

Rocky Mountain National Park Waste Audit and Recycling Behavioral Change Intervention Initiative

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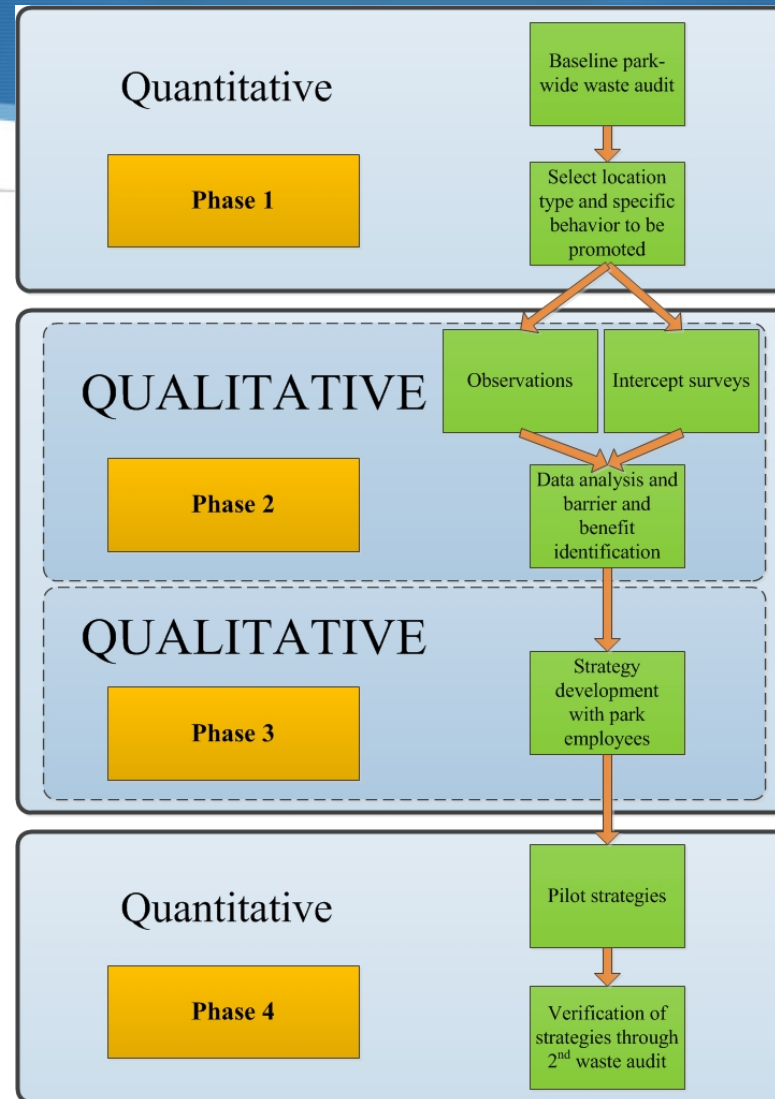
Background of Research

- Rocky Mountain National Park seeks to achieve sustainability throughout all park operations – including waste management
- **Sustainable behavioral change** is focus of this study
- Utilize Community-based Social Marketing approach as methodology

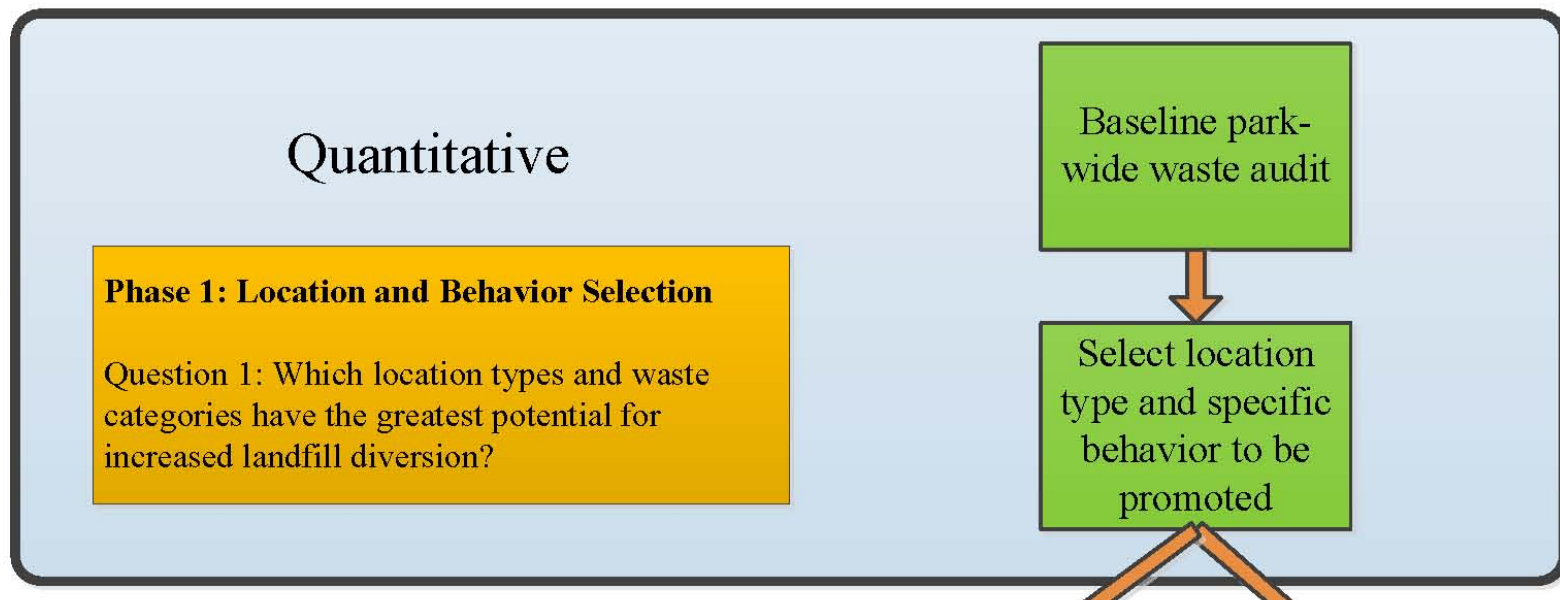
Why Community-based Social Marketing?

- *Sustainable attitudes* do not always lead to the desired sustainable behavior
- CBSM is a *research-based* approach, identifying the barriers and benefits for the sustainable action
- Sustainable behavior change *strategies* are developed utilizing psychological behavior change tools

Methodology: Based on the CBSM Approach



Phase 1: Location and Behavior Selection



2011 Waste Audit

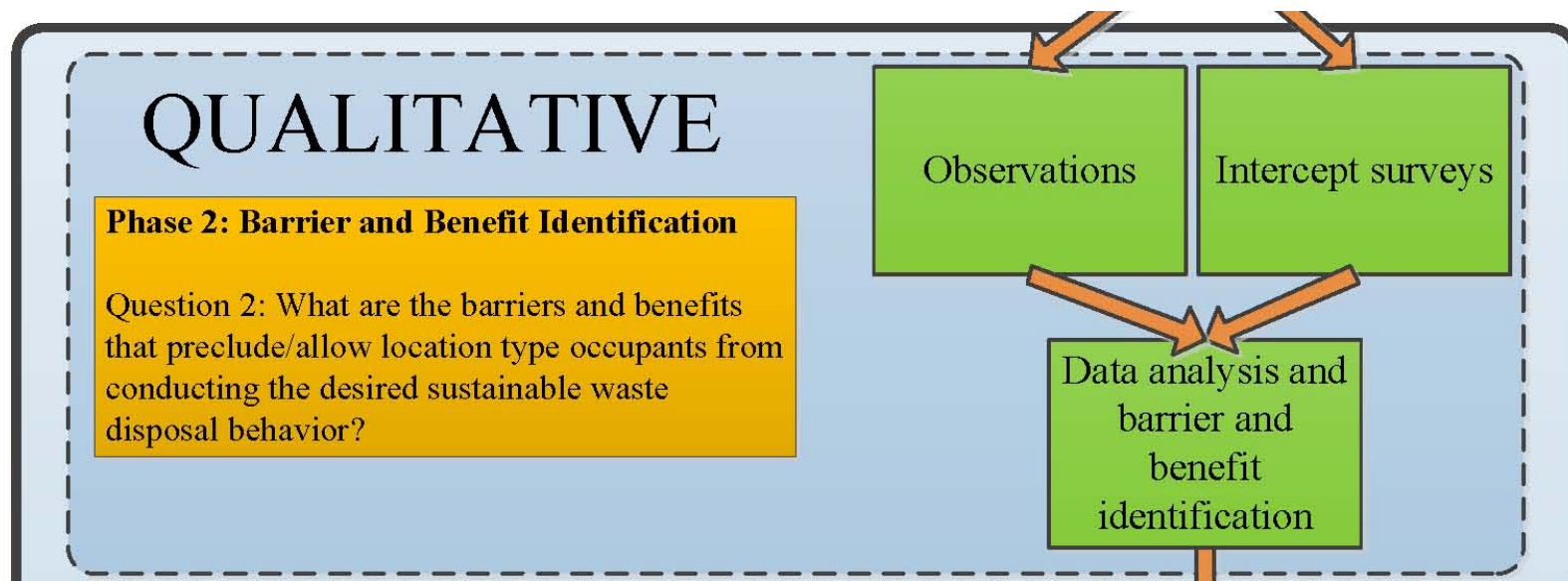


- 6 waste categories
 - Including recyclables, compost and trash
- 8 location types
 - Visitor and employee use areas

2011 Waste Audit Results

- Focus on **recycling** in **visitor use** areas
- Visitor use location types with highest recycling % are:
 - Group Campground (28%)
 - Family Campground (26%)
 - Trailhead (23%)
- **Family Campground**, and specifically Moraine Park Campground, was selected for the behavior change initiative

Phase 2: Barrier and Benefit Identification



Moraine Park Campground Observations

Waste Disposal Areas



Observational Process

- 19 descriptive observations
- 72 checklist observations

Findings

- 31% of campers recycled
- Half transported recycling loosely in hands
- Campsites lacking waste storage areas

Moraine Park Campground Intercept Surveys

- 63 Intercept Surveys
- Asked two questions:
 - What makes it difficult or challenging for you to recycle in the park?
 - What do you see as beneficial or rewarding about recycling in the park?

Barrier and Benefit Identification

Barriers to Recycling:	# of responses
Commitment	25
Inconvenience	22
Awareness	18
Specific Materials	14
***Could not think of a barrier	22

Benefits to Recycling:	# of responses
Environmental-based reasons	42
Human-based reasons	42
Generally good to do (ambiguous)	8
Negative reaction to recycling	2

Phase 3: Behavior Change Strategy Development



Strategy Development

- Strategy development based on observations and intercept survey barriers and benefits
- Utilized CBSM behavior change tools
- Developed in collaboration with Rocky Mountain National Park employees
- Some strategies were not approved by park management and therefore not included

Recycling Strategies

Strategy #1: Entrance gate commitment and recycling receptacle

Barrier Addressed: Commitment to sorting and procedural unfamiliarity

CBSM Tools: Commitment, Social Diffusion, Communication, Prompts

Strategy #2: After dinner/before evening program recycling pick up

Barrier Addressed: Inconvenience to recycling due to distance

CBSM Tools: Convenience, Social Norms, Prompts

Strategy #3: Develop and implement a Jr. Ranger and evening program about recycling

Barrier Addressed: Commitment and awareness

CBSM Tools: Prompts, Social Diffusion, Norms, Communication

Strategy #4: Prompting through multiple media avenues

Barrier Addressed: Lack of awareness and knowledge of recycling opportunities

CBSM Tools: Prompts

Recycling Strategies

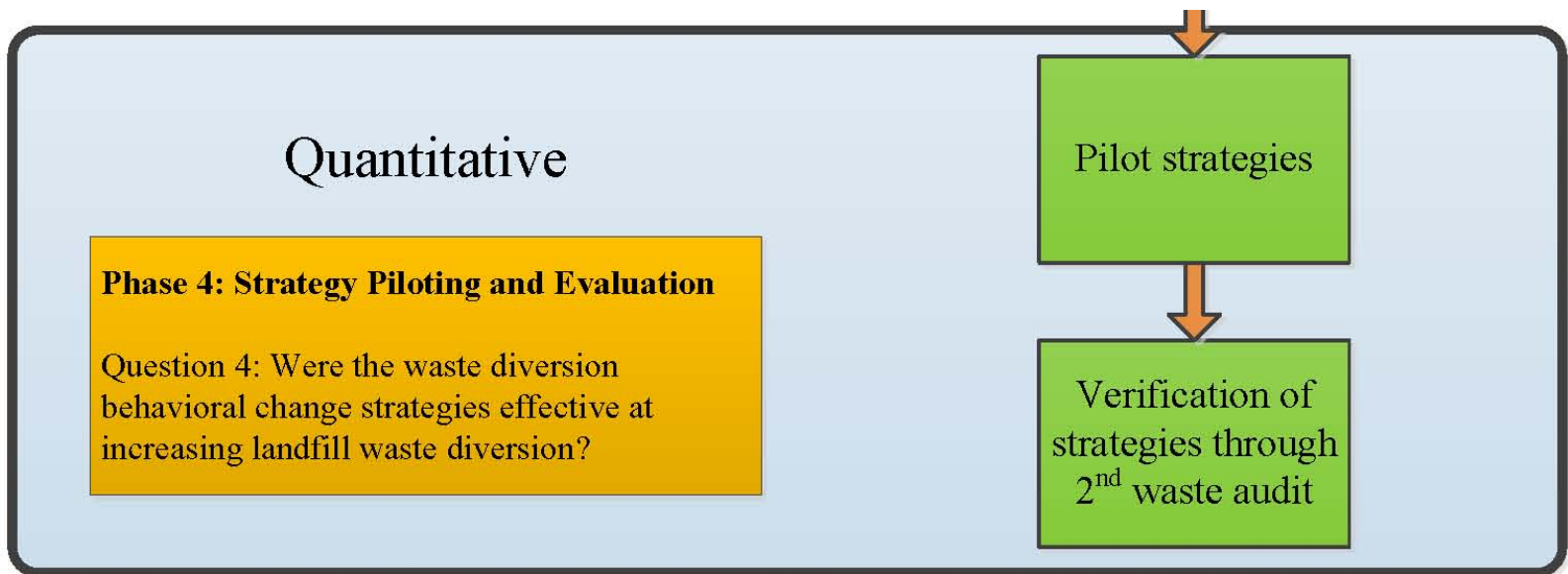
Recycling Bag Logo



Water Bottle Sticker



Phase 4: Strategy Piloting and Evaluation

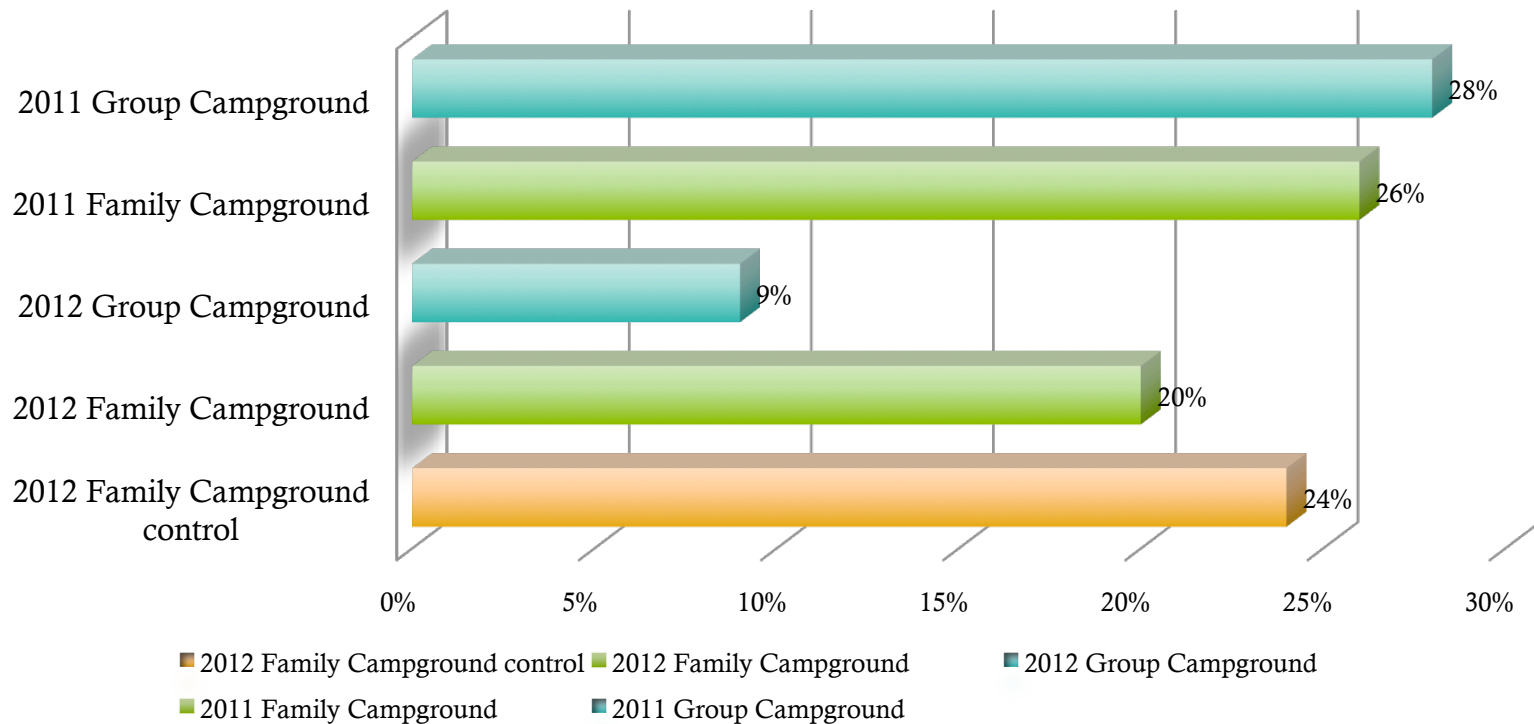


Strategy Implementation

- Behavior change initiative was introduced to Rangers during pre-summer training
- Strategies were implemented 1-week before 2012 waste audit with varying success and consistency
- Exit survey was included as a part of Strategy #1 to determine the effectiveness of certain components of the individual strategies

2012 Waste Audit

Comparison of Comingled Recyclables in the Landfill Waste Stream



Exit Survey Results

- Recycling bag handout: 100% response rate, 4.7 out of 5.0
- Entrance gate commitment: 93% response rate, 4.8 out of 5.0
- Recycling signage reminders: 80% response rate, 4.4 out of 5.0
 - Of responders, 49% saw reminders at the Visitor Center
- Evening and/or Jr. Ranger program: 41% response rate, 4.4 of 5.0
- Water Bottle Sticker: 29% response rate, 4.0 of 5.0

Findings

- CBSM behavior change recycling initiative was a success!
 - Recyclables in Family and Group Campground waste streams decreased in 2012 from 2011
- Entrance gate commitment and recycling bag handout are the most effective at creating behavior change, in association with....
- The use of prompts as recycling reminders

Implications/Recommendations

- Results can be applied to similar use-type areas with similar visitor/employee interactions
 - Other national, state, county or private campgrounds, Recreational areas
- Institutional, long-term behavioral change (within the National Park Service) strategies must be investigated to realize even greater results