Using Information as a Management Tool

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Theoretical Premises

- To be effective, Wilderness interpretation must be tailored to the needs and tendencies of a **non-captive** audience.
- **Theories of behavior and motivation** should guide the development of our persuasive communication strategies.
- Information should address specific **target audiences.**
- Wilderness education serves many roles in sustainable Wilderness stewardship.

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Foster awareness, knowledge *&* appreciation

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1. Foster awareness, knowledge *&* appreciation

- History & philosophy of Wilderness
- On-site and vicarious benefits
- Natural history of the area
- Appreciation of wildness & naturalness
- Commitment to conservation & a land ethic
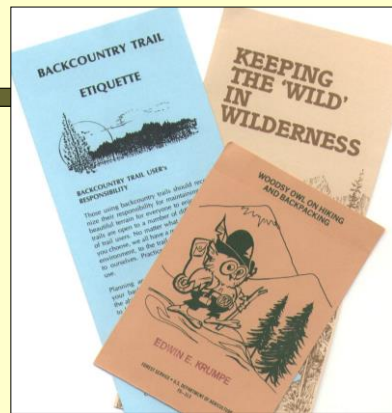- Better informed citizens

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2. To develop skills & promote behaviors

- LNT & other "Light on the land" skills
- Low impact camping, sanitation
- Stock handling
- Navigation & travel, first aid
- Following rules
- Pack it In, Pack it Out . . .

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Leave No Trace! LAND ETHICS

THESE ARE SPECIAL AIRFIELDS

A Guide to Wilderness Flying

By Aviators, for Aviators

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3. Enhance Users' Wilderness Experience

- Trip planning information
- Maps, guidebooks, brochures
- Explain regulations
- Travel to and from
- Alternative destinations & opportunities

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4. Enhance Agency/Public Relations

- On-site information -- useful & relevant
- Off-site information -- interesting & useful
- Public meetings & 2-way communication
- An involved public

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Two Approaches to Management

Direct	*Indirect*
• Physical Alterations	• Manipulate Site
– Harden campsites	– Bridges & trails
• Regulations	– Sanitary facilities
– Assign routes	– Develop access
– Limit visitation	• Fees
– Permits	• Eligibility requirements
– Reservations	• Information & Education

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Traditional Approach Using Problem-targeted Message

- Describe the problem.
- Tell what the impacts are.
- Explain the reason for the regulation.
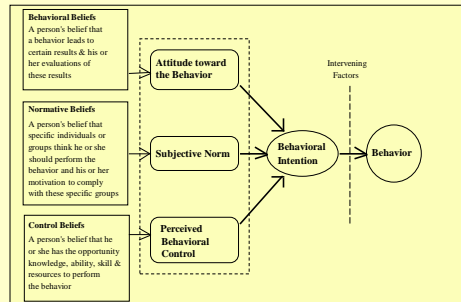- **"People will do the right thing!"**

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Typical Problem-targeted Message

- **Prevent damage to trees!**
- Trees can be stressed or killed by tying stock to them.
  - Stock ropes tied to trees will wear away the bark.
  - Tethered stock paw & compact the soil.
  - Tree roots are exposed & damaged.

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Theory of Reasoned Action & Theory of Planned Behavior

Behavioral Beliefs
A person's belief that a behavior leads to certain results & his or her evaluations of these results

Normative Beliefs
A person's belief that specific individuals or groups think he or she should perform the behavior and his or her motivation to comply with these specific groups

Control Beliefs
A person's belief that he or she has the opportunity, knowledge, ability, skill & resources to perform the behavior

Attitude toward the Behavior

Subjective Norm

Perceived Behavioral Control

Intervening Factors

Behavioral Intention

Behavior

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Always Aim Messages at Beliefs

- Address their <u>beliefs</u> about the <u>consequences</u> of their actions:
  - "Cutting switchbacks causes erosion."
- Address their beliefs about what <u>other people think</u> about them cutting switchbacks:
  - "My friends hate muddy, eroded trails."
- Address their <u>beliefs</u> that they have <u>control</u> over cutting switchbacks:
  - "It is easy for me to stay on the trail if I want to!"

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Applying the Theory

Identify the <u>problem</u>

Identify the <u>behaviors</u> causing the problem (actions and inactions)

Identify the <u>target audience</u>

Identify the audience's <u>beliefs</u> about:
- the consequences of the behavior
- what important others think
- what they believe they are capable of doing

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3 Approaches to Belief-Targeted Messages

- Construct a belief that <u>doesn't exist</u>.
  - "Cutting switchbacks causes erosion."
  - "Steep downhill hiking causes injury to muscles & joints."
- Change a <u>wrong</u> belief.
  - "It doesn't really matter if I cut switchbacks."
- <u>Downplay</u> one belief and <u>highlight</u> more important ones.
  - "Staying on the trail is actually easier on my legs & prevents eroded trails."

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Salient Beliefs & Targeted Messages

- **Identify the beliefs of people who do the <u>right</u> thing.**
- **Identify the beliefs of those who do the <u>wrong</u> thing.**
- **Create messages to <u>reinforce</u> the right behavior.**
- **Create messages that <u>down-play</u> reasons to do the wrong behavior.**

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Problem-targeted vs Belief-targeted Messages in the Sawtooth Wilderness

- A field experiment to influence backpackers and horse packers

USDA Forest Service

University of Idaho

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Wilderness is the last great place to keep things *wild & natural . . .*

There's no excuse for the Sawtooth Wilderness to be anything less!

A cooperative project of:

Wilderness is the last great place to keep things *wild & natural . . .*

There's no excuse for the Sawtooth Wilderness to be anything less!

A cooperative project of:

If all 60,000 Sawtooth Wilderness visitors camped like this ...

... will the wilderness stay natural?

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(Problem targeted messages -- USFS)

Using stock?

Prevent damage to trees!

Trees can be stressed or killed by tying stock to them.
- Stock ropes tied to trees will wear away the bark.
- Tethered stock paw and compact the soil.
- Tree roots are exposed and damaged.

Use stocktie areas or highlines.
- Tie stock well away from water and wet areas to protect fragile lakeshores and streambanks.

Stopping for just a few minutes?
- Tie to 8" diameter or larger trees only.

Do you really need a campfire?

Consider the impacts campfires cause:
- Gathering firewood depletes the area of essential nutrients from decaying wood.
- Large areas are trampled when you gather wood.
- Throughout the camping season there's an unsightly accumulation of charcoal and debris.
- Building new fire rings cause a proliferation of fire scars and blackened rocks.

Please use a camping stove.

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(Belief targeted messages -- U of I)

4 Great Reasons why to pack pelletized feed for your hard working stock . . .
- Pelletized feed is a dependable, high quality source of feed for your stock. It will keep your animals healthy and happy.
- Using light weight tents, stoves, and camping gear saves weight and leaves plenty of room to pack your pelletized feed.
- Big game animals depend upon the high mountain meadows. They can't pack in supplemental feed...but you can!
- High mountain meadows are very sensitive to grazing and hiking due to their short growing season and boggy conditions. Although they contain some nutritious forage, it is usually patchy and low in abundance. This is no substitute for a dependable diet.

4 Great Reasons why NOT to have a campfire in the wilderness . . .
- If you don't like cleaning dirty blackened pots, try a camping stove. They're light weight, they cook fast and clean up is a lot easier. Besides, a stove weighs less than a hand ax!
- A camping stove will give you more time to enjoy what you came to the Wilderness for.
- If you think a campfire provides atmosphere, you ought to see the night sky without one! You'll see and hear things that you may have never noticed before.
- Preparation and good sense, not a big campfire, keep people warm and dry in the Wilderness!

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(Problem targeted messages -- Fires)

Consider the impacts campfires cause:

Gathering firewood depletes the area of essential nutrients from decaying wood.

Large areas are trampled when you gather wood.

Throughout the camping season there's an unsightly accumulation of charcoal and debris.

Building new fire rings cause a proliferation of fire scars and blackened rocks.

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(Belief targeted messages -- Fires)

If you must have a campfire . . .
- Do you really need to build a new fire ring? Doing so will leave your permanent mark on this Wilderness. Please use an existing ring and build a small fire.
- Your camping buddies may want to have a big fire... but let them know they will have just as much atmosphere with a small fire and it's easier on the environment, especially if you use dead wood that you can break with your hands.

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- Stock ropes tied to trees will wear away the bark.
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Use stocktie areas or highlines.
- Tie stock well away from water & wet areas to protect fragile lakeshores & stream banks.

Stopping for just a few minutes?
- Tie to 8 inch diameter or larger trees only.

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Why everyone should use a highline or stocktie area . . .

Strong, light-weight & easily-packed, highlines are safe for your stock & less work for you!

If you use a highline or stocktie you will feel good knowing that the Wilderness' trees & meadows are not being harmed.

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If you choose to build a fire . . .

If you choose to build a fire . . .

•Collect small downed and dead pieces of wood & use an existing fire ring.

•Could you use a stove and enjoy the night sky instead?

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If you don't like cleaning dirty blackened pots, try a camping stove. They're light weight, they cook fast and clean up is a lot easier. Besides, a stove weighs less than a hand axe!

A camping stove will give you more time to enjoy what you came to the Wilderness for.

If you think a campfire provides atmosphere, you ought to see the night sky without one! You'll see and hear things that you may have never noticed before.

Preparation and good sense, not a big campfire, keep people warm and dry in the Wilderness!

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Pack pelletized feed . . .

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•Hay and straw make a mess and introduce weeds.

•Grazing opportunities are very limited in high mountain meadows.

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Big game animals depend upon the high mountain meadows. They can't pack in supplemental feed . . . but you can!

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Using Information to Disperse Backcountry Campers

- An experiment in Yellowstone to influence backpackers to take less-used trails.

BACKCOUNTRY TRAIL SELECTOR

- Information packet to redistribute users to the <u>less-used</u> backcountry trails in Yellowstone National Park.
- Information displayed as a dichotomous key to help people in their decision making process.
- A field experiment with treatment and control groups and post-test survey.

BACKCOUNTRY TRAIL SELECTOR

- Random sample of treatment days
- People randomly assigned to treatment or control
- Applied at all backcountry permit stations
- Trip route collected from permit data
- Follow-up mail questionnaire

BTS Results

Group	Busy Trails	Took BTS Trail
• Treatment	62.6%	**37.4%**
• Control	86.3%	**13.7%**

- **BTS influenced 23% to take less used trails.**
- **83% would use BTS to plan next trip**
- **39% showed it to someone else planning a Yellowstone backcountry trip**

When do Yellowstone backpackers select a trail?

- 38% decided on same day as their trip.
- 41% decided 1 day to 2 weeks before.
- Only 4% decided 2 weeks to 1 month before.
- 50%+ talked to a ranger first (1-3 days).
- BTS people had less experience in Yellowstone.
- 42% said BTS most influential source of info

And…visitors brought BTS to Yellowstone for next 5 years!

Conclusions about Using Information as a Management Tool

- Information is a useful management tool.
- Information is no "silver bullet!"
- Information should target beliefs pertinent or "salient" to the users.
- Information should be timely and useful.
- Don't make assumptions about effectiveness--

   Evaluate behaviors, beliefs, and users!

"Educate for the future because future generations will be our judge."

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Thank You!
Any Questions?

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