Why do we Plan?
How do we Plan?
Why Plan???

- Assumption is there is a problem to be solved.
- Because we are told to do so (Federal Law in all Protected Areas).
- To change the future.
- Provides a more holistic framework for evaluating existing and desired conditions.
- Mechanism for managers to provide not only technical expertise, but also interact collaboratively with affected publics.
How is visitor planning and management accomplished?

• Needs a framework to structure decisions.
• Many frameworks available (ie. ROS, LAC, VERP etc.).
• Consider different scales and examples.
• Think about strategies
  – Competing goals:
    • Recreation vs. protection
    • Access vs. opportunity
  – Low use versus high use areas
  – Focus use versus disperse use
To be successful in protected area planning and management......

- A combination of both natural and social sciences are required to:
  - establishing goals.
  - Objectives.
  - Appropriate indicators, targets and associated protocols at a variety of scales.
  - Monitor and report on the state of current to obtain the desired conditions
Experience-Based Management

• This approach broadened activity-based management to offer a more behaviorally oriented definition of a recreation opportunity as a chance to engage in a preferred activity within desired settings to realize desired experiences.

• This approach facilitated a more systematic understanding of the role of recreation setting attributes in creating not only activity opportunities, but also experience opportunities.
• The Recreation Opportunity Spectrum System (ROS) and Limits of Acceptable Change (LAC) were an offspring of the experience-based management approach, explicitly targeted types of experience opportunities and with each spectrum-defined management zones.

• ROS and LAC are both widely accepted frameworks for assessing and managing for recreation opportunities;
Recreation Opportunity Spectrum System (ROS)

- ROS is a framework for understanding the relationships and interactions between experiences and settings;

- The spectrum has been divided into six major classes for Forest Service Use: Primitive, Semi-Primitive Non-Motorized, Semi-Primitive Motorized, Roaded Natural, Rural and Urban;
<table>
<thead>
<tr>
<th>P</th>
<th>SPNM</th>
<th>SPM</th>
<th>R</th>
<th>RM</th>
<th>R</th>
<th>U</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primitive</td>
<td>Semi-Primitive Non-Motorized</td>
<td>Semi-Primitive Motorized</td>
<td>Roaded Natural</td>
<td>Roaded Modified</td>
<td>Rural</td>
<td>Urban</td>
</tr>
<tr>
<td>- Very high probability of experiencing solitude, freedom, closeness to nature, tranquility, self-reliance, challenge and risk.</td>
<td>- High probability of experiencing solitude, closeness to nature, tranquility, self-reliance, challenge and risk.</td>
<td>- Moderate probability of experiencing solitude, closeness to nature, tranquility, high degree of self-reliance, challenge and risk in using motorized equipment.</td>
<td>- Opportunity to affiliate with other users in developed sites but with some chance for privacy. Self-reliance on outdoor skills of only moderate importance. Little challenge and risk.</td>
<td>- Opportunity to get away from others, but with easy access. Some self-reliance in building own camp site and use of motorized equipment. Feeling of independence and freedom. Little challenge and risk.</td>
<td>- Opportunity to observe and affiliate with other users is very important as is convenience of facilities. Self-reliance on outdoor skills of little importance. Little challenge and risk except for activities such as downhill skiing.</td>
<td>- Opportunity to observe and affiliate with other users is very important as is convenience of facilities. Self-reliance on outdoor skills of little importance. Little challenge and risk except for activities such as downhill skiing.</td>
</tr>
<tr>
<td>- Unmodified natural or natural appearing environment.</td>
<td>- Natural appearing environment.</td>
<td>- Predominantly natural appearing environment.</td>
<td>- Mostly natural appearing environment as viewed from sensitive roads and trails.</td>
<td>- Substantially modified environment except for camp sites. Roads, landings, Launches and so forth may be strongly dominant from within yet remain subordinate from distant sensitive roads and highways.</td>
<td>- Natural environment is culturally modified yet attractive (i.e. pastoral farmlands). Backdrop may range from alterations not obvious to dominant.</td>
<td></td>
</tr>
<tr>
<td>- Very low interaction between users.</td>
<td>- Low interaction between users.</td>
<td>- Low concentration of users but often evidence of others on trails.</td>
<td>- Interaction between users at camp sites is of moderate importance.</td>
<td>- Substantial evidence of other users on roads. Little evidence of others or interaction at camp sites.</td>
<td>- Interaction between users may be high as is evidence of other users.</td>
<td></td>
</tr>
<tr>
<td>- Minimal evidence of other users.</td>
<td>- Some evidence of other users.</td>
<td>- Minimum on site controls and restrictions present but subtle.</td>
<td>- Some obvious on site controls of users.</td>
<td>- Little on site controls of users except for gated roads.</td>
<td>- Obvious and prevalent on site controls.</td>
<td></td>
</tr>
<tr>
<td>- Restrictions and controls not evident after entry.</td>
<td>- Access and travel is non-motorized on trails or cross country.</td>
<td>- Vegetative alterations very small in size and number, widely dispersed and visually subordinate.</td>
<td>- Access and travel is conventional motorized including sedan, trailers, RVs and some motor homes.</td>
<td>- Conventional motorized access including sedan, trailers, RVs, ORVs and motor bikes.</td>
<td>- Access and travel facilities are for individual intensified motorized use.</td>
<td></td>
</tr>
<tr>
<td>- Access and travel is non-motorized on trails or cross country.</td>
<td>- No vegetative alterations: sanitation sewage to very small units in size and number, widely dispersed and not evident.</td>
<td>- Vegetative alterations done to maintain desired visual and recreational characteristics.</td>
<td>- Shape and blend vegetative alterations. Maintain camp sites and immediate foreground to site in natural appearing state.</td>
<td>- Vegetation is planted and maintained.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Setting</td>
<td>Images</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------</td>
<td>------------------------------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical Setting</td>
<td><img src="image1.png" alt="Images" /> <img src="image2.png" alt="Images" /> <img src="image3.png" alt="Images" /></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>West</td>
<td><img src="image4.png" alt="Images" /> <img src="image5.png" alt="Images" /> <img src="image6.png" alt="Images" /></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical Setting</td>
<td><img src="image7.png" alt="Images" /> <img src="image8.png" alt="Images" /> <img src="image9.png" alt="Images" /></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>East</td>
<td><img src="image10.png" alt="Images" /> <img src="image11.png" alt="Images" /> <img src="image12.png" alt="Images" /></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Setting</td>
<td><img src="image13.png" alt="Images" /> <img src="image14.png" alt="Images" /> <img src="image15.png" alt="Images" /></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managerial Setting</td>
<td><img src="image16.png" alt="Images" /> <img src="image17.png" alt="Images" /> <img src="image18.png" alt="Images" /></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vegetative Alterations</td>
<td><img src="image19.png" alt="Images" /> <img src="image20.png" alt="Images" /> <img src="image21.png" alt="Images" /></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access</td>
<td><img src="image22.png" alt="Images" /> <img src="image23.png" alt="Images" /> <img src="image24.png" alt="Images" /></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Winter Recreation</td>
<td><img src="image25.png" alt="Images" /> <img src="image26.png" alt="Images" /> <img src="image27.png" alt="Images" /></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wild &amp; Scenic Rivers</td>
<td><img src="image28.png" alt="Images" /> <img src="image29.png" alt="Images" /> <img src="image30.png" alt="Images" /></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACTIVITIES - FACILITIES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accessibility</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fishing Sites</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Camp Sites</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sanitation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eating Facilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Supply</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Signing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interpretive</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Crossing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
• Maintaining a broad spectrum of these classes is very important to provide visitors with choices;

• When considering opportunities for outdoor recreation, people must make choices about activities in which to engage, settings in which to recreate, and kinds of recreation experiences to seek;

• A recreational opportunity setting is the combination of physical/biological, social and managerial conditions that give value to a place.
• Thus an opportunity includes qualities provided by nature, qualities associated with recreational use, and conditions provided by management;

• By combining variations of these qualities and conditions, management can provide a variety of opportunities for recreationists.
• Recreation opportunity settings imply a choice for recreationists; people must be aware of the opportunities, and the opportunities must be comprised of conditions desired by recreationists;

• Thus, opportunities are a function of user preference and a product of management actions designed to provide desired settings and to make people aware of their existence.
Why is ROS an important Tool?

- Provides a mechanism to inventory existing opportunities;
- Analyze the effects of other resource activities;
- Estimate the consequences of management decisions on planned opportunities;
- Link visitor desires with recreation opportunities;
- Identify complementary roles of all recreation suppliers;
- Develop standards and guidelines for planned settings and monitoring activities;
Managers use visitor information, research, and experience to develop programs consistent with laws and policies; they have a variety of tools which they use to change or maintain features of the physical and social environment, which, combined appropriately, result in a spectrum of diverse opportunities in a variety of areas, leading ultimately to benefits to individuals and society.

Users with diverse Motives seeking a variety of recreational experiences consistent with their preferences.

User opportunities provided by managers that lead to visitor days spent in a variety of activities.

They obtain various satisfactions and experiences.
Definition of the ROS Classes

**Urban (U)** - Paved roads, many encounters with other people, high management presence and facilities, low degree of “naturalness”. An Urban designation is found in areas such as the City of Sedona or Village of Oak Creek.

**Rural (R)** - Less development than in Urban, typical of agricultural areas. Paved or gravel all-weather roads, moderate to high number of encounters with other people, high management presence, facilities are generally more rustic but common and convenient, moderate degree of “naturalness”. Areas such as the Neighborwoods or pockets of development in Oak Creek Canyon such as Garland’s store area are examples of Rural class areas.

**Road Natural (RN)** - Paved or gravel all-weather roads, moderate number of encounters, moderate management presence, rustic facilities, moderate to high degree of “naturalness”. The Gateway along Highway 89A and 179 and portions of the Red Cliff MA are typical of Roaded Natural areas.

**Semi-Primitive Motorized (SPM)** - Primitive roads and trails, low number of encounters with other people, subtle and limited management presence, rustic facilities constructed of native materials, high degree of “naturalness” with infrequent evidence of human activity. Most of the Savannah MA is typical of Semi-Primitive Motorized areas.

**Semi-Primitive Non-Motorized (SPNM)** - Trail access only — no motorized vehicles, low number of encounters with other people, subtle and limited management presence, scarce rustic facilities constructed of native materials, high degree of “naturalness” with infrequent evidence of human activity. The Primitive MA and the non-roaded area northwest of House Mountain in the Savannah MA are typical of Semi-Primitive Non-Motorized areas.

**Primitive (P)** - Cross-country or primitive trail access, very few encounters with other people, low to non-existent management presence, facilities only for site protection — not for comfort, very high degree of “naturalness”. Wildernesses are typically managed for primitive attributes. Some exceptions are Bell Rock and Wildernesses adjacent neighborhoods.
Criteria to Evaluate Settings and Derive ROS Classes

- Physical Setting
- Social Setting
- Managerial Setting
- Setting Inconsistencies
PHYSICAL SETTING CRITERIA

• The physical environmental is characterized by the following three criteria:
  • Remoteness
  • Size
  • Evidence of Humans
REMOTENESS CRITERIA

- Remoteness is comprised of two parts:
  - a. a classification of roads; and
  - b. the remoteness (distance from roads).
a. ROAD CLASSIFICATION

- **Primitive roads**: Unmaintained roads used by vehicles not primarily intended for highway use.

- **Better than primitive roads**: Constructed and maintained vehicle ways for the use of highway type vehicles having more than two wheels.
b. REMOTENESS (Distance from roads)

- **Primitive**: An area designated at least 4.8 Km (3 miles) from all roads, railroads or trails with motorized use.

- **Semi-Primitive Non-Motorized**: An area designated at least 800 meters (1/2 mile) but not further than 4.8 Km (3 miles) from all roads, railroads or trails with motorized use; can include the existence of primitive roads and trails if usually closed to motorized use.

- **Semi-Primitive Motorized**: An area designated within 800 meters (1/2 mile) of primitive roads or trails used by motor vehicles, but not closer than 1/2 mile from better than primitive roads.

- **Roaded Natural**: An area designated within 800 metres (1/2 mile) from better than primitive roads, and railroads.

- **Rural and Urban**: No distance criteria.
SIZE CRITERIA

- Size indicates the area of the recreational resource.

- **Primitive**: 2000 hectares (5000 acres approx.) (may be smaller if contiguous to Semi-Primitive Non motorized Class).

- **Semi-Primitive Non-Motorized**: 1000 hectares (2500 acres approx.) (May be smaller if contiguous to Primitive Class)

- **Semi-Motorized**: 1000 hectares (2500 acres approx.)

- **Roaded Natural, Rural and Urban**: No Size Criteria.
EVIDENCE OF HUMANS CRITERIA

• **Primitive:**
  - Setting is essentially an unmodified natural environment.
  - Evidence of humans would be unnoticed by an observer wandering through the area.
  - Evidence of trails is acceptable, but should not exceed standard to carry expected use.
  - Structures are extremely rare.

• **Semi-Primitive Non-Motorized:**
  - Natural (appearing) setting may have subtle modifications.
  - Little or no evidence of primitive roads and the motorized use of trails and primitive roads.
  - Structures are rare and isolated.
• **Semi-Primitive Motorized Natural**:  
  – Setting may have *moderately dominant alterations*  
  – Strong evidence of *primitive roads* and the motorized use of trails and *primitive roads*.  
  – Structures are rare and isolated.
• **Roaded Natural**:  
  – Natural (appearing) setting may have modifications which range from being easily noticed to strongly dominant to observers within the area.

• **Rural**:  
  - Natural (appearing) setting is culturally modified to the point that it is dominant to the sensitive travel route observer.
  - May include pastoral, agricultural, intensively managed wild land resource landscapes, or utility corridors.
  - Pedestrian or other slow moving vehicles along roads and/or highways.
  - Structures are readily apparent and may range from scattered to small dominant clusters including power lines, microwave installations, local ski areas, minor resorts and recreation sites.
Social Setting Criteria is used to further define Roaded Natural, Rural, and Urban ROS classes. The criteria below should be mapped based on field observations and mapped features such as roads, buildings, and land use.

- **Primitive:** Usually less than 6 parties per day encountered on trails and less than 3 parties visible at campsite.
• **Semi-Primitive Non-Motorized**: Usually 6-15 parties per day encountered on trails and 6 or less visible at campsites.

• **Semi-Primitive Motorized**: Low to moderate contact frequency. (Specific numbers must be developed to meet regional or local conditions.)

• **Roaded Natural**: Frequency of contact is moderate to high on roads, low to moderate on trails and away from roads. (Specific numbers must be developed to meet regional or local conditions).
• **Rural**: Frequency of contact is moderate to high in developed sites, on roads and trails and water surfaces. Moderate away from developed sites. (Specific numbers must be developed to meet regional or local conditions.)

• **Urban**: Large numbers of users on site and in nearby areas.
Managerial Setting Criteria is also used to further define the Roaded Natural, Rural, and Urban ROS classes. The criteria below should be mapped based on field observations and mapped features such as roads, buildings, and administrative boundaries.
• **Primitive**: On-site regimentation is low with controls primarily off-site. Controls can be physical (such as barriers) regulatory (such as permits).

• **Semi-Primitive Non-Motorized**: On-site regimentation and controls present but subtle.

• **Semi-Primitive Motorized**: On-site regimentation and controls present but subtle.

• **Roaded Natural**: On-site regimentation and controls are noticeable but harmonize with the natural environment.
• **Rural**: Regimentation and controls obvious and numerous largely in harmony with man-made environment.

• **Urban**: Regimentation and controls obvious and numerous.
When the physical, social, and/or managerial settings are not the same on the same piece of ground a "setting inconsistency" is occurring. A heavily-used hiking trail in a Primitive class physical setting may register a Semi-Primitive or Roaded Natural class social setting, for example, due to the amount of use.
To resolve setting inconsistencies for the current situation, map the Recreation Opportunity Spectrum class which best reflects current management direction. If this consideration still leaves a dilemma in identifying the existing class, use the following approach.

1. **Tend toward the physical setting.** The physical setting often represents the more permanent (or less easily changed) component of the Recreation Opportunity Spectrum class. The social and managerial components can often be altered in shorter time frames.