

ETPS

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Eastern Tropical Pacific Seascape Training

Module 6:

Visitor Use Management



Objectives

- Recognize the need for and utility of visitor-use planning and management
- Recognize that people are both the source of problems and a resource for solutions
- Become familiar with the Limits of Acceptable Change process
- Understand importance of monitoring through the process
- Identify local/regional visitor-use management issues
- Understand and identify “good” indicators and standards for resource condition and visitor experiences
- Apply the Limits of Acceptable Change process to identified local/regional issues

Limits of Acceptable Change (LAC)

Focus – How much impact is too much?

- **Accepts that some impact will occur**
- **Specific limits on precisely what impacts are too much**
- **Not concerned with exact visitor numbers**
- **Allows for alterations of *visitor behavior***
- **Allows for differences in *site vulnerability***

Basic Logic of LAC

1. Identify two goals in conflict
 - often environmental conditions & visitor experiences
2. Establish whether both goals must be compromised
3. Decide which goal takes priority
4. Write LAC standards for the priority goal
5. Allow compromise in the priority goal only until the LAC standards are reached.
6. At that point, compromise the other goal as much as necessary.

LAC forces us to realize that *unrestricted* visitor access cannot always be accommodated.

Working through LAC

Worksheet 1:
Problem
Specification

Worksheet 2:
Strategy &
Tactic Selection

Worksheet 3:
Tactic
Implementation



What are the impacts?

What impacts do visitors have

- on resources?
- on visitor experiences?



Impacts to resources

Trail deterioration



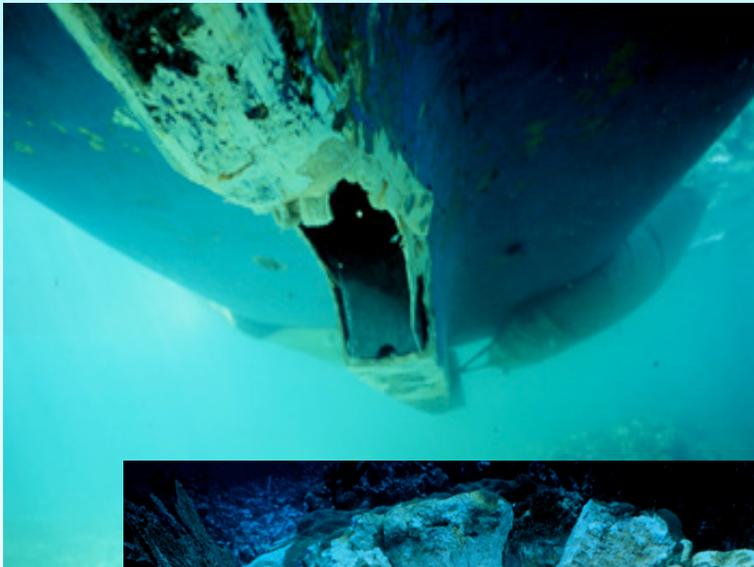
Impacts to resources

Campsite deterioration



Impacts to resources

Live bottom injury



Impacts to resources

Cultural resource deterioration



Impacts to resources

Improper disposal of human waste & water pollution



Impacts to resources

Litter & marine debris



Impacts to resources

Damage to vegetation & Control of invasive species



Credit: Tui de Roy/Roving Tortoise



Harold Hudson - Florida Keys NMS



Impacts to resources

Wildlife impacts



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Impacts to visitor experiences



Crowding



Impacts to visitor experiences

Multi-user conflicts



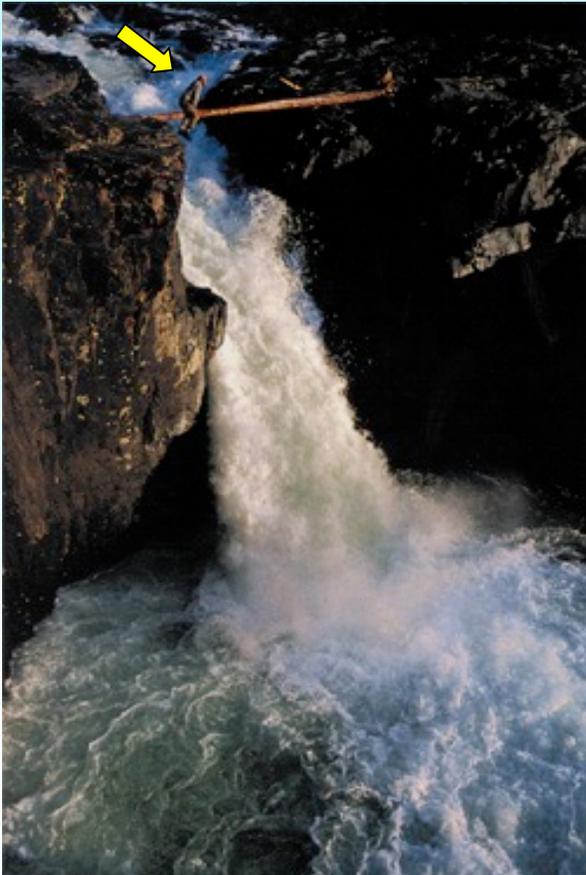
Impacts to visitor experiences

Inadequate access



Impacts to visitor experiences

Threats to visitor safety



Used Improperly, Anti-Bear Spray May Backfire

Backcountry hikers in Alaska often carry canisters of red pepper spray as a defense against an attacking bear. Sprayed in the bear's eyes or nose, the product may deter a charge. But U.S. Geological Survey biologist Tom Smith has made a startling discovery. If used improperly—on tents, food containers, clothing, or other objects—the spray's residue could actually attract bears.

"I sprayed it onto a beach and then watched a sow and her cubs rolling in the gravel, just having a heck of a time," Smith says. Bears can pick up the spray's scent from a quarter of a mile away, he adds. Spraying a campsite could create



ART BY BRIAN ALPHEA

danger for the next people to use it. The residue appears to be a stable compound that lingers for weeks. Smith thinks bears' natural curiosity about strange scents explains the attraction.



Impacts to visitor experiences

Noncompliant behavior & vandalism



What do these impacts mean for managers?

*Not really managing resources, but
rather managing people...*

Problem specification: what exactly is the problem?

Sometimes the problem is obvious...



Problem elements:

- **Impacts**
 - to resources
 - to visitor experience
- **Root causes**
 - what is really causing the problem?

Problem specification tips

- **Articulate problems in terms of specific impact to the resource**
- **Avoid framing a problem in terms of solution**
- **Distinguish between problems and the root causes**

Example 1: Be specific

Vague:

Boats are damaging coral reefs.

Specific:

Boat operators are causing damage by anchoring on the coral.



Credit: National Park Service

Example 2: Don't define the problem in terms of a solution

Defined in terms of a solution:

Boat operators should be fined for anchoring on coral.

Just the problem:

Boat operators are causing damage by anchoring on the coral.



Credits: Ningaloo Campaign

Example 3: Distinguish between problem and root causes

Problem:

Coral reefs are being damaged by boat anchors.

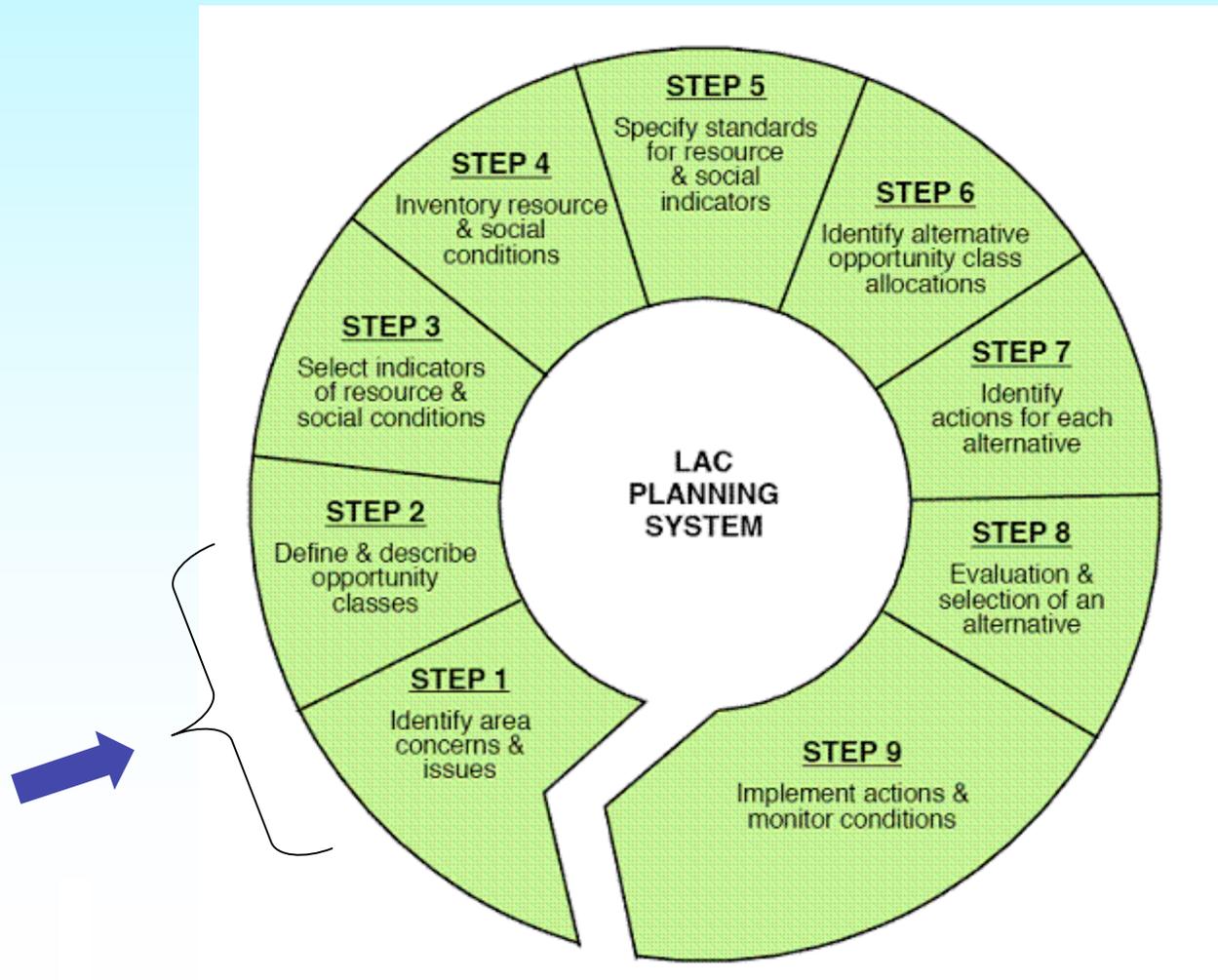
Root cause:

Boat operators are unaware of mooring buoy locations.

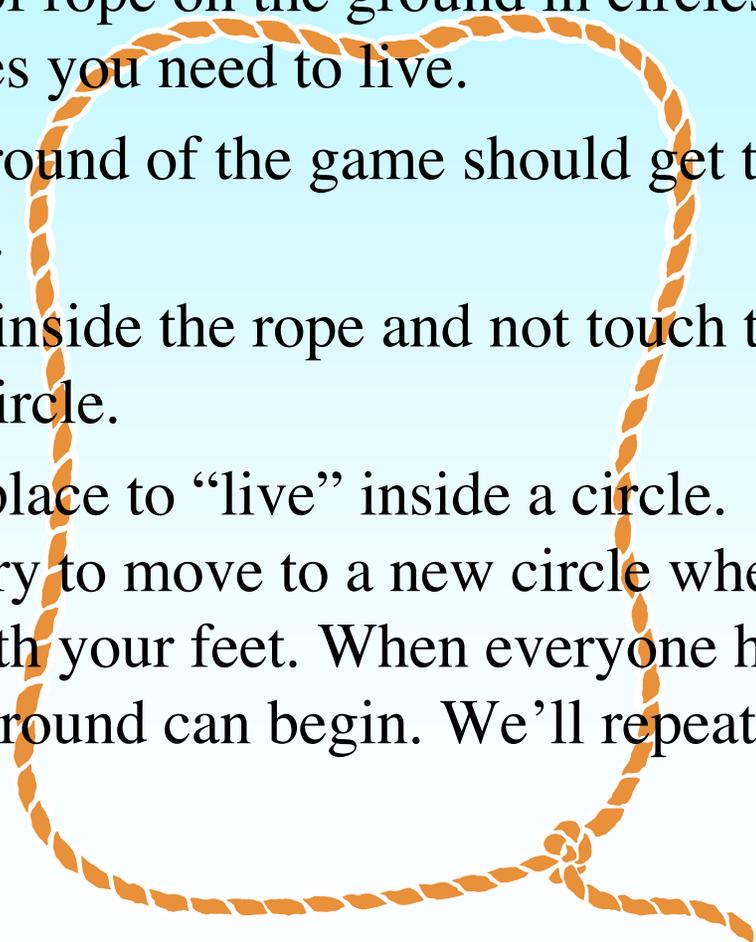


Credit: Reef Relief

LAC Methodology



Space for Living

1. **Set-up:** Different lengths of rope on the ground in circles. Each circle contains the resources you need to live.
 2. **Rule 1:** Everyone in each round of the game should get the resources they need to live.
 3. **Rule 2:** Both feet must be inside the rope and not touch the rope or the ground outside the circle.
 4. **Action:** Everyone finds a place to “live” inside a circle. When you hear “switch,” try to move to a new circle where there is space inside for both your feet. When everyone has “space for living” the next round can begin. We’ll repeat this a number of rounds.
 3. **Debrief.**
- 

Carrying Capacity

- What is carrying capacity?
- How can it be measured?



Problems with Carrying Capacity

Numbers are often not an accurate measure of impacts.

Impacts will vary with:

- **Visitor behavior & motivations**
- **Mode of transportation**
- **Type of lodging**
- **Effectiveness of guides**
- **Season and time of day**
- **Site hardening**

Carrying Capacity As Used Today

Broader definition - *type* of visitor behavior taken into account

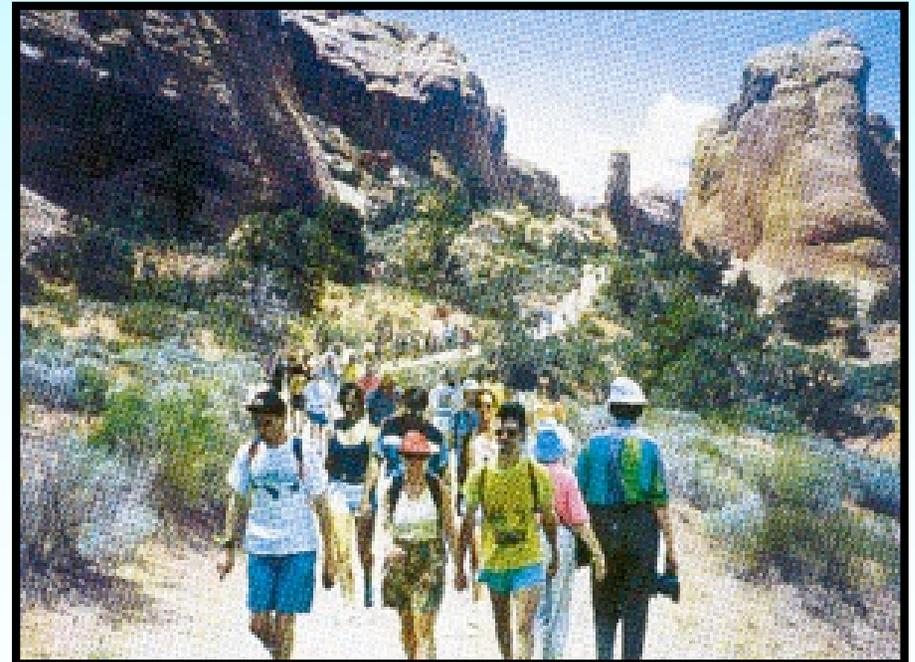
Is most useful in situations where visitor behavior is fairly consistent and predictable: for example, *#divers at coral reefs*.



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When is enough enough?



Indicator

A measurable characteristic of an object, event, or process that provides a gauge as to overall condition.

5 Characteristics of Good Indicators

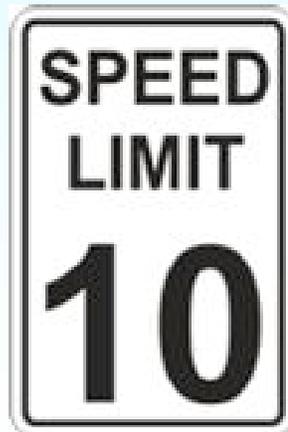
S**Sensitive and Significant****M****Measurable****A****Appropriate****R****Realistic, Reliable, and Replicable****T****Time, Space, and User Characteristic-bounded**

Standard

- **The minimally acceptable condition of an indicator**
- **The trigger-point for management action**

Standard

- No one formula for creating standards
- Managers set standards based on their knowledge of their sites
- Often done in collaboration with stakeholders



Example Indicators and Standards

Indicator:

- Number of social trails connecting parking lot to beach per 100m of linear dune

Standard:

- No more than 1 social trail per 100m of linear dune

Example Indicators and Standards

Indicator:

- Number of complaints to park officials per week related to excessive motorized vessel speed near swimming areas during summer season

Standard:

- No more than 5 complaints per week

Example Indicators and Standards

Indicator:

- **Number of citations issued to recreational boat operators per week for speed zone violations**

Standards:

- **Off season (November-April): No more than 2 citations issued per week**
- **High season (May-October): No more than 5 citations issued per week**

Example Indicators and Standards

Indicator:

- **Number of citations issued to recreational boat operators per week for speed zone violations**

Standards:

- **Level 1 response: 5 citations issued per week**
- **Level 2 response: 10 citations issued per week**

Example Indicators and Standards

Statement of the Problem:

- Coral reefs are being damaged by boat anchoring.

Potential Indicators & Standards:

- **INDICATOR:** Number of scars in three representative 1-acre plots near high boat traffic areas
- **STANDARD:** 10 scars visible per acre in aerial photo

- **INDICATOR:** Number of scarring incidents seen by enforcement personnel
- **STANDARD:** 5 reports per week

Indicators and Standards

Activity: what are some indicators and standards that you could use at your site?



Credit: SNCweb

Monitoring

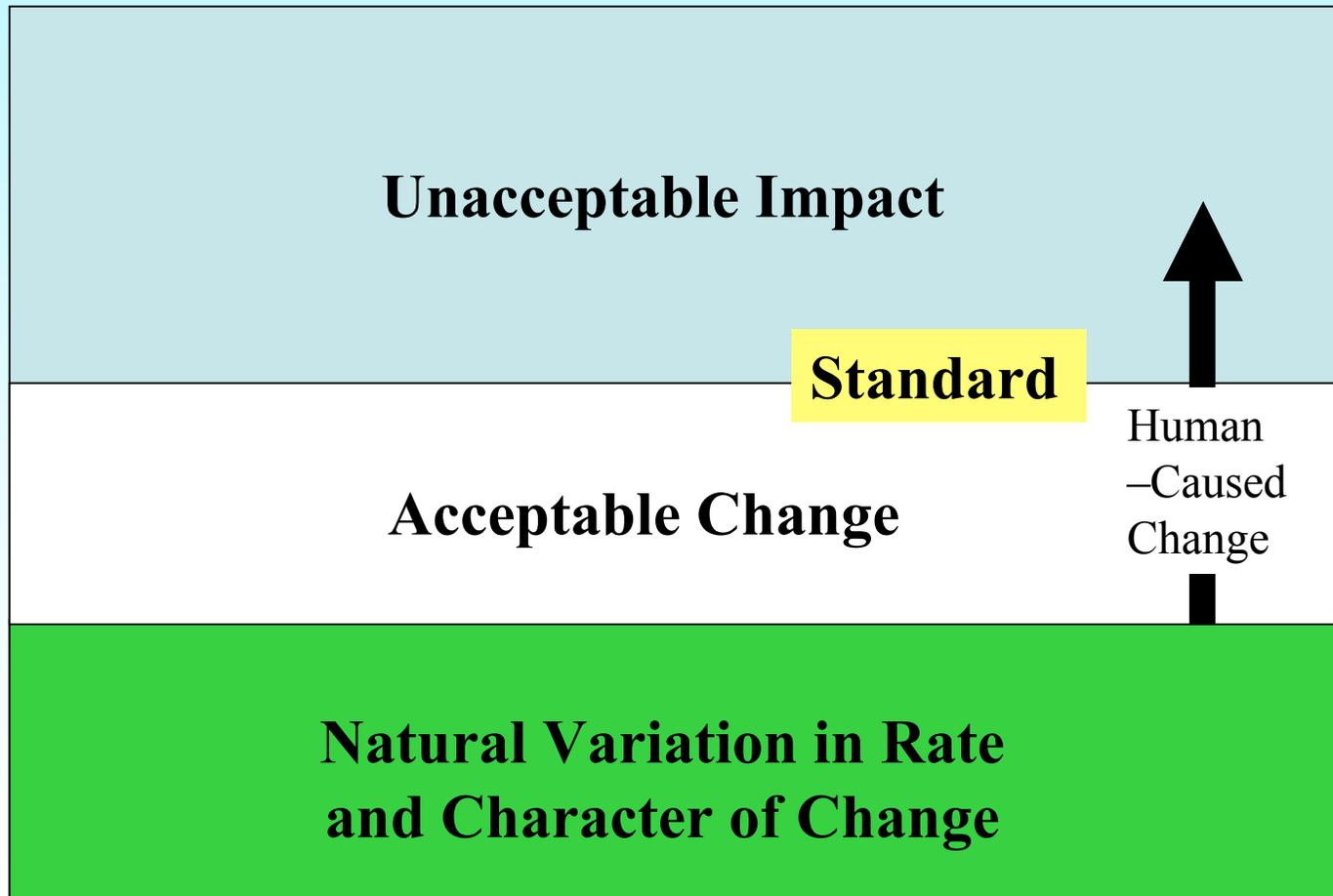
- The need for monitoring
- How much is too much?



Why Monitor?

- **Track overall resource conditions and quality of visitor experiences**
- **Quantify existing impacts**
- **Provide evidence impacts are above or below standards**
- **Get early warning of upcoming problems**
- **Evaluate whether management interventions are working**
- **Practice adaptive management**

Monitoring and Standards



What to monitor?

Resource conditions: *natural science data*

- Vegetation cover (loss)
- Nest sites (disturbance)
- Wildlife behavior

Visitor characteristics: *social science data*

- Visitor demographics and user types
- Use levels and patterns
- Visitor attitudes, perceptions, and beliefs
- Visitor motivations, expectations, experiences

Management actions

The Big Question is...

How are **A** and **B** changing in response to **C**???

Various visitor characteristic monitoring methods

- **Observation**
- **Visitor surveys**
- **Interviews**
- **Focus groups**
- **Economic analysis (\$\$ spent, distance traveled)**
- **Content analysis / document review**
- **Secondary data analysis (permit data)**
- **Social assessment**

What are the local issues – Problem specification and current conditions

Worksheet 1: Problem Specification

Statement of the Problem – Boat operators are causing damage by anchoring on the coral.

What are the specific impacts related to the problem?

Describe root cause(s) of impact.

Indicator

What can be measured to gauge level of impact? (indicate which impacts are being monitored.)

Scarring

Loss of habitat for fish, crustaceans, turtles

Visitors complain about decreased wildlife viewing

Boat operators are unaware of mooring locations

Boat operators are unaware of mooring regulations

Number of overturned colonies per km² in sampling area

What are the local issues – Problem specification and current conditions

Worksheet 1: Problem Specification

Statement of the Problem – Boat operators are causing damage by anchoring on the coral.

Standard

Threshold where impact becomes unacceptable.

Do you know the level of impact based on the indicator?

If YES, describe

If NO, how would you find out?

Estimate the level of existing impact...

acceptable

approaching unacceptable

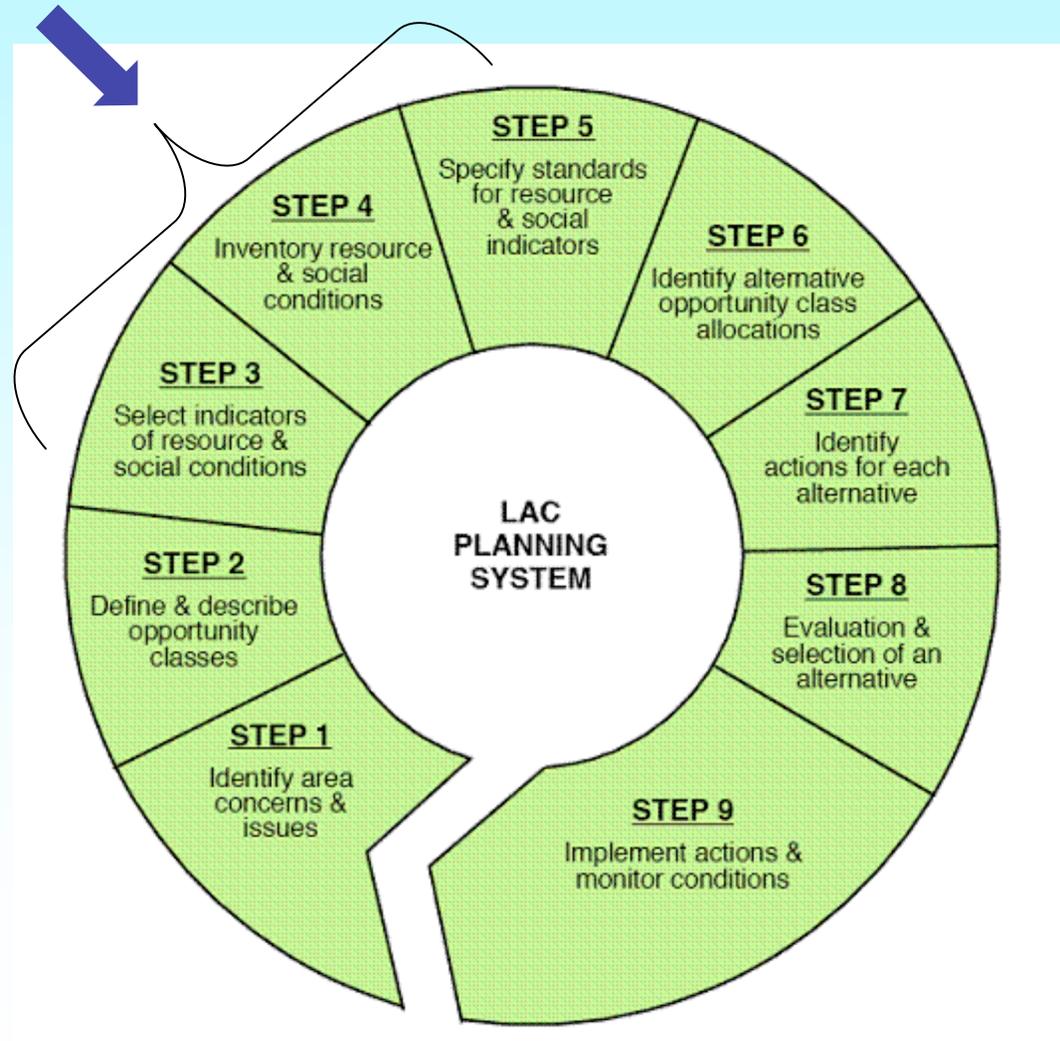
unacceptable

2 overturned colonies per km² in sampling site

No, establish baseline through monitoring

unacceptable

LAC Methodology



Addressing visitor impacts: two tracks

1. Problem solving
2. Increased sense of responsibility and ownership

Bottom line: Can't wait for the ethic to develop before taking action. We need a process for addressing impacts right away.

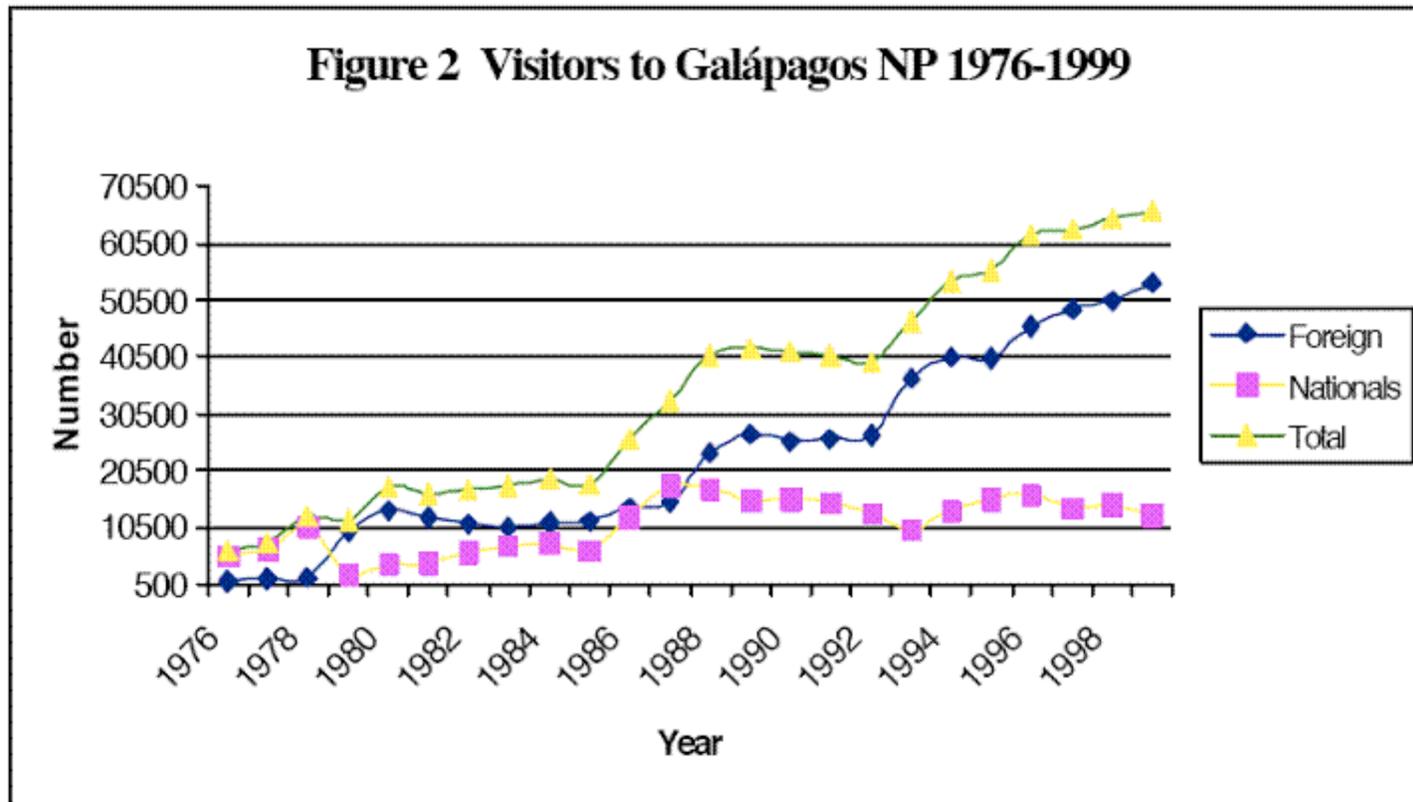
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Case study: Galapagos Visitor Numbers



Galapagos Visitor Numbers

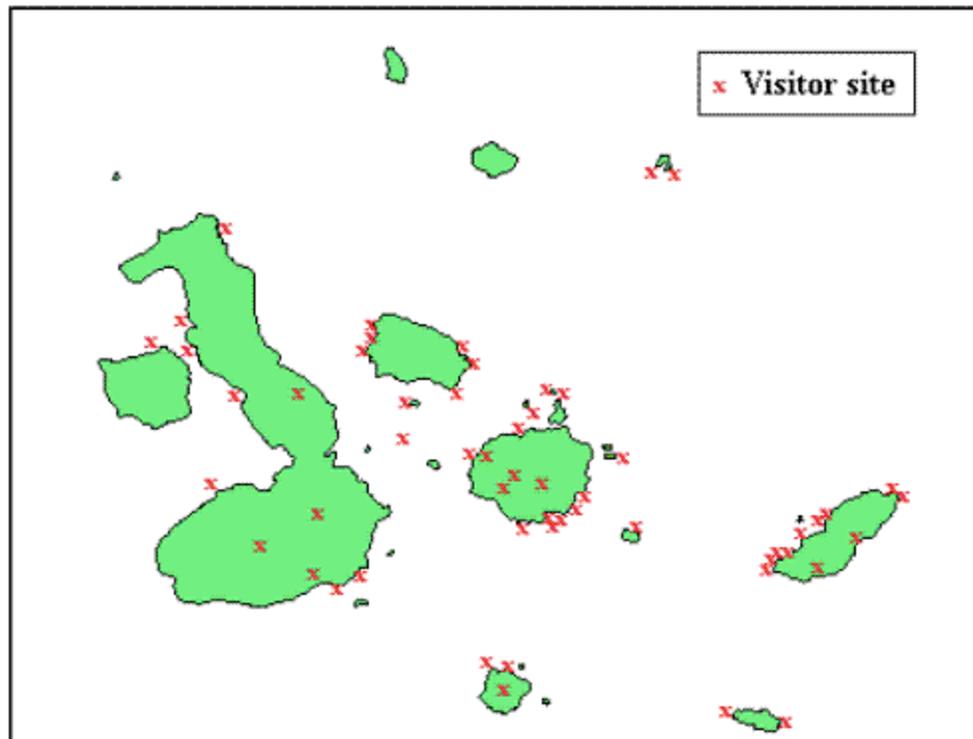


Sources: Carrasco, 1992; GNPS, 2000

Galapagos Visitor Sites

No limit on visitors overall - but limit on #visitors *per site*

Map 3 Visitor sites



Source: ESRI, 2000

Galapagos: Monitoring visitor numbers

- Entrance records
- Ship reports
- Guide reports (after each site visit)



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Cousin Island, Seychelles



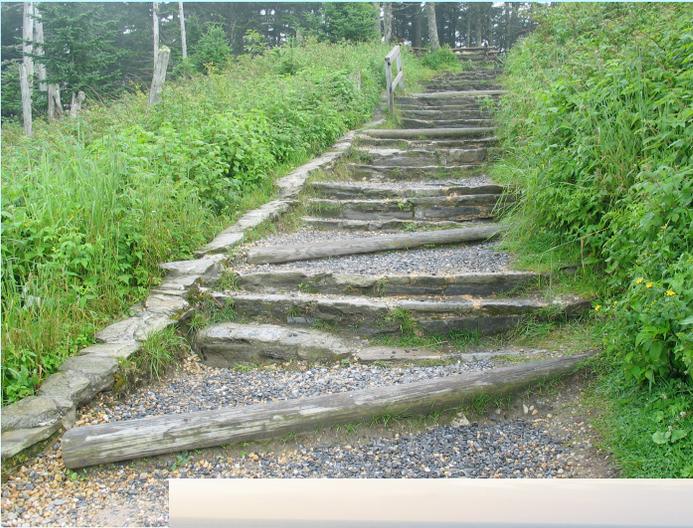
How can you limit impacts?

Management Strategies and Tactics

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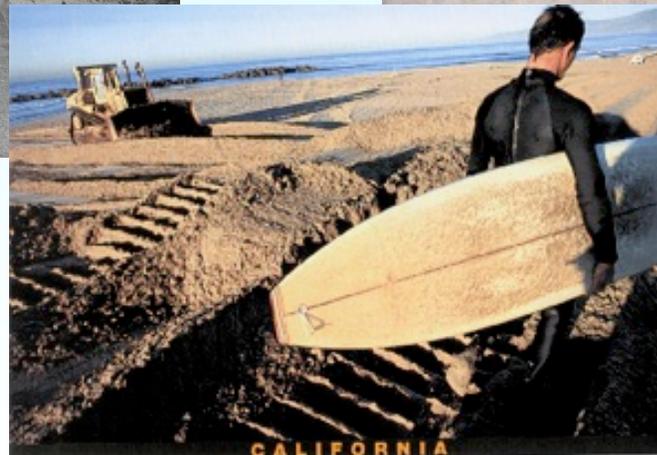
Management Actions *Can* Save the Day



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Site Management



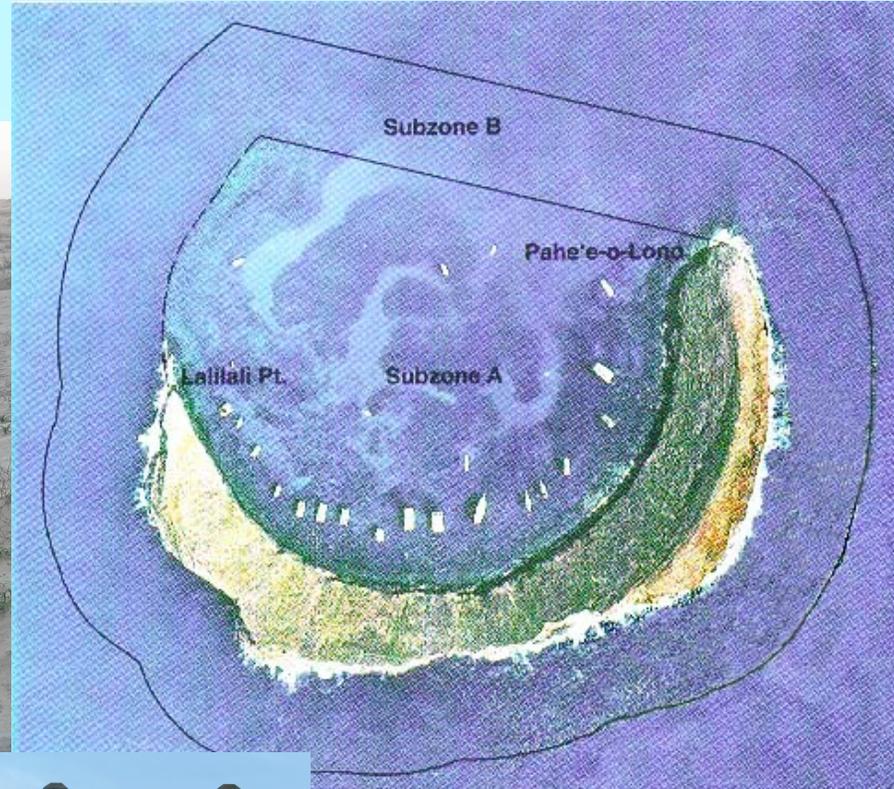
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Rationing & Allocation



Regulations



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Deterrence & Enforcement



PASSION VINE

The Passion fruit develops after the beautiful flowers fade. The petals of the flower contain a potent aphrodisiac. Caution: do not eat them. There have been some most embarrassing situations here in the park as a result of this.

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Visitor Education & Interpretation



Target groups:

Universities

Local Schools

General Public / Local Community

Tourists & Casual Visitors

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Types of Education Activities



Guides and Guide-Training Programs

Visitors rank guides as the most important aspect of a tour



Huarani guide and community ecotourism coordinator Mel Enemanga in the Ecuadorian Amazon © Andy Drumm



Case Study: Galapagos Guides

Foreign vs. local guides

Need for advanced education for naturalist guides



Indigenous Galapagos guides explain traditional medicinal plant use to European ecotourists © Andy Drumm



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Visitor Centers



Capacity building in the local community

Locals often say they wish they had more training in:

Hospitality

Language

Tourist expectations

...etc...



How do you limit impacts?

- Seasonal or temporal limits
- Group size
- Visitor behavior
- Zoning
- Increasing fees
- Facilities & trails ("site hardening")
- Garbage bins
- Visitor education
- Guide training
- ...*others?*...

What methods have you used?



*Boardwalk
in mangroves*

Managing Visitor Use

“There are two kinds of change...planned and unplanned. Which would you rather have?”

~Ed McMahon, The Conservation Fund

Applying the process to local issues

Worksheet 2: Management tactic selection and prioritization

Worksheet 2: Selecting Management Tactics

Management Tactics	Comments
<p>Site Management:</p> <p><input checked="" type="checkbox"/> provide facilities and structures</p> <p><input type="checkbox"/> use vegetation</p> <p><input type="checkbox"/> use physical barriers</p> <p><input checked="" type="checkbox"/> increase (decrease), improve (not improve), or eliminate facilities</p> <p><input type="checkbox"/> close area or facilities</p>	<p>- install mooring buoy system</p> <p>- determine adequate number of buoys</p>
<p>Regulation:</p> <p><input checked="" type="checkbox"/> restrict access to specific locations (zoning)</p> <p><input checked="" type="checkbox"/> restrict use/behavior at facilities</p> <p><input type="checkbox"/> restrict/prohibit activities</p> <p><input type="checkbox"/> restrict/prohibit equipment</p> <p><input type="checkbox"/> restrict/prohibit modes of travel</p> <p><input type="checkbox"/> limit length of stay</p>	<p>- designate mooring areas</p>

Selecting management tactics

Questions to consider:

- **Does the tactic adequately address the root causes of the visitor use problem?**
- **Do you have the authority to implement this tactic?**

Effort-Impact grid

~EFFORT~
(e.g., time, cost, expertise to implement)

		Low	Medium	High
~IMPACT~ (e.g., improvement in conditions)	High			
	Medium			
	Low			

LAC Methodology



Worksheet 3: Implementation planning

- **Who's going to do what?**
- **By when?**
- **Using what resources?**

LAC Methodology



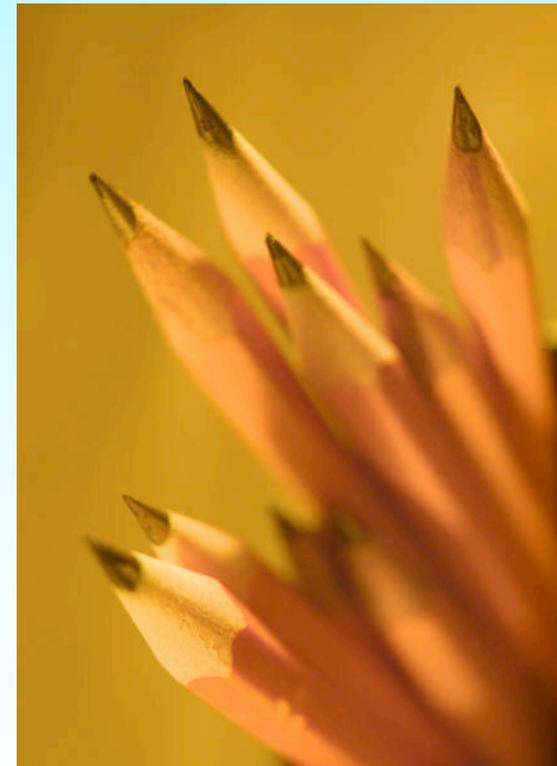
Other methods

- Measures of Success
- Threat Reduction

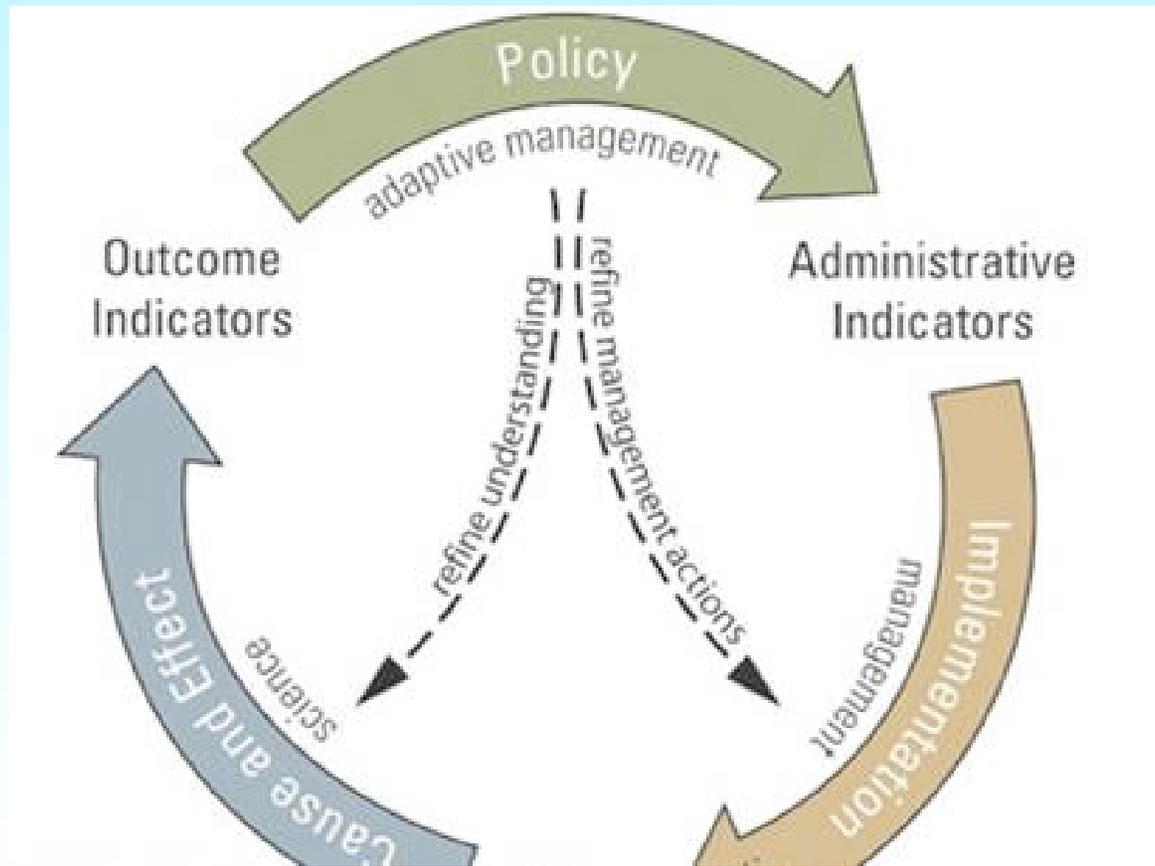


Collecting information

- **Cost**
- **Personnel**
- **Record-keeping**
- **Visitor surveys & questionnaires**



Adaptive management



Discussion: Policy & legislation

What are the major policy differences across the ETPS?

