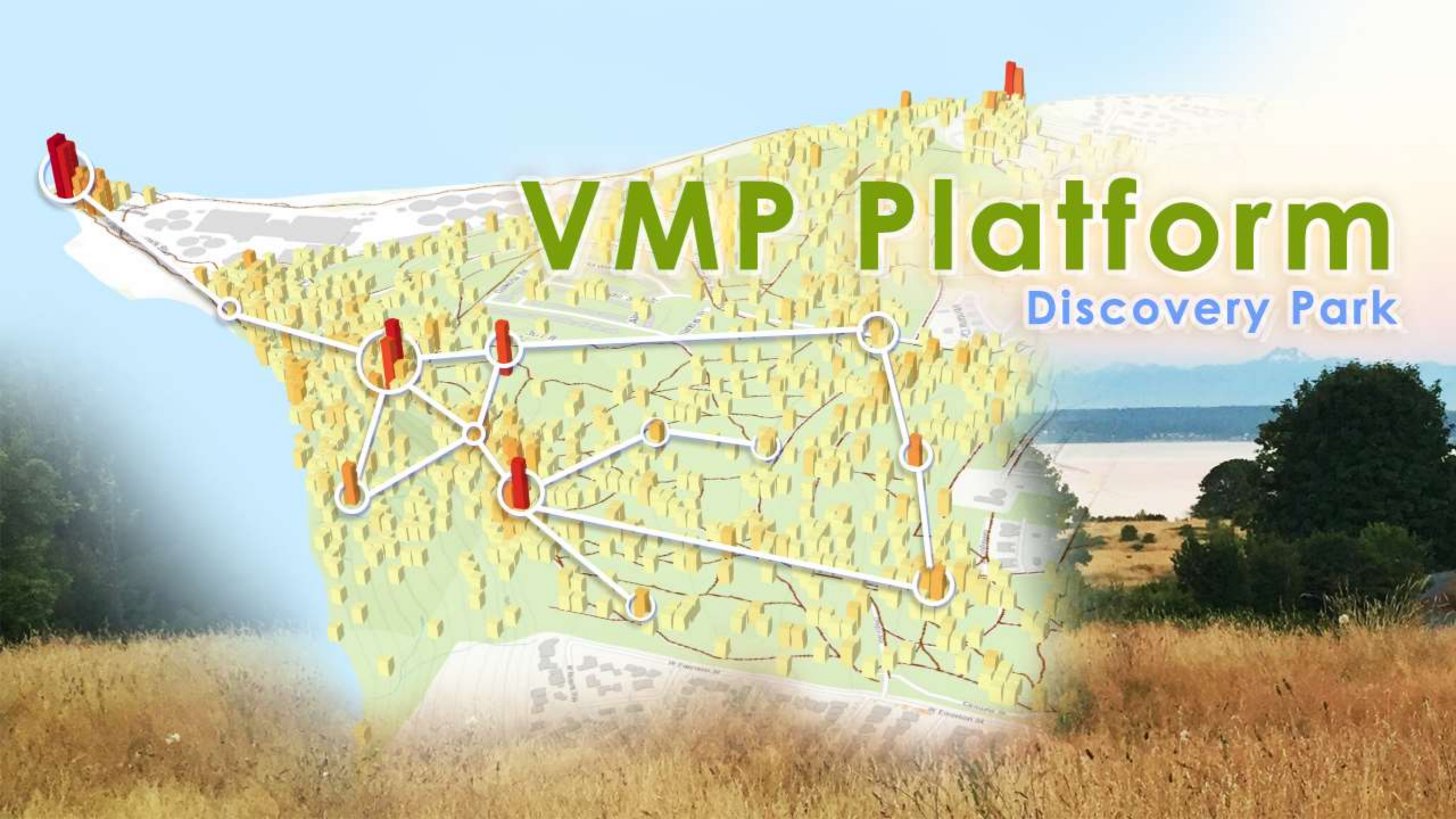

VMP Platform
Discovery Park

Partners - Collaborators - Resources

Friends of Discovery Park - Est. 1974 -

DEPARTMENT OF GEOGRAPHY
UNIVERSITY of WASHINGTON

EARTH ECONOMICS

SEATTLE AUDUBON

SEATTLE TRAILS

ICF

GREEN SEATTLE PARTNERSHIP

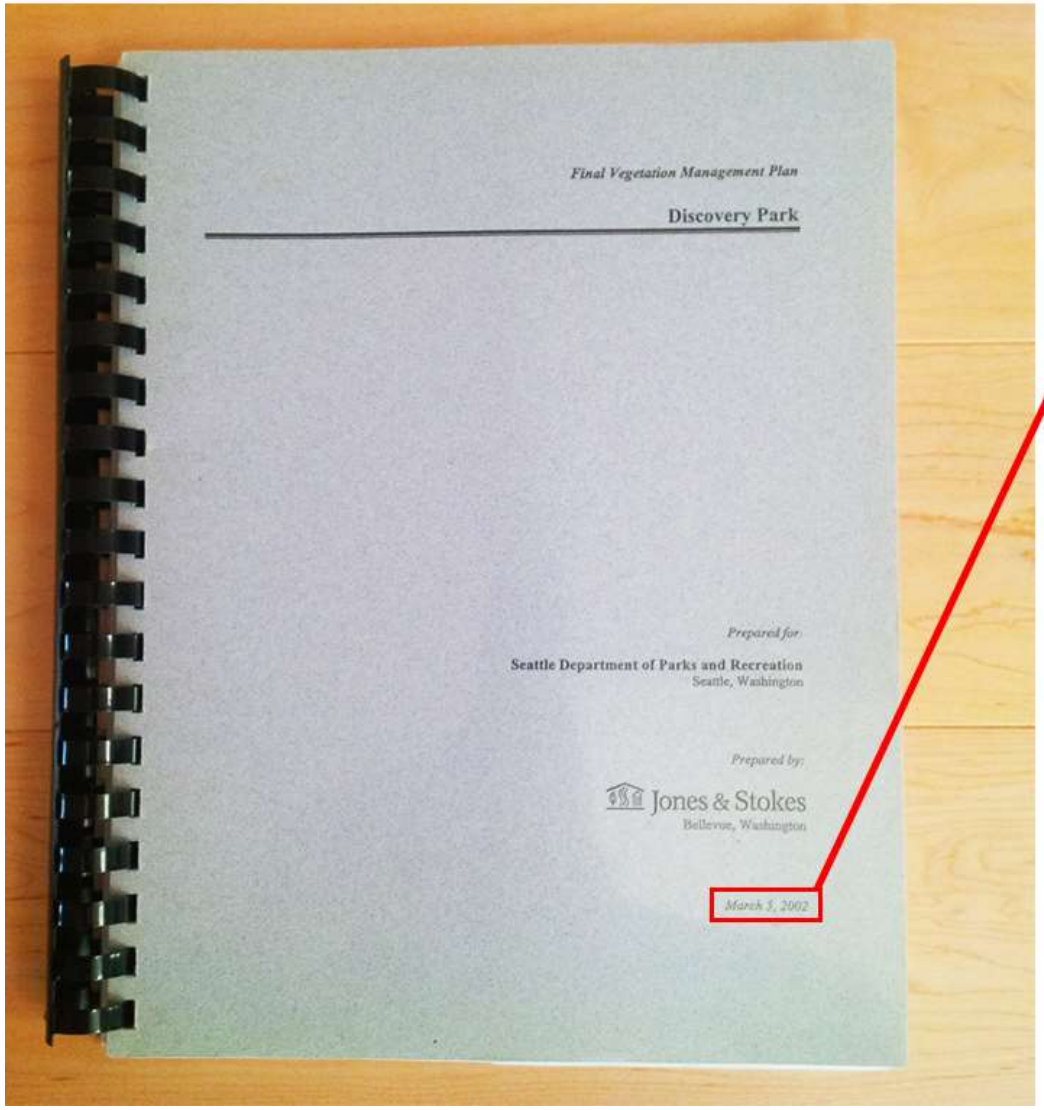
SEATTLE GREEN SPACES COALITION

THE TRUST FOR PUBLIC LAND

tableau FOUNDATION

Seattle Parks & Recreation
healthy people healthy environment strong communities

Why?



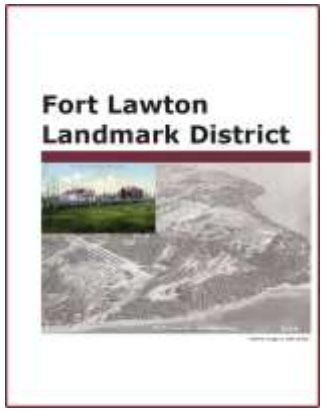
March 5, 2002

Why?

Discovery Park was chosen as a test location because:

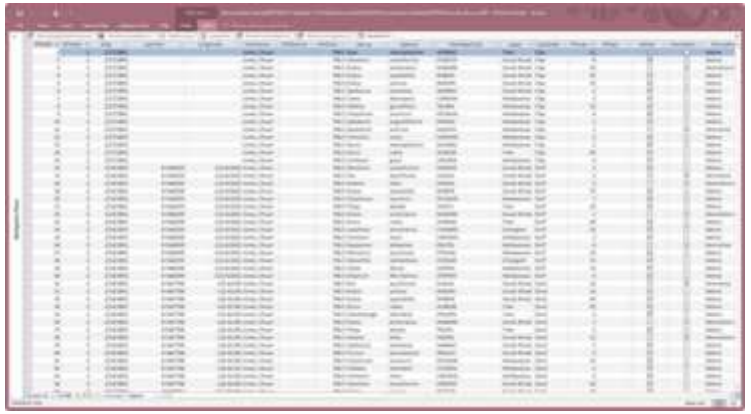
- 16 year old VMP
- Breadth of landscape topography
- Breadth of flora and fauna
- Quantity of active stakeholder organizations
- Quantity of ongoing restoration projects
- Visitor and Recreational usage patterns
- Acreage Size
- Complexity

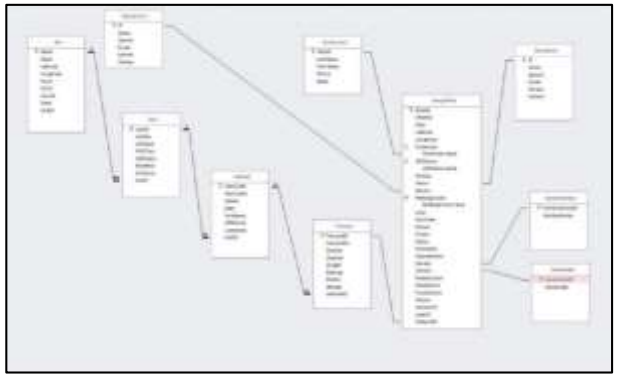
Plans, Guides, and Practices

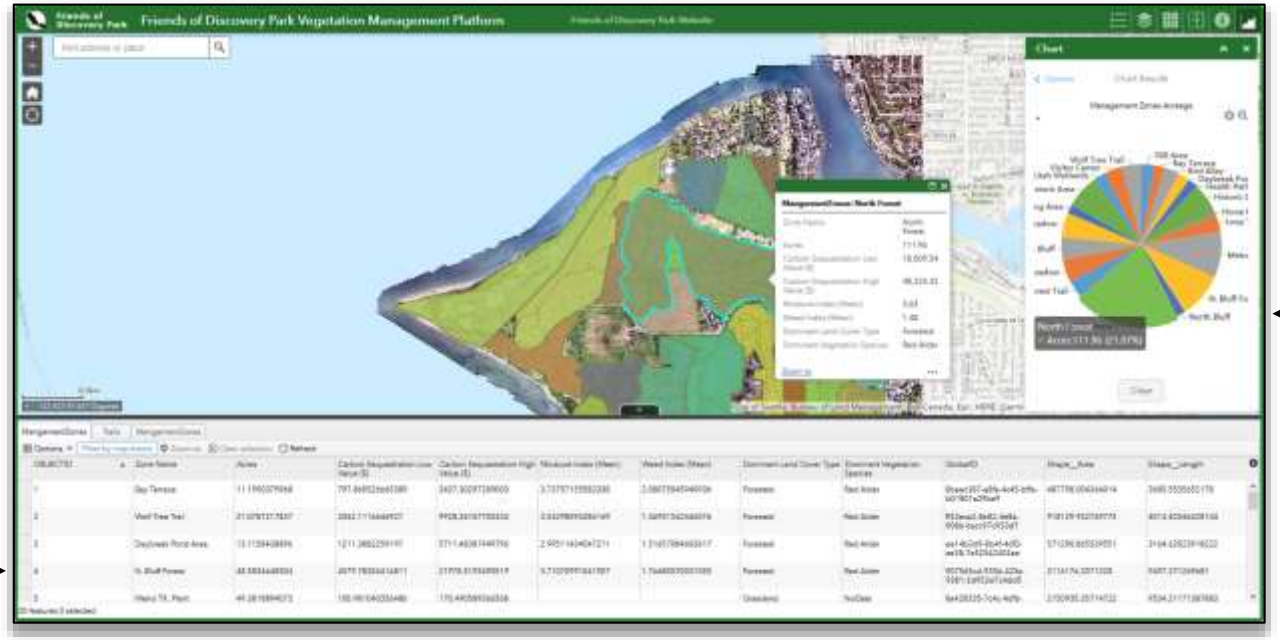


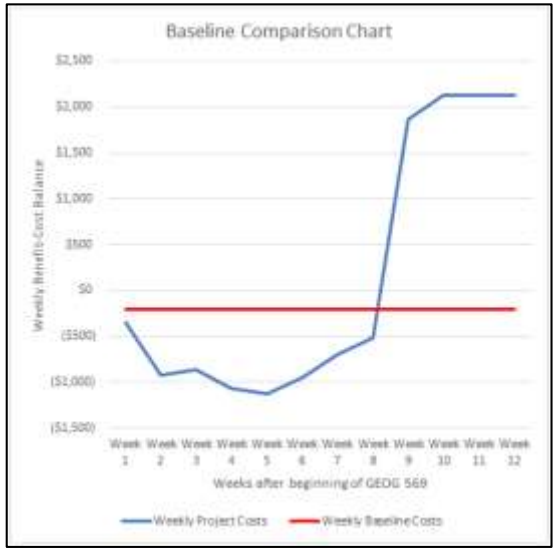
- The Discovery Park Master Plan
- Vegetation Management Plan
- Forest Steward Field Guide
- Grassland & Thicket Management
- Fort Lawton Landmark District
- Native Pollinator Habitat Restoration Guide
- Daybreak Star Vegetation & Management Plan
- Soft Surface Trails Management Plan
- Wetland Best Management Practices
- Forest Restoration Related to Breeding Birds
- Preventative Tree Maintenance Program
- GSP Reference Map / Targeted Forest Types

One Holistic Platform









Regional Open Space Strategy + Open Space Seattle 2100

NATURE AS INFRASTRUCTURE

Open Space is an embracing term for a diverse spectrum of lands - public and private, spread across a rural and urban continuum, on large and small scales - that create the natural and built green infrastructure on which we depend. This includes public parks, local and regional trail systems, wetlands and water bodies, wilderness lands, resource lands for agriculture and timber production, as well as urban green spaces like parkways, rain gardens and green roofs. The ROSS is a collaboration of experts across all of these fields of expertise.

BENEFITS OF OPEN SPACE

But Open Space is much greater than the sum of its acres and geographies. Across these technical areas, the interconnected system of Open Space provides a vast number of services and benefits to our region. Learn more below about how open space supports quality of life in the Puget Sound.

Regional Open Space Strategy + Open Space Seattle 2100

PLAN GOAL

To create a bold integrated Open Space Plan with implementation strategies for Seattle's next hundred years, which will enhance the health and well-being of both our cultural and natural environments. This vision of a regenerative green infrastructure will strive to create a healthy, beautiful Seattle while maximizing our economic, social and ecological sustainability.

Image Credit: Alison Blake

GUIDING PRINCIPLES FOR OPEN SPACE PLANS

The following principles were developed over three months by the OSS 2100 Guidance Committee and were endorsed by the Seattle City Council on May 15, 2006.

1. REGIONAL RESPONSIVENESS
Consider Seattle's role as an ecological, economic, and cultural crossroads; its location in one of the world's great estuaries and between two dramatic mountain ranges; its critical position as a threshold to two major watersheds (Cedar and Green/Duwamish); and its relationship to salt and fresh water bodies throughout the city.

2. INTEGRATED + MULTI-FUNCTIONAL
Integrate a variety of types of open space within a unifying, coherent structure. Incorporate considerations for streets, creeks, parks, habitat, urban forests, trails, drainage, shorelines, commercial and civic spaces, back yards and buildings. Consider layering multiple functions and uses within green spaces to create high-functioning, high value open spaces.

3. EQUITY + ACCESSIBILITY
Within a network of open spaces provide equitable access for all persons to a variety of outdoor and recreational experiences. Distribute appropriate open space types to every neighborhood, in order to address the needs of diverse population groups. Prioritize public access to water.

4. CONNECTIVITY/COHERENCE
Create a wholly connected system that facilitates non-motorized movement, enhances habitat through connectivity, links diverse neighborhoods, and is easy to navigate and understand. Connect these in-city amenities to surrounding communities, trails and public lands.

November 2006

The Lack of a Coordinated Vision

Fifty years later we are still trying to create a unifying and comprehensive vision for open space planning. The region has yet to successfully create an inventory of our existing assets, much less maintenance or expansion plans. The ROSS team has taken first steps towards the creation of an open space inventory, although identifying priority areas for conservation and enhancement is still a critical next step.[2]

December 2016

Seattle Audubon mission:

Seattle Audubon leads a local community in appreciating, understanding, and protecting birds and their habitats

Education → *Appreciate*

Science → *Understand*

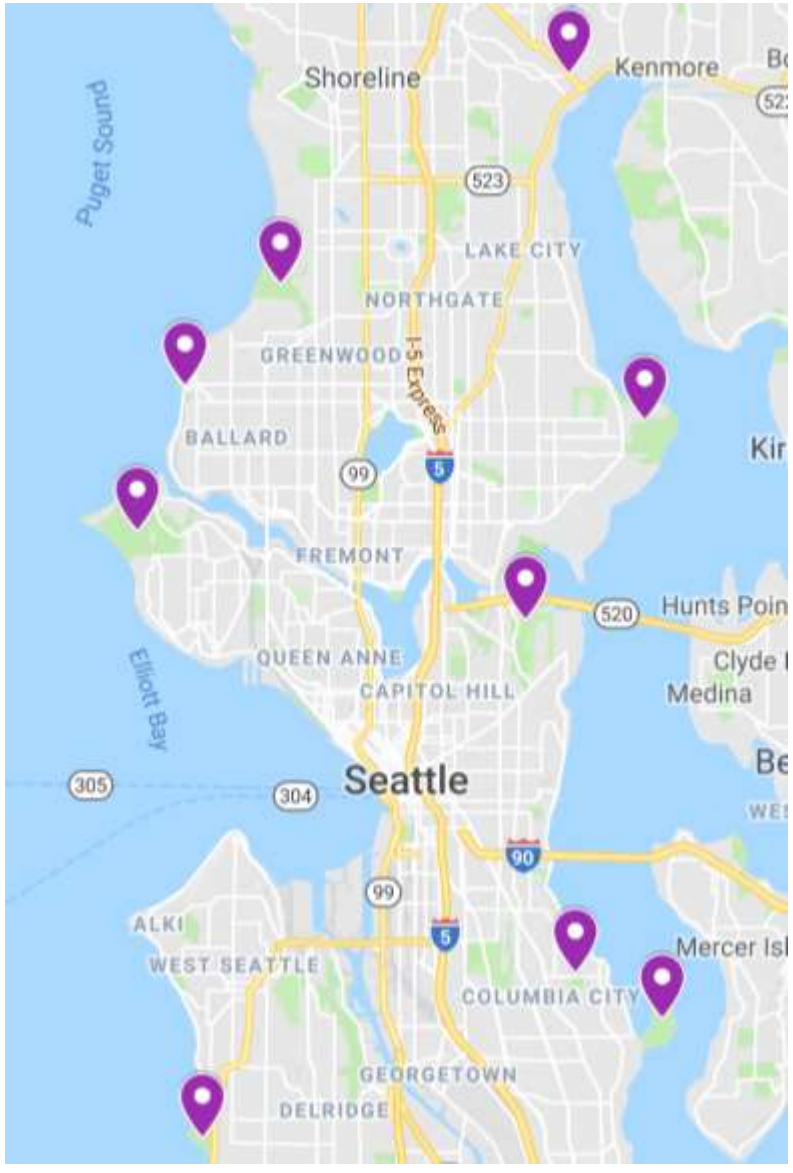
Conservation → *Protect*

Neighborhood Flyways

- Goals
  - Connect habitat corridors across our urban landscape
  - Elevate the importance of protecting habitat within Seattle
  - Conserve green space that benefits all of Seattle's residents and wildlife

SEATTLE AUDUBON

Neighborhood Bird Project (NBP)



- Volunteer-led surveys
- Monitoring birds monthly in nine Seattle city parks
- Record all birds seen and heard at each point
- Document bird populations over time in urban green spaces

SEATTLE AUDUBON

Neighborhood Bird Project (NBP) at Discovery Park

- Discovery Park surveys started in 2003
  - Survey a wide range of habitats
- Potential to document effect of habitat restoration to bird populations

SEATTLE AUDUBON

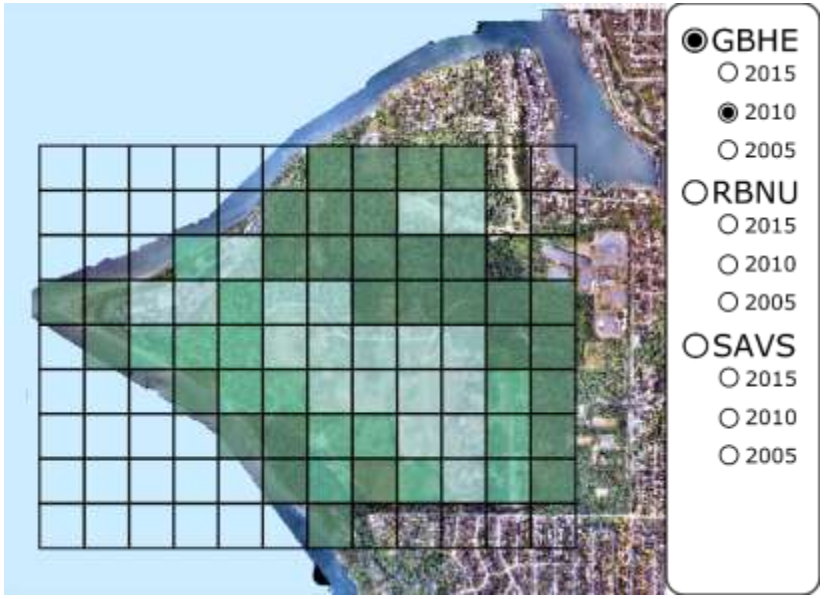
Adding bird data to GIS Platform

- Overlay bird data on habitat restoration areas
  - Species of interests
  - Species richness
- How have bird observations and species diversity changed over time?

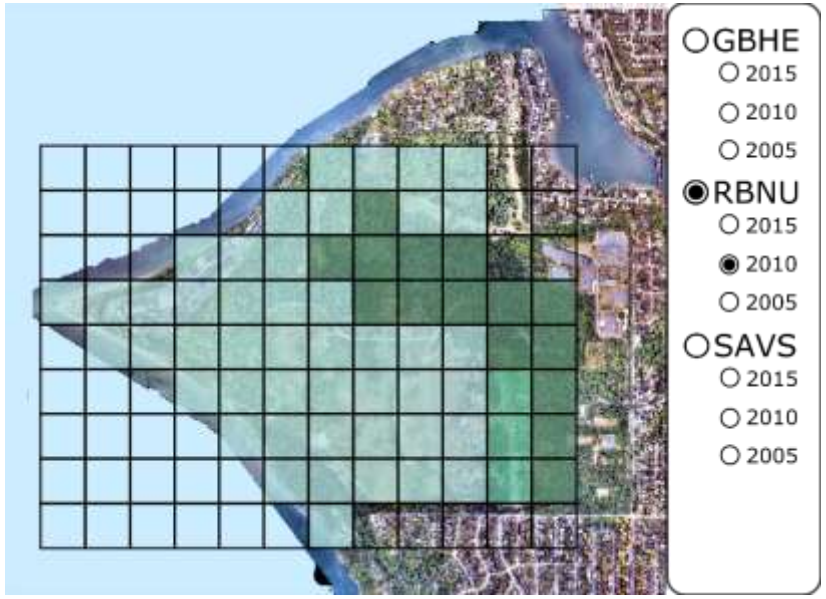
SEATTLE AUDUBON

Aggregating Bird Observation Data by species by year

Great Blue Heron 2010



Red-Breasted Nuthatch 2010

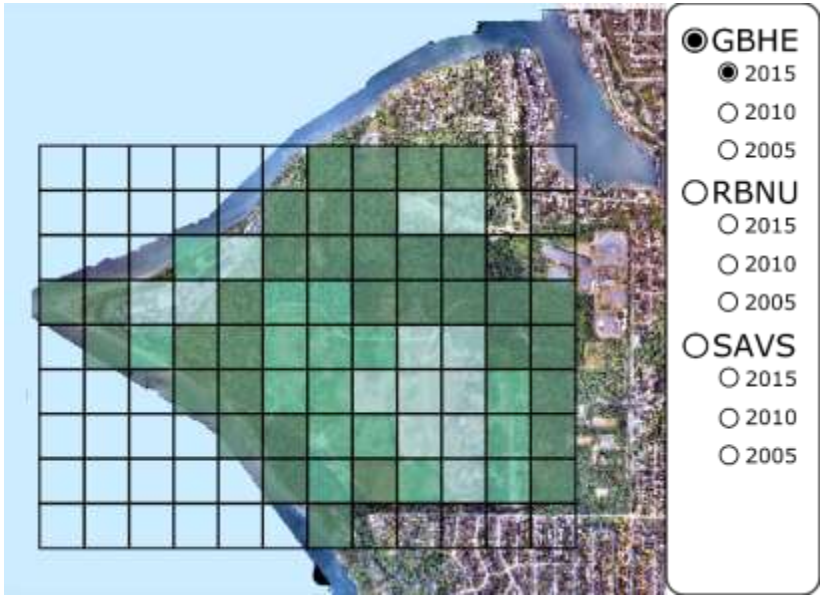


>100 observations
6-100 observations
1-5 observations
No observations

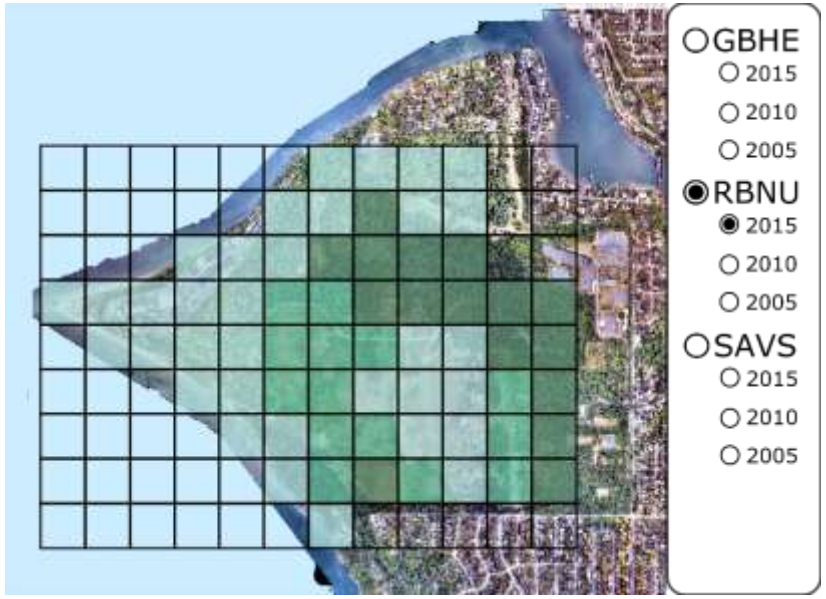
SEATTLE AUDUBON

Aggregating Bird Observation Data by species by year

Great Blue Heron 2015



Red-Breasted Nuthatch 2015



>100 observations
6-100 observations
1-5 observations
No observations

SEATTLE AUDUBON

THE NATURAL VALUE OF

DISCOVERY PARK

THE PUBLIC BENEFITS OF SEATTLE'S LARGEST PARK

Earth Economics | March 2018

Earth Economics is a leader in ecological economics

and has provided innovative analysis and recommendations to governments, tribes, organizations, private firms, and communities around the world.

NATURAL CAPITAL

performs natural functions that provide goods and services that humans need to survive.

ECOSYSTEM SERVICES

are quantifiable benefits humans receive from nature.

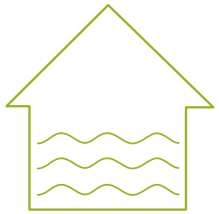
Ecosystem Services

The natural capital of Seattle's Discovery Park provide a range of ecosystem services that can be valued.*

**For a complete list of ecosystem services please contact Earth Economics.*

Air Regulation
$55,000/year

Carbon Storage & Sequestration
$100,000/year



Climate Stability
$226,000 - $375,000/year

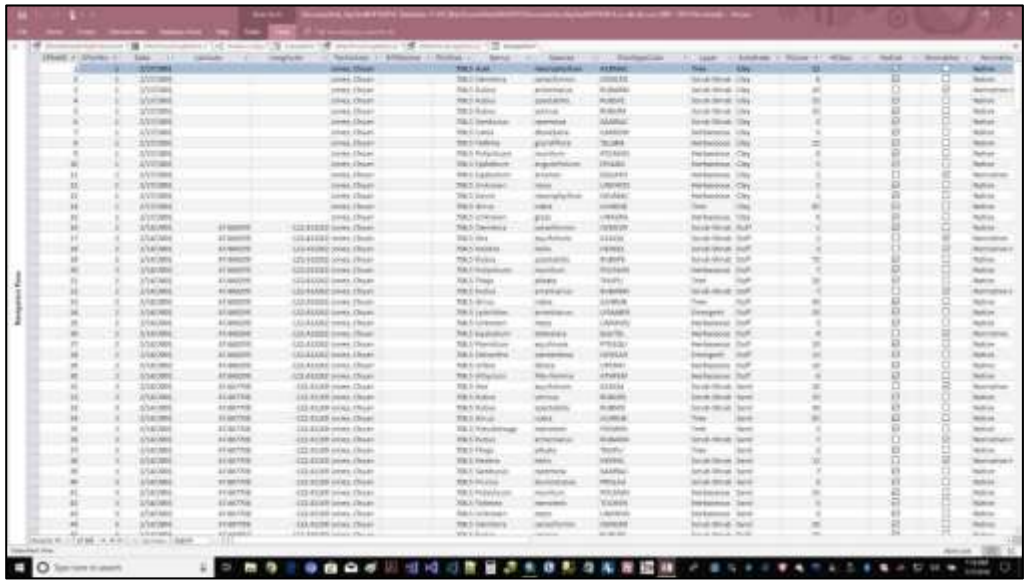
Water Quality & Storage
$203,000 - $469,000/year

Biological Control
$6,000/year

Habitat
$14,000/year

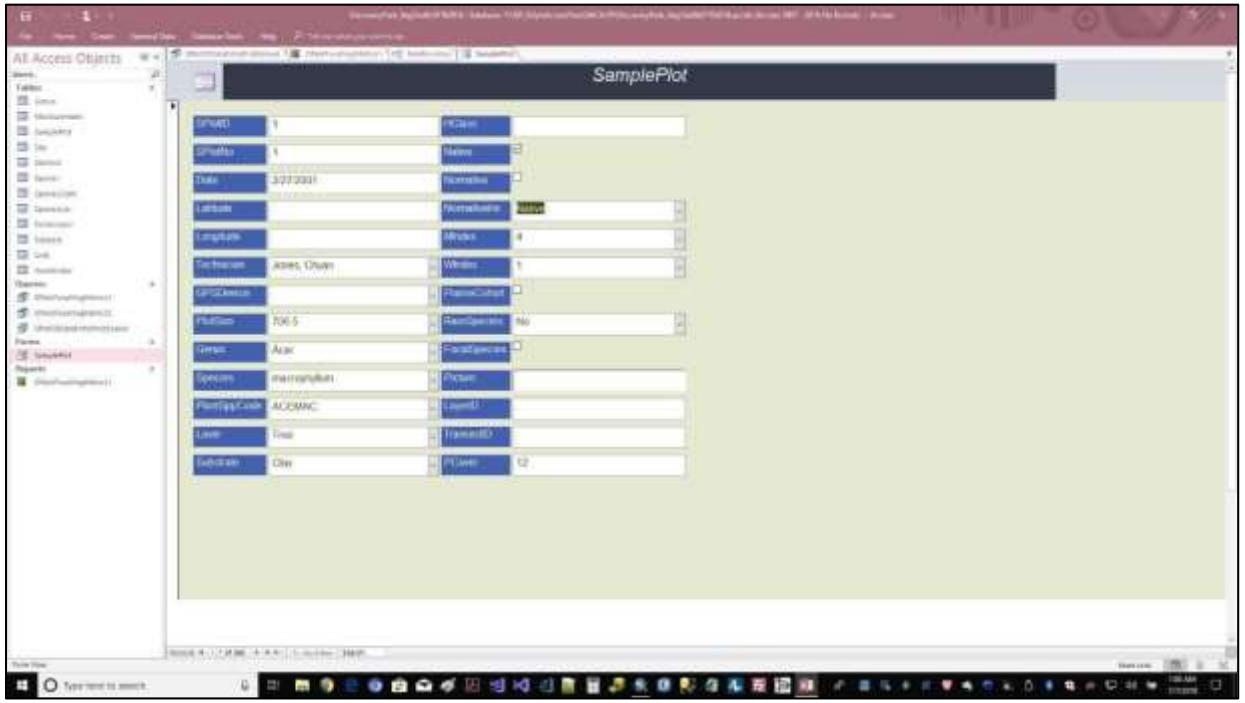
Discovery Park provides services that benefit Seattle

Current Functionality Summary

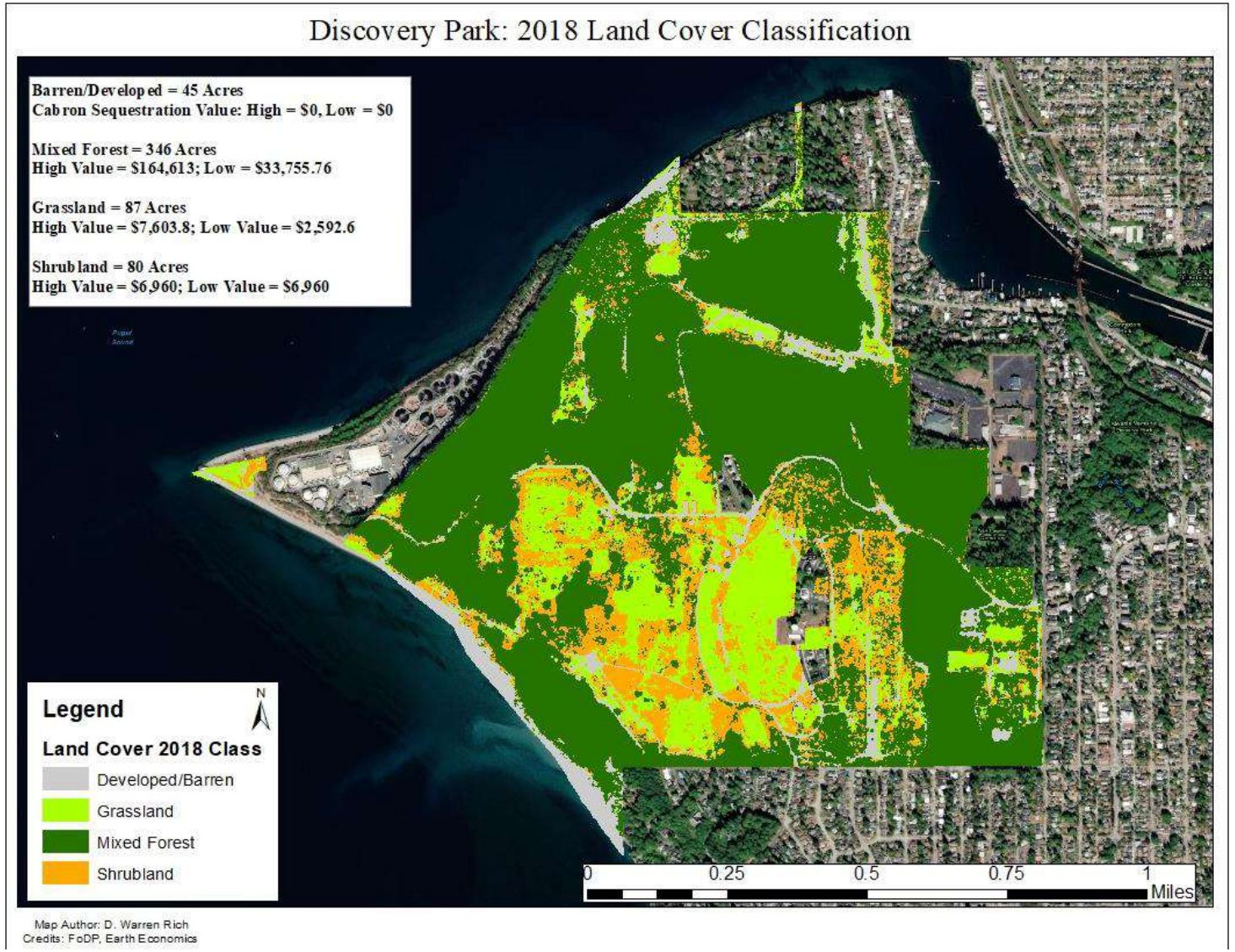


← Relational Database

Update via Web Interface →



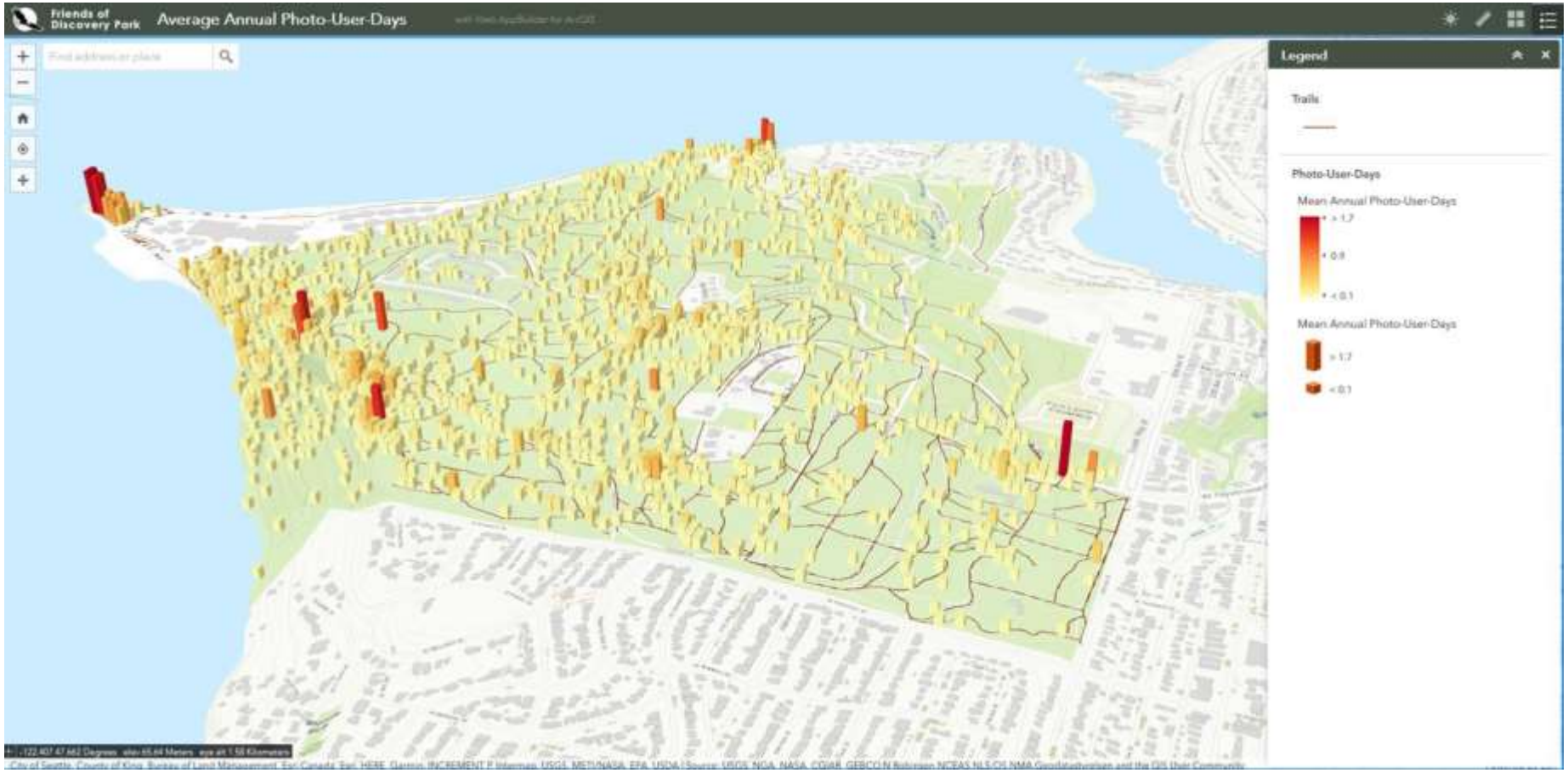
Current Functionality Summary



VMP Platform
Discovery Park

2018 Land Cover Classification and Carbon Sequestration Valuation

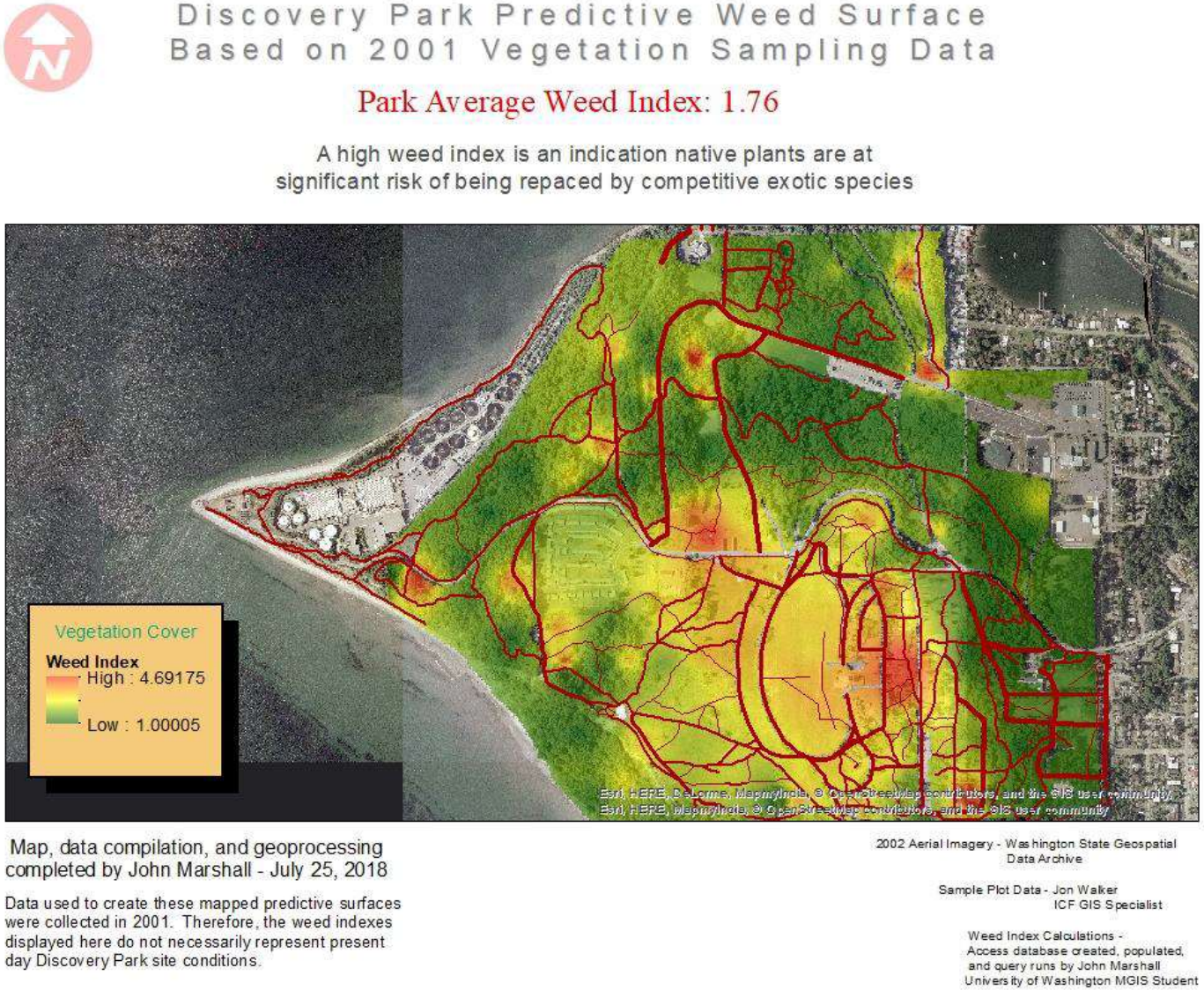
Current Functionality Summary



Visitation Analysis:

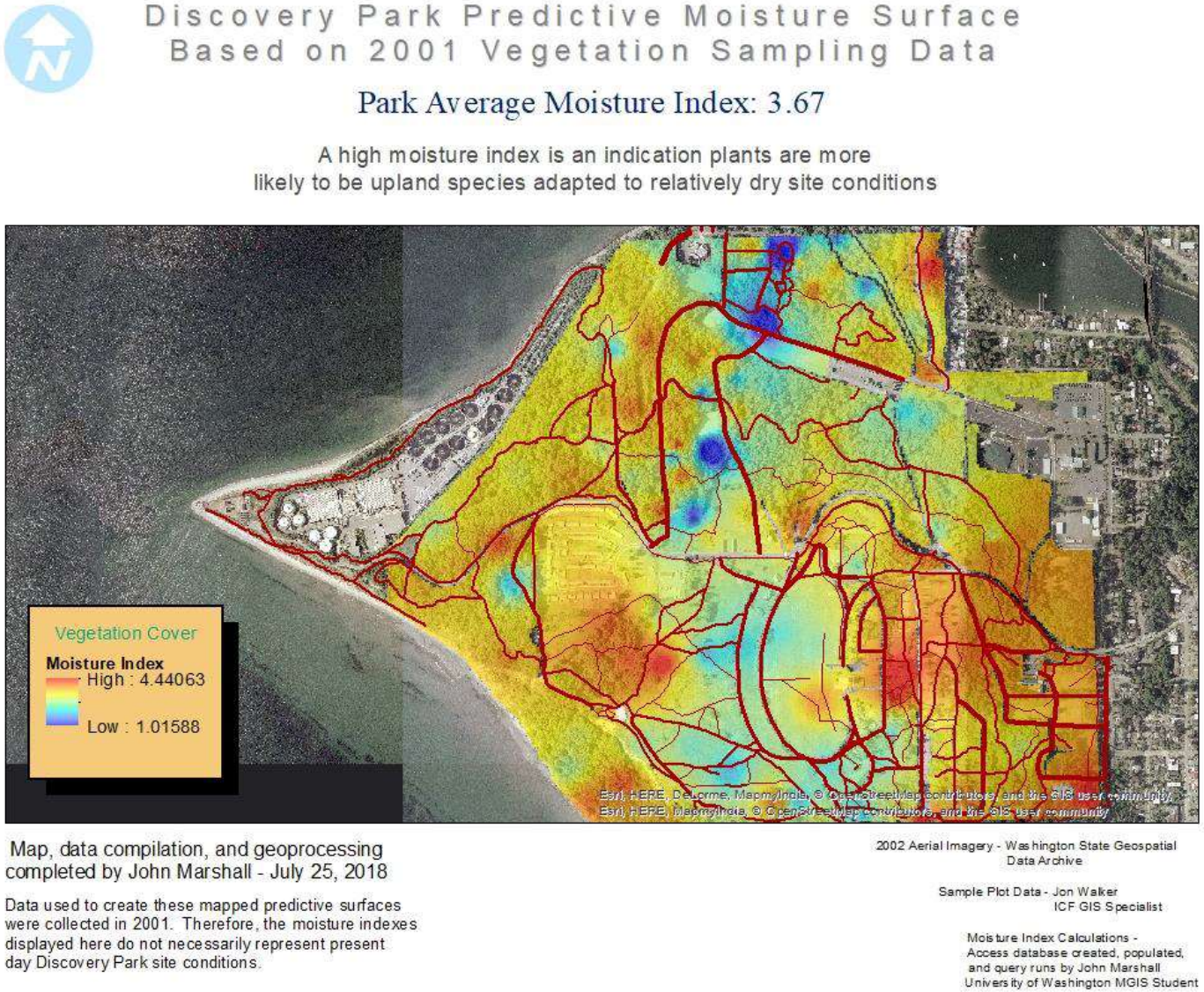
Modeled estimate rates of visitation from geotagged social media correlated with trails and vegetation type.

Current Functionality Summary



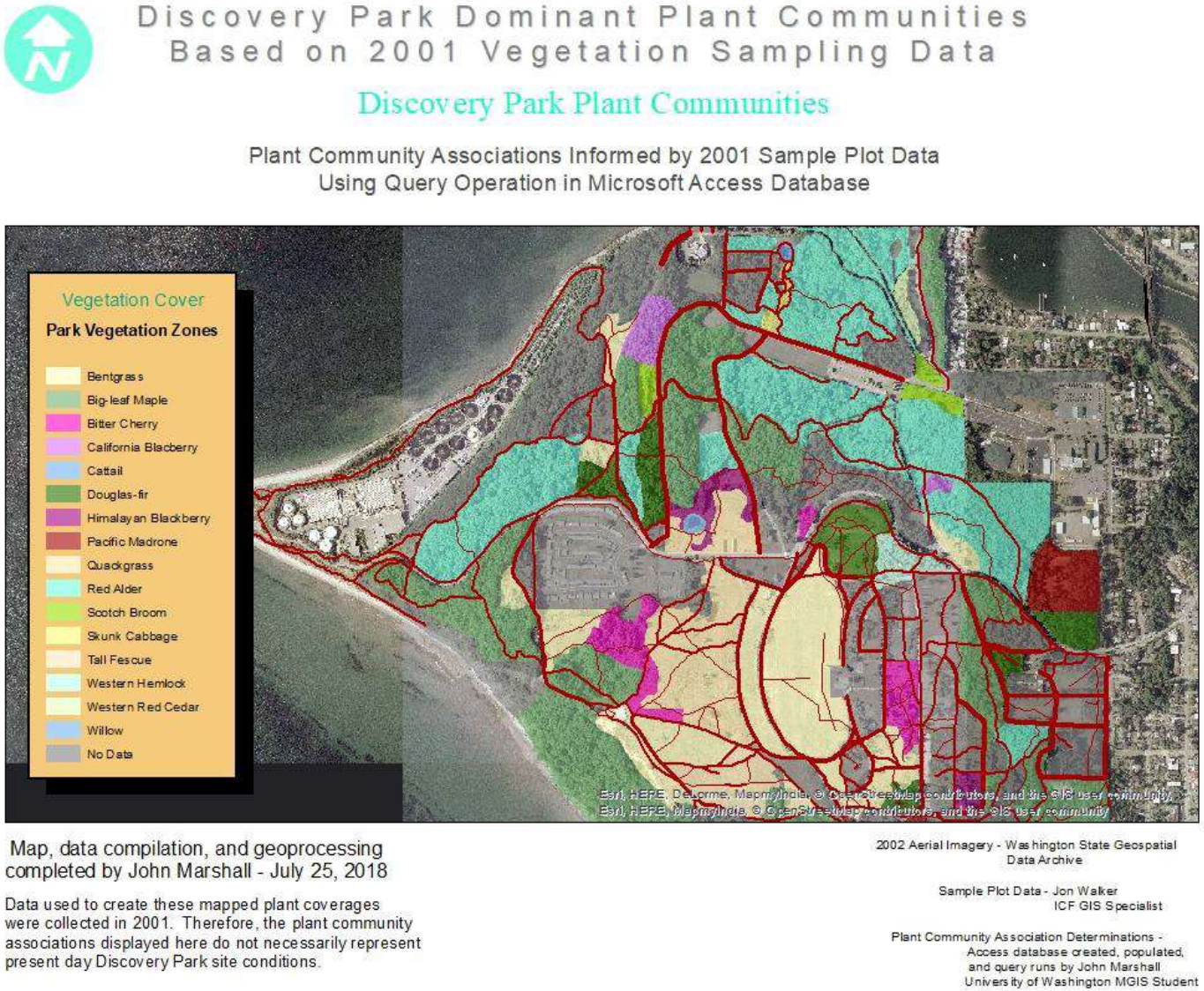
Weed Index Surface Map for Discovery Park

Current Functionality Summary



Moisture Index Surface Map for Discovery Park

Current Functionality Summary



Plant Community Map for Discovery Park

Current Functionality Summary

Discovery Park Plant Communities - One Year Use by Birds (2015 - 2016)

Discovery Park Bird Use of Plant Communities

Seattle Audubon Society Designed and Implemented Volunteer
Bird Observations Study at Discovery Park - 50-meter Radius Observation Areas

Map, data compilation, and geoprocessing completed by John Marshall - July 25, 2018

Data used to create these mapped plant coverages were collected in 2001. Therefore, the plant community associations displayed here do not necessarily represent present day Discovery Park site conditions.

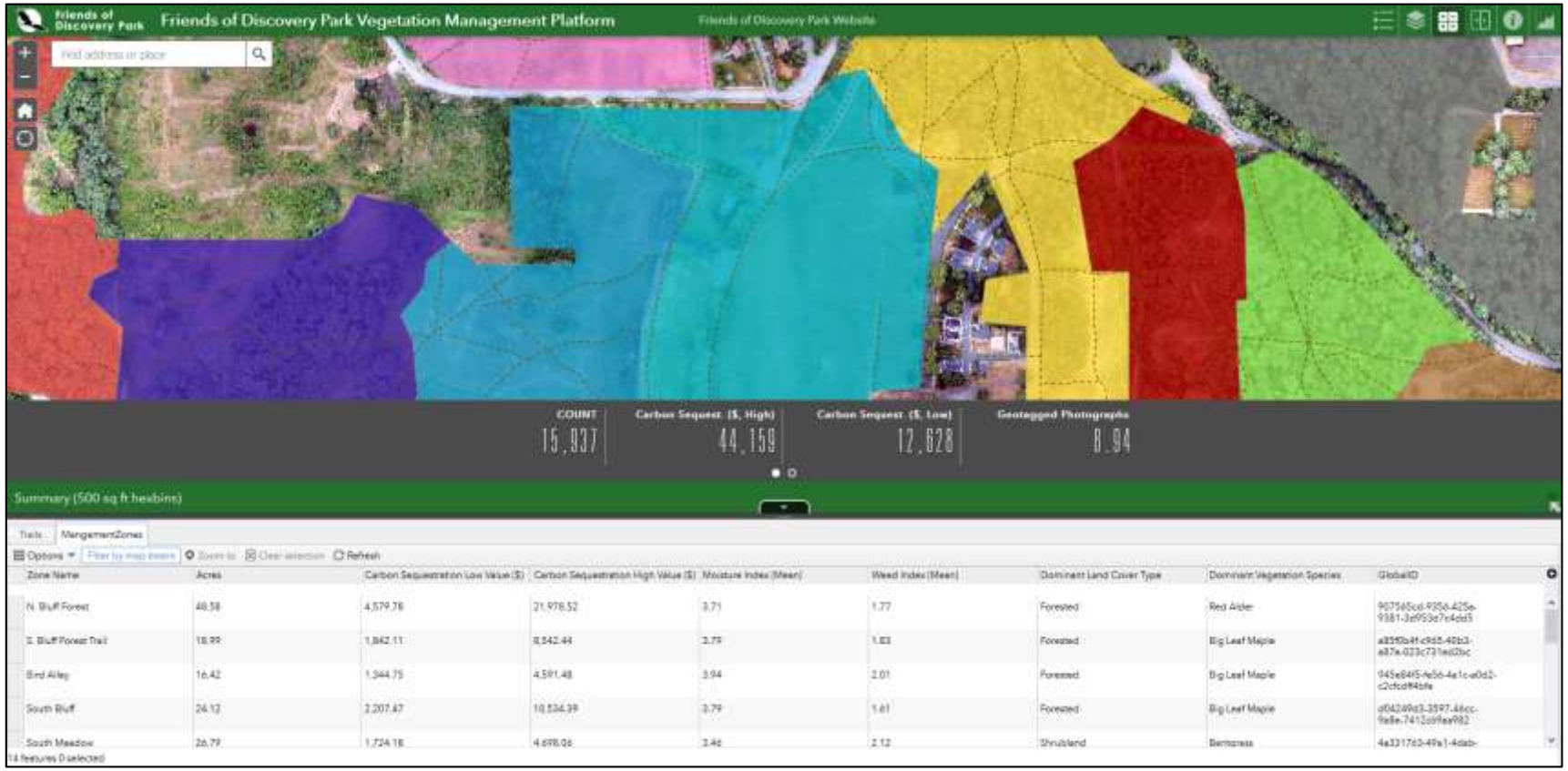
2002 Aerial Imagery - Washington State Geospatial Data Archive

Bird Observation Stations - Seattle Audubon Society

Plant Community Association Determinations - Access database created, populated, and query runs by John Marshall University of Washington MGIS Student

Plant Community Use by Birds Map (Horizontal) for Discovery Park

Current Functionality Summary



Ecosystem Services Calculator

- Tree Count: 15,937
- Carbon Sequest. ($, High): 44,159
- Carbon Sequest. ($, Low): 12,628
- Geotagged Photographs: 9
- Mean Moisture Index: 3.29
- Mean Weed Index: 1.89

Current Functionality Summary

Before & After Aerial Analysis

Current Functionality Summary

Land Cover Type:

Based on selected aerial imagery

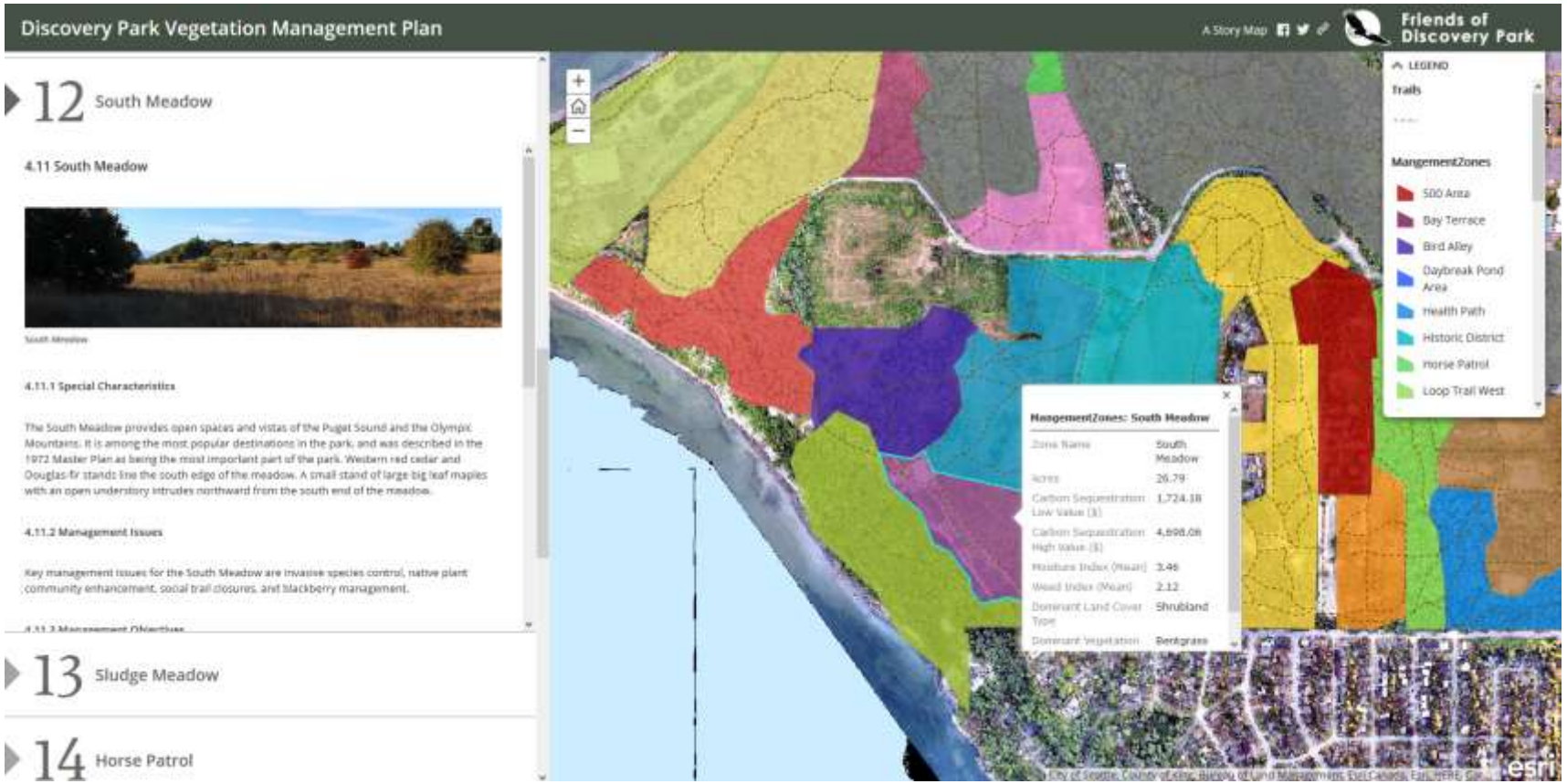
Current Functionality Summary

Partner Data Layers

Current Functionality Summary

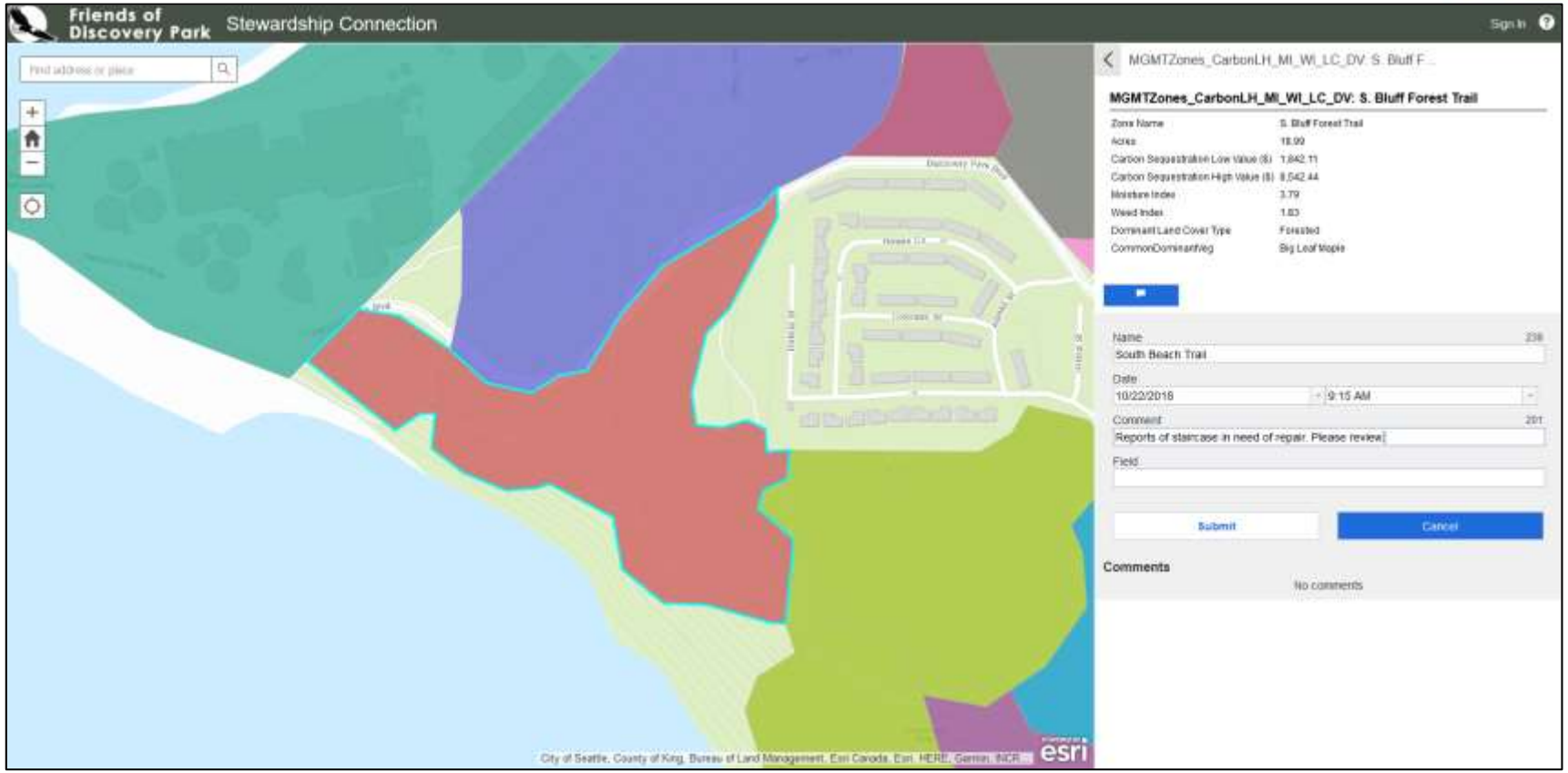
Bird Count Data correlated to Vegetation Classes

Current Functionality Summary



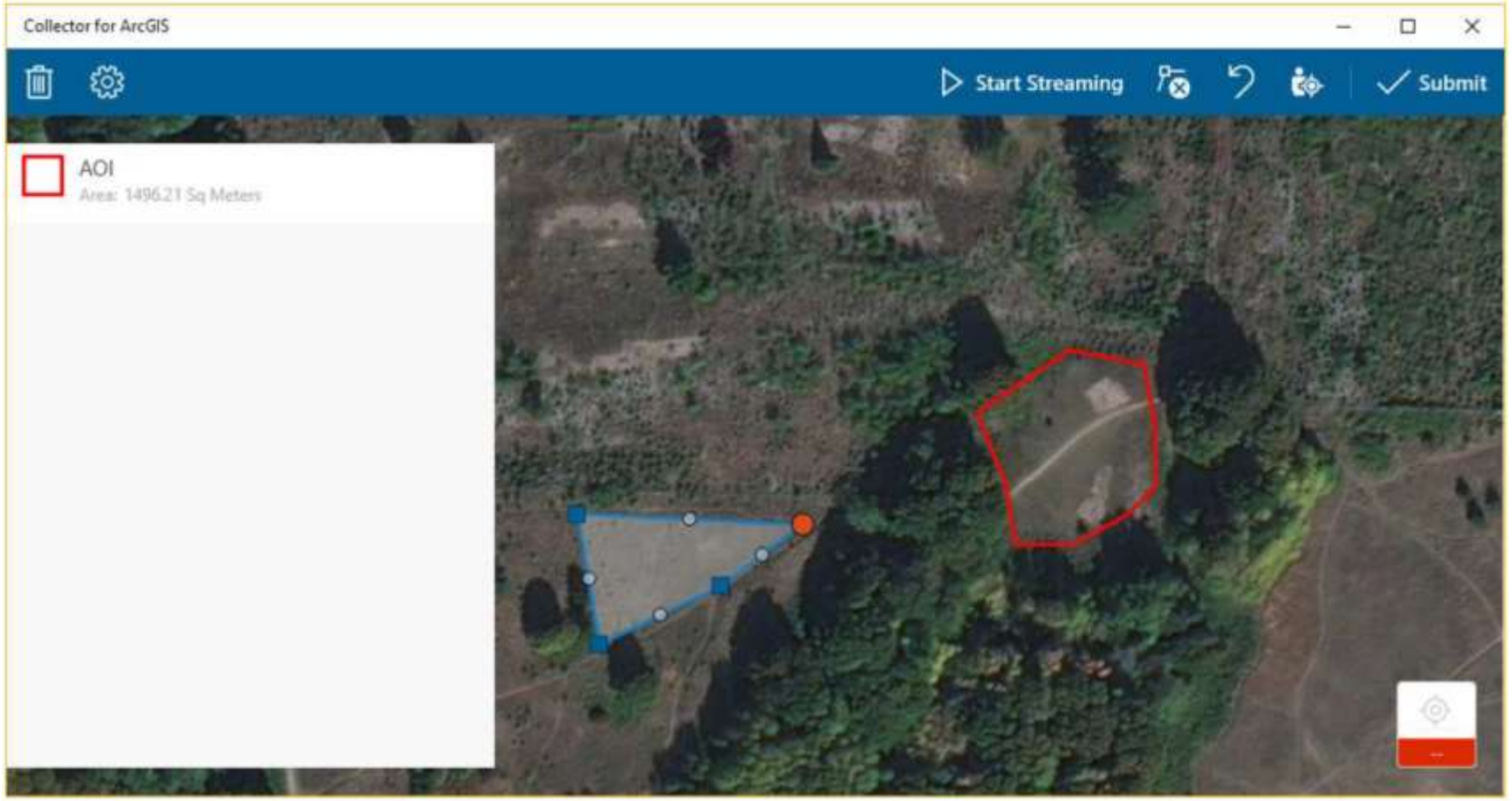
Illustrative “living” Vegetation Management Plan

Current Functionality Summary



Stewardship Connection – communication tracking

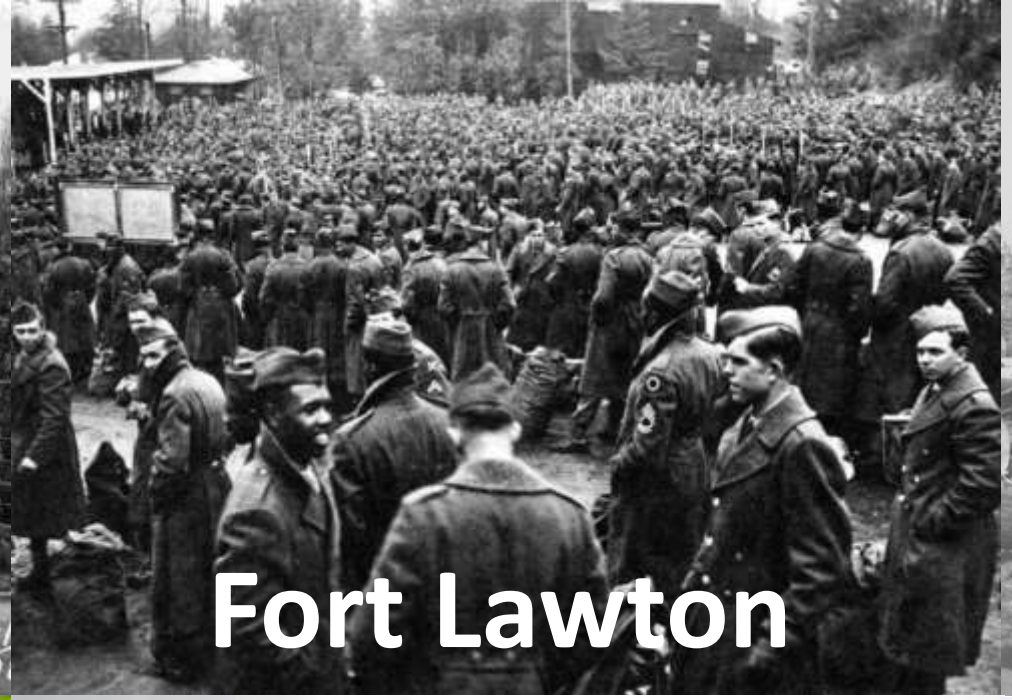
Current Functionality Summary



Collector-based CRUD* Analysis Tool

"Development Path" forecasting using Earth Economics Ecosystem Services Discovery Park data.

* CRUD: Create, Read, Update, Delete



Fort Lawton

Discovery Park


Meadows


Woodlands


Tidelands


Capehart 2011 - present
1
2
3
4
Google Earth
Restore


Remove


ReHealth









Discovery Park
forests, beaches, meadows, wetlands & wildlife
Visitor Center & Park Information
Trails Hiking · Wildlife · Observation · Views
Historic Area
Daybreak Star Indian Center
Sacred Circle Art Gallery