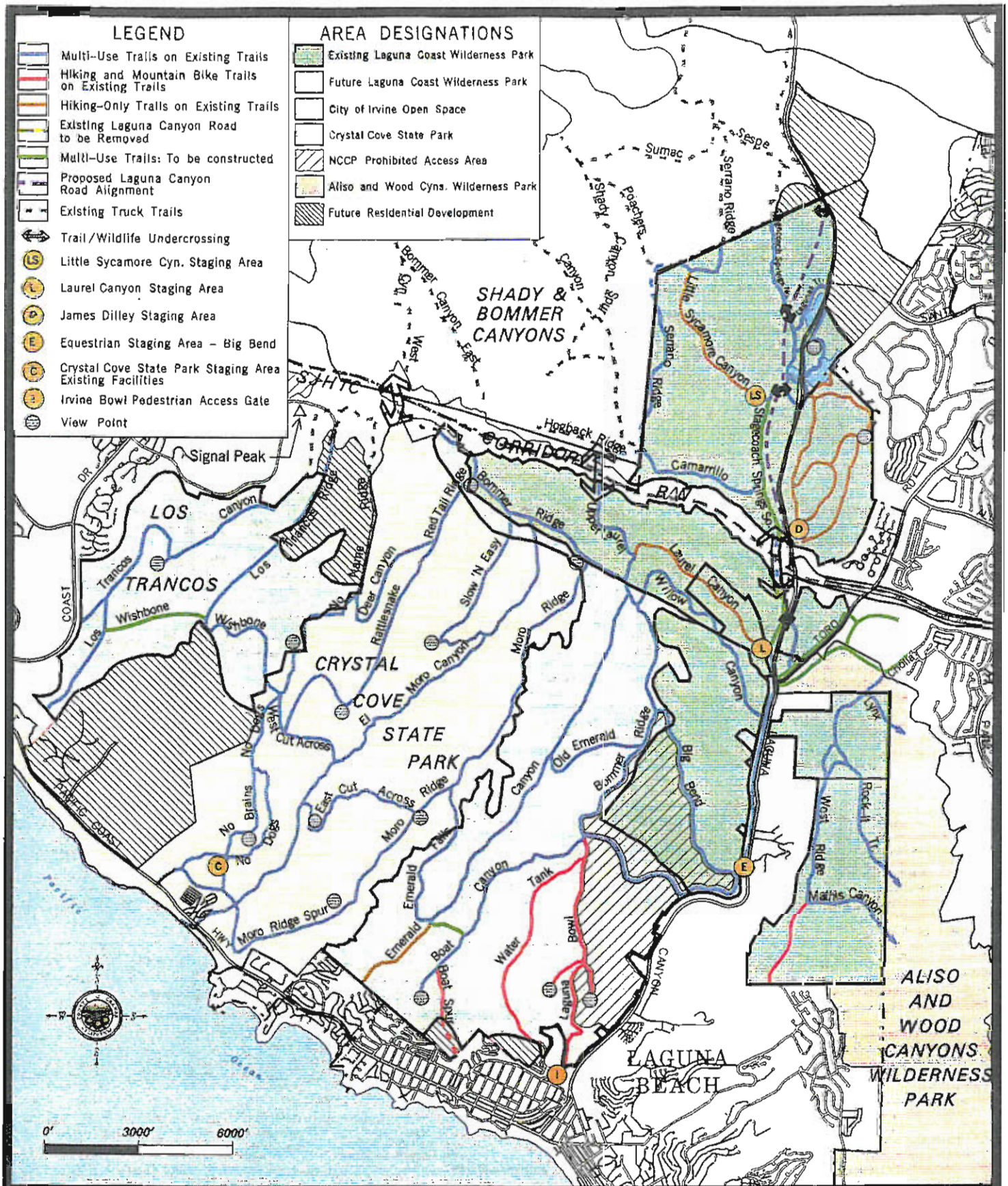
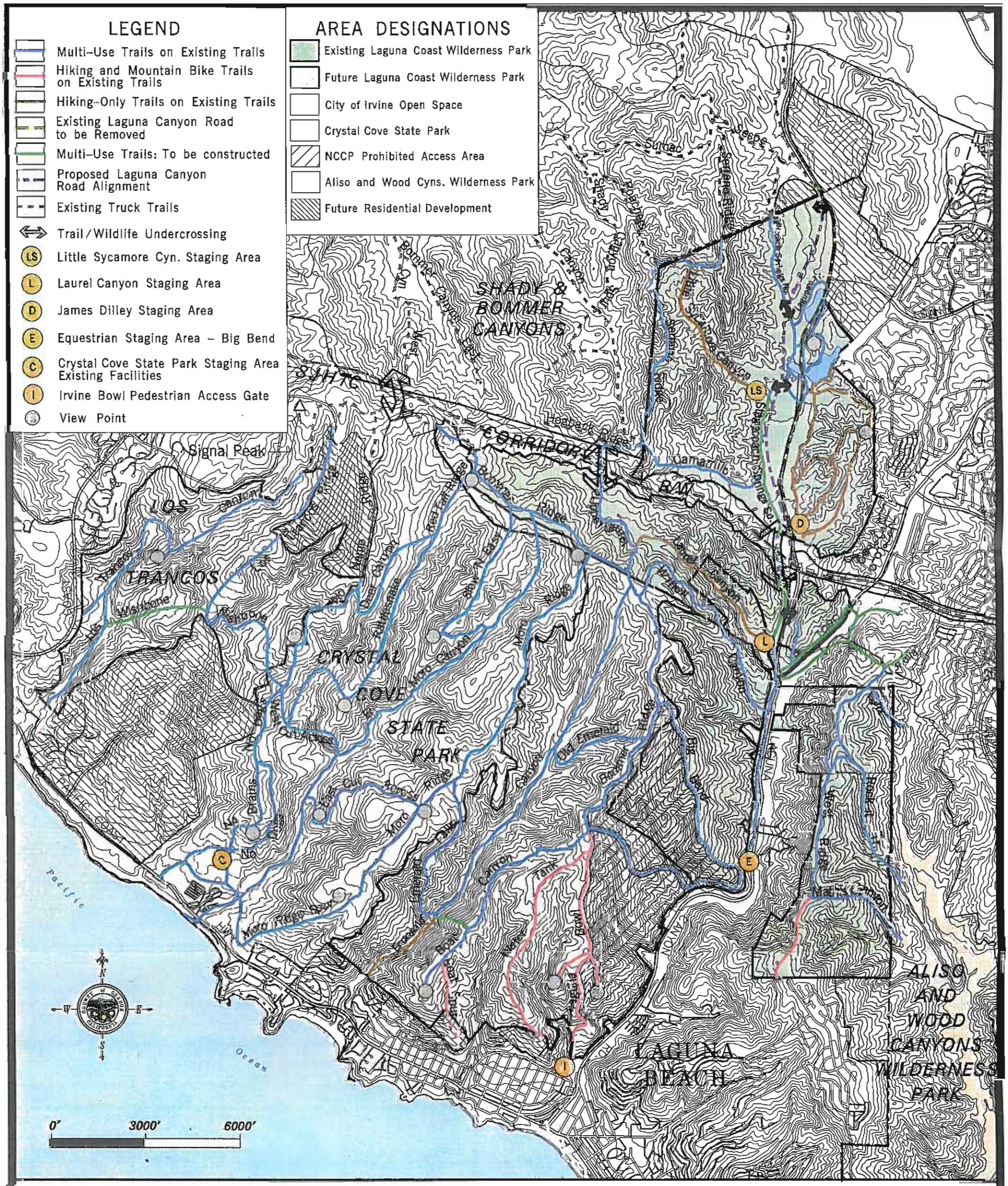

LEGEND
Multi-Use Trails on Existing Trails
Hiking and Mountain Bike Trails on Existing Trails
Hiking-Only Trails on Existing Trails
Existing Laguna Canyon Road to be Removed
Multi-Use Trails: To be constructed
Proposed Laguna Canyon Road Alignment
Existing Truck Trails
Trail/Wildlife Undercrossing
LS Little Sycamore Cyn. Staging Area
L Laurel Canyon Staging Area
D James Dilley Staging Area
E Equestrian Staging Area - Big Bend
C Crystal Cove State Park Staging Area Existing Facilities
I Irvine Bowl Pedestrian Access Gate
View Point
AREA DESIGNATIONS
Existing Laguna Coast Wilderness Park
Future Laguna Coast Wilderness Park
City of Irvine Open Space
Crystal Cove State Park
NCCP Prohibited Access Area
Aliso and Wood Cyns. Wilderness Park
Future Residential Development
SHADY & BOMMER CANYONS
CORRIDOR
Signal Peak
LOS TRANCOS
CRYSTAL COVE STATE PARK
LAGUNA BEACH
ALISO AND WOOD CANYONS WILDERNESS PARK
Sumac
Serrano Ridge
Shady Canyon
Bommer Canyon East
Bommer Canyon West
Hogback Ridge
Little Sycamore Canyon
Camarillo
Upper Laurel
Laurel Canyon
Willow Canyon
Toro
Cholla
Bommer Ridge
Red Tail Ridge
Slow 'N Easy
Rattlesnake
Deer Canyon
Moro Canyon
Moro Ridge
Old Emerald
Big Bend
Rock-It Tr.
West Ridge
Mathis Canyon
Cut Across
East Cut Across Ridge
No Brains
No Dogs
Emerald
Tank
Water
Boat
Bowl
Canyon
Ridge
Spur
Trancos
Los Wishbone
Pacific Coast Hwy
Pacific Ocean
0'
3000'
6000'
LAGUNA COAST WILDERNESS PARK
COUNTY OF ORANGE
PUBLIC FACILITIES and RESOURCES DEPARTMENT
HARBORS, BEACHES AND PARKS • LANDSCAPE ARCHITECTURE
TRAILS
Figure 6
REV. 6-22-98



LAGUNA COAST WILDERNESS PARK

COUNTY OF ORANGE
PUBLIC FACILITIES and RESOURCES DEPARTMENT
HARBORS, BEACHES AND PARKS • LANDSCAPE ARCHITECTURE

General Development Plan
Figure 8

REV. 5/11/98

OC parks

DAY USE:
7:00 A.M. - SUNSET
PARKING:
8:00 A.M. - 5:00 P.M.

Laguna Coast Wilderness Park

WILDERNESS PARK

7000 ACRES OF SOMETHING NEW • SEE AN ORANGE - THROATED WHIPTAIL
GO ON A NATURE SCAVENGER HUNT • ENJOY PANORAMIC OCEAN VIEWS

Legend:

NOTE:
All authorized trails appearing on this map are marked with trail posts all others are unauthorized.

- Park Office
- Restroom
- Parking
- Water
- Scenic Overlook
- Public Access Gate
- Emergency Access Gate
- Interpretive Center/ Interpretive Programs
- Multi-use Trail
- Hiking Trail
- Public Street
- Easy Trail
- Moderate Trail
- Difficult Trail
- 9 Trail Post

Park Entrance
Little Sycamore Canyon Staging Area

Nix Nature Center

Staging Area
Dilley Staging Area

Staging Area
Willow Staging Area

Staging Area
Big Bend Staging Area

James Dilley Greenbelt Preserve

Aliso and Wood Canyons Wilderness Park

City of Laguna Beach

Crystal Cove State Park

Newport Coast

Muddy Canyon

Los Trancos

Pacific Ocean

No Access

Public Access Dartmoor Street

Public Access Poplar Street

Public Access Laguna Canyon Road

Ridge Park Public Access

Signal Peak

Hogback Ridge

Quail Hill

Lake 1

Barbara's Lake

Mary's Trail

Edison Trail

Gravel Trail

Blackjack Trail

Elev. 500'

Elev. 575'

Elev. 225'

Elev. 450'

Elev. 925'

Elev. 700'

Vicinity Map | LAGUNA COAST WILDERNESS PARK

18751 Laguna Canyon Road, Laguna Beach, CA 92651
949-923-2235 - lagunacoast@ocparks.com
www.ocparks.com/laguna coast

Rev. 7/22

Trail Guide:

Barbara's Lake Trail: EASY .25 Miles (hiking only)	Canyon Trail: MODERATE 1 Mile (hiking only)	Lizard Trail: DIFFICULT 1.2 Miles (multi-use)	Mariposa Trail: MODERATE 0.9 Miles (hiking only)	StagecoachSouthTr: MODERATE 4.2 Miles (multi-use)
Big Bend Trail: DIFFICULT 1.5 Miles (multi-use)	Edison Trail: MODERATE 0.9 Miles (hiking only)	The Lake Trail: EASY 1 Mile (hiking only)	Mary's Trail: EASY .25 Miles (hiking only)	Sunflower Trail: MODERATE 0.4 Miles (hiking only)
Blackjack Trail: DIFFICULT 0.5 Miles (hiking only)	Emerald Canyon Rd: MODERATE 3 Miles (multi-use)	Laurel Canyon Tr: MODERATE 1.5 Miles (hiking only)	Old Emerald Trail: DIFFICULT .75 Miles (multi-use)	Upper Laurel: EASY .65 Miles (multi-use)
Boat Road: MODERATE 1.3 Miles (multi-use)	Gravel Trail: MODERATE 0.5 Miles (hiking only)	Laurel Spur: MODERATE 0.5 Miles (multi-use)	Ridge Top Trail: EASY 1 Mile (hiking only)	Water Tank Trail: MODERATE 1.5 Miles (multi-use)
Bommer Ridge Tr: MODERATE 3.75 Miles (multi-use)	Laguna Bowl Trail: DIFFICULT 1.5 Miles (multi-use)	LittleSycamoreCynTr: MODERATE 1 Mile (hiking only)	Serrano Ridge Trail: MODERATE 4 Miles (multi-use)	Willow Canyon Road: DIFFICULT 1.5 Miles (multi-use)
Camarillo Canyon Tr: DIFFICULT 0.9 Miles (multi-use)	Laguna Ridge Trail: DIFFICULT 1.25 Miles (multi-use)	Old Emerald Falls Trail: DIFFICULT 1 Mile (multi-use)	Stagecoach NorthTrail: EASY .75 Miles (multi-use)	Woods End Trail: MODERATE 1 Mile (hiking only)

Outdoor Recreation: Research, Monitoring and Planning

A PROGRAM OF RESEARCH ON THE NATURE RESERVE OF

ORANGE COUNTY

DRAFT PRESENTATION

Recreation Use and Human Valuation on the Nature Reserve of Orange County California

CHRISTOPHER MONZ, PHD UTAH STATE UNIVERSITY

ASHLEY D'ANTONIO, PHD OREGON STATE UNIVERSITY

NOAH CREANY, MS UTAH STATE UNIVERSITY

S.J. & JESSIE E. QUINNEY COLLEGE of NATURAL RESOURCES UtahStateUniversity

Oregon State University

Natural Communities COALITION

RECREATION ECOLOGY LAB at Utah State University

Outline for Today's Presentation

- Brief Overview- Project Goals and Accomplishments
- Human Dimensions of Recreation
- Habitat & Resource Protection
- Exogenous Factors
- Recreation Management Frameworks

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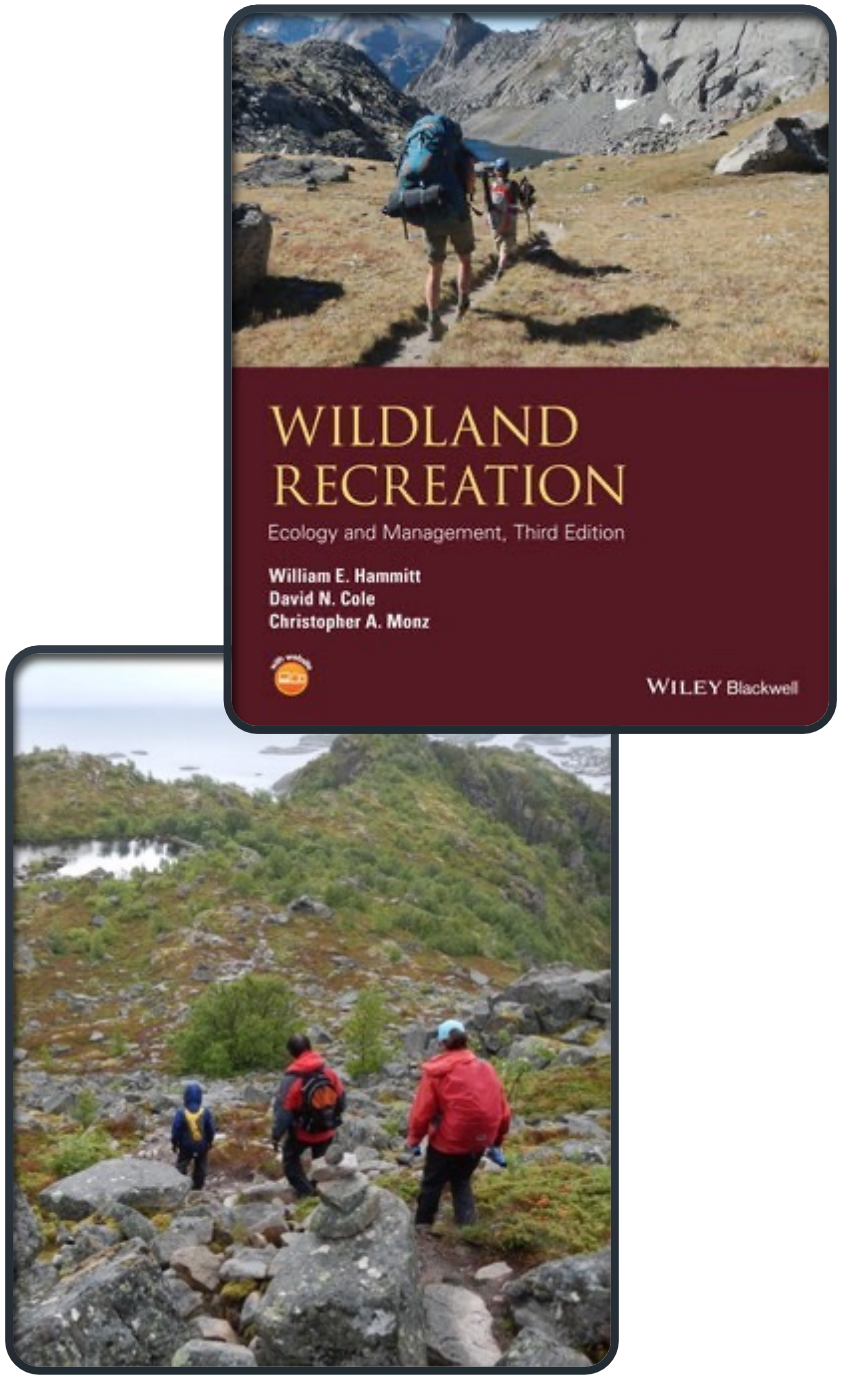
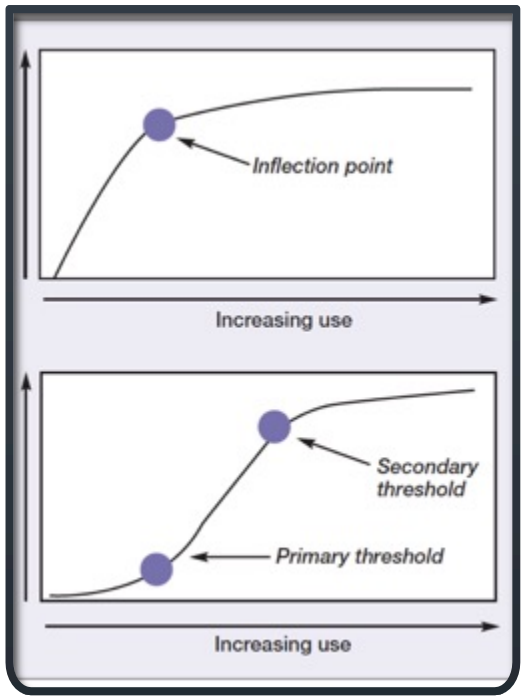
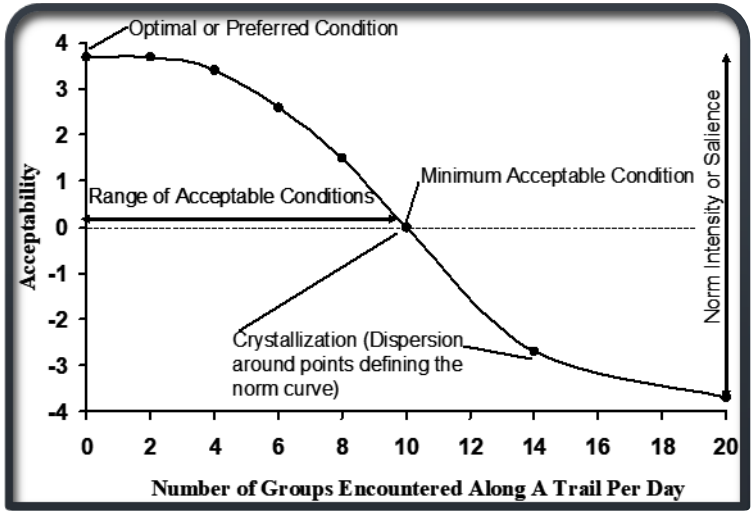
Recreation Ecology

- Origins in the 1920's in Europe and the USA
- Approximately 1300 published studies
- How recreation *activities* affect to soil, vegetation, wildlife, water and air
- How human disturbance affects the visitor experience
- Knowledge informs sustainable management





Use-Impact Theory



Norm Theory

Recreation Ecology Theory:

Social and ecological

- Initial use results in the majority of impact- confinement strategies are often needed
- Visitors often judge the acceptability of conditions and this *can* affect their experience
- Many situational variables influence these responses

Grand Teton NP: Moose-Wilson Corridor Comprehensive Plan

Comprehensive visitor use, experience and ecological assessment to inform management decisions

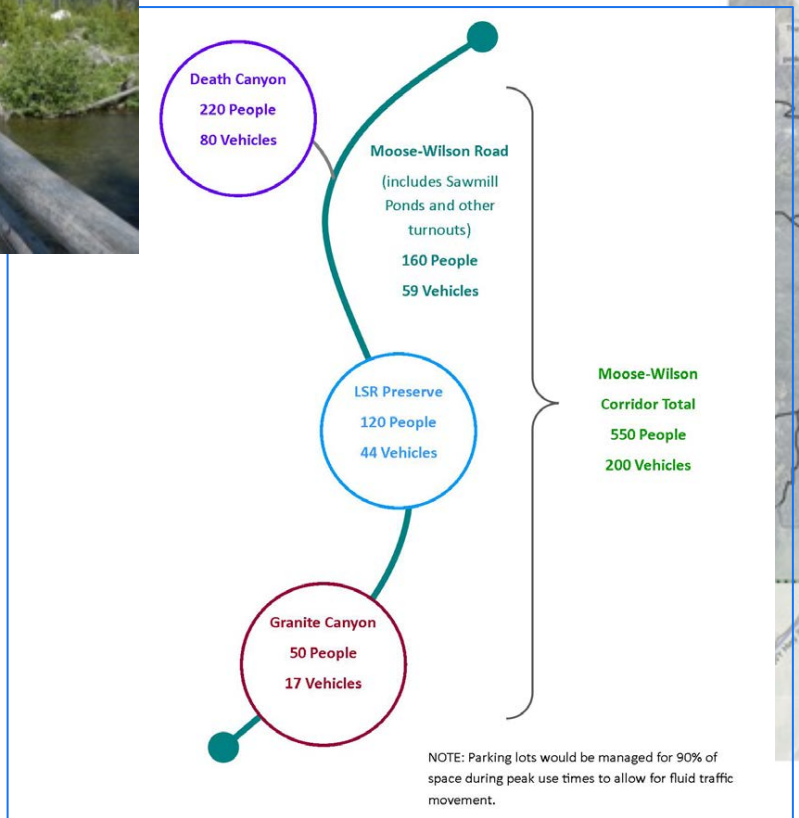
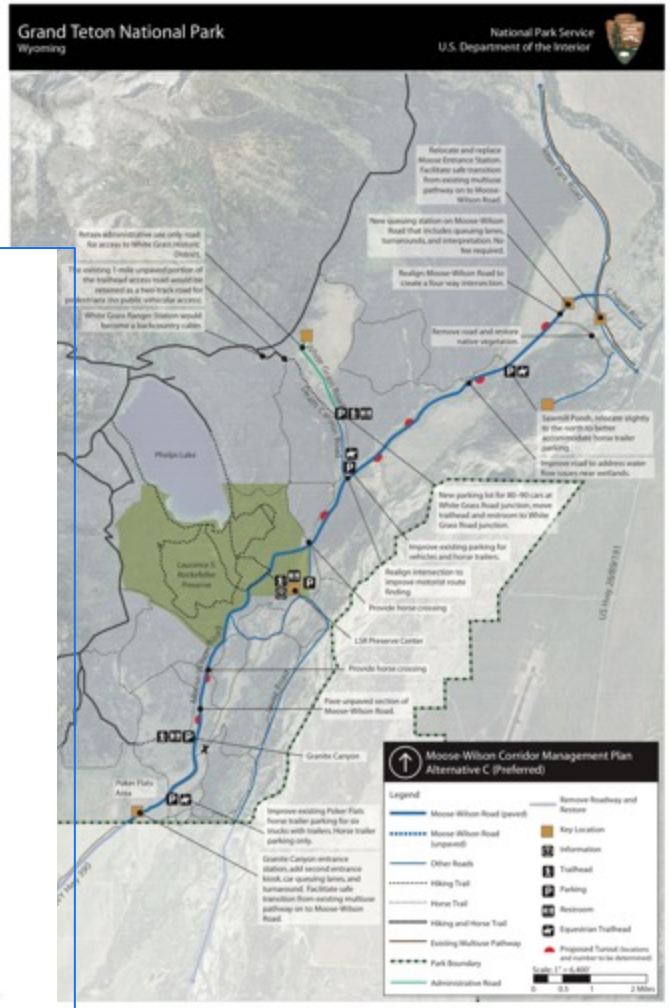
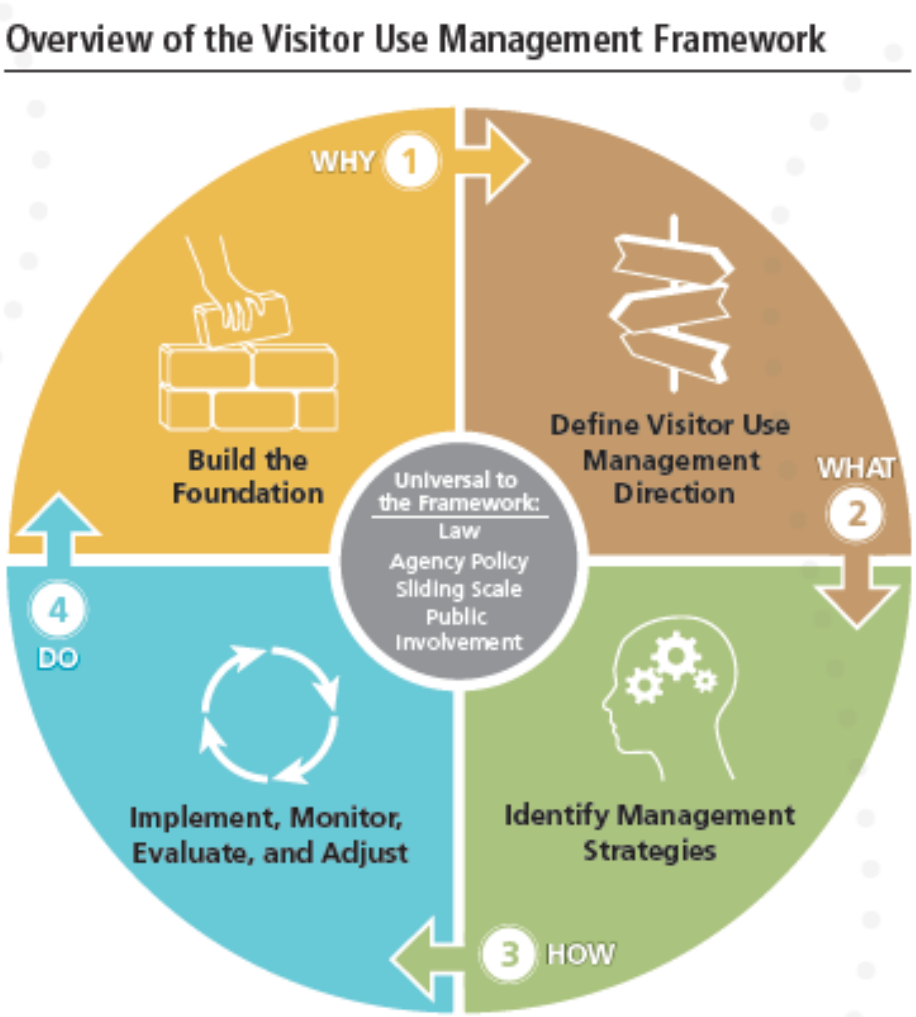


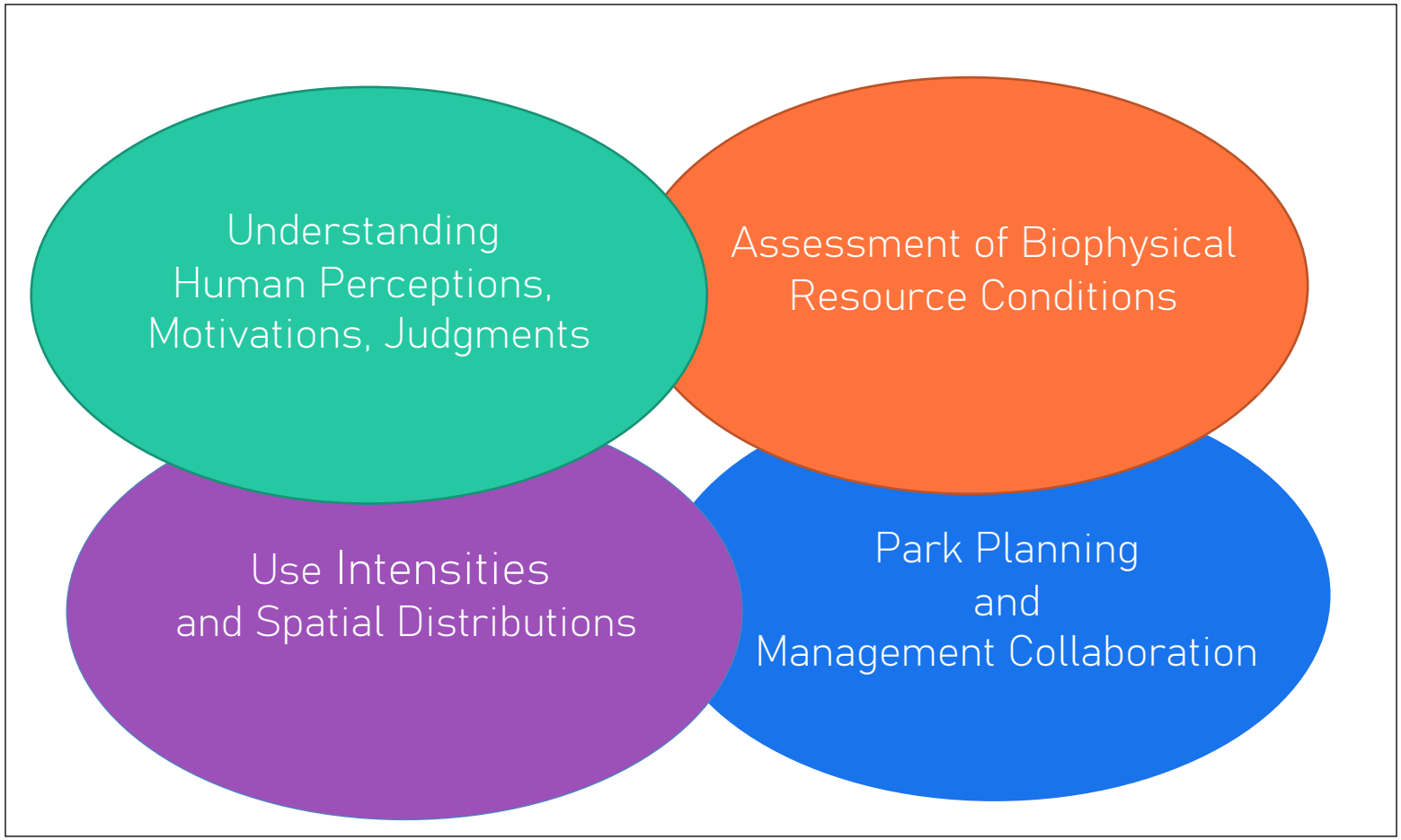
FIGURE1. VISITOR CAPACITY OF THE MOOSE-WILSON CORRIDOR: PEOPLE AND VEHICLES AT ONE TIME



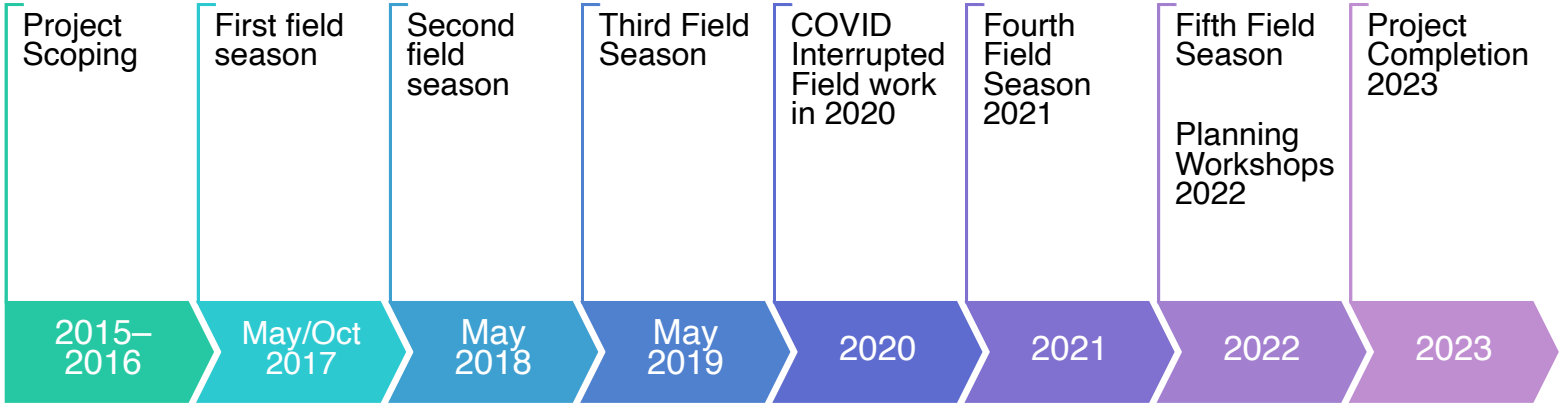
Visitor Use Management Planning Framework



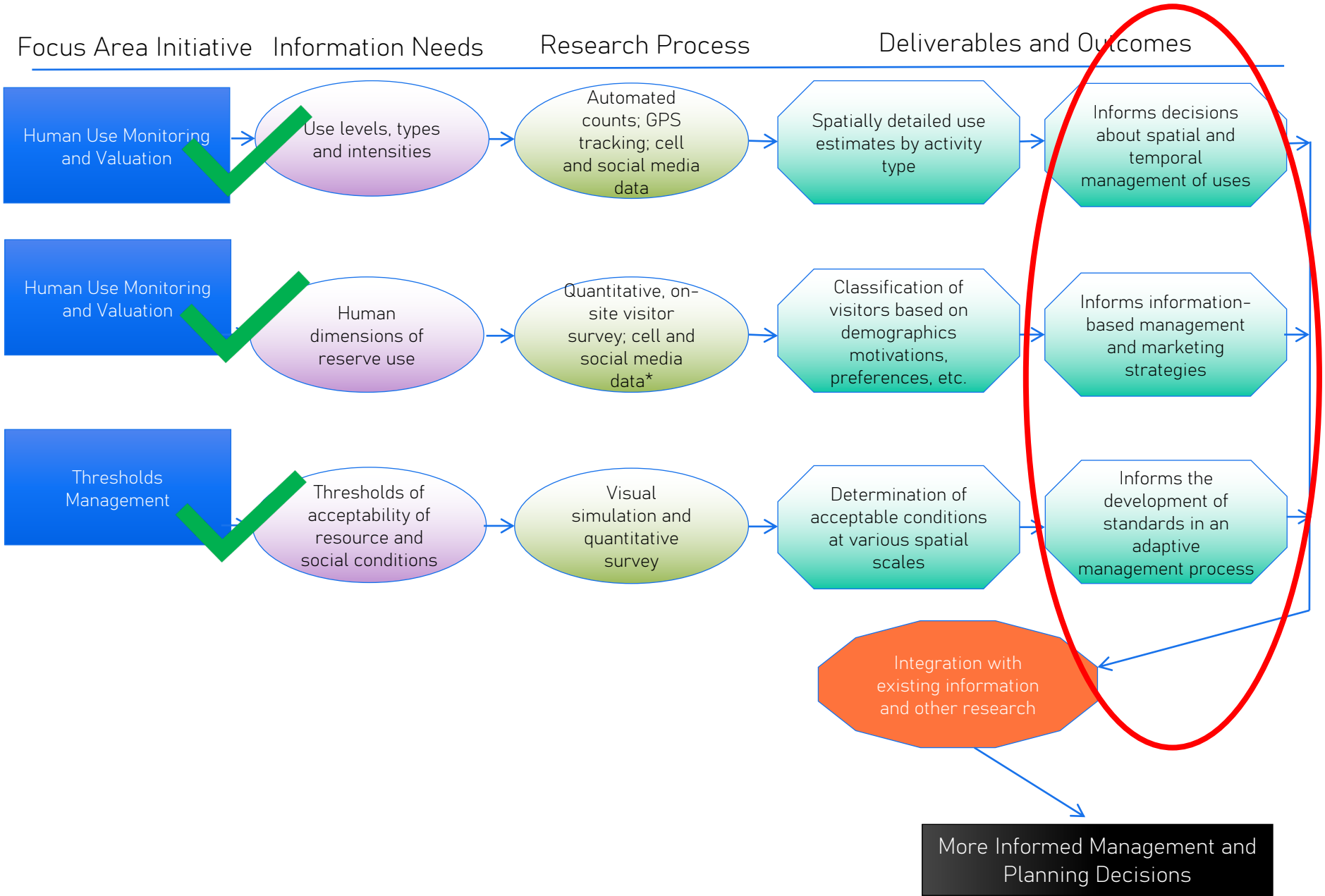
Project Approach



Project Timeline



Project Accomplishments and Outcomes- Where Are We Today?



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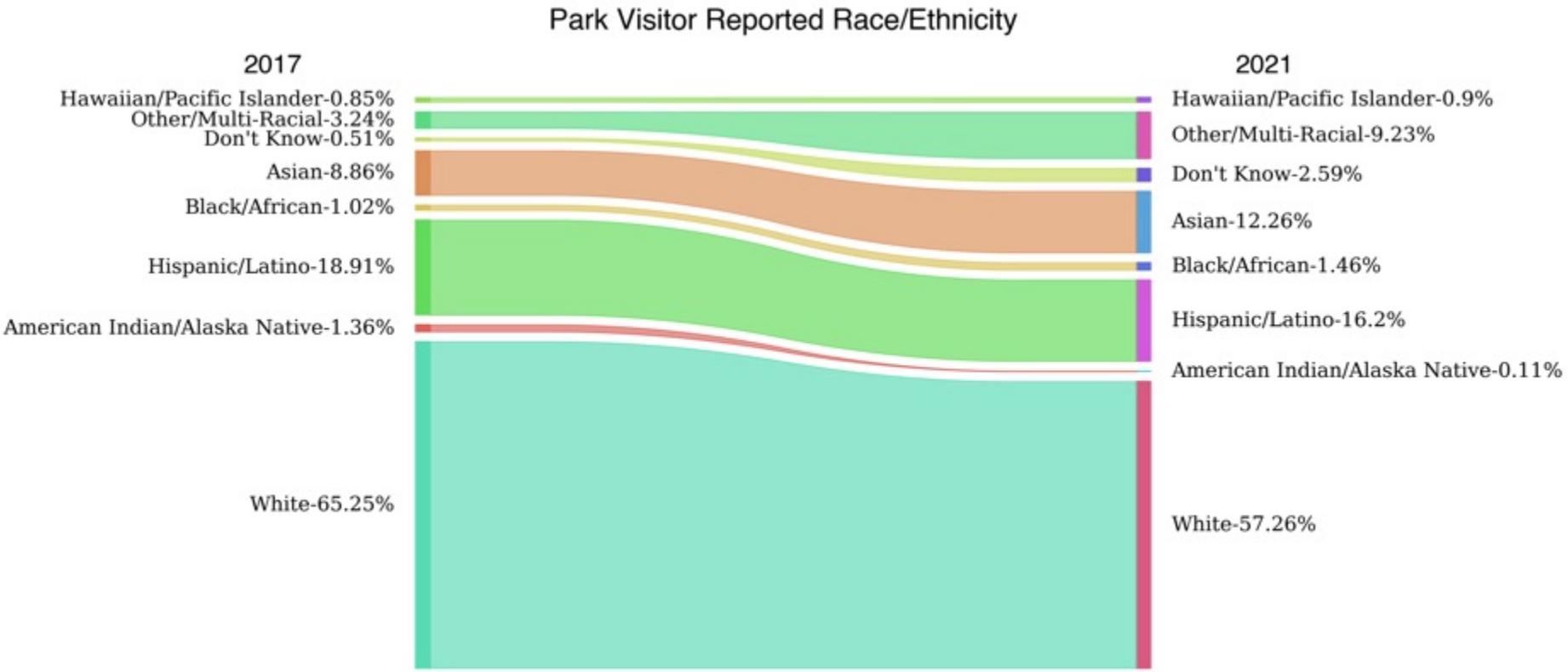
Use estimation study 2017-2018:

>3.2 M visits annually

Social science/visitor questionnaire

- Entrance area/trailhead intercepts
- Descriptive and evaluative responses from visitors post experience
- Generally > 1000 participants and high participation across activity types
- Questions derived from NPS “Pool of Known Questions”

Visitor Demographics

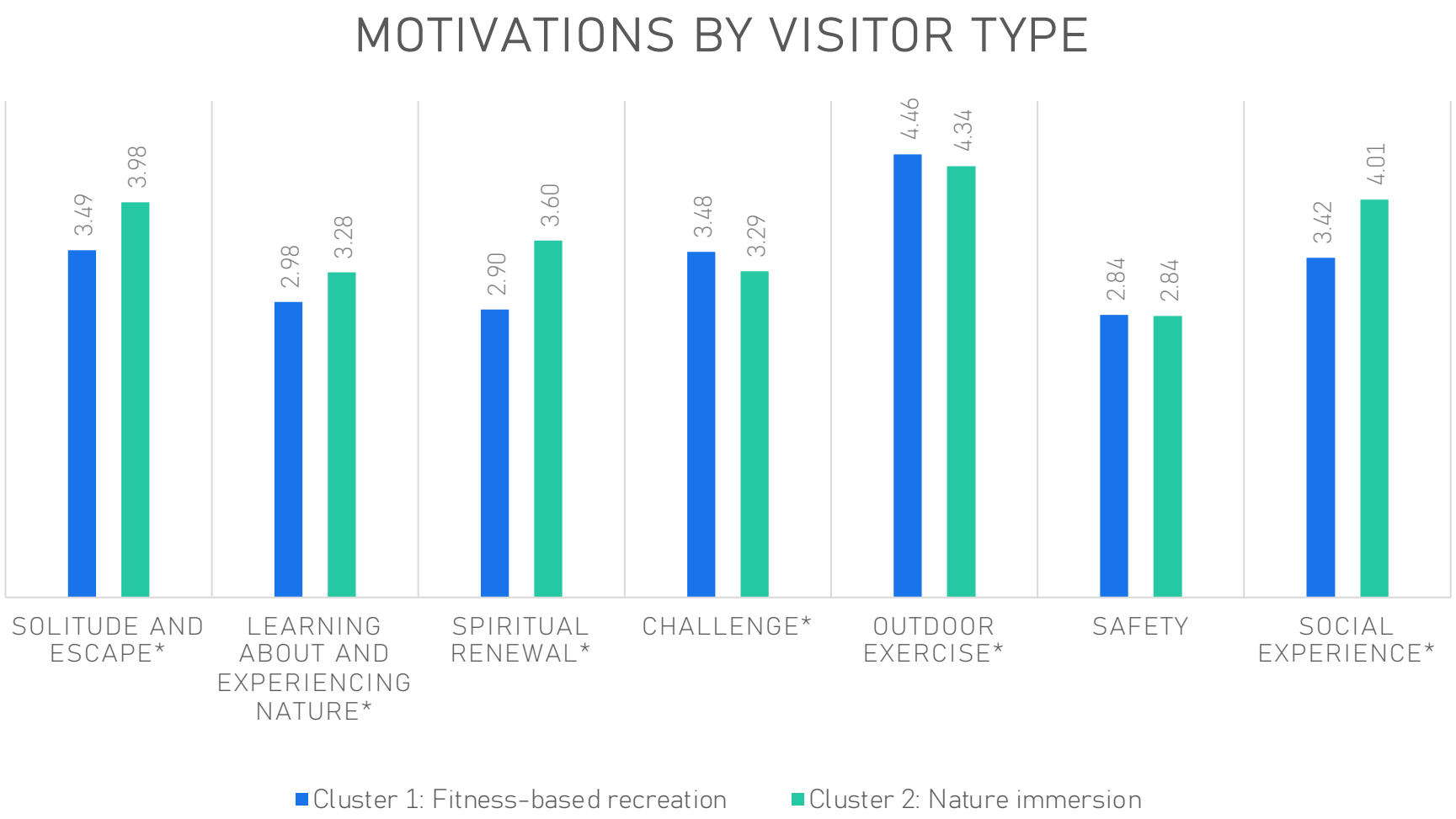


Visitor Motivations

37 question Recreation Experience Preference (REP) scale yielded 7 different latent constructs

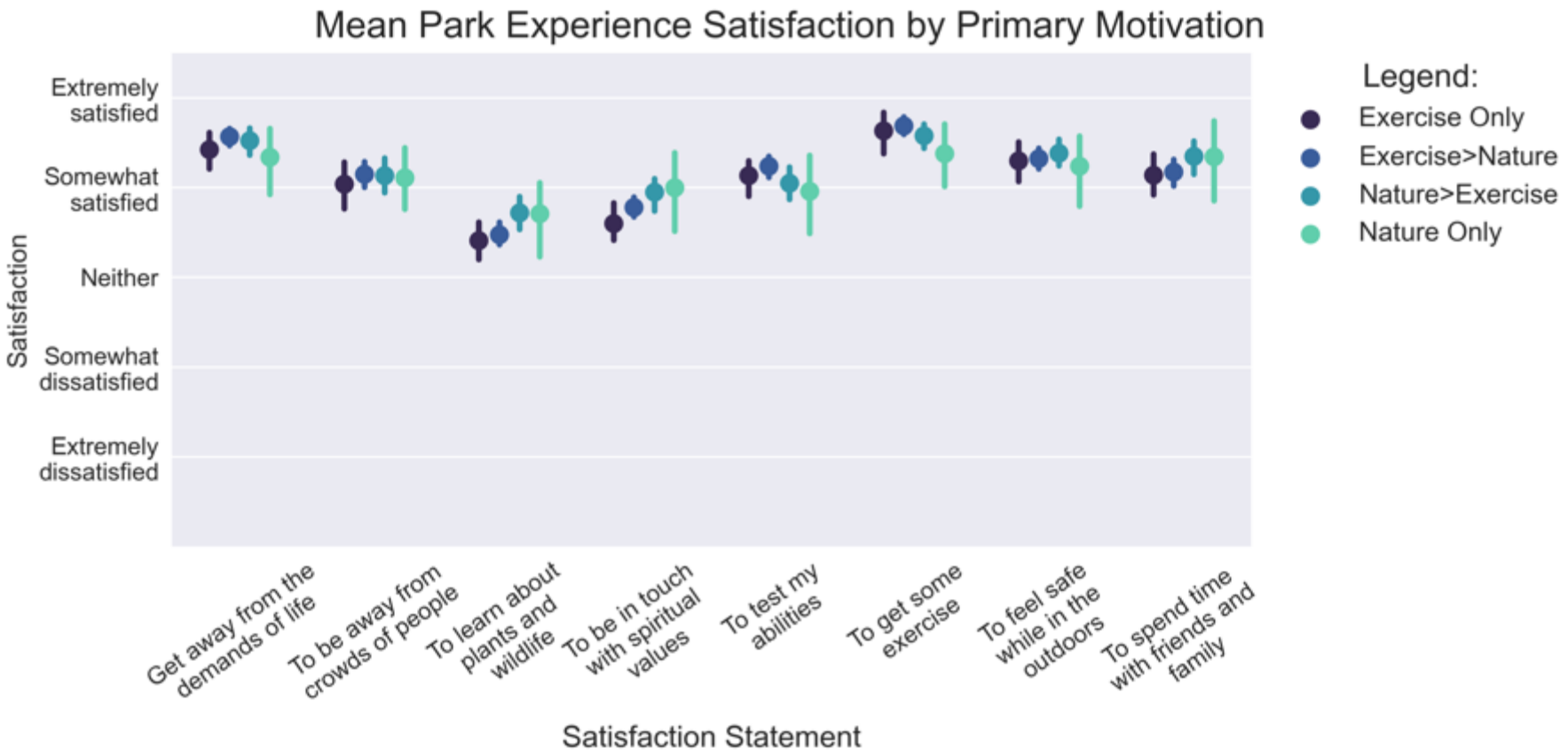
- Solitude and escape
- Learning about and experiencing nature
- Spiritual renewal
- Challenge
- Outdoor exercise
- Safety
- Social experience

Visitor Motivations: Descriptive

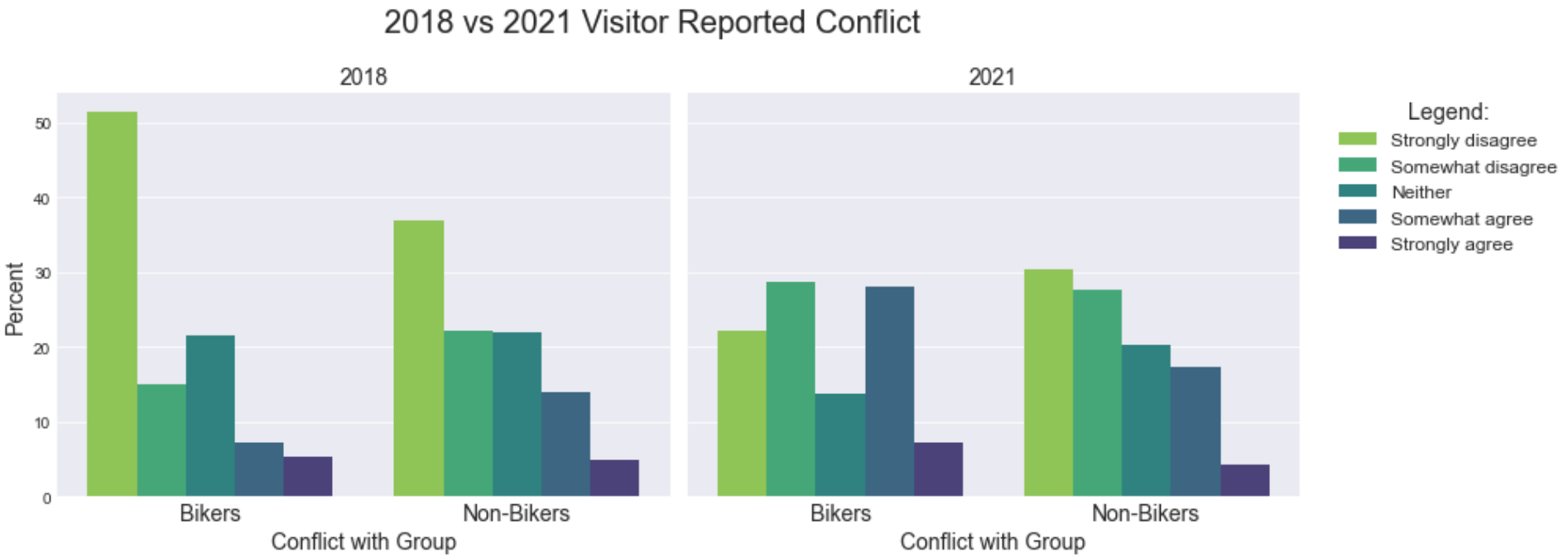


Results from a 37 item motivations scale

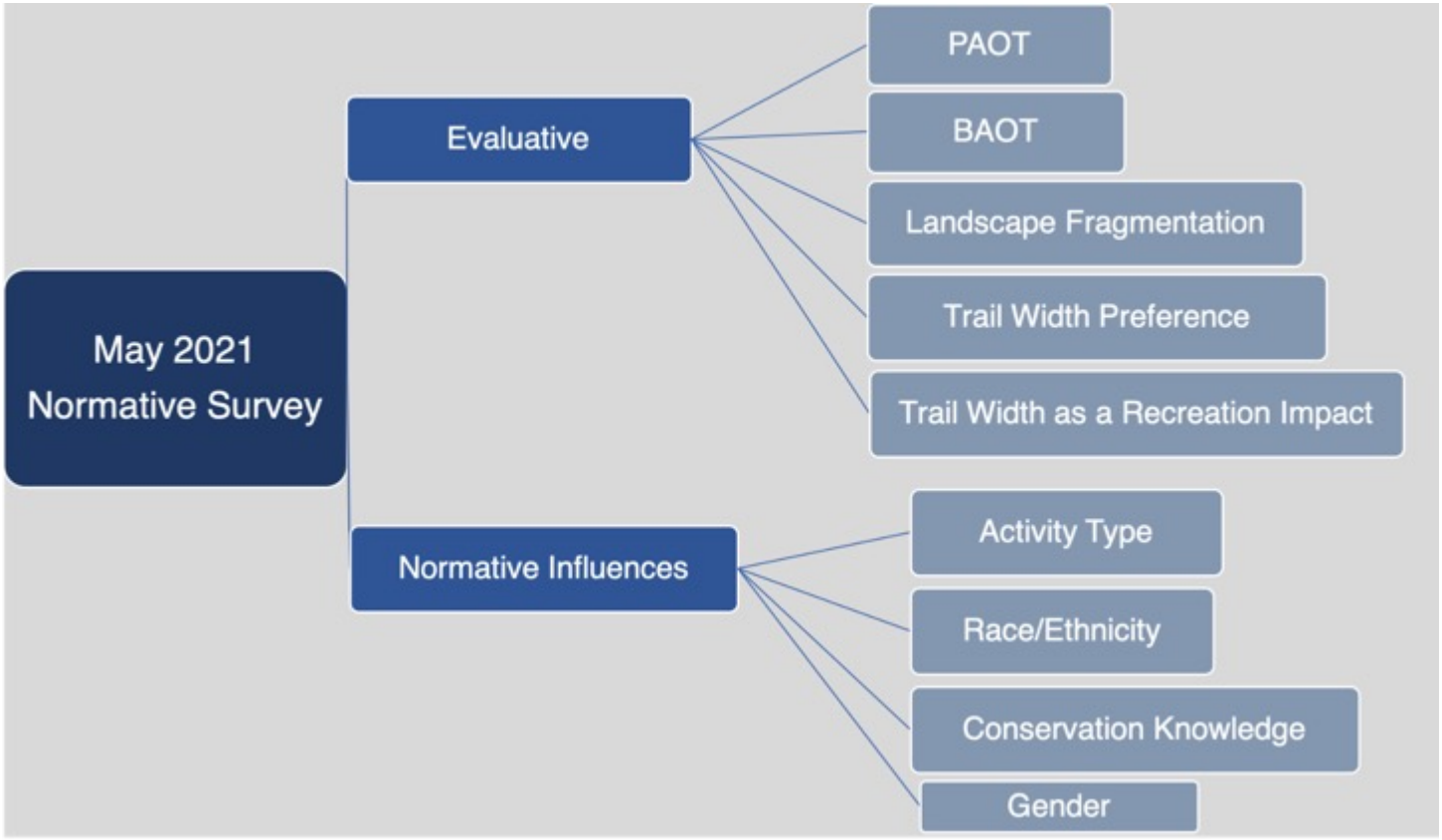
Visitor Motivations: Evaluative



Conflict


2018 vs 2021 Visitor Reported Conflict
2018
2021
Percent
0
10
20
30
40
50
Bikers
Non-Bikers
Conflict with Group
Legend:
Strongly disagree
Somewhat disagree
Neither
Somewhat agree
Strongly agree

Normative Survey Conceptual Design



Crowding Index: People at one Time (PAOT)

PAOT 0

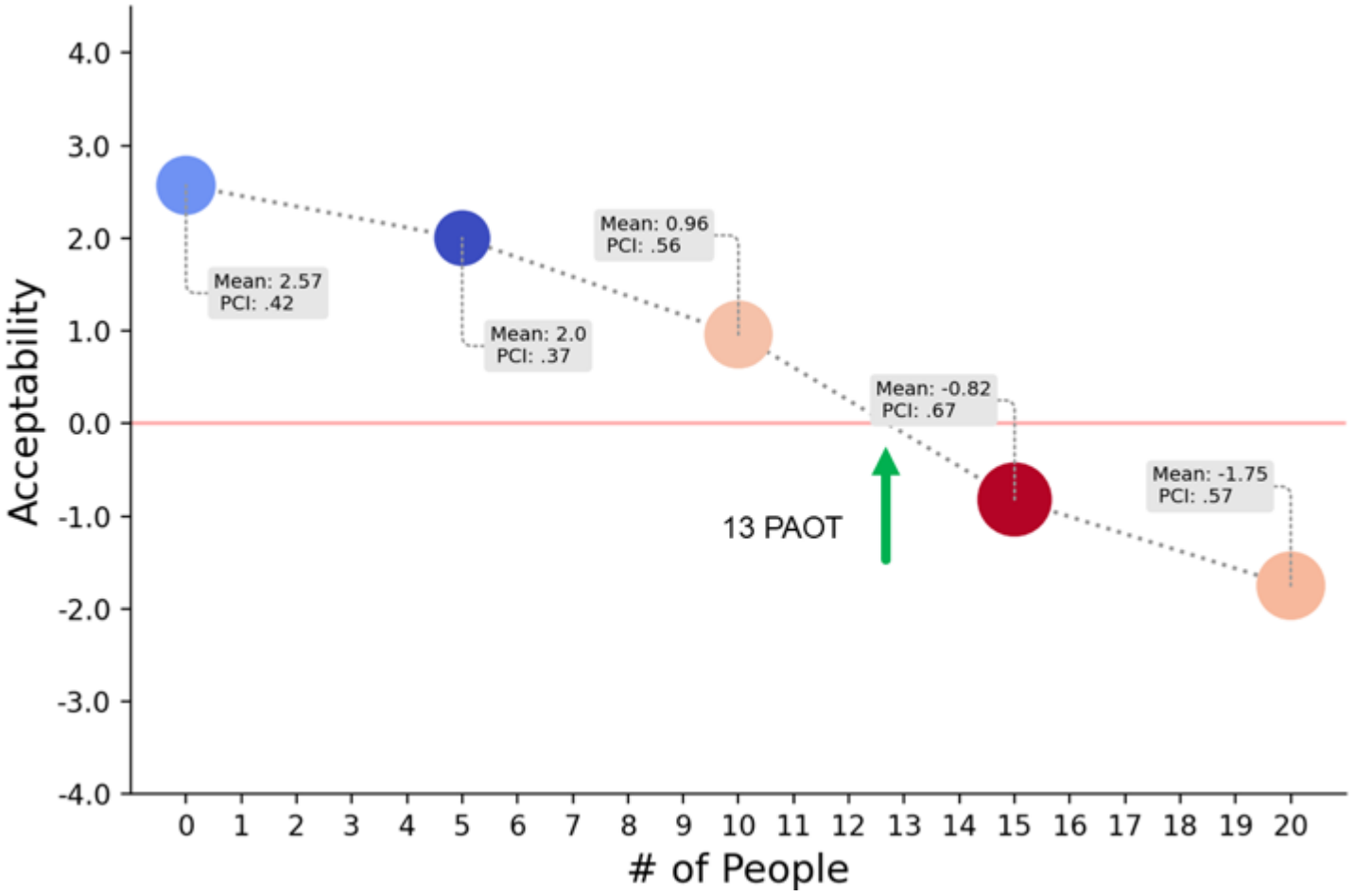
PAOT 5

PAOT 10

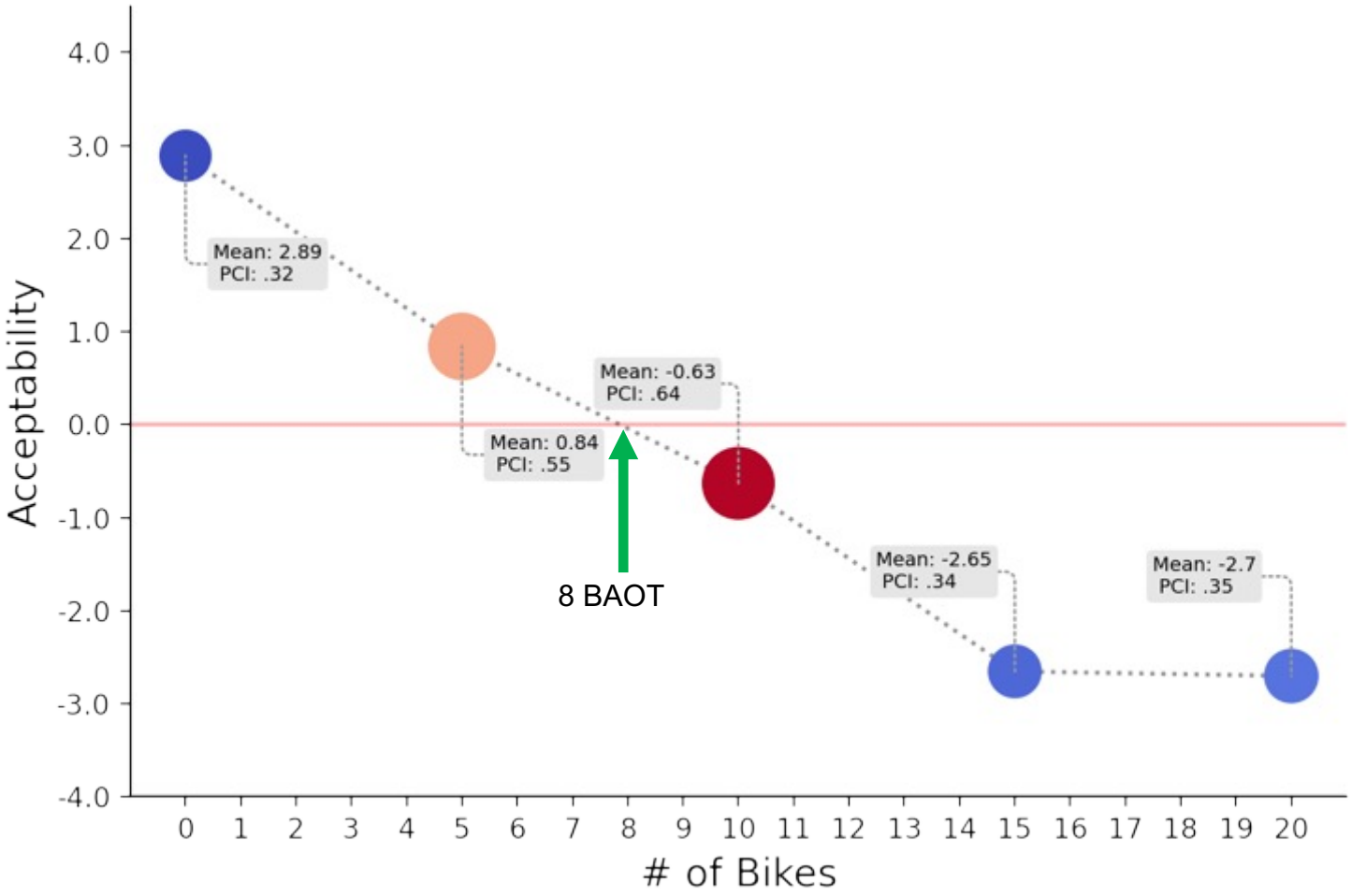
PAOT 15

PAOT 20

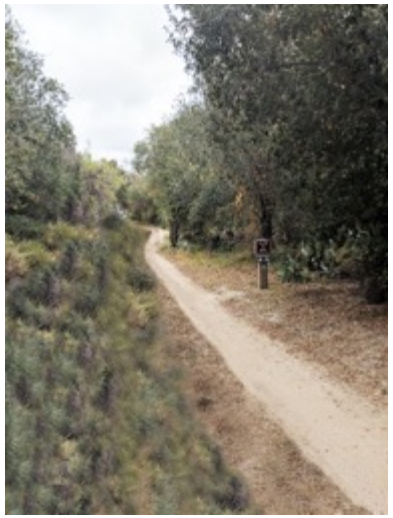
Crowding Index: People at one Time (PAOT)



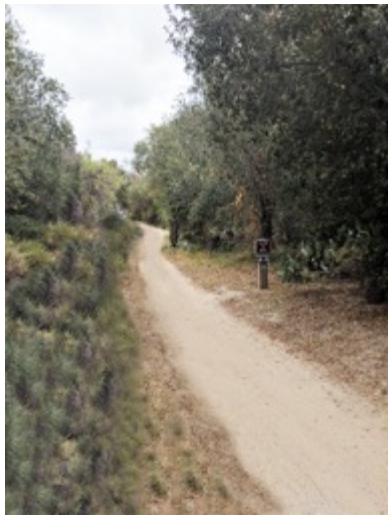
Bikers at one Time (BAOT)



Ecological Indicator: Trail Width

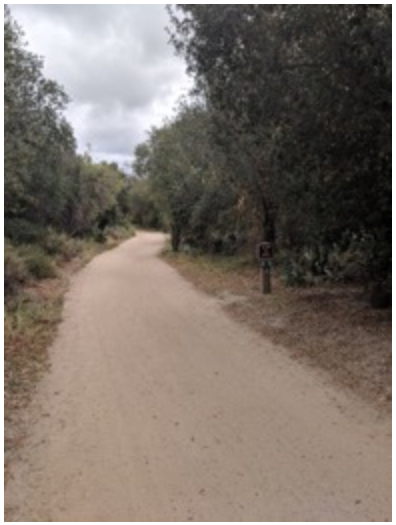


<50cm



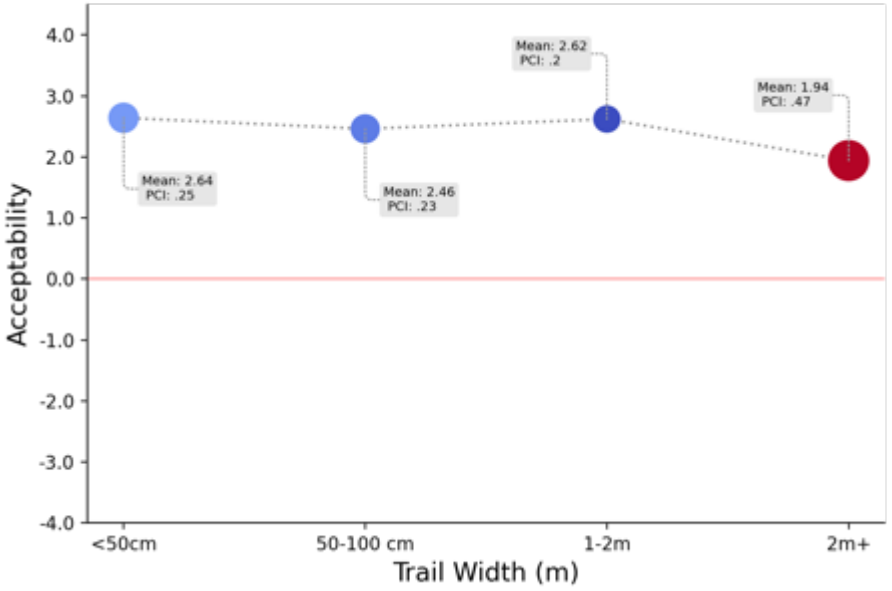
50-100cm

1-2m

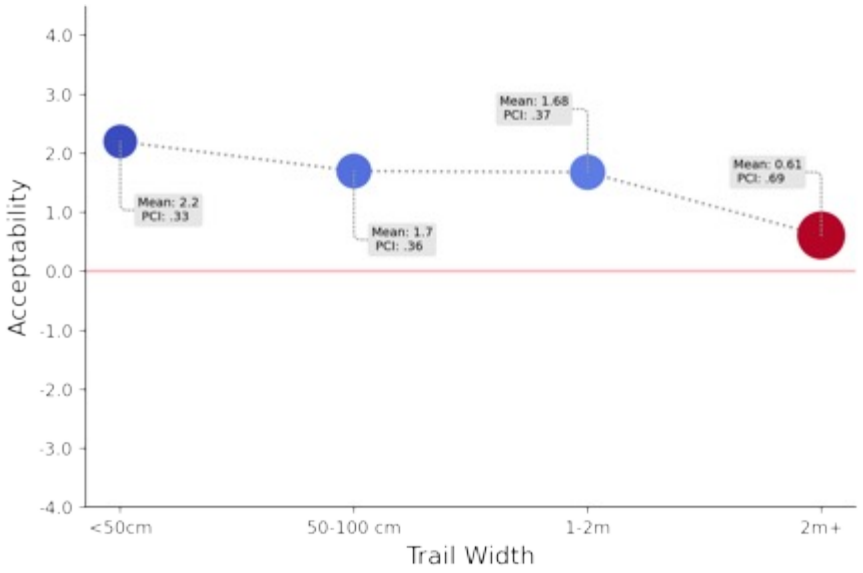


2m +

Trail Width



Recreation Preference



Recreation Impact

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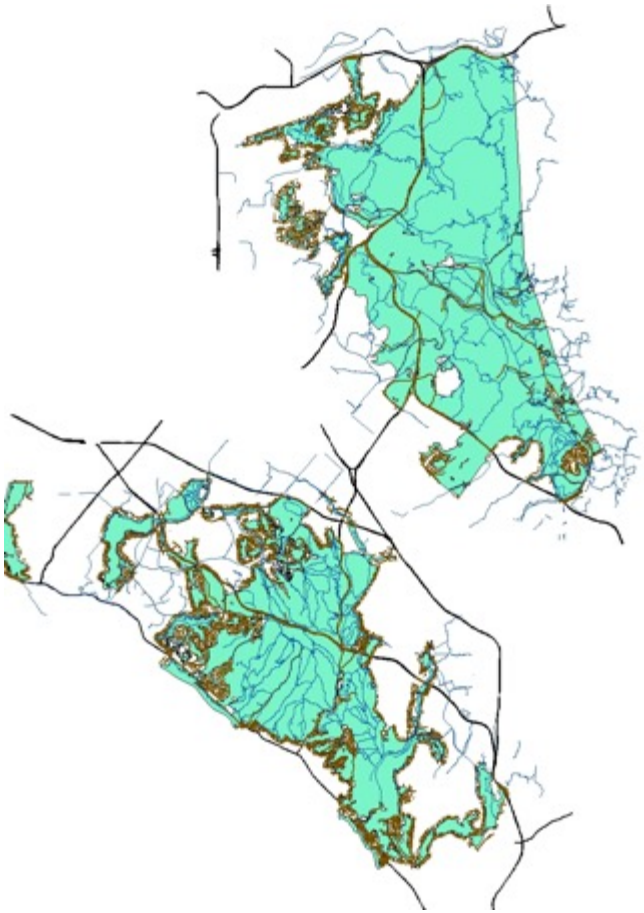
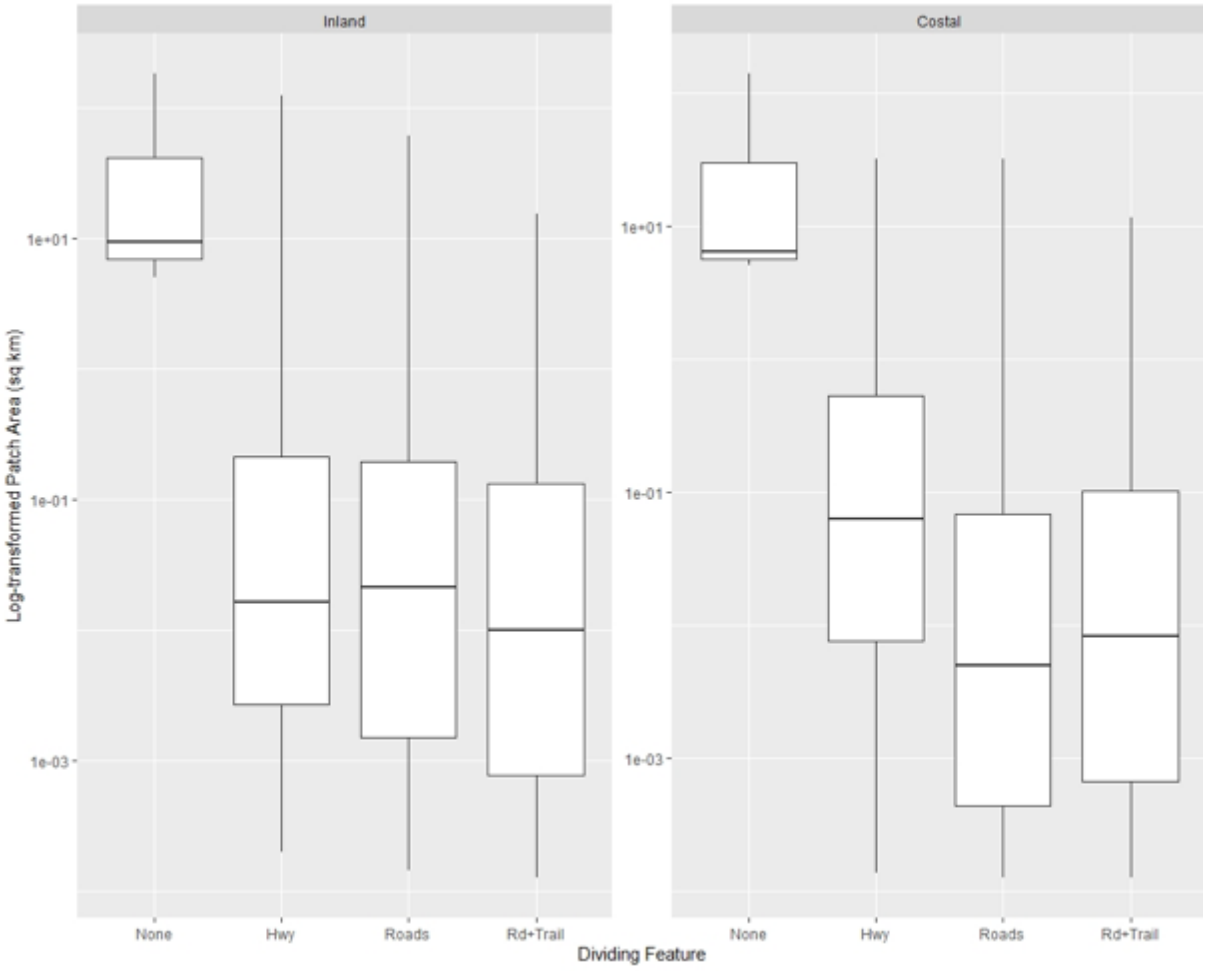
Habitat Analysis Approach

- Examination of resource conditions & potential for impacts to ecological resources
  - Existing vegetation maps & ecological data
  - Existing infrastructure & visitor use patterns
  - Combined social & ecological data
  - Application of new technologies

Applications across both spatial and temporal scales

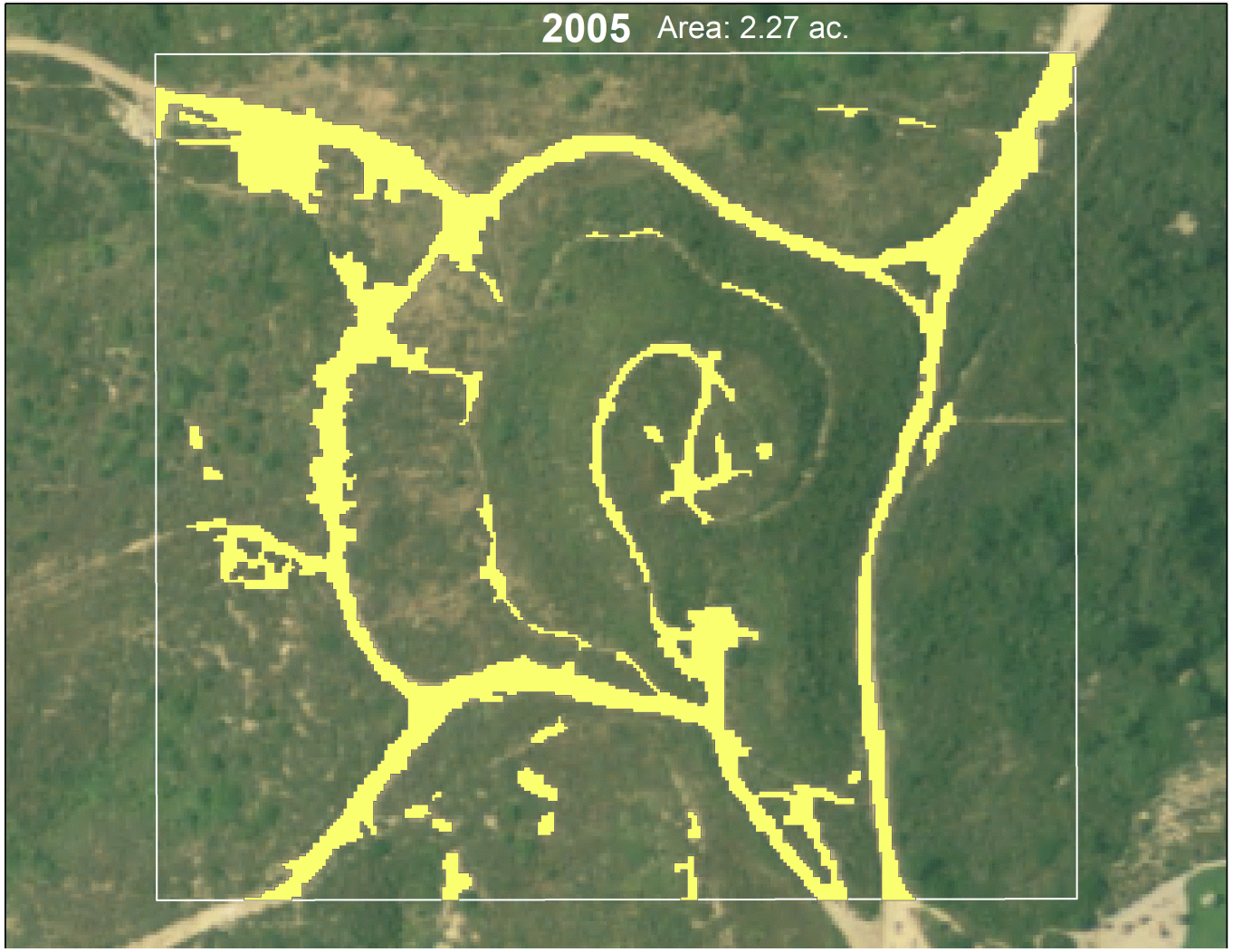
Protected Area Level Fragmentation



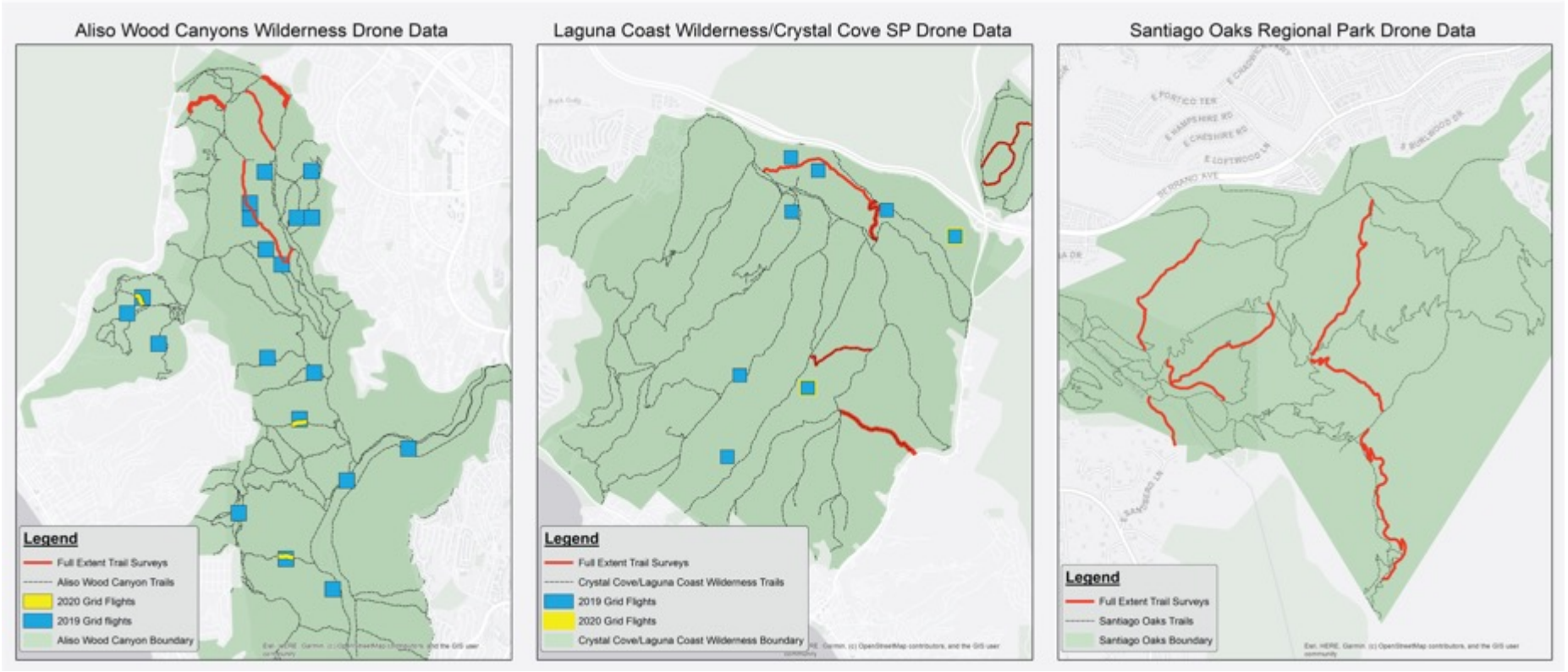


Credit: Dr. Evan Bredeweg, OSU

TOWO Landscape Change



Rec. Resource Conditions

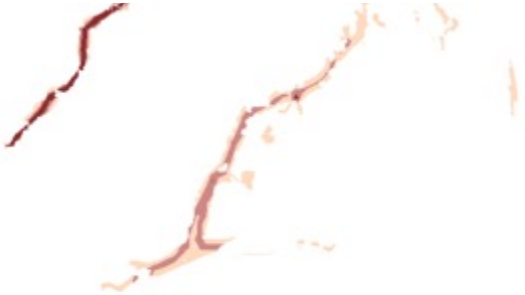


Intersection with Sensitive Habitat

Nature Cluster & Vegetation Layer

Select only sensitive habitat categories

Intersect sensitive habitat with Nature Cluster



- California Maritime Chaparral Group
- Californian Coastal Sage Scrub Group
- Californian Seral Scrub Group
- Protected Oak Species
- Vegetation Restoration Zones

Credit: Carli Schoenleber, M.S.

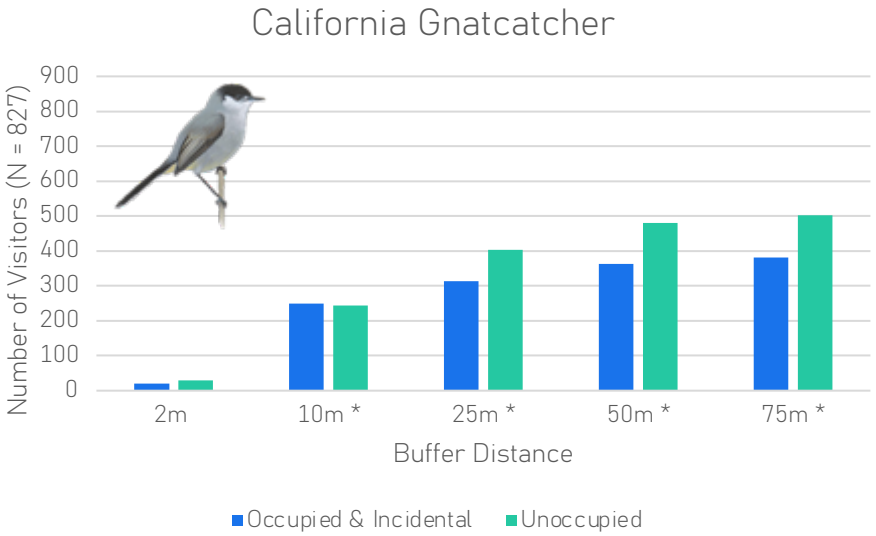
Intersection with Sensitive Habitat

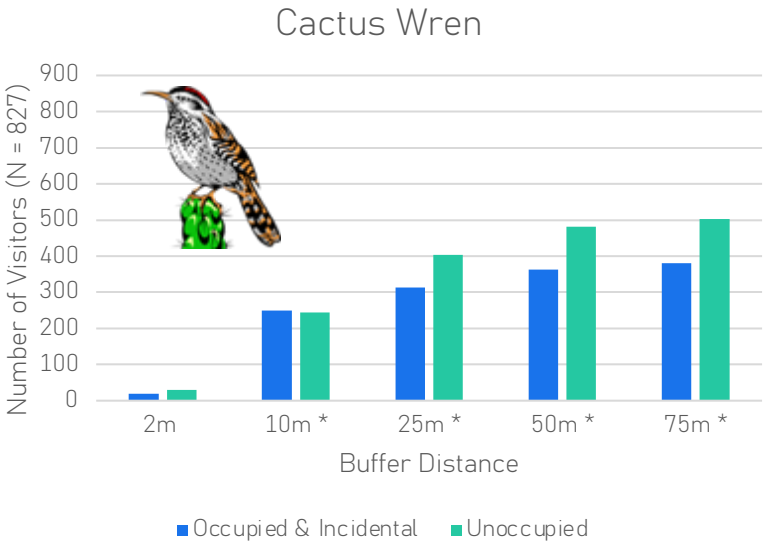
	% of total low density area	% of total medium density area	% of total high density area
All GPS Tracked Visitors	1.1	1.2	1.4
Exercise Group	1.1	1.6	1.4
Nature Group	1.2	1.3	1.2

	% individuals that intersected with sensitive habitat	Average time spent (mm:ss)	+/- SD (mm:ss)
All GPS Tracked Visitors	34.5%	02:23	02:41
Exercise Group	42.8%	02:14	02:40
Nature Group	29.3%	02:32	02:45

Credit: Carli Schoenleber, M.S.

Intersection with Bird Surveys





Credit: Carli Schoenleber, M.S.

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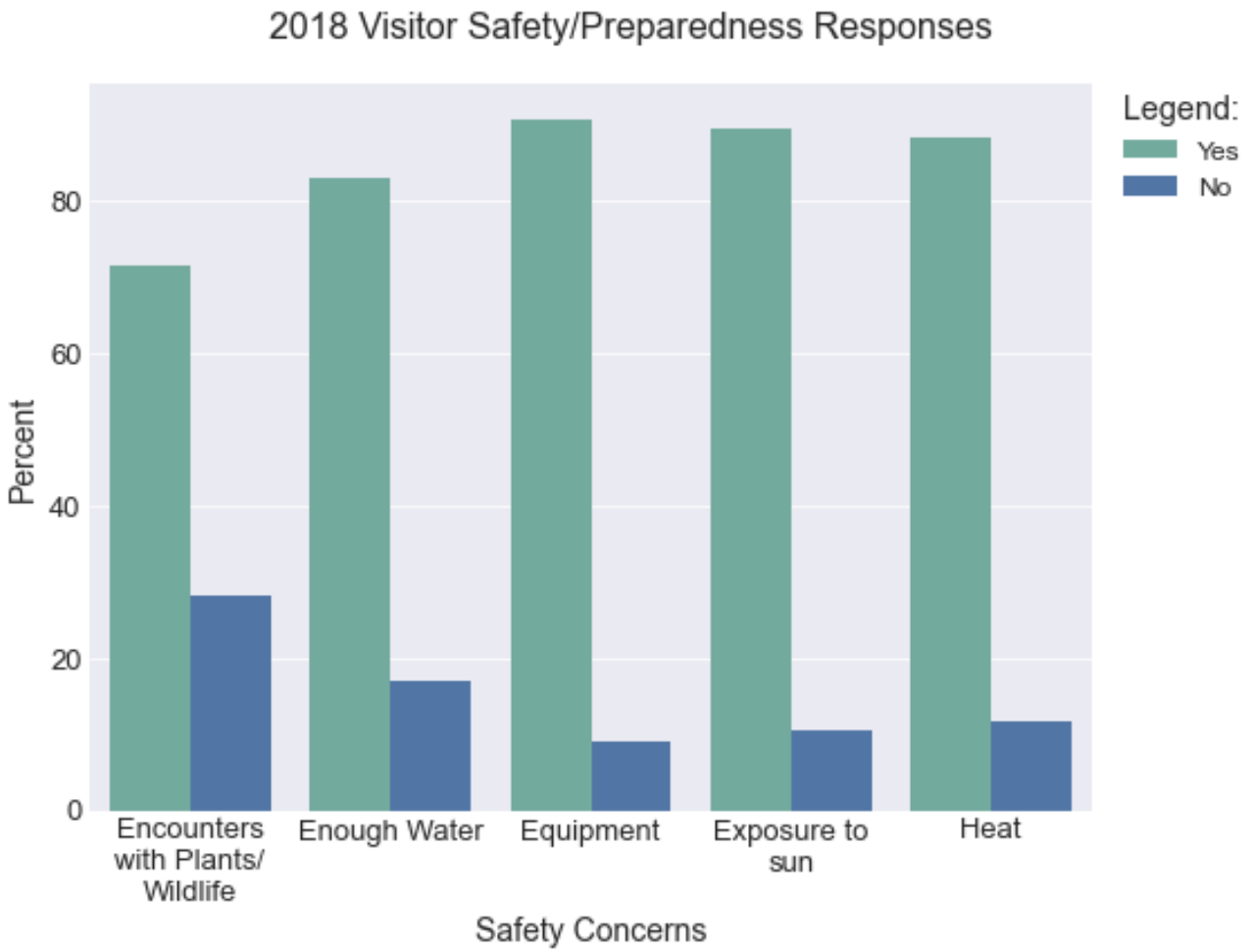
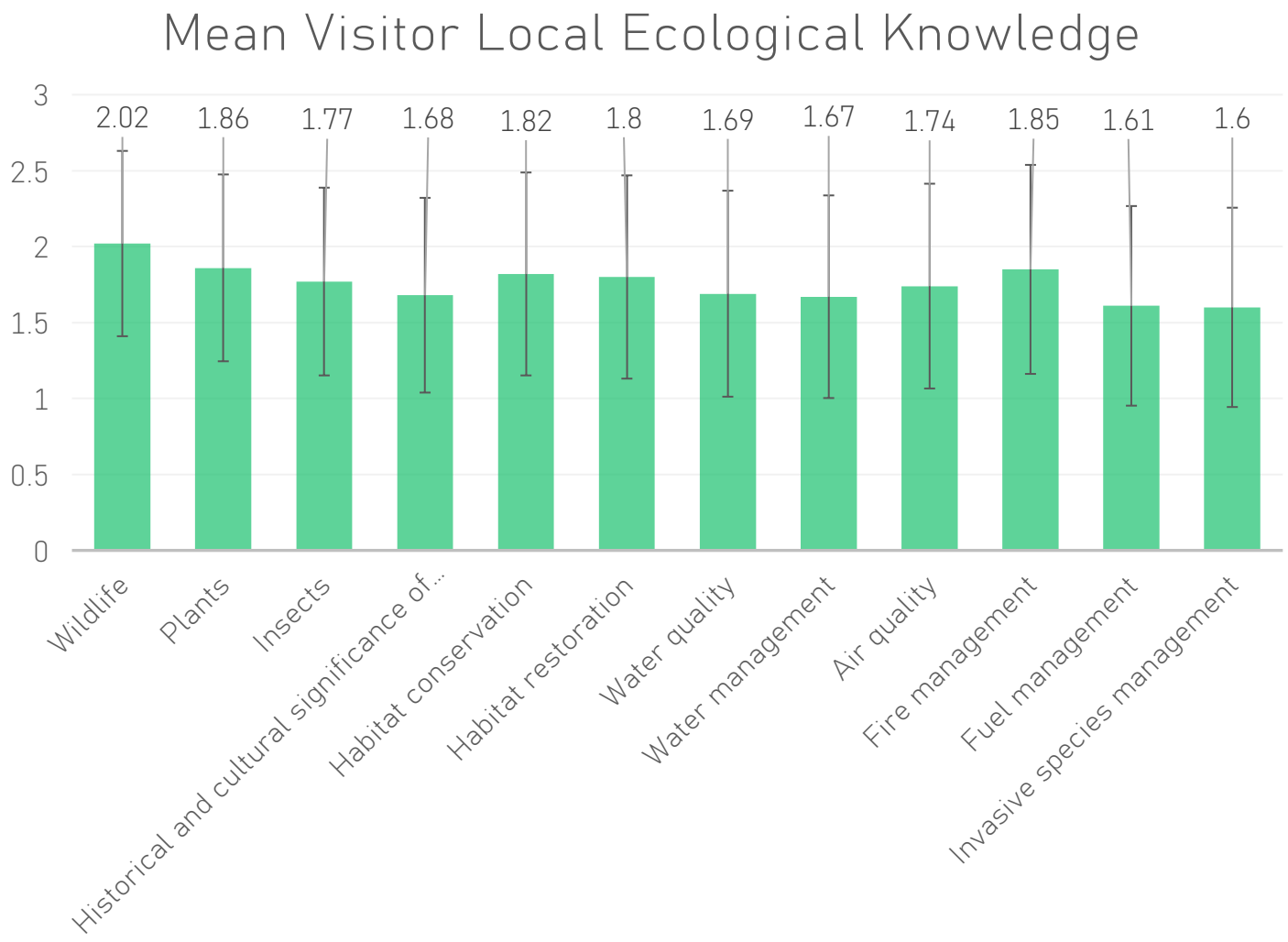
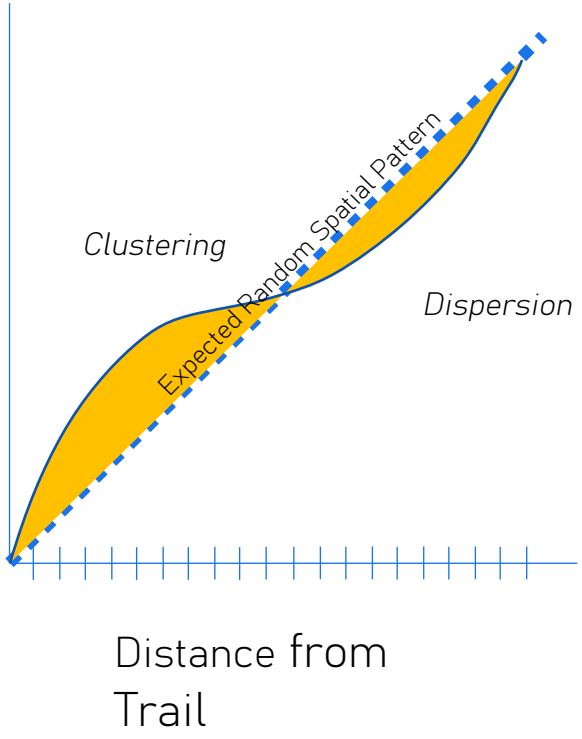
Preparedness/Safety



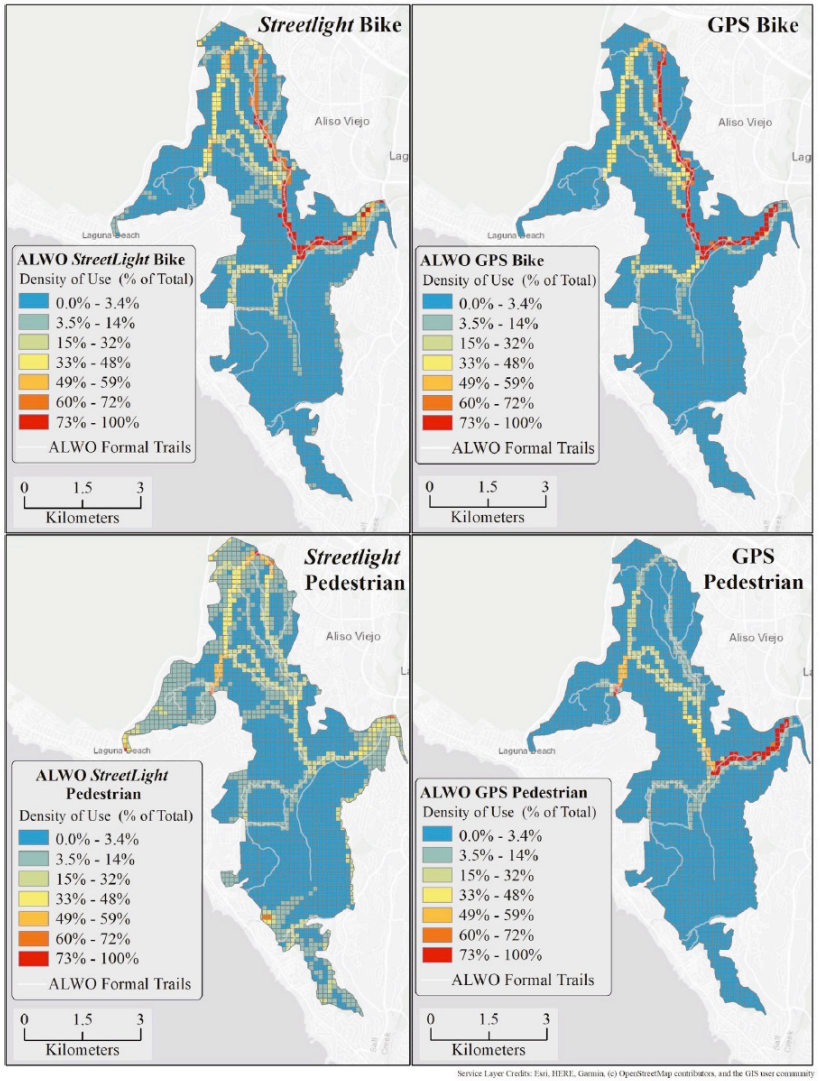
Knowledge of Fire & Invasive Species



Invasive Species

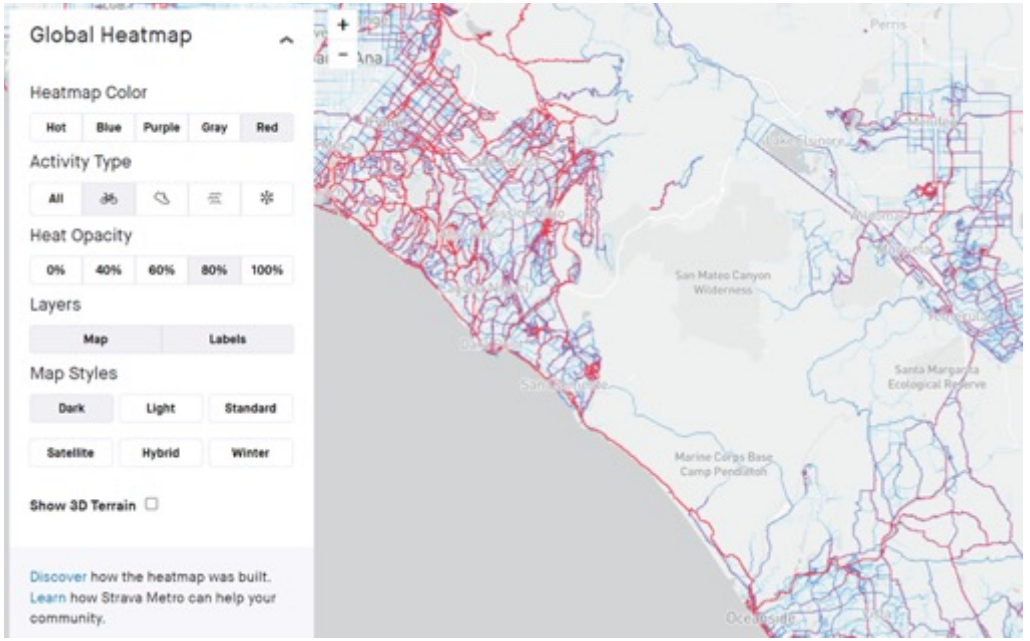


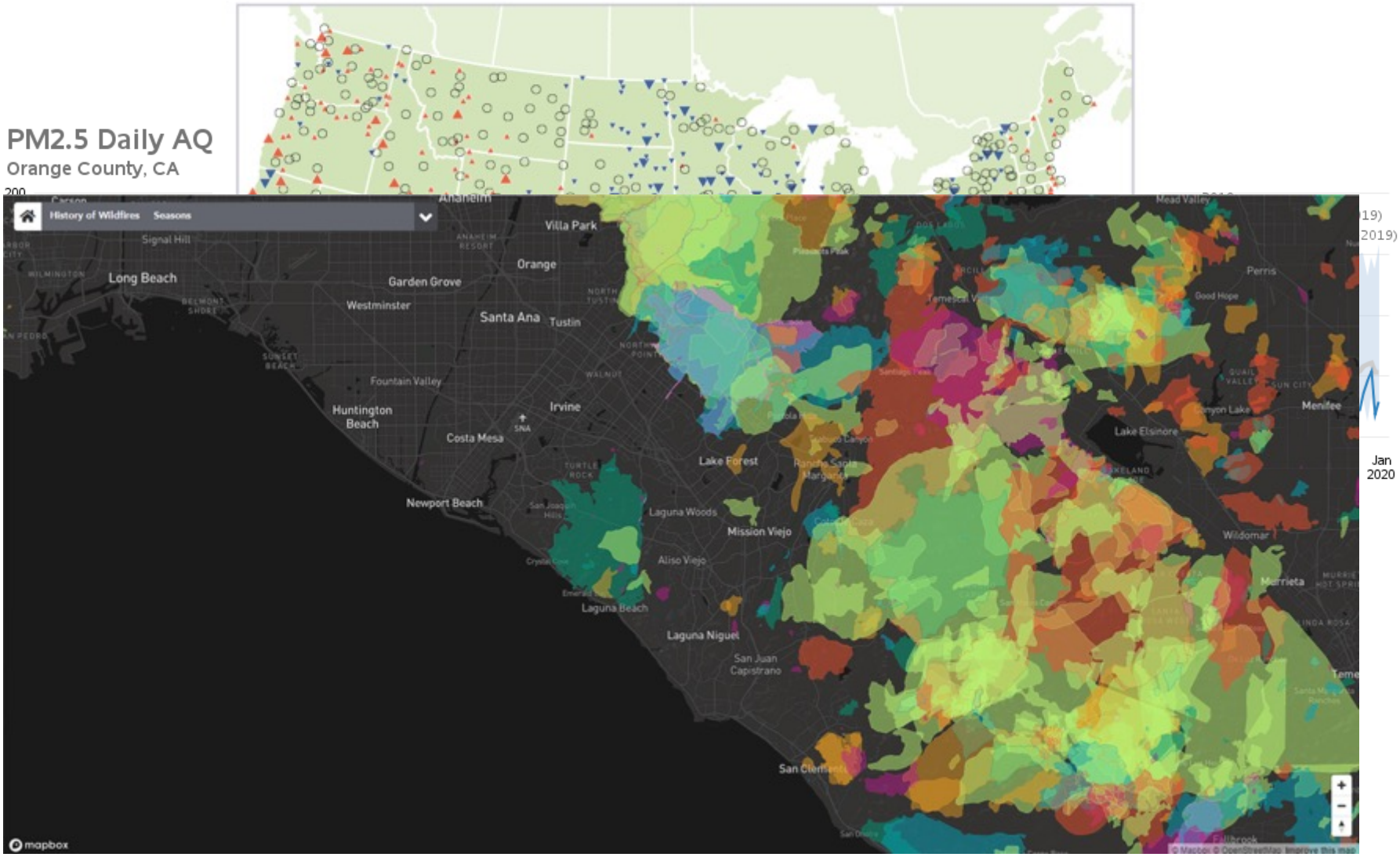
Future Research



Creany et al, 2021

Model changes in recreation behavior & distributions, and associated impacts to vegetation and/or wildlife communities, under increasing visitor-use scenarios & changing climates.





Data & Image Credit: EPA

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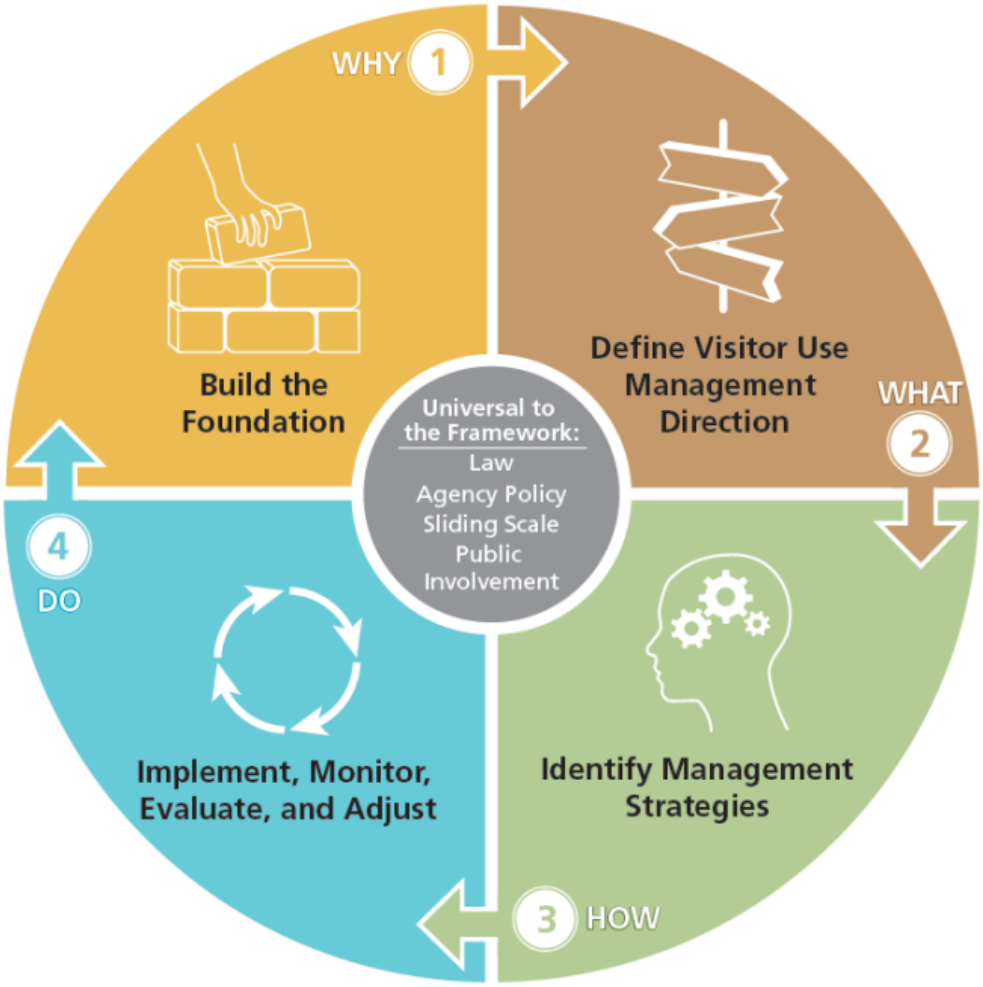
Recreation management planning frameworks

the **analytical elements** necessary to address recreation use management opportunities and issues, **consistent with applicable law, within existing agency management processes.**

Definition from Visitor Use Management Council: https://visitorusemanagement.nps.gov/

Figure 1. Overview of the Visitor Use Management Framework



Visitor Use Management Framework

Build the Foundation (Why): What is the purpose and/or need? What issues are we facing? What issues can this plan address? What data and information do we have? What do we need?

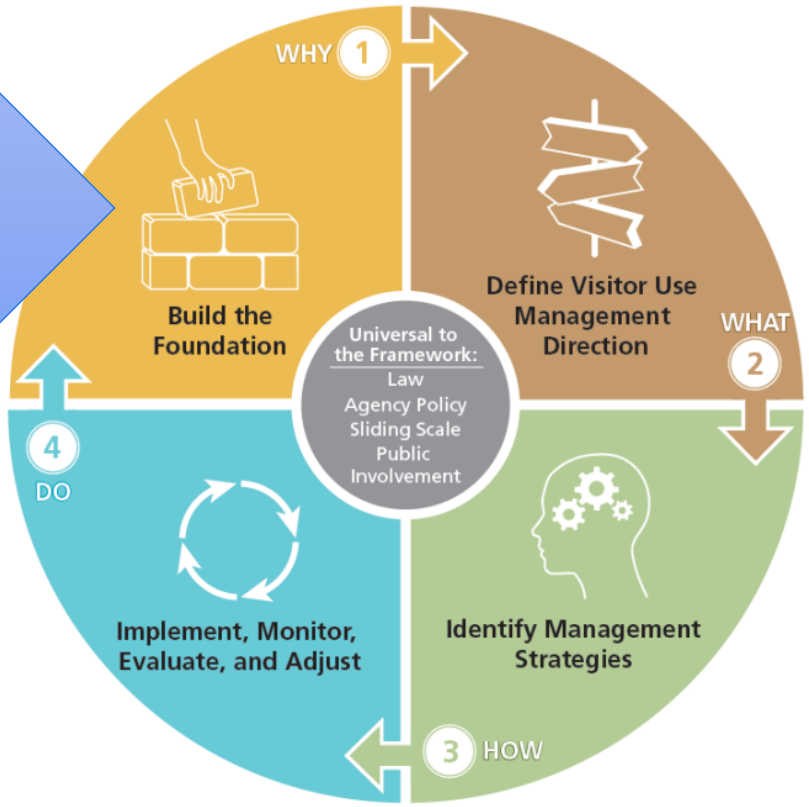
Define Visitor Use Management Direction (What): What are our desired conditions?

Identify Management Strategies (How): What strategies can we use to achieve our desired conditions?

Implement, Monitor, Evaluate, and Adjust (Do): Implement management actions and adjust them based on monitoring data.

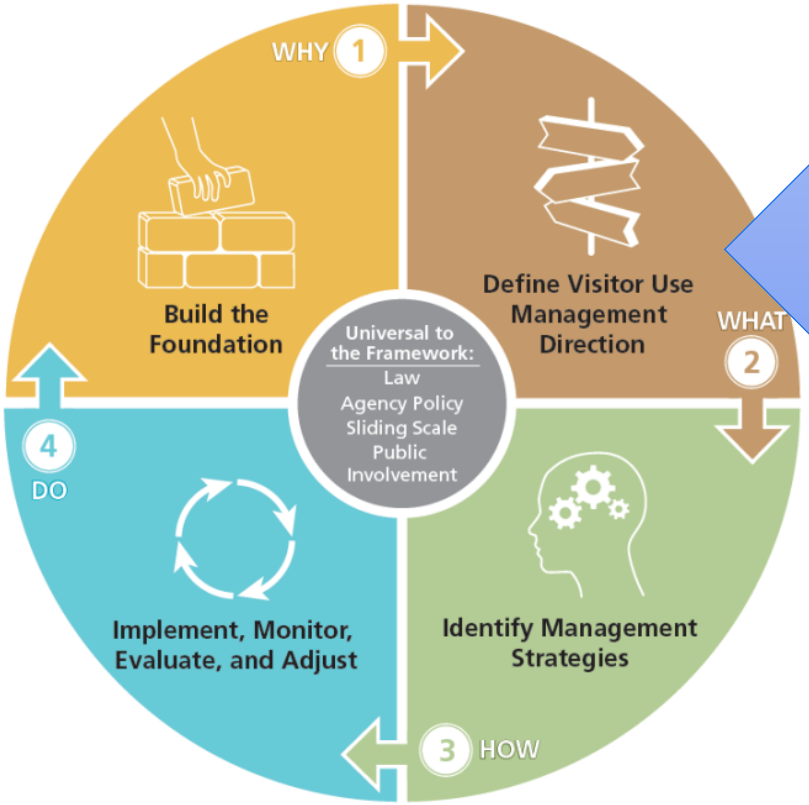
Figure 1. Overview of the Visitor Use Management Framework

Collection of baseline information (use levels, demographics, etc.)



Baseline Data

Figure 1. Overview of the Visitor Use Management Framework



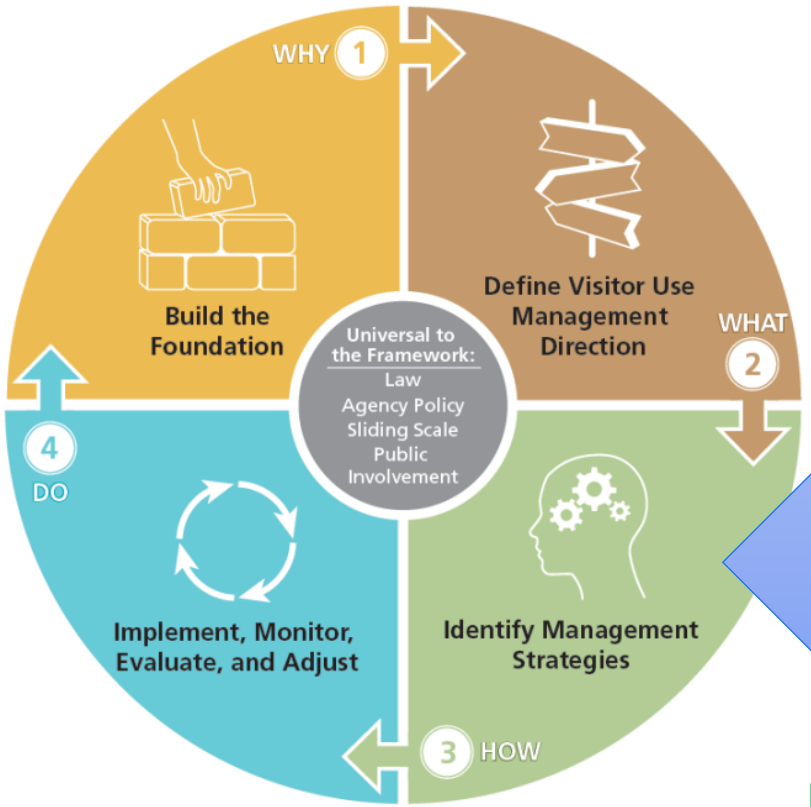
Desired conditions can be informed by visitor perceptions, satisfaction, conflict, current resource conditions, etc.

This information can then be used to inform the selection of indicators of social or ecological resource conditions

(ex: # of social trails, PAOT, trail width, etc.)

Indicators

Figure 1. Overview of the Visitor Use Management Framework

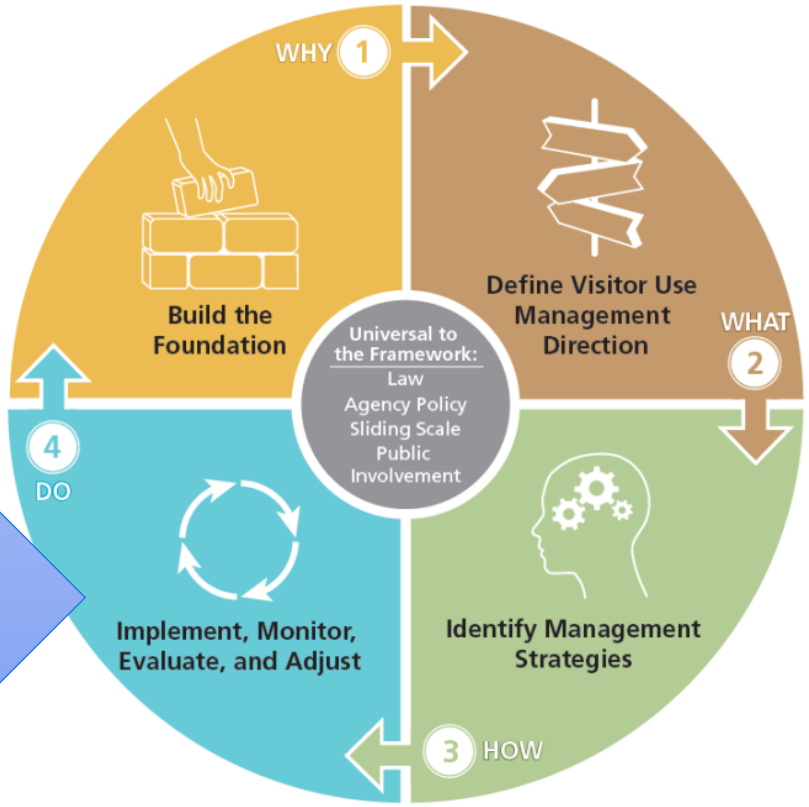


Compare desired conditions from #2 to data collected that describes current conditions

Protocols and survey instruments developed for this research and be used to establish monitoring protocols and strategies.

Monitoring

Figure 1. Overview of the Visitor Use Management Framework

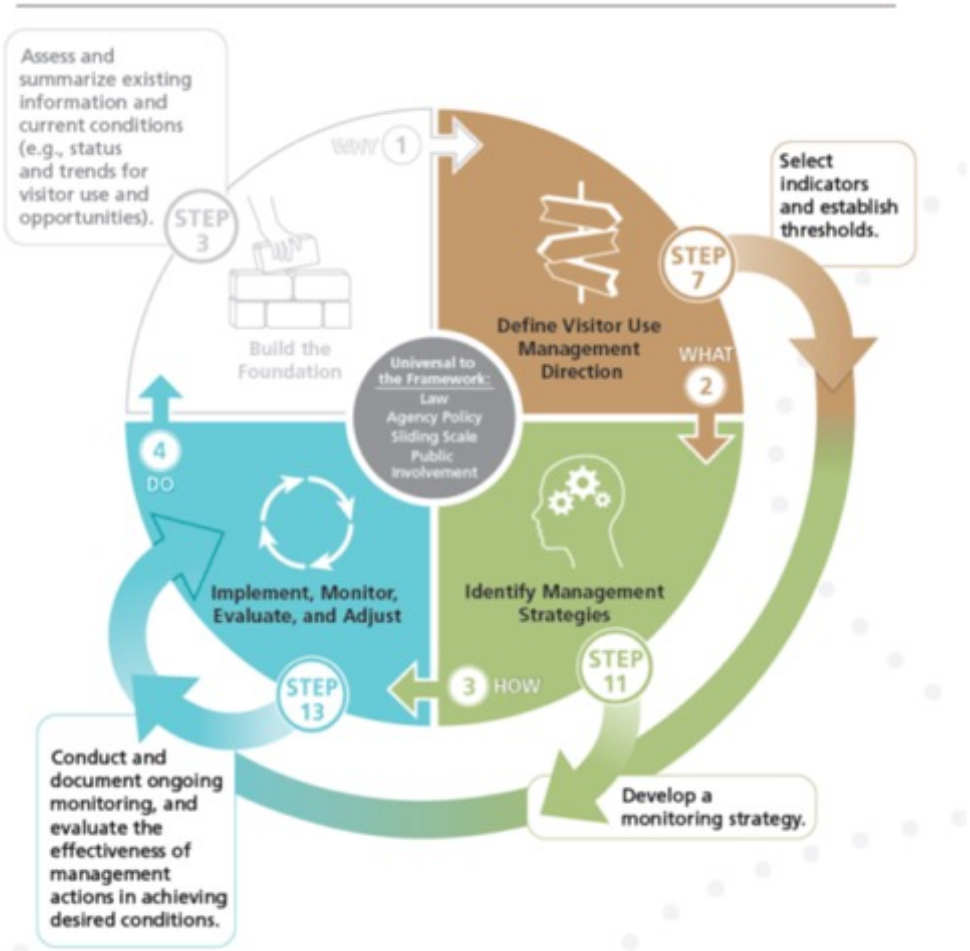


Using monitoring approach, evaluate current conditions and compare to desired conditions.

Adaptive Management

Science-informed, adaptive management!

Using baseline data, indicators and thresholds, and monitoring protocols to evaluate the effectiveness of management actions to achieved manager-developed desired conditions



Thank you!