







# HERON MEADOW

Design Visions for the Vashon Nature Center and the Vashon Center for the Arts

2020 Scan Design Foundation Master Studio College of Built Environments, University of Washington



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2020 Scan Design Foundation Master Studio in Urban Design & Landscape Architecture College of Built Environments, University of Washington

## **INSTRUCTORS**

Nancy Rottle Professor of Landscape Architecture, University of Washington Louise Grassov Master Teacher, Schulze + Grassov Hans Nelsen Master Teacher, Hans Nelsen Designs Heather Parker Teaching Assistant, MLA

## **STUDIO PARTICIPANTS**

Saeed S. Al-Shidhani MARCH Alexandra Burgos MLA Emilio Craddock MLA/MARCH Robby Lai MLA Kevin Lin MARCH Yingjie Luo MLA Colin MacDonald MLA

## **ACKNOWLEDGEMENTS**

**Scan Design Foundation** Vashon Nature Center and Bianca Perla Vashon Center for the Arts Jil Stenn, Stenn Design and thank you to all of our guest lecturers and reviewers.



Ellie Murray MLA Lena Owens MLA **Emma Petersen** MLA Allie Rowe MLA Claudia Sackett Hennum MLA Jocine Velasco MLA



## LAND ACKNOWLEDGEMENT

The University of Washington acknowledges the Coast Salish peoples on whose land we study and work, the land which touches the shared waters of all tribes and bands within the Puyallup, Duwamish, Suquamish, Tulalip, and Muckleshoot nations.

We honor and acknowledge the sxwebabs people and their traditional, unceded lands upon which we gathered, worked, and learned on Vashon Island. The island is part of their traditional home, and their relationship with the land continues today. We honor the island itself and the sxwəbabs people past and present.



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Climate and Topography

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## **DESIGN VISIONS**

Heron Meadow Flows Ellie Murray & Kevin Lin
Generous Grounds Alex Burgos, Claudia Sackett Hennum, & Jocine Velasco
Framing Restoration Emilo Craddock & Emma Petersen
Gathering Ground Allie Rowe, Colin MacDonald, & Robby Lai
Learn & Linger Saeed S. Al-Shidhani, Yingie Luo, & Lena Owens

# ES ATIVES

# FOREWORD

The Heron Meadow at the Vashon Center for the Arts offers a tremendous opportunity for Vashon residents to experience a merging of art and nature in an outdoor classroom and locus of deep expression of the history, ecology, values and character of the Vashon community. The Vashon Nature Center's commitment to and stewardship of the Heron Meadow solidifies this prospect, through its inspiring restoration and science learning programs for children and adults and by strengthening essential connections with the nearby Island schools.

Our interdisciplinary design studio to envision possibilities for the Meadow provided our students with an ideal laboratory for practicing how to consider a range of site narratives and possibilities, and then to congeal and craft resulting interpretations into cohesive, compelling design proposals. In addition, opportunities for small teams to temporarily stay on Vashon to design and construct outdoor furniture not only provided excellent design and fabrication learning, but also provided welcome outdoor hands-on experiences during the stifling confines of the coronavirus pandemic.

It has been pure pleasure to work with the Vashon Nature Center, Vashon Center for the Arts, and

supporters of the Heron Meadow on this project, who have lent their areas of expertise and expressed such enthusiasm for the students' design explorations. First and foremost, our gratitude goes to Bianca Perla for her leadership from the Vashon Nature Center; to Jil Stenn for her vision of the studio prospect and connective support throughout; and to Hans Nelsen for his expertise and kind engagement with the students in their furniture fabrication and imagined designs.

The project could not have been accomplished without the enthusiastic support and engagement of Allison Reid and Lynann Politte of the Vashon Center for the Arts, who also generously helped us navigate sharing of the work by hosting the students' design work on VCA's website, assisted by VCA's Joseph Panzetta. On-site art and tour experiences with Kathleen Webster and Paulina Barry, and online lectures by Vashon experts Bruce Haulman, Ken Pritchard, Greg Rabourn, Bruce Morser, Rayna Holtz and Laurie Tucker were essential to the students' learning and understanding of the island's ecological and social narratives.

We were so impressed by the engaged commitment of Vashon residents who joined our on-line reviews to nurture the students' developing



design ideas with astute observations and advice. Deep gratitude is owed to you all.

We are also indebted to the Vashon-Maury Island Land Trust for providing housing for the students' brief stays on the island while constructing furniture with Hans. Once again, we have appreciated the master teaching by Louise Grassov, who managed to provide lectures and critiques from Copenhagen in her late nights. Finally, our sincere thanks go to the Scan Design Foundation which has continued to provide generous support for the studio. Even though we

couldn't travel this year, funding supported the engagement of Hans and Louise, and our stellar teaching assistant Heather Parker.

We thank you all, and hope the ideas generated through this studio will inspire and shape how the Heron Meadow's future might be conceived, to the benefit of the people, stories, art, and stewardship of Vashon Island.

Students explore meadow restoration efforts Photo by Emilio Craddock

## Nancy D. Rottle

Professor, Department of Landscape Architecture Scan Design Foundation Chair in Built Environments



Urban Design and Landscape Architecture worked with the Vashon Nature Center and the Vashon Center for the Arts to envision the Heron Meadow on Vashon Island as a space for community gathering, art, science, habitat restoration and nature play. The studio explored the question: How can a small, former agricultural meadow elegantly function in multiple ways, to best provide an inspiring venue for learning, community, and the arts? Vashon Island possesses rich history, a network of preserved open spaces, and a strong, close community, and we had the great fortune to work with a number of knowledgeable, passionate, and committed islanders.

The 2020 Scan Design Foundation Master Studio in

Building on goals and desires established by the Nature Center's staff and supporters, and acknowledging that we were working on traditional lands of the Puyallup tribe, students explored narratives, processes, and designs that brought forth the cultural and ecological stories of the meadow and provided opportunities for serious and joyful outdoor learning, convening, and play.

- site visits • precedent studies site analysis & narratives • site concepts • schematic design • design development on-site detail fabrication reviews • virtual exhibit

# **STUDIO**

The studio drew upon exemplary precedents from Scandinavia, as well as local educational landscapes, and students explored the Heron Meadow site and its context through site visits and guest lectures by Vashon community members. With interdisciplinary students in landscape architecture and architecture, the studio's design focus included both site planning for meadow experiences and detail-scale design of art and educational elements. Student groups ultimately created five unique design visions for Heron Meadow's future.

## **Studio Sequence**







## **Studio Overview**

## **Meeting the Site**

In the first week of the quarter, students visited the Heron Meadow site, where they were hosted by Bianca Perla and Paulina Barry of the Vashon Nature Center. While on site, students were given a tour of the meadow, its facilities, and the Nature Center's current ecological restoration efforts. Kathleen Webster, a Vashon artist, also guided students in a landscape art activity aimed at supporting placemaking in the meadow.

## Fabrication

As part of the studio, students had the unique opportunity to design and fabricate site furniture for the meadow under the guidance of Master Teacher Hans Nelsen. Hans worked with students throughout the design and fabrication process, both offering them helpful guidance as they developed detailed plans for their pieces and then collaborating with them on-site at the meadow to construct and install their furniture. In all, seven students chose to participate in the fabrication activities over a three-week period, ultimately creating two tables and three benches that are now installed on-site at the Heron Meadow.

## Virtual Exhibit

The studio culminated in a virtual exhibit on the website for the Vashon Center for the Arts, where it is widely accessible to Vashon community members and to others interested in the project. As part of their final deliverables, students recorded videos describing their projects that accompany their design graphics in the exhibition.



## **Master Teachers**

Through the generous support of the Scan Design Foundation, the studio was fortunate to host two master teachers. As students moved through their design process, they benefited enormously from the guidance they received from Master Teacher Louise Grassov, principal at the Danish urban design firm Schulze + Grassov. Louise met with students virtually, giving them valuable feedback on their designs and on their strategies to integrate public life into their work. Hans Nelson, a Vashon artist and furniture maker, also joined the studio as a master teacher and played an integral part both in students' detail design development and in their furniture fabrication activities on-site.

## Learning Remotely

Given the realities of the Covid-19 pandemic, our 2020 studio looked quite different than it has in previous years, and most studio activities were conducted virtually. Despite the challenges of learning online, students were still able to connect with the site, the Vashon community, and their classmates in unique ways through virtual guest lectures, collaborative online activities, and socially-distanced small group site visits and fabrication opportunities. Overall, students displayed immense flexibility, patience, and resilience in adapting to our new, online learning environment, and their dedication to the studio and to their projects is evident in their design work.



Students began their design process by developing studies of existing relevant project examples, through which they explored a range of educational, interpretive, and play landscapes based both in Denmark and in the Seattle area. As students studied their precedents, they were encouraged to explore the projects from multiple perspectives, considering both their ecological function and the variety of experiences and interactions that the sites could catalyze. Students drew inspiration from their precedent studies and referred to them often throughout the quarter as they envisioned educational and play elements for the Heron Meadow. The group also had the opportunity to tour Islandwood on Bainbridge Island, which provided local inspiration.

Students' precedents were compiled into a series of slides, which can be viewed on the studio's website at <u>sdstudio.be.uw.edu/2020precedents</u> or by scanning the QR code below.



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# PRECEDENT STUDIES

## PRECEDENT PROJECTS

- Discovery Park Environmental Center Seattle, WA
- Lewis Creek Park Visitor Center Bellevue, WA
- Billy Frank Jr. Nisqually Wildlife Refuge Olympia, WA
- IslandWood Bainbridge Island, WA
- Seward Park Audubon Nature Center Seattle, WA
- 6 Skovlegeplads (Forest Playground) Fanø, Denmark
  - Vadehavscentret Ribe, Denmark
  - Valbyparken Nature Playground Copenhagen, Denmark



# ANALYSIS & NARRATIVES

As part of their design process, student teams completed in-depth analyses of the Heron Meadow and its context, ecology, community, and historical narratives. Students combined on-the-ground reconnaissance during site visits with archival investigations and conversations with Vashon community members to uncover the meadow's underlying qualities and narratives. In this way, students explored the meadow, its users, and its processes at a range of spatial and temporal scales. These site analyses grounded students in the meadow and in the Vashon community and guided them as they developed their meadow design visions.

Places, Users, & Circulation Robby Lai, Lena Owens, & Saeed S. Al-Shidhani

Human History, People, & Culture Alex Burgos, Kevin Lin, & Jocine Velasco

Ecosystems, Plants, & Wildlife Yingjie Luo & Claudia Sackett Hennum

Water and Soil Allie Rowe, Ellie Murray, & Emma Petersen

Climate and Topograhy Emilio Craddock & Colin MacDonald

# **Places**, Users, & Circulation

## **ROBBY LAI, LENA OWENS, & SAEED S. AL-SHIDHANI**

Located in a central area on Vashon Island, the Heron Meadow is situated amongst a number of important community places and amenities. The meadow's location near a number of businesses, schools, and community open spaces could bring a diverse group of visitors to the meadow, many of whom would have different priorities and needs for the space. There are currently limited established circulation routes around the site. This circulation could be expanded in the future to reflect the needs of the site's programming and various users.

## **Potential Site Users**

Given surrounding context, there are a number of potential human users who might visit the meadow, including but not limited to:

## Education

- Preschoolers
- K-12 Students
- College interns
- College classes

## Recreation

- Tourists
- Families
- Runners and bikers
- Wedding groups
- Birdwatchers
- Seniors

## Art

- Musicians
- Artists-in-Residence
- Poets
- Visitors from the VCA

## Working

- Volunteers
- Historians
- Restoration workers
- Local farmers

## Culture

- Indigenous groups
- Latinx community members
- Japanese community exploring heritage
- Elder Coast Salish community members

## **Surrounding Context**





HERON MEADOW DESIGN VISIONS 12

## Circulation



## **Site Circulation**

There are currently only two entrances on site. However, there is potential for additional entrances, especially on the west side of the site. The east and south sides of the meadow are adjacent to the property line. Adding entrances in these areas could be more difficult, although there is potential to connect the meadow to nearby schools at its southeastern corner.

Currently, circulation around the site is limited, likely due in part to site programming. Most visitors cluster in the alder circle or explore the art on the retaining wall but do not venture much further into the meadow.





## **Important Places & Amenities**

# RL1 P2 E1 C5 **P**] **C**3 1.0 mil 0.25 E2 Religion E3 mmerc ation C ).5 m

## Parks | Cemeteries

- P1. Island Center Forest
- P2. Island Center Forest Natural Area
- P3. Vashon Cemetery
- P4. Judd Creek Loop Trail
- P5. Vashon Commons
- P6. Point Heyer Natural Area
- P7. Ellisport Wildlands
- P8. Ellis Creek Natural Area

## Commercial

- Cl. Fruits des Vignes Farm
- C2. Plum Forest Farm
- C3. Pink Tractor Farm
- C4. Island Meadow Organic Farm
- C5. Island Spring Inc.
- C6. Williams Heating
- C7. Kush21

## Recreation

RC1. Open Space for Arts and Community RC2. Tool Library RC3. Vashon Athletic Club RC4. Bicycle | Vashon pool

RL1. Vashon Lutheran Church RL2. Vashon Island Community Church RL3. Kingston Hall of Jehovah's Witnesses RL4. Church Of Jesus Christ of Latter-day Saints

## Education

El. Pacific Research Laboratories E2. McMurray Middle School Vashon Island School District Chautauqua Elementary School E3. Vashon Island High School

## Food | Coffee

- F1. Mom's Deli & Grocery
- F2. Vashon Island Coffee Roasterie
- F3. Vashon Maury Community Food Bank

# Human History, People, & Culture

## ALEX BURGOS, KEVIN LIN, & **JOCINE VELASCO**

These are stories from the residents of Vashon Island. Through archival sources and lived experiences, we are able to share the rich narrative of Vashon Island and its everchanging form. Human history and culture have deep ties to Vashon's ecology. The island has experienced various transformative states, from an extractive resource-based boom/bust economy where natural resources were extracted to a human resource economy centered on commuters, conservationists, artists, farmers, and small businesses.



## 10,000 years ago - 1920s

This is Lucy Gerand. She belonged to the sxwəbabs people and lived in the S'Homamish village in what is now Burton. She is an important documentarian and representative of the Indigenous people in Vashon Island history. Much, if not all, we know of the bands of Native Americans who resided there, their ways of life, and their cultures, is owed to the handful of native people like Lucy Gerand. She testified in a landmark deposition in 1927, along with other Tribes in this region, to the legal claims to the U.S. government to honor treaty rights. Lucy was born in 1836 and experienced major

upheavals and changes not only to the plight of her community but to the Vashon landscape. She was forcefully expelled from Vashon and detained at Fox Island before eventually being taken to the Puyallup reservation. Lucy and some of her family members eventually returned to Vashon and lived on a houseboat off of Jensen Point, where she sold clams for a living.

## 1900s - 1940s

This is Mary Matsuda. She and her family were significant members of the Vashon community and are still beloved on the island. They farmed on Vashon until they were interned during World War II. After the war, they were one of the few Japanese families to return to the island to continue their farming practices. Twelve acres of the Matsuda Farm are still preserved today.

Japanese American migrant workers began working agricultural jobs on Vashon. Over the first few decades of the 20th century, Japanese American farmers created a tight-knit community on the island. As a result of the logging industry, a great deal of the island landscape was open to the sunlight, so Japanese American farmers most notably grew strawberries.

Japanese Americans faced unjust barriers to citizenship and land ownership, and during World War II, the community was violently uprooted and sent to internment camps. After the war, approximately one-third of the 140 members of the island's Japanese community returned to Vashon. Unfortunately, they faced anti-Japanese rhetoric. Their descendents still live on the island today.



ND CULTUR

**HISTORY**,

## 1970s - Early 2000s

This is Michael Red Earth, seen here as the Goddess Ravenna Ravine during a Beltane ritual enacted by queer artists in Seattle. Michael lived on Vashon in the mid-1980s through 2000 and was a founding member of the Vashon Gay Pride Alliance. They were a key organizer of early international Two Spirit Gatherings which continue to this day. Two Spirit is the Indigenous term for Indigenous people who identify as gender fluid.

By the 1970s, the island had become a safe haven for (mostly white) lesbian and gay people. These same community members have been permanent residents on the island since then, and by the 2000 and 2010 censuses, Vashon had the largest lesbian and gay populations per capita in Washington.

The intersection between social and environmental movements began shaping the island's culture and landscapes from the 1980s and into the early 2000s. In 1992, residents stopped a bridge construction proposal on the island. In 2009, residents protested the Glacier Northwest industrial pier and mining construction project.



## 2017 - Present

This is Valeria. She is originally from Mexico where she studied biology. She works for the Vashon Nature Center through a cultural exchange program and is currently working on *Everyone Counts*, an initiative committed to involving more diverse communities with science. The Vashon Nature Center supports citizen science amongst Latinx communities. Vashon Island is a very special place for Latinx people. The Vashon community has offered a safe, friendly, and inclusive place for immigrants to live, which is why the Latinx community continues to grow.

The Vashon community is working closely with El Centro de la Raza in an effort to better protect its Latinx immigrant residents. Workshops on the island have been held for Latinx immigrant families to inform them of their rights in the event that they have to interact with immigrant agents. A workshop was also held at the Vashon Library to map out safe places on the island that are safe from ICE agents and raids. Alianza on Vashon Island also helps young Latinx community members register to vote.



2000

CURRENT



**Vashon Island Timeline** 

## WAR MOVEMENT

# Ecosystems, Plants, and Wildlife

## YINGJIE LUO & CLAUDIA SACKETT HENNUM

Vashon Island is home to a wide range of ecosystems, from wetlands, to riparian forests, to grasslands. The Heron Meadow itself preserves important wetland meadow habitat, and a large variety of bird, pollinator, and plant species can be found across the site. Given the threats posed to many of the species in the region by urbanziation and climate change, Heron Meadow – and the many other preserved natural areas across the island – will continue to play a key role in the success and survival of many of these species.

## **Local Context**

## Ecology

Judd Creek is a salmon-bearing stream. Intentions for the site including slowing and filtering stormwater runoff for salmon habitat.

Nearby Judd Creek Park includes woodlands, meadows, and riparian zones. Many birds frequent the park including "Pileated Woodpeckers, Bewick's Wrens, and Cedar Waxwings year-round; Wilson's Warblers, Orange-crested Warblers, and Western Tanagers in spring/summer" (Vashon Audubon). This may be a good local reference ecosystem.

Vashon-Maury Island Land Trust is restoring habitat around Judd Creek, working to transition deciduous trees (alders) to coniferous forest, and preserving prairie habitat for birds as local grasslands have been developed.

## Novelty

Nearby farms, including adjacent sheep farms, affect the local flora and fauna.

- May be an ongoing source of self-sowing nonnative species.
- May provide significant fall forage for birds and insects.
- To protect farm animals, it is important to control Tansy Ragwort before it propagates.

Dying pioneer forest species on the island may increase risk for the establishment of noxious weeds like scotch broom.

As a result of logging, island forests are relatively young second growth.



ANALYSIS + NARRATIVES | ECOSYSTEMS, PLANTS, AND WILDLIFE

## **Preserves & Habitats of** Vashon Island

Vashon Island has many preserves and natural areas. Sizeable areas of the island have been protected by the Vashon-Maury Island Land Trust since 1990. Major preserves and habitats on the island include Fern Cove, Shinglemill Creek, Island Center Forest, Fisher Pond, Matsuda Farm, Judd Creek, and Christensen Pond.

## 1. Fern Cove

Fern Cove is situated on the northwestern area of the island on SW Cedarhurst Rd. It is comprised of 750 feet of shoreline with two year-round streams and 100-year-old second growth riparian forest. Both chum and coho salmon, as well as cutthroat trout, have been observed at Fern Cove as they return to spawn upstream in Shinglemill Creek.

## 2. Shinglemill Creek

Shinglemill Creek is one of the most pristine drainage areas on Vashon. It flows from Fisher Pond on the north side of Bank Road to its mouth at Fern Cove on the northwest corner of Vashon. It is one of the few salmon-bearing creeks on the island with small runs of coho and cutthroat trout.



Image by Vashon Land Trust

## 3. Fisher Pond

Fisher Pond covers 150 acres containing the Fisher Pond and its surrounding forest. It is Vashon's largest open-water pond and one of the top island birding spots. The Pond also forms the headwaters of Shinglemill Creek.



The preserve offers one of the island's best trail systems, contains the headwaters of Judd Creek, and is an important recharge area for Vashon's drinking water aquifer. The two main wetlands, Mukai Pond and Meadowlake, provide core habitat for more than 80 species of birds.



Matsuda Farm is a farmland preservation project.

providing many new agricultural and recreational

The Matsuda family allowed the property's

rich history to be shared in perpetuity, while

opportunities for the Vashon community.

Image by Vashon Land Trust

5. Matsuda Farm



Image by Vashon Land Trust



Image by Vashon Land Trust



Image by Vashon Land Trust

## 6. Judd Creek

Judd Creek, one of Vashon's two major salmonbearing creeks, starts its headwaters in Island Center Forest and flows south until it drains into Quartermaster Harbor. Judd Creek provides excellent habitat for a wide array of both resident and migratory bird species.



Image by Vashon Land Trust

## 7. Christensen Pond

Christensen Pond forms the headwaters of Christensen Creek, which flows into Colvos Passage through the best-preserved drainage area on Vashon. The pond is well preserved as a prime island birding spot and is dedicated to the memory of John & Susan Konecki and Sarah & Richard Hacker.



Image by Vashon Land Trust

## **Habitat Types**



## Map Key

- Restored Wetland
- **Unrestored Wetland**
- Wetland with extended water
- Grassland
- Garry Oaks
- Alder Grove

Cultivated plantings surround the VCA directly to the west of Heron Meadow.

## Syrphid Fly Abundance

April 7, 2020 - August 18, 2020



\*Bird and pollinator data based on observations by Paulina Barry from April-September 2020.

## Animals

## Birds

- American Crow
- American Goldfinch
- American Robin
- Anna's Hummingbird
- Bald Eagle
- Black-Capped Chickadee
- Brown-Headed Cowbird
- Canada Goose
- Cedar Waxwing
- Dark-Eyed Junco
- European Starling
- House Finch
- House Sparrow
- Mallard Duck
- Northern Flicker
- Osprey
- Purple Finch
- Song Sparrow
- Spotted Towhee
- White-Crowned Sparrow

## **Pollinators**

- Bumble Bees
- Ladybugs
- Syrphid Flies
- Lacewings
- Milkweed Bugs
- Sepedon
- Wasp

## **Other Animals**

- · Deer
- Raccoons
- Coyote
- Bats

## **Plants**

## **Heron Meadow**

## Grassland

- Garry Oaks
- · Seedmix: Blue Wildrye, Red Fescue, Tufted Hairgrass, Western Mannagrass, American Sloughgrass

## Wetland + buffer

- Alders
- Black Twinberry
- Cedar
- Cottonwood
- Douglas Fir
- Indian Plum
- Nutka Rose
- Pacific Ninebark
- Red Osier Dogwood
- Ribes sanguinium
- Salmonberry
- Snowberry
- Willow
- Vine Maple

## Vashon Center for the Arts

- Kinnickinnic
- Dogwood
- Sword Fern
- Native Strawberry
- Columbine
- Dwarf Mahonia
- Rushes
- Tall Grasses
- Snowberry
- Evergreen Huckleberry
- Salaal
- Vine Maple

- Thistle





- Cedar

## Implications

• The wide variety of birds witnessed on site indicates the importance of protecting preserved habitat. Although none of these species are currently listed as endangered in Washington state, climate change and urbanization pose ongoing threats.

 Pollinator abundance decreases throughout the growing season, which implies that there may be value in adding late season flowering plants for increased foraging opportunities.

• The presence of sensitive pollinators indicates the importance of refraining from the use of pesticides and herbicides, instead using manual interventions.

## **Noxious Weeds**

Reed Canary Grass

- Blackberry
- Tansy Ragwort

\*Species list based on site observations and planting list provided by The Watershed Company.





**Tansy Ragwort** Photos by Claudia Sackett Hennum

# Water and Soil

## ALLIE ROWE, ELLIE MURRAY, & EMMA PETERSEN

Water and soil, the primary physical components of the site, are key in defining the topography, biology, and human experience of the Heron Meadow Wetland. We explore the historic and ongoing roles of glaciers and the till they left behind, the Puget Sound surrounding Vashon, rainwater and its movement over and into the island (as streams, stormwater, and groundwater), and into and out of human communities (as potable water and wastewater), and the wet meadow ecosystem that thrives in this particular union of water and soil. Understanding these forces may help inform designs that work with water and soil to the benefit of humans and all the species that inhabit this space.

## Wetlands + Regulations

The Heron Meadow site is classified as a wet meadow : "Wet meadows commonly occur in poorly drained areas such as shallow lake basins, low-lying depressions, and the land between shallow marshes and upland areas. Precipitation serves as their primary water supply so they are often dry in the summer" (EPA definition).





Fall



Winter



Spring



## Regulations

Any change to a wetland must comply with section 401 of the Clean Water Act. Generally an A-B-C Approach is recommended. Wetland impacts are avoided to the extent possible. Wetlands are **buffered** to protect them from adjacent land uses. Unavoidable impacts are compensated or replaced.

The Heron Meadow site has already undergone wetland delineation and buffers are in place. With the buffers there is limited space to build, so buffer averaging might be a tool utilized.

## **Functions**

- water storage
- water filtration
- biological productivity (habitat)
- flood control
- recreation

## **Economic benefit of wetlands:**

In 1997, worldwide value of wetlands was estimated to be \$14.9 trillion.

A watershed



https://nepis.epa.gov/Exe/ZyPDF.cgi/500025PY.

When it comes to wetland restoration, it is important to start with three questions: 1. What does the site for the proposed restoration project currently look like? 2. What do you want to change or introduce? 3. Is the site suitable for your purpose?

All wetland functions at the site are relatively degraded. While there are native plant communities on site, there is a significant noxious weed invasion. The site sits at the top of the Judd Creek Watershed, and also takes in a lot of stormwater runoff from adjacent impervious surfaces, meaning that there is an opportunity to filter that water before it moves on.



**Bathymetry of the Puget Sound** Image from Puget Sound Marine Waters Report

## **Puget Sound Aquatics**

The bathymetry of the Puget Sound region shows that the water along the eastern edge of Vashon Island is much deeper than the water on the western side.

Additionally, the county has implemented an offshore water column monitoring program that records marine water quality throughout the Salish Sea. There are three active collection stations around Vashon Island. Two of these sites are near Quartermaster Harbor and are consistently at moderate to high levels of concern due to low dissolved oxygen levels.



Offshore water column monitoring stations Image by King County



Vashon Island was carved out when the Vashon Glacier receded around 16,900 years ago. The island formed out of refuse left behind which consisted of cobbles, gravel, sand, silt, and clay. Our site sits within an area on the island that is largely made up of this glacial till.

**35** ANALYSIS + NARRATIVES

Soil types in the Judd Creek Basin are estimated to be 69% glacial till, 30.6% outwash, and 0.4% wetland soil. The existing soils on our site are loamy and not very clayey. There is enough clay to retain water but still drain well, and the soil is not hard-packed, making the soil great for planting.

## GROUNDWATER

Vashon Island is an EPA-designated sole source aquifer; there is no reasonably available alternative drinking water source should the aquifer become contaminated. Therefore, it must be protected. Groundwater is overall abundant, but limited in some areas. The water table at our site sits 200-250 feet above sea level and flows southeast. The aquifer relies exclusively on rainwater to replenish its reserves. Our site receives 45-46 inches of rain per year.

## **POTABLE WATER**

Drinking water quality is good in most sources on Vashon, but there are localized problems, including saltwater intrusion, leaking of fuel storage tanks, and septic discharge. The majority of islanders get their water from public water systems. The VCA gets its water from Water District 19, mostly fed by Beall and Ellisport Creeks.

Over 90% of homes on Vashon Island treat their wastewater on site or locally, largely with septic tanks. The solid waste is then transported off the island. The Vashon Sewer District collects and treats the remaining 10%, including the wastewater from the VCA.





## WASTEWATER



## **STORMWATER**

The island is 73% forested, 16% non-forested, and 11% developed. The developed, impervious surface feeding into the East Fork of Judd Creek is projected to increase four-fold, generating more stormwater.





TOP LEFT: STORMWATER FLOWS ACROSS SITE. The VCA reuses water falling on its roof and parking lot to water gardens and bioswales and to operate toilets. Extra water flows into a planted strip across the site. Stormwater also flows in ditches east down SW Cemetery Road and south down Vashon Highway SW, enters the NE corner of the site through a culvert, runs in a ditch along the eastern boundary, pours over a fence onto the southern neighbor's property, and eventually joins Judd Creek.





# BOTTOM LEFT: VCA RAINWATER COLLECTION AND

Image by Allie Rowe

## TOP RIGHT: TYPICAL ROADSIDE STORMWATER DITCH **ON VASHON**

Image by Vashon-Maury Island Groundwater Protection

## BOTTOM RIGHT: PARTICIPANT IN VNC'S STORMWATER **ACTION GROUP**

Image by Vashon Nature Center

# Climate and Topography

## EMILIO CRADDOCK & COLIN MACDONALD

Vashon Island's climate will be familiar to anyone who has spent time in the Pacific Northwest. Long, wet winters and gorgeous summers are both moderated by the Puget Sound and avoid extremes of heat or cold.

Heron Meadow's microclimates are influenced mainly by shade from surrounding trees and shelter from the prevailing southwest winds provided by the western retaining wall.

The site is on a shallow hill running north to south with several low wetland areas and a steeper grade at the southwest corner. Winter





Spring











## **Shadow Studies**

Even during the summer months, only a moderately sized patch at the center of the meadow escapes shade during the daylight hours. Trees at the perimeter of the site provide the primary shade during the morning while the large retaining wall and the Vashon Center for the Arts building contribute significantly later in the day.

## Summer









## Topography

The Heron Meadow is located near the center of Vashon Island adjacent to the primary North-South road on the island, 99th Avenue SW. The site slopes gently down from the northwest corner towards the southeast corner. A seasonal stream flows along the eastern border from a culvert under Cemetery Road. Seeping groundwater from the northwest corner creates a depression across the center of the site that joins the seasonal stream in the southeast corner. The majority of the central meadow is comprised of small rolling hills. In the southwest corner the ground rises to meet the VCA's parking lot, providing a good view of the entire site.

Heron Meadow

0 0.5 1 1.5 2

Vashon Island



**Site Topography** Image by Emilio Craddock



Aerial Render Image from Google Earth



Early meadow design concepts Graphics by Robby Lai

Using their findings from their precedent studies and site analyses as inspiration, student teams developed five unique design visions for the Heron Meadow. In their designs, students envisioned spaces and strategies that connect people to the meadow's cultural and ecological stories and provide opportunities for learning, gathering, and play. Students embraced the meadow's full range of human and non-human users, weaving together the site's ecological needs and the community's priorities. Though each team's design vision differs, they all share a common goal: to reimagine the Heron Meadow as an inspiring venue for learning, community, ecological restoration, and the arts.

# **DESIGN VISIONS**

Heron Meadow Flows Ellie Murray & Kevin Lin

**Generous Grounds** Alex Burgos, Claudia Sackett Hennum, & Jocine Velasco

**Framing Restoration** Emilio Craddock & Emma Petersen

Gathering Ground Allie Rowe, Colin MacDonald, & Robby Lai

Learn & Linger Saeed S. Al-Shidhani, Yingjie Luo, & Lena Owens

# **HERON MEADOW** FLOWS

**ELLIE MURRAY & KEVIN LIN** 



Nature is constantly changing over time, a continuum of cycles and succession. This design aims to make these processes visibile and reconnect visitors to nature through the observation of these changes.

One loop meanders through the site while nodes along the way encourage people to explore, play, and rest in their own way. Each node envelops the visitor in a different ecological process while a consistent 'snag' typology creates cohesion across the site. This snag typology takes the form of bird snags, scattered logs, beaver dam analogs, and bird blinds. Each creates habitat while allowing visitors to use all of their senses to interact with nature. The plantings and restoration work on site support the flows of wildlife and manage water movement, presenting nature as living art.





# HERON MEADOW FLOWS DESIGN VISIONS

**Beaver Dam Analogs** 

**Bird Snags** 



SECTION A Scale: 1" = 25 Image by Ellie Murray

## **Movement**

## People

Varied planting areas create a diverse set of experiences across the site, accomodating many activities and ways to interact with nature. The looped path leads visitors through the site and provides many opportunities for play. These areas support play for people of all ages, especially children, and facilitate learning about ecological processes on site.





## Water

The flow of water on site is managed and enhanced through a restoration approach. Manmade beaver dam analogs are used to enhance the existing topography and allow water to move more freely and slowly. The beaver dam analogs

also work to pool water in designated locations, ultimately relieving the site of the flooding patterns that currently exist. Different amounts of water exist on site at different times of the year, enhancing the seasonal experiences of the meadow.





Images by Ellie Murray

Section B

## SECOND GROWTH FOREST



## WETLAND



## WILDFLOWER MEADOW





## Flora and Wildlife

The plantings are divided into three different areas: the second growth forest, the wetland, and the wildflower meadow. Each area features only native plants and draws from the existing plants on site. The aim is to create a colorful experience that changes throughout the year. Different species bloom at different times and in various colors so that visitors can tell time by what is in bloom. Each plant species has also been chosen for its ecological benefits. These plants support many pollinators and bird species, particularly those featured on the bird species mural, to encourage a robust ecosystem.





Images by Ellie Murray

## 51 DESIGN VISIONS



Reutilizing the current Milk Barn as an on-site educational center: Our strategy is to peel off the skin of the barn's southern side, transforming it into a community veranda to maximize engagement between the building and the meadow.

## Heron Meadow Educational Center

The Heron Meadow Educational Center serves as a place for community engagement, education, and research. Education and play are major themes in this project. Children will be able to explore the meadow, observe its current conditions, and design their own experiments to help inform the public about the habitat and water flow on Vashon.



Images by Kevin Lin





Image by Kevin Lin



## **100 Year Vision**

## **Process & Succession**

Within the second growth forest areas, this design aims to create new coniferous forests as originally existed on Vashon Island. A tree's story on this site does not end when it dies. Instead, the tree is reutilized in a new way. This timeline showcases these cycles while highlighting the diversity that will exist in the canopy height of the new growth forest areas. Alder trees will provide a mixed canopy while the evergreen trees grow to maturity and provide shade for western hemlock and Sitka spruce trees to thrive in. These variations in heights over time allow various bird species to come back to the Heron Meadow and create an evolving human experience.



PHASE III	PHASE IV
Plant New Trees (Including West	em Hemlack + Sitka Spruce on Nurse Logs)
	Update BDAs + Build Smaller BDAs

# Generous Grounds

## ALEX BURGOS, CLAUDIA SACKETT HENNUM, & JOCINE VELASCO

Our site proposal looks at prairie landscapes both as a precedent typology and as a symbol of generosity. Western Washington prairies were once abundant in the South Puget lowlands, south of Vashon. Modern prairies make up just 3% of the total original native prairies in Western Washington. We promote four themes of generosity with our team's design: sanctuary, connections, biodiversity, and access for all that visit and dwell on the site.

Because the meadow is so well loved already, we approached the site with a light touch, responding to the programs, features, and ecologies that already exist. Our proposal includes a boardwalk that loops around the site, nature play elements, an amphitheater and other performance spaces, a prairie restoration and management plan, and a new wetland in the northeastern corner of the site.

We are also proposing a new entrance in the southwestern corner of the site. This underutilized area will be a new welcoming point for visitors entering from the west side. The boardwalk, which was inspired by the stream once used as a pathway around the island by the sxwebabs peoples, is ADA accessible around the entirety of the site.



OUTDOOR LEARNING

WETLAND RESTORATION

## OUTDOOR RECREATION

DESIGN VISIONS | GENEROUS GROUNDS



## **Section Across Site** Image by Alex Burgos, Jocine Velasco, & Claudia Sackett Hennum





## **Generous Grounds Key Concepts**

## Sanctuary

- Welcoming diverse communities through multilingual signage and multicultural art and programming.
- Providing an abundant ecological and cultural space for a diverse set of species.
- · Creating spaces where people can rest surrounded by local flora and fauna.

## Connections

- Connecting people, especially children, to nature programming.
- Creating spaces for community arts events.
- Creating spaces for informal connections, play, and discovery between users.
- Promoting grounds for interactions between humans, birds, plants, stormwater, and the land.

## Access

- Prioritizing ADA accessible paths.
- Using boardwalks to increase access to wet meadow and wetland areas during the rainy season.
- Multilingual signage to support wayfinding for users who don't speak English as a primary language.



Icons by Jocine Velasco

20′

## **Biodiversity**

• Prairie test plots support species under assault from climate change and development.

• Prairie and meadow planting types provide forage for a variety of birds and pollinators.

• Wetland vernal pools provide habitat for vulnerable native amphibians.

## **Circulation: Elevated Boardwalk**



Image by Alex Burgos, Jocine Velasco, & Claudia Sackett Hennum



Image by Claudia Sackett Hennum

## 61 DESIGN VISIONS

## **1. New Southwestern Entrance**

The new primary entrance to the site is connected to the parking lot for the Vashon Center for the Arts. Visitors come out onto the boardwalk to see the meadow spread before them.



## 5. Bird & Mural Observation Deck

This deck allows people to sit and look at the mural, while also observing the birds that live in the canopy next to the boardwalk.



## 9. Boardwalk Meets Meadow Grade

Where possible, we designed the boardwalk to have a low grade so that it would feel integrated with the landscape.



## 2. Berry Picking Boardwalk

Berries hug the boardwalk, attracting both humans and birds.



## 6. Path Through Wetland

The boardwalk follows the mural wall, increasing access to the mural and allowing visitors to see it from an optimal distance.



## 10. Outdoor Gallery

This clearing within the vegetation creates a "room" where people can do performances or hold other events.



## 3. Terraced Seating by Youth Play Area

Terraced seating coming off the boardwalk near the play area, giving parents an opportunity to sit and enjoy the sun while also keeping an eye on their children.



## 7. Connection to Wetland Entry Room

At a low point, the boardwalk intersects with a path that takes visitors through a small vegetated "room" and into the newly restored wetland.



Where necessary, handrails provide support to

## 11. Ramp to Wetland

Heron Meadow visitors.





## 4. Seating Facing Meadow View

Benches along the boardwalk allow visitors to sit and rest while taking in the view of the meadow, looking for birds, or waiting to meet up with friends.



## 8. Covered Deck with Meadow View

This covered deck can be a small outdoor classroom or rainy season gathering spot.



## 12. Wetland Observation Deck

The wetland boardwalk and deck allows visitors to access the southeastern corner of the site in the winter months.




Detail of Nature Play by Southwestern Entrance Image by Alex Burgos







## **Nature Play Elements**

1. Slide Entrance	7. Wild N
2. Slide	8. Willow
3. Material Maker Space	9. Mead
4. Stump Trail	anankulli a
5. Log Friendship Circle	
6. Sculptural Play Garden	Deschamp cespitosa

Kids Playing Through Sculptural Garden and Willow Hut Image by Alex Burgos

Meadow Zone

ow Hut

adow Plantings



mpsia

Polystichum munitum

Festuca roemeri Symphoricarpos







## **Grove Amphitheater Elements**

### 1. Wood deck

- 2. Amphitheater-style Seating on Existing Hill
- 3. ADA Amphitheater Seating
- 4. Northwest Entrance Meadow / Noise Screening
- 5. Multilingual / Sculptural Wayfinding



Successional Planting = Big Leaf Maples



Festuca Deschamp roemeri cespitosa

dibicoulis quamash

tosa aibicoulis



Lomatium Balsamorhiza Blechnum ( utriculatumb deltoidea spicant

n Carex inops

**3D Model of Grove** Image by Alex Burgos

People Playing Music and Dancing at the Grove Image by Alex Burgos



Detail of North Entrance, VNC Lab, and Outdoor Classroom Image by Jocine Velasco



OBSERVE

## **North Entrance Elements**

I.	VNC Office, Lab, and Toolshed	9.	(
2.	Covered Outdoor Classroom	10.	I
3.	East-West Sidewalk and Entrance	11.	I
4.	Propagation Station	12.	(
5.	Prairie Restoration Test Plots	13.	ļ
6.	Garry Oak Room	14.	I
7.	Yard Waste Composting Area		

8. Street Parking

Eastern Facing View of Northern Entrance Image by Jocine Velasco

16′

STEWARD

- Curbed Street Greenway
- Loading zone
- Entrance
- Gravel Driveway
- Stump Trail
- Mower's Entrance





### Prairie-Oak Restoration Phasing Plan Images by Jocine Velasco



### **Education and Stewardship**

The prairie-oak restoration plan assists in the Heron Meadow's adaptation to climate change. The phasing plan takes an adaptive management approach to prairie-oak restoration, which supports the Vashon Nature Center's focus on outdoor education and ecological restoration. Student volunteers will have the opportunity to learn about an endemic and ecoculturally significant ecosystem and steward its reestablishment on site.





Prairie-Oak Plant Palette and Species Diagram Image by Jocine Velasco



## Wetland Restoration Cleansing Water | Protecting Habitat

Much of the Heron Meadow site has been recently restored to high quality wetland habitat. However, the northeastern corner of the site is a degraded wet landscape where the water is channelized.

We propose using dams and topography to create a series of pools. After the water enters the site, it moves southwards from one pool to the next. When the pools begin to overflow, the water spills over into a channel along the western edge of this proposed wetland system.

Much of the water coming onto the site is roadwater runoff, which can carry a number of pollutants: organic pollutants from petroleum products and inorganic pollutants including heavy metals from cars and road materials. By extending the amount of time the water spends in the wetland on the site, many of these pollutants have time to settle out, and by choosing plants, like willows, that can remediate those pollutants, we can improve the quality of the water that has moved through the site so that it is higher quality when it leaves the site than it was when it entered.



Wetland Concept Image by Claudia Sackett Hennum The pools are also important habitat for native species. In the summer months, this area can be an educational opportunity and a laboratory, but it is also habitat. In a future where climate change brings unexpected rainfalls, this proposal offers land managers an opportunity to manipulate the waterflow using dams to protect the vernal pools when species are in a sensitive phase of their life cycle by directing the water to the deeper channel along the west of the wetland and allowing those species that require vernal pools to thrive.



Wetland Topography Image by Claudia Sackett Hennum



This design provides opportunities for visitors to get close to the wetland. However, the vernal pools are blocked off by a deeper channel to their west. As a result, when there are heavy rains, people do not have access to this sensitive area, protecting its habitat value.

Winter Wetland Image by Claudia Sackett Hennum



























Images by Alex Burgos

### **Moe's Story**

At the young age of 7, Moe began to visit the Heron Meadow and a lifelong love story of girl + meadow began. When she was a little girl, she would spend time at the nature play area, get her hands dirty at the materials maker space, and race her friends down the hill to the willow hut. When she became a teenager, Moe became fascinated with prairie restoration and began to volunteer at the VNC Lab. She loved to experiment at the test plots. From this experience, Moe learned the valuable relationship between plants and birds and so began her love of bird watching. She would spend her mornings at the bird observation deck spotting her favorite species. It was there that she met the love of her life, Ray, a fellow birdwatcher. The two loved the Heron Meadow so much that when the time came for them to wed, they held their ceremony at the Outdoor Gallery. The two love birds eventually started a family and quickly their daughter Nico also became a part of the meadow. You could catch the three of them dancing to their favorite musicians at the Grove Amphitheater with their fellow community members. Moe and Ray grew old together and would still spend their time walking around the meadow admiring the ecotones and enjoying the sculptural art.



# Framing Restoration

# EMILIO CRADDOCK & EMMA PETERSEN

This project aims to restore native flora and fauna to Heron Meadow while creating opportunities for visitors of all ages to engage with and learn from the site. Interactive structures and natural sculptures invite guests to explore the new Vashon Nature Center (VNC) and meadow restoration while being shown the importance of environmental stewardship.

Initially inspired by the old growth forests that used to exist on Vashon, we wanted to design a site that brought restoration to the forefront. A space where the Vashon community could come to "watch the trees grow up." Expanding on that idea, our concept aims to enhance the relationship of reciprocity between the VNC and the Vashon Center for the Arts (VCA) by combining restoration and art. We do this by taking the formal galleries of the VCA outside and turning them into wild gallery spaces formed by native planting. Built structures and other artworks made by local artists are intended to help "frame" the ecological restoration of the site, challenging the binary notion of "is it art, or is it nature?" In this way nature will frame the art and the art will frame nature, creating a harmonious space for locals and visitors to "come watch the trees grow up."



Graphic by Emma Petersen and Emilio Craddock



## VNC Visitor Center Meadow Entry and Seasonal Pond

The new Visitor Center reimagines the entry to Heron Meadow by creating a new drop-off area on Cemetery Road and moving vehicular meadow access to the east side of the building. The Visitor Center (VC) is situated on the footprint of the existing milk barn and is expanded with ample new covered exterior spaces on all sides. The main covered walk extends along the west side of the structure and connects the improved sidewalk to the beginning of the Canopy Walk. Just south of the indoor facilities is the outdoor classroom and rain garden. Water from the rain garden flows east through a channel to the seasonal pond. This flow represents the headwaters of the Judd Creek watershed and teaches visitors the importance of being cognizant of the urban water cycle. To the east of the VC is a new covered work court for woodworking projects and staging area for meadow improvement projects. To the southwest of the VC is a formalized council ring and fire pit for small gatherings and presentations. Adjacent to the council ring is a stepped amphitheater that opens toward the Native Bird Mural in one direction and toward the Native Meadow in the other. In this area children are encouraged to run free while parents can relax and take in the view.



A: East-West site section through the Canopy Walk. Graphic by Emilio Craddock



**Exploded axon of the Visitor Center.** *Graphic by Emilio Craddock* 



## **Eastern Edge**

### Retention Pond + Beaver Dam Analog

- By cutting into the northeast corner of the site and building up topography on the site edge, along with a strategically placed Beaver Dam Analog, water from the culvert on the northern edge of the site will be retained, creating an exaggerated wetland ecotone in the winter.
- Part of the dam will be lowered so that if the water needs to overflow, it will be directed into a Native Planting Swale.
- The Native Planting Swale is made up of plants like Black Cottonwood and Sitka Willow that will help to slow down and soak up the water as it moves through the site.
- The Swale also creates a backdrop for the Sculpture walk and the Wild Gallery Rooms.



C: North-South site section through Retention Pond, Beaver Dam Analog, and Native Planting Swale. Graphic by Emma Petersen



Perspective facing North showing Eco-sculpture and Beaver Dam Analog. Graphic by Emma Petersen



## **Eastern Edge**

### Sculpture Walk + Gallery Rooms

- Gallery Rooms are made up of plants that will bloom throughout the year, ensuring some sort of color all year round.
- Western red cedars evenly spaced throughout the allery space will create a ceiling for rooms but not an impermeable wall.
- Eco-sculptures and commissions from local artists can be viewed in a variety of different spaces.
- HIdden pathways and Rooms throughout the proposed planting strip will create a sense of wonder and discovery - never knowing what is around the corner.
- Formal wildflower planting on the western edge of the gallery space creates a soft height transition into the taller shrubs and trees of the eastern side of the site.

Seasonal - Sculpture Gallery Room



Diagram showing Gallery Spaces concept. Graphic by Emma Petersen



## South Entry & Nest

The south entry links the Visitor Center (VC) to the Blue Heron Center (BHC) and Vashon Highway via the Canopy Walk. The entry to the elevated walkway begins from the southern end of the Vashon Center for the Arts (VCA) parking lot. Here a raised crossing connects the Canopy Walk across the asphalt and brings plantings from the meadow across the road. The raised crossing will break up the expanse of parking and draw visitors towards the meadow. The beginning of the Canopy Walk rises over the large retaining wall and provides equitable access to the site while framing views through the trees toward the Native Bird Mural and the Sculpture Walk. At the tallest

point, the Nest, a net play structure, connects to the ground and allows more adventurous visitors to climb down and engage with the site. Beneath the Canopy Walk is an informal trail that crosses the existing wetland swale by means of the stump crossing, a series of vertical tree trunks cut to different heights that visitors can move between. Along the edges of the bridge are benches and informational signs where visitors are encouraged to rest, observe, and learn about the meadow. The curving canopy walk creates a loop between the VCA, the BHC, and the VC that encourages flow between these three zones while providing unique views of the Heron Meadow.



B: North-South site section through the Visitor Center and Canopy Walk. Graphic by Emilio Craddock



## **Planting + Habitat Scheme**

### Plant Palette (below)

- Soft and light colored wildflowers bloom in the spring, drawing attention to the meadow and creating a habitat for native pollinators.
- As the transition into winter occurs, the site fades into winter-blooming soft, white flowers contrasted against evergreens and bright red and linear red osier dogwood.
- Blooming will occur all year long.

### Habitat Scheme (right)

- Habitat zones were formed based on the existing ecology of the site. Those three zones are Meadow, Forest, and Wetland.
- The three zones are further broken down to create a variety of seasonal spaces and ecotones that people can interact with, including wildflowers, grass, seasonal gallery spaces, ponds, and swales.

## PLANTING SCHEME





Seasonal Plant Palette Graphic by Emma Petersen

91 DESIGN VISIONS





### MEADOW

FOREST



WETLAND



Winter Gallery Space





Graphic by Emma Petersen



# ALLIE ROWE, COLIN MACDONALD, & ROBBY LAI

Gathering Ground is inspired by themes of reciprocity, responsible interaction with nature, and a desire to serve the humans and nonhumans who love the Heron Meadow.

The Indigenous practice of peeling cedar planks from living trees becomes a formal touchstone that inspires many of the design's shapes and ideas.

A series of "beaver dam analogs" (BDAs) creates a shifting environment of braiding side-channels in the meadow's creek to further restore the original wetland. The re-imagined visitor center, elevated boardwalks, and ADA gravel paths make the wetland ecosystem visible and accessible without encouraging unsustainable foot traffic.

The south of the meadow becomes a home for school children and outdoor education with nature pads in the wetland and an outdoor "wave shelter" for year-round learning.



wetland observation and access

Section A

pad structures and hopping stumps

Beaver Dam Analogue wetland restoration area

> beaver dam analog

connection to school path

50'

Section B

94

HERON MEADOW DESIGN VISIONS



Image by Allie Rowe

**Concept Diagram** 

Bird blinds

Nature

play

Wetland boardwalk + pads

Curved gate/arch

Curling

A Wet Meadow. From this hydrological analysis we learned that we are working with a lot of water, and that the current water conveyance method is not ideal ecologically.

Flower arche

Create space for human and other-than human

species connections

Cedar harvest model of natural resource use

Lifting

benches

pavilion

Boardwalks

areas

over sensitive

Flowers

and pollinators

**Species interactions** 

Foster respectful

use of nature's gifts and

Help control invasive

and restablish native

species

encourage reciprocity

Move earth and

build with care

Beavers

and salmor

Weaving together human and ecological community

Birds and

tree habitat

## **Three Central Concepts**

Three concepts framed our design throughout the process:

- One is species interactions, where we hoped to encourage relationships between species that are key to healthy ecosystems.
- Another is accumulations, which we thought of as materials gathered intentionally, by humans or other species.
- The third is the cedar harvest, a practice of the Coast Salish people (including the Sqababsh people who inhabited Vashon-Maury Island), which models a respectful reliance on natural resources.

Path Borders

Nest Seating

Beaver dam analogs

New plantings

Brush and

Britt Freda's

bird mural

Image by Colin MacDonald and Allie Rowe

stone piles

Arche

Incorporate accumulations

resulting from and supportive of

species interactions

Accumulations

Provide habitat

for other species

Willow structures

## **Species Interactions**

- In the northwest, we focused on the interaction between birds and trees.
- In the northeast, we considered how beavers can create habitat supportive of salmon.
- In the south, we centered the interaction between flowering plants and their pollinators.



## **Cedar Harvest**

Vashon librarians Laurie and Rayna described the Indigenous Coast Salish practice of offering songs to the cedars, taking only what is needed so that the trees might live on, and making use of each component. The cedar harvest inspired the peeling and splitting forms found throughout our designs.

Image by Robby Lai

Trees rising through decl

Inveren

boardwalks



Image by Robby Lai

## **Aesthetic of Accumulation**

· We were inspired by examples of accumulations on site, including brush piles and artist Britt Freda's mural, featuring a pile of bird eggs.

• We thought about how repeated interactions between species can lead to accumulations of materials such as willow branches in beaver dams, twigs and moss in bird nests, and fields of flowers after repeated pollinations.





## Site Programming

We focused our design on providing for three main user groups:

- Vashon Nature Center visitors, coming for restoration projects, environmental education programming, or simply to enjoy being in nature.
- Vashon Center for the Arts visitors, coming to see a performance in the meadow, enjoy a snack on picnic benches, or stroll along the paths.
- Other species, including birds, trees, flowering plants, insect pollinators, beavers, salmon, and amphibians.



Northwest Entrance Image by Allie Rowe



Section B: South of Site Image by Allie Rowe

> Boardwalk Covered gathering space Gravel path

Boardwalk Restored stream channel Stormwater swale

Boardwalk Lily pad structure | Wood stump



## PLANT AND MATERIAL PALETTE

Oregon Ash

Fraxinus latifolia

# NORTHWEST ENTRANCE Vine Maple Acer circinatum **Red Elderbern** Sambucus racem Gaultheria shallon ALDER CIRCLE SUCCESSIONAL PLANTINGS

### **GREEN ROOF**



### Cape Blanco Stonecrop non Camas Camassia quamash Sedum spathulifolium 'Cape Blanco'

### STORMWATER BIOSWALE



Red Osier Dogwood Cornus sericea

**OPEN MEADOW** 



**Bigleaf Maple** Acer macrophyllum

SOUTH POLLINATOR WETLAND



Lonicera involucrato



Willow Stems Stumps and Logs Nest Seating, Archways, BDAs, Path Borders Nature Play

Image by Allie Rowe

### **Plant and Material Strategies**

• We chose native plants to be consistent with our ecological goals.

- In the northwestern corner, we aimed to draw people in with seasonal color.
- In the alder circle, we chose successional trees to eventaully replace the short-lived alders.
- In the meadow, we propose a mix of native grasses.
- On the green roof, we chose plants that are good at absorbing water and can also withstand drought.
- The bioswale and south pollinator wetland plantings follow what has already been planted and nurtured by the folks at the Vashon Nature Center, plus some additional flowering plants in the south pollinator wetland.
- On the south facing hill in the north, where Garry Oaks have already been planted, we propose flowering plants common in Garry Oak Prairies.
- Around the BDA we propose a few plants that beavers really like (for food and dam materials) and a few they dislike (to prevent clearcutting).
- Our wooden structures are made of black locust because it is flexible, rot-resistant, and an invasive species that can be sustainably harvested.



### Image by Allie Rowe

### **Grading Strategies**

- We wanted to minimize earth moving to be sensitive to financial and ecological costs, and we also wanted to provide ADA access to all of the special places in the Heron Meadow. Our proposal tries to balance these goals.
- On the east side are changes to help restore a healthy wetland habitat using a beaver dam analog technique. In the NE corner is a shallow pond, a small berm to the east to control flooding, and braiding channels moving south.
- On the west side, we've moved contours to create gently sloping, ADA accessible paths on either side of the central bioswale.
- We've created a larger flat area on the top of the hill in the southwest. We've kept the contours steep in the southwest corner because our raised boardwalk will help people traverse this area, without requiring fill to be added to the wetland.



### How Beaver Dam Analogs Work

Image by Allie Rowe, adapted from AAAS Science Magazine

- BDAs, made of woven sticks, are installed in incised streams.
- 2. Dams divert flows, widening the channel.
- 3. Water is forced onto the flooplain. Stream velocity slows, inviting beavers. Groundwater recharges.
- Beavers take over, creating a complex wetland. A higher water table supports willow and alder. 4.
- 5. Beaver dams create protected pools of slow, cooled water, supporting salmon spawners and juveniles.
- Beaver spotted on Vashon in 2016, photo by Kelly Keenan. Beavers occassionally make their way to 6. Vashon Island, but don't stay for long.



## **BDA Restoration**

Currently the water flowing into the Heron Meadow moves quickly through a straight ditch and does not have much time to infiltrate into the ground. It is also surrounded by invasive reed canary grass. Our goal was to help this area become more ecologically rich by slowing down the water and spreading it into a complex wetland with braiding channels, while also drowning and shading out the reed canary grass. The Beaver Dam Analog (BDA) technique can help us achieve this goal.



Indge by Allie Rowe

- Primary beaver dam analog
- ▲ Secondary beaver dam analog
- 🛹 Major channel
- ✓ Minor channel
- Extent of low flow flooding
- Extent of high flow flooding

## Flow + Flooding

- This diagram shows where we propose installing BDAs and changing the grade to encourage water to flow in a particular way.
- We propose a shallow pond in the north to settle out pollutants, drown out reed canary grass, and support amphibians.
- We propose BDAs to create braiding channels. During low flow periods, we expect the water to remain in these channels. During high flow periods, the water might flood a larger area.
- The small berm we've added in the north would help prevent flooding into the northern neighbor's property. Flooding extends into the southern neighbor's property, requiring their collaboration. However, flooding already occurs there and seems compatible with the current forested land use.

## **Seasonal Changes**

- These images to the right are sections cut through two channels as they are diverging downstream of a beaver dam, in two seasons. You can find the location of this section in the diagram on the page to the left. In these images, we are looking north, and you can see the wetland boardwalk to one side.
- In summer, the flow stays within the channels. In the winter, the channel widens to the furthest extent of flooding.
- We propose planting willows and cottonwood around the channels as fodder for beaver dams.

# Cedar Harvest Iterations



### SUMMER | LOW FLOW

### WINTER | HIGH FLOW



rev I Path I Cover rev I

DESIGN VISIONS | GATHERING GROUND



Images by Robby Lai







# South Boardwalk



Willow Arch



Images by Robby Lai

Images by Colin MacDonald

## Visitor Center & Wetland Walk

### A Home for the Vashon Nature Center

- The new visitor center sits on the footprint of the historic milk barn and reclaims its boards for cladding while updating the structure with a more functional layout, green roof, and ADA access.
- A generous deck expands out to an elevated boardwalk while Garry oaks "burst" through the deck to shade the space.





HERON MEADOW DESIGN VISIONS 112





Images by Colin MacDonald

## The Wave Shelter

### Covered Space in the South Meadow

- The wave shelter provides much-needed covered space for outdoor education in the south meadow.
- Knife plates join bent glu-lam timbers into a series of ribs clad in cedar boards.
- The sloping surface encourages climbing, offering a grand view of the meadow and an exciting slide back down.







Image by Colin MacDonald

# Phasing

## Phase 1



### **Beaver Dam Analog Wetland Restoration**

- 1. Solarize reed canary grass (RCG).
- 2. Re-grade floodplain: create new channels and dig out RCG root mass.
- 3. Install BDAs.
- 4. Continually adjust BDAs as needed: reinforce, add, or remove BDAs; install a pond leveler if flooding is problematic.
- Replant floodplain to support beavers.
  Include native evergreens to help shade out RCG, and add layers of cardboard and 4-6" mulch to prevent RCG return.

## Phase 3



## Phase 4



Images by Robby Lai, Allie Rowe, and Colin MacDonald

## Phase 2



### South Meadow

- Construct SE to SW boardwalk, pads, and hopping stumps.
- 2. Add nature play elements to SW entrance
- 3. Construct wave pavilion on hill.

### Grading Changes and Accessible Circulation

- Re-grade south hill and alongside bioswale.
  Install ADA gravel paths.
- 3. Construct boardwalk connectors and archways.
- 4. In disturbed meadow areas, replant mix of native grasses.
- 5. Install entrance plants and Alder Circle understory.

### Milk Barn Renovations and Wetland Boardwalk

- 1. Renovate milk barn into new VNC visitor center.
- 2. Construct deck gathering space, boardwalk
  - over wetland, pads, and hopping stumps.
- 3. Plant green roof.
- 4. Plant Garry Oak Prairie wildflowers.

# Heron Meadow Learn & Linger

SAEED S. AL-SHIDHANI, YINGJIE LUO, & LENA OWEN

Our design for the Heron Meadow invites people to interact with the ecology and wildlife on Vashon Island. Through native habitat restoration and stormwater management, this wetland meadow becomes a space for native species to thrive. Locals and visitors can step into the site and discover and explore this native ecology, fostering a relationship between the two. Based on the schools and arts center near the site, we envision Heron Meadow as an outdoor classroom. This is a place where people are welcome to come for a little while, and keep coming back. Heron Meadow becomes a place to learn and linger.



## **Contextual Analysis**



Site Analysis within a 2-Mile Diameter Graphic by Saeed Al-Shidhani

### Large Scale

Within a two-mile diameter, we can see the wealth of green space close to Heron Meadow, as well as the crucial arterial that moves throughout the Vashon Highway. This site is well connected, and greens spaces abound on Vashon. Heron Meadow draws visitors with its unique qualities and must meet the needs of the surrounding community. This includes people from the Vashon Roasterie as well as visitors at the Vashon Center for the Arts.

### **Small Scale**

As we zoom into a .45-mile radius, the importance of educational areas at Chautauqua Elementary School, McMurray Middle School, and Vashon High School becomes obvious. Pathways to Heron Meadow can be drawn and used to connect people to the site so that it can be used for educational purposes.

## Concept

The location of Heron Meadow so close to educational facilities makes it a crucial learning space for children. This has informed both our outdoor classroom concept and how people may move throughout the site. Heron Meadow programatically becomes a space for learning. Through observing, playing, exploring, connecting, appreciating, and gathering, human users can learn about the ecological users with whom they share the space. Learning about our relationship with ecology can help build a reciprocal understanding that will inspire children to protect and conserve the unique Vashon ecosystems.





Site Concept Study within a .45-Mile Diameter Graphic by Saeed Al-Shidhani Design Concept and User Activity Graphic by Lena Owens

## **Site Plan**



anc



exploration. There is a boardwalk across the maze that guides students and other visitors into the meadow from the

### **Ecological Pond**

The pond is located at a low point in the meadow to provide habitat and stormwater management. Structures like explorer platforms can be used for outdoor exploration.

### **Open Meadow**

We designed our path along the meadow edges so that the open meadow has enough space for public activities. Across the site, we use boardwalks in areas that will be wet during the rainy season.

## **Site Ecologies**

merican Bullfroo

ephala albe

Violet-Green Swallow

(Tachycineta thalassina)

### Wildlife

Many animals already exist on the site, thriving as year-round residents as well as migratory spring/ summer residents. The section below shows different ecological zones and possible traces of wildlife as they might move through the site. Birds like the Violet-Green Swallow and the Steller's Jay may only appear in warmer months, while Sharp-Shinned Hawks and Black-Tailed Deer may be more frequent visitors throughout the year.

teller's Jav

nocitta st

lack-tailed Deer

Bald Eagle

Syrphid Flv

(Scaeva pyrastri)



Judd Creek watershed ecology. Wetland plants, such as willow and skunk cabbage, bolster the wetland to filter water and protect salmon. Deciduous natives also tell a seasonal story of the site for visitors, who will come to know the changing colors of the seasons from year to year.

ECOLOGICAL POND WETLAND GRASSLAND NATIVE GARDEN WETLAND ALDER GROVE ZONE 1 ZONE 2 **ZONE 3 ZONE 4** ZONE 5 **ZONE 6** ZONE 7 X Movements through Zones with Relative Plants & Species Graphic by Lena Owens & Group Year Round Residents 70' Spring/Summer Residents

Accipiter striatus)

alia bipuncta

Vestern Yellowjacket

(Paravespula pensvlvanica

## Entrance

The entrance to the meadow is an essential part of the experience. In its current state, the meadow has elements of great interest that need to be enhanced and utilized in designing the space. The milk barn is a great asset of historical significance, and the lower land next to it has potential as a rich wetland environment. To harness both of these characteristics, multiple entry points with various hierarchical designs encourage curious individuals to take alternative entrances. The main entrance is located next to the milk barn, making use of its aged wood texture.

View of Pavilion and Seating Area Graphic by Saeed Al-Shidhani





## **Pavilion Design**

Throughout the meadow, paths are meant to function only as guides, and breaking away from linear walkways to explore is encouraged. The design of the pavilion achieves a similar goal. The pavilion defines a path that is designed to flow with the site's topography and includes a number of openings. The pavilion space therefore helps focus and guide visitors at the entry area and then, upon entering the site, they are free to explore.











## Succession

The pavilions are also designed to serve functional purposes. The Covered Structure adjacent to the Milk Barn acts as a covered exhibition space for events hosted by the Vashon Center for the Arts. The Dynamic Structure is a place to learn about the site and its native wildlife. The third part of the entryway is a series of benches that open up to the view of the meadow and all of its features. Entrance Structure and Pavilion Graphics by Saeed Al-Shidhani



WINTER SPRING SUMMER AUTUMN

## **Seasonal Changes**

By only utilizing native plants and trees, the Ecological Pond will serve as an example of the natural forces and changing colors of life throughout the year. As the year progresses, plants change form and color, creating a different experience for every season. Water level in the pond is dependent on the amount of rainfall and will also change, and the pond is able to accommodate these differences.

Changes in Pond Water Level and Plant Color Graphics by Saeed Al-Shidhani



View of the Explorers Platform Graphics by Saeed Al-Shidhani

The Ecological Pond is a biodiverse space where wildlife and plants coexist. This environment is a great place for young visitors curious about life and nature. The pond is designed with stepping logs that can serve as a playground. Through these spaces and the larger platform with educational elements, kids can learn more about the environment and the meadow ecosystem.



**Ecological Pond and Platforms** Graphic by Lena Owens

## Playground

Connection



## Exploration



## **Nature Maze**



### Connection

The nature maze boardwalk provides a connection for children to move between the schools that are close to the site and the Blue Heron Arts Center that provides after school programming for children. This connection provides a safe and dry path through the site that children can take instead of walking on Cemetery Road, which lacks sidewalks. This vital path ties the site to the rest of the community and brings people directly into the path of nature along their walk. Maybe they will discover something else along the way, too.

### Exploration

Here in the southeastern corner, Heron Meadow is at its wettest. Through natural elements, children are able to orient themselves while also exploring and playing on their own. The nature maze is a place that is physically legible but also provides independence for children to move on their own. Different elements can be used to keep children above the water and offer different opportunities when the ground is wetter. The shelter provides respite from the rain or sun and is a good meeting place and landmark.









![](_page_70_Figure_4.jpeg)

![](_page_70_Figure_7.jpeg)

Polinator Garden & Mural Wall Graphics by Yingjie Luo

![](_page_71_Picture_0.jpeg)

"To help others understand nature is to make it breathe like some giant: a revolving, evolving, celestial being with ecosystems acting as organs and the living things within those places – humans included – as cells vital to its survival."

J. Drew Lanham The Home Place: Memoirs of a Colored Man's Love Affair with Nature


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