

USER CAPACITY WORKSHOP for the GOGA/MUWO GMP
Muir Woods National Monument
December 4-6, 2007, Lower Fort Mason
Meeting Notes

WORKSHOP PURPOSE:

Continue to develop a long term strategy for managing user capacity in Muir Woods National Monument to be included in the general management plan (GMP). To achieve this purpose, the workshop will seek to accomplish the following:

- Understand the monument's purpose/significance and draft set of desired conditions (management zones) for natural and cultural resources and visitor experiences, and the application of the management zones by GMP alternative.
- Understand the existing state of knowledge related to visitor influences on resource conditions, visitor use levels and patterns, and visitor expectations and preferences.
- Identify the critical elements of desired visitor experiences and resource conditions that may serve as user capacity indicators.
- Prioritize the range of potential user capacity indicators for inclusion in the general management plan.
- Identify a tool kit of management strategies that could be applied for each priority user capacity indicator.
- Identify workgroup participants who will develop standards for each priority user capacity indicator.

SUMMARY OF MEETING PROCESS:

See also detailed agenda (attachment #1) and list of workshop participants (attachment #2)

The workshop included a diversity of participants from the National Park Service, Golden Gate National Parks Conservancy, California State Parks, and recognized experts in resource and visitor use management. The workshop began on Tuesday, December 4th, with review and consideration of baseline information on resources, visitor experiences and visitor use trends at Muir Woods National Monument. This included several presentations and a site visit to Muir Woods. The participants also reviewed the guidance being developed as part of the general management plan (GMP) including the monument's purpose and significance, and desired conditions by alternative (these are important directives in the user capacity process).

On Wednesday, December 5th, workshop participants worked in small groups (natural resources, cultural resources, and visitor experience) to consider potential influences/impacts of concern based on baseline information and desired conditions/alternatives being considered in the GMP. Based on this information, each small group then identified the natural, cultural and visitor experience related indicator topics (e.g., encounter rates, soundscapes, user created trails) that seem to be important for the monument. Each small group then identified which of these potential indicator topics are most relevant to addressing user capacity concerns in the monument. The prioritization was based on the following criteria:

- Level of importance for protecting Muir Woods' purpose, significance, fundamental resources and values and associated desired conditions
- Measures an impact to a very sensitive resource or value
- Clarity of connection between human use and impact of concern
- Related to an existing monitoring effort

The list of small group results on potential and priority user capacity indicators are included as **attachment #3**. On Thursday, December 6th, all workshop participants reviewed the outcomes of the small group deliberations and further considered which user capacity indicators were a priority for inclusion in the GMP for Muir Woods National Monument. The participants also considered the feasibility of each indicator and how well the indicator would provide useful management information on the amount, location, timing and/or behavior of visitor use. The list of prioritized indicators for the GMP is below. In addition to the potential GMP indicators, the discussions during the workshop identified some other important "to-do" items for the GMP planning team to address. These "to-do" items are also summarized below.

The agenda item of discussing management strategies for each prioritized indicator was not completed during the workshop due to time constraints. This task will be completed as part of the subcommittee assignments on each priority user capacity indicator.

The next steps for the user capacity process are to address the discussion items as well as work in small groups to: (1) finalize the indicators and assign by management zone (2) recommend standards to the GMP steering committee based on desired conditions and background information, and (3) identify a management toolbox for each indicator. The assignments for subcommittees to continue this work are also below.

WORKSHOP RESULTS:

Discussion "To-Do" Notes:

- Need to include in the description of all GMP alternatives the importance of protecting a healthy, natural functioning redwood forest. (**Assigned:** GMP team)
- Need to consider if additional description in the alternatives is needed on desired types, levels and locations of development for Muir Woods. This would include additional clarification on the need for infrastructure to be sensitive to the functioning of the redwood forest system, supportive of carbon footprint goals, and sustainable. (**Assigned:** GMP team)
- Need to include in the GMP a discussion of all indicators that were identified as important to Muir Woods, even if these indicators were not identified at the highest level of priority for the purposes of addressing user capacity in the GMP (**Assigned:** GMP team)
- Need to include in the GMP a discussion of all existing monitoring efforts to demonstrate the amount of effort that is already taking place to protect the resources and visitor experiences of MUWO and other areas of GOGA (**Assigned:** GMP team)
- Need to develop a communication strategy for user capacity as part of public involvement in the GMP (**Assigned:** GMP team)
- Need to include a discussion in the GMP on the importance of the fire and flooding regimes in the redwood forest, including the need to further evaluate and reintroduce fire in the ecosystem – this

- would have an impact on visitors’ opportunities to visit the woods, but it would also provide an opportunity for them to witness and understand resource disturbance regimes. (**Assigned:** GMP team)
- Need to further investigate how visitor use may influence the health of the redwood forest – specifically, are there other indicators (in addition to informal trails, soil compaction, invasive species) that would measure more direct impacts to the forest as a result of visitor use? (**Assigned:** Mike, Mia, Tamara, Sue and others)
 - Need to further evaluate facility capacity limitations (e.g., utilities) and consider how they should be incorporated into the user capacity discussion. (**Assigned:** Mike and Kerri)
 - Need to consider the potentially different perspectives of varying cultural groups when developing standards – especially those related to the density of visitors. (**Assigned:** standards subgroups)
 - Need to develop strategies for long term communication with the public on important information related to user capacity and visitor use management (**Assigned:** GOGA and MUWO staff, GGNP Conservancy)

Draft User Capacity Indicators to be Considered for the GMP:

- **Invasive species** (e.g., new occurrence, % increase in cover)
- **Food/wildlife interaction** (e.g., incidences of feeding wildlife, incidences of food attraction behavior)
- **Visitor caused noises** (e.g., noise free intervals, decibel levels)
- **Informal trails** (e.g., lineal extent, number, density)
- **Health of forest/trees** (needs further discussion to identify how visitor use may influence the health of forest/trees other than already identified by other indicators such as invasive species, food/wildlife interaction, informal trails, visitor caused noises – see bullet #5 above)
- **Ability to find parking** (e.g., wait times to find a space, parking along roadsides, % of spaces available)
- **Density of visitor use** (e.g., People per viewscape, encounter rates)

Subcommittee Assignments for Advancing User Capacity Indicators:

Invasive species	Tamara Williams/Sue Fritzke* Marcus Koenen Jeff Marion Brian Aviles Sharon Farrell Tanya Baxter Andrea Williams
Visitor caused noises	Tamara Williams* Vicki McCusker/Kurt Frstrup Bob Manning Peter Newman Nancy Hornor Bill Merkle Mia Monroe/Sarah Koenen
Health of forest/trees	Mia Monroe*

	Mike Savidge Tamara Williams Jeff Marion Brian Aviles Sue Fritzke Craig Kenkel Marcus Koenen Sharon Farrell
Density of visitor use	Mike Savidge* Bob Manning Peter Newman Nancy Hornor Mia Monroe
Food/wildlife interaction	Tamara Williams/Bill Merkle* Roy McNamee Mia Monroe/Sarah Koenen
Informal trails	Brian Aviles* Paul Scolari Jeff Marion Sharon Farrell Tamara Williams/Sue Fritzke Steve Griswold
Ability to find parking	Nancy Hornor* Brian Aviles Mike Savidge Rick Foster Sarah Koenen Roy McNamee

* Subcommittee Captains

Each subcommittee will be tasked with the following assignments:

1. **Finalize the indicators** by defining the specific unit of measurement for each indicator topic as it will be applied in specific management zones (note: only assign indicators to the zones where it is most important to monitor and manage)
2. **Recommend standards** to the GMP steering committee based on desired conditions in the applied zone and background information, and
3. **Identify a management toolbox** for each indicator taking into consideration the zone application (note: not all management tools may be appropriate in all zones where an indicator is applied)

**ATTACHMENT #1
WORKSHOP AGENDA**

Tuesday, December 4th (8:00am – 5:00pm), Lower Fort Mason, Building D Room 100

- 8:00am – 8:30am Welcome, meeting purpose, schedule and introductions
- 8:30am – 9:00 am Presentation on user capacity process in GMPs
- 9:00am – 10:45am Presentations on baseline data for visitor use impacts on resources
- 10:45am – Noon Presentations on baseline data for visitor expectations/concerns/preferences
- Noon – 1:00pm Lunch and presentation on current status of GMP
- 1:00pm – 2:00pm Presentations on existing monitoring efforts for Muir Woods
- 2:00pm - 2:15pm BREAK
- 2:15pm *Leave for Muir Woods*
- 3:00pm - 4:30pm Site visit to Muir Woods
- 4:30pm – 4:45pm Re-cap day's work and adjourn meeting
- 5:00pm Get together at Muir Woods

Wednesday, December 5th (8:00am – 5:00pm), Lower Fort Mason, Building D Room 100

1. Questions from previous day
2. Presentation on lessons learned from Yosemite National Park
3. Identify potential visitor use influences/impacts of concern based on baseline information and desired conditions
4. Brainstorm relevant user capacity social indicators related to desired conditions and known/expected visitor use impacts
5. Brainstorm relevant user capacity resource indicators related to desired conditions and known/expected visitor use impacts
6. Prioritize potential user capacity indicators

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December 19, 2007

7. Evaluate the feasibility of prioritized indicators

Thursday, December 6th (8:00am – 12:00pm for workshop participants, GMP team – full day), **Lower Fort Mason, Building D Room 100**

1. Questions from previous day
2. Continue discussions from previous day on prioritization of indicators
3. Identify the management implications of the prioritized indicators
4. Identify small groups that will finalize indicators and select standards
5. Next steps and adjourn workshop

**ATTACHMENT #2
WORKSHOP PARTICIPANTS**

Mia Monroe, NPS, MUWO
Sarah Koenen, NPS, MUWO
Mike Savidge, NPS, GOGA
Tamara Williams, NPS, GOGA
Paul Scolari, NPS, GOGA
Nancy Hornor, NPS, GOGA
Craig Kenkel, NPS, GOGA
Rick Foster, NPS, GOGA
Brian Aviles, NPS, GOGA
Howard Levitt, NPS, GOGA
Yvette Ruan, NPS, GOGA

Sharon Farrell, Golden Gate National Parks Conservancy
Robert Lieber, Golden Gate National Parks Conservancy

Marcus Koenen, NPS, I&M
Vicki McCusker, NPS, Natural Sounds Program

Linda Dahl, NPS, YOSE
Jim Bacon, NPS, YOSE

Martha Crusius, NPS, PWRO
Jay Goldsmith, NPS, PWRO

Bob Manning, University of Vermont
Jeff Marion, USGS, Virginia Tech
Peter Newman, Colorado State University
Amy Merrill, Stillwater Sciences
Cliff Riebe, Stillwater Sciences

Tom Lindberg, California State Parks
Roy McNamee, California State Parks

Stephan Nofield, NPS, DSC
Kerri Cahill, NPS, DSC
Patrick Malone, NPS, DSC

**ATTACHMENT #3
 SMALL GROUP RESULTS ON POTENTIAL & PRIORITY USER CAPACITY INDICATORS**

VISITOR EXPERIENCE GROUP:

Indicators highlighted in grey were selected as a priority indicator by the visitor experience group

Potential Indicator	Potential Measure/Specific Impact of Concern
Parking	<ul style="list-style-type: none"> - Waiting time to park vehicle - Time it takes to walk from parked vehicle to entrance - Number of vehicles parking on road shoulders
Visitor Sound	<ul style="list-style-type: none"> - Percent of time human sounds audible and DBA - Noise-free interval
Shuttle Concerns	<ul style="list-style-type: none"> - Delivery of people, pulsing of people - Wait time - Frequency that the bus is filled and people are waiting - Full bus and people have to stand
Visitor Density	<ul style="list-style-type: none"> - Persons per viewscape - Encounter rates on trails - Freedom of movement (pedestrian level of service measure)
Overload on Facilities	<ul style="list-style-type: none"> - Wait time for visitor facilities - Litter - Sewage
Redwood Experience	<ul style="list-style-type: none"> - Facilities with the redwood footprint - Physical infrastructure functions
Scenic Beauty	<ul style="list-style-type: none"> - Viewscape
Air Quality	<ul style="list-style-type: none"> - Idling cars
Restrooms	<ul style="list-style-type: none"> - See overload on facilities (above)
Overload on Services	<ul style="list-style-type: none"> - Patrols of rangers per hours - Number of visitors who can or cannot find rangers - Interpretive programs - Waiting time at concessions - Ratio of visitors to staff
Access to Information	<ul style="list-style-type: none"> - Testing effectiveness of variable message signs - Survey of visitors - Level of knowledge - Judge adequacy of education and information - Not seeing signs - See #4 crowding and therefore not seeing signs
Special Events	<ul style="list-style-type: none"> - Number of events - Number of visitors disruptive or displaced - Number of complaints
Conflicts between users who have different objectives	Examples: locals who have different uses of the park such as running and other fitness activities
Closing the woods	<ul style="list-style-type: none"> - No public access because of down time for maintenance

	- Opportunities to witness/observe evidence of natural processes
Quality of Services	
Perception of recreation degradation and impact on trails and resources	
Freedom of opportunities to interact with the (Primeval forest, forest ecosystem) redwoods and important resources (salmon)	Crowding See #4
Understanding the conservation role. Inability to understand the conservation movement	Lack of ability to deliver interpretation.
Impact of group type and size	(Could this be written into zones?) Educational groups, ethnic social groups, school groups, commercial groups - survey - Number of complaints
Interpretation/education - inability to understand the most important resources	- See # 11
Visitor safety	- # of incidents - walking on roads
Accessibility	(Define in zones and management actions)
Ability to continue traditional activities	See #12
Lack of providing diverse experience	- management zones
Bad Manners – cell phone	- Disobey rules - Ratio of visitors and staff - Visitor survey

NATURAL RESOURCE GROUP:

Indicators highlighted in grey were selected as a priority indicator by the natural resource group

Potential Indicator	Potential Measure/Specific Impact of Concern
Erosion	
Forest health	<ul style="list-style-type: none"> - Constraints to natural processes, flooding, fire, tree fall - Disease and pathogens - Spread of exotics - Presence of human food - Aromascape - Lightscape
Water quality	<ul style="list-style-type: none"> - Pollutants/heavy metals from vehicles - Pathogens from human waste
Sound/human noises	<ul style="list-style-type: none"> - Noise free interval - Decibel levels
Informal trails	<ul style="list-style-type: none"> - Density measure (i.e., linear feet/acre) - Lineal extent
Area of disturbance	<ul style="list-style-type: none"> - Exposed bare soil (i.e., severity index) - Soil loss; vegetation loss - Area of impact beyond defined area
Condition of formal (natural surfaced, dirt) trails	<ul style="list-style-type: none"> - Continuum of impact
Area of vegetation loss	<ul style="list-style-type: none"> - Trails, roads, recreation sites
Occurrences of targeted invasive plants	<ul style="list-style-type: none"> - % cover - Occurrence
Food/wildlife interaction	<ul style="list-style-type: none"> - Occurrence of corvids - Attraction to food
Informal recreation sites	<ul style="list-style-type: none"> - Condition
Non-natural light	<ul style="list-style-type: none"> - % above ambient - Luminescence

CULTURAL RESOURCE GROUP:

Indicators highlighted in grey were selected as a priority indicator by the cultural resource group

Potential Indicator	Potential Measure/Specific Impact of Concern
Presence of social trails	- Linear extent - Number - Density - Aerial extent
Loss and degradation of vegetation	- Degree of trampling
Theft and vandalism	- Number - Type - Location of incidences
Wear on NR exhibit pieces	- Hollow trees, stumps, snags, live trees
Trail conditions	- Condition: puddling, erosion
Health of key trees in groves	- As they contribute to the spatial organization of the groves
Wear on interior surface finishes	- Paint - Fabrics - Floors - Architectural coatings
Wear on outdoor monuments	- Amount, incidences of dirt and grime
Noise levels and sources incompatible with the historic feeling	- Type - Decibel levels - Noise free intervals
Inability to understand the role of MUWO in conservation movement & how natural resources have cultural value	- Test of knowledge