

Natural Resource Plan

Overall Framework and Deliverables

RRSC Meeting

January 19-20, 2011





NRP – Overall Framework and Deliverables: **Discussion Topics**

◆ Natural Resource Plan (NRP) Overview

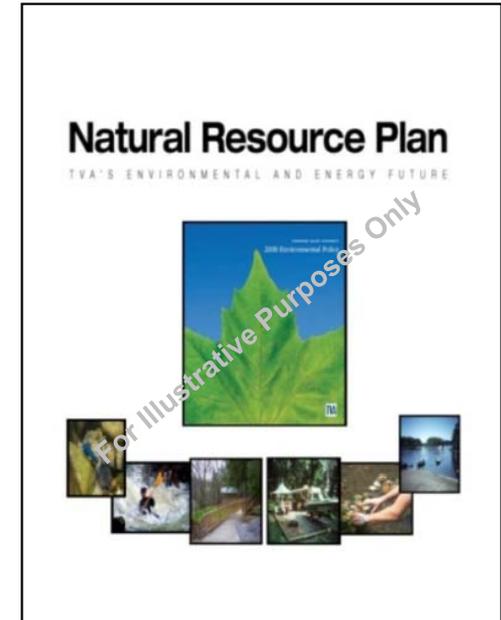
◆ Agency Visits Summary

◆ Scenario Planning Overview



NRP Overview: NRP Document Overview

- ◆ The NRP is a comprehensive, 20-year strategic plan
- ◆ The NRP will focus on four resource areas:
 - Biological and Cultural Resource Management
 - Recreation Management
 - Reservoir Lands Planning
 - Water Resource Management
- ◆ The five primary goals of the NRP are to:
 - Align TVA’s stewardship programs and plans with the TVA Environmental Policy
 - Guide TVA’s land use and resource management decisions and actions
 - Optimize public use benefits of TVA-managed lands
 - Provide a “reference manual” to guide implementation activities
 - Provide clarity and transparency to the public





RRSC Guidance for the NRP

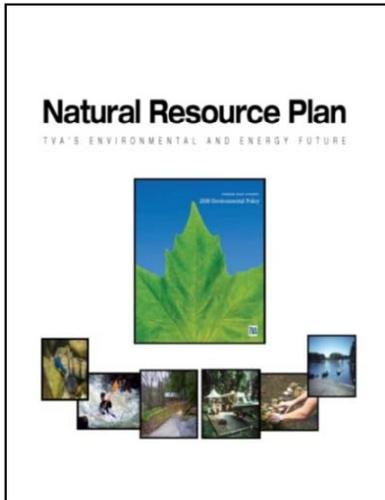
The RRSC met in March of 2010 and outlined the following criteria for success for the NRP to meet its standards of environmental leadership:

- ◆ Leverage dollars to generate positive benefit for the most people without compromising core TVA values
- ◆ Ensure the impact on investment is significant enough to have TVA be a leader on natural resource issues and on controlling its own environmental issues
- ◆ Respect the needs of the resources under TVA's control, particularly the non-renewable ones and issues of TVA's creation, and go beyond the basic requirement for these resources
- ◆ Measure and document programs through accurate data management and develop a strong communications and public outreach campaign to ensure the good work of the NRP is shared with TVA stakeholders



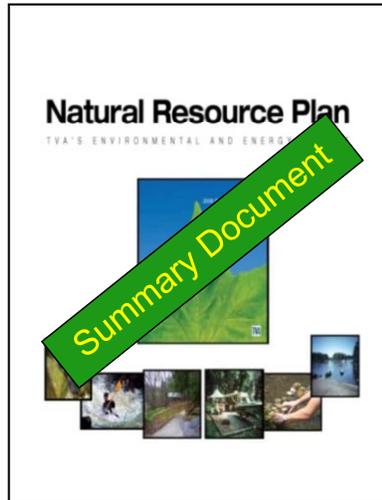
NRP Overview: Key Deliverables

There are three key deliverables for the NRP project – the Natural Resource Plan (NRP), the Natural Resource Plan Summary Document, and the Environmental Impact Statement (EIS)



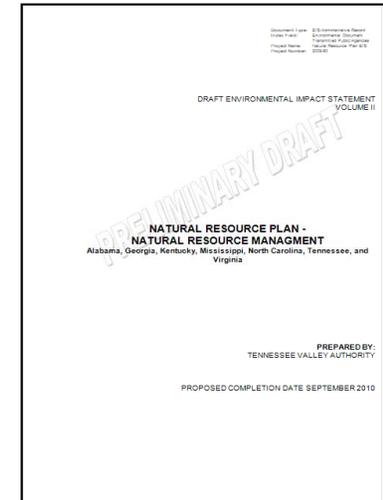
Natural Resource Plan

The NRP is a strategic framework to guide future TVA decisions



**Natural Resource Plan
Summary Document**

The summary document is a high level (10 – 20 page) document that is meant to provide an executive summary of the full NRP document



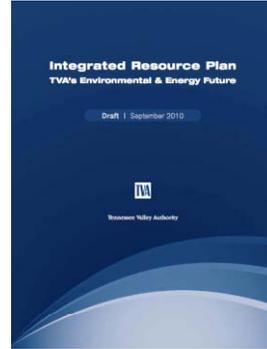
**Environmental Impact
Statement**

The EIS describes the positive and negative environmental effects of proposed actions laid out in the NRP and alternative actions

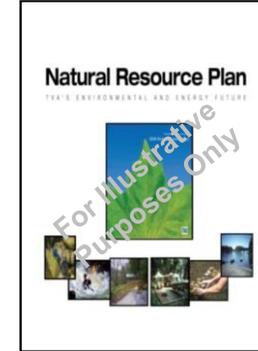


NRP Overview: IRP vs. NRP

Integrated Resource Plan



Natural Resource Plan



Focus

Power Portfolio

Natural Programs, Water Resources, Recreation, Lands Planning

Time Horizon

20 Years

20 Years

Planning Methodology

Scenario Planning

Scenario Planning

Publication DateDraft: September 2010
Final: March 2011Draft: February 2011
Final: Summer 2011



NRP Overview: Environmental Policy Coverage

The IRP and NRP provide coverage for most elements of the Environmental Policy

- ◆ There is limited mention of Waste Minimization in either document, but it is covered through the Sustainability Plan
- ◆ Sustainable reduction of consumptive water use is addressed in the Reservoir Operations Study (ROS)

| Environmental Policy Objective | Coverage | | | |
|---|----------|-----|-----|---------------------|
| | IRP | NRP | ROS | Sustainability Plan |
| Climate Change Mitigation | ✓ | | | |
| Air Quality Improvement | ✓ | | | |
| Water Resource Protection & Improvement | ✓ | ✓ | ✓ | |
| Waste Minimization | | | | ✓ |
| Sustainable Land Use | ✓ | ✓ | | |
| Natural Resource Management | | ✓ | ✓ | |



NRP Overview: Expectations for the NRP

The NRP Will

The NRP Will Not

— Articulate a 20-year planning strategy

— Be a substitute for the “fine tuning” of the annual planning and budgeting process

— Present a recommended planning strategy for use in future decision making

— Reassign current program budgets

— Provide a ranking of programs based on objective cost and benefit analyses

— Make specific program decisions

— Discuss other strategic considerations outside of scenario planning

— Quantify all risks in the analysis or include all decision criteria needed for management decisions

— Integrate with other planning documents, such as the IRP, ROS, Land Policy, Shoreline Management Initiative, Mosquito Initiative, and specific Reservoir Land Plans

— Supersede any of the plans already in place

— Provide EIS coverage for key aspects of the Environmental Policy

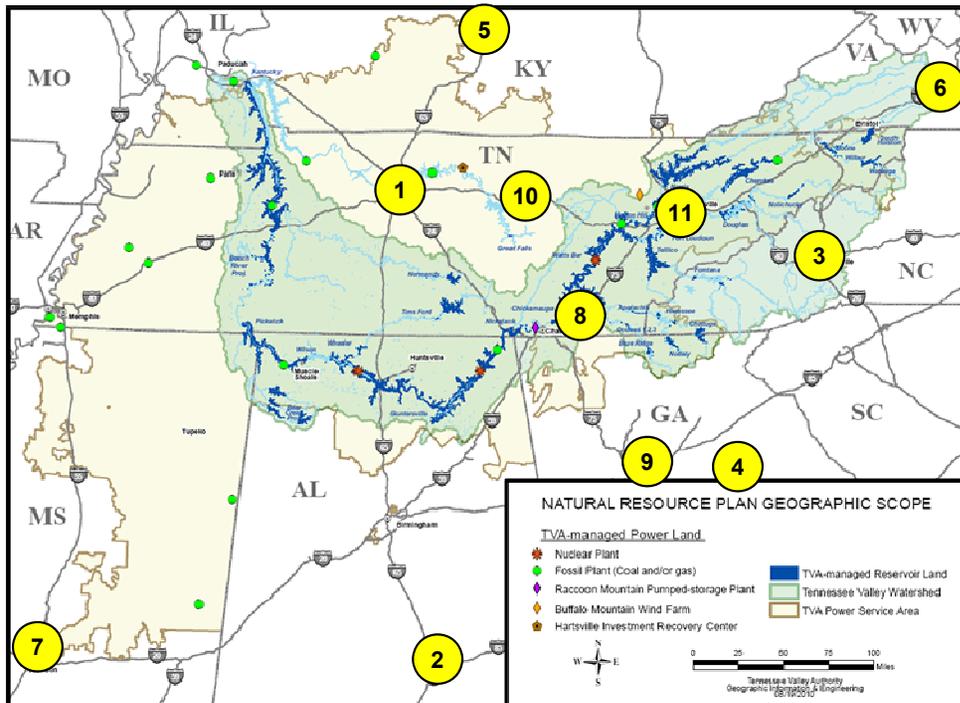
— Provide EIS coverage for individual projects



Agency Visits Summary: Overview

Background:

- ◆ External stakeholder engagement is an integral part to the successful development and (future) execution of the NRP. As such, TVA met with various agencies to:
 - Provide an overview of the NRP development process and timeline
 - Facilitate an open discussion to identify key trends and challenges facing agencies today
 - Develop a network of peers and lay the foundation for future partnerships



| Map ID | State | Agency(s) |
|--------|-------|---|
| 1 | TN | - Tennessee Wildlife Resources Agency (TWRA) - Army Corps of Engineers |
| 2 | AL | - Alabama Department of Conservation and Natural Resources - Alabama Division of Wildlife and Freshwater Fisheries |
| 3 | NC | - North Carolina Wildlife Resource Commission - North Carolina Dept of Environment and Natural Resources |
| 4 | GA | - GA Department of Natural Resources, includes recreation, natural resources, cultural, education |
| 5 | KY | - Kentucky Department of Fish and Wildlife Resources - Kentucky Energy and Environmental Cabinet - Kentucky State Nature Preserves Commission |
| 6 | VA | - Virginia Dept. of Game and Inland Fisheries - Dept. of Conservation and Recreation |
| 7 | MS | - MS Dept. of Wildlife, Fisheries, and Parks |
| 8 | - | U.S. Forest Service: - Cherokee National Forest - Chattahoochee National Forest |
| 9 | - | National Park Service: - NPS Rivers, Trails, and Conservation Assistance Program – Atlanta |
| 10 | - | U.S. Fish and Wildlife Service: - Cookeville Office - Refuge Offices |
| 11 | - | Cultural Contacts: - University of Tennessee, Knoxville |



Agency Visits Summary: Key Findings

General feedback:

- ◆ All meetings were extremely well-received, and we have gathered a variety of information to incorporate into the NRP
- ◆ Most agencies have funding challenges, and the agencies are eager to strengthen relationships with TVA
- ◆ Many of the agencies visited have recently reorganized and building new relationships with key contacts is essential

Summary of findings:

| Key Topic | Highlights |
|-------------------------------------|--|
| General outreach and education | <ul style="list-style-type: none"> — Education is critical to public support — There is an overarching need to refocus people on outdoor activities for general health and family/society purposes through education |
| Relationships (public and internal) | <ul style="list-style-type: none"> — This is a key area where TVA needs to improve, especially given the Agency’s broad reach — TVA has a long history of stewardship, but it is rarely told (create awareness) |



Agency Visits Summary: Key Findings (Cont'd)

Summary of findings (Cont'd):

| Key Topic | Highlights |
|--------------------------------|--|
| Enforcement | <ul style="list-style-type: none">— Cultural resource monitoring, protection, and enforcement challenges exist across all agencies (where applicable)— There is general confusion around the land policies, including permitting, hunting, recreation, etc. |
| Execution | <ul style="list-style-type: none">— There was an overwhelming willingness to pursue partnership opportunities with TVA as part of the NRP, but many agencies noted the decline in TVA's support in recent years— There was general concern that water operations (ROS) would not be addressed jointly with NRP programs |
| New program development/design | <ul style="list-style-type: none">— Multi-disciplinary projects should be packaged together by watershed area (not resource area or type)— Field expertise is critical in identifying the programs that need to be developed/revised/implemented |



Scenario Planning Overview: Overview

Purpose:

- ◆ Scenario planning is an exercise in defining a future NRP strategy by evaluating programs across a variety of future environments or “worlds”

Key notes:

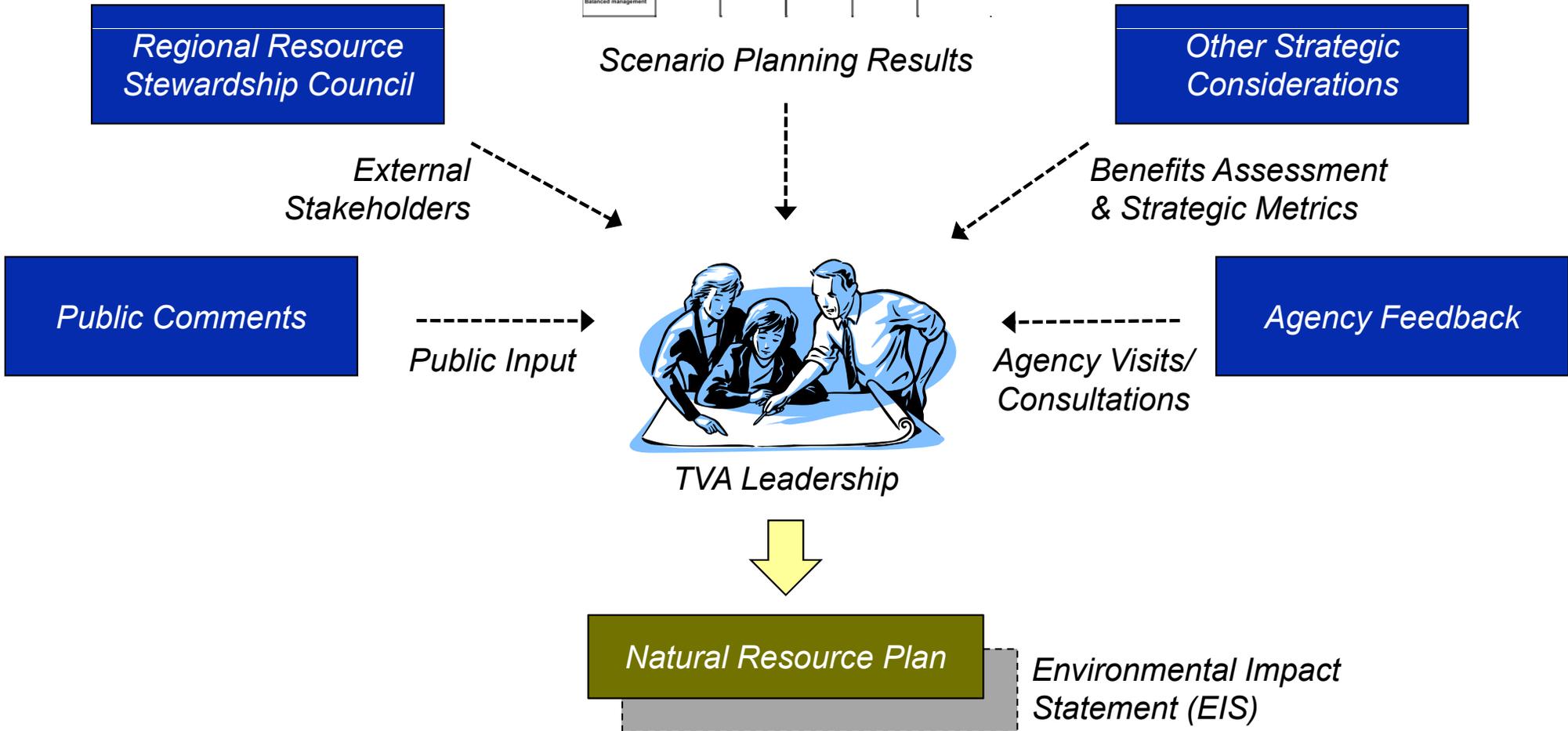
- ◆ Scenario planning provides:
 - An understanding of how near-term and future decisions may change under different conditions
 - An assessment of the strengths and weaknesses of various business options/alternatives
 - A foundation for reacting to changes in the business environment
- ◆ Scenario planning helps to define the impacts and potential actions in alternative future environments
 - While it is not intended to predict the future, it describes a set of “plausible futures”
- ◆ Shell Oil pioneered the use of scenario planning as a business tool in the late 1960's and early 1970's
 - Enabled Shell to effectively deal with the 1973 oil shock (anticipated the possibility of increasing prices)



Scenario Planning Overview: NRP Stakeholder Input

Stakeholder input plays a significant role in the decision making process for the NRP

| Planning Strategies | Scenarios | | | Total Score (by scenario) |
|-----------------------|-------------------------------|--|----------------------------|---------------------------|
| | Economy Recovers Dramatically | Environmental Focus is a National Priority | Prolonged Economic Malaise | |
| Resource conservation | | | | |
| Recreation focus | | | | |
| Balanced management | | | | |

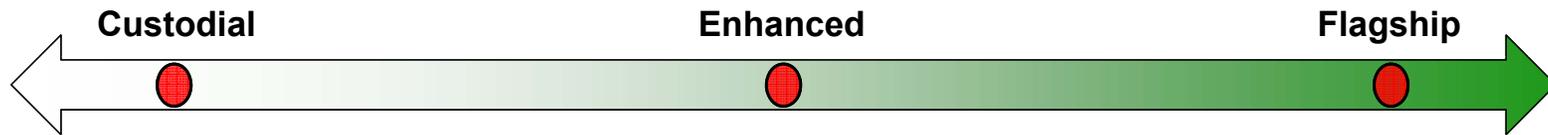




Scenario Planning Overview: Program Options

Background:

- ◆ There are three groups of program options considered in scenario planning that represent different levels of commitment to each element within a given resource area:



| Program Option | Definition |
|----------------------|--|
| Custodial Management | TVA would operate in compliance with all legal, regulatory, and TVA policy requirements |
| Enhanced Management | In addition to meeting compliance requirements, this option recommends a limited number of projects that begin to elevate the public value of TVA’s natural resource management programs in all areas (where appropriate) |
| Flagship Management | In addition to meeting compliance requirements, this option recommends Valley-wide opportunities that elevate the public value of TVA’s natural resource management programs to the “gold standard” in all areas (where appropriate) |



Scenario Planning Overview: Scenario Planning Process

Scenario planning draws on various perspectives and analysis to provide an objective assessment of each proposed program option. Inputs include:

Program Options Table

| Program Category | Program | Goal / Activity | Status | | |
|----------------------------|------------------------------------|-----------------|-----------------|---------------|---------------|
| | | | Controlled Mgmt | Enhanced Mgmt | Priority Mgmt |
| Water Resource Improvement | Water Resource Improvement Program | ... | ... | ... | ... |
| | ... | ... | ... | ... | ... |
| | ... | ... | ... | ... | ... |
| | ... | ... | ... | ... | ... |
| | ... | ... | ... | ... | ... |
| | ... | ... | ... | ... | ... |
| | ... | ... | ... | ... | ... |
| | ... | ... | ... | ... | ... |
| | ... | ... | ... | ... | ... |
| | ... | ... | ... | ... | ... |

Program Cost Analysis

| Program | Element | Controlled | | Enhanced | | Priority |
|-------------------------------------|------------------------------------|------------|--------------|----------|--------------|----------|
| | | FTE | Total Cost | FTE | Total Cost | |
| Water Resource Improvement Programs | Water Resource Improvement Program | 6.00 | \$ 1,420,000 | 6.00 | \$ 2,100,000 | 0.00 |
| | ... | ... | ... | ... | ... | ... |
| | ... | ... | ... | ... | ... | ... |
| | ... | ... | ... | ... | ... | ... |
| Aquatic Monitoring and Management | ... | 1.00 | \$ 210,000 | 1.00 | \$ 210,000 | 0.00 |
| | ... | ... | ... | ... | ... | ... |
| Partnership Programs | ... | 0.50 | \$ 105,000 | 0.50 | \$ 105,000 | 0.00 |
| | ... | ... | ... | ... | ... | ... |
| Public Outreach | ... | 0.25 | \$ 52,500 | 0.25 | \$ 52,500 | 0.00 |
| | ... | ... | ... | ... | ... | ... |
| Total O&M - All Programs | | 7.25 | \$ 1,833,000 | 8.25 | \$ 1,860,000 | 0.00 |

Scenario Planning Matrix

| Planning Strategies | Scenarios | | | | Total Score (by scenario) |
|-----------------------|-------------------------------|--|----------------------------|--|---------------------------|
| | Economy Recovers Dramatically | Environmental Focus is a National Priority | Prolonged Economic Malaise | Carbon Legislation Creates Economic Downturn | |
| Resource conservation | | | | | |
| Recreation focus | | | | | |
| Balanced management | | | | | |

Program Benefits Assessment

| Program Category | Program | Goal / Activity | Controlled Mgmt | Enhanced Mgmt | Priority Mgmt |
|--|---------|-----------------|-----------------|---------------|---------------|
| Cultural Resource Programs | ... | ... | ... | ... | ... |
| | ... | ... | ... | ... | ... |
| | ... | ... | ... | ... | ... |
| Archaeological Research and Protection | ... | ... | ... | ... | ... |
| | ... | ... | ... | ... | ... |
| Cultural History Programs | ... | ... | ... | ... | ... |
| | ... | ... | ... | ... | ... |

Benefits Weighting Exercise

| Environmental Stewardship Metric | Metric Weights | | |
|---|----------------|-------------|-------------|
| | Conservation | Recreation | Balanced |
| Recreation/ Visitor Benefit Use | 1% | 44% | 17% |
| Water Resource Benefit | 9% | 24% | 17% |
| Species/ Habitat Conservation and Abundance | 4% | 10% | 17% |
| Cultural Resource Preservation | 40% | 1% | 17% |
| Management Data and Scientific Knowledge/ Reduce Compliance Costs | 5% | 1% | 16% |
| Public Perception/ Outreach, Partnerships, Outreach | 5% | 20% | 16% |
| Total | 100% | 100% | 100% |



Scenario Planning Overview: NRP Strategies

- ◆ Strategies are within TVA’s control
- ◆ Below are the three strategies under consideration in the draft NRP:

| Strategy | Definition | Key Characteristics |
|------------------------|--|---|
| Resource Conservation | <ul style="list-style-type: none"> ◆ Conserve and protect natural resources by improving the desired land conditions | <ul style="list-style-type: none"> — Strive to significantly improve conservation efforts across the Valley — Become recognized as a leader in natural resource protection — Improve the desired land conditions to enhance sensitive resource protection — Promote biodiversity and natural habitats |
| Human-Use (Recreation) | <ul style="list-style-type: none"> ◆ Focus on using TVA resources for recreational use while maintaining conservation efforts | <ul style="list-style-type: none"> — Strive to significantly improve both dispersed and developed recreational use — Become recognized as a leader in sustainable recreation development — Optimize water quality to enhance recreation usage — Improve sensitive resource protection, particularly near high-use areas |
| Blended Stewardship | <ul style="list-style-type: none"> ◆ Blend natural resource conservation with promoting recreation use across the Valley | <ul style="list-style-type: none"> — Balance resources and funding across each resource area, highlighting specific elements for each — Strive to significantly improve conservation efforts and recreation use across the Valley — Further integrate management of environmental, cultural and recreation elements — Expand education and informational opportunities for the public |



Scenario Planning Overview: Resulting NRP Program Mix

The recommended NRP program mix will be presented in three priority levels by resource area:

- ◆ Presenting the program options in this manner creates implementation flexibility for management in the future to utilize as a decision-making tool

| | <u>Biological</u> | <u>Cultural</u> | <u>Recreation</u> | <u>Water</u> |
|----------|--|-----------------|-------------------|--------------|
| A | <u>Custodial Management</u> <ul style="list-style-type: none">◆ Meets the expectations of legal, regulatory, and policy direction◆ Presents the baseline level of effort associated with the NRP | | | |
| B | <u>Strategic Priorities</u> <ul style="list-style-type: none">◆ Identifies critical program options that are integral to the successful implementation of the NRP◆ Helps management to strategically prioritize additional programs (e.g., enhanced or flagship options) to be implemented as partnerships/funding allows | | | |
| C | <u>Also Under Consideration</u> <ul style="list-style-type: none">◆ Provides an objective list of programs ranked by their ability to leverage dollars to generate positive benefit for the most people without compromising core TVA values◆ Includes all remaining program options (i.e., the NRP does not eliminate any program options presented in the NRP/EIS) | | | |