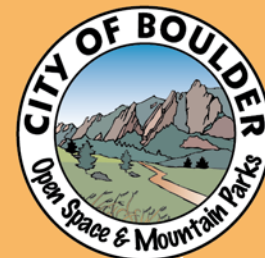


Open Space Board of Trustees  
Science Update: Data & Decision Making  
December 11, 2019



# Outline

- Learning Laboratory
- Data and Decision Making
- Shared, Informed Stewardship







# A Tour of our Learning Laboratory

## OSMP Master Plan Strategies

- EHR.7) DEVELOP A LEARNING LABORATORY APPROACH TO CONSERVATION
- RRSE.9) DEVELOP A LEARNING LABORATORY APPROACH TO RECREATION



# A Tour of our Learning Laboratory

## INVENTORY ROOM

Definition: A complete listing of items

### Example

Table 5.1: Species Diversity by Group

<b>GROUP</b>	<b>NUMBER OF NATIVE SPECIES</b>	<b>NUMBER OF NON- NATIVE SPECIES</b>	<b>TOTAL NUMBER OF SPECIES</b>
Plants	741	275	1,016
Mammals	61	3	54
Birds	303	5	308
Butterflies	131	1	132
Reptiles and Amphibians	21	1	22
Fish	18	16	34

More examples:

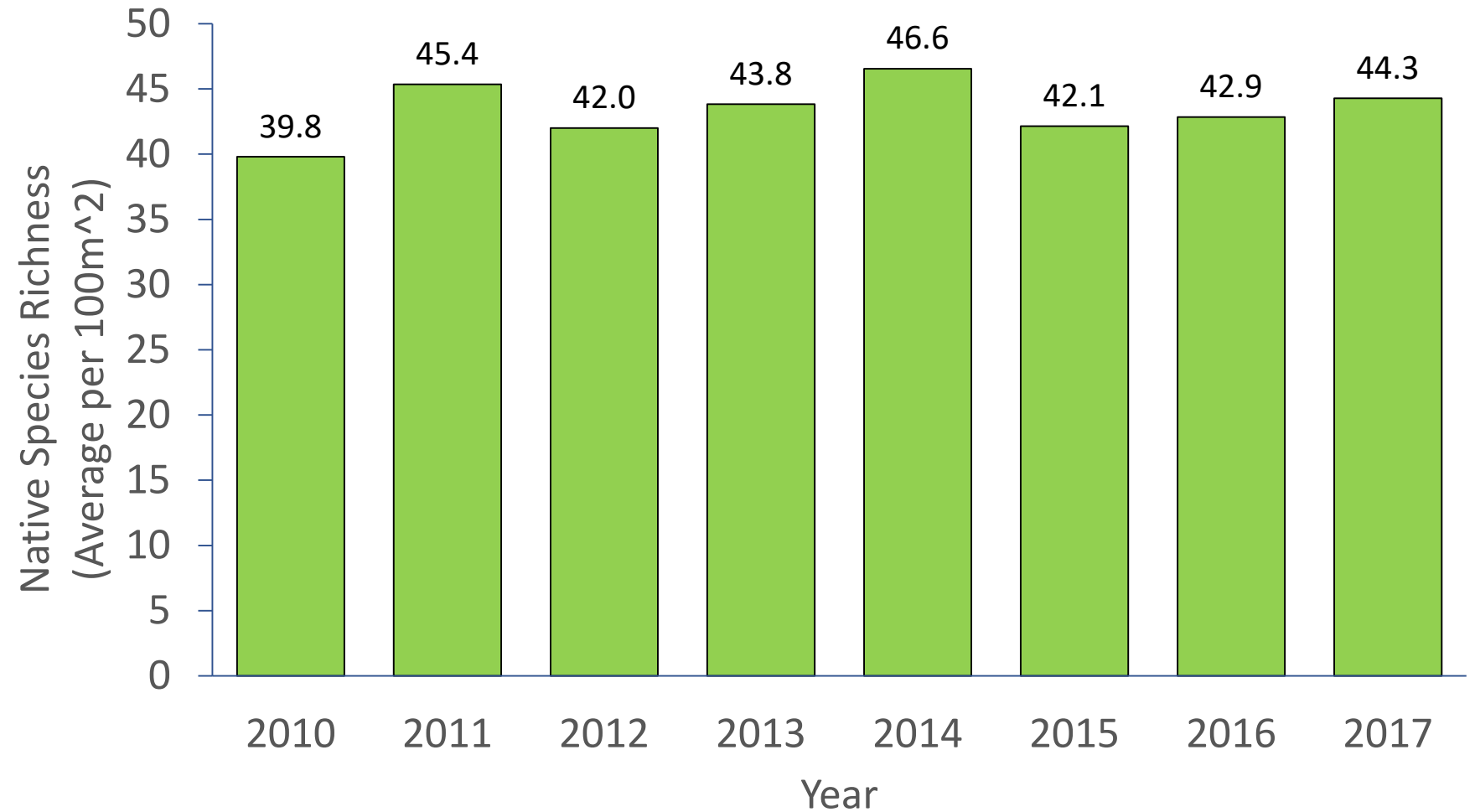
- Cultural Resources
- Soils
- Forest Structure
- Scenic Resources
- Visitor Infrastructure
- Asset Management

# A Tour of our Learning Laboratory

## MONITORING ROOM

Definition: Measurement to assess condition and trend  
GMAP (2010): 50+ Indicators

### Xeric Tallgrass Prairie Mosaic





# A Tour of our Learning Laboratory

## RESEARCH ROOM

Definition: A systematic investigation of something to establish facts and reach new conclusions; not repeated; hypothesis-based

### Example



*Figure 2.1.6: Tall oatgrass is widespread and abundant in ungrazed areas (left-side of fence) and much less common and dense in areas where we used cattle to graze down the tall oatgrass (right-side of fence).*

### More Tall Oatgrass Research

- Herbicide efficacy (consultant)
- Plant-soil Feedback (Professor)
- Seed Bank (Restoration Class)



# A Tour of our Learning Laboratory:

## 2019 Learning Laboratory Accomplishments

- 40 Research & Monitoring Projects conducted by >20 staff
- Community Collaboration
  - 2 Citizen Science Projects (Raptors, Bats)
  - 10 Funded Research Program Grants
  - 40 Unfunded Research Permits given to community
  - BCPOS, JCOS
- 4 Peer-Reviewed Publications (2 with staff co-authorship)
- 2 Technical Reports (Undesignated trails, MP Survey)
- 4 Conferences
  - Front Range Open Space Research Symposium
  - COSA
  - BCNA
  - Soil Revolution

# Subject Matter Expertise

Brian Anacker (Research & Data)

Frances Boulding (Trail Research)

Megan Bowes (Rare Plant Biology)

Don D'Amico (Riparian Ecology)

Laurie Deiter (IPM)

Jake Engelman (Trails Research)

Eric Fairlee (Ag Ecology)

Adam Gaylord (Recreation Ecology)

Mark Gershman (Planning)

Marianne Giolitto (Wetlands)

Will Keeley (Wildlife)

Lauren Kolb (Soil Ecology)

Colin Leslie (Human Dimensions)

Ann Lezberg (Study Design)

Ryan Middleton (Grazing)

Christian Nunes (Wildlife)

Ryan Pioreschi (Wildlife)

John Potter (Resource Stewardship)

Anna Reed (Human Dimensions)

Lynn Riedel (Plant Ecology)

Heidi Seidel (Human Dimensions)

Mike Steinbeiss (Forests)

Heather Swanson (Wildlife)

Mo Valenta (GIS)

Deonne VanderWoude (Human Dimensions)

Chris Wanner (Forests)



# Outline

- Learning Laboratory
- **Data and Decision Making**
- Shared, Informed Stewardship



# Data and Decision Making

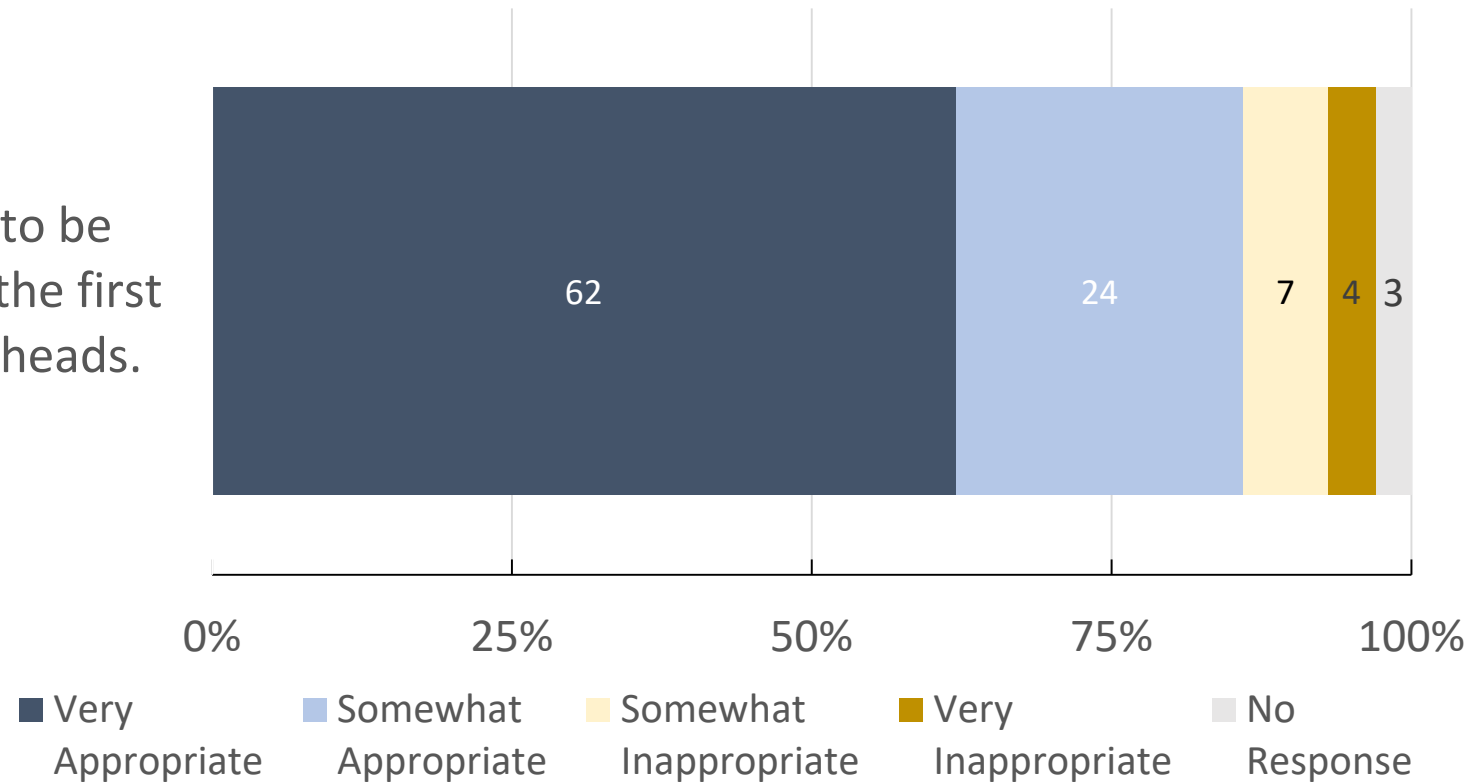
## Public Surveys and Acceptance of New Programs

2004 Resident Survey

n = 512

sample pool = COB registered voters

Requiring dogs to be kept on leash for the first 100 yards at trailheads.





# Data and Decision Making

## Vegetation Monitoring and Prairie Dog Relocation



### Evaluation of Salstrand as a Prairie Dog Receiving Site in 2017 (S of Marshall Lake)

Indicator	Criteria	Observation	Interpretation
Native Species Richness	$\geq 18$	28.4	Pass
Bare Ground Cover	$\leq 22$	1.7	Pass
Perennial Grass Cover	$\geq 60$	41.1	Fail





# Data and Decision Making:

## More Examples

Data	Decision
Grassland Birds	Trail Alignment
Northern Leopard Frogs	Pond Restoration
Rare Plant Surveys	Trail Alignment
Raptor Monitoring	Area Closures
Forest Monitoring	IPM
Bobolink Monitoring	Hay Cutting
Survey Data	Permit Program, Parking Fees, On-Trail Requirements in HCAs
Undesignated Trail Monitoring	Trail Restoration

# Outline

- Learning Laboratory
- Data and Decision Making
- **Shared, Informed Stewardship**





# Shared, Informed Stewardship

## Support and promote “shared, informed stewardship” activities

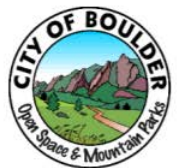
- Open Houses
- Field Trips
- OSBT updates
- Resource Plan Updates
- Symposium
- Open Data
- Citizen Science Opps
- Interactive Reports
- 400 research reports

<https://bouldercolorado.gov/osmp/independent-research-reports>

### 2019 Front Range Open Space Research Symposium

Friday, April 19<sup>th</sup>, 2019  
8:30 a.m. - 4:30 p.m.

Lakewood Cultural Center  
470 S. Allison Pkwy., Lakewood, CO 80226





# Shared, Informed Stewardship

- Costs & Tradeoffs
  - New asks = more costs or trade offs
- Ways to reduce costs
  - Older and non-local data
  - Literature reviews
  - Inter-agency consultation
  - Informal questionnaires
  - Use the data



# Shared, Informed Stewardship

- **Science Team**

- Cross Functional Team of 10 people from 8 workgroups and all levels of the organization
- Goals
  - Internal: Develop policies, procedures, and best practices
  - External: Strengthen communication with community







[SCIENCE HOME](#)

[SCIENCE RESOURCES](#)

[SCIENCE STAFF AT OSMP](#)

## A Learning Laboratory

OSMP takes a learning laboratory approach to conservation and recreation. Each year, we undertake

## Science Home

### Science Resources

- Grants
- Permits
- Dashboards & Story Maps
- Open Data
- Announcements

### Science Staff

#### In Development

- Research Report Library
- Web Video Series



# Outline

- Learning Laboratory
- Data and Decision Making
- Shared, Informed Stewardship

