west; Sellers Butte, Short Mountain, and Rattlesnake Mountain in the south; and the Cascade Range with snow-clad views of Diamond Peak and the Three Sisters towards the east.

The viewshed analysis created through remote sensing data shows that removing some of the coniferous trees towards the lower western slopes of the summit will enhance the viewing range on the western slopes; an area increasingly obstructed by conifer encroachment.

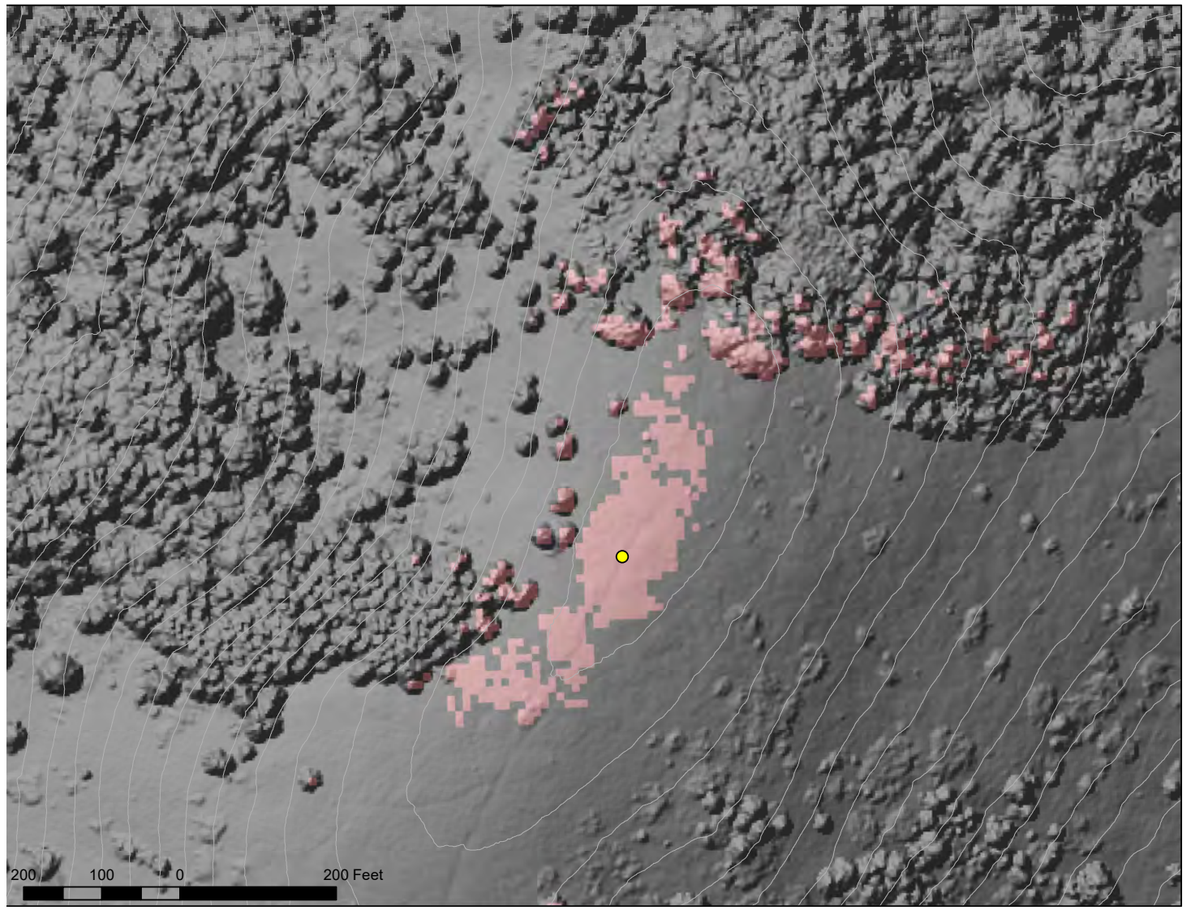
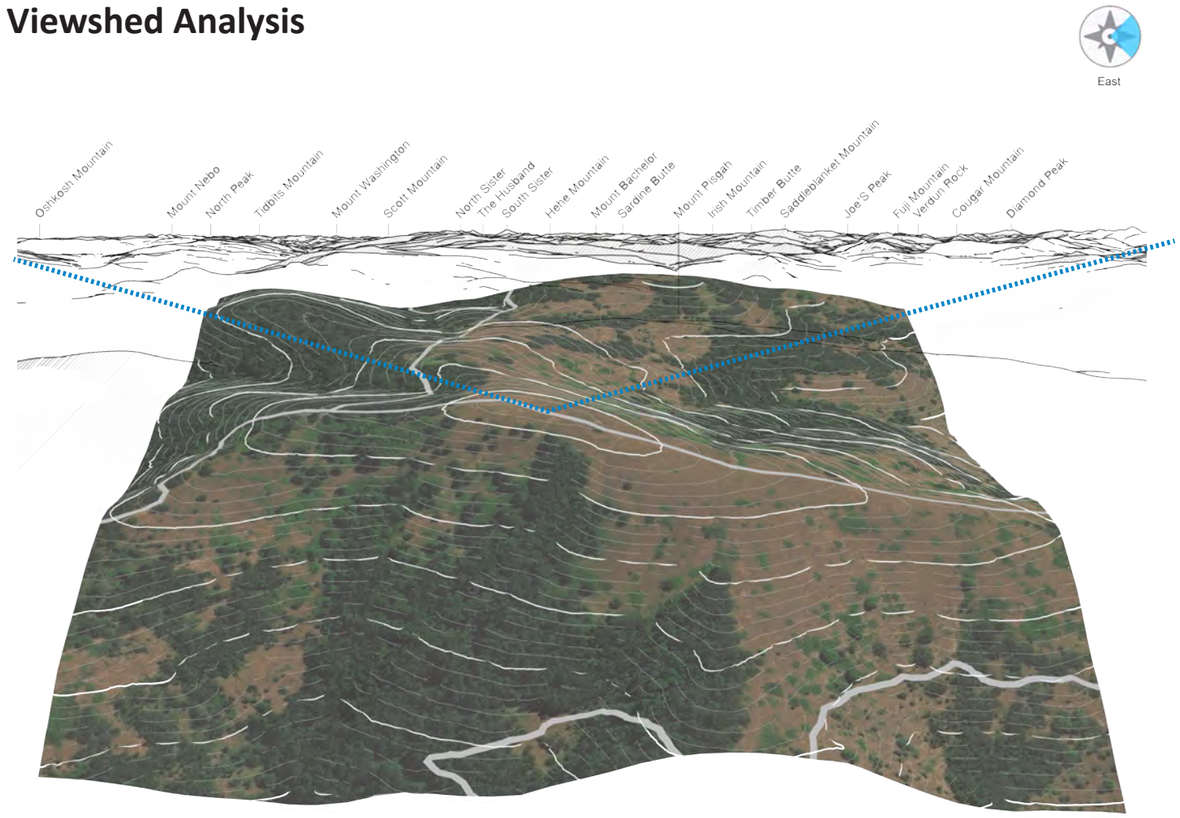


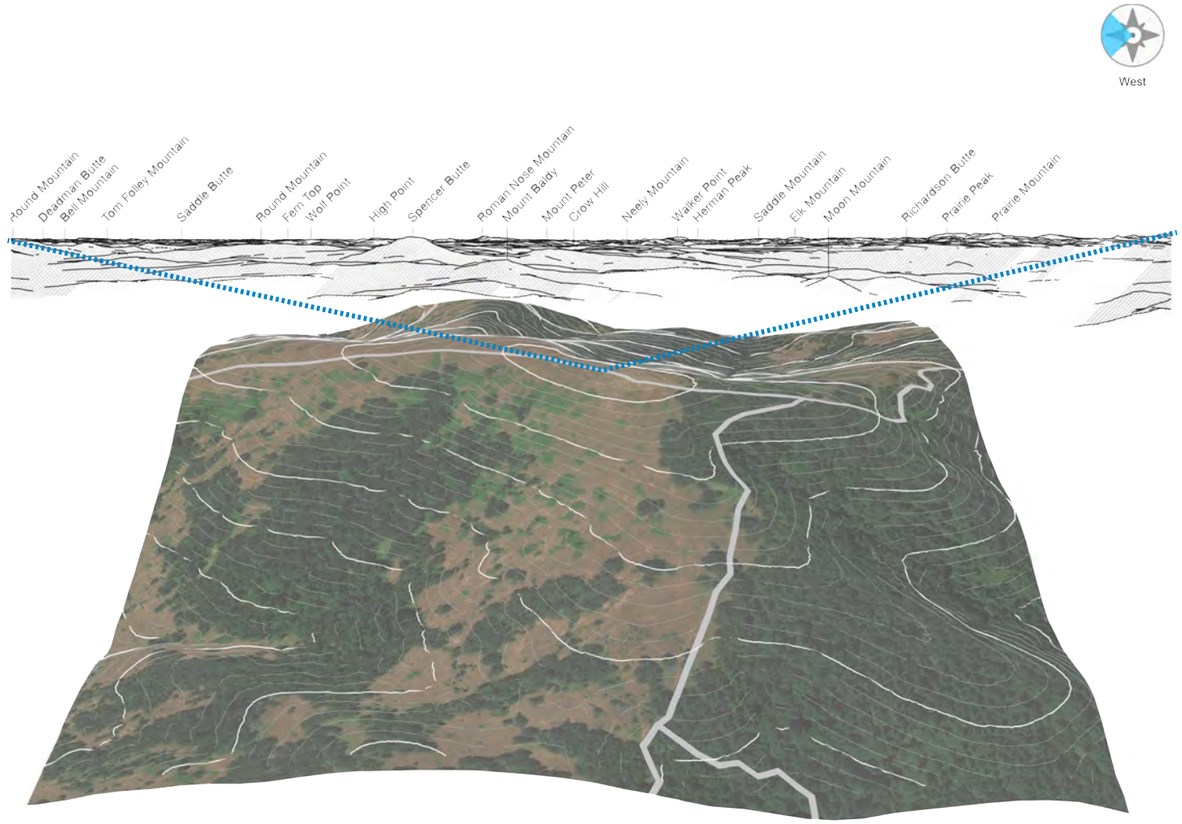
Fig. 4.18: Removing a few Douglas-fir trees from western slopes will open up to view Mt. Baldy and Spencer Butte.

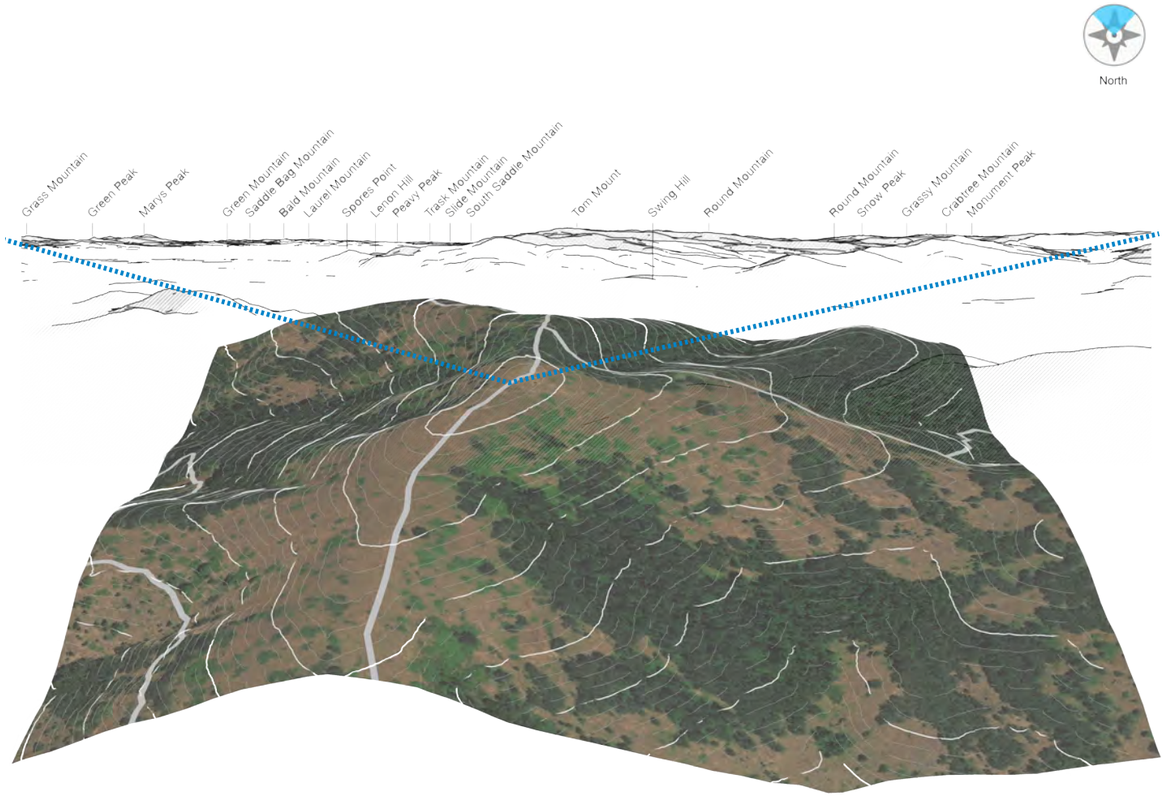
Fig. 4.19: Visitors' looking out towards the eastern slopes at the time of sunset.

Fig. 4.20: Viewing the 2017 solar eclipse at the summit.

Viewshed Analysis







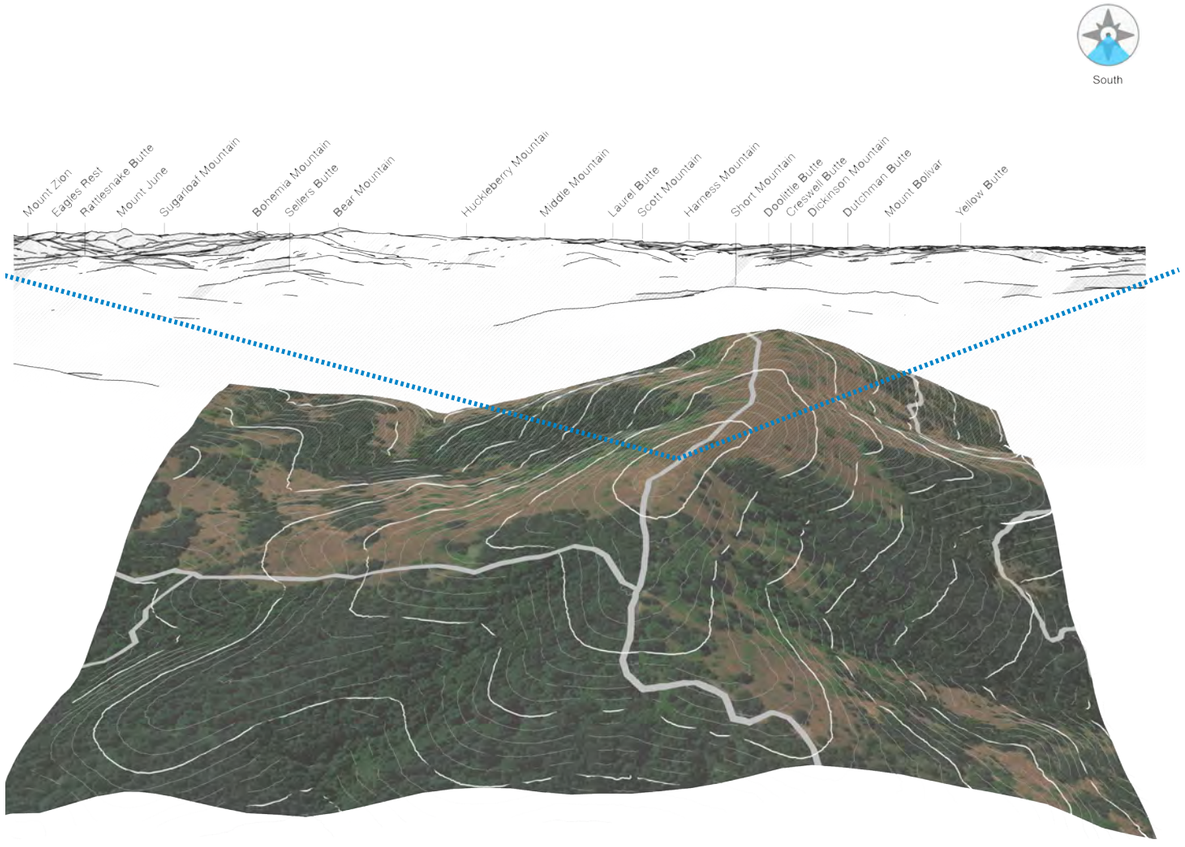


Fig. 4.17: Viewshed analysis highlights the name of peaks visible from each direction of the summit.

Observational Data of Visitor Use:

The purpose of user data collection was to better understand how the summit is used by visitors. Data collection spanned several days at different times of day. Students stationed themselves at the summit and recorded user activity through coded data entries.

All the students participated in fieldwork by collecting user data including:

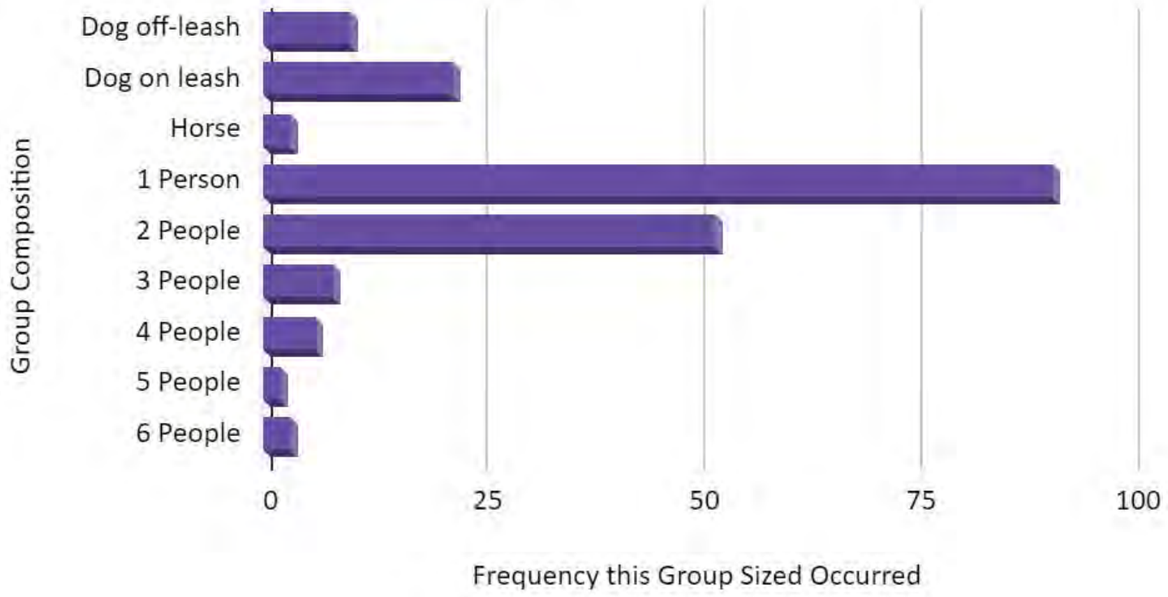
- Group composition and size
- Use of routes and trails and movement on the summit
- Types of activity and time spent on the summit

The data help to characterize how the summit is used. The students noted the following observations when working on their designs:

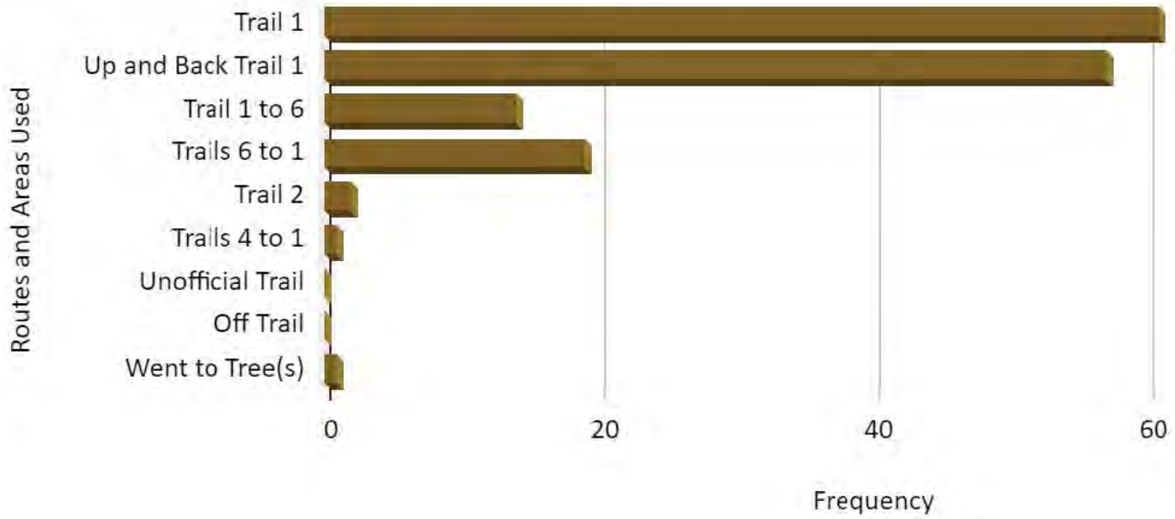
- Trail 1 is the most used route to reach the summit
- Most of the visitors stayed on the summit for between 5 and 30 minutes
- Almost all the visitors stopped/paused their journey at the monument
- Visitors went off-trail to seek views and solitude
- Visitors generally preferred to sit at the benches if they were empty. However, there were some cases where visitors chose to sit on the outcrops with their dogs
- Trails were used to socialize within and between groups of visitors

Fig. 4.21: Visitors hike to the summit on extreme snowy, rainy, and hot days of the year.

Group Composition and Size



Routes and Areas Used Frequency



Activity and Frequency

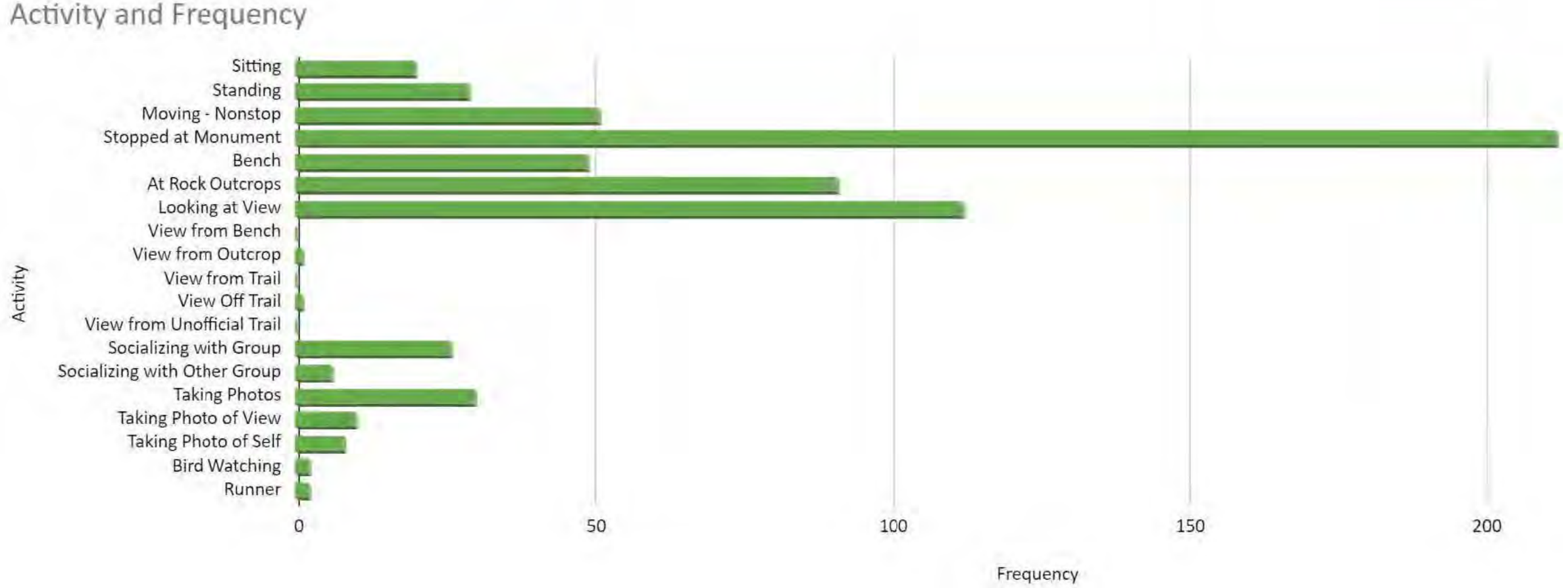


Fig. 4.22: Impact of visitors on the summit landscape of Mt. Pisgah.

Conclusions:

The Environmental Assessment Team brought attention to visitor activity as well as impacts they have unknowingly caused on the summit. Fig. 4.22 shows a dense network of unofficial trails trampling across the sensitive habitat of the summit landscape. The map also captures 1 to 17 visitors at one time on the summit for scale.

Most visitors spent a short amount of time on the summit but sought views and solitude while there. It was also determined that although the weekends had larger crowds, weather and seasonal changes had little impact on the number of visitors.

The sensitivity of the summit was evident in the wear on the landscape that students observed. From the eroded trails, to the abundance of invasive plants, to the degraded rock outcrops, the summit is in dire need of intervention to protect the summit landscape and its unique habitat from unaware visitors. This research encouraged students to seek designs that capture the sense of spaciousness and solitude visitors were drawn to, while conserving the valuable habitat of the Mt. Pisgah summit.

Chapter 5

Student Projects

Student Work

Students were asked to redesign the Mt. Pisgah summit and brainstorm ways to protect it from damage as visitation continues to rise. After teams had completed their research portions, students got to work on their design projects, informed by the HBRA Habitat Management Plan goals and the site research that took place.

Students were encouraged to employ multiple strategies to limit user capacity at the summit, and many students do suggest changes to the park at the HBRA site level. However, most of the energy was concentrated to the summit designs.

Summit designs considered user experience, restoration, wildlife, materials, circulation, views, education, and programming among other things. Students worked hard to represent their spatial interventions through maps, diagrams, and renderings.

The student projects have been organized by the similarities of their summit design or features in the following categories:

Integration of Prescribed Burns

Jigisha Modi, Taylor Bowden

Landform Manipulation and Extraction

David Pauls, Sierra Gardiner, Kris Parr

Loops and Gathering Spaces

Alissa Brunkhorst, Annie Williams, Wen Po Hsu, Lexi Smaldone

Observational Boardwalks and Structures

Carmela Sambo, Jeffrey Kuebler, Jiawei Luo, Su Li

Student Themes

The work of each student is unique, but there are shared themes and interventions found throughout the projects:

Site:

- Naming trails and suggesting loops
- Re-aligning trails for species management
- Making some unplanned (rogue) trails official
- Adding rest areas
- Adding built destinations
- Educational signage

Summit:

- Additional Seating
- Elevated boardwalks
- Viewing areas
- Fire management
- Interpretive Art

Materials:

- Cut Bedrock
- Boulders
- Metal fixtures
- Stone/Basalt fixtures
- Siliconized Wood
- Timber
- Earthworks
- Weathered Steel
- Glass
- Soil Cement

Student name	Cut Bedrock	Boulders	Stone/Basalt fixtures	Metal fixtures	Siliconized Wood	Timber	Earthworks	Weathered Steel	Glass	Soil Cement
Alissa		x	x				x			
Annie			x							
Carmela			x	x			x	x		
David	x	x	x				x			
Jeffrey	x			x	x					
Jiawei	x		x	x		x				
Jigisha						x	x		x	
Lexi			x							x
Kristine	x		x							
Sierra	x	x	x				x			
Su Li										
Taylor	x	x	x							
Wen Po			x	x		x				

	Site-Wide					
Student name	**Renaming Trails**	**Altering Trails**	**Looping Trails**	**New Park Destinations**	**Rest areas**	**Elevated Boardwalk**
Alissa	x		x		x	
Annie		x				
Carmela	x				x	x
David						
Jeffrey		x	x			
Jiawei						x
Jigisha		x				x
Lexi	x	x	x	x	x	
Kristine	x		x			
Sierra	x	x	x	x		
Su Li					x	x
Taylor		x		x		
Wen Po				x	x	x

	Summit			
Student name	**High Intervention**	**Fire Management**	**Solstice viewing**	**Extra Summit Trails**
Alissa				
Annie				
Carmela				
David	x			x
Jeffrey	x			
Jiawei	x			x
Jigisha		x		
Lexi			x	
Kristine	x	x		x
Sierra	x			x
Su Li				x
Taylor		x	x	x
Wen Po				

Integration of Prescribed Burns

Connecting Loop

Jigisha Modi

Site:

The design provides seasonal closure of Trail 6 during nesting season of Oregon Vesper Sparrow and provides modifications by removing unnecessary embedded trails that interrupt their habitat while connecting the views and experiences that visitors desire. Moreover, once people are accustomed to the outcome of demonstrative burning for habitat restoration, the larger summit area can also be prescriptively burned to improve the overall health of Vesper Sparrow habitat and expunge invasive upland prairie species.

Summit:

A design concept called, “A Connecting Loop;” links the delineated focal points of the summit to form an undulating, curving path that goes around whenever it encounters an outcrop. Additionally, this connecting loop conforms the wandering visitors’ “desired trails” that lead to various outcrop spots. However, the intention of the concept is to bring awareness to visitors by exhibiting the growing lives on these rock outcrops. Additionally, the loop is developed in three-phases to provide spaces over time to accommodate the exponential growth of visitors coming to HBRA.

Materials:

All paths and flat stone seats are made from the stones brought from the Mt. Pisgah quarry. The seats on the terraces are wooden logs procured from the fallen trees of the mountain and arranged on the terraces artistically. The planting of bluish-green grass differentiates the sitting terraces from the native grass (Roemer’s fescue). The planted grass will be mowed so people can delineate grass usable for their activities.

Summit Design

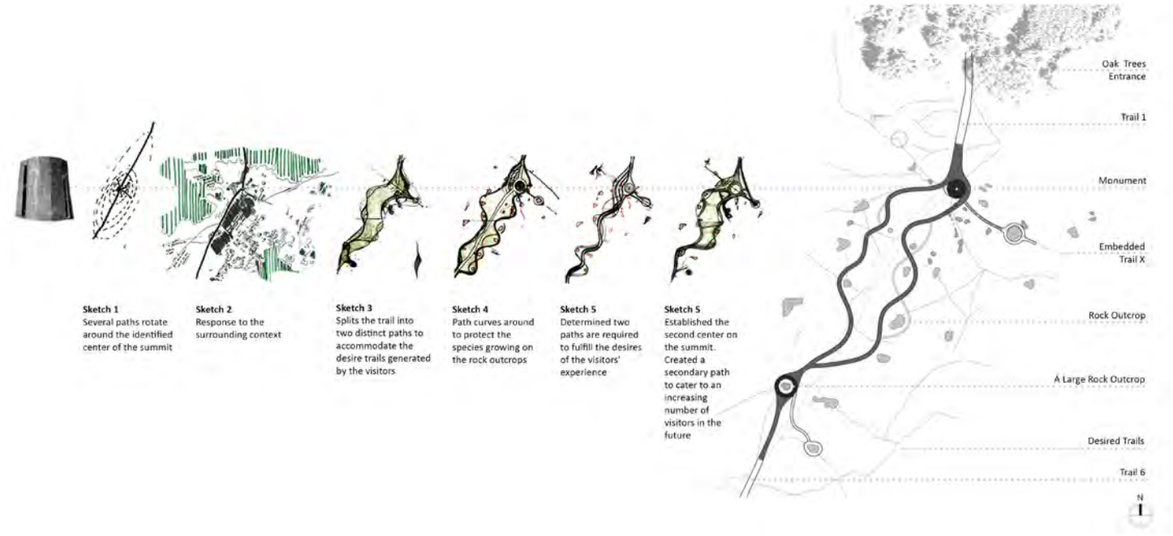


Fig. 5.1: Concept and design processes diagrams. The design identifies focal points from existing features of the summit. First is the entrance formed by a natural transition of White Oak and Douglas-fir trees to the swards of Roemer’s fescue. The second point is the monument designed by the sculptor, Peter Helzer, in 1990. The final point is a huge outcrop on the ridgeline, used by people to stand and view the vistas. The design concept considers these delineated points as starting and ending points of the summit. Thus, the concept “A Connecting Loop” embodies visitor’s desire as well as protects the xerophytic species growing on rock outcrops.

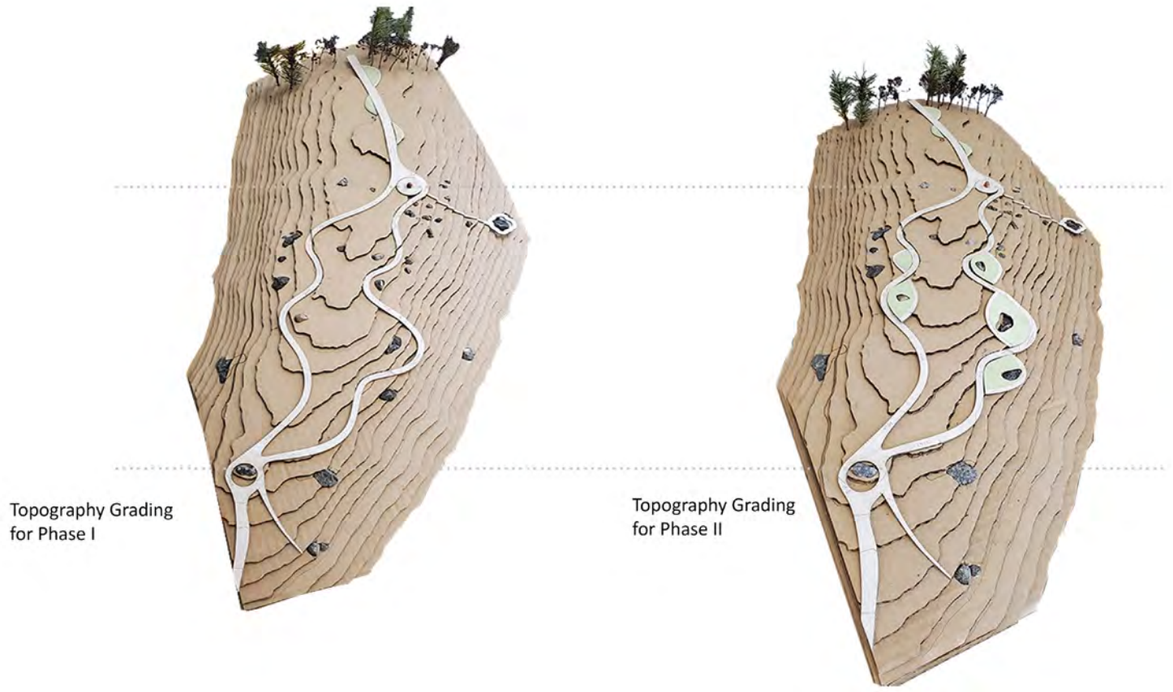


Fig. 5.2: The site model shows the loop design with respect to the existing topography.

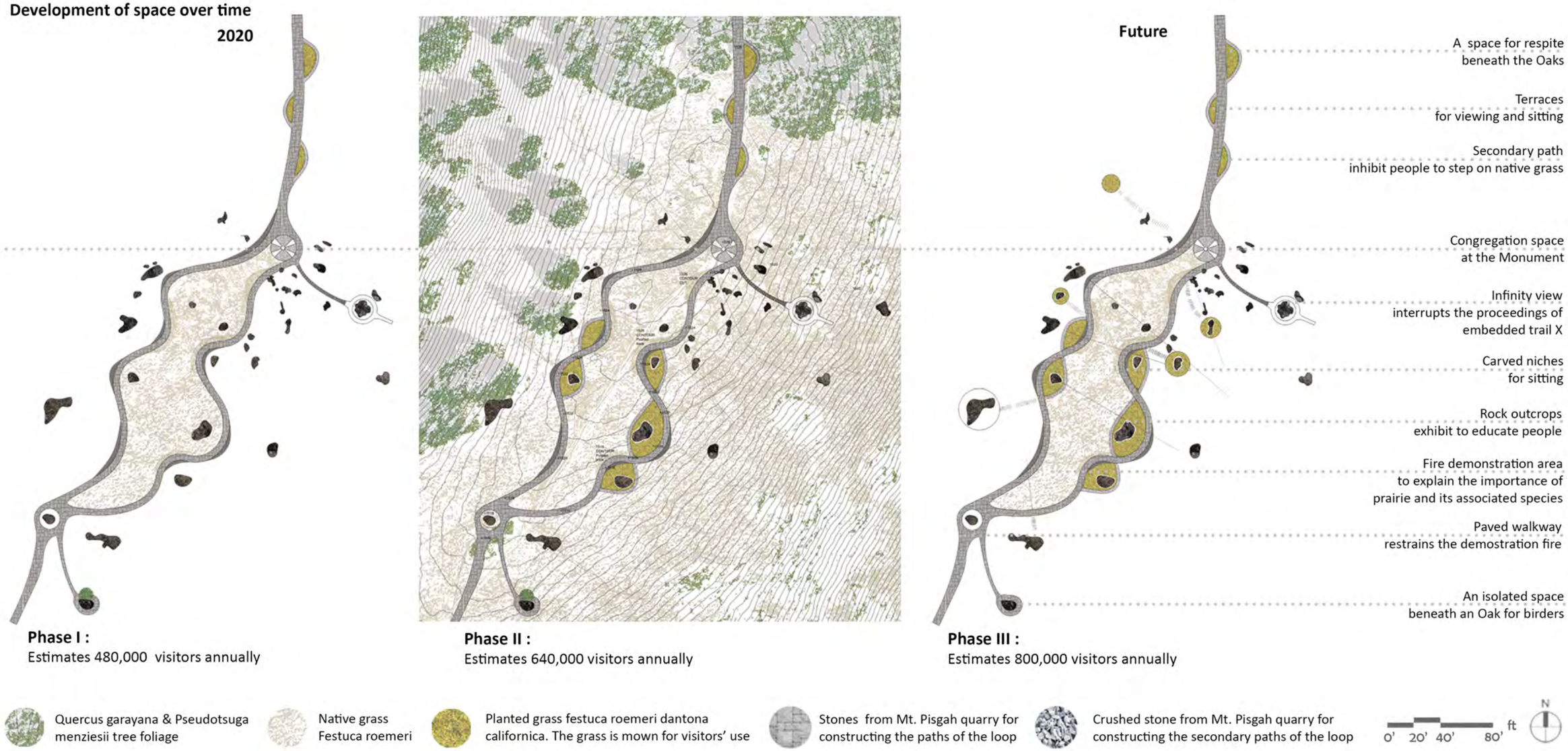


Fig. 1.3: Phase development allows monitoring and adaptions to an exponential increase in visitors' use. The three-phase design develops spaces over time to accommodate the exponential growth of visitors coming to HBRA.

Phase I accommodates the present visitor population (100-150 people) by constructing paths of the loop and carving niches for sitting by grading the contours. Additionally, it builds three terraces and landscapes with bluish-green grass. Finally, it lays a secondary path and paves the congregation space around the monument. Phase II accommodates short-term growth (150-200 people) by adding sloping grass terraces adjoining the existing paths and a secondary path in connection with the terraces and the original loop path. Phase III accommodates long-term growth (200–250 people) by considering a future scenario based on new desired trails. The present Phase III concept anticipates such trails to show the potential for future addition.

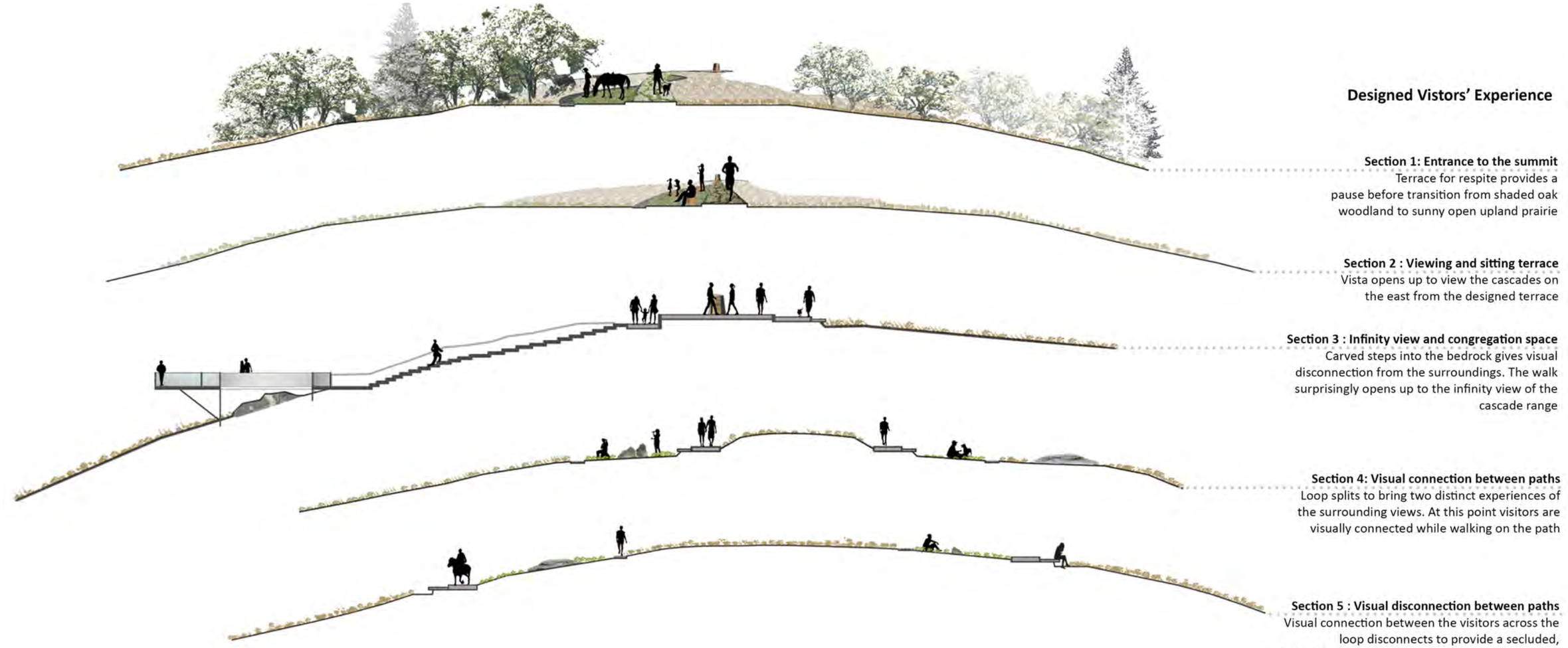


Fig. 1.4: Experiential transverse sections show how loop design modifies topography to create visual and spatial separation for the visitors.

Fig. 1.5: At infinity view, the glass platform inhibits the advancement to the embedded trail while creating an open vista to view the Cascade Mountain range.

Fig. 1.6: At the viewing terrace, grass terraces support the visitors' leisure activities. Stone grits around the rock outcrop protect them from inadvertent use by visitors.

Site Design

Oregon Vesper Sparrow (Pooecetes gramineus affinis)

Home - Willamette valley ecoregions

Ground dwelling, nesting, foraging, and mating bird

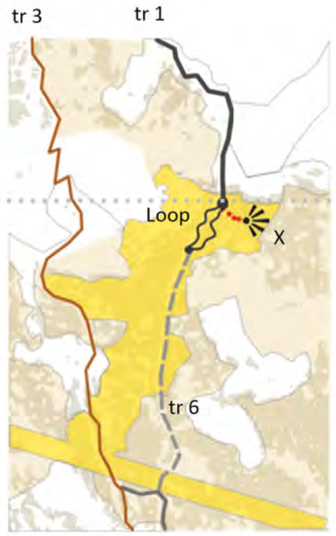
Adversely impacted by human activity

Idenified as endangered and is a focal conservation target by HBRA

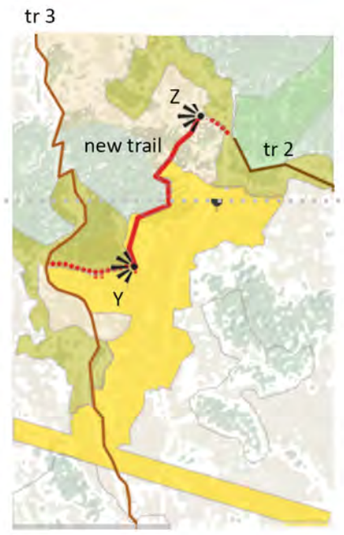
Existing system of trails
Official trails - tr 1, tr 2, tr 3, & tr 6
Desired trails - tr X, tr Y, & tr z
View - X, Y, and Z

Upland prairie
Oak Savanna
Oak Woodland
Upland Coniferous Forest
Upland Hardwood Forest

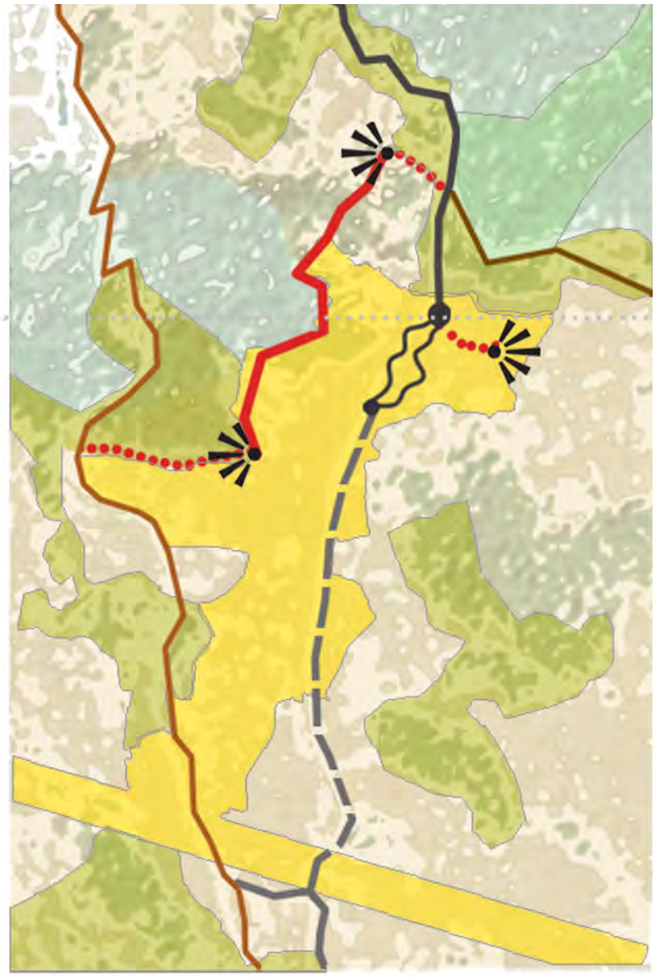
Issues
Desired trails X, Y, and Z disrupt upland prairie and oak savanna habitat where Vesper Sparrow breeds. Trail 1 is the most crowded whereas Trail 6 is comparatively used less by visitors.



Trail modification A
Seasonal closure of Trail 6 during nesting season - April to June gives a secure habitat for incubating, brooding, and fledging. Visitors use an alternative Trail 3 during that season. Trail 1 and Loop design continues to add to the visitors' experience of the summit.



Trail modification B
New Trail breaks the disruption caused due to visitors' movement in the habitat while connects their desired views. As this trail rests on the ecotone, visitors experience walking through different kinds of habitats.



The habitat is based on HBRA 2035 Desired Future Conditions

Fig. 1.7: Proposal for Habitat Restoration. Trail modifications protect vesper sparrow habitat, upland prairie, and oak savanna ecosystems.

Fig. 1.8: Prescribed burning demonstration is an annual commemorative event to educate people on the value of prescribed burning for habitat restoration. This demonstration area is contained between the stone paths to restrain the fire from crossing into the landscape.

Fig. 1.9: In the spring following the prescribed burning, people witness a rejuvenation of native grasses, wildflowers, and its associated insect species to compare with the landscape outside the loop area.

Fire and Renewal

Taylor Bowden

Site:

Diverting people from the summit by enhancing other destinations within the park is Taylor's strategy to limit users and protect the summit. Through trail improvements, trail relocations, and invasive management users may feel compelled to explore more areas of the park. Improving facilities at each trail head can also encourage users to see what other spaces Mt. Pisgah has to offer.

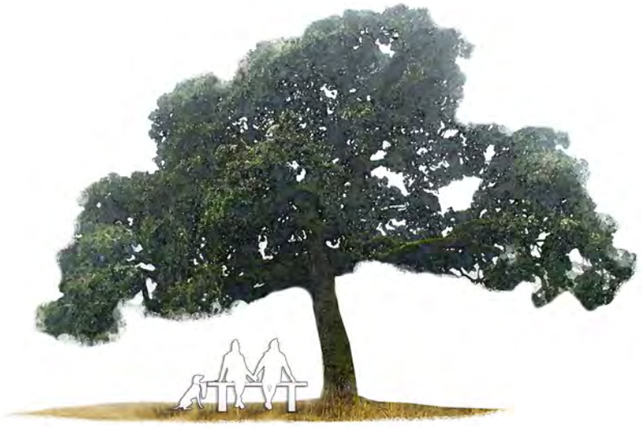
Summit:

This design embraced fire regimens back into our management of native prairies and invites users to witness the benefits prescribed burns have for native vegetation and habitat. The burn circles offer educational opportunities to connect the public with indigenous land management through ceremony at the beginnings of the fire season. The well-defined burn circles sit along the main path with pull-outs to accommodate higher capacities of visitors. The smaller paths allow users to explore paths down the slopes of the summit and allows for smaller groups to enjoy views with privacy.

Materials:

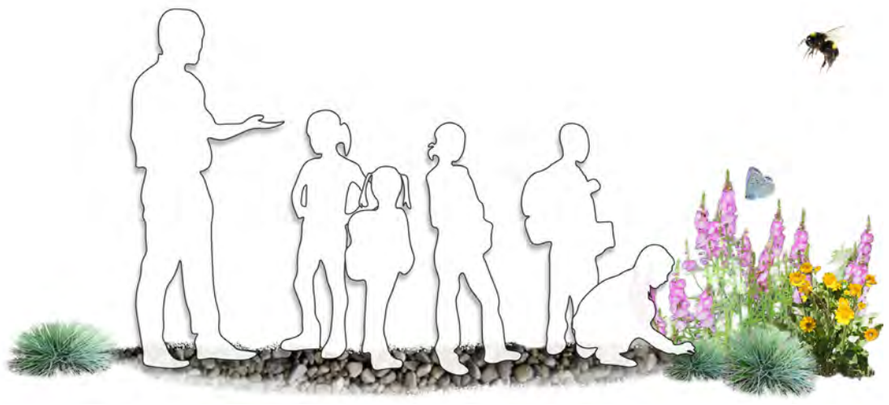
This design has a very small footprint in order to preserve the natural experience of the summit. Cutting into a few sections of bedrock and placing the cut stones near the gravel and compressed dirt paths of the summit trails is a minimalistic approach to summit interventions. The stones and cut bedrock would act as seating areas along viewpoints.

Site Design



Rest areas and oak savanna shade

Healthy habitat for birds and birders



Diverse, native vegetation for pollinators and education

Fig. 5.10: Habitat recreation

New destinations

Trail maintenance

Additional rest stops

Invasives management

200′ 800′ 1200′

DESIRED FUTURE CONDITIONS MAP

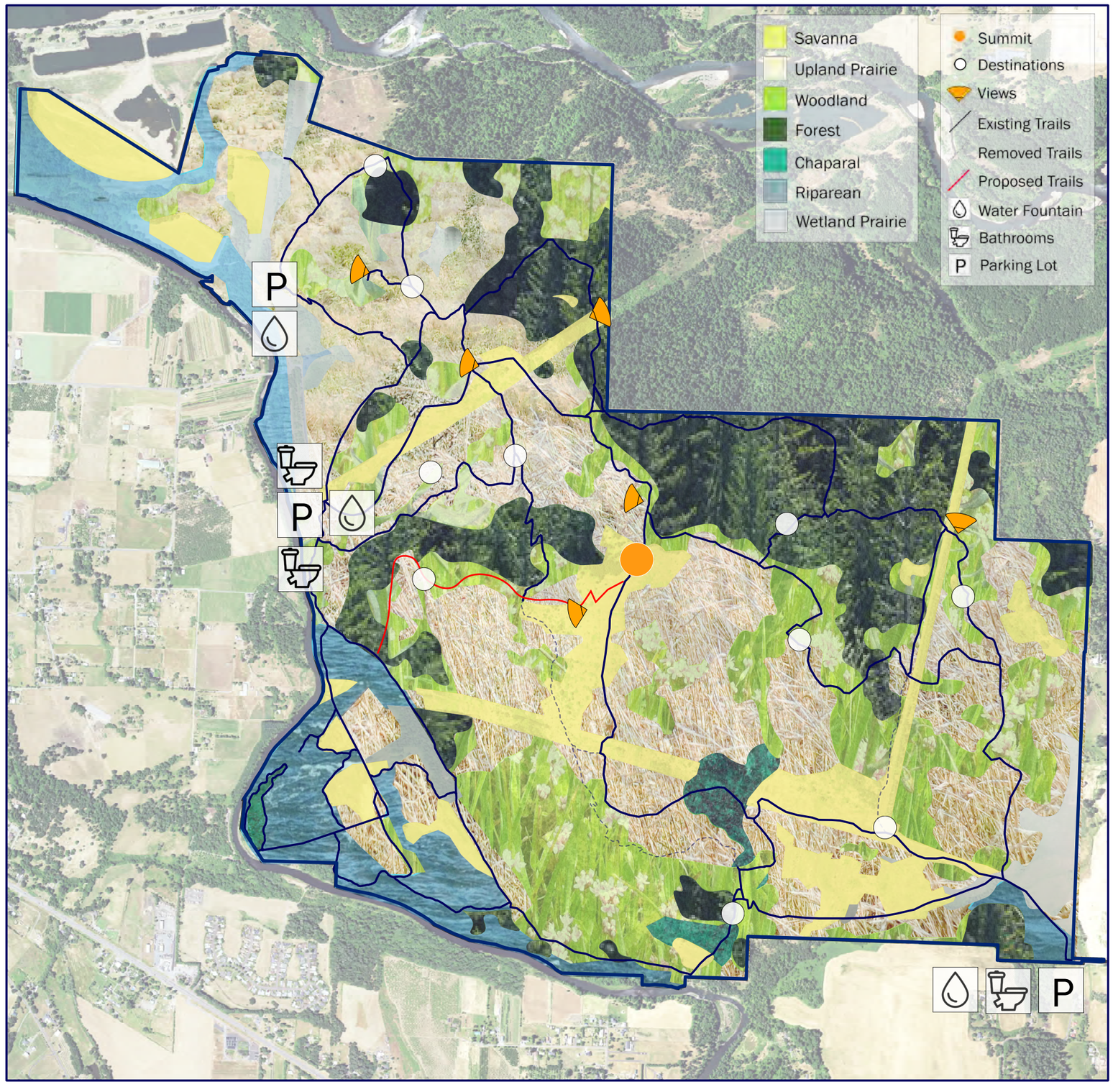
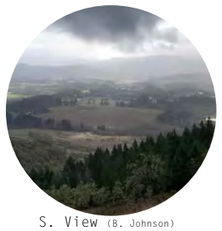


Fig. 5.11: Summit diversions

HIGH USE SUMMIT

Celebrating heritage oaks

E. View + Monument

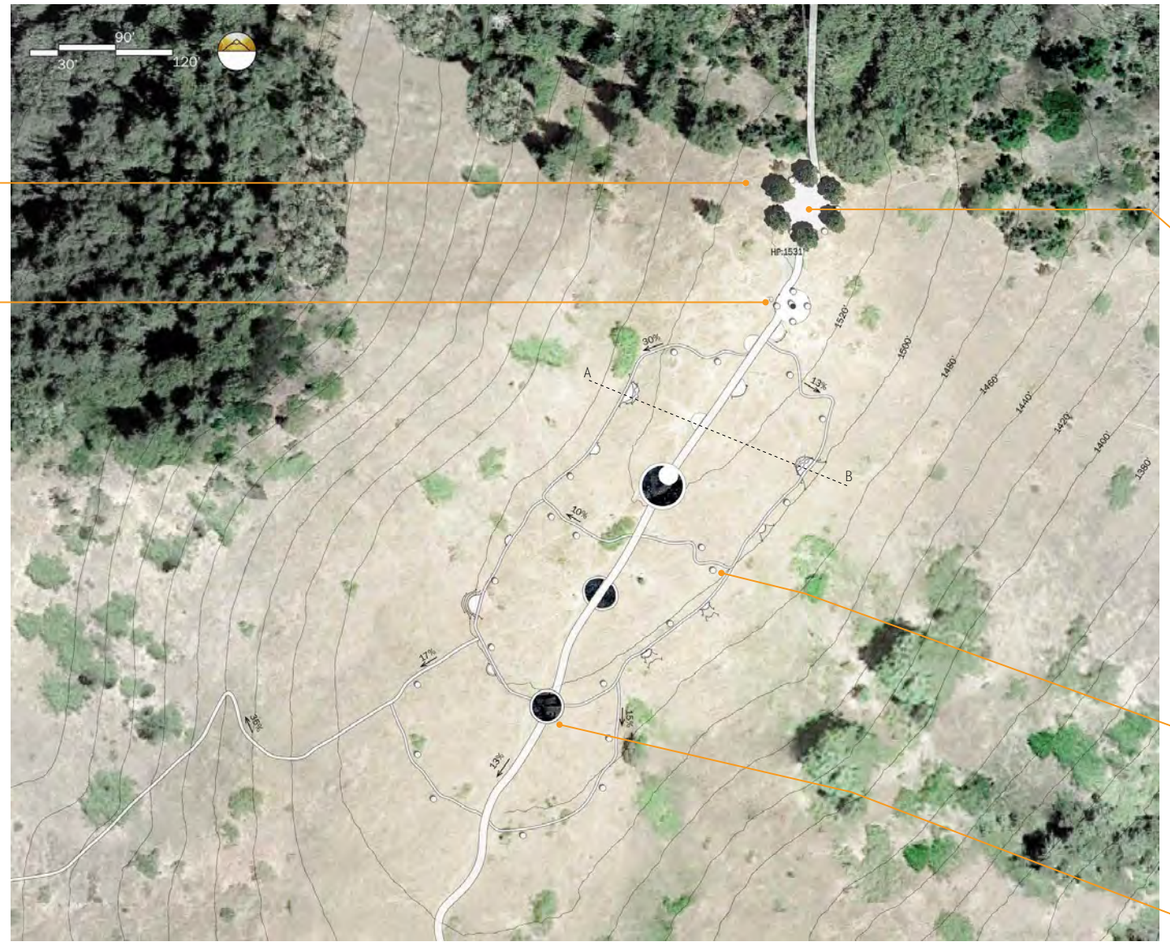


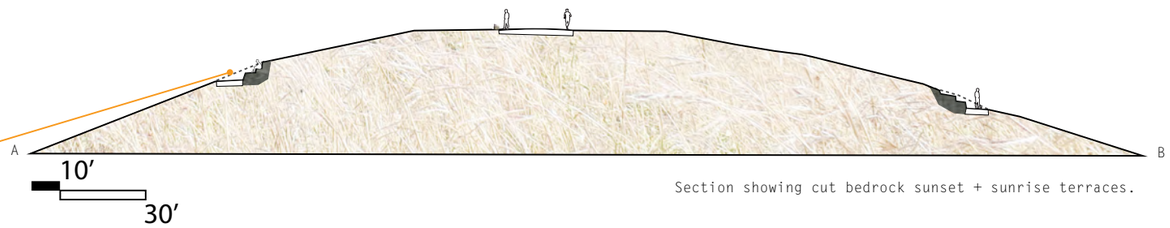
S. View (B. Johnson)

S.W. View (D. Pauls)

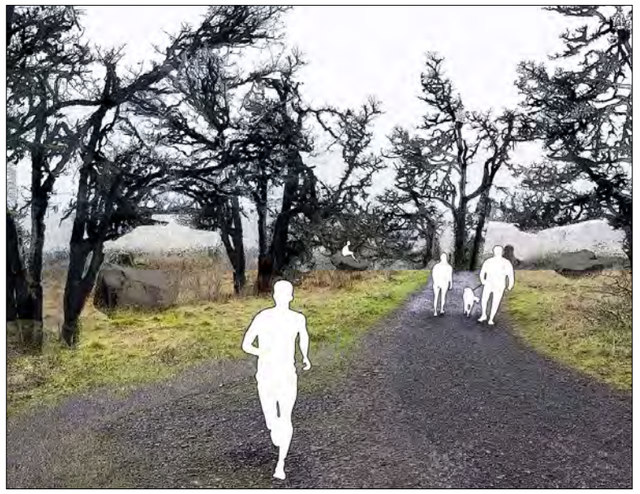
N.W. View (D. Pauls)

Mimicking the seating of rock outcrops. (L. Smaldone)



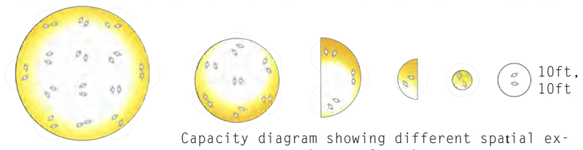


Section showing cut bedrock sunset + sunrise terraces.

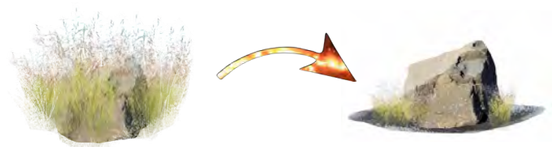


Winter rendering of the Summit Oak Ring

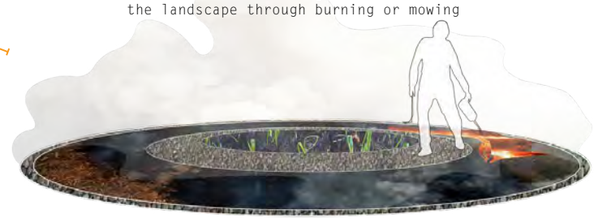
CAPACITY 150-250



Capacity diagram showing different spatial experiences for vistors.

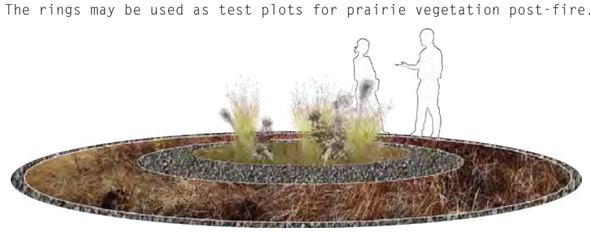


Stones for intimate seating can be revealed in the landscape through burning or mowing



Ceremonial burn rings mark the beginning of the burn season.

The rings may be used as test plots for prairie vegetation post-fire.



Visitors get to experience and understand the effects of prescribed burns.

Landform Manipulation and Extraction

Terraces

David Pauls

Site:

To protect the habitat throughout the park, David's plan seeks to concentrate usage to the summit, hopefully drawing more users there and thus not overusing the rest of the park where vulnerable species and habitat exist.

Summit:

The design facilitates over 200 simultaneous users on the summit through formal manipulations of the topography, creating a compact design that also allows users to have a sense of seclusion. Inspired by the angular and multilevel forms in rock outcrops, this design seeks to create a summit that concentrates use while protecting the prairie habitat around it by contrasting the local language of the site with architectonic geometry. The design may have significant disturbance in its initial construction, but the way the forms slow run-off, reintroduce prairie species, and creates a formal design, keeps people inside the concentrated space preventing t he surrounding prairie habitat from becoming compromised.

Materials:

The embedded nature of the design allows the terraces to meld into the surrounding landscape by gradating in materiality from fieldstone walls to boulders, making the overall structure of the design not as noticeable. The design incorporates the bedrock of Mt. Pisgah into the structure through cut and fill grading to create the terraces.

Summit Design

Fig. 5.12: The composition juxtaposes the forms of the site by using the terraced forms to create secluded spaces and integrate the ecology into the design. The design contrasts the gentle curves and expanse of the prairie formalizing a structured and elegant summit experience that orientates the user's views to surrounding landmarks.

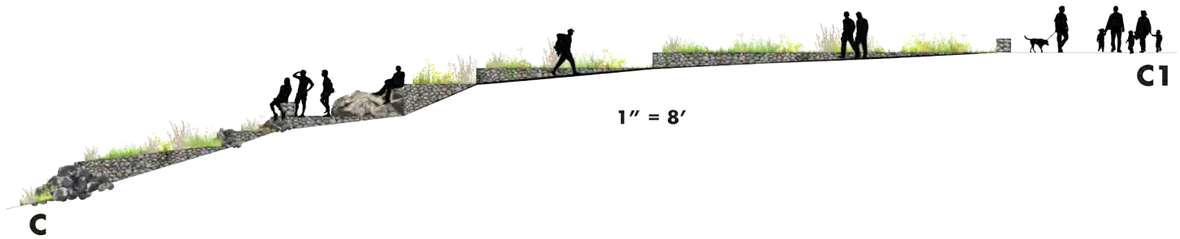


Fig. 5.13: The embedded nature of the design incorporates the bedrock of Mt. Pisgah into the structure through cut and fill grading to create the terraces.

Fig. 5.14: Grading Plan

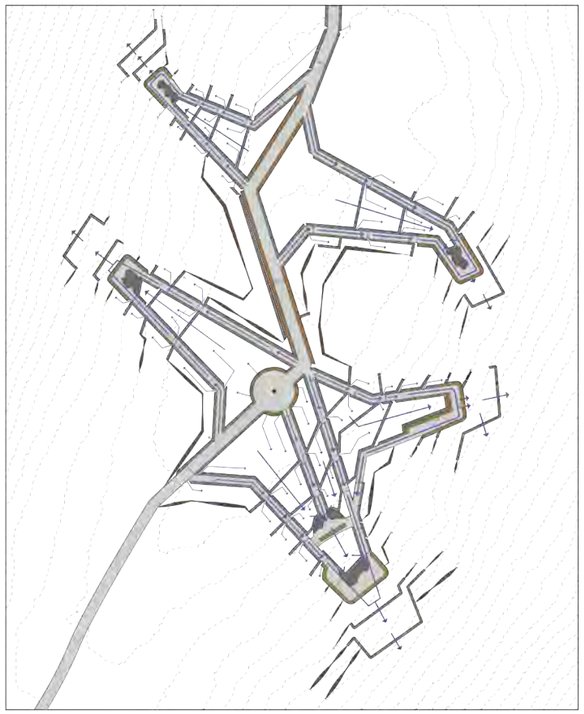


Fig. 5.15: Drainage Diagram

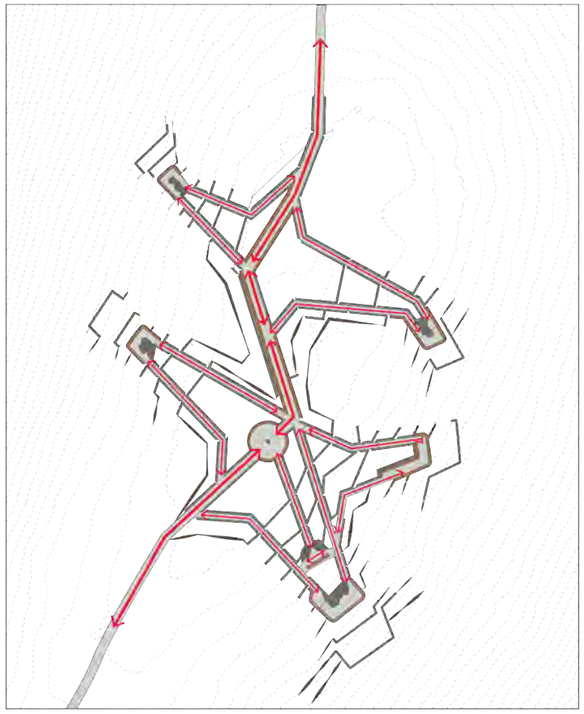


Fig. 5.16: Flow Diagram

Fig. 5.17: Capacity Diagram

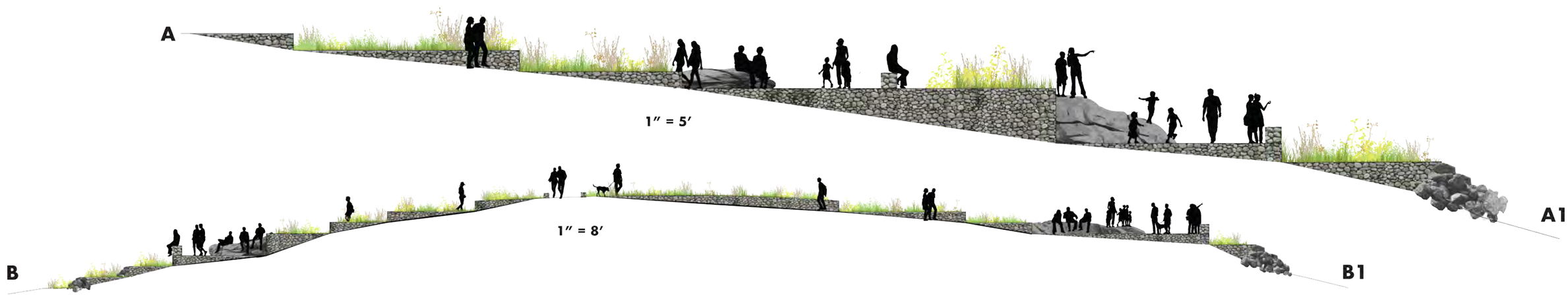


Fig. 5.18: Run-off solutions are created by adding impervious surfaces which will be channel water into the terraces where they will retain and slow the run-off. These supercharges the terraces and allow them to grow different varieties of prairie species for longer parts of the year.

Conservation Immersion

Sierra Gardiner

Site:

Trails would be formalized with names that represent the management unit's target conservation species. This would serve to educate the public and clarify loops and trails within the park network. The design also suggests narrowing of most trails to make decrease large groups on the trail and within observation areas.

Summit:

This design employs very innovative ways to immerse users with the ecosystems of the summit as intrusively as possible. Observation nodes are dug into the landscape, and users can use these pathways and see the ground at eye level. This shallow perspective is intended to make people less detectable to the wildlife in the area, allowing target conservation species like Vesper Sparrows to feel unthreatened.

Materials:

Another unique aspect to this design is that it includes the premise for a phone application that visitors could download for educational information about the park. Using augmented reality technology, hikers could use their camera phones and scan QR codes on posts in the area to explore, learn, and treasure hunt for plants or animals while also providing useful crowd-sourced data on wildlife sightings and user behaviors.

Site Design

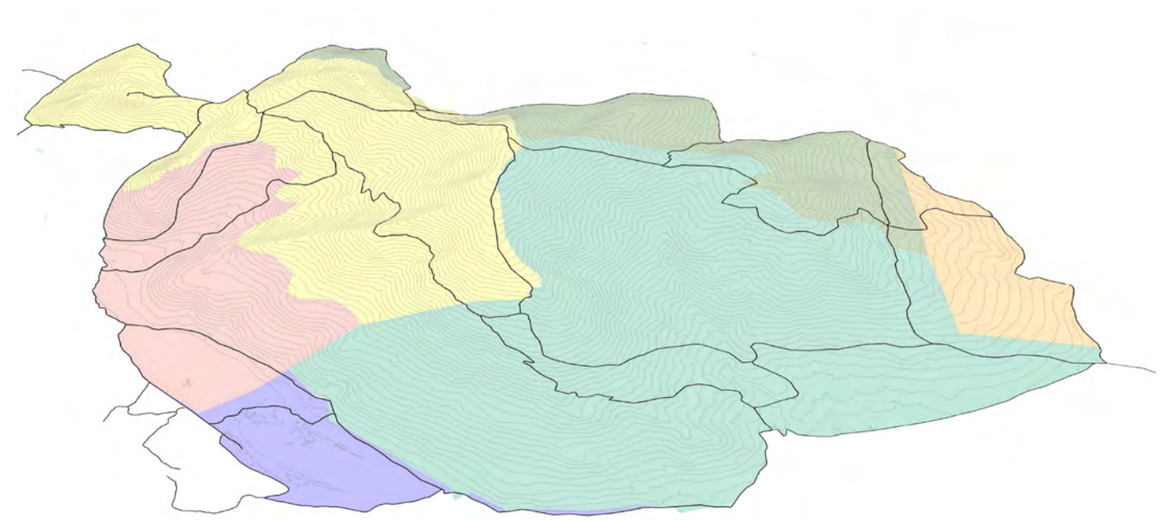


Fig. 5.19: Featured Habitat Management Plan

White Oak, Roemer's Fescue, Grasshopper Sparrow, Common Nighthawk, Western rattlesnake, Monarch butterfly, Oregon Vesper Sparrow, Western Meadowlark

Bald Eagle, Western gray squirrel, Western Wood Pewee, Acorn Woodpecker, Western Bluebird, Whitebreasted Nuthatch, Ponderosa

Bald Eagle, Western gray squirrel, Wayside aster, Meadowlark, Camas

Wayside aster, Western gray squirrel, Western Wood Pewee, Acorn Woodpecker, Western Bluebird, Whitebreasted Nuthatch, Chipping Sparrow.

Olive-sided Flycatcher, Townsend's big-eared bat, Fawn Lily, Western pond turtle, Breeding riparian songbirds, Great Blue Heron, Bald Eagle

Fawn Lily, Bradshaw's lomatium, Willow Flycatcher, Yellow-breasted Chat, Northern red-legged frog, Monarch

Zone 2 - Arboretum

Zone 3 - Southern Bottomlands

Zone 4 - Western Uplands

Zone 5 - Southern Uplands

Zone 6 - Eastern Uplands

Zone 7 - Northern Forest

Fig. 5.20: Examples of species featured on Way Posts and Apps.

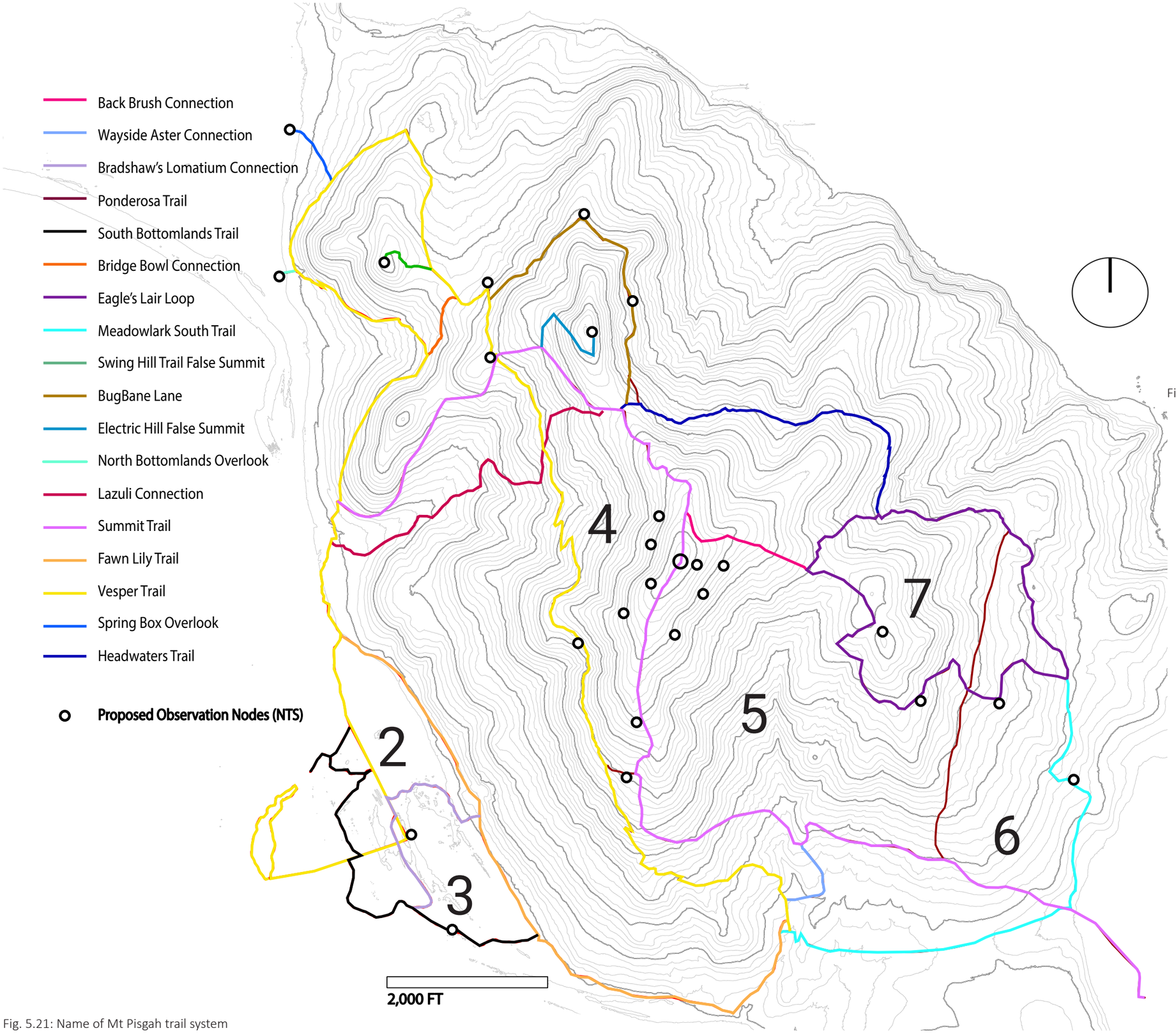


Fig. 5.21: Name of Mt Pisgah trail system

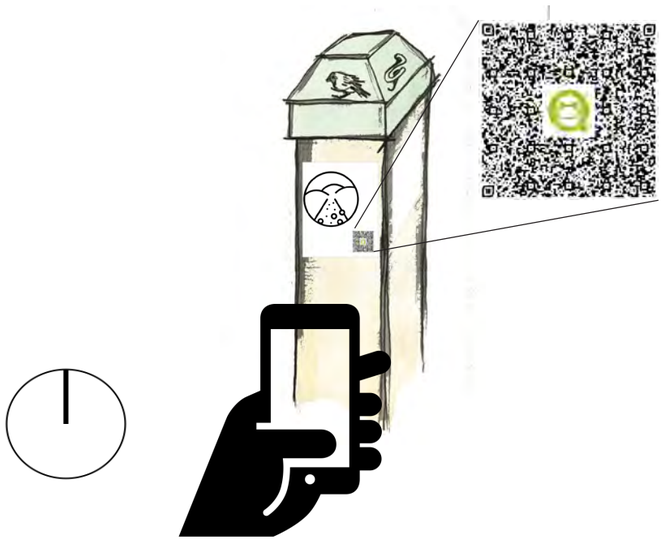


Fig. 5.22: Installing App features

Goal A - Place-making by renaming trails after habitat management themes + showing placement for wayfinding posts/ interventions.

Goal B - Use wayfinding with QR codes to generate a citizen science feedback-loop between visitors, monitors, and planners.

Goal C- Protect the conservation atmosphere with transparent interventions.

Goal D- Honor the conservation plan by decreasing large groups on trail.

Goal E - Observational nodes throughout the park where people are already stopping.

Summit Design

Fig. 5.23: Summit is leveled around the sculpture with two entrenched paths circling it. Observation nodes orbit the paths and remain at a 2 percent grade.

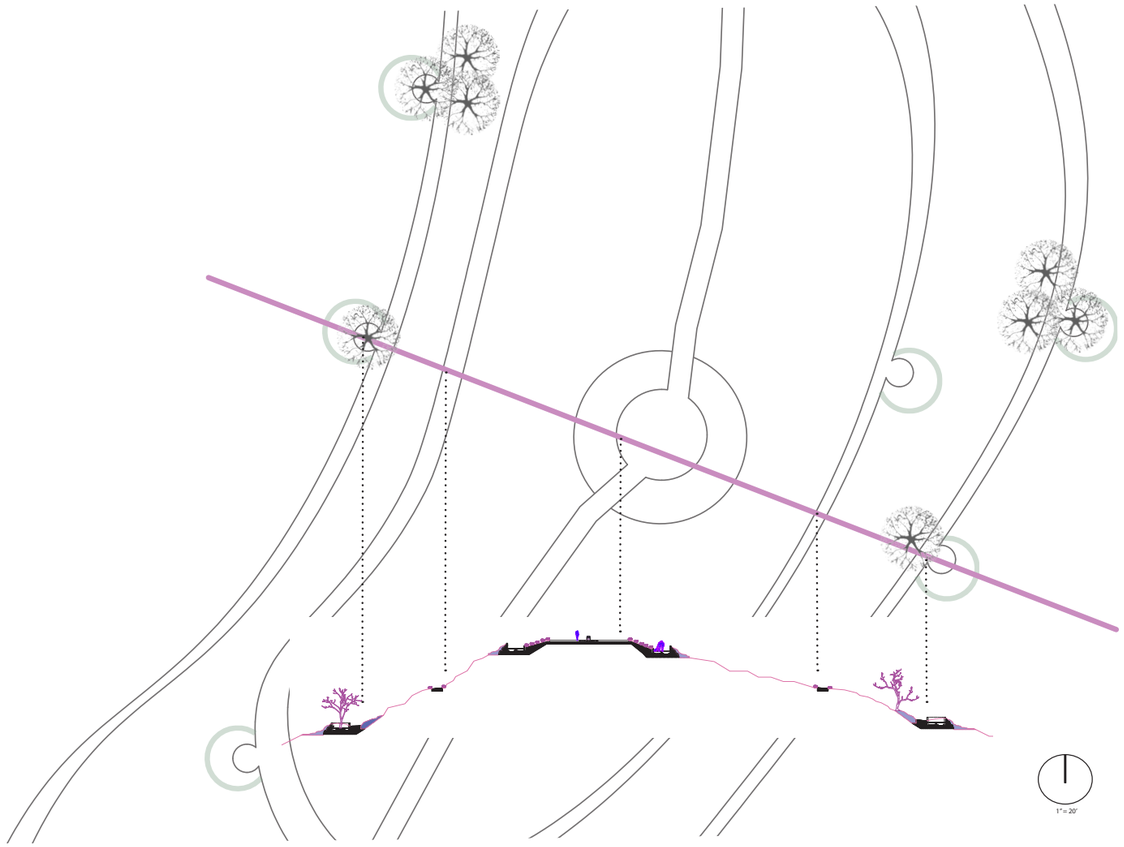


Fig. 5.24: Vesper Summit: Located in Zone 4 of the Habitat Management Plan- Western Uplands. Thus, observation nodes are composed of Oak Savanna species. White oaks for shade.

Fig. 5.25: Example of an Observational Node in Zone 4. From the perspective of a Vesper Sparrow.

Fig. 5.26: Example of an Observational Node in Zone 4. Reusing the material from the onsite cut and fill, a mound enclosure gives a sense of habitat conservation immersion.

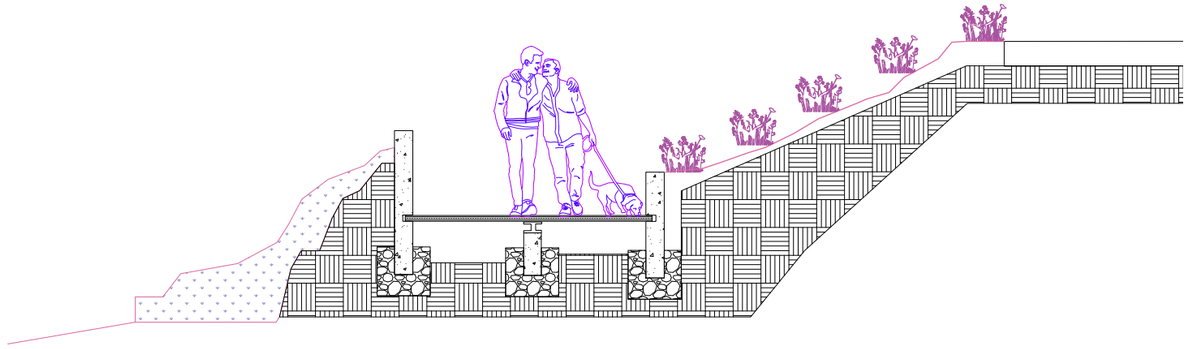


Fig. 5.27: The circular elevated trail at the summit. Summit is partially flattened within the entrenched path about 5’ below the peak elevation. The path is formed from cut and fill. Made with concrete, posts, and grates.

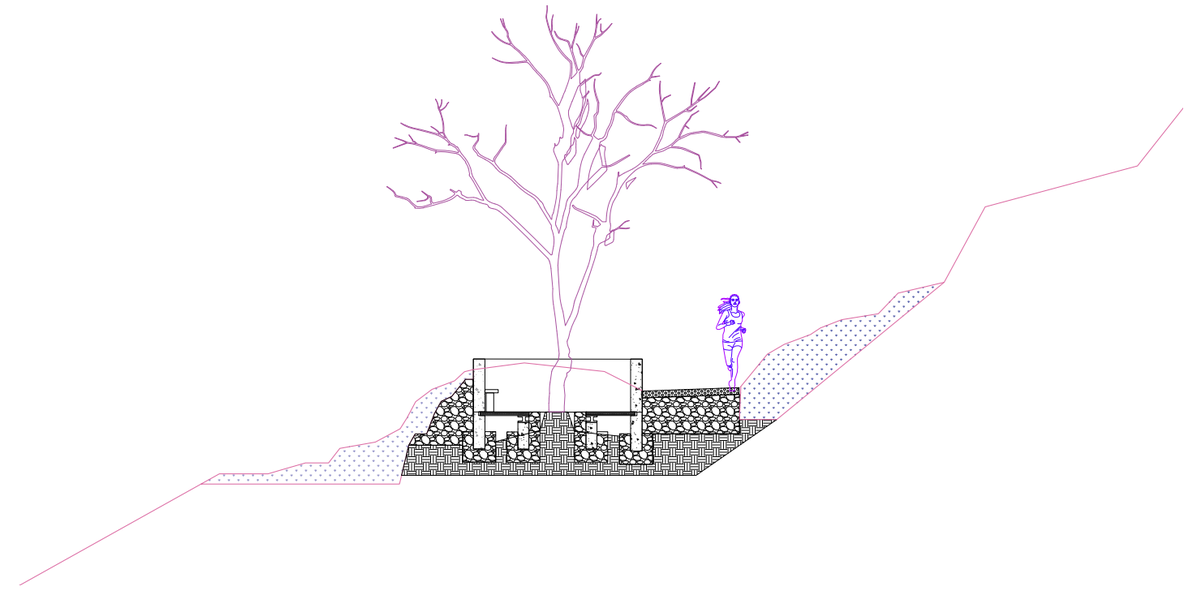


Fig. 5.28: Example of west-facing observation nodes. White oak planted in the node itself. Human capacity no more than 10 people.

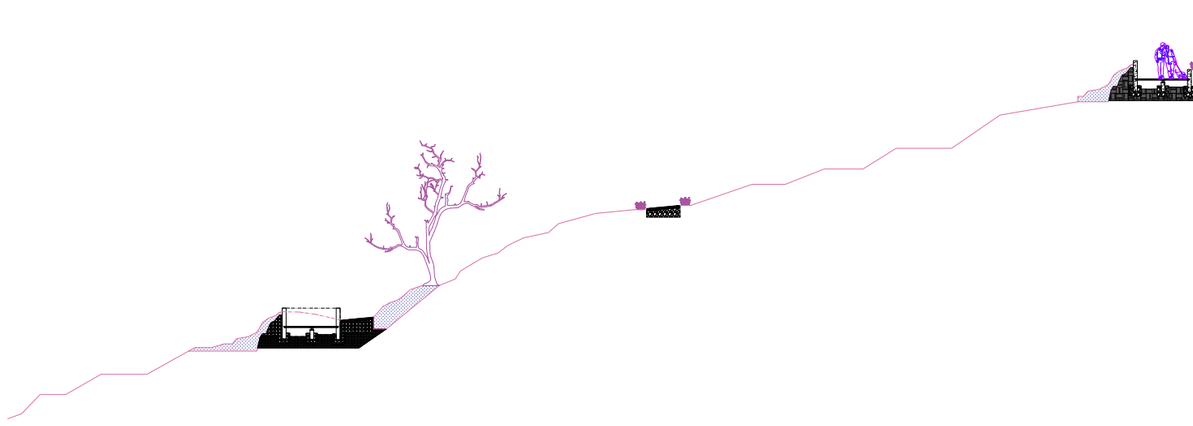


Fig. 5.29: Summit intervention spirals out from sculpture. The circular elevated trail at the summit is a path built using cut and fill. It is made with concrete, posts, and grates. Summit is partially flattened within the entrenched path about 5’ below the peak. Nootka Rose surrounds the length of the circular path.

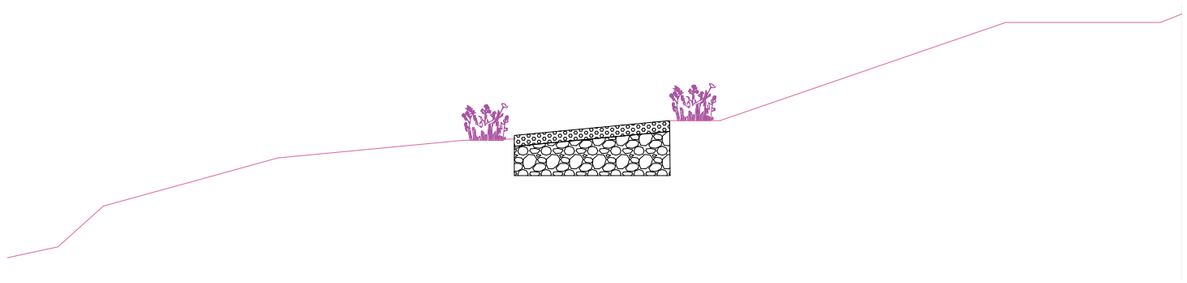


Fig. 5.30: A thin (2’) quarter-minus trail for motive use is buffered by Nootka Rose.

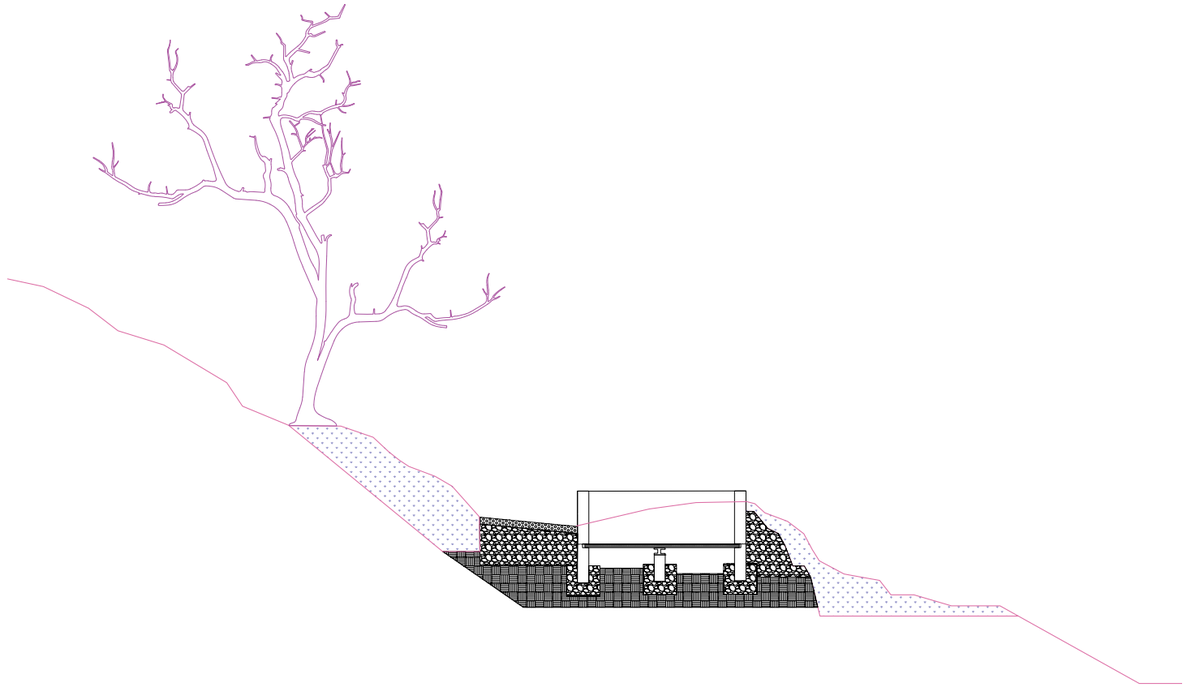


Fig. 5.31: Example of east-facing observation node. Shaded by white oak in the Savanna conservation.

Everyday Infinities

Kris Parr

Site:

This design means to make HBRA last for generations to come through phasing strategies which allow managers to regularly assess the changing needs of people and wildlife. The circulation pattern of the trail system is reimagined to create ‘therapeutic’ loops which prioritize and expand vesper sparrow habitat while keeping the user experience in mind. Colorful seed mixes are suggested across the site to encourage biodiversity and aesthetic interest in management units.

Summit:

This design’s organic paths flow from the summit down the sloped of the mountain, creating variable widths of paths for different sized groups to comfortably enjoy. This design is intended to be scalable, allowing managers to assess user needs as they grow and change. Based on alternative futures, areas of the design can be expanded for greater user capacity. At the summit, seating walls have been designed for an unobtrusive feature that allows visitors to rest and look at views in privacy. The nature of the walls also dissuades people going off trail by clearly marking where they are meant to walk, sit, and stand.

Materials:

The retaining wall would be built of flagstone and be designed as a retaining wall with proper drainage for longevity and safety. Paths spec ¼ minus gravel, and the colorful seed mixes would be sewn off the paths to indicate the edges of walkable areas.

Site Design

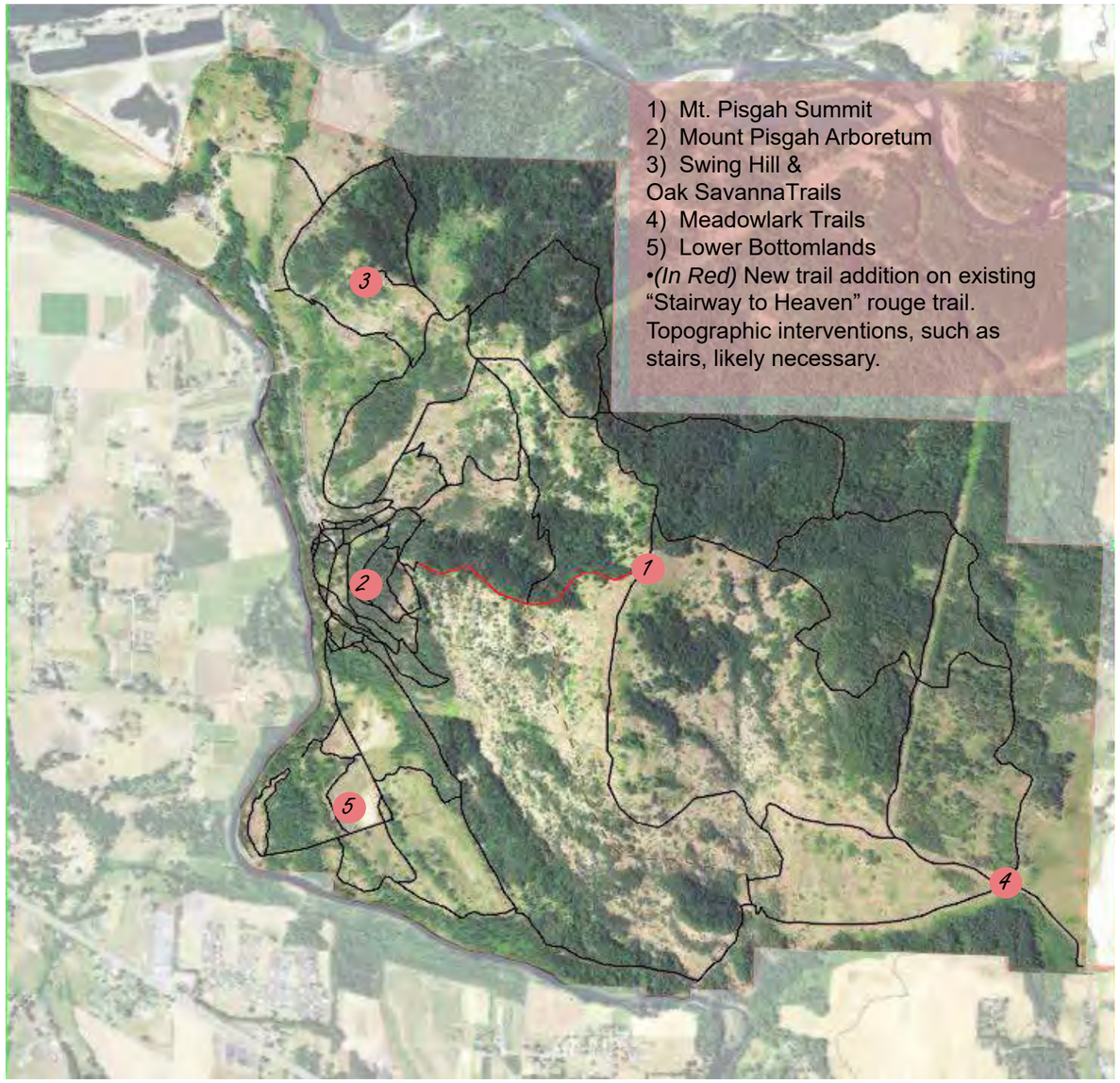


Fig. 5.32: Infinite trail experience is generated by maximizing existing loops and creating connections.

Summit Design

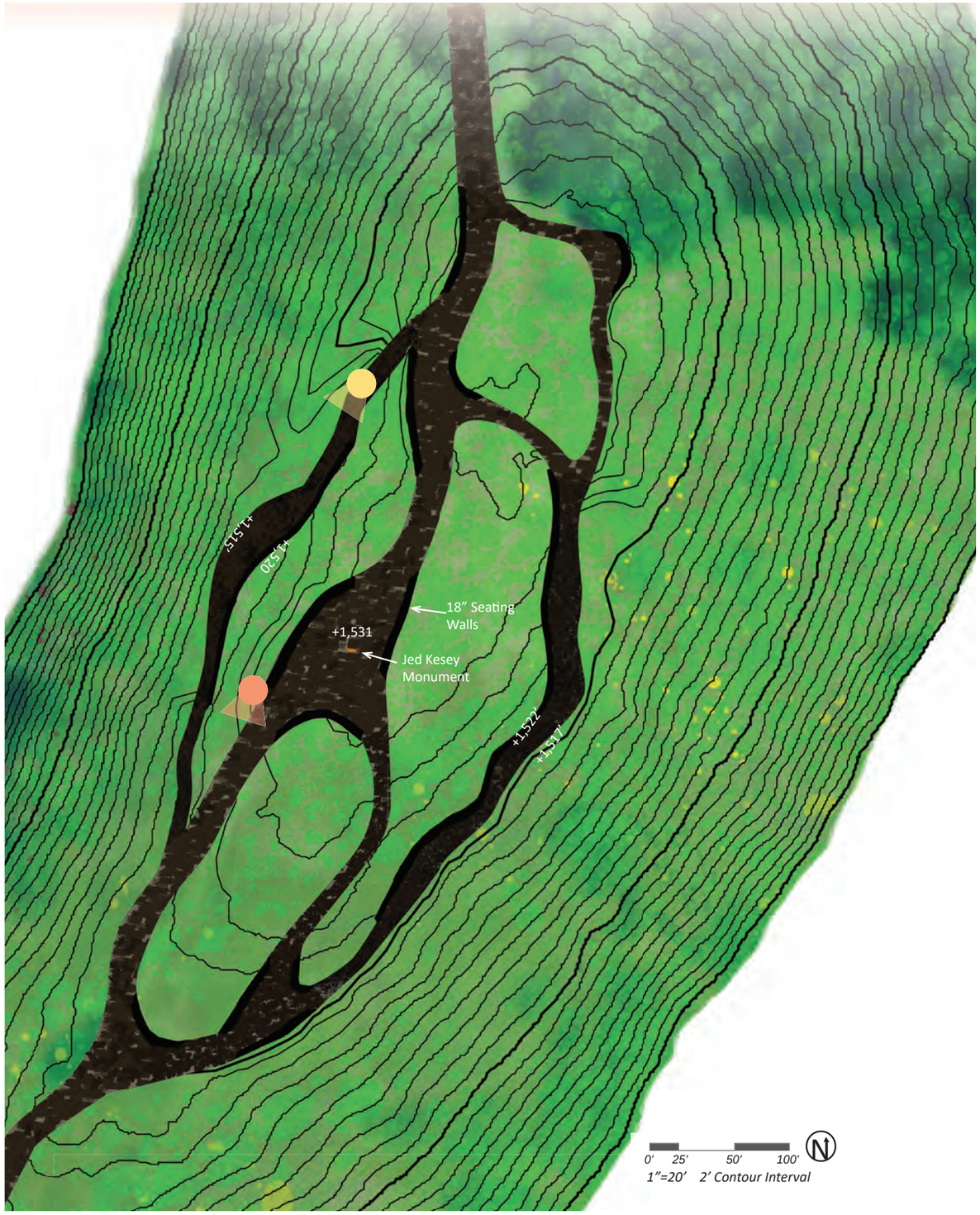


Fig. 5.33: Organic path flow on the summit.

Fig. 5.34: Trail with 18-inch seating wall around the monument.

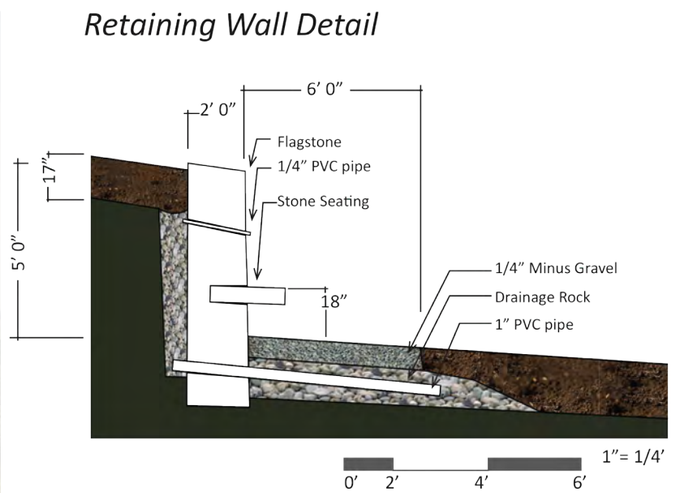


Fig. 5.35: Retaining wall and seating details along the trail.

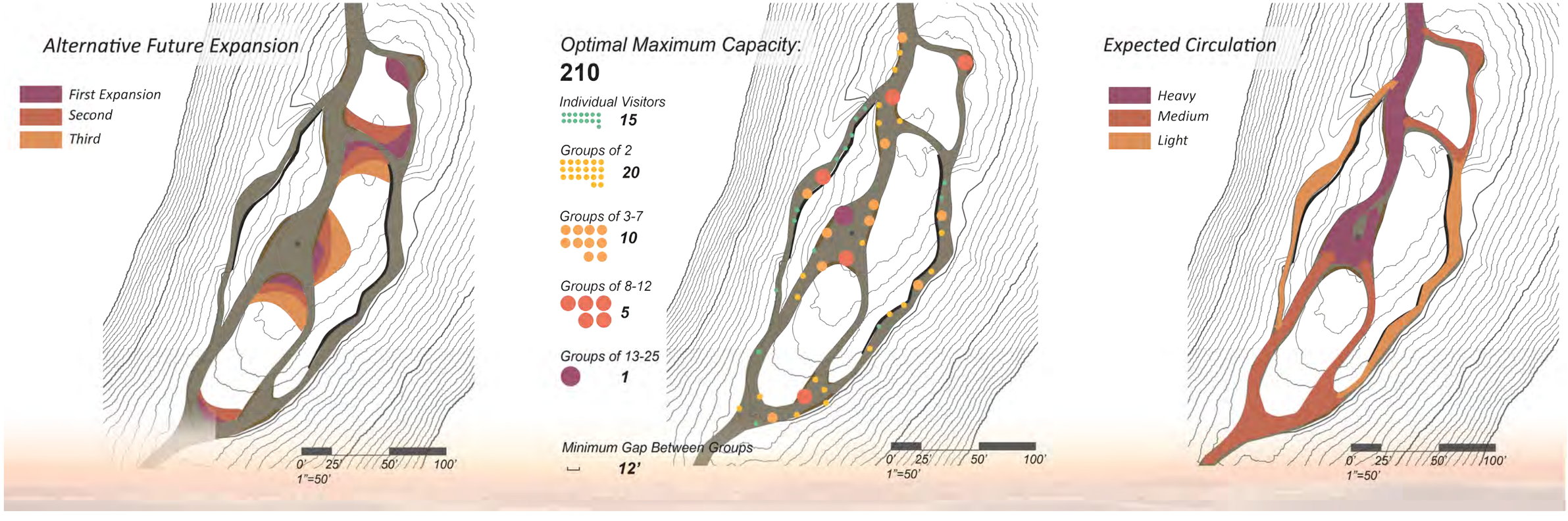


Fig. 5.36: Diagram explains the future expansion of pocketed areas to increase the trail capacity.

Loops and Gathering Spaces

Organic Shapes and Experiences

Alissa Brunkhorst

Site:

Building additional rest areas on the way to the summit takes some pressure off visitation. Alissa suggests that a junction between the current trails 1 &3 could be improved as a viewing destination where users can complete their hike, or rest before continuing to other trails. Other suggestions for site-wide interventions include the renaming of trails and organizing them as loops to help with park navigation.

Summit:

This summit's design draws on inspiration from artist Burle Marx. Referencing the abstract and organic shapes of his paintings, pathways and gathering locations are built upon the summit. Plantings of native prairie plants grow in amoeba-like shapes that add visual and ecological interest while separating spaces for different user capacities and diverse experiences.

Materials:

Materials remain unobtrusive by blending into the natural landscape of stones in the bedrock and gravel pathways found on the trails. These stone walls act as seating, while rock outcrops are exposed for rest and play. All areas allow visitors to take in the summit views.

Site Design

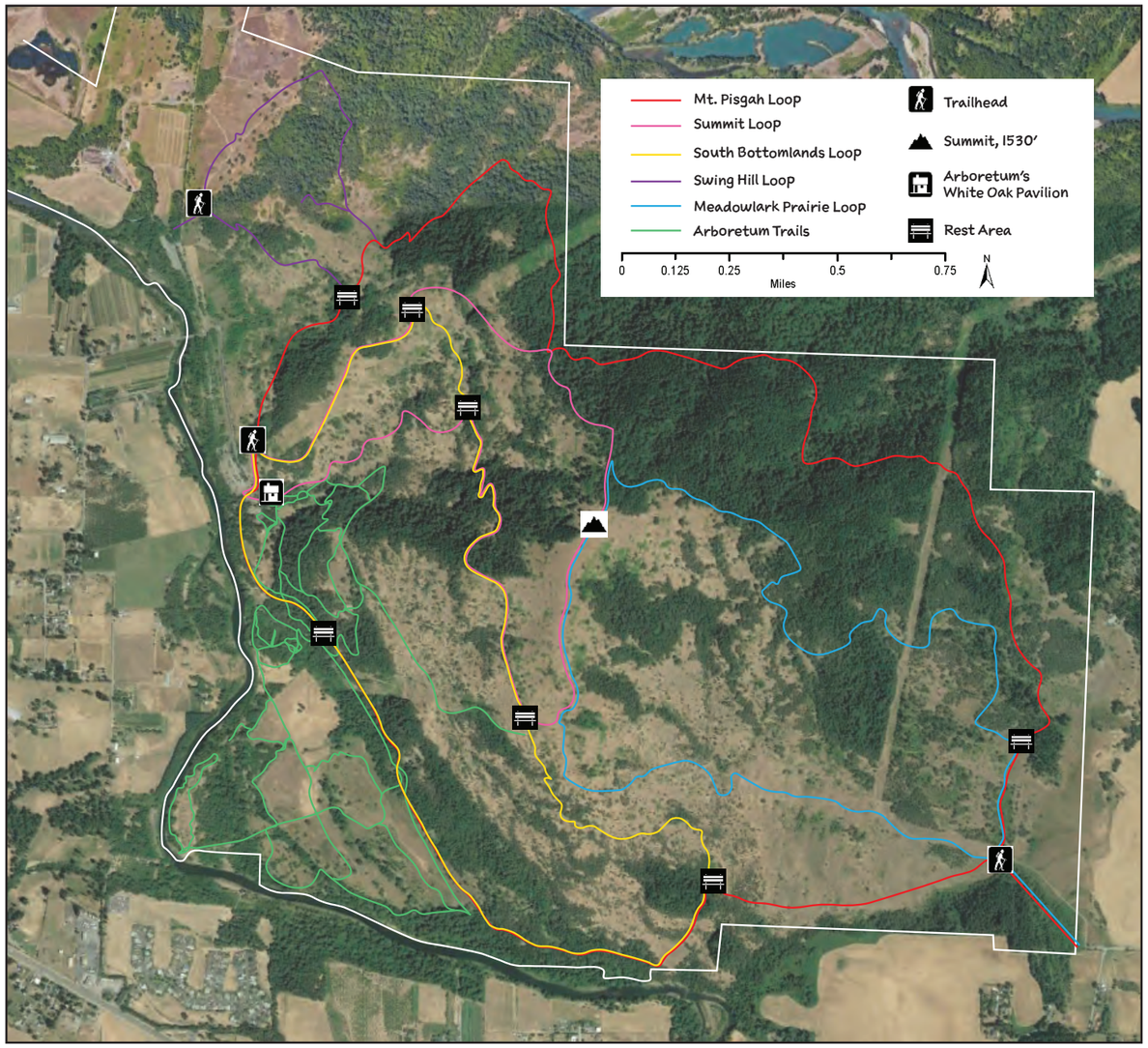


Fig. 5.37: Re-designing the current trail system to a system of named loops to help with park navigation.

Fig. 5.38: Plan suggesting a space for repose at trail 1 and 3 junctions.

Fig. 5.39: Perspective shows people enjoying the view while resting at an elliptical seat. The elliptical form of the seating area sets a design language to be used for other rest areas around the park.

Summit Design

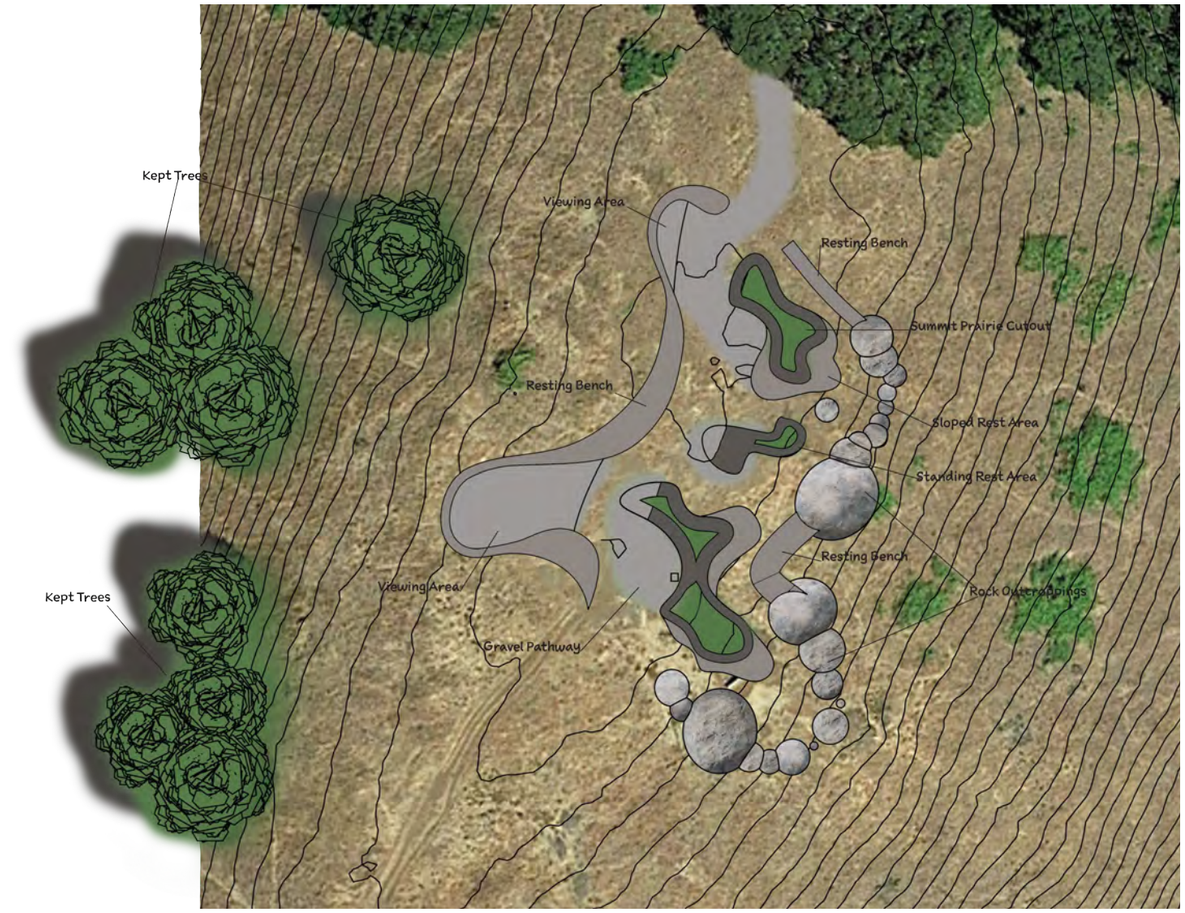


Fig. 5.40: Design sub-divides the seating experience on the summit along the east (rock outcrops) and west (stone benches) slopes. Amoeba-like planting areas and seating walls interlock to create a rich experience for the strolling visitors.

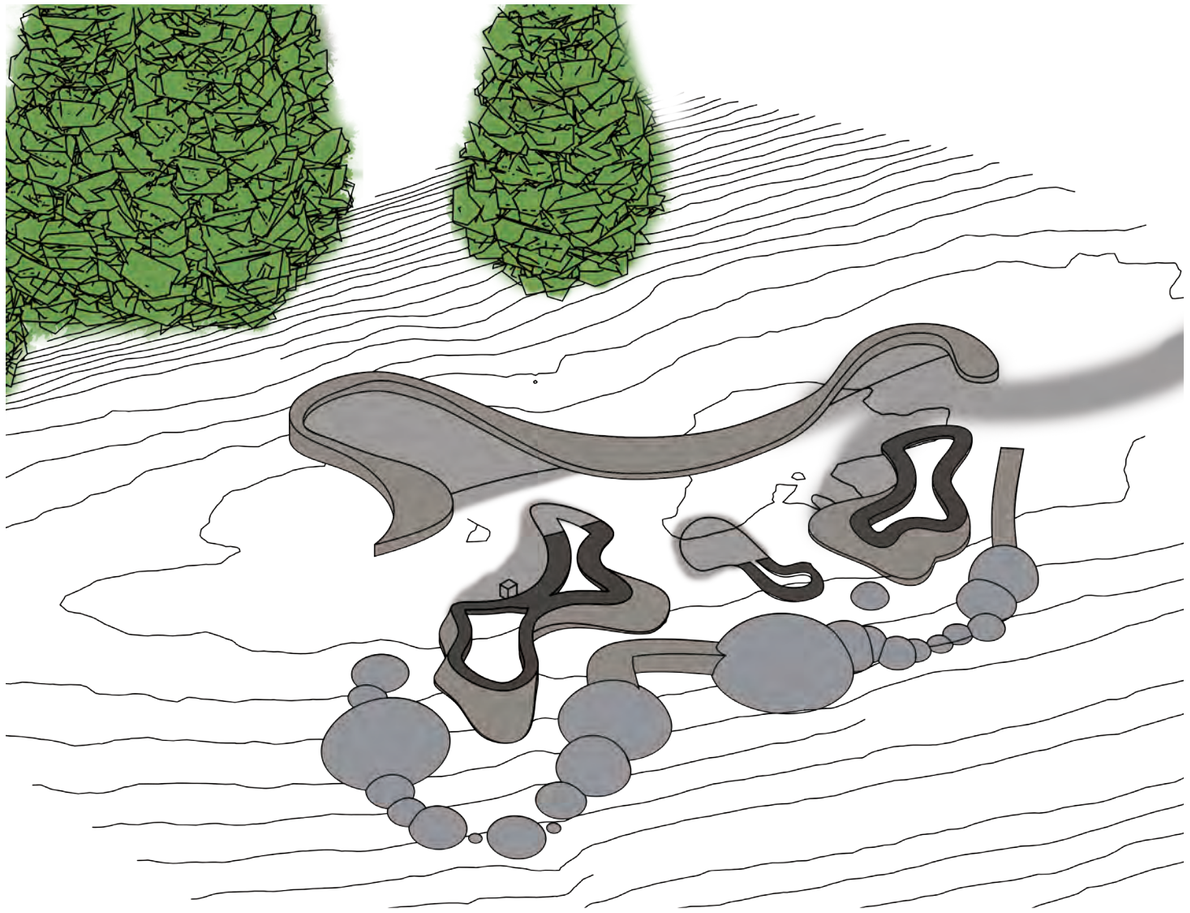
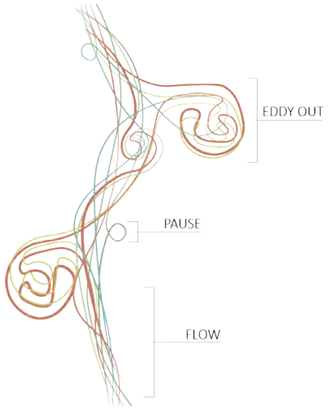


Fig. 5.42: The seating outcrops and benches create a barrier that holds people in a designated designed area and prevents them from wandering.

Fig. 5.41: View of a warm day at the summit.

Fig. 5.43: View of a cold day at the summit



Curbing Crescents

Annie Williams

Site:

Embracing the rogue trail east of the summit is Annie's strategy to create a summit loop that gives users a versatile trail experience and limit the degradation of Vesper Sparrow habitat. She proposed that improving and maintaining these trails is vital to the greater health and wellbeing of both the park and the summit.

Summit:

This design's strategy is to concentrate visitors to the summit in order to protect the habitat of the entire recreation area. By drawing most visitors to the summit aims to keep foot traffic on the rest of the site relatively stable. The form of the crescents aims to provide visitors with a feeling of prospect as well as shelter. Providing this variety of possible experiences will hopefully satisfy the majority keeping them within the designed area.

Materials:

This design incorporates natural, largely local materials and aims to simulate the natural rock outcrops around the summit area to provide seating and viewpoints. Two larger crescents provide rooms for groups and other socializing while a few stones have been 'knocked' further down slope off the main structures to provide smaller spaces for users who prefer solitude. Permeable flagstone surfacing will fill the centers of these areas to prevent mud and erosion. Crushed basalt will replace the current generic gravel leading up to the site and continue down the opposite trail and through the proposed loop.

Site Design

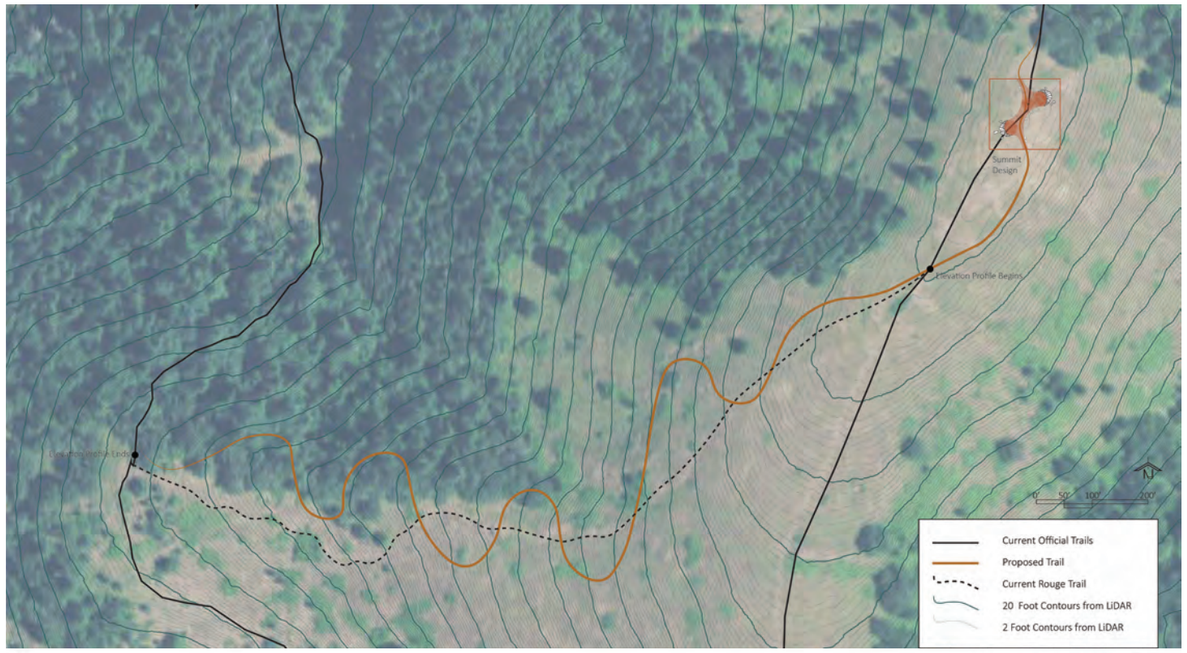


Fig. 5.44: Over many years, hikers have embedded an unofficial trail (represented with a black dotted line) as a shortcut to accent and decent the summit. The diagram shows the re-graded slope of the proposed trail (orange line) compared to the current unofficial trail. The proposed trail reduces the trampling of the native prairie as well as soil erosion.

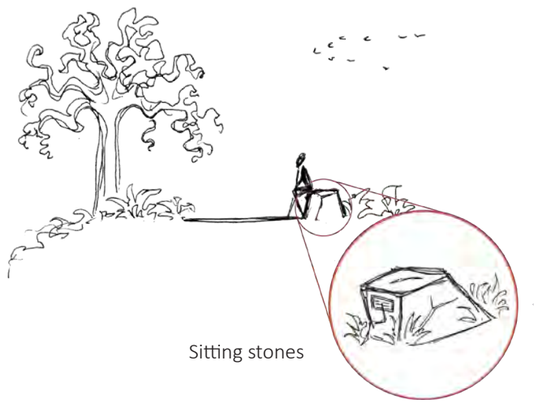


Fig. 5.45: Sitting stones: Improving overall trail cohesion and naturalistic vocabulary of the site with a less obtrusive seating option (memorial plaques should be preserved and reattached to the stone).

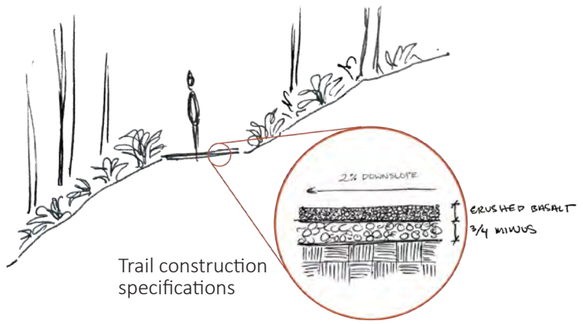


Fig. 5.46: Trail construction specifications: Improving overall trail cohesion and experience and avoiding hydrological disruption on cross slopes.

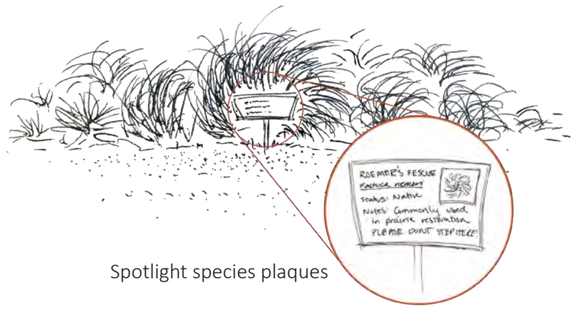


Fig. 5.47: Spotlight species plaques: Establishing plaques to inform visitors of notable and ecologically endangered plant species.

Summit Design

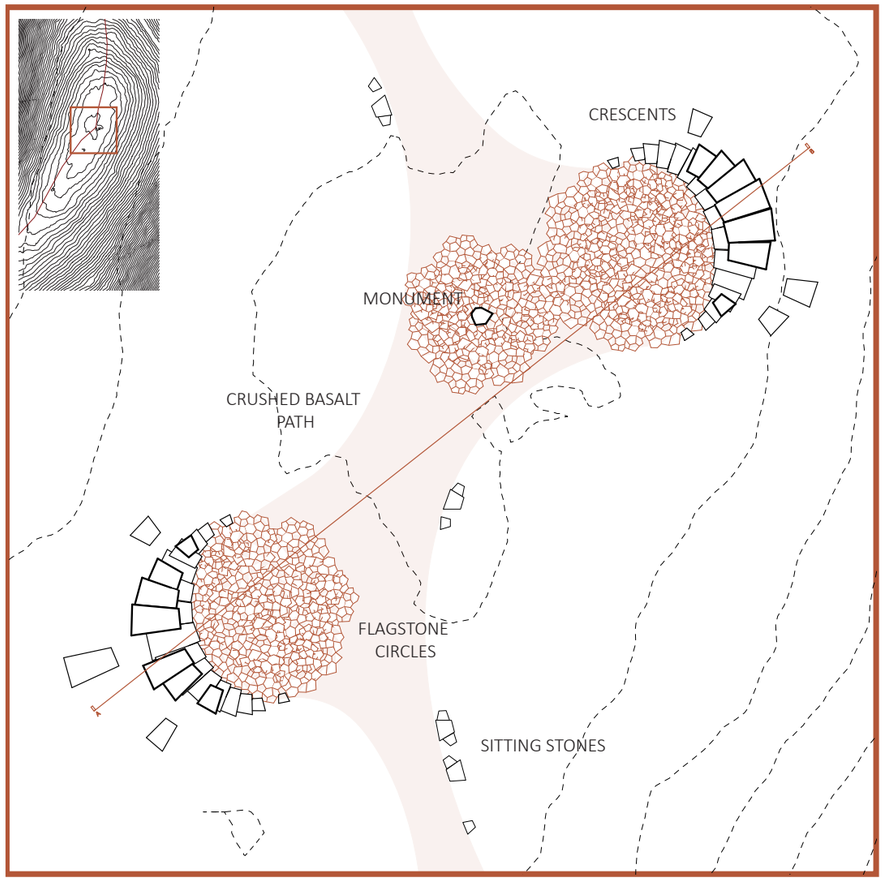


Fig. 5.48: The design intervention focuses on two spots on the summit where the traffic of visitors is maximum. The crescent shape, made by arranging several basalt boulders, contains viewers to a finite area while providing seating, resting, and gathering opportunities.

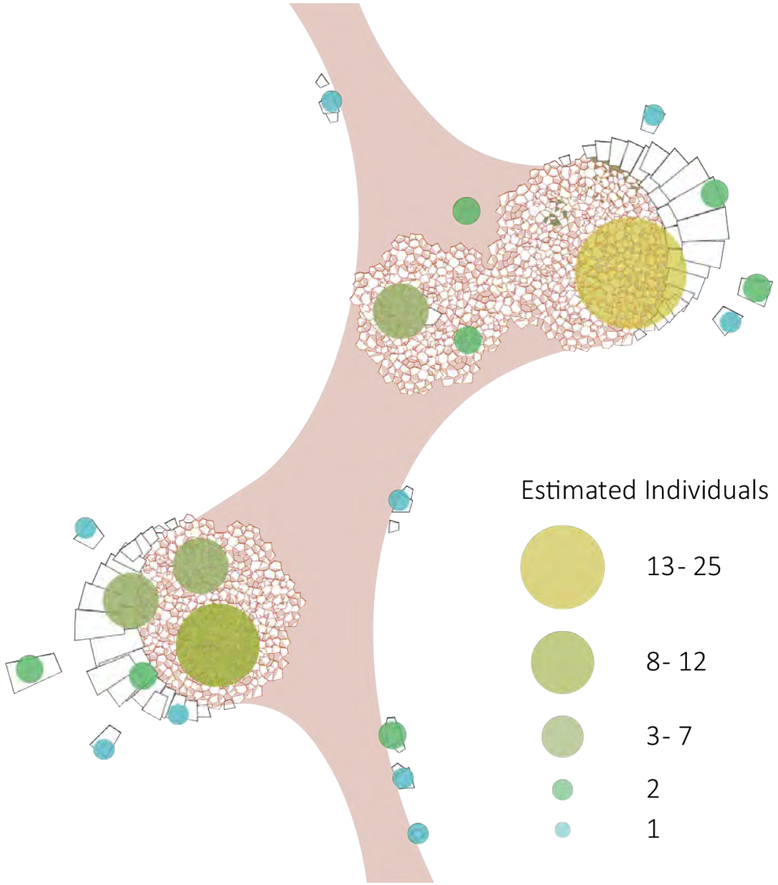
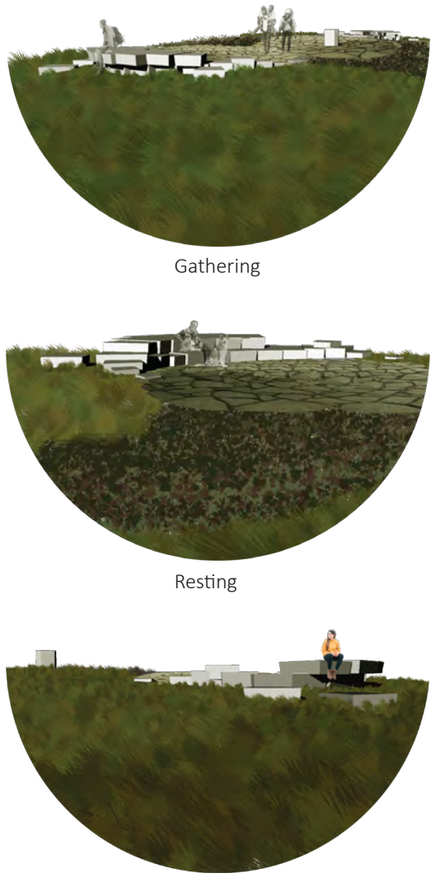
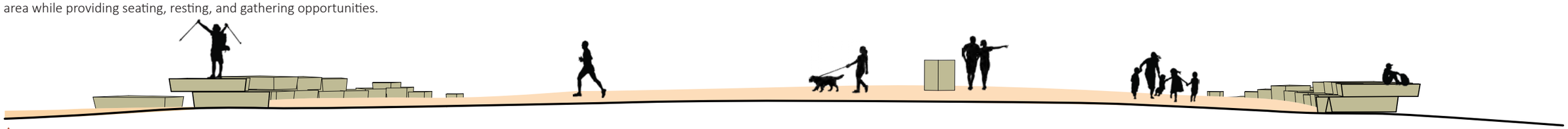


Fig. 5.49: Design carrying capacity diagram shows that the summit comfortably holds around 90 people at one time in either resting or viewing within the designed area.





Section 0′ 8′ 16′

Fig. 5.50: Current view of the summit.

Fig. 5.51: Proposed view demarcating the current ambiguous edge of the summit.

Disperse to Protect

Wen Po Hsu

Site:

The strategy of this design is focused at the site level by making spaces for 4 new destinations around HBRA (not including the summit). These ‘magnet’ areas are meant to draw visitors to more sections of the park, effectively reducing pressure on the summit. Each magnet highlights the views or attractions of each site, such as wood decks along the river paths. By creating unique attractions which are well dispersed at from each other, summit visitation should be reduced

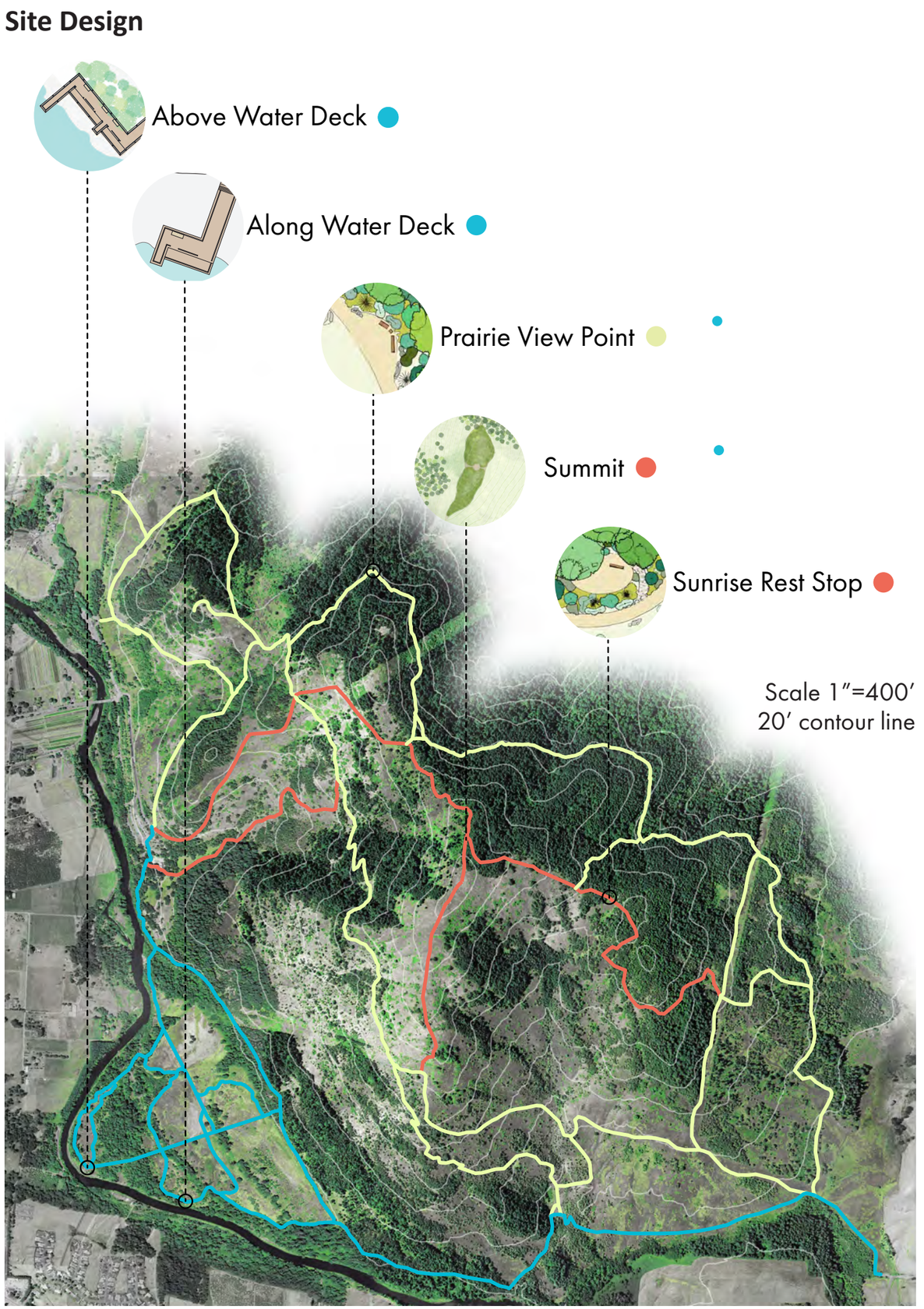
.

Summit:

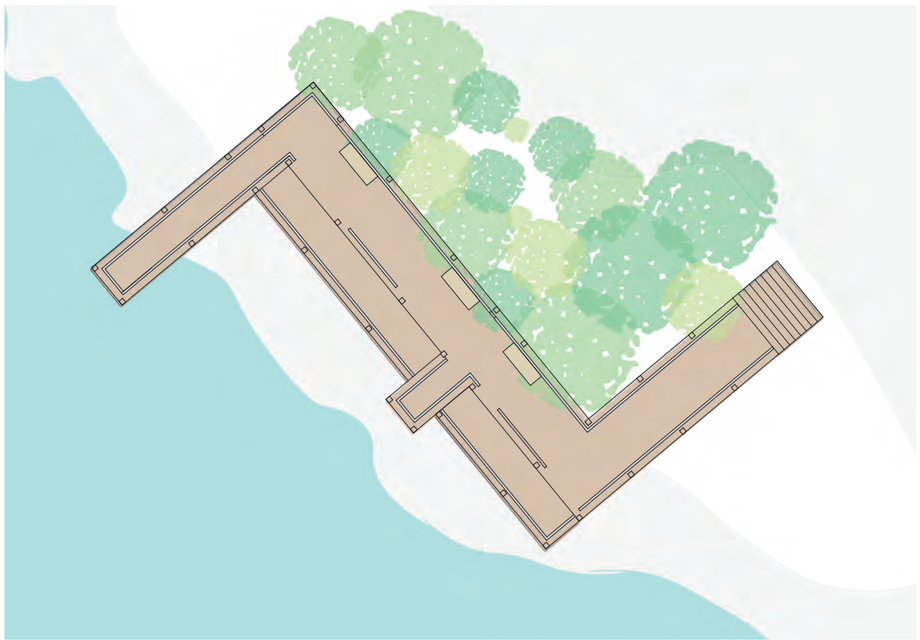
The circulation of the summit design is limited to a ring and a central gathering space around the monument. The strategy trades a high user capacity found in other designs for more area dedicated to restoration. Its minimalist trail design is built for relatively small groups of people, but there is still a diversity of gathering spaces for different sized groups. By cutting out rogue trails and adding clearly marked paths and seating, the design hopes to make prescribed burn management simple at the summit.

Materials:

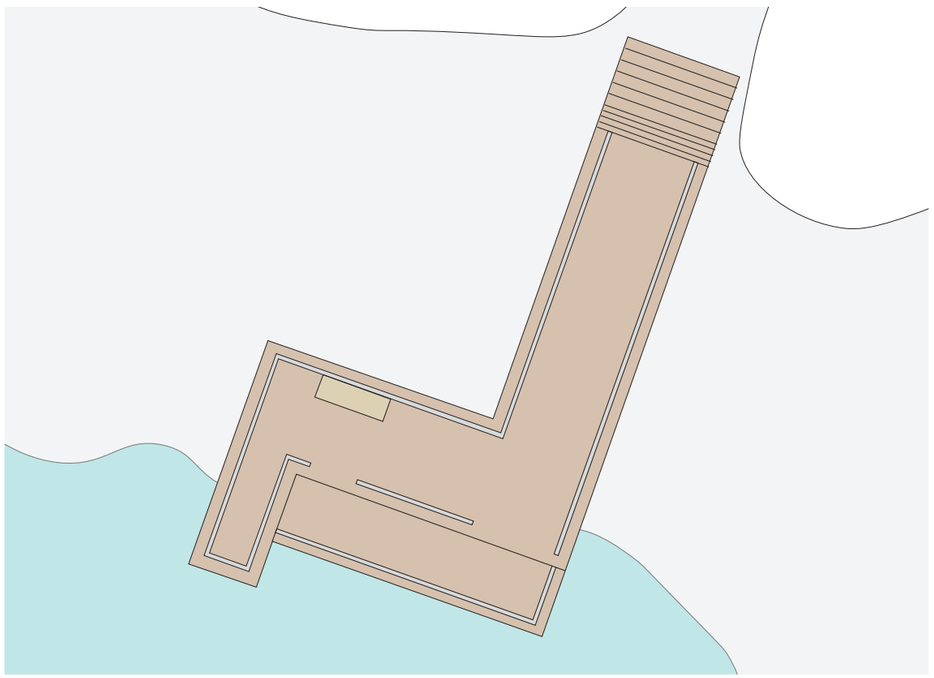
Materials for this design remain alike with the existing wooden bridges for the decks along the river, gravel paths, and simple stone benches on the slopes of the park. Each destination also includes thoughtful planting designs that create vegetative rooms for user comfort.

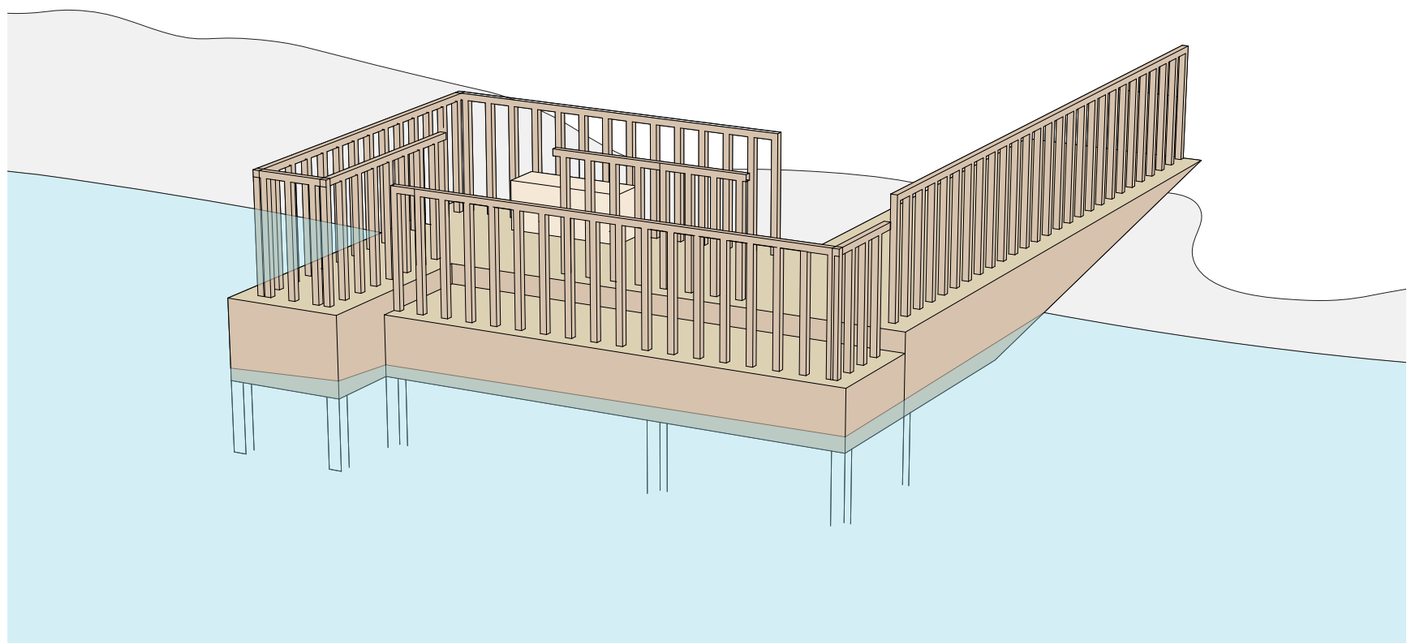


Above Water Deck



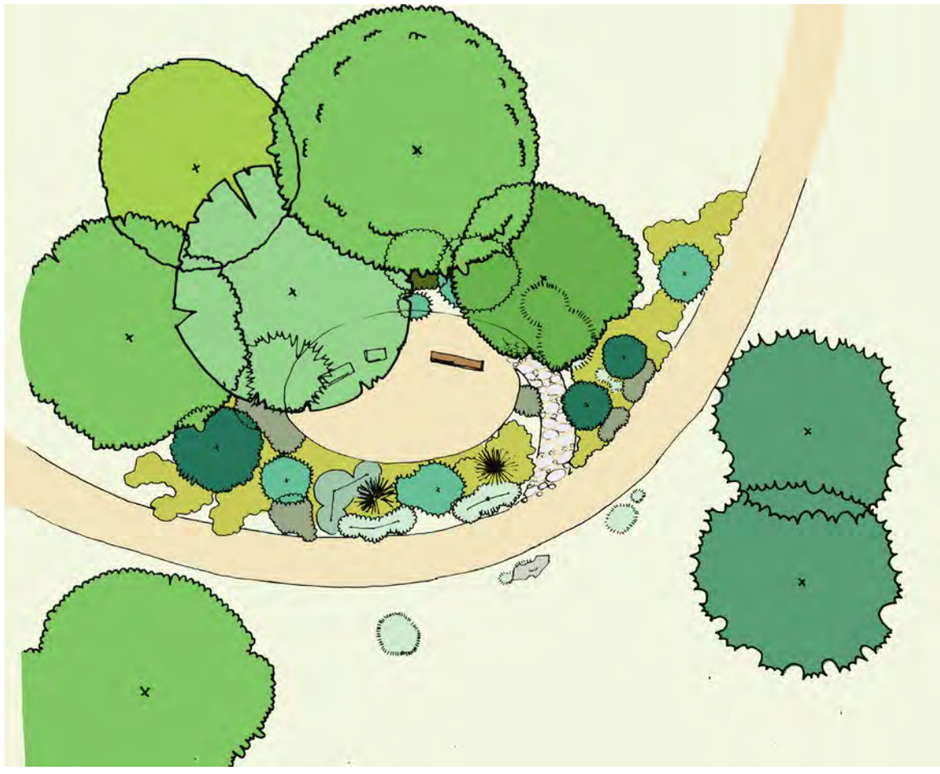
Along Water Deck



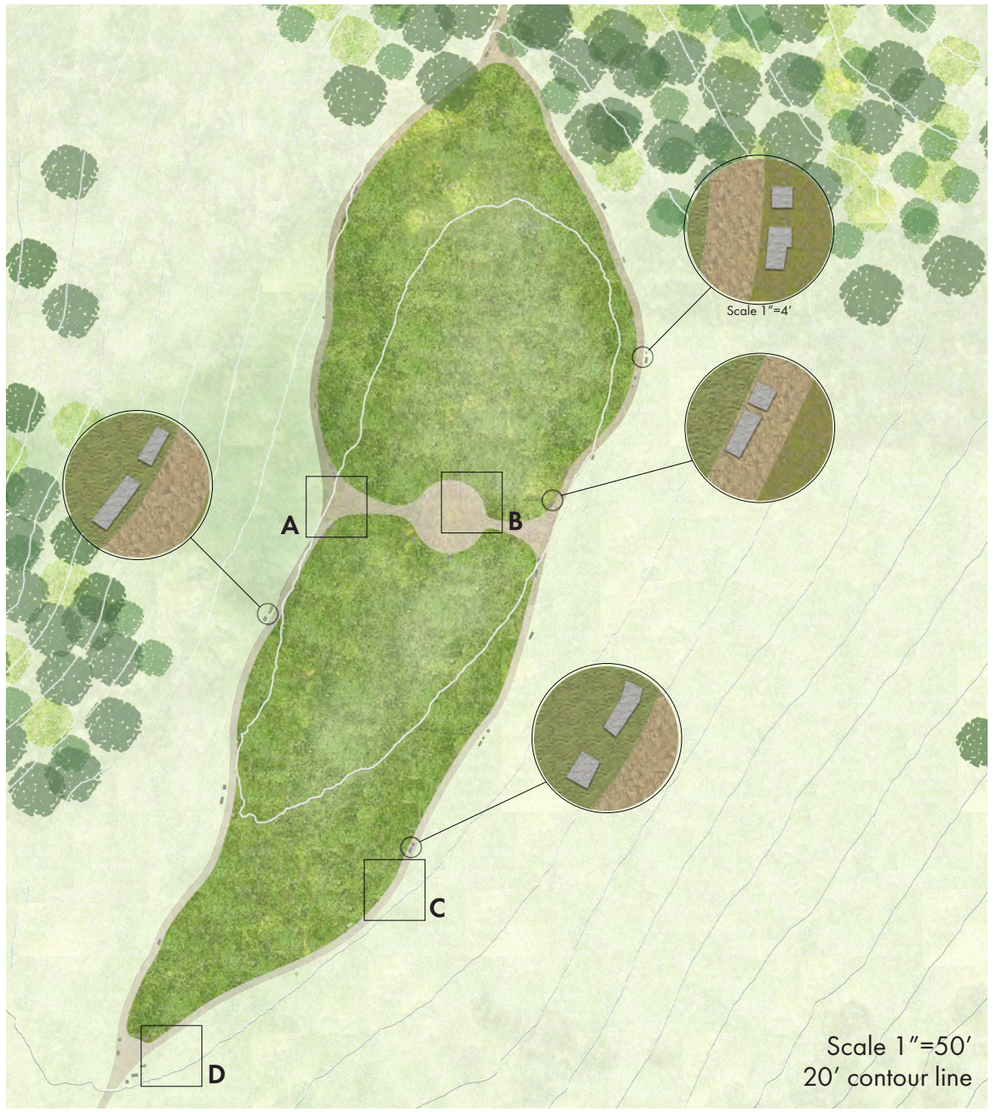


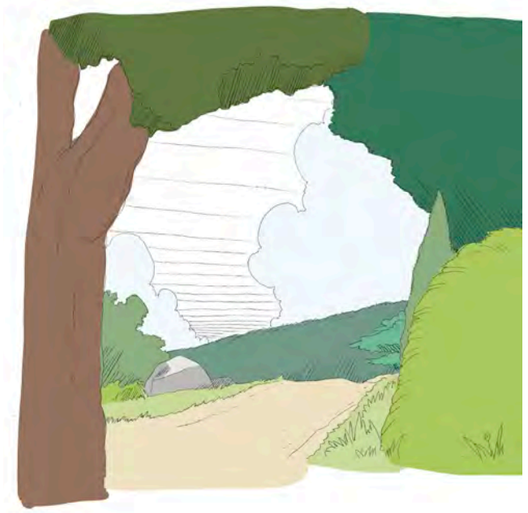
Prairie View Point

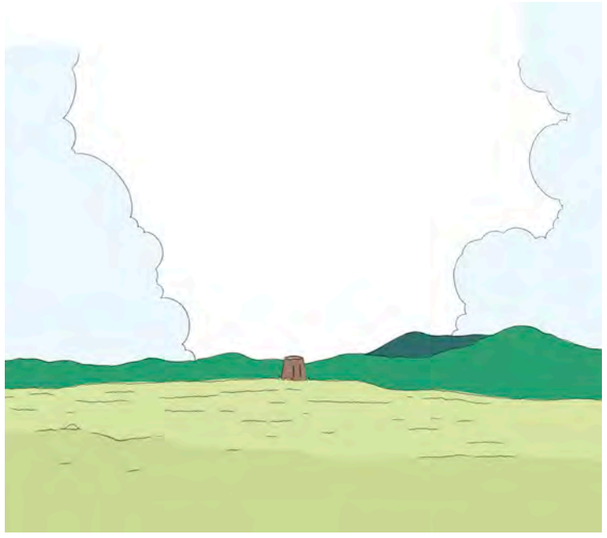
Sunrise Rest Point

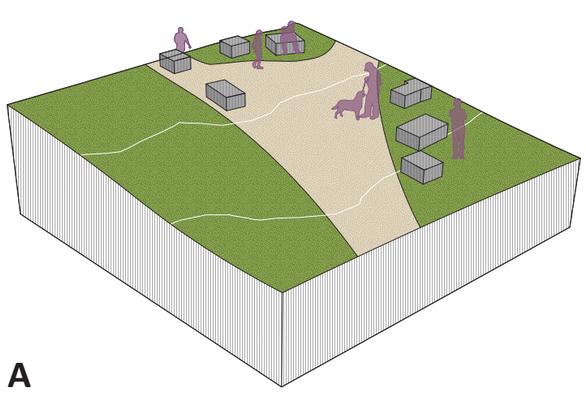


Summit









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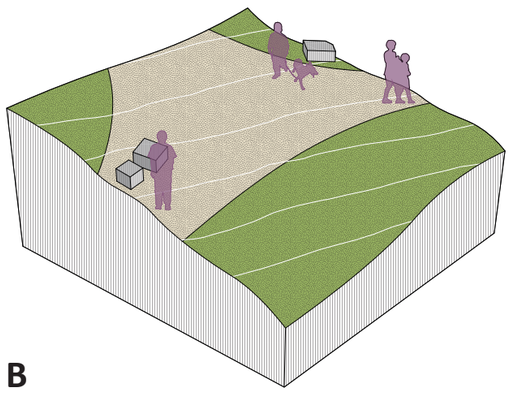

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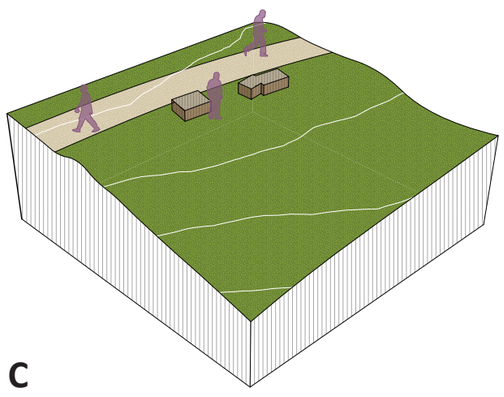

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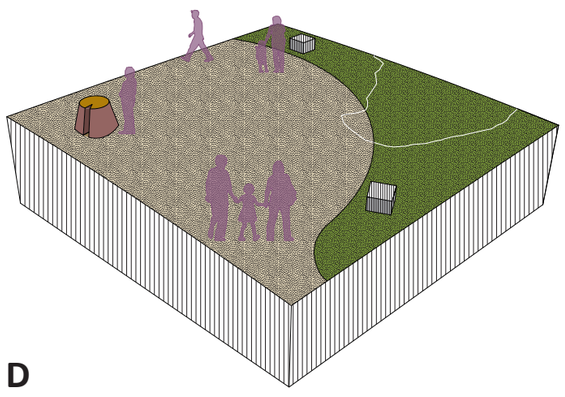
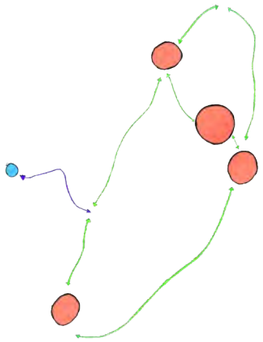


D



Ebb and Flow

Lexi Smaldone

Site:

This design will be comfortable for a larger number of people, while encouraging them to stay on the trails with basalt columns. New trail loops that use the existing trail system will be promoted to offset the increase in park visits and limit the increase increase in summit visits, encouraging users to explore the rest of the park. Naming the loops is suggested to help visitors clearly navigate the trails and overlooks throughout the park emphasize pre-existing views as a method to further distribute visitors.

Summit:

On the summit, the two northern most overlooks are aligned with the summer solstice. This will provide a new experience of watching the sun rise or set over the monument, in addition to through it. The basalt columns around the summit and in the confluence, area provide informal seating and a vertical boundary that discourages visitors from wandering off the designated paths. Overlooks were positioned using the current desire paths on the summit. This respects the visitors' want for those specific views while respecting the sensitivity of the summit landscape. The three trees on the summit are proposed to remain to provide a shaded area where people can find quiet and solitude.

Materials:

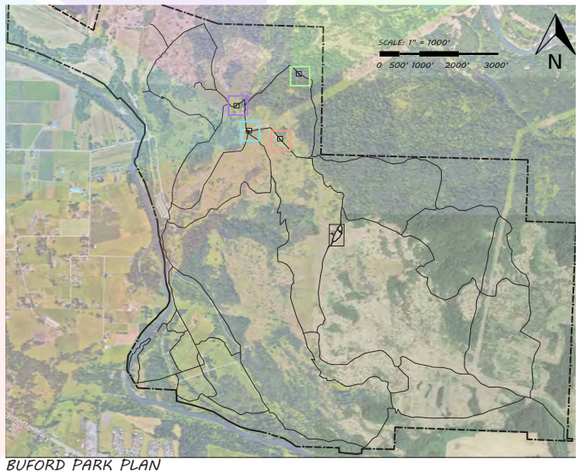
The three primary materials are gravel, basalt, and soil cement. Soil cement is like concrete but replaces the sand and aggregate with local soil, reducing the cost and offering a more natural look while maintaining high strength and workability.

Site Design

SAVANNA OVERLOOK

WOODLAND OVERLOOK

PARK CONFLUENCE



BUFORD PARK PLAN

VALLEY OVERLOOK

Fig. 5.52: Strategies such as trail improvements, development of stopping points for viewing and resting along the trails, and advertising loop trails enhance the overall use of HBRA park. Stopping points are added to existing trails as extension pads at various lookout points around the park.

Fig. 5.53: New trail loops that use the existing trail system will be promoted. This will encourage users to explore the other area of HBRA which in turn will help to potentially reduce the number of people visiting the summit.

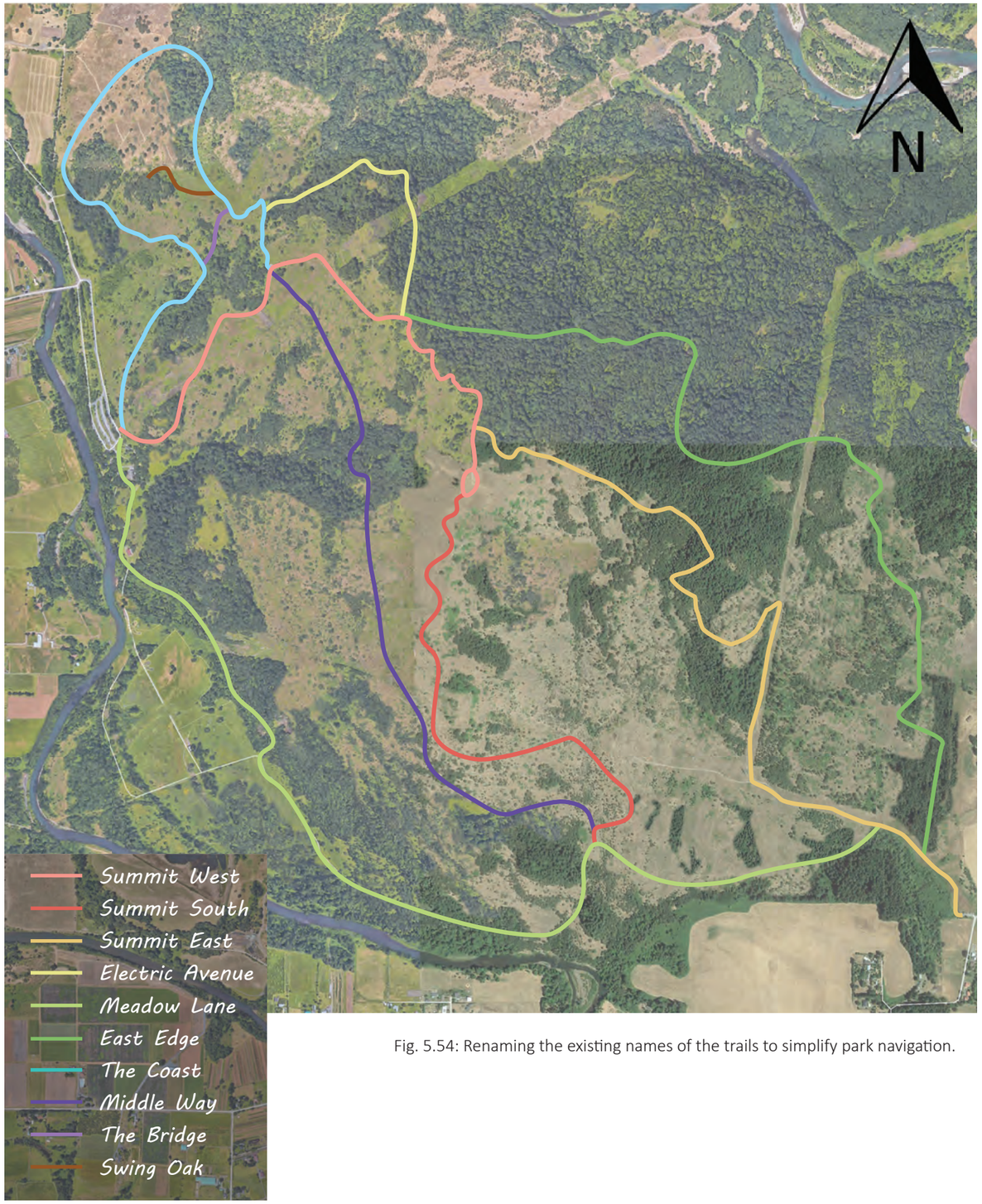
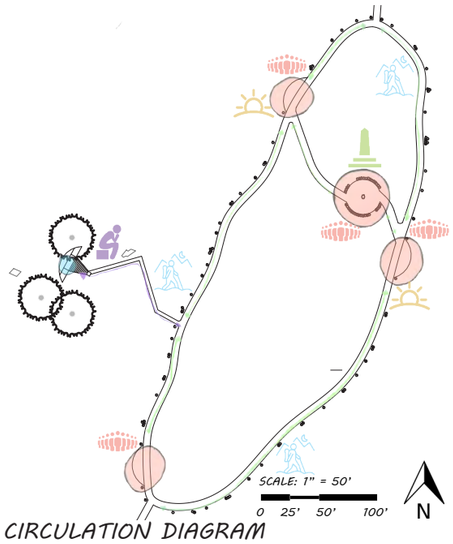


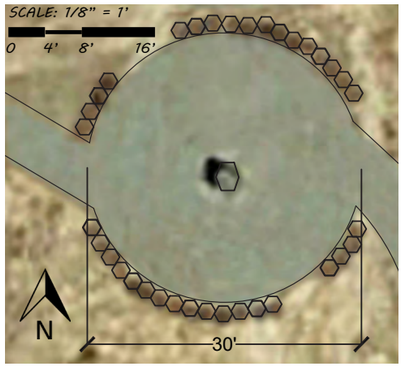
Fig. 5.54: Renaming the existing names of the trails to simplify park navigation.

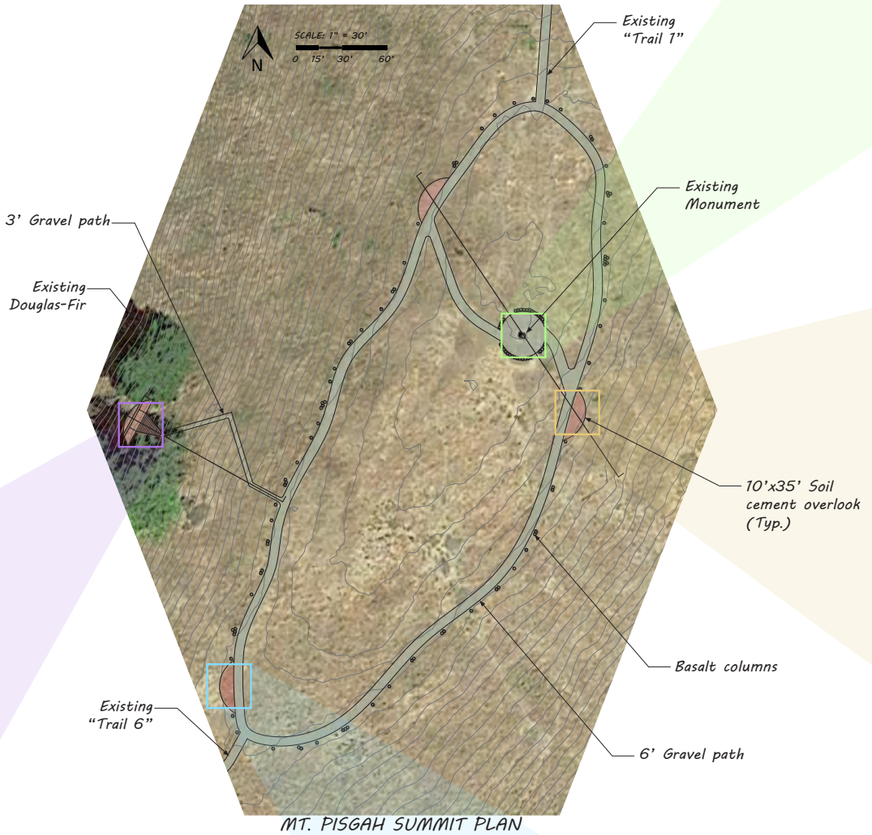
Summit Design



CIRCULATION DIAGRAM

MONUMENT AREA

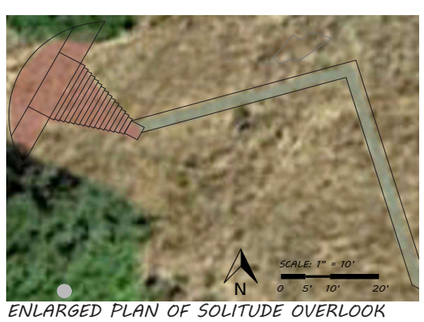




MT. PISGAH SUMMIT PLAN

EAST-FACING OVERLOOK

SOLITUDE OVERLOOK



ENLARGED PLAN OF SOLITUDE OVERLOOK

COAST FORK-FACING OVERLOOK

Observational Boardwalks and Structures

Journeys Unfold

Carmela Sambo

Site:

Interpretative art guide users along the summit, or ‘Pollinator trail’, offering experiential learning opportunities for users to connect with during their journey by directing attention to the park’s vegetation and views.

Summit:

This design provides educational tools for visitors and locals on the importance of pollinator plants and species, the removal of invading of Douglas-fir, and restoration efforts at the summit to provide a haven for the native species who inhabit them. The new trails at the summit, inspired by the ebb and flow of the river, weaves in new experiences while creating a compact human footprint. Visitors can rest on grass mounds or benches, run through linear paths, and seek new viewpoints along an elevated boardwalk.

Materials:

The art installations that welcome users from the crushed stone path use COR-TEN steel for their weathering copper finish, blending these earth tones with the Mt. Pisgah landscape. The summit utilizes vegetated landforms to create mounds for space creation, and basalt benches for rest. The elevated boardwalk along the western slope are comprised of steel grates which create an airy pathway and allow the vegetation underneath to receive sunlight.

Site Design

*Image depicts HBRA Master Plan- Desired Future Conditions

Fig. 5.55: ‘Pollinator Trail’ and ‘Oak Trail’, proposed on Trail 1, educate visitors about Mt. Pisgah’s diverse habitats.

Clear-cuts create optimal growing conditions for sun-loving shrubs and grasses that provide food and habitat for birds and pollinators like moths, butterflies, and bees. Art installation guides installed on the trails provide a written description of Mt. Pisgah’s ecology while directing them towards the summit views.

Fig. 5.56: Pollinator trail (Trail 1) is lined with rock pillars engraved with forbs and pollinator species.

Fig. 5.57: Oak trail (Trail 1) lined with Corten steel panels engraved with an abstraction of Douglas-fir canopy transitioning to Oak trees. The reverse side will be engraved with the benefits of thinning Douglas-fir trees. Thinning creates optimal growing conditions for sun-loving shrubs and grasses that provide food for animals and habitats for pollinators.

Summit Design

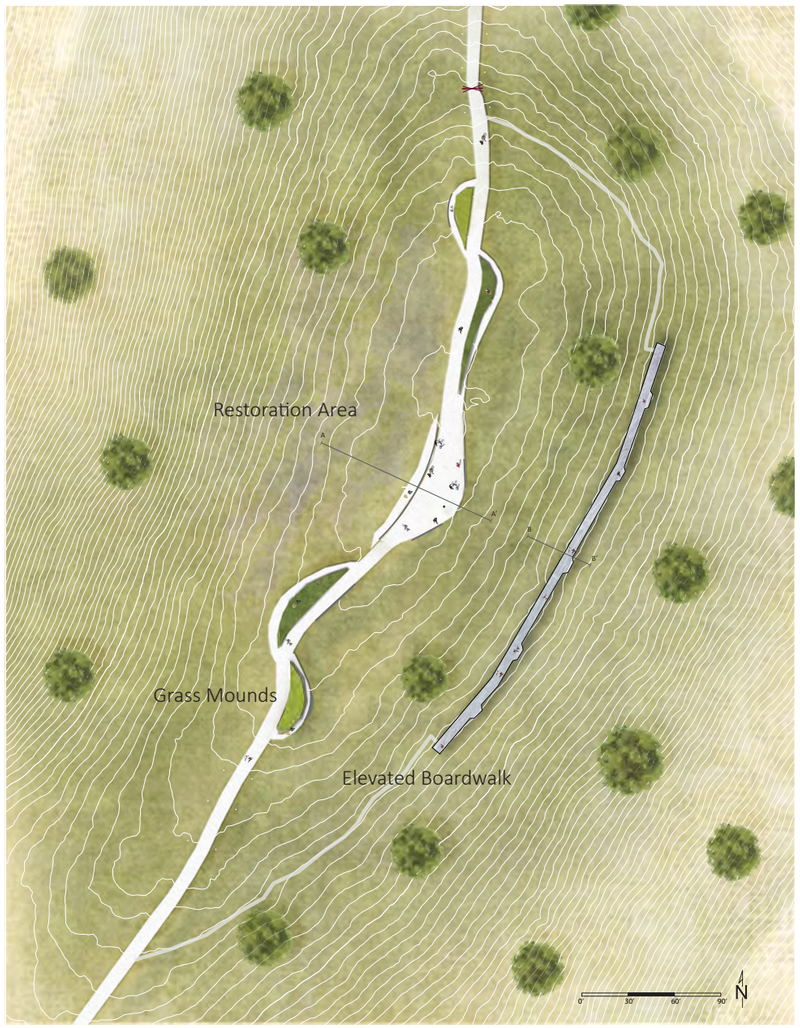


Fig. 5.58: The design intervention is between Trail 1 and 6. Restoration of native prairie and forbs such as Achillea millefolium, Aster hallii, Clarkia amoena, Gilia capitata, and Solidago canadensis nourishes visitors' experience as they continue to bloom throughout the year. The boardwalk elevates above the steep slope and provides great viewing opportunities of the eastern peaks in the distance. The grass mounds intercept the trail and offer gathering and resting spaces.

Fig. 5.59: Boardwalk and flowing trail design close into a loop to prevent visitors from moving off-trail.

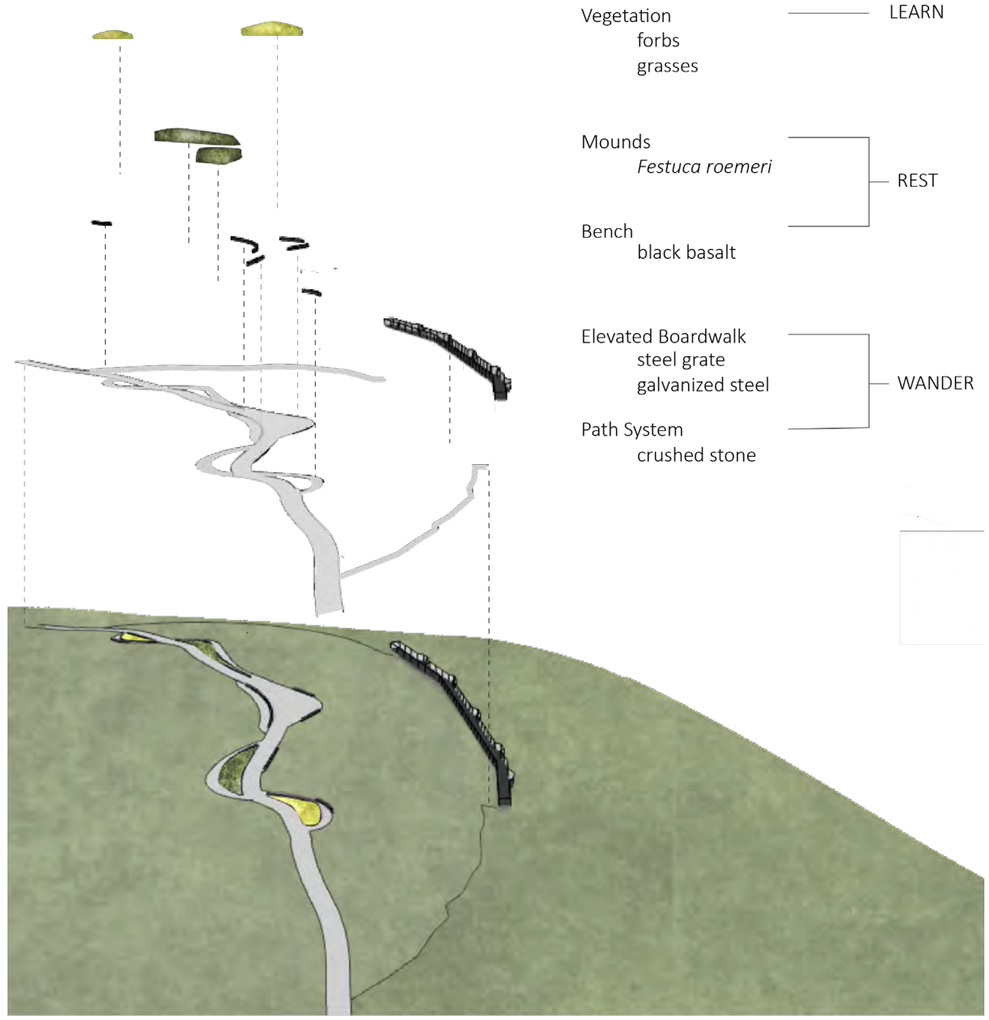


Fig. 5.60: Exploded diagram shows various elements of the design and its construction materials.

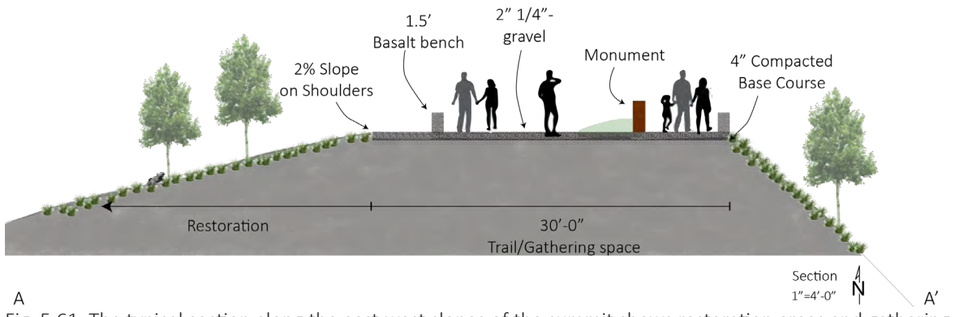


Fig. 5.61: The typical section along the east-west slopes of the summit shows restoration areas and gathering spaces at the monument.

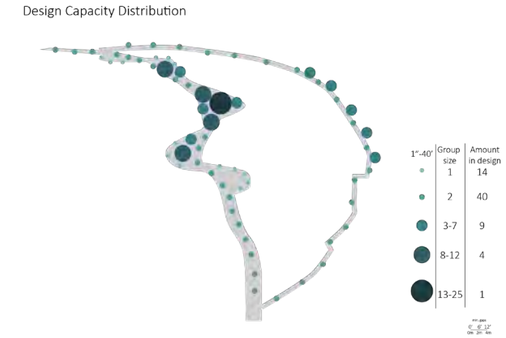


Fig. 5.62: Ebb and Flow design can hold up to 230 people at a time.

Fig. 5.63: Corten steel installation greets hikers at the entrance of the summit. This installation frames the summit with the existing summit, and the sky above.

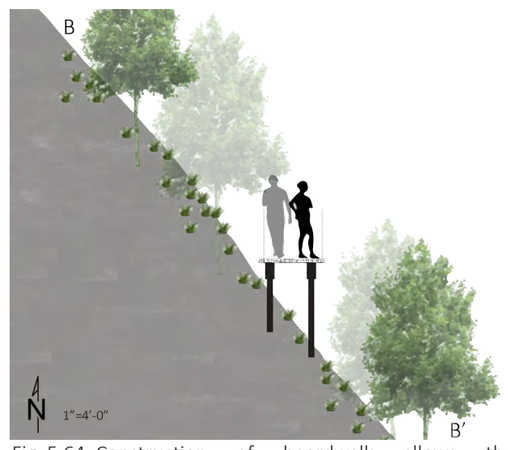


Fig. 5.64: Construction of boardwalk allows the uninterrupted growth of natural vegetation beneath it.

Ring Trail

Jeffrey Kuebler

Site:

To improve vesper sparrow habitat, this design suggests realigning 2 trails to accommodate a contiguous 200-acre meadow critical to supporting this critical target conservation species. This trail would become a loop around the summit with access to the summit from trail 2.

Summit:

A ‘ring’ trail captures views to the west, south and east is intended to reduce off trail exploring to find “the perfect view spot” and seclusion. This proposed summit design is scaled for increased density and comfort at the summit allowing congregation around the embedded shelter structure, nodes, benches and monument area. This design addresses these spatial, experiential and habitat tensions by offering new trails, a shelter structure for refuge, and amenities.

Materials:

The interactive and educational viewing shelters utilize green roofs in order to hide their presence from the top of the summit. In order to accommodate a fire regimen, materials were chosen for their fire resistance, such steel and siliconized cedar/Douglas fir.

Site Design

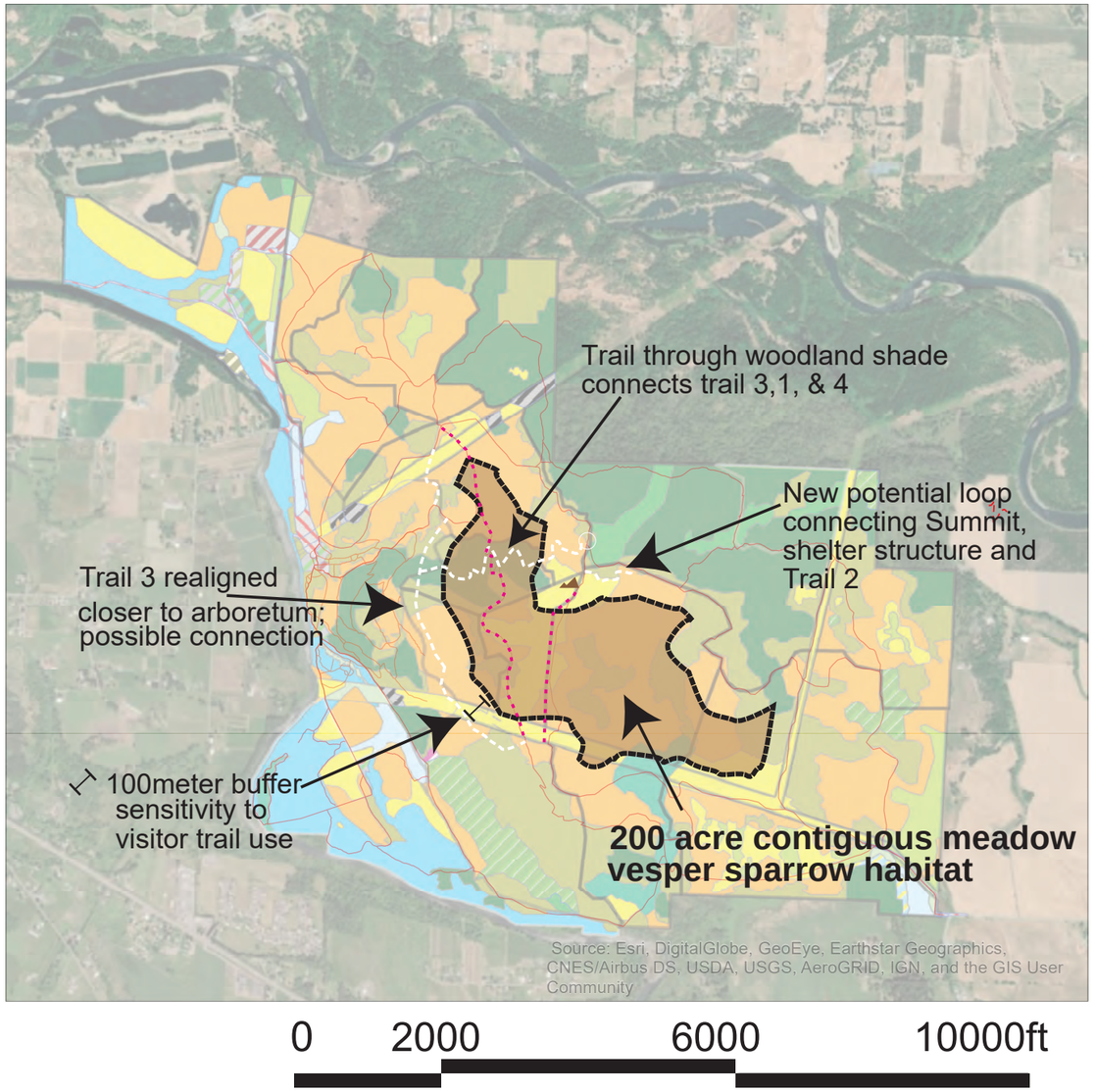


Fig. 5.65: Visitors’ impact on the Vesper Sparrow habitat is reduced by realigning trail 3, disconnecting trail 6 (red dash), and creating a new trail lower on the slope (white dash).

Summit Design

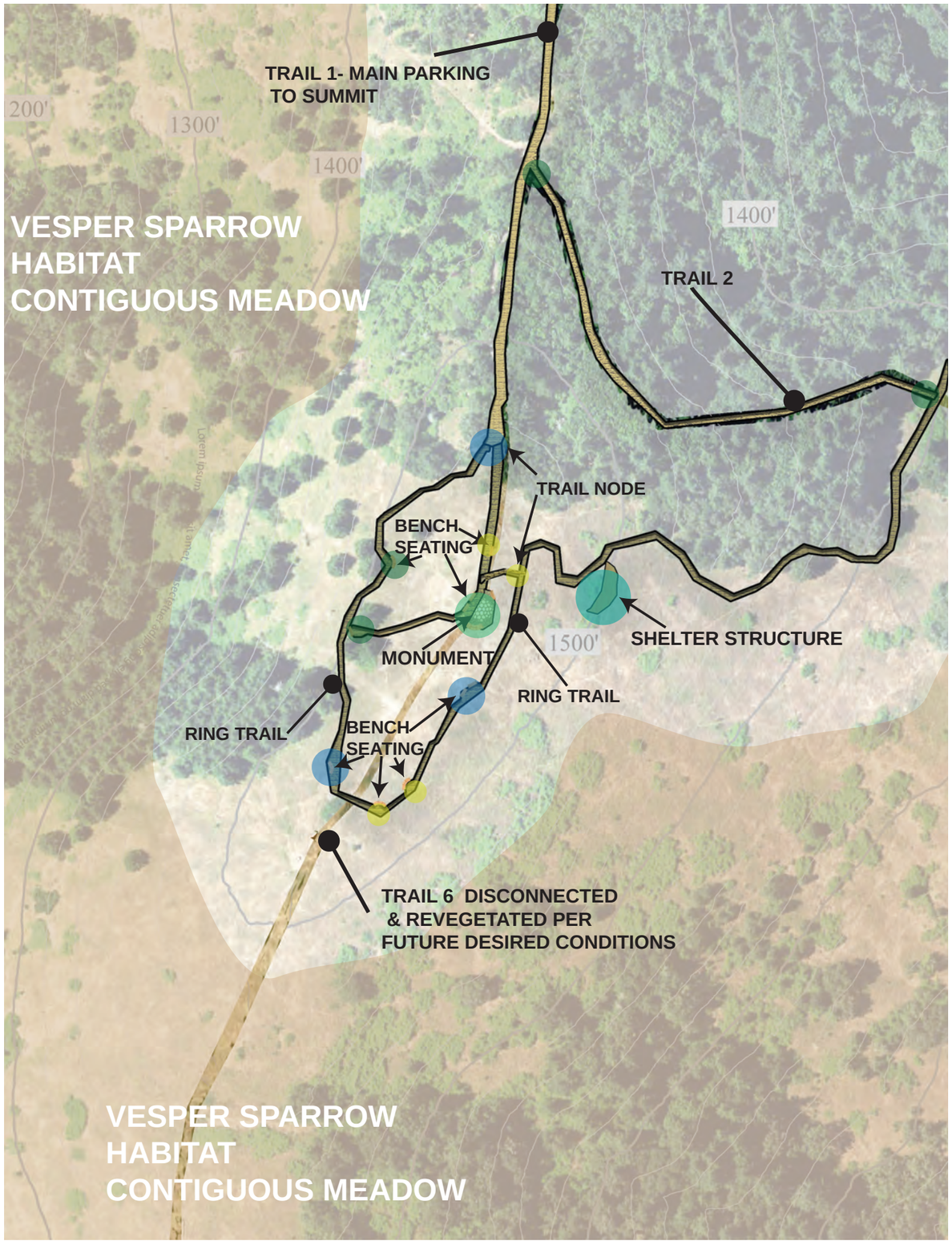


Fig. 5.66: The 'Ring Trail' fulfills the visitors' desire to see the peaks surrounding Mt. Pisgah. This trail design will encourage visitors to stay on designated trails rather than creating unwanted impacts on the habitat.

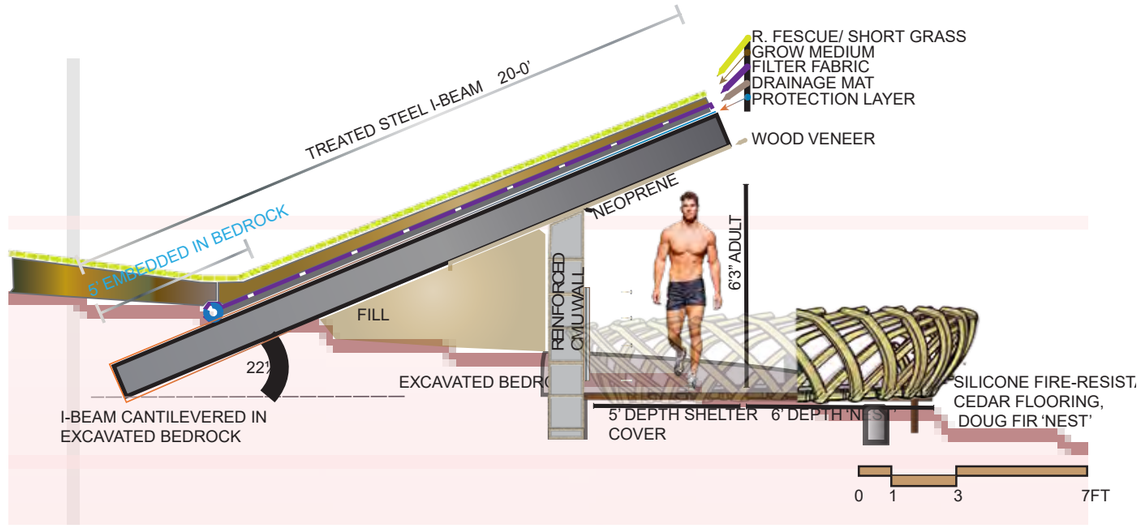


Fig. 5.67: The Diagram shows the construction details of the sheltered structure. Embedding a shelter structure into the hill will provide comforting refuge from seasonal conditions. In addition, the architectural component creates a spatial magnet drawing visitors off the summit to experience views of the Cascades.

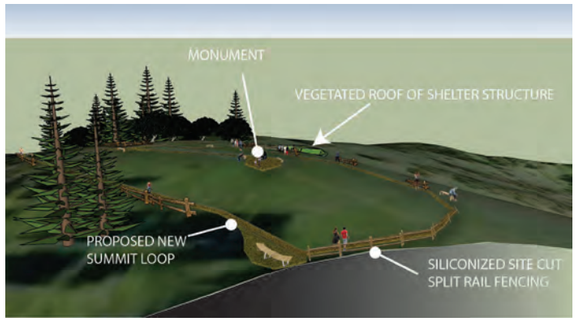


Fig. 5.68: Oblique view of the 'Ring Trail' showing the position of the trail among Douglas-fir and Oak trees to the north of the summit.

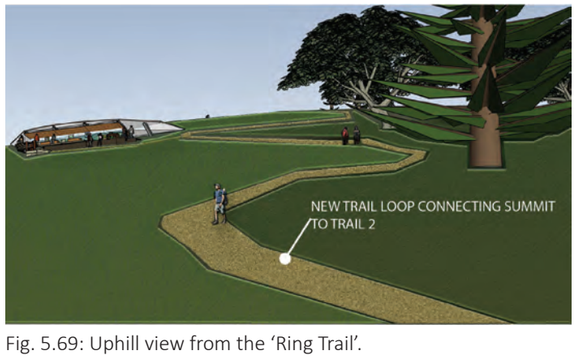


Fig. 5.69: Uphill view from the 'Ring Trail'.

Fig. 5.70: The opening of the shelter is oriented to view the mountain peaks at the south of Mt. Pisgah.

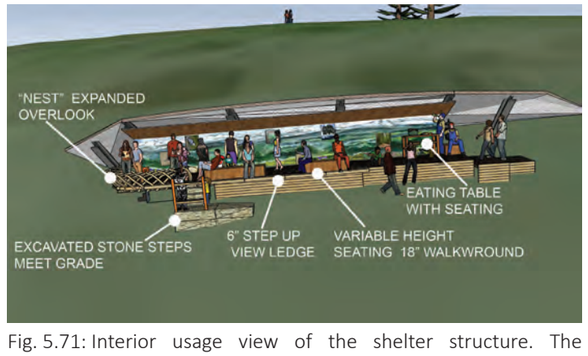


Fig. 5.71: Interior usage view of the shelter structure. The background wall of the shelter has murals of the local mountain ranges and is inscribed with its flora and fauna to educate visitors.

Dynamic Flow

Jiawei Luo

Site:

This design was summit focused but suggested the idea that the steep slopes of (existing) trail 1 include a narrow portion of stairs to make summiting easier but narrow enough for maintenance vehicles to drive over.

Summit:

The summit design extends from a central hub at the monument area, and features paths that radiate out the summit edges. The edge paths offer viewing boardwalks, while the internal paths include embedded seating along the trails to rest and view. These spaces offer different sized gathering space sizes, views, and slopes.

Materials:

Imbedded seating is provided through cut and fill into the bedrock, with a metal observation deck along the summit slopes. Wooden stairs would be built areas where there are steep slopes. Native plants are sewed between paths for added interest.

Summit Design

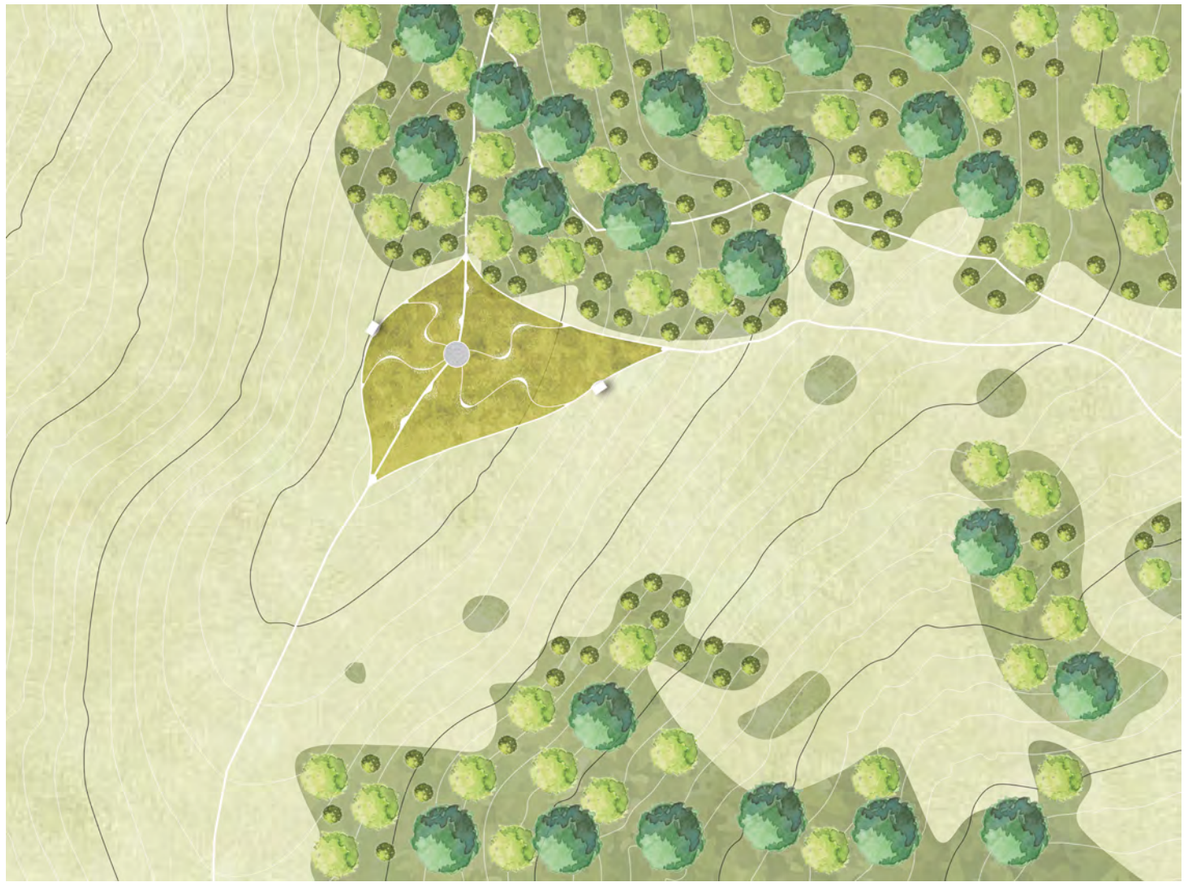


Fig. 5.72: Dynamic trail system extends out from the monument into four different desired locations of the summit.

Fig. 5.73: Cross section of the summit shows elevated observation decks to create a unique viewing experience of the surrounding landscape.

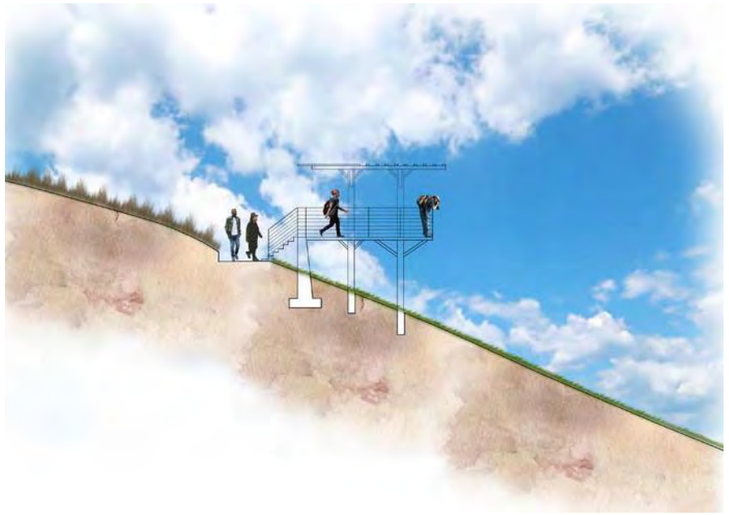


Fig. 5.74: Observation deck

Fig. 5.75: Cut-in sitting

Fig. 5.76: Extended-out sitting

Fig. 5.77: Circulation diagram

- Tire 1 trail (Trail 1 / Main Trail)
- Tire 2 trail (Desire trail)
- Tire 3 trail (Loop trail)

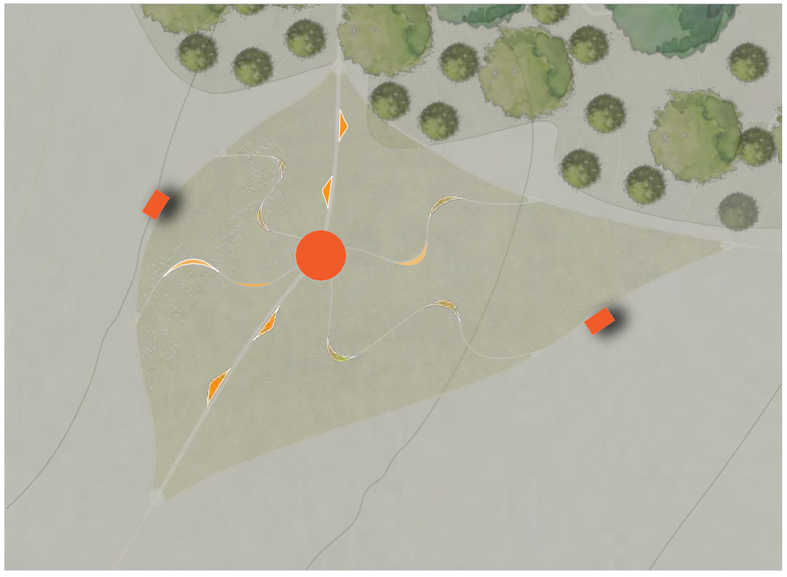


Fig. 5.78: Space occupancy diagram

- Tire 1 Large size occupancy space
- Tire 2 Medium size occupancy space
- Tire 3 Small size occupancy space

Fig. 5.79: Sitting diagram

- Extended out sitting
- Cut-in sitting
- On trail Eddy out space
- View direction

Fig. 5.80: Human occupancy diagram

- Footprint of one Human

Expansion and Restoration

Su Li

Site:

This design primarily focuses on the summit design but suggests that a designated seating area be added halfway up trail 1 to allow users to rest. This would be comprised as a seat wall for views which reference the materials and designs at the summit.

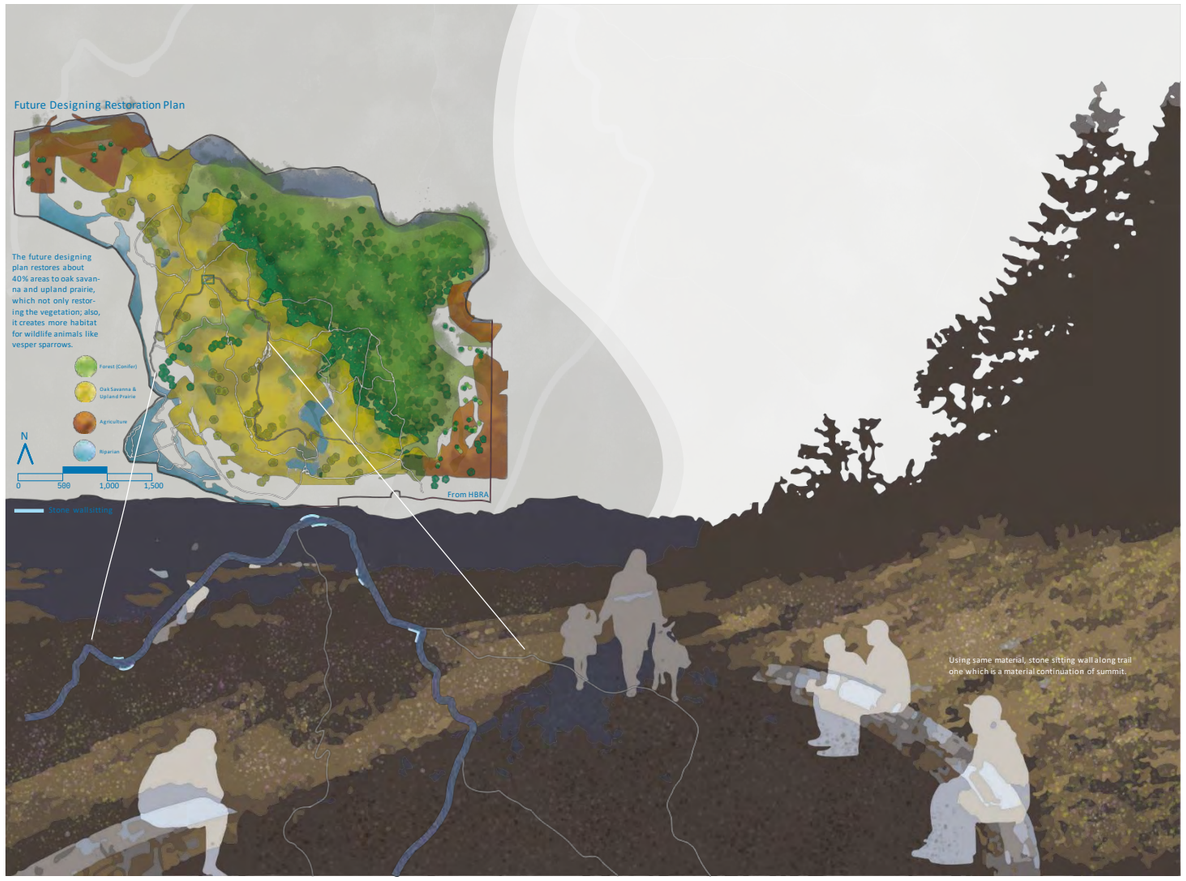
Summit:

Expanding the summit to increase user capacity is pivotal in this design with increased gathering spaces spread throughout the summit and clearly designated trails. There are ample areas to sit within this design where seating walls are placed throughout the path system where there are choice views. The design layout takes advantage of the side slopes by creating a multitude of paths to take in views with privacy. A boardwalk is added in the Vesper Sparrow zone as a 'Bird observation deck' which distance visitors from the ground-nesting birds below and raise users above the landscape for great views. Restoring the quality of the upland prairie and oak savanna habitat is prioritized in this design as well.

Materials:

The seating wall are made of stone, and the plantings around paths are comprised of a native upland prairie wildflower mix. The boardwalk design is fashioned with patterned steel and wood benches in the viewing areas.

Site Design



Summit Design

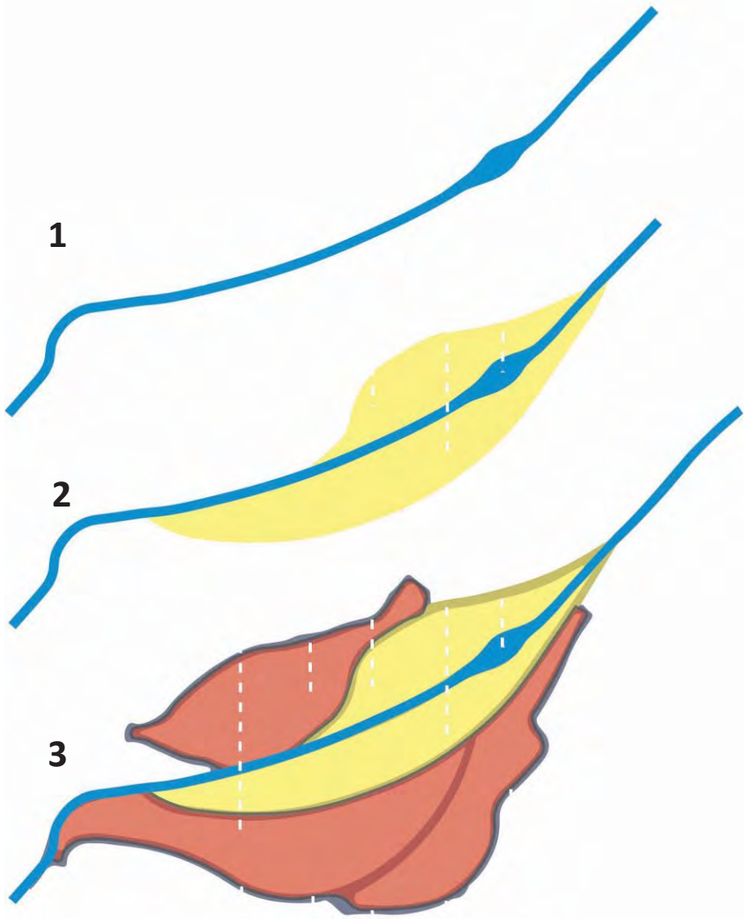
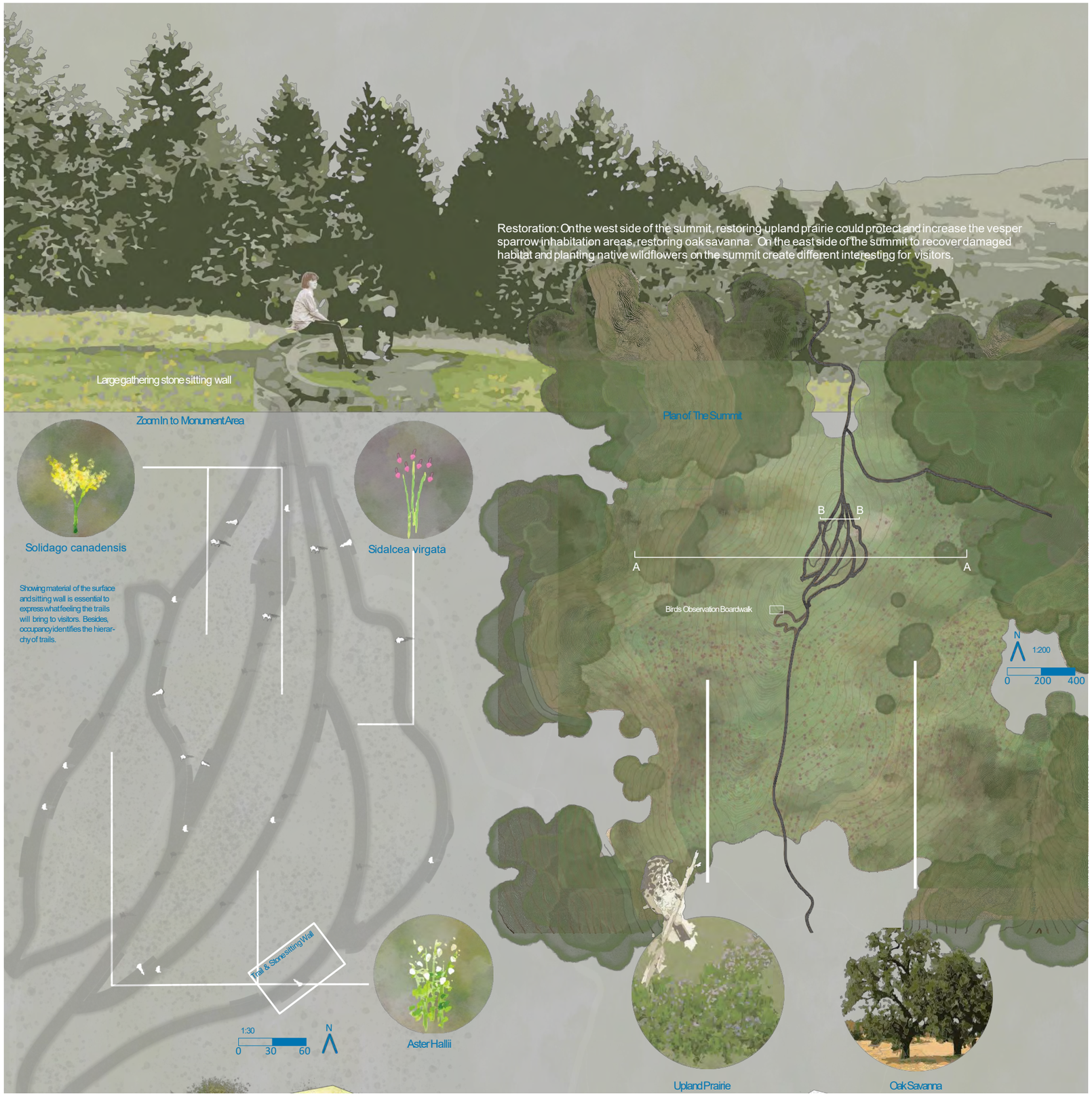


Fig. 5.81: Concept: Firstly, expanding the monument area to allow more people to use this space. Secondly, top-level trails and terraces accept most activities; in the meantime, restoring habitat on top-level allows visitors to enjoy nature. Thirdly, second-level, and lower elevation trails and terraces have more sensitive restoration management, which accepts fewer human activities or using boardwalk for more observation and educational activities.



Pattern Steel

Wood Benches

Birds Observation Boardwalk

Upland Prairie

Oak Savanna

Trail & Stone sitting Wall

1500'
1500'
1300'
1300'
1100'
1100'
900'
700'
A
A
Scale: 1:200

B
B
1500'
Scale: 1:50

At the junctions, there are Vshapestone sitting walls which are for sitting, rest, and playground for children.

Chapter 6

Recommendations

Suggestions for Redesigning the Mt. Pisgah Summit:

Students produced a plethora of innovative ideas through this studio, and the following suggestions are based on their rigorous research, community outreach, and designs:

Design Process and Limitations:

- User data collected during this studio was limited by many constraints, particularly time, participant diversity, sample size, and the inability to make revisions. The social systems data could be looked at as a pilot survey to be improved upon, but there should be more HBRA user surveys which account for a statistically random samples and follow strict research guidelines.
- At the time of the studio, students desired more information on how native indigenous people used the HBRA, and if there was any historical significance of Mt. Pisgah. There is not a lot of data on the past and present relationship native peoples have with the park, and more information as left to be desired.
- Students did not engage with issues of diversity, equity, and inclusion within the park, and improving these standards should be addressed within the management of HBRA.

HBRA Design:

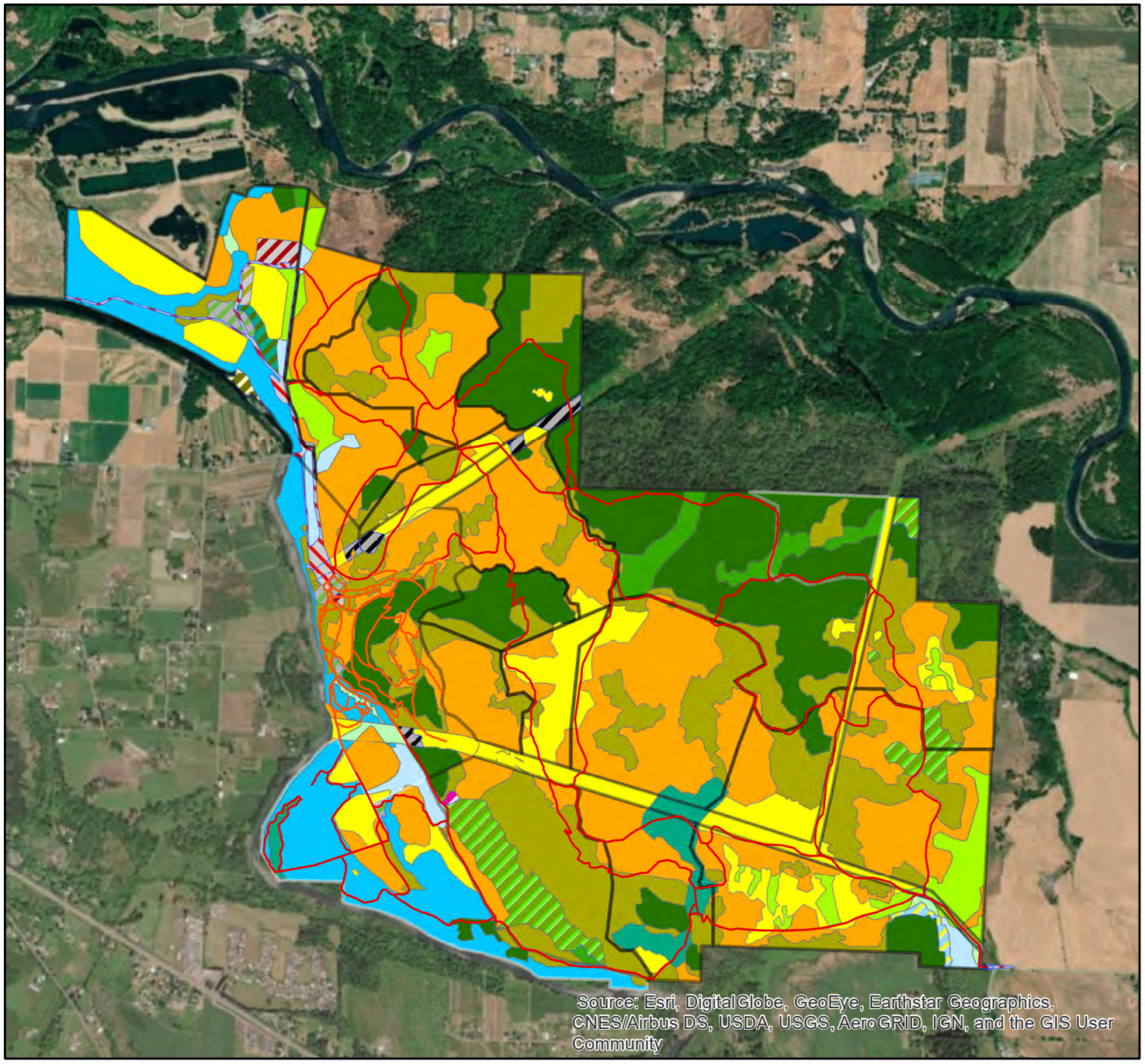
- Consider naming trails to replace the current numbering system. Students used trail names as an opportunity to educate by naming trails after conservation species, such as ‘Vesper Sparrow Trail’. Naming trails may serve to be more memorable for park users and consequently clearer.
- Some students made shifts to the existing trail system by organizing trails as loops for additional clarity and suggestive navigation.
- Maintaining and improving infrastructure around the entire park will encourage use in other areas besides the summit.
- Creating more points of rest along main trails allow for greater accessibility and may serve as destinations as an alternative for summitting.

Summit Design:

- Summit infrastructure should use natural materials that feel native to the park.
- Construction materials must also be fire resistant to tolerate prescribed burns at the summit.
- A focus on planting and restoring native prairie vegetation at the summit was important to all designs, with some students suggesting the inclusion of botanical labels to educate park users.
- Views were important to student designs, with some advocating the thinning of conifers around the summit to open more views.
- Highlighting views also took the form of using the slopes of the summit to build platforms for viewing the surrounding landscape.
- The summit monument is an important cultural element of the Mt. Pisgah, so no students suggested that it be moved, and many designs centered themselves around the monument.
- A need for designated gathering spaces of varying sizes was clear to students, with some students creating spaces for celebrations and ceremony as an opportunity for community engagement and education.
- Using design to educate the public was a priority for most students. Because of the high traffic the summit receives, students highlighted features of the summit, such as: Oregon White Oaks, prescribed burning, native vegetation, and stone outcrops.
- The students suggested different levels of intervention throughout the designs. Some were very minimal, while others made significant changes to the summit. While users may be hesitant to change, high-intervention designs are worth considering so long as the natural beauty of the summit is celebrated.

Associated Maps with the Project

HBRA 2035 Desired Future Conditions



Legend

- Trails_woArb_2018_May_ORS83
- Trails_Arb_only

HBRA_DFC_2035

DESCRIPTION

- Historic Facilities
- Stewardship Facilities
- Event Facilities
- Parking and Roads
- Oak Savanna
- Upland Prairie
- Buckbrush Chaparral
- Wet Prairie
- Scrub Wetland
- Forested Wetland
- Riparian Bottomland Forest
- Riparian Mixed Bottomland Forest
- Oak Woodland
- Upland Conifer Forest
- Oak-Ponderosa Pine Woodland
- Upland Hardwood Forest
- Alder Forest
- Powerline Scrub
- Gravel Bar
- Quarry

0 250 500 1,000 1,500 2,000 Meters

0 1,000 2,000 4,000 6,000 8,000 Feet

N

Mt. Pisgah

LA 4/589 Winter 2020

100 ft contour

20 ft contour

Countours derived from LiDAR

Trail - Hiker Only

Trail - Hiker/ Horse

HBRA Boundary

Image - 2018 NAIP (1 ft resolution)

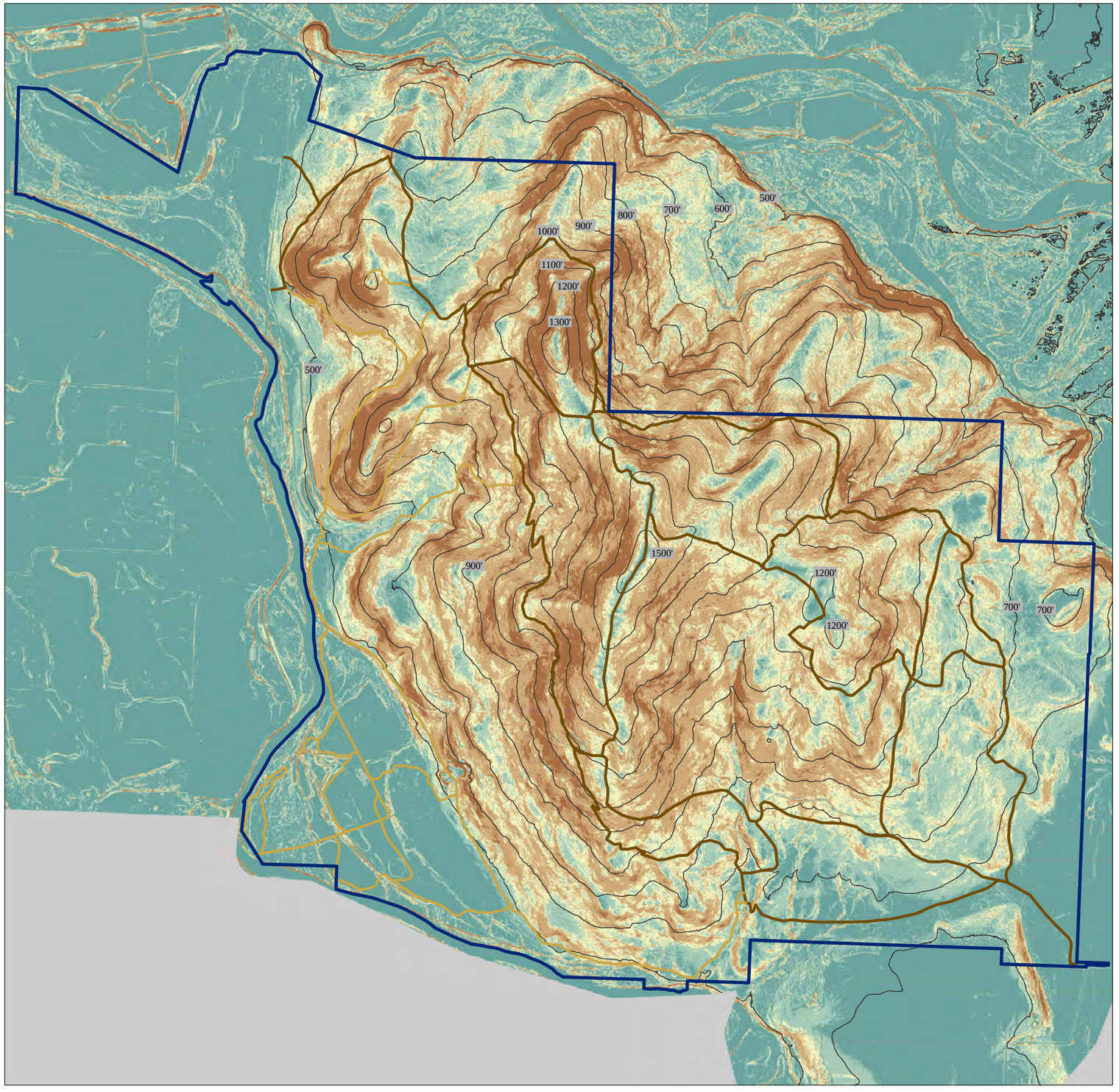
N

0 100 200 300 400 500 Meters

0 200 400 800 1,200 1,600 2,000 Feet

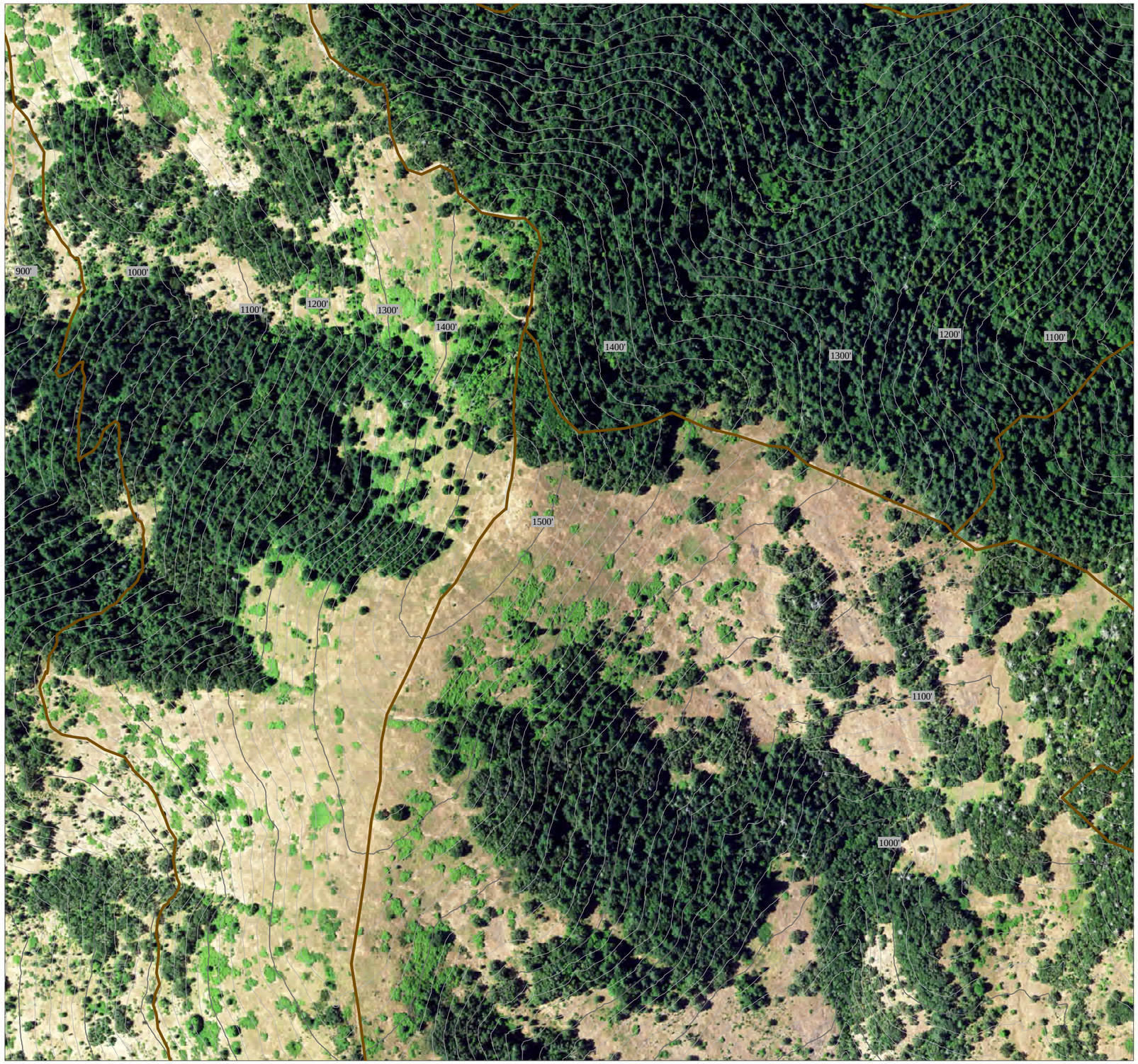
1 inch = 400 feet

D


500'
1000'
900'
800'
700'
600'
500'
1100'
1200'
1300'
500'
900'
1500'
1200'
1200'
700'
700'
<5%
5%-10%
10%-15%
15%-25%
>25%
Trail - Hiker Only
Trail - Hiker/ Horse
100 ft contour
HBRA Boundary
No data
N
0 100 200 300 400 500 Meters
0 200 400 800 1,200 1,600 2,000 Feet
1 inch = 400 feet

Mt. Pisgah Summit Contours

LA 4/589 Winter 2020



100 ft contour

20 ft contour

Trail - Hiker/ Horse

Image - 2018 National Agriculture Imagery Program (NAIP)

N

0 100 200 300 Meters

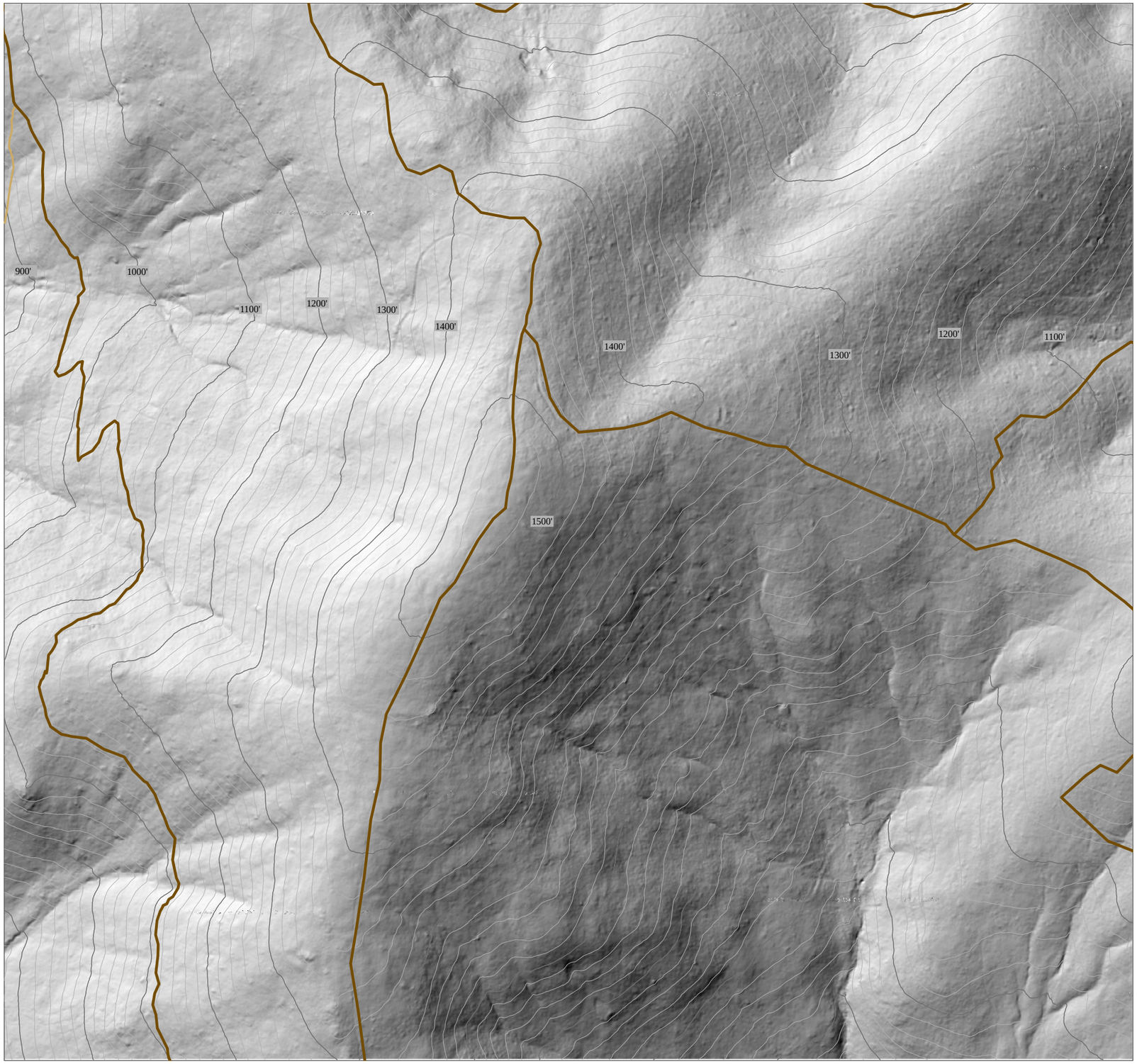
0 50 100 200 300 400 500 600 700 800 900 1,000 Feet

1 inch = 100 feet

D

Mt. Pisgah Summit Hillshade

LA 4/589 Winter 2020



100 ft contour

20 ft contour

Trail - Hiker/ Horse

N

0 100 200 300 Meters

0 50 100 200 300 400 500 600 700 800 900 1,000 Feet

1 inch = 100 feet