Water and Land Recreation Opportunity Spectrum System (WALROS)
Presentation Outline

• Introduction
• Photo Tour of WALROS
• Conceptual Foundation
• Inventory
• Management
• Planning
Historic Evolution

• ROS (1983) USFS & BLM
  – Three mapping criteria
  – Procedures minimal
  – No evaluation/update
  – No attention to water-based recreation
  – Conceptual Flaw-SPNM
  – Truncated spectrum
• **WROS (2004)**
  - Used 15 criteria
  - Established inventory protocol
  - Detailed guidebook
  - Focused on water-based recreation
  - 100+ applications

• **WALROS (Summer 2011)**
  - Based upon 5-year evaluation of WROS
  - Integrates and balances attention to land and water
  - Integrates regional recreation analysis
WALROS is a tool

- Recreation inventory tool
- Management tool
- Planning tool

- Forests, parks, & open space
- Rivers & greenways
- Lakes & reservoirs
- Coastal zones
- Local, state and federal resources
Six WALROS Classes

- Urban
- Suburban
- Rural Developed
- Rural Natural
- Semi Primitive
- Primitive
Sample WALROS Map

NEW MELONES LAKE RECREATION AREA

Semi-primitive

Rural Natural

Rural Developed

Rural Natural

Rural Natural
Why Build WALROS?

• Average visitor does not exist
• Can’t be all things to all people
• Need to conserve recreation diversity
• Need to conserve natural resources
• Increase interagency efficiency and coordination
• Link local, state, and federal resources agencies
WALROS Design Considerations

• Interface with any planning process
• Understandable to public
• Easy and inexpensive
• Flexible and adaptive
• Practical and helpful
Urban WALROS Area
Urban WALROS Area continued
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Rural Natural WALROS Area continued
Semi Primitive WALROS Area

PACK IT IN
PACK IT OUT

RECLAMATION
Semi Primitive WALROS Area continued
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Primitive WALROS Area continued
# Conceptual Foundation: A Recreation Opportunity

Recreation Activity + Setting = Experience > Benefits

<table>
<thead>
<tr>
<th>Recreation Activity</th>
<th>Setting</th>
<th>Experience</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Many activities</td>
<td>Many dimensions</td>
<td>Multiple senses</td>
<td>Individual Community Economic Environmental</td>
</tr>
<tr>
<td>Physical attributes</td>
<td>Managerial attributes</td>
<td>Social attributes</td>
<td>Managers Manage Recreationists Consume Society Gains</td>
</tr>
</tbody>
</table>

Manager Managers Manage 

Recreationists Consume 

Society Gains
1. Recreation Activities

<table>
<thead>
<tr>
<th>Urban</th>
<th>Suburban</th>
<th>Rural Developed</th>
<th>Rural Natural</th>
<th>Semi Primitive</th>
<th>Primitive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water-skiing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Canoeing</td>
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<tr>
<td>House boating</td>
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<td></td>
<td></td>
<td>Camping</td>
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<tr>
<td>Fishing</td>
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<td></td>
<td></td>
<td></td>
<td>Fishing</td>
</tr>
<tr>
<td>Golfing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Kayaking</td>
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<tr>
<td>Beach swimming</td>
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<td></td>
<td></td>
<td></td>
<td>Hunting</td>
</tr>
<tr>
<td>Biking</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Hiking</td>
</tr>
</tbody>
</table>
2. Setting Attributes

<table>
<thead>
<tr>
<th>Urban</th>
<th>Suburban</th>
<th>Rural Developed</th>
<th>Rural Natural</th>
<th>Semi-Primitive</th>
<th>Primitive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resorts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Dispersed campsites</td>
</tr>
<tr>
<td>Full service comforts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No service</td>
</tr>
<tr>
<td>High density visitation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Low density visitation</td>
</tr>
<tr>
<td>Law enforcement patrol</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No routine patrol</td>
</tr>
<tr>
<td>Low natural ambience</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>High natural ambience</td>
</tr>
<tr>
<td>Built environment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Natural environment</td>
</tr>
</tbody>
</table>
3. Recreation Experiences

<table>
<thead>
<tr>
<th>Urban</th>
<th>Suburban</th>
<th>Rural Developed</th>
<th>Rural Natural</th>
<th>Semi-Primitive</th>
<th>Primitive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change of pace</td>
<td>Change of pace</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meet new people</td>
<td>Solitude</td>
<td></td>
<td></td>
<td>Self-reliance</td>
<td></td>
</tr>
<tr>
<td>Test skills</td>
<td>Solitude</td>
<td></td>
<td></td>
<td>Self-reliance</td>
<td></td>
</tr>
<tr>
<td>Enjoy safe family outing</td>
<td>Personal challenge/risk</td>
<td></td>
<td></td>
<td>Adventure</td>
<td></td>
</tr>
<tr>
<td>Watch others</td>
<td>Personal challenge/risk</td>
<td></td>
<td></td>
<td>Exercise</td>
<td></td>
</tr>
<tr>
<td>Relax</td>
<td>Exercise</td>
<td></td>
<td></td>
<td>Mystery</td>
<td></td>
</tr>
<tr>
<td>Exercise</td>
<td>Exercise</td>
<td></td>
<td></td>
<td>Mystery</td>
<td></td>
</tr>
</tbody>
</table>
4. Recreation Benefits

**Individual or Personal**
- Self confidence
- Skill development
- Physical exercise
- Happiness/wellness
- Family togetherness

**Environmental**
- Knowledge of resources
- Respect for environment
- Stewardship/involvement
- Collaboration

**Economic**
- Economic stimulation
- New monies
- Property values
- Tax revenues
- Investor appeal

**Community**
- Sense of place
- Improved workplaces
- Community pride
- Community appeal
- Youth development
Three Uses of WALROS

1. Inventory ← 2. Management
   |
   v
3. Planning
1. Inventory—scope of effort

- What are the issues, concerns, opportunities
- Boundary of planning area
- Planning horizon (5 yrs)
- Recreational time period (May-Aug)
- Delineate the suitable/available area
- Desired level of analysis/detail
Sliding Scale of Analysis --
detail, time, precision, certainty, tools, costs

• Level 1 – coarse filter – routine administrative, inventory, and operational decisions

• Level 2 – moderate filter – small scale changes, environmental assessments

• Level 3 – fine filter – management plans, environmental impact statements, large scale changes
Build/Buy a Good Base Map

- Topography
- Aquatic vegetation
- Terrestrial vegetation
- Fish/wildlife habitat
- Cultural resources
- Special resource values
- Easements/permit Areas
- Security/safety Areas
- Private land
- Adjacent land uses

- Built structures
  - Dam operations
  - Roads and trails
  - Industrial/commercial
  - Homes/Subdivisions
  - Recreation facilities
  - Diversions/channels
  - Utilities/transmission lines
  - Commercial recreation development
Gather the Experts
WALROS Training
WALROS Field Inventory Protocol
Mapping the Current Supply of Recreation Opportunities

Name of Resource: ___________________________ Date: _______________________

Your Name/Title: ___________________________ Day of Week: ___________________

Inventory Site #: __________ Local Name: ____________________________

GPS Coordinates: ____________________________

Planning Period Under Consideration: ____________________________

(September 2013)
Expert Collaborative Opinion Based Upon Sound Professional Judgment

- Forest fire danger rating
- Whitewater class determination
- Terrorism alert level
- Insects and disease aerial inventory
- Biological opinions
WALROS Inventory Mapping
Inventory Map
Current Recreation Situation on Whiskeytown Lake, California
WROS Inventory Map of the Current Recreation Situation on Lake Shasta, California

WROS INVENTORY SCALE

1 2 3 4 5 6 7 8 9 SP 10 11
U S RD SP
- Inventory Map -
Current Recreation Situation
on Trinity Lake, California
# WALROS Classification Assignments

<table>
<thead>
<tr>
<th>Sites</th>
<th>Physical</th>
<th>Social</th>
<th>Managerial</th>
<th>OVERALL WALROS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site 1</td>
<td>Urban</td>
<td>Urban</td>
<td>Urban</td>
<td>Urban</td>
</tr>
<tr>
<td>Site 2</td>
<td>RD</td>
<td>RN</td>
<td>Rural Natural</td>
<td></td>
</tr>
<tr>
<td>Site 3</td>
<td>Sub</td>
<td>Urban</td>
<td>RD</td>
<td>Urban</td>
</tr>
<tr>
<td>Site 4</td>
<td>SP</td>
<td>P</td>
<td>P</td>
<td>Semi-primitive</td>
</tr>
</tbody>
</table>

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*Also Identify Inconsistencies*
# WALROS Inconsistency Matrix

<table>
<thead>
<tr>
<th>Degree of Reasonableness to Adapt</th>
<th>Degree of impact or inconsistency</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>Negligible</td>
</tr>
<tr>
<td>Low</td>
<td>Minor</td>
</tr>
<tr>
<td>Moderate</td>
<td>Moderate</td>
</tr>
<tr>
<td>High</td>
<td>High</td>
</tr>
</tbody>
</table>

- None: None
- Low: priority D, priority C
- Moderate: priority C, priority B
- High: priority B, priority A
Results of WALROS Inventory

- Better definition of ROs, location and size
- A working map (GIS overlay) of ROs
- Improved ability to communicate to visitors, stakeholders, and other units and agencies
- Identification of inconsistencies
- Ability to compare recreation capacity (supply) with demand
Inventory Results—continued

- Acres
- % of total
- Regional Comparison
- Boating capacity
- Camping capacity
- Recreation Dollar $
- Inconsistencies

Other Sample Comparisons
- Weekday vs weekend
- Summer vs winter
- High vs low pool/flow
- Yr 1 vs Yr5
2. WALROS Management: Guidelines and Standards
150 Sets of Guidelines for each WALROS Area

- Trails
- Campgrounds
- Picnic facilities
- Bathrooms
- Lighting
- Signage
- Marinas
- Wildlife viewing

- Visual resources
- Water quality
- Docks
- Piers
- Utilities
- Services
- Law enforcement
- Boating capacity
## WALROS BOAT Capacity Ranges—Level 1 Coefficients

<table>
<thead>
<tr>
<th>Level</th>
<th><strong>Low end of range</strong></th>
<th><strong>High end of range</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>1 acre/boat</td>
<td>10 acres/boat</td>
</tr>
<tr>
<td>Suburban</td>
<td>10 acres/boat</td>
<td>20 acres/boat</td>
</tr>
<tr>
<td>Rural developed</td>
<td>20 acres/boat</td>
<td>50 acres/boat</td>
</tr>
<tr>
<td>Rural natural</td>
<td>50 acres/boat</td>
<td>110 acres/boat (1/4 sq. mi.)</td>
</tr>
<tr>
<td>Semi-primitive</td>
<td>110 acres/boat</td>
<td>480 acres/boat (3/4 sq. mi.)</td>
</tr>
<tr>
<td>Primitive</td>
<td>480 acres/boat</td>
<td>3,200 acres/boat (5 sq. mi.)</td>
</tr>
</tbody>
</table>
3. WALROS as Input to a Planning Process
WALROS Integrates with any Planning Process

- BOR RMP
- FWS CCP
- FS LRMP
- TVA LMP
- NPS GMP
- COE MP
- BLM RMP
- SCORPs
- NEPA EIS
- Scenery Mgmt. Sys.
- Budget & Programs
- Ecosystem Plans

Local Communities
Use WALROS to Compare Alternatives
WALROS Can be Used at Sites, Projects, Regions and Basins
Aerial Inventory for Large Landscapes
Aerial Inventory
Assess a Regional System of Recreation Resources
WALROS Accommodates Tiering Down to the Site or Unit Level

- Wildlife Viewing
- No Motors
- Research Closure
- Security Area
Practical Uses of WALROS

- Improve understanding of recreation opportunities
- Visual map of opportunities
- Help public understand choices
- O&M decisions
- Facility planning and capacity decisions
- Program and budget justification
Benefits of WALROS

• Regional interagency collaboration
• Stakeholder engagement
• Assess proposed land/water changes
• Protect water resources
• Improve defensible decision making
• Assure quality recreation diversity
Open for Discussion

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Thank you