



NRP Road Map for Success

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The NRP represents TVA's high-level strategy for managing its natural resources in the near and long term. Detailed implementation plans will be developed based on the NRP to drive specific implementation efforts. To guide its NRP-related stewardship efforts and provide a means for measuring results, TVA has developed goals and success measures for the next three, five, and 20 years:



Figure 2.1 Overview of the NRP implementation strategy

Each of these success measures is discussed in more detail on the following pages as part of TVA's implementation strategy. By identifying both near- and long-term goals and expectations, TVA is able to effectively manage and communicate its implementation efforts.

2.1 Implementation Strategy

The implementation strategy presented above identifies the objectives and keys to success associated with the NRP’s three-, five-, and 20-year outlook. This creates parameters, or “bookends,” by which TVA will implement its stewardship programs and activities over the life of the NRP. Supporting detailed implementation plans will be developed on an annual basis.

The core components below are focal points of the NRP throughout its life cycle.

Public Outreach and Education

Through public outreach and education campaigns, TVA will promote stewardship efforts while reinforcing the public’s role in the protection and preservation of the region’s natural resources. All constituents play a part in helping support the intended usage of TVA-managed lands. Educating stakeholders helps to create the awareness and understanding that are critical to maintaining and improving the state of the region’s nonrenewable resources.

Partnerships

Partnerships are a critical component of future enforcement, education and operations success. The availability of partnerships may influence which programs are implemented and the order in which they occur. TVA, along with other agencies, is tasked with finding new and creative ways to deal with funding and personnel challenges to effectively manage nonrenewable resources. To support these coordination and collaboration efforts, TVA will leverage its Public Engagement programs (see Chapter 8) to help develop and foster these relationships in an integrated manner.

Program Development

A focus of the NRP is to highlight the interconnectivity of its programs across all

resource areas. This integrated resource management approach aligns with TVA’s mission as well as its original charge in the TVA Act. Each program is designed to maintain the resources under TVA’s control, particularly the nonrenewable assets, and to do so in an integrated manner. In addition, TVA is refocusing its effort to maintain and develop field expertise in order to better identify the programs that need to be created, updated and implemented.

Resource Area Integration and Alignment

To accomplish its natural resource management goals, TVA leverages the relationships between resource areas, including their programs and activities. Activities that support mutual benefits across resource areas and programs alike will be leveraged to most efficiently and cost effectively implement the NRP. In other words, when a program is implemented in one resource area, benefits may be realized in another program in a different resource area.

2.1.1 Phase I: Years 1 to 3

Overall objective:

Establish a foundation for success while maintaining baseline activities.

Expected timeline:

Fiscal years 2012 to 2014

Keys to success:

1. Maintain current efforts to meet regulatory and legal requirements

As part of day-to-day natural resources management, TVA will continue to meet all regulatory and legal requirements. This level of effort will be maintained throughout the life of the NRP. In addition, TVA will strive to exceed the goals set

forth in the 2008 TVA Environmental Policy. The overarching objective of the Environmental Policy is to provide cleaner, reliable and still-affordable energy, support sustainable economic growth in the Tennessee Valley, and engage in proactive environmental stewardship in a balanced and ecologically sound manner. TVA will continually adjust its stewardship activities to meet this expectation. Adjustments will include development of sustainability measures to ensure future activities are aligned with the Environmental Policy.

Also, it is essential for TVA to be flexible within its stewardship activities to address emerging issues and resource needs as they arise. Examples include, but are not limited to:

- Response to flood and storm damage
 - Degraded dewatering levee conditions
 - Need to preserve and protect ecological diversity (e.g., Duck River)
 - Insect infestation (e.g., pine beetles)
- Disease (e.g., white nose syndrome in bats)
 - Protection of sensitive resources (e.g., threatened and endangered new listing or delisting)

2. Expand data management and information sharing opportunities

Data management and accessibility are critical elements in proactive natural resources management. Because of their importance, TVA will support the development of a more collaborative and comprehensive data sharing environment with regional and national partners. These efforts will support TVA's resource management decision-making processes as well as the creation of partnership opportunities. When developed, a coordinated effort will be needed to help maintain accurate records. In addition, data management is a key input to TVA's public engagement and outreach efforts, helping to promote stewardship activities and involvement.



For example, an immediate need within data management is to coordinate with state and other federal agencies to make geographical information system (GIS) data more compatible across databases. TVA will develop and maintain Valley-wide databases for water quality data, digitized cultural resource data, threatened and endangered species data, and wetlands. These databases will be geo-referenced, and data will be available for sharing with partners and the public as appropriate.

3. Gain a better understanding of the resource base and current conditions on TVA-managed reservoir lands

The NRP defines the holistic, high-level path forward for TVA's environmental stewardship efforts. This provides direction for the development of actionable plans for stewardship of the region's resources. To inform these plans, TVA will assess its lands to identify high-priority resource needs on which to focus its efforts.

For example, TVA needs to understand the quantity and current conditions of TVA-managed trails to determine future maintenance needs and potential opportunities for expansion. When considering expansion, TVA may not be able to add trails due to a lack of maintained access roads leading to trailheads. Therefore, TVA will need to improve and expand access roads prior to adding new trails.

The information gathered during these assessments will be entered into TVA's databases. The ability to accurately capture, store and share these data helps foster a collaborative working environment across the region.

4. Develop and maintain partnerships to support implementation efforts

TVA will actively work to develop and maintain a network of partnerships to support the maximum level of implementation activities possible.

5. Strengthen integration between resource areas during implementation

The NRP is designed to show the interconnectivity of the resource areas and their programs at a high level. Annual implementation plans will clearly identify and describe the integration or linkage between programs and their supporting activities. This supports TVA's efforts to:

- Identify resource needs and enhancement opportunities
- Develop methodology to get from “where TVA is currently” to “where TVA is going”
- Ensure compliance with all legal, regulatory and policy requirements
- Prioritize implementation activities

6. Establish an NRP assessment process and metrics to measure results

A priority within the first three years of the NRP implementation strategy is to build a comprehensive assessment process to help monitor whether TVA is moving in the right direction. As part of this effort, TVA will align its measurement of results with the annual business planning cycle, creating a direct link between resource needs and the formal budgeting process. Also, the process will provide TVA with a means to benchmark its peers for comparison and analysis purposes. This process is intended to be informative, both internally and externally, helping to promote the NRP's successes and areas needing attention.

7. Begin adapting reservoir land plans to single-use parcel allocation methodology

Converting the reservoirs planned using the multiple-use tract method to single-use parcel allocation will be the first focus under the Comprehensive Valleywide Land Plan. This group includes Chickamauga, Kentucky, Nickajack and Wheeler reservoirs. Due to the size of Kentucky Reservoir, it may be split into more manageable sizes (for example, upper end and lower end) for planning. The forecasted reservoirs, Fort Loudoun and Normandy, will be planned next, along with the unplanned reservoirs: Great Falls, Wilson, and the eight Beech River reservoirs.

2.1.2 Phase II: Years 4 to 5

Overall objective:

Implement programs to sustain, maintain and improve resource conditions

Estimated timeline:

Fiscal years 2015 to 2016

Keys to success:

1. Evaluate NRP implementation efforts and refresh the plan based on progress, a better understanding of resource conditions, and emerging needs

To ensure that changing resource conditions are incorporated into the NRP, TVA has committed to updating the NRP on a rolling five-year basis. This process is further described in Section 2.3 (page 49). Also, as TVA's stewardship activities evolve and expand, the baseline level of effort will be adjusted accordingly. By progressively raising the baseline expectations, TVA is able to more easily identify needs and actions to incorporate into the refreshed plan.

2. Continue to address resource needs through a systematic implementation approach

This is a continuation of Phase I's objective to ensure continuity and integration among resources areas. The NRP resources areas and programs create a web of activities that support each other during implementation. This interconnectivity makes it challenging to choose specific activities over others during implementation. Therefore, TVA will develop systematic implementation work plans that clearly identify and describe the integration or linkage between programs as well as prioritize each program based on a given set of criteria.

For example, implementing strategic initiatives identified through rapid land conditions assessments and land conditions assessments¹ supports TVA's effort to develop a prioritized list of resource maintenance needs. These assessment methodologies help to identify Tier 1, or high quality, parcels on TVA-managed reservoir lands, allowing TVA to prioritize where to focus its improvement or enhancement efforts and money.

TVA has defined the following criteria to be used in the prioritization process for each NRP program and activity:

Public health and safety

Definition:

Ensure stakeholder safety while enjoying TVA-managed reservoir lands

Examples:

- Mitigation of potentially hazardous conditions (e.g., dangerous tree, dump site, user conflicts, target shooting, meth lab dumping)
- Improved signage (boundary and interpretive)

¹ Currently, the rapid land conditions assessment and land conditions assessment tools are limited to biological resources management.

Compliance, protection and preservation**Definition:**

- Comply with regulatory, legal and policy requirements while ensuring the protection and preservation of sensitive resources

Examples:

- Caves, wetlands, archaeological sites, historic sites, sensitive plant and animal communities

Assets, investments, impacts**Definition:**

- Preserve assets and prior natural resource management investments to minimize degradation. This applies to physical TVA assets, investments that TVA has made to improve, protect and enhance habitats, and efforts to minimize degradation of resources and assets

Examples:

- Land assets – access control measures, boundary marking, signage (boundary and interpretive), monuments, forest access roads and parking areas, livestock fencing, and trails under TVA management
- Recreation assets – recreation facilities, boat ramps, campgrounds, day-use areas, and greenways
- Investments – native warm season grasses, watershed improvements, dewatering levee improvements
- User impacts – dispersed recreational sites, sites with degrading water quality conditions, and misuse of lands (ATV abuse)
- Impacts mitigation – monitoring and data management activities (water quality, aquatic ecology, threatened and endangered species, heritage and wetlands database, archaeological database, etc.)

Other critical needs**Definition:**

- Manage emerging issues and identify proactive measures

Example:

- Integrated TVA Police monitoring and enforcement activities across all resource areas

Program enhancements**Definition:**

- Introduce new activities and projects as funding and partnerships allow

Examples:

- Refreshed NRP focus, increased NRP scope, new partnerships or funding, or emergent needs (e.g., climate change)

3. Establish or partner with a foundation and trust fund to support expansion of NRP programs

As part of the NRP, TVA will establish or partner with an existing foundation and trust fund to provide an opportunity for interested stakeholders (or participants) to make a contribution toward natural resource management and sustainability in the Tennessee Valley. Once this fund or partnership is established, TVA will ensure that its management is completely independent of the agency. Additionally, TVA will investigate what strategies other businesses are using to determine which environmentally friendly or sustainable practices they are willing to support. With this information, TVA will develop a methodology to recruit and encourage participation.

See Chapter 8 – Public Engagement for additional information.

4. Continue to strengthen collaborative working environments

Throughout the NRP, TVA will focus efforts on maintaining existing and creating new working relationships with state, local and other federal agencies as well as nongovernmental organizations (includes the general public). This will support TVA and its partners in the advancement and sustainability of their environmental efforts.

5. Finish updating remaining reservoir land plans to single-use parcel allocation

In this phase, TVA will finish updating all outstanding reservoir land plans to the single-use parcel allocation methodology.

2.1.3 Phase III: Years 6 to 20

Overall objective:

Continue to enhance and improve TVA's stewardship efforts

Estimated timeline:

Fiscal years 2017 to 2031

Keys to success:

1. Refresh NRP on a five-year cycle

Key milestones include, but are not limited to:

- Elevate programs to newly established levels
- Maintain resources at an optimum level to meet the needs, demands and desired conditions of the Valley
- Continue to implement improvement and enhancement efforts
- Actively identify and address resource needs, including management of emerging issues

2. Focus enhancement or expansion efforts through building partnerships, corporate sponsorships, or other collaborative means

3. Update reservoir land management plans on a rotational or as-needed basis

Once all reservoirs are updated to the single-use parcel allocation methodology, the reservoirs previously planned using this method will then be updated in an order that gives consideration to the age of the current plan and any developing trends that warrant review.

2.2 Funding²

Funding includes the personnel and dollar expectations for each resource area to be implemented in the NRP. TVA is committed to meeting the annual resource requirements for compliance with legal and regulatory obligations. However, the intent of the NRP is not to stop at compliance, but rather to strive towards fully implementing the preferred alternative within a 20-year time frame. This “no-regrets strategy” will require a coordinated approach to attain the necessary resources to support the programs and activities presented.

The estimated annual cost required to achieve the NRP measures of success is between \$19 million and \$20 million. This new level of support will serve as the baseline for NRP funding going forward. Funding for the remaining years of the plan will be dependent upon a number of different factors, including:

- User fees
- Reallocation of essential stewardship funding
- Increased recreation agreements
- Increased application fees

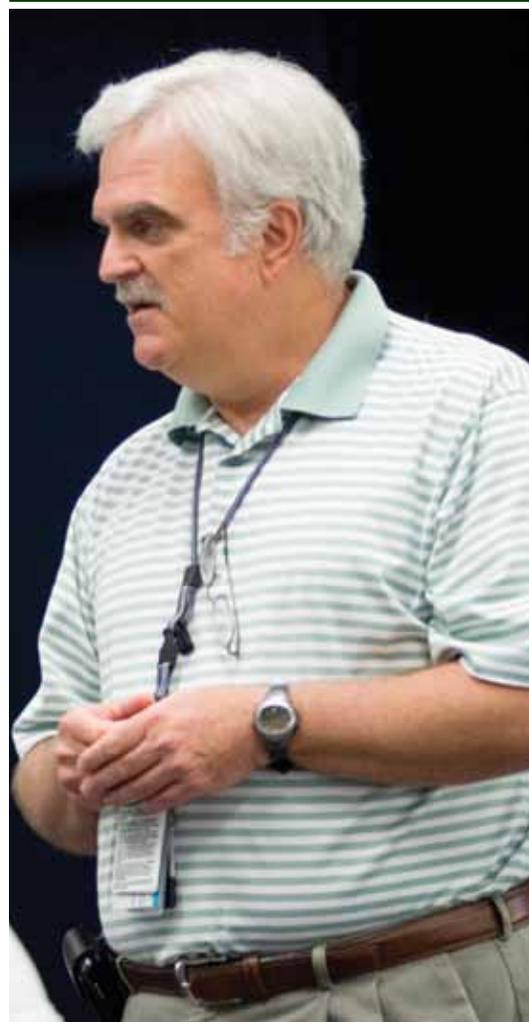
² Funding levels presented in the NRP have not been inflation-adjusted and represent 2011 dollars.

- Annual budgeting process
- Compliance funding
- Partnerships
- Sponsorships (e.g., corporate)
- TVA base budget

In years when available resources from these sources are high, more dollars will be applied to NRP programs. In years when available resources from the sources above are limited, less funding will be applied to NRP programs, though never falling below legal and regulatory compliance. As a result, TVA may need to reprioritize its spending in these years to ensure compliance obligations are met. This may result in stopping or reducing its commitment to some programs in order to enhance others. Actual funding levels for each year of the plan will be determined through the annual budgeting process.

2.3 Measures of Success

An integral component of the NRP is a defined method by which TVA will measure and monitor progress throughout the 20-year life cycle of the plan. The measures of success shown in the table on the following page were selected for the NRP. While these success measures do not provide details of each individual program, together they provide metrics by which to measure the success of the NRP as a whole.



Resource Area	Measures of Success	Time Frame
Biological Resources	Complete land conditions assessment of all undeveloped TVA lands <ul style="list-style-type: none"> • Address 100% of identified safety issues • Improve or maintain 75-85% of lands to meet “fair” or “good” criteria 	8-10 years
	Ensure 100% of low-risk dewatering facilities meet dam safety guidelines	8-10 years
	Conduct boundary maintenance and meet signage needs on all TVA property	8-10 years
	Maintain all trails and informal recreation areas in “good” condition or close area permanently or until brought up to standard	20 years
Cultural Resources	Protect 30-40% of critically eroding sites	20 years
	Evaluate for affiliation 70-90% of NAGPRA items on TVA land	20 years
	Conduct archaeological surveys on 60,000-100,000 acres of TVA land	20 years
Recreation	Certify 80-100 campgrounds in “Camp-Right Campground” program	20 years
	Ensure 70-90% of day-use areas meet “good” criteria	20 years
	Continue management of 30-35 stream access sites	Annually
Water	Certify 110-130 clean marinas	20 years
	Reassess the water quality and aquatic life of all streams and reservoirs and share data	3-5 years
	Reduce 20,000-25,000 tons of nutrients and sediment in partnership with others	20 years
Lands Planning	Convert all reservoir land management plans to single-use parcel allocation	3-5 years
	Update all 46 reservoir land management plans	Every 5-10 years
	Refresh the Comprehensive Valleywide Land Plan	Every 3-5 years
Public Engagement	Integrate all education programs across resource areas and implement 8-10 resource area modules	3-5 years
	Leverage TVA efforts by 2-3 times using external resources	10 years
	Develop GIS databases and share with partners to facilitate resource management	5-10 years

In addition to these measures of success, TVA will comply with all laws and regulations as well as fulfill its essential stewardship responsibilities

Figure 2.2 NRP measures of success

By regularly evaluating both overall stewardship and program results, TVA will be able to quickly refocus its natural resources management efforts to meet the ever-changing needs and desired conditions of the region's resources. This will be accomplished through two review cycles.

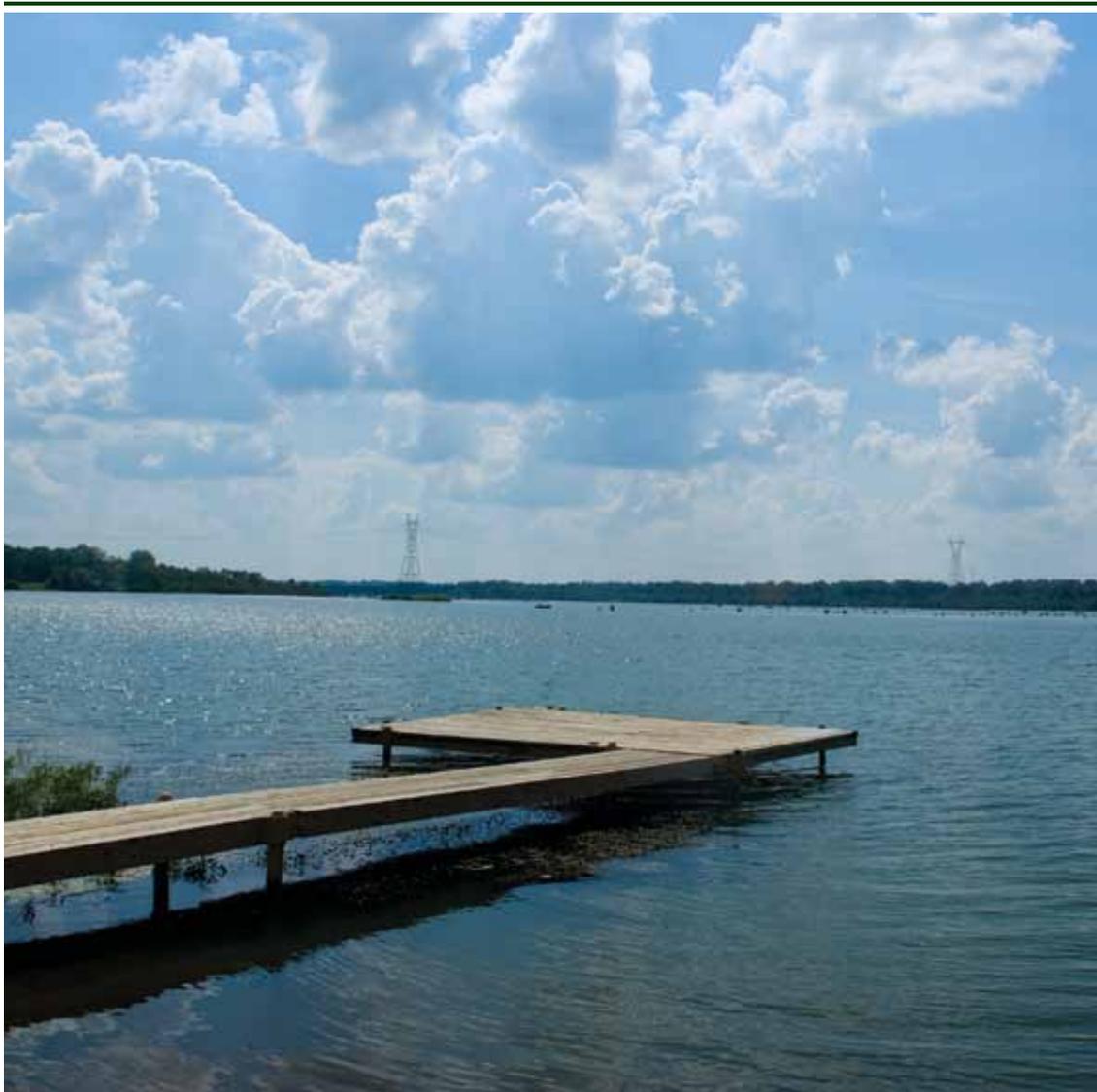
1. Annual NRP Review

The goal of the annual NRP review is to provide a forum for TVA to regularly assess and evaluate its NRP implementation efforts. Each year, TVA

will measure its progress against the NRP measures of success and update the Regional Resource Stewardship Council on progress made.

2. 5-Year NRP Refresh Cycle

The goal of the five-year NRP refresh cycle is to incorporate new information and changing conditions into the NRP on a regular basis, ensuring that TVA is effectively meeting the ever-changing needs and demands of the Valley's resources.



2.4 Risks

If TVA does not effectively and efficiently manage the resources entrusted to it, it faces both near- and long-term risks, including not fully achieving the goals of the Environmental Policy or resource management accountabilities assigned to it by the TVA Act. These risks can result in a broad range of impacts. Examples include impacts to public health and safety, economic development, quality of life, nonrenewable resources, and public perception of TVA.

While each program has its own unique risks, there are overarching concerns and challenges associated with not implementing the NRP (see Figure 2.3). For example, if TVA does not actively preserve or protect the region's resources, such as archaeological artifacts, there is a risk of losing them forever. Additionally, partnerships are an essential component of TVA's implementation strategy. Not seeking these relationships would jeopardize the ability to effectively and efficiently manage TVA lands.

TVA will work to mitigate risks with collaborative and comprehensive natural resources management efforts through the NRP.



Risk	Biological	Cultural	Recreation	Water	Reservoir Lands Planning	Public Engagement
Public health and safety issues	●	●	●	●	●	●
Unmet recreation needs	●	●	●	●		
Loss of heritage tourism and eco-tourism opportunities	●	●				
Loss of nonrenewable resources	●	●		●	●	
Compliance-related sanctions or costs	●	●	●	●		
Degraded terrestrial and aquatic habitats	●			●		
Decreased biodiversity	●			●		
Increased management costs (inefficient operations)	●	●	●	●	●	
Water quality impacts	●	●	●	●		
Economic development impacts	●	●	●	●		●
Reduced public awareness and involvement	●	●	●	●	●	●
Insufficient or out-of-date information	●	●	●	●	●	●
Damaged relationships with state, local and other federal agencies, and nongovernmental organizations	●	●	●	●		●
TVA reputation	●	●	●	●	●	●

Figure 2.3 Potential risks associated with not implementing resource management activities