

RECLAMATION

Managing Water in the West

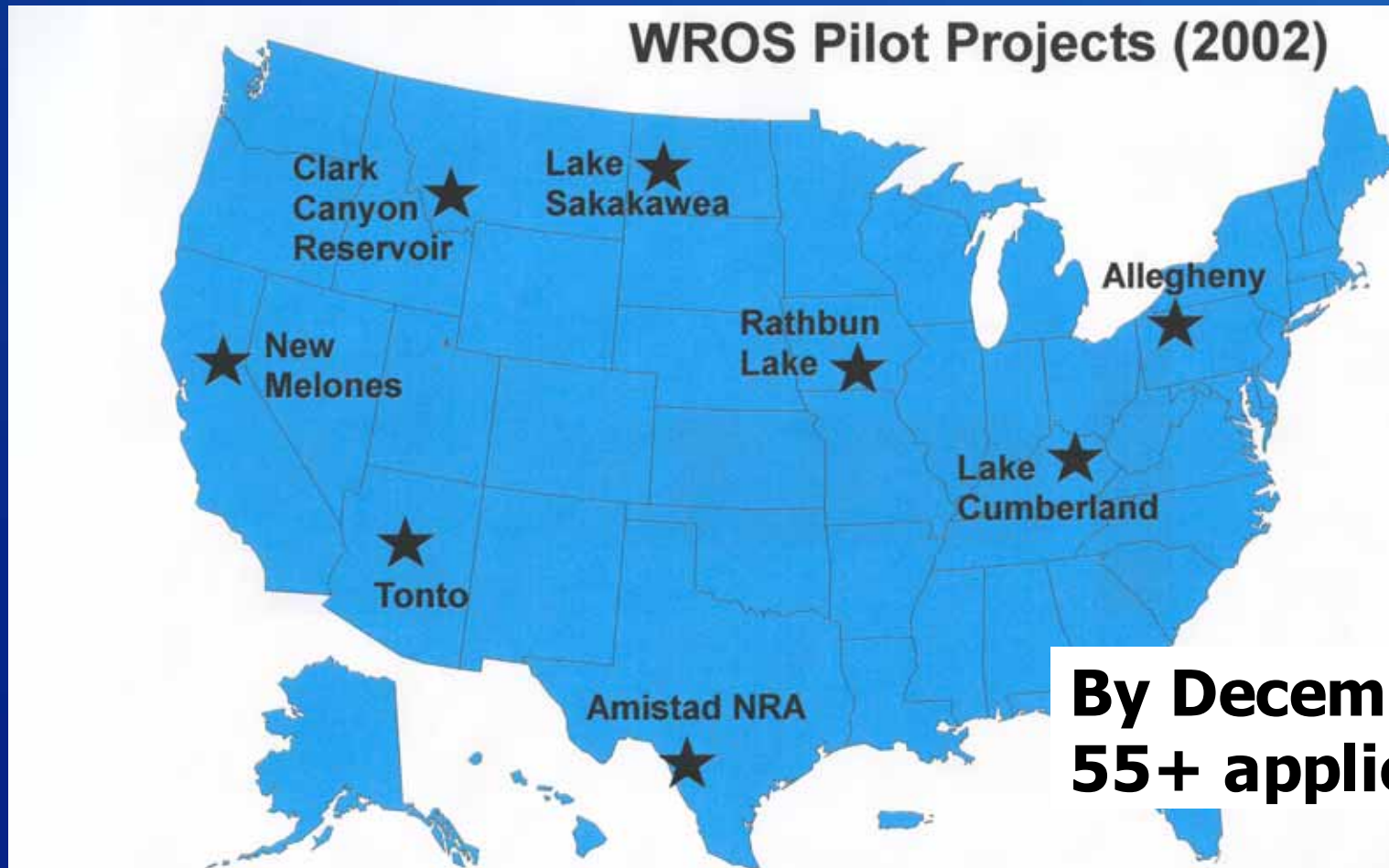
Water Recreation Opportunity Spectrum (WROS)

**Bob Aukerman, Glenn Haas, Vernon Lovejoy, Darrell Welch
and thanks
to hundreds of local, state, and federal professionals**



U.S. Department of the Interior
Bureau of Reclamation

Federal Recreation Lakes Study Commission



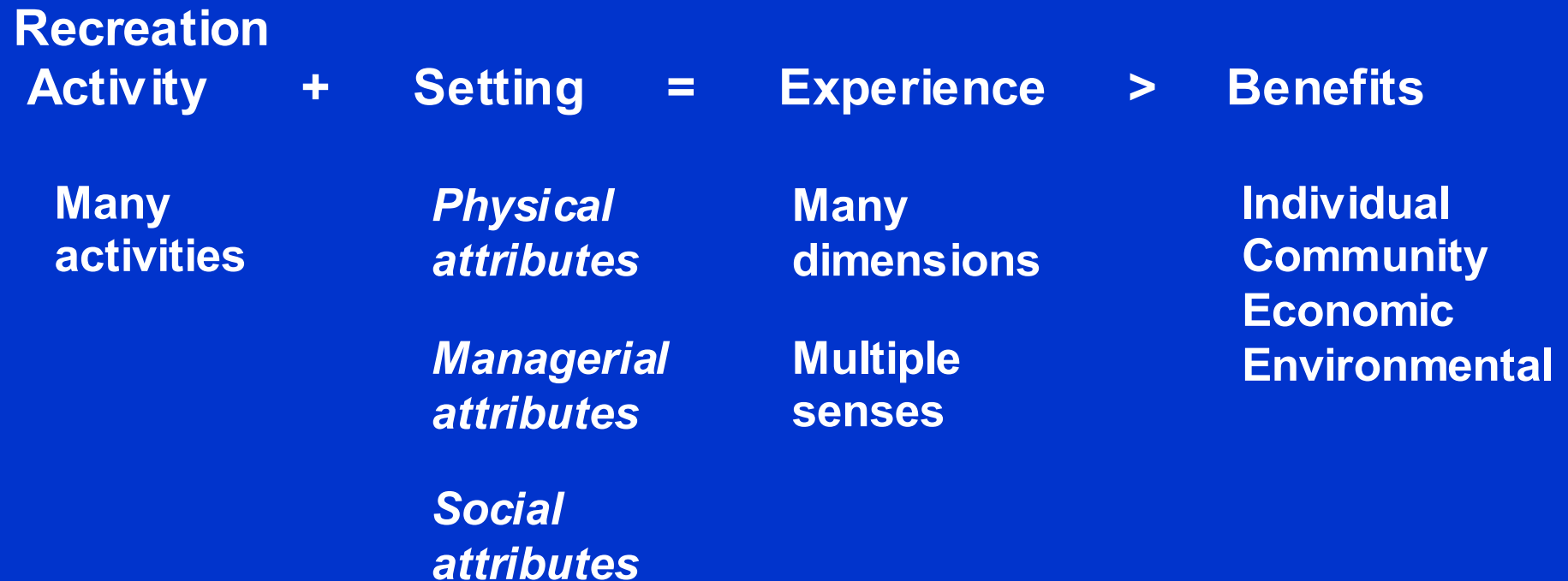
**By December 2004
55+ applications**

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WROS is a tool

- **Recreation inventory tool**
- **Planning tool**
- **Management tool**
- **That works for.....**
 - **Rivers**
 - **Lakes**
 - **Reservoirs**
 - **Bays**
 - **Coastal zones**
 - **Marine Protected areas**

Conceptual Foundation: A Recreation Opportunity



**Managers
Manage**

**Recreationists
Consume**

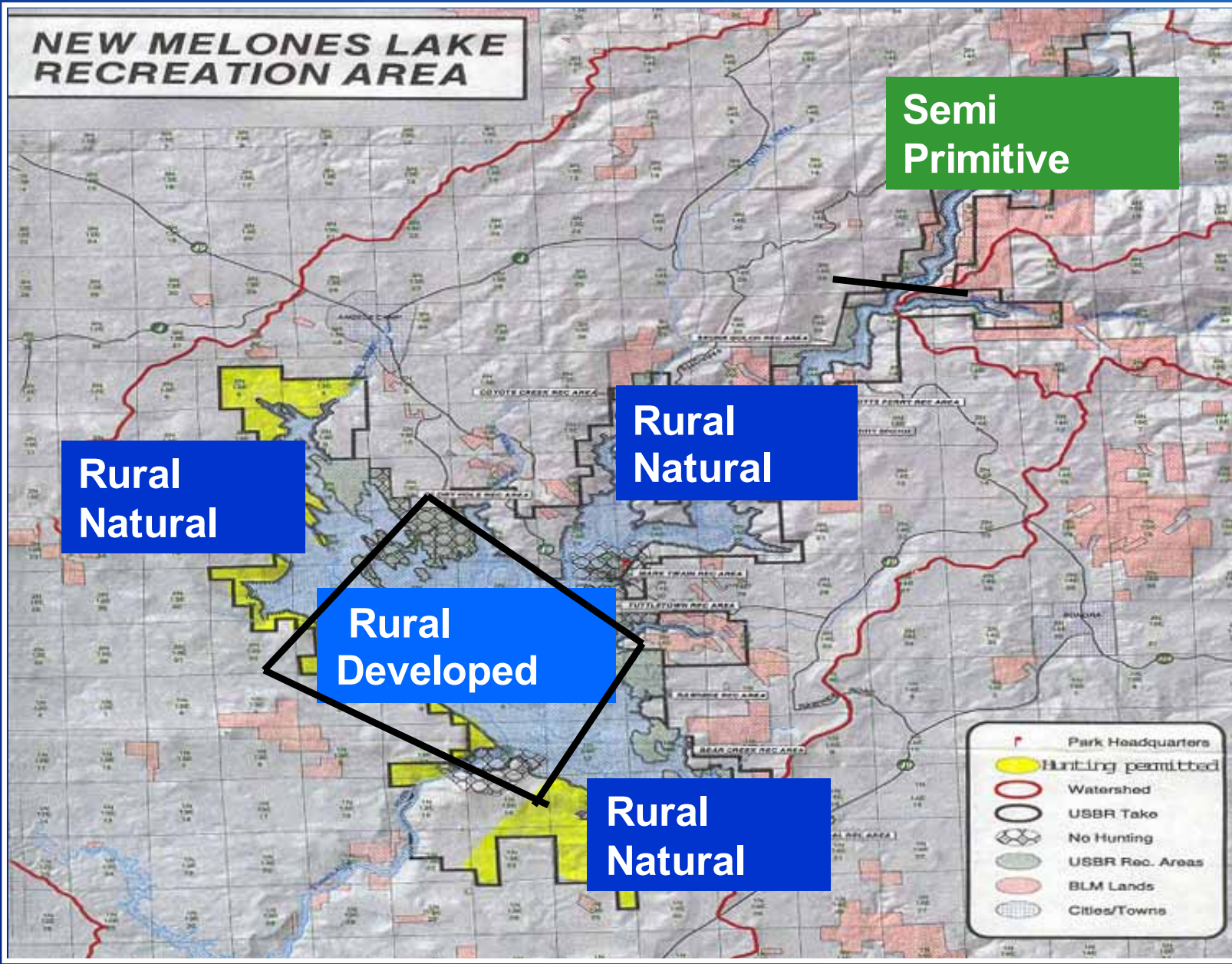
**Society
Gains**

A Spectrum of Recreation Opportunities



- **Activities**
- **Setting Attributes**
 - Physical (natural)
 - Social
 - Managerial
- **Experiences**

NEW MELONES LAKE RECREATION AREA



Semi Primitive

Rural Natural

Rural Natural

Rural Developed

Rural Natural

Why Build WROS?

- Average visitor does not exist
- Can't be all things to all people
- Need to conserve recreation diversity
- Increase efficiency and coordination
- Interagency tool to build system

Presentation Outline

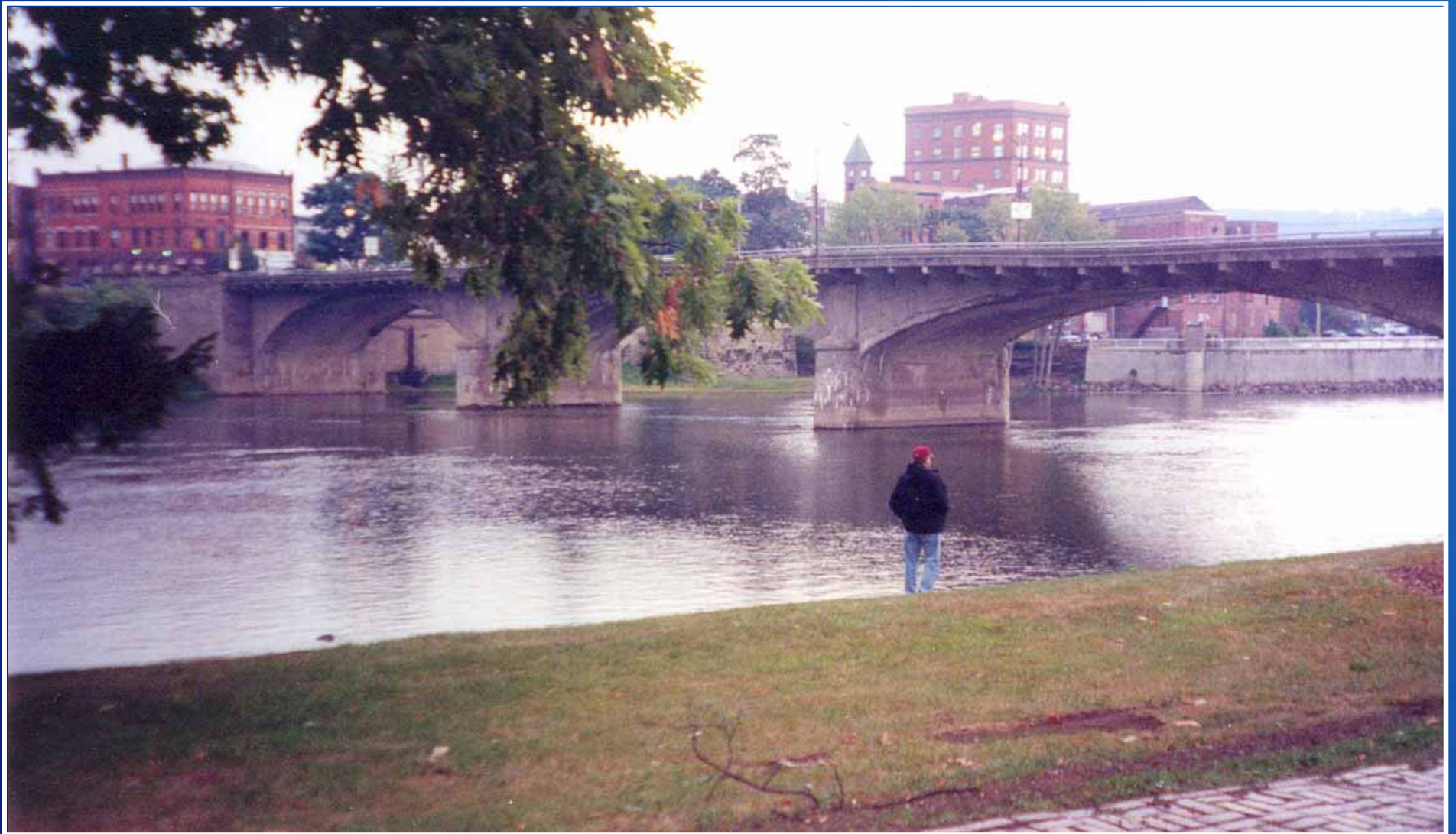
- **Photo Tour of WROS**
- **Inventory**
- **Planning**
- **Management**

Urban WROS Area



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Urban WROS Area



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Urban WROS Area



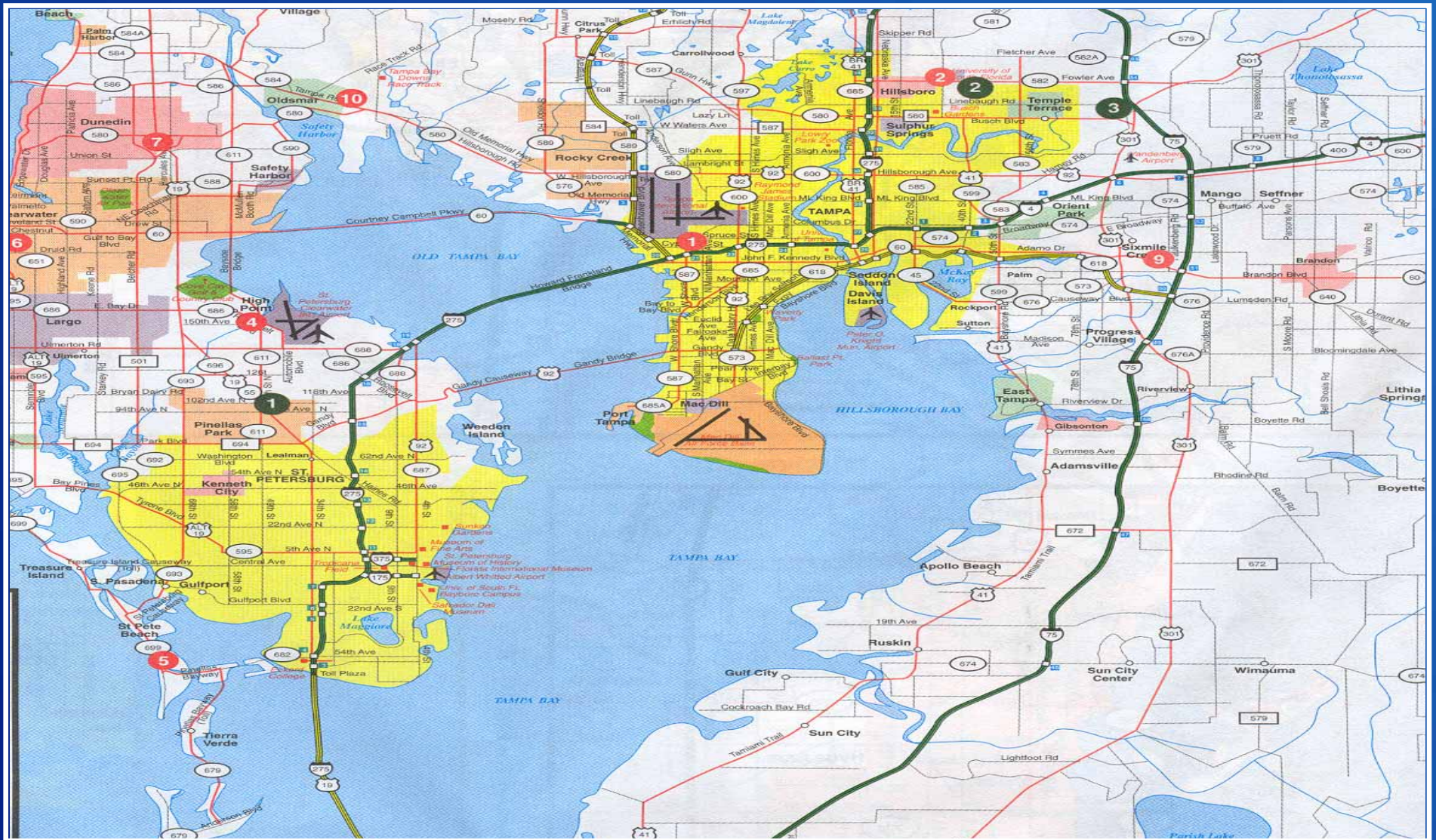
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Urban WROS Area



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Urban WROS Area



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Suburban WROS area



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Suburban WROS area



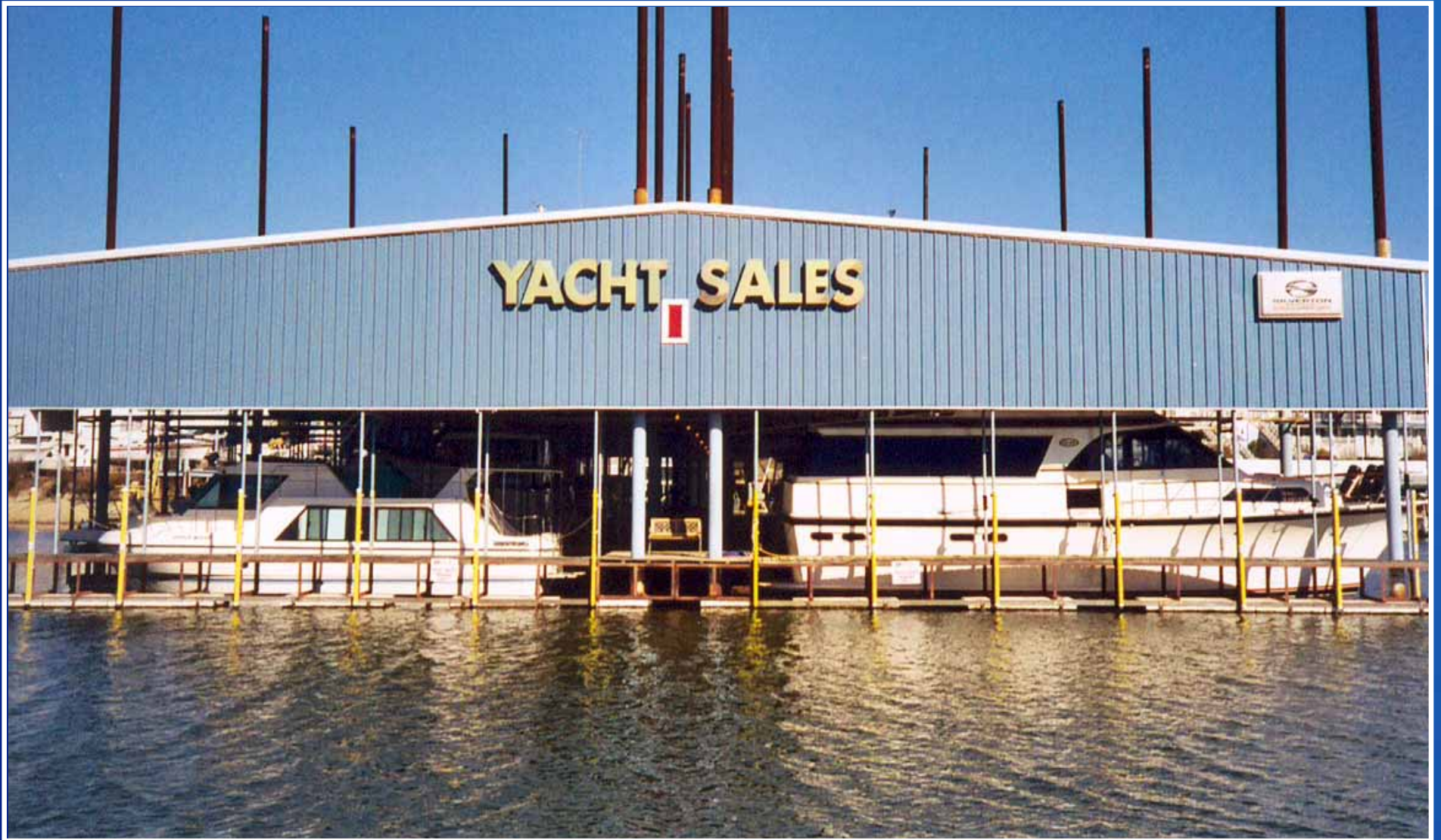
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Suburban WROS area



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Suburban WROS area



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Suburban WROS area



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Suburban WROS area



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Rural Developed WROS area



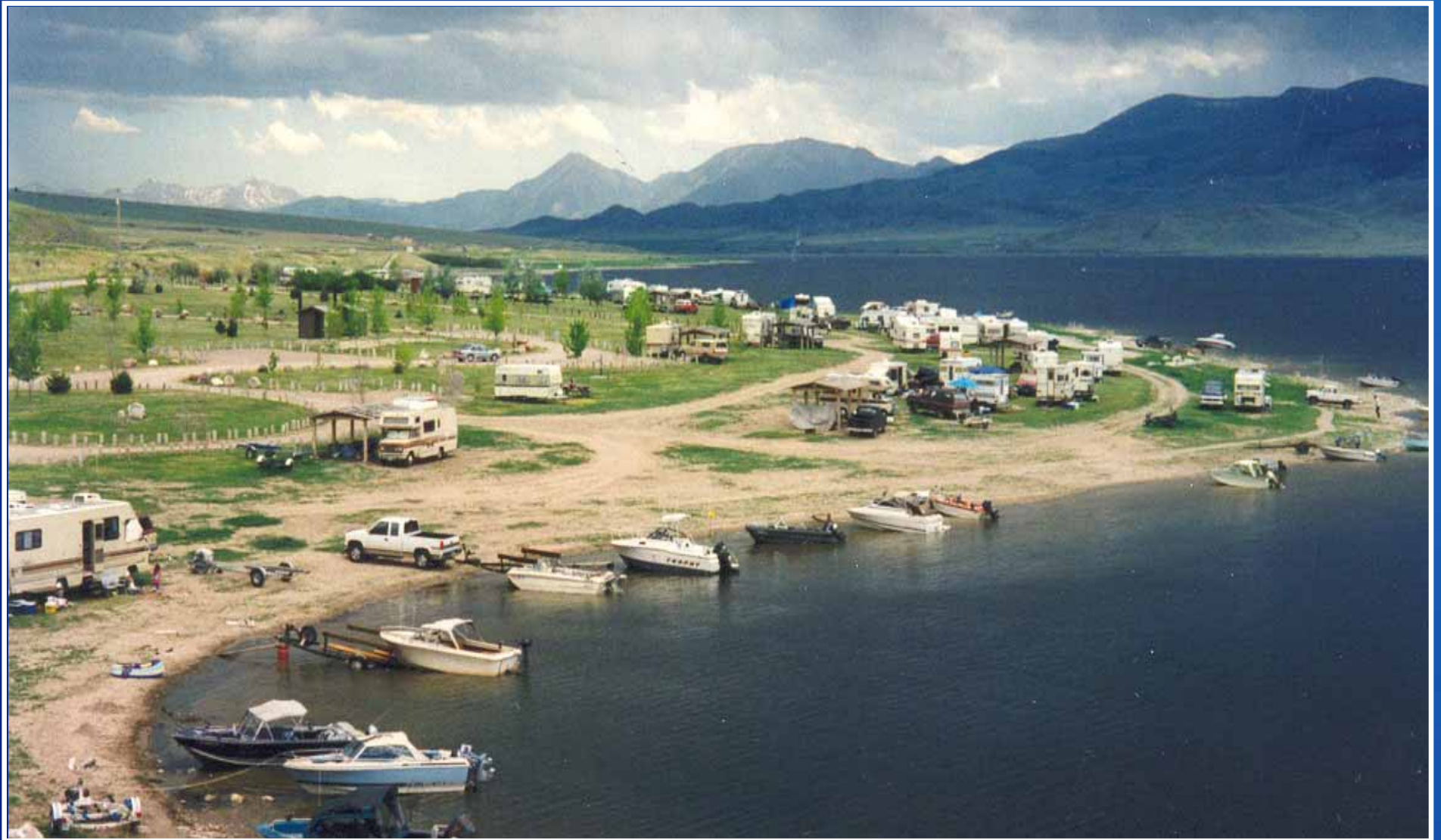
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Rural Developed WROS area



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Rural Developed WROS area



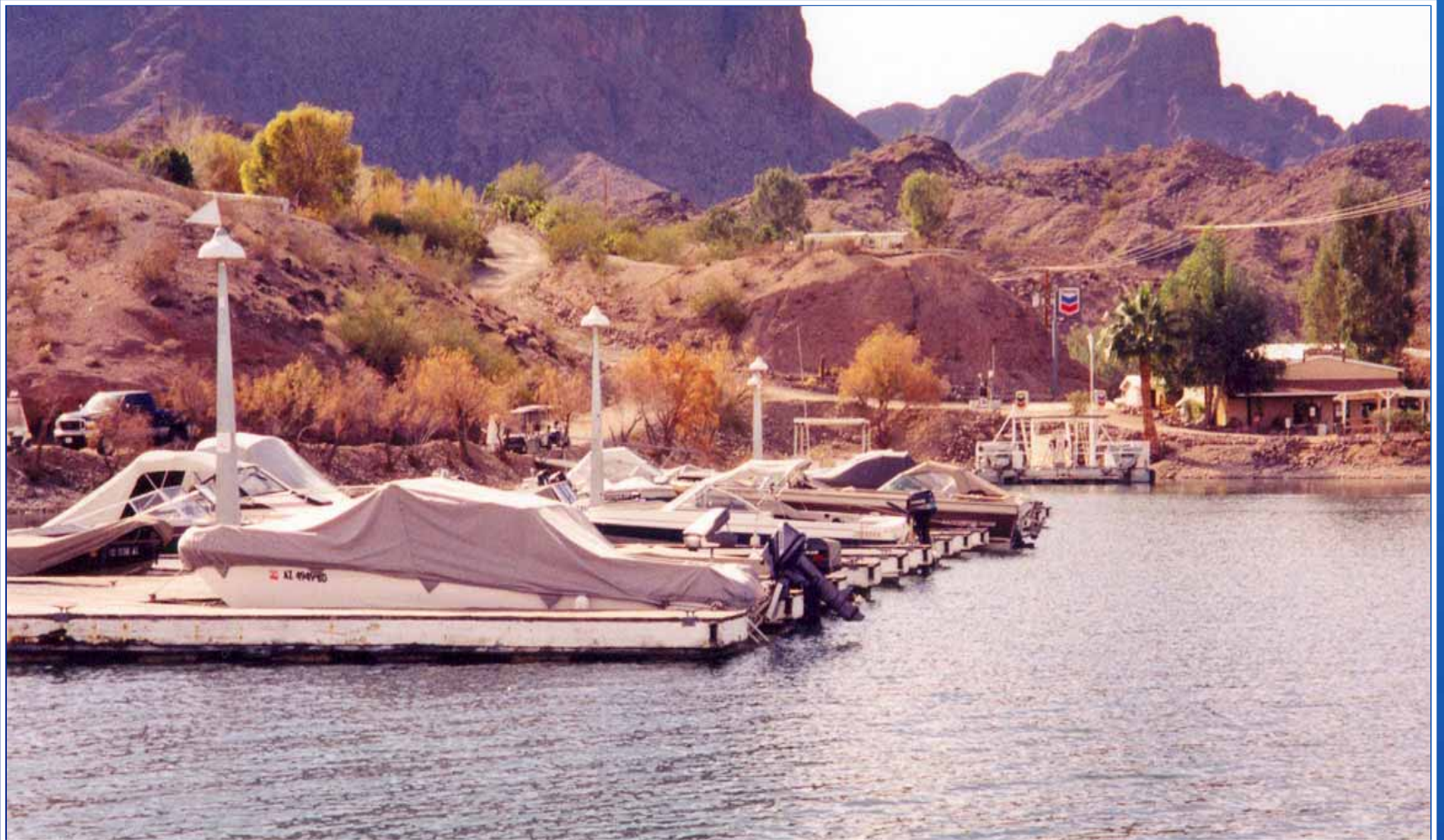
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Rural Developed WROS area



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RECLAMATION

Rural Natural WROS area



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Rural Natural WROS area



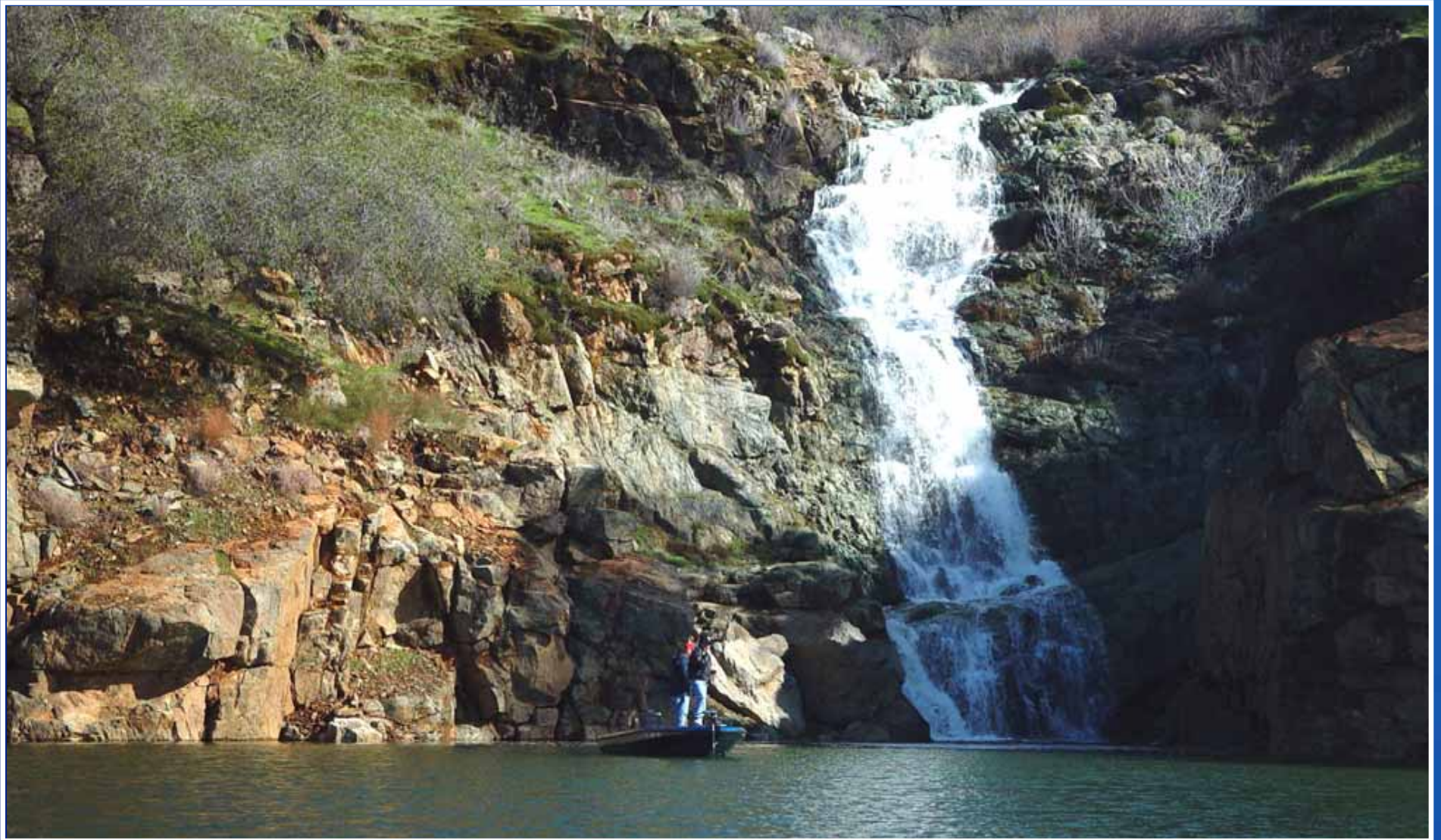
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Rural Natural WROS area



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Semi Primitive WROS area



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Primitive WROS area



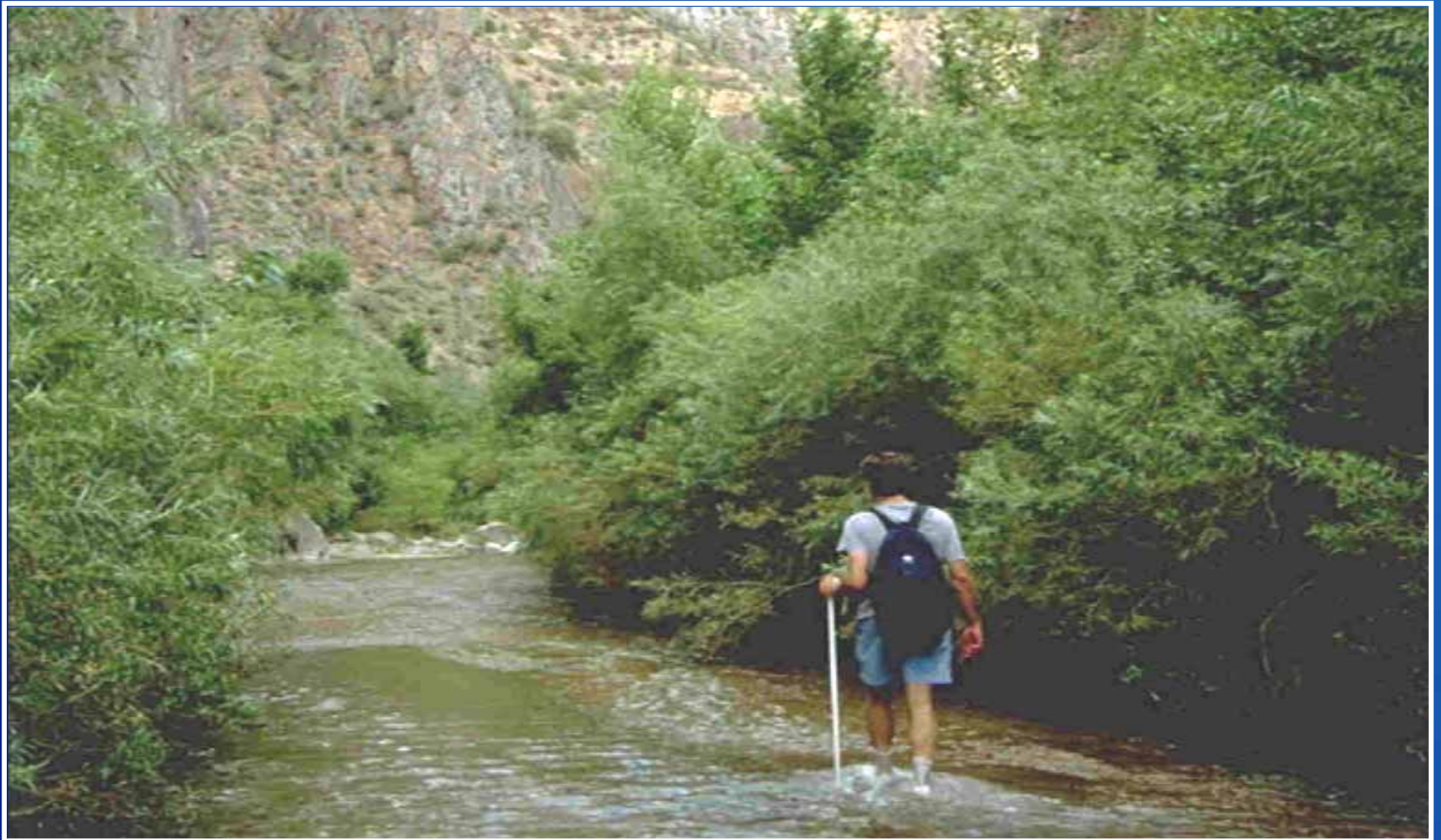
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Primitive WROS area



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Primitive WROS area



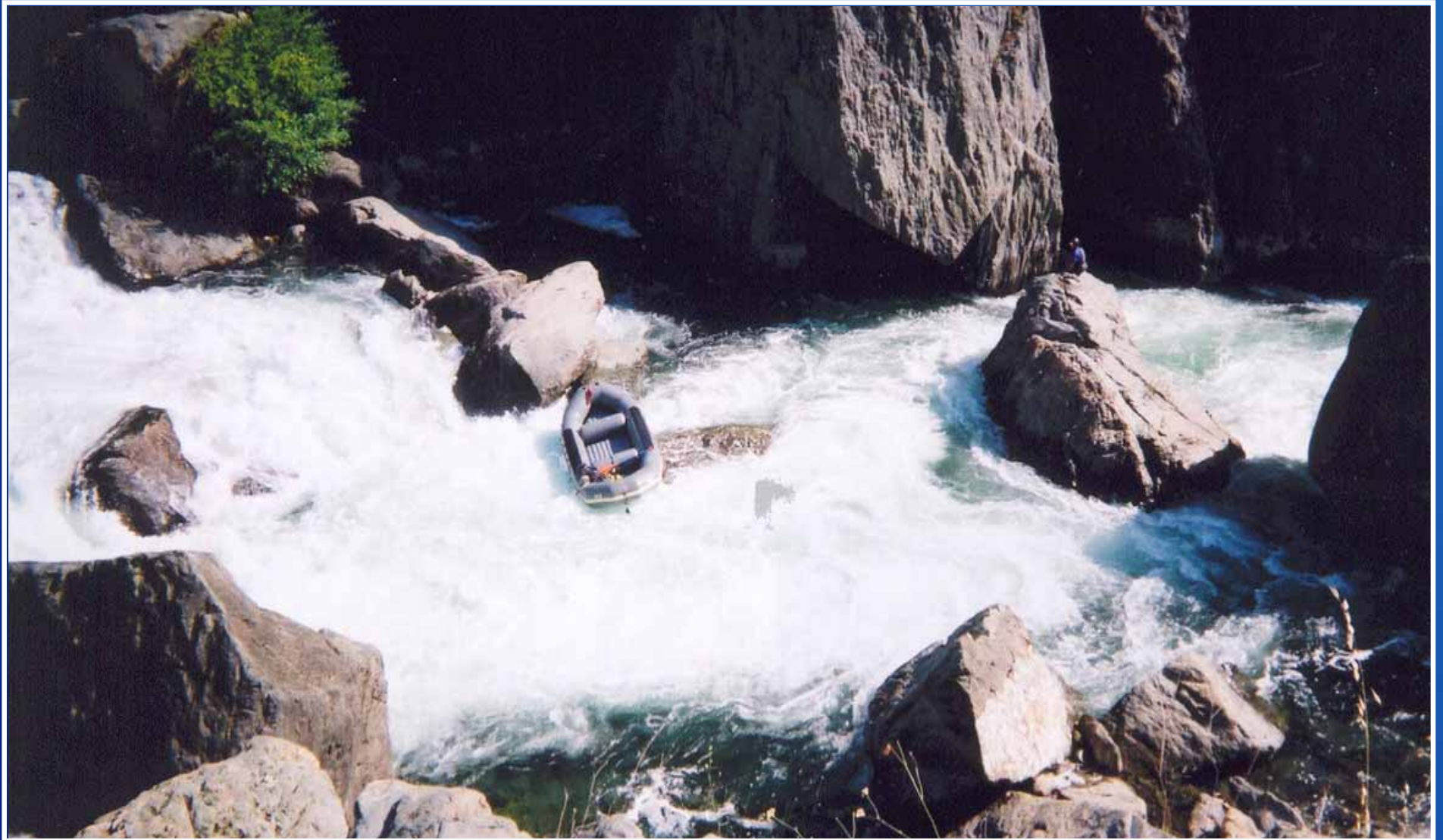
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Primitive WROS area



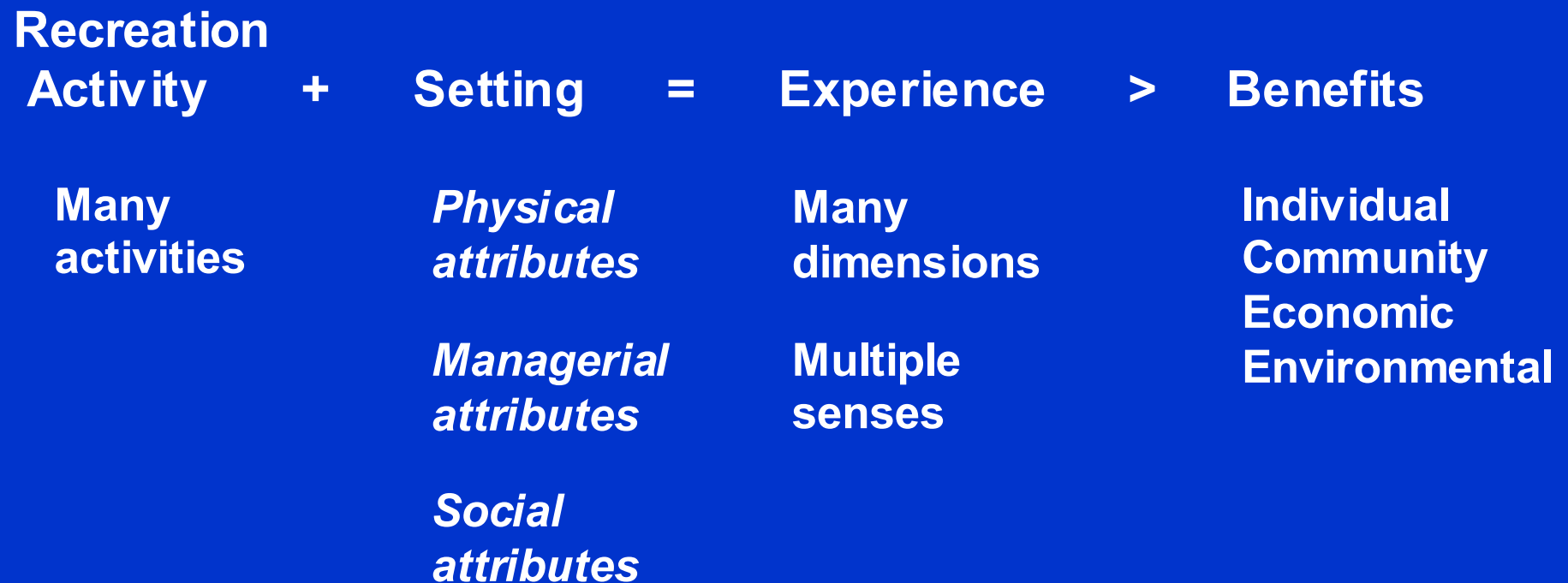
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Primitive WROS area



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Conceptual Foundation: A Recreation Opportunity

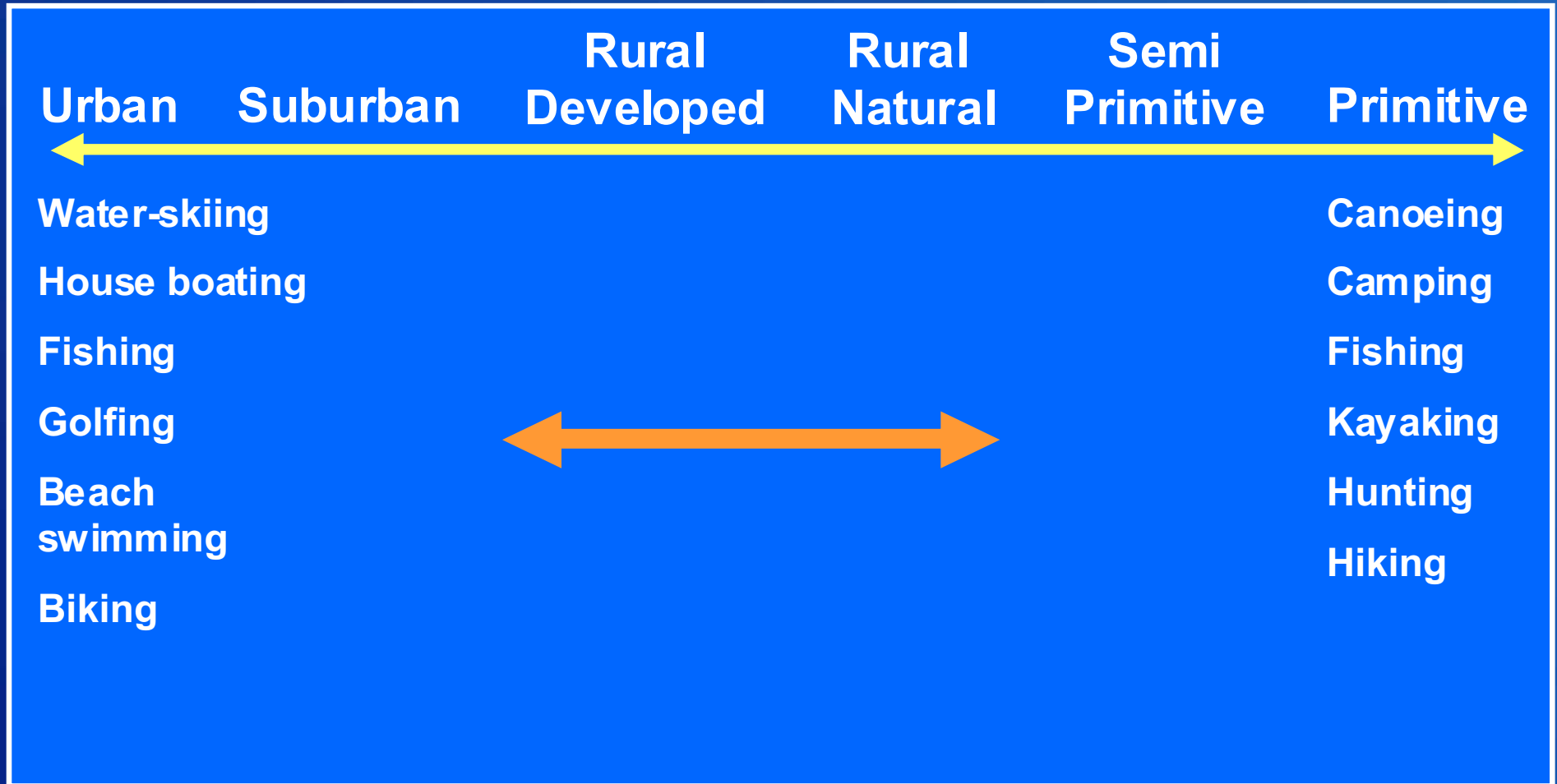


**Managers
Manage**

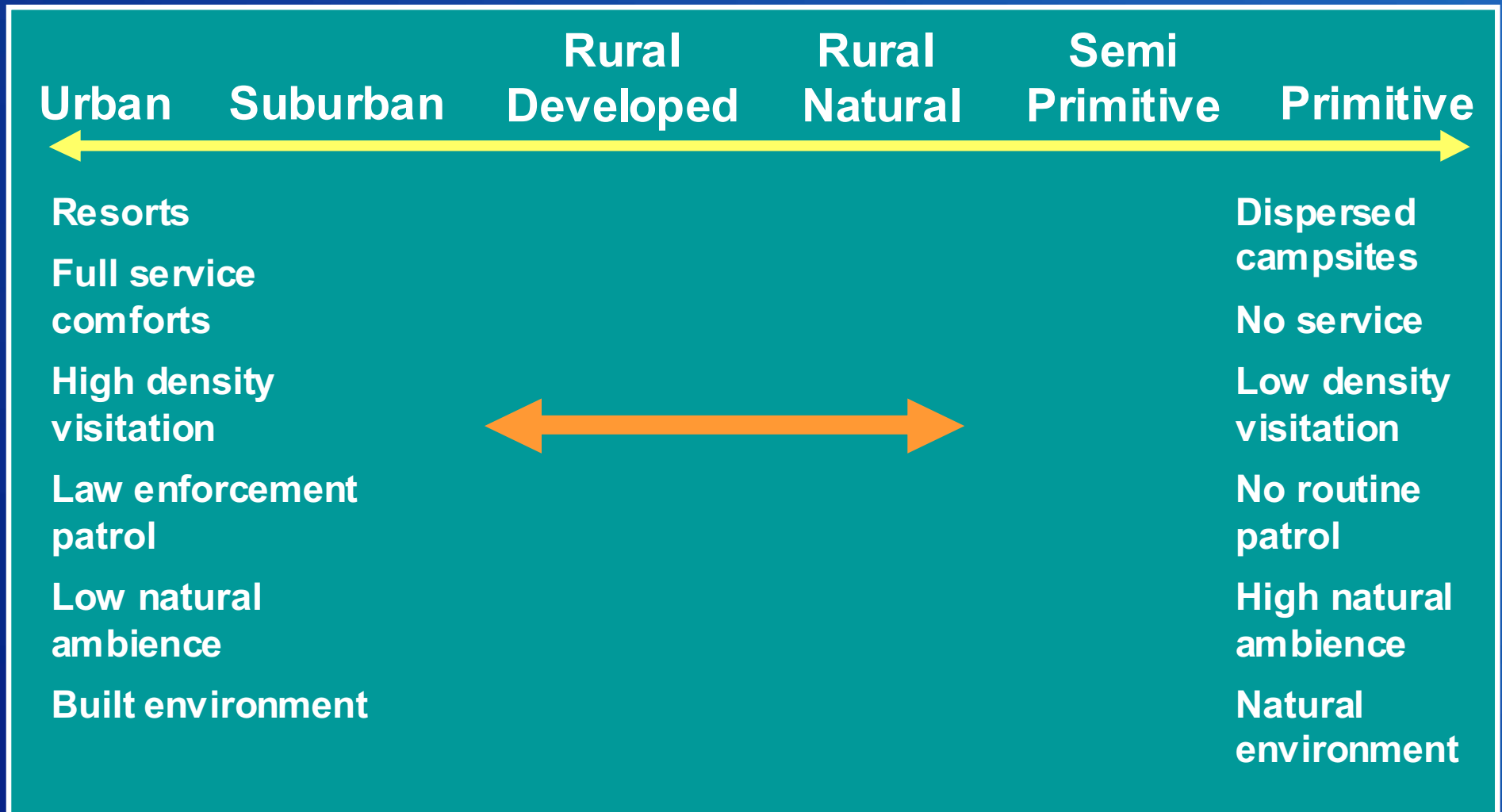
**Recreationists
Consume**

**Society
Gains**

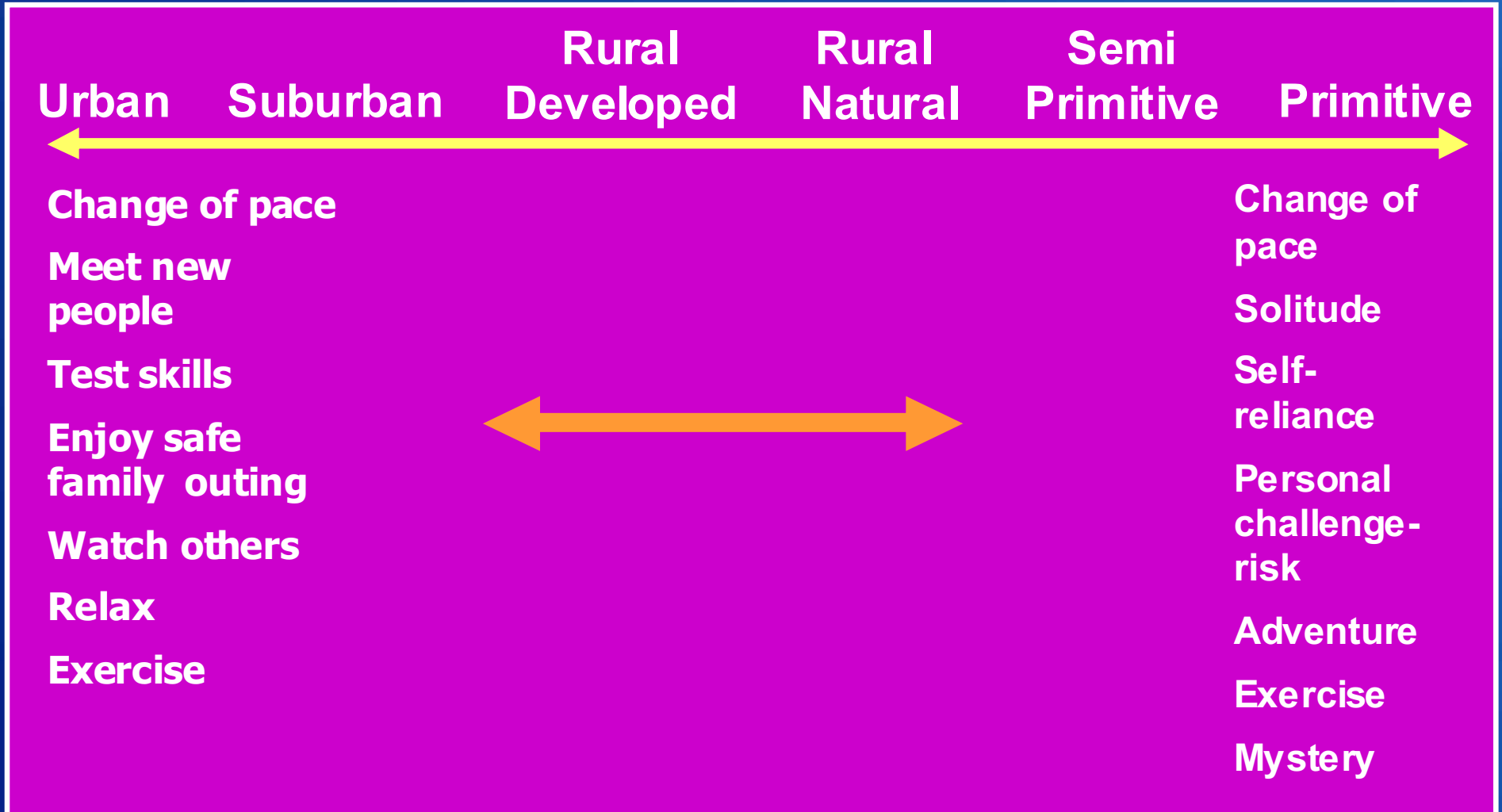
1. Recreation Activities



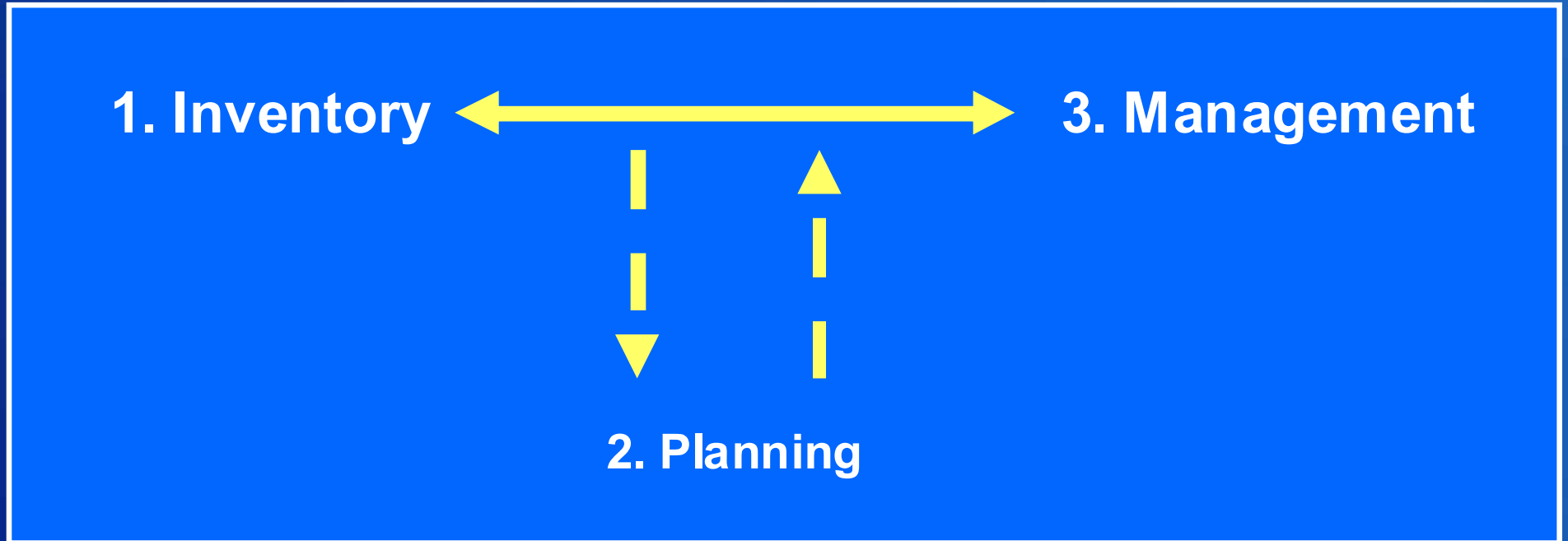
2. Setting Attributes



3. Recreation Experiences



Three Uses of WROS



What Level 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**

Inventory the Current Situation: Gather the Experts



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WROS Training

Water Recreation Opportunity Spectrum

Users' Guidebook - Draft



November 2003

United States Department of the Interior
Bureau of Reclamation



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Map the Current Situation

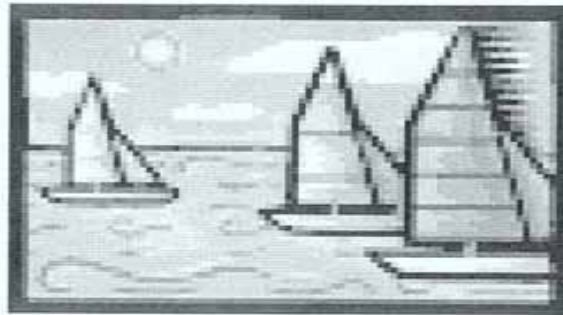


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WROS Inventory Decision Tool

WROS Inventory Protocol

Mapping the Supply of
Recreation Opportunities



Name of Water Resource: _____ Date: _____

Your Name and Title: _____

Inventory Site (e.g., GPS cord).: _____

Time of Year Under Consideration: _____

7/7/03

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Expert-based Rating of the Setting

- 5 Physical resource attributes
- 6 Social attributes
- 4 Management attributes
 - Attributes rated on 11-point scale
 - Combine to form a WROS characterization of the location

WROS Inventory



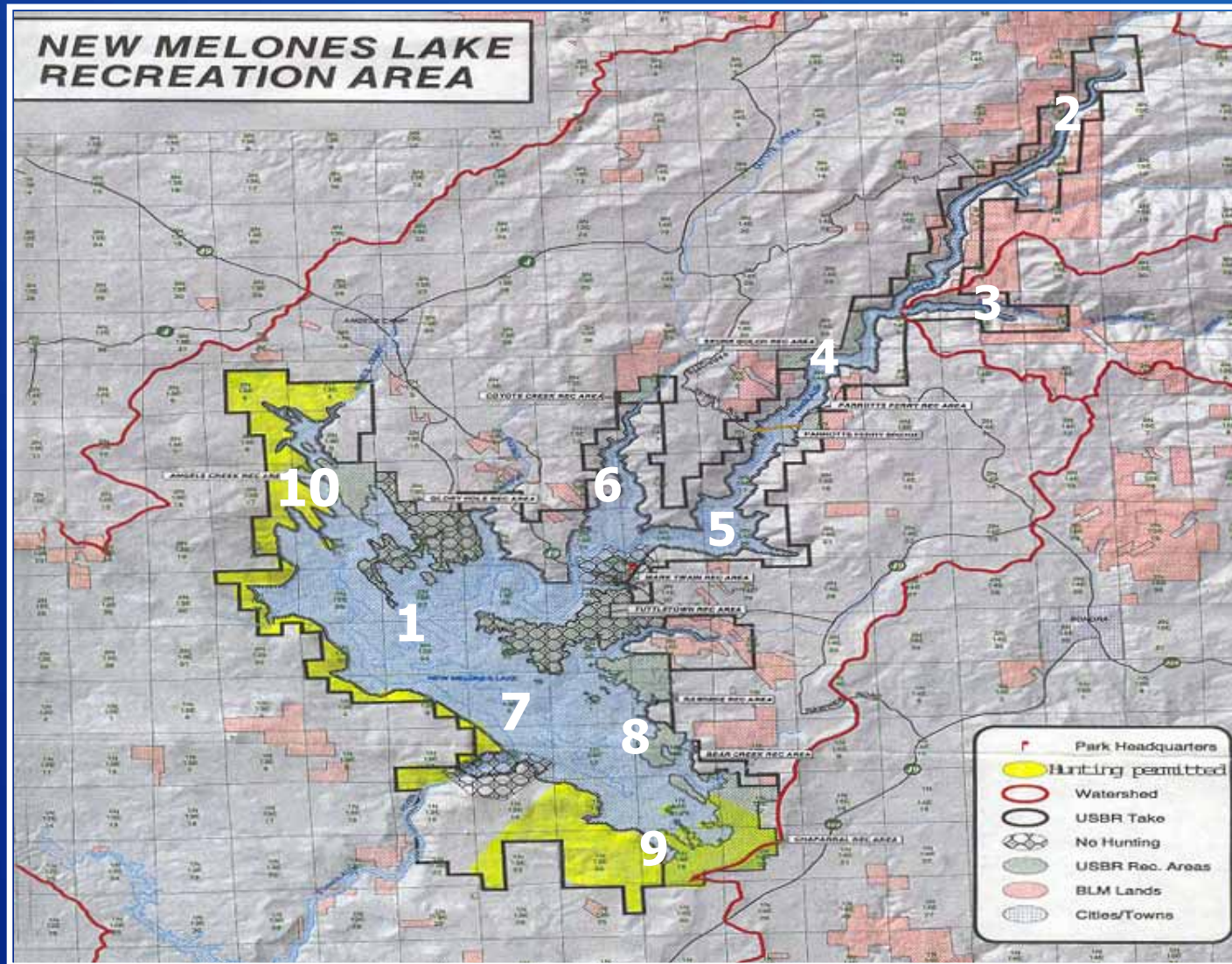
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WROS Inventory



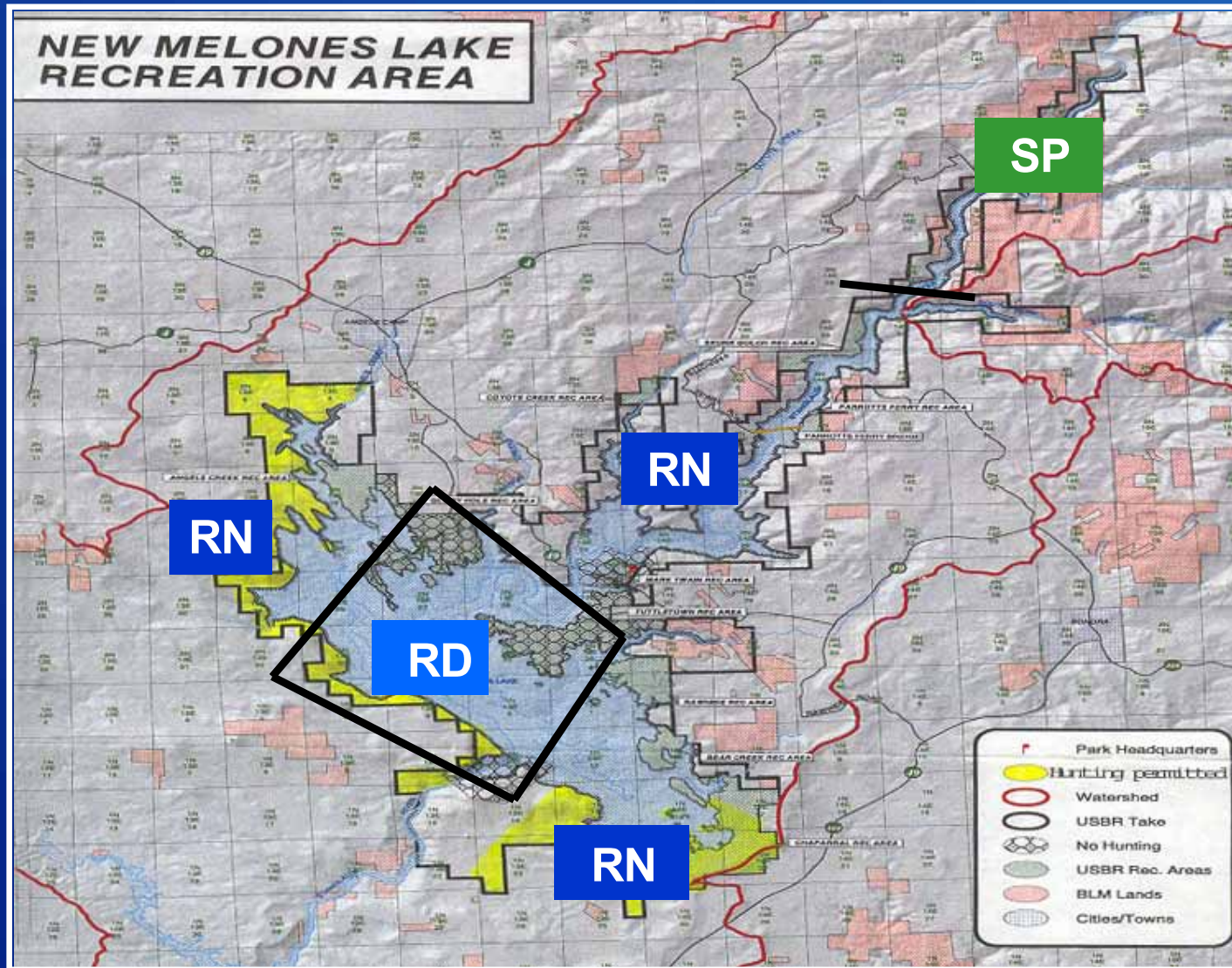
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Inventory Sites



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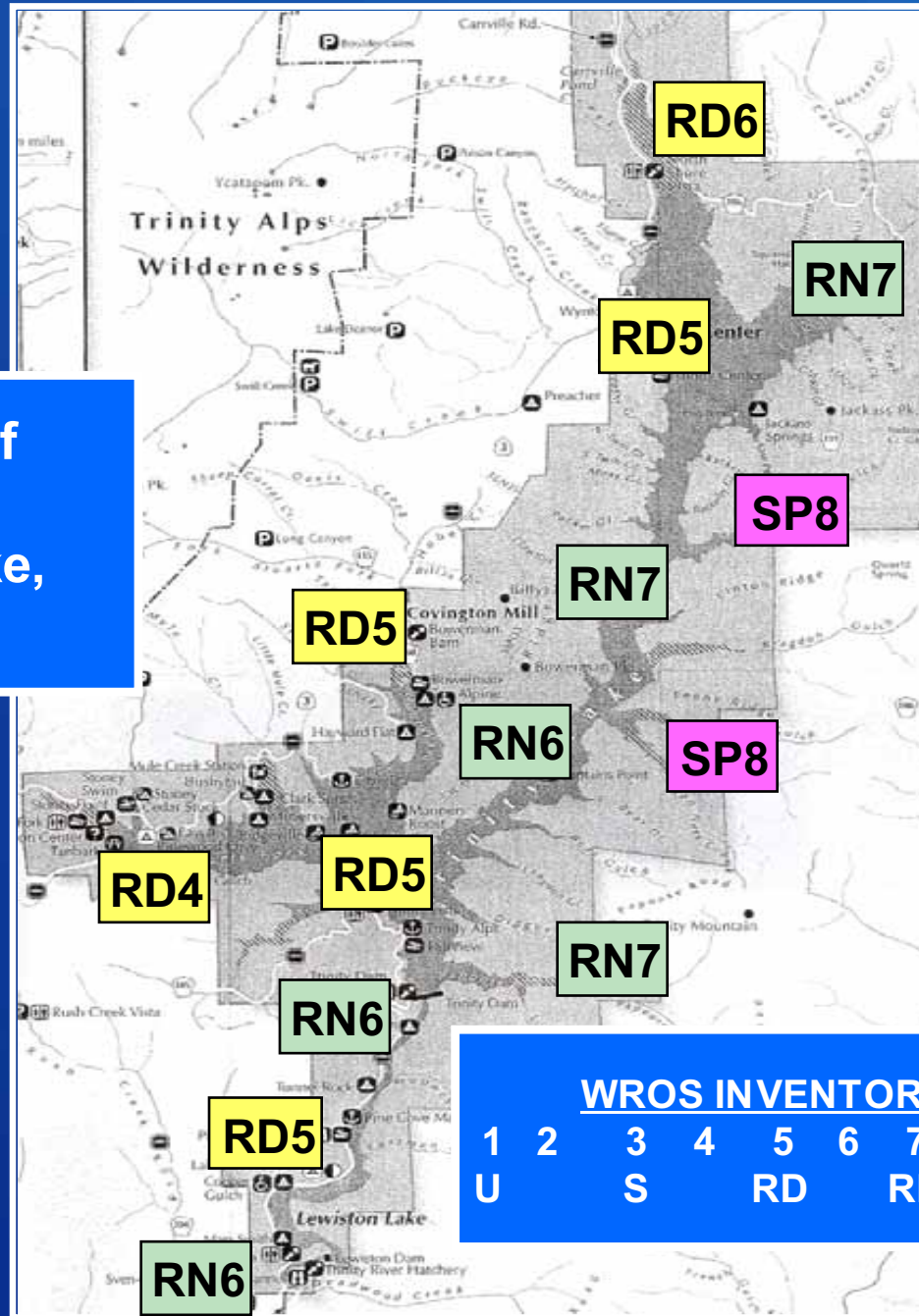
Inventory Sites



RECLAMATION

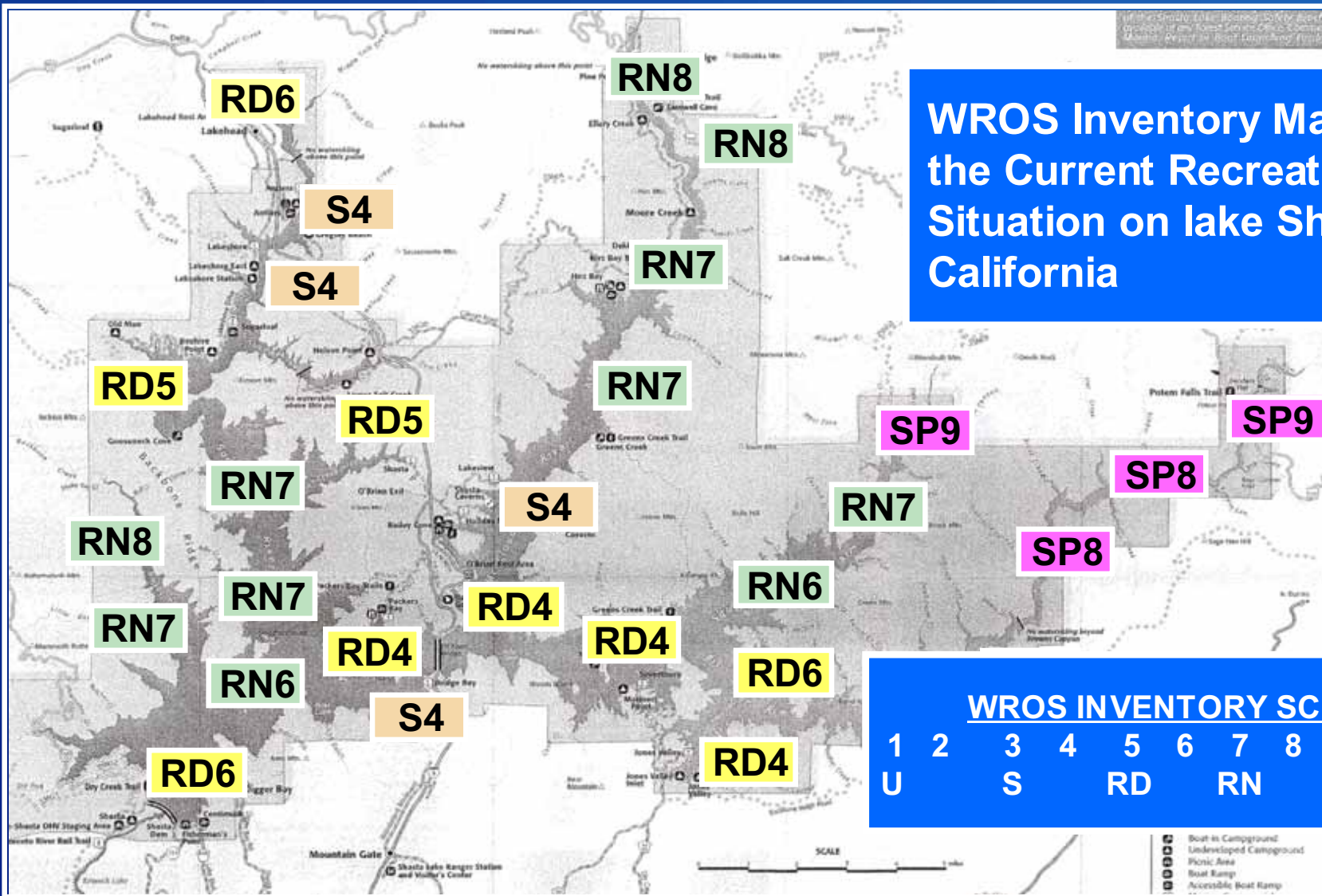
Inventory Sites

WROS Inventory Map of the Current Recreation Situation on Trinity Lake, California



WROS INVENTORY SCALE										
1	2	3	4	5	6	7	8	9	10	11
U		S		RD		RN		SP		P

Inventory Sites



WROS Inventory Map of the Current Recreation Situation on lake Shasta, California

WROS INVENTORY SCALE

1	2	3	4	5	6	7	8	9	10	11
U		S		RD		RN		SP		P

WROS Classification Assignments

<u>Sites</u>	<u>Physical</u>	<u>Social</u>	<u>Managerial</u>	<u>OVERALL WROS</u>
Site 1	Urban	Urban	Urban	Urban
Site 2	RN	RD	RN	Rural Natural
Site 3	Sub	Urban	RD	Urban
Site 4	SP	P	P	Semi Primitive

Also-Identify Inconsistencies

WROS Inconsistency Matrix

<u>Degree of Reasonableness to Adapt</u>	<u>Degree of impact or inconsistency</u>			
	<u>Negligible</u>	<u>Minor</u>	<u>Moderate</u>	<u>High</u>
None				
Low			priority D	priority C
Moderate			priority C	<u>priority B</u>
High			<u>priority B</u>	<u>priority A</u>

The degree of impact is the severity, extent, duration, or consequence of the inconsistency.

Results of WROS Inventory

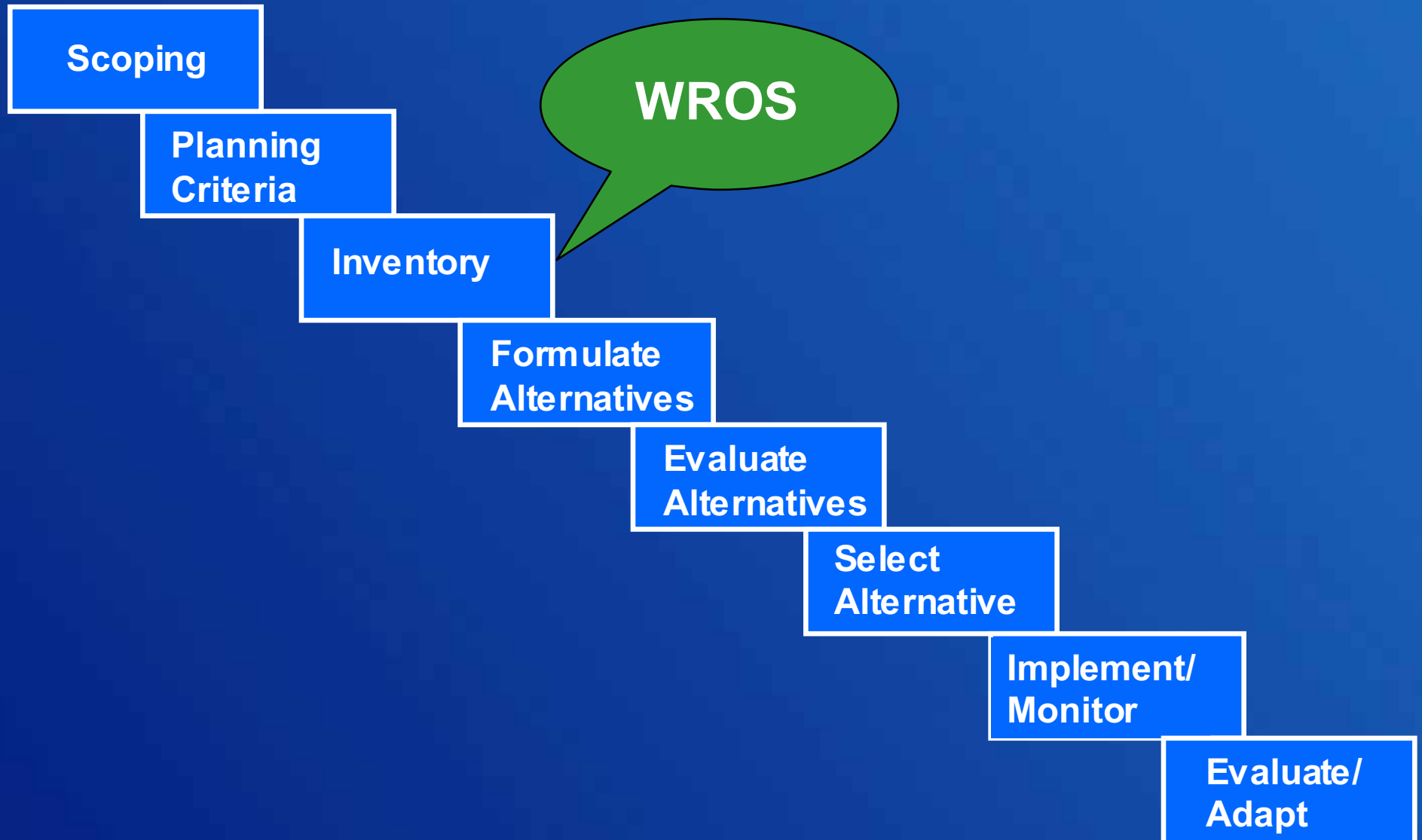
- **Better definition of ROs, location and size**
- **A working map (GIS overlay) of ROs**
- **Improved ability to communicate to visitors, stakeholders, and other units and, agencies**
- **Identification of inconsistencies**
- **Ability to compare recreation capacity (supply) with demand**

6. WROS as Input to Planning Process (optional)



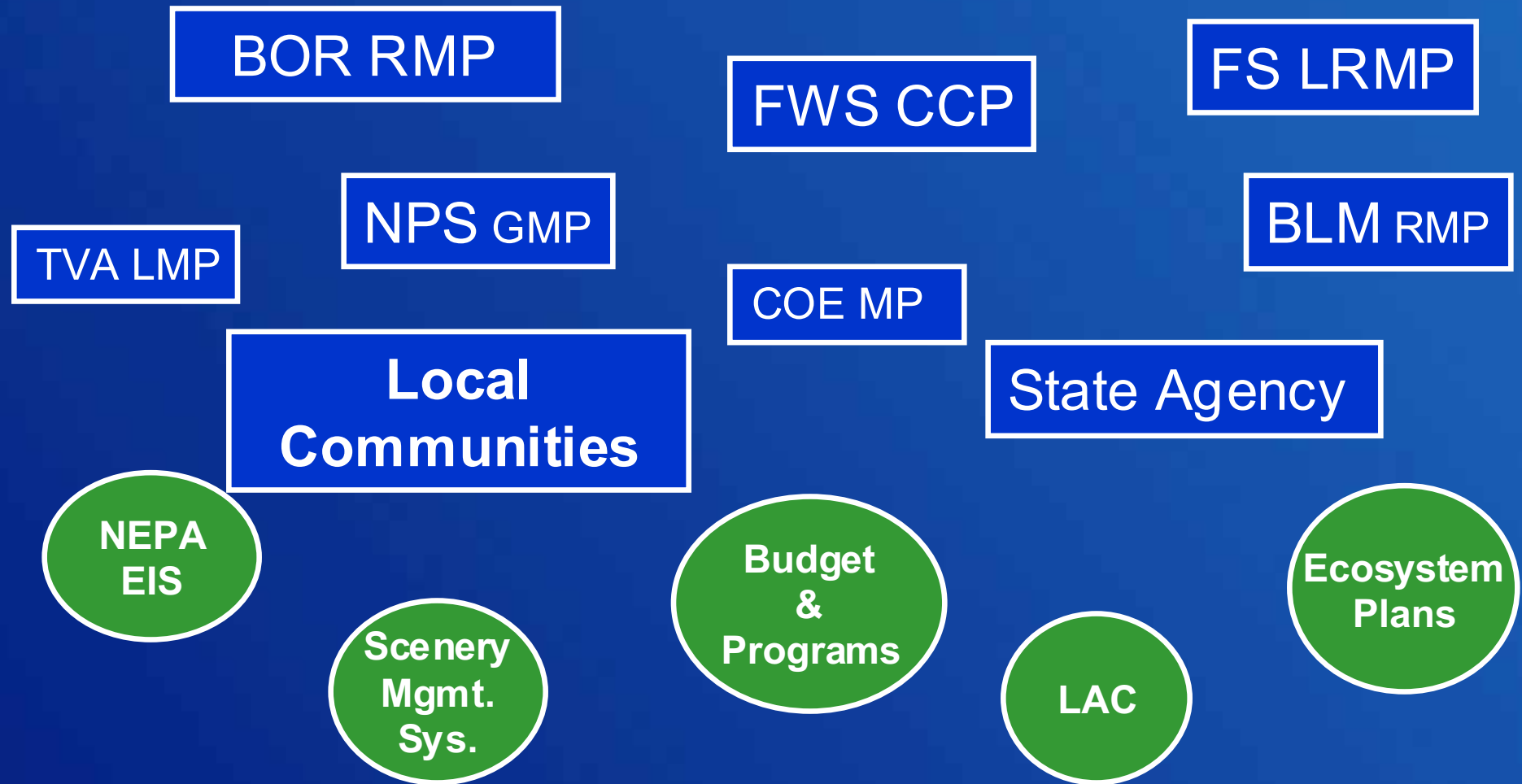
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Agency Planning Process



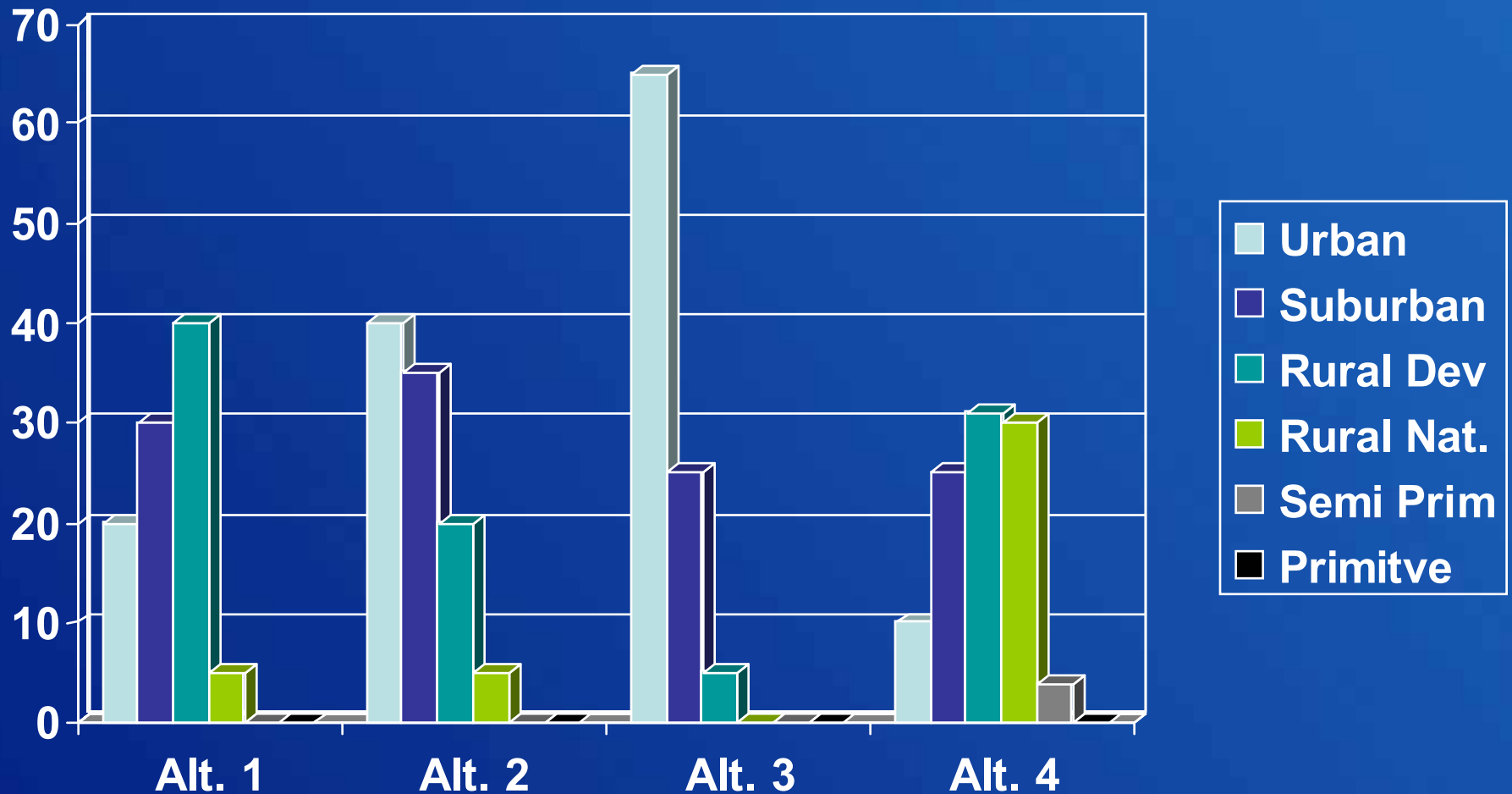
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WROS Integrates with any Agency Planning Process



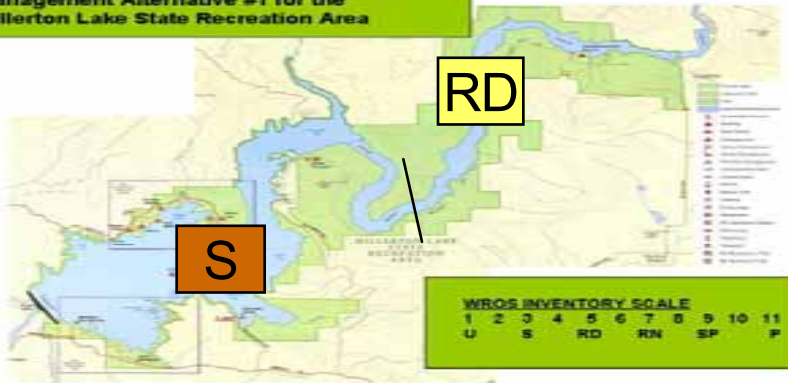
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Use WROS to Compare Management Alternatives

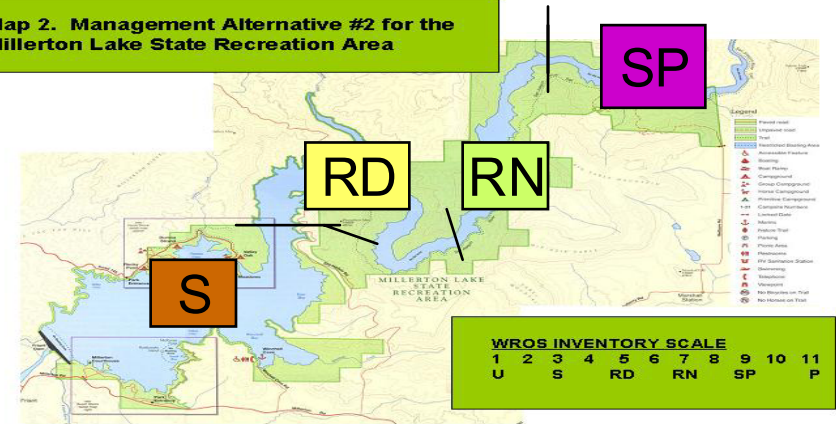


Using WROS to Compare Alternatives

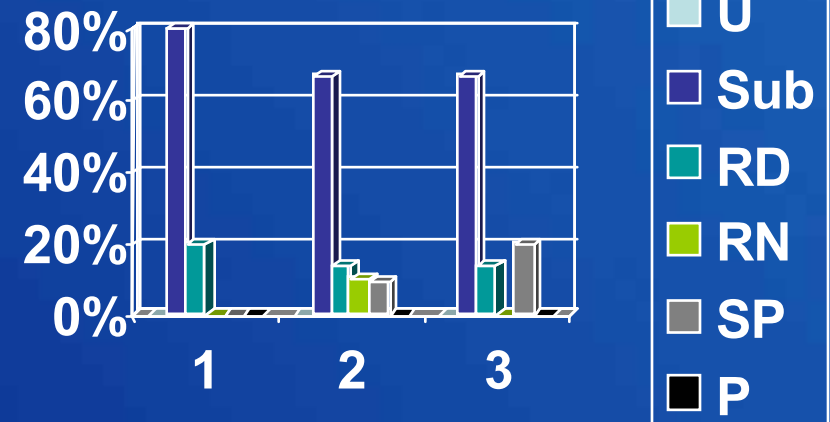
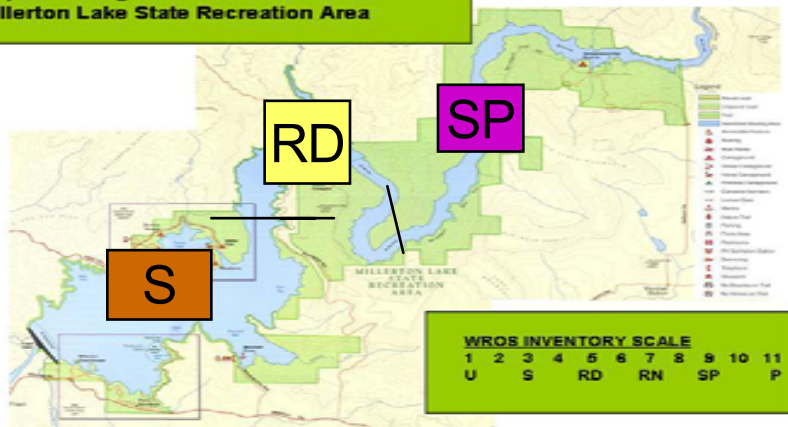
Map 1. The Current WROS inventory and Management Alternative #1 for the Millerton Lake State Recreation Area



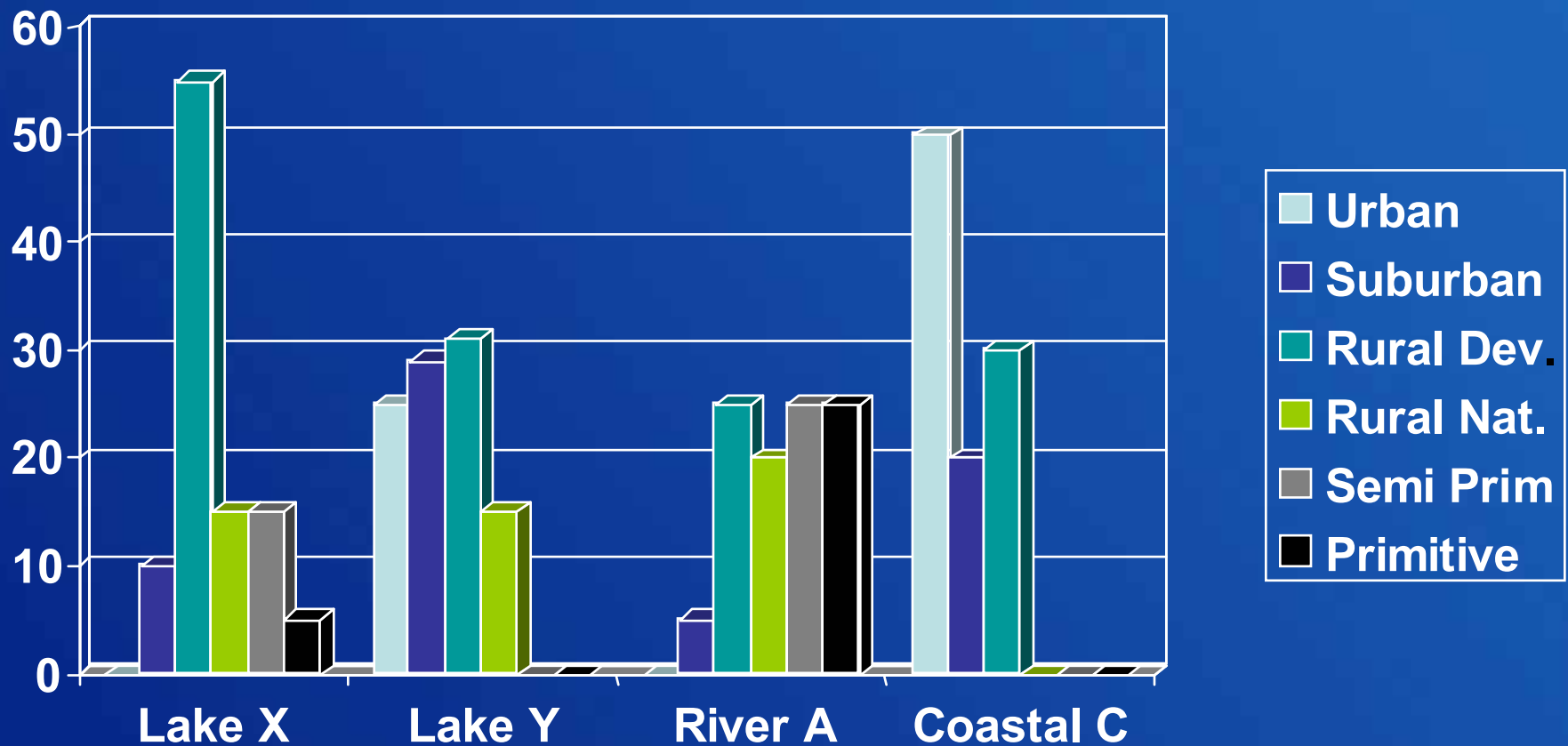
Map 2. Management Alternative #2 for the Millerton Lake State Recreation Area



Map 3. Management Alternative #3 for the Millerton Lake State Recreation Area

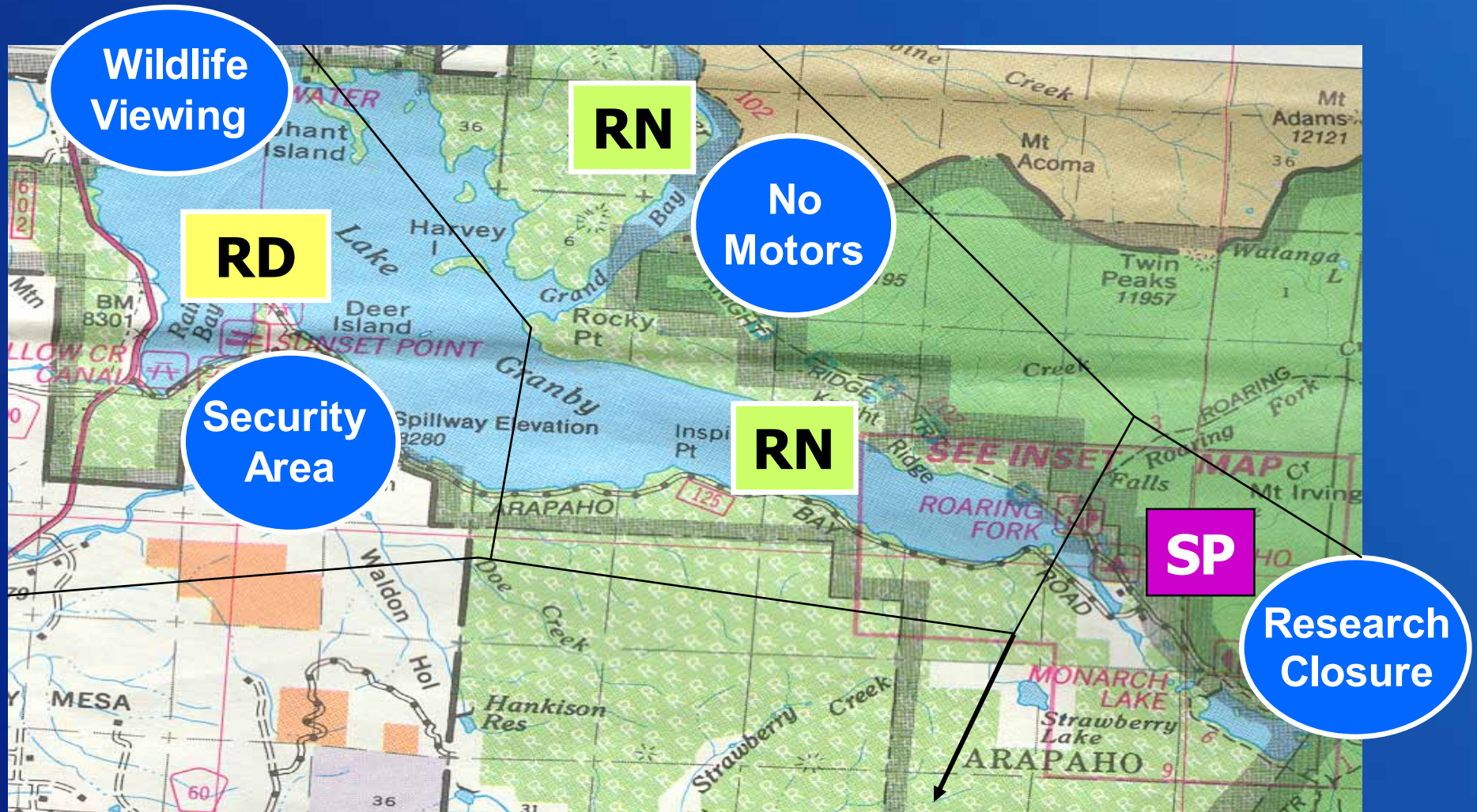


Assess a Regional System of Water Resources



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WROS Accommodates Tiering Down to the Site or Unit Level



7. WROS Management: Guidelines and Standards



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Sample of Guideline Topics

- Trails
- Campgrounds
- Picnic facilities
- Bathrooms
- Lighting
- Signage
- Marinas
- Wildlife viewing
- Visual resources
- Water quality
- Docks
- Piers
- Utilities
- Services
- Law enforcement
- Boating capacity

WROS BOAT Capacity Ranges — Level 1 Sliding Scale of Analysis

	<u>Low end of range</u>	<u>High end of range</u>
Urban	1 acre/boat	10 acres/boat
Suburban	10 acres/boat	20 acres/boat
Rural developed	20 acres/boat	50 acres/boat
Rural natural	50 acres/boat	110 acres/boat (1/4 sq. mi.)
Semi-primitive	110 acres/boat	480 acres/boat (3/4 sq. mi.)
Primitive	480 acres/boat	3,200 acres/boat (5 sq. mi.)

Practical Uses of WROS

- 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 WROS

- **Improve regional interagency collaboration**
- **Improve communication with stakeholders**
- **Improve assessment of proposed land/water changes**
- **Improve quality of recreation opportunities**
- **Improve defensible decision making**
- **Assure conservation of recreation diversity**



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