



# **CENTRAL WASATCH VISITOR USE STUDY – PHASE I REPORT**

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INSTITUTE OF  
**OUTDOOR  
RECREATION  
AND TOURISM**  
UTAH STATE UNIVERSITY

## ABOUT

- Founded in 1998 by the Utah State Legislature
- Housed in Extension
- Mission:
  1. Provide data for the Legislature and state agencies in their decision-making processes on issues relating to tourism and outdoor recreation
  2. Assist community officials as they attempt to balance the economic, social, and environmental tradeoffs in tourism development
  3. Lead interdisciplinary approach of research and study on outdoor recreation and tourism

## SERVICES



Visitor Use Monitoring and  
Management



Mobile Location Analytics



Needs Assessments



Recreation Economics

# OUTLINE

1. Objectives
2. Overview of the VUS
  1. Phase I – Scoping
  2. Phase II – Assessments
3. Phase I – Findings
4. Planning for Phase II
  1. Ecological and Physical Assessments
  2. Social Assessment
5. Questions

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- The purpose of this study is to explore how outdoor recreation use and its associated impacts can be quantified and monitored over time within the canyons.
- Our goal is to establish a set of indicators that are collaboratively generated and grounded in the best-available science and reflect the unique needs and concerns of the diverse stakeholders and interest groups who use, manage, and depend on the canyons.



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Our vision for this project is to establish scientifically grounded and collaboratively informed indicators of the ecological, physical, and social characteristics of distinct types of outdoor recreation settings within the Central Wasatch.

**ECOLOGICAL**

**PHYSICAL**

**SOCIAL**

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### Elements and steps of the Visitor Use Management Framework



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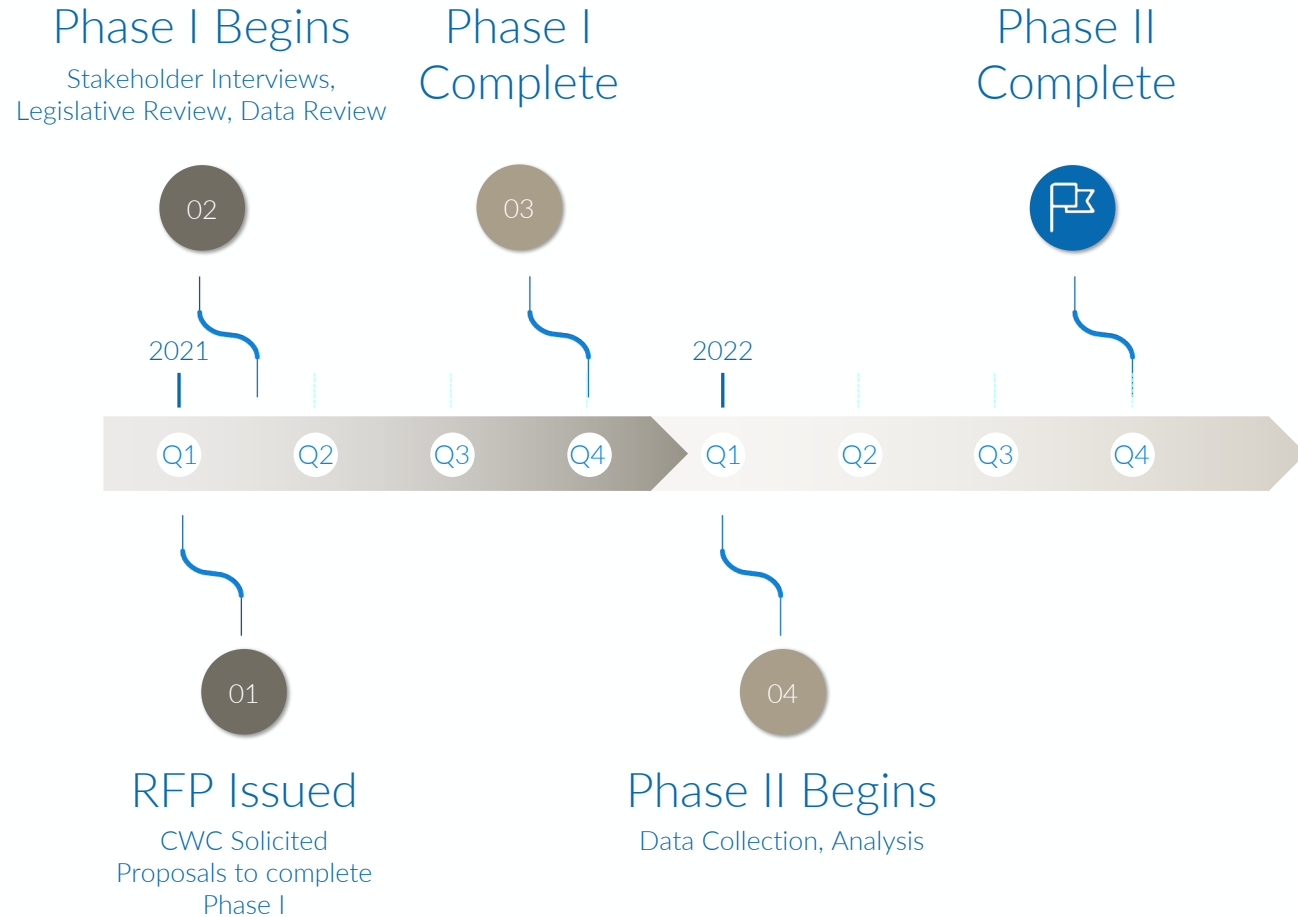
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## Phase I Tasks

1. Conduct a knowledge gap analysis of current outdoor recreation research and monitoring in the Uinta-Wasatch-Cache National Forest and gathered stakeholder perspectives on key indicators;

LITERATURE REVIEW

STAKEHOLDER INTERVIEWS



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2. Catalogue and synthesize all data related to outdoor recreation use within the canyons since 2000;

DATA COMPILATION

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3. Conduct a legislation and policy review to identify and document all legal or managerial processes and standards that apply to managing outdoor recreation use within the canyons;

LEGISLATIVE AND POLICY REVIEW

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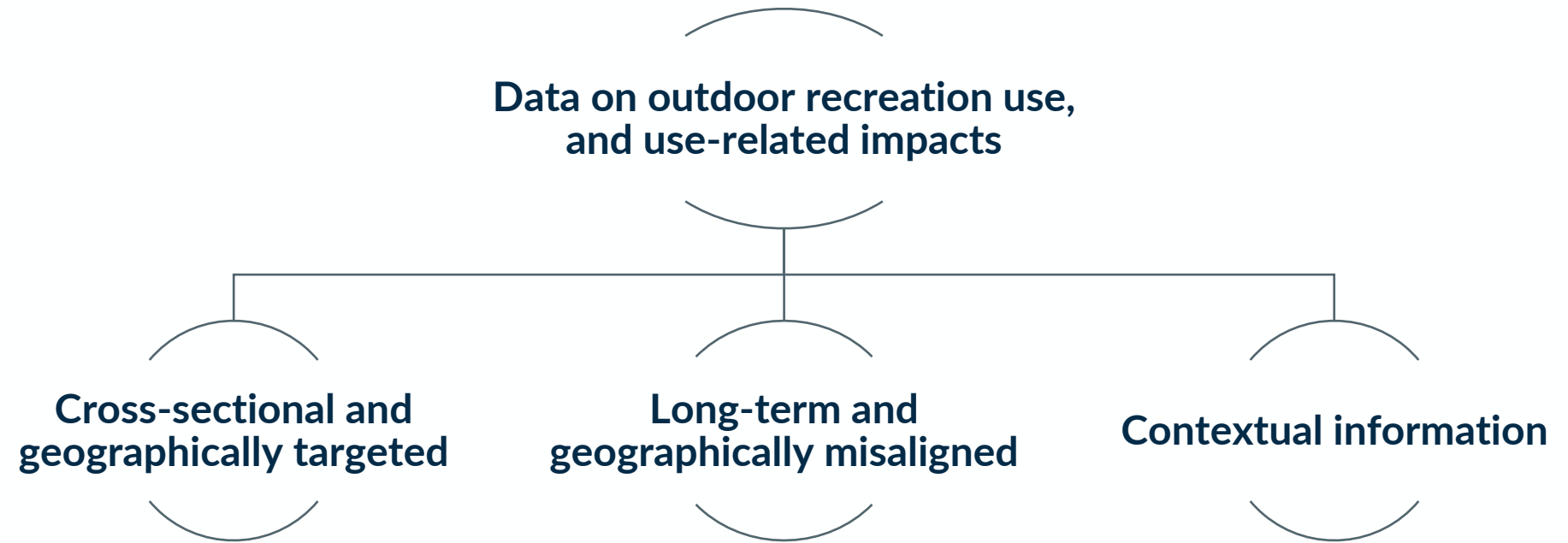
4. Scope and assess potential indicators of ecological, physical, and social characteristics of recreation settings within the Central Wasatch.

### INDICATOR ASSESSMENT



# LITERATURE REVIEW

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# STAKEHOLDER INTERVIEWS

## COMMON THEMES:

There is a need to balance use and development of the Central Wasatch with protecting the ecosystem, watershed, diversity of experiences, and other things that make the Central Wasatch such a special and important place for people to live in/near and visit.

Concern about the fact that we do not have a good idea of how many people are visiting the Central Wasatch in general, not to mention where people are going, how they are recreating and experiencing the canyons, and what impacts they may be causing.

Sense that some people want the study to determine the number of people that should be allowed in the canyons at any given time. Other interviewees expressed a concern that a visitor use study will be used to restrict numbers of visitors or certain kinds of visitation in the Central Wasatch, such as to limit how many people can go to a trail head or how many people can go to a ski area on any particular day

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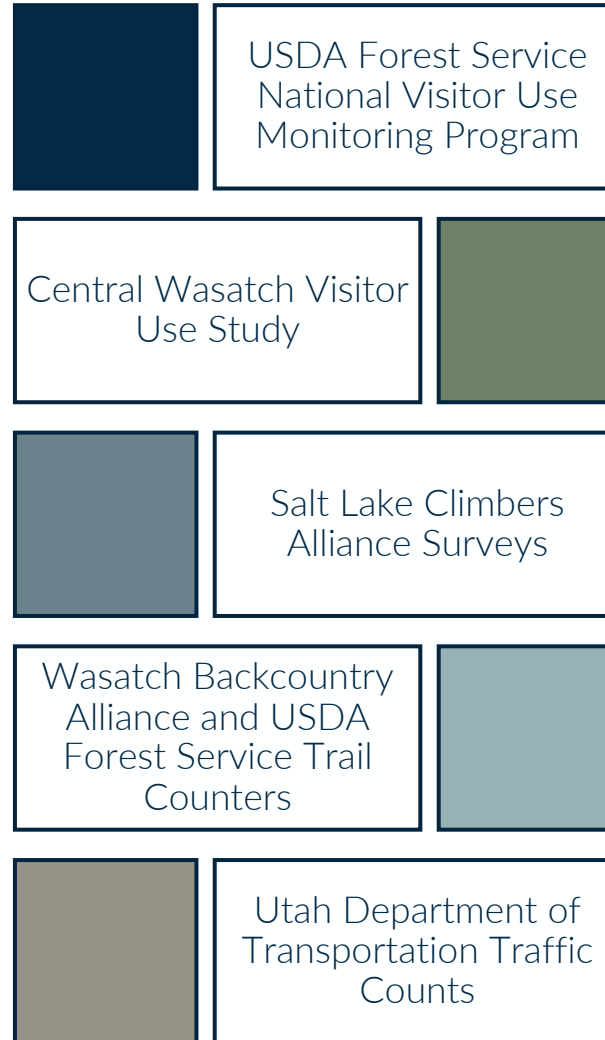
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## DATA COMPILATION



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## DATA COMPILATION

Not  
useful

USDA Forest Service  
National Visitor Use  
Monitoring Program

Central Wasatch Visitor  
Use Study

Salt Lake Climbers  
Alliance Surveys

Wasatch Backcountry  
Alliance and USDA  
Forest Service Trail  
Counters

Utah Department of  
Transportation Traffic  
Counts

| Year (Fiscal) | Canyon            | Site Days Sampled | Settings Surveyed | Survey Responses |
|---------------|-------------------|-------------------|-------------------|------------------|
| 2017          | Big Cottonwood    | 25                | 9                 | 360              |
| 2017          | Little Cottonwood | 11                | 7                 | 280              |
| 2017          | Millcreek         | 24                | 15                | 334              |
|               |                   | 60                | 31                | 974              |
| 2012          | Big Cottonwood    | 22                | 7                 | 346              |
| 2012          | Little Cottonwood | 11                | 8                 | 112              |
| 2012          | Millcreek         | 14                | 7                 | 177              |
|               |                   | 47                | 22                | 635              |
| 2007          | Big Cottonwood    | 10                | 2                 | 65               |
| 2007          | Little Cottonwood | 6                 | 3                 | 36               |
| 2007          | Millcreek         | 10                | 8                 | 36               |
|               |                   | 26                | 13                | 137              |

Because the sampling frame for the National Visitor Use Monitoring program is created based upon sites across the entire forest, we cannot generate any inference about use levels or perceptions of use at spatial resolutions smaller than the entire Uinta-Wasatch-Cache National Forest.



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# DATA COMPILATION

USDA Forest Service  
National Visitor Use  
Monitoring Program

**Central Wasatch  
Visitor Use Study**

*Somewhat  
useful*

Salt Lake Climbers  
Alliance Surveys

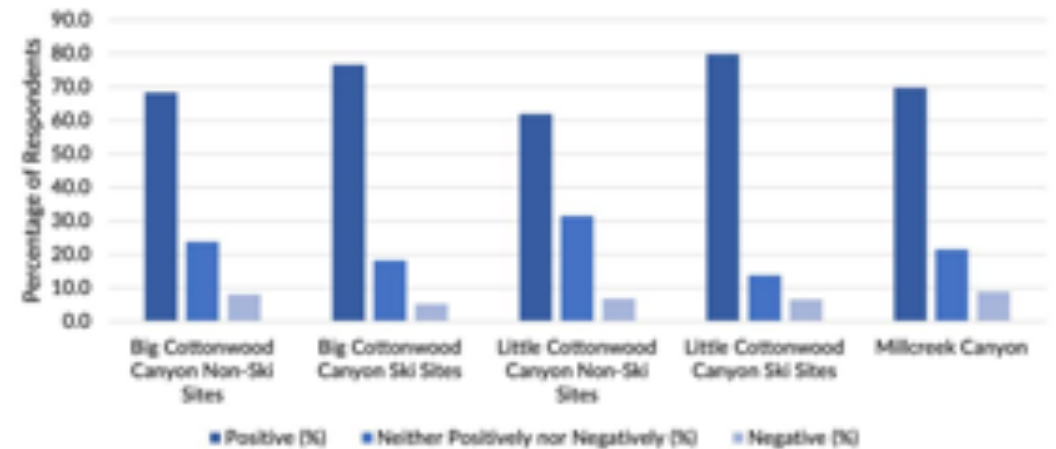
Wasatch Backcountry  
Alliance and USDA  
Forest Service Trail  
Counters

Utah Department of  
Transportation Traffic  
Counts

| Canyon            | Site Days Sampled | Settings Sampled | Survey Responses |
|-------------------|-------------------|------------------|------------------|
| Big Cottonwood    | 92                | 16               | 1,183            |
| Little Cottonwood | 104               | 14               | 1,711            |
| Millcreek         | 111               | 10               | 839              |
| <b>Total</b>      | <b>294</b>        | <b>40</b>        | <b>3,733</b>     |

Data on possible social indicators include:

- Socioeconomic and demographic characteristics of visitors within each canyon.
- Types of outdoor recreation activity happening within each canyon.
- Desired outdoor recreation experiences of visitors within in each canyon.
- Displacement out of the canyons because of crowding and density of use.



## LEGISLATIVE AND POLICY REVIEW

What mechanisms exist to either monitor or manage recreational use of the canyons?

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| Entity                            | Social                    |                 |                    |               | Ecological       |                 |                    |                 | Physical            |                 |                    |                          |
|-----------------------------------|---------------------------|-----------------|--------------------|---------------|------------------|-----------------|--------------------|-----------------|---------------------|-----------------|--------------------|--------------------------|
|                                   | Recreational Expenditures | Land Management | Heritage Resources | Public Health | Forest Resources | Water Resources | Wildlife Resources | Fire Management | Resource Management | Soils & Fishing | Wildlife & Fishing | Recreational Development |
| Federal                           |                           |                 |                    |               |                  |                 |                    |                 |                     |                 |                    |                          |
| USDA Forest Service               | *                         | *               | *                  | *             | *                | *               | *                  | *               | *                   | *               | *                  | *                        |
| State                             |                           |                 |                    |               |                  |                 |                    |                 |                     |                 |                    |                          |
| Utah Department of Transportation |                           | *               |                    |               |                  |                 |                    |                 |                     | *               | *                  |                          |
| Utah Transit Authority            | *                         |                 |                    | *             |                  |                 |                    |                 |                     | *               | *                  |                          |
| County                            |                           |                 |                    |               |                  |                 |                    |                 |                     |                 |                    |                          |
| San Juan County                   | *                         |                 | *                  | *             | *                | *               | *                  | *               | *                   | *               | *                  | *                        |
| San Juan Valley Health Department | *                         |                 |                    | *             |                  | *               |                    |                 |                     |                 |                    | *                        |
| Montezuma Historic District       |                           | *               |                    |               | *                | *               | *                  |                 |                     | *               | *                  | *                        |
| Four Corners National Monument    |                           | *               |                    |               | *                | *               | *                  |                 |                     | *               | *                  | *                        |
| City and Township                 |                           |                 |                    |               |                  |                 |                    |                 |                     |                 |                    |                          |
| San Juan City                     | *                         |                 |                    |               |                  | *               |                    | *               |                     | *               | *                  | *                        |
| Town of Bluff                     | *                         |                 |                    | *             |                  | *               |                    | *               |                     | *               | *                  | *                        |
| Town of Blanding                  | *                         | *               |                    |               | *                | *               | *                  | *               | *                   | *               | *                  | *                        |

## LEGISLATIVE AND POLICY REVIEW

What mechanisms exist to either monitor or manage recreational use of the canyons?

| Entity                       | Social                    |                 |                    |               | Ecological       |                 |                    |                 | Physical            |                 |                    |                        |
|------------------------------|---------------------------|-----------------|--------------------|---------------|------------------|-----------------|--------------------|-----------------|---------------------|-----------------|--------------------|------------------------|
|                              | Recreational Expenditures | Land Management | Heritage Resources | Public Health | Forest Resources | Water Resources | Wildlife Resources | Fire Management | Resource Management | Soils & Fishing | Wildlife & Fishing | Recreation Development |
| Federal                      |                           |                 |                    |               |                  |                 |                    |                 |                     |                 |                    |                        |
| USDA Forest Service          | *                         | *               | *                  | *             | *                | *               | *                  | *               | *                   | *               | *                  | *                      |
| State                        |                           |                 |                    |               |                  |                 |                    |                 |                     |                 |                    |                        |
| Utah                         |                           |                 |                    |               |                  |                 |                    |                 |                     |                 |                    |                        |
| Department of Transportation |                           | *               |                    |               |                  |                 |                    |                 |                     | *               | *                  |                        |
| Utah Transit Authority       | *                         |                 |                    | *             |                  |                 |                    |                 |                     | *               | *                  |                        |
| County                       |                           |                 |                    |               |                  |                 |                    |                 |                     |                 |                    |                        |
| Salt Lake County             | *                         |                 | *                  | *             | *                | *               | *                  | *               | *                   | *               | *                  | *                      |
| Valley Health Department     | *                         |                 |                    | *             |                  | *               |                    |                 |                     |                 |                    | *                      |
| Wasatch-Cache National Park  |                           |                 |                    |               |                  |                 |                    |                 |                     |                 |                    |                        |
| Mountains                    |                           |                 |                    |               |                  |                 |                    |                 |                     |                 |                    |                        |
| Mount Zion Church            |                           | *               |                    |               | *                | *               | *                  |                 |                     | *               | *                  | *                      |
| Franklin and Carson          |                           | *               |                    |               | *                | *               | *                  |                 |                     | *               | *                  |                        |
| Chimney Rock                 |                           |                 |                    |               |                  |                 |                    |                 |                     |                 |                    |                        |
| City and Township            |                           |                 |                    |               |                  |                 |                    |                 |                     |                 |                    |                        |
| Salt Lake City               | *                         |                 |                    |               |                  | *               |                    | *               |                     | *               | *                  | *                      |
| Town of Brighton             | *                         |                 |                    | *             |                  | *               |                    | *               |                     | *               | *                  | *                      |
| Town of Big Water            | *                         | *               |                    |               | *                | *               | *                  | *               | *                   | *               | *                  | *                      |

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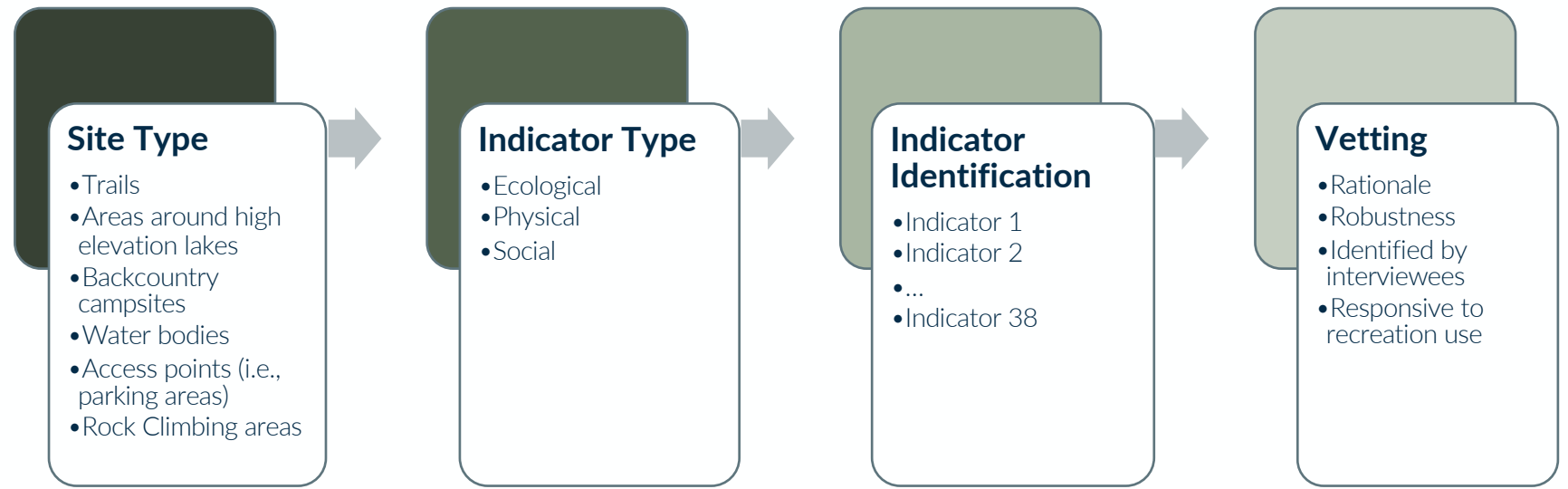
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## INDICATOR ASSESSMENT

### Trails

- Informal trail proliferation and condition
- Trail condition
  - Trail width; linear extent
  - Trail condition class; linear extent
  - Trail depth (incision); linear extent

### Areas around high elevation lakes

- Disturbed shoreline

### Backcountry campsites

- Campsite proliferation; campsite number and location
- Campsite area
- Campsite condition

### Water bodies

- Water quality
  - E. coli/coliforms; counting of indicator organisms
  - Nitrate
  - Dissolved organic Carbon
  - Particulate Carbon
  - Suspended sediment
  - Total dissolved Nitrogen

### Access points (i.e., parking areas)

- Roadside vegetation disturbance
- Parking
  - Developed and roadside parking use
  - Average time a car is parked

### Rock climbing areas

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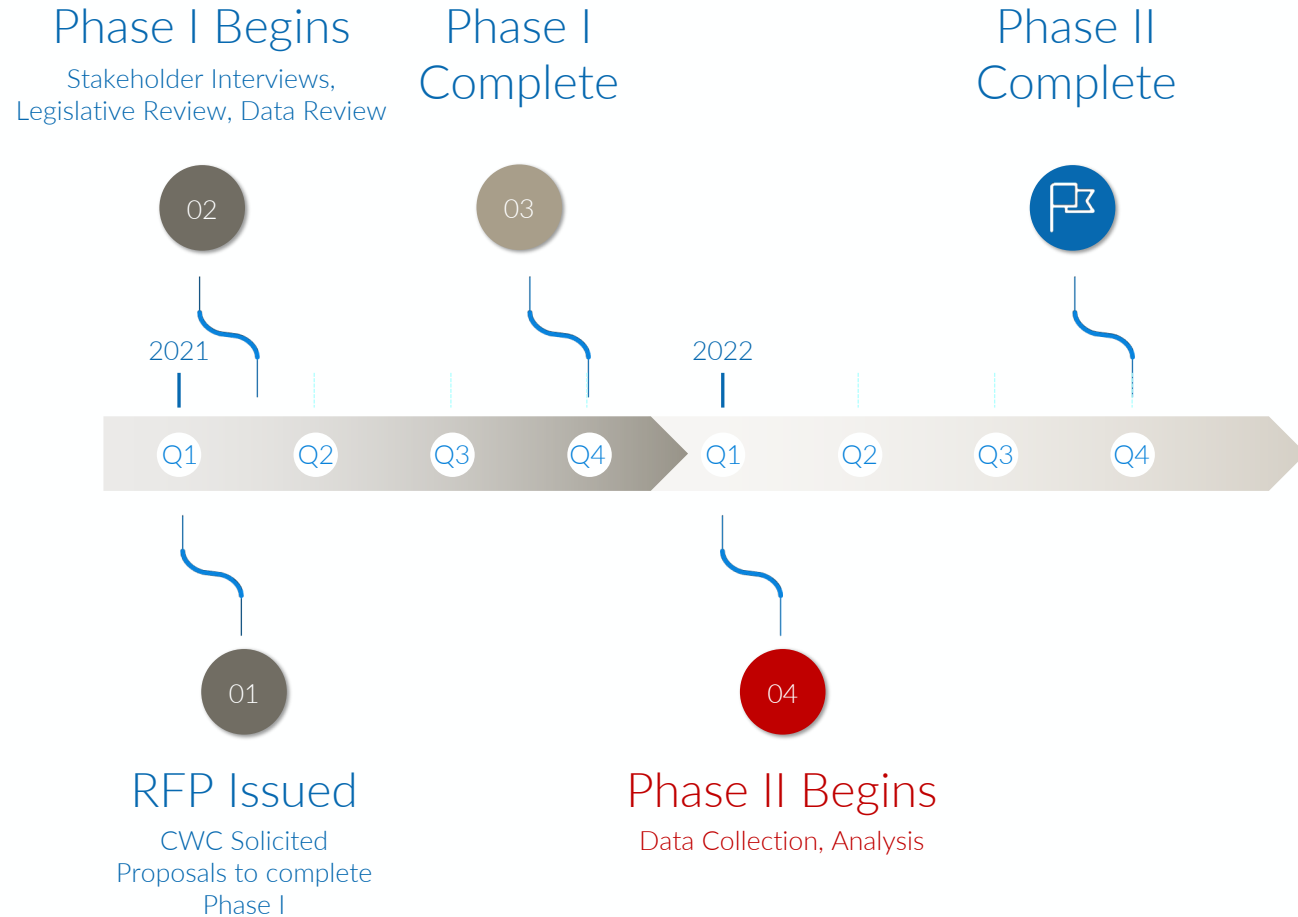
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Quantify



### Examine relationships with use

- Infrared trail counters
- Trail cameras
- Pneumatic traffic counters
- Mobile location data



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## GOALS OF PHASE II

Develop a scientifically grounded understanding of:

- the spatial and temporal dynamics of current and projected outdoor recreation use;
- the extent to which outdoor recreation activity within the canyons affects key indicators of ecological and physical resource conditions; and
- the likely changes in ecological and physical resource conditions under projected levels of use.

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# QUESTIONS

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