

Welcome!

The Meeting will begin at 9:00 AM Eastern



Regional Resource Stewardship Council

April 20, 2021

3rd Meeting – Term 11

Virtual

Welcome



Safety First!



High, Fast Water

- Check local conditions
- Stay away from spilling dams when boating and fishing
- Have proper safety gear
- Tell someone where you will be and when to expect you back



Introductions

Name

Organization

What is one way you plan to enjoy nature this summer in your region?



RRSC Term 11 Membership

RaeLynn Butler Muscogee (Creek) Nation Kim Klinker* Klinker Management

Keith Carnahan Meriwether Lewis Electric Cooperative Ronald Lambert Nature Conservancy Danette Scudder TN Valley Public Power Association

Robert Sneed Retired ACOE

Sen. Clay Scofield

Alabama Senate, District 9

Please tell us your: Name

Organization

What is one way you plan to enjoy nature this summer in your region?

Robert Englert, Jr Retired Crounse Corporation

Ray Hardin Decatur Utilities

Richard Holland

Packaging Corporation of America

Mark Iverson Bowling Green Municipal Utilities

*Chair

Whitney Lipscomb

State of Mississippi

Tom Littlepage

Affairs

John McConnell KY Director of Boards & Commissions

Ala Dept. of Economic & Community

Will Nelson Nelson Tractor Co.

Ron Robertson TN Farmer Catherine Via TN Farm Bureau Federation

Randy Wiggins Cherokee County, NC

Greg Young State of Tennessee



6

April 20, 2021 RRSC Meeting All times are EDT

Agenda

9:00	Welcome – Althea Jones and Designated Federal Officer Melanie Farrell
	Safety, Introductions, Agenda
	FACA
	TVA Update
9:30	TVA Asset Management Strategy
10:00	Break
10:15	TVA Carbon Strategy and Sustainability
11:00	Natural Resources Update
11:30	River Management Update
12:15	Break
12:30	Public Comment
1:00	Pro Bono During a Pandemic
1:15	Closing Remarks/Adjourn



Federal Advisory Committee Act and the Regional Resource Stewardship Council

Kendra Mansur, Office of the General Counsel, Attorney

April 20, 2021



Key Provisions of Council Charter

Council Provides Advice

- Advice reported to the TVA Board's External Relations Committee
- Term of Council is two years with two meetings per year typically

Balanced Membership

Members include:

- Nominations from the Governors within the Tennessee Valley states
- Three representatives of local power companies of TVA power
- One representative each of TVA's direct-served customers, TVA's navigation program, TVA's flood control program, a Federally Recognized Tribe with an interest in the TN Valley, a recreation interest, and an environmental interest
- Four TVA appointees to ensure a broad range of views



RRSC Meeting Requirements

Agenda

- Agenda prepared and approved by the DFO, Melanie Farrell, or alternate DFO, in consultation with Council Chair, Kim Klinker
- Agenda distributed to Council and an outline is published in the Federal Register prior to each meeting
- Topics may be submitted to the DFO by any member of the Council, or non-members, including members of the public

Meeting Minutes

 DFO will ensure that minutes are prepared for each meeting, approved by the Chair, and made available to Council members and the public

Voting

- Any member of the Council may make a motion for a vote
- Quorum is a majority of the members of the Council
- Advice requires an affirmative vote of majority of Council members present and may include minority or dissenting views

Membership

- Balanced Membership and professional or personal qualifications to achieve the mission of regional resource stewardship
- Broad range of diverse views and interests, including recreation, environment, utility, industrial, business, government, tribal, consumer, education and community leadership



TVA UPDATE

Melanie Farrell

Designated Federal Officer

April 20, 2021



Since We Last Met:

Board of Director Appointments

Memphis Actions

FERC – LPC challenge;

SEEM

Electric Vehicle Partnership



New Board Members



Beth Harwell was the speaker of the Tennessee House of Representatives for seven years while serving as the 56th District state representative for nearly 30 years. Previously, she chaired the Tennessee Republican Party and served as an assistant professor of political science at Belmont University, as well as in a variety of additional roles in both education and public service. Her term expires on May 18, 2024.



Brian Noland of Johnson City, Tenn., joined East Tennessee State University as its ninth president in 2012 after previously serving as the chancellor of the West Virginia Higher Education System. In 2018, he was elected to the board of the American Council on Education and also serves on the boards of a number of other educational and civic organizations, as well as an Institute of Higher Education fellow at the University of Georgia. His term expires May 18, 2024.



TVA's Energy System of the Future

Jacinda Woodward

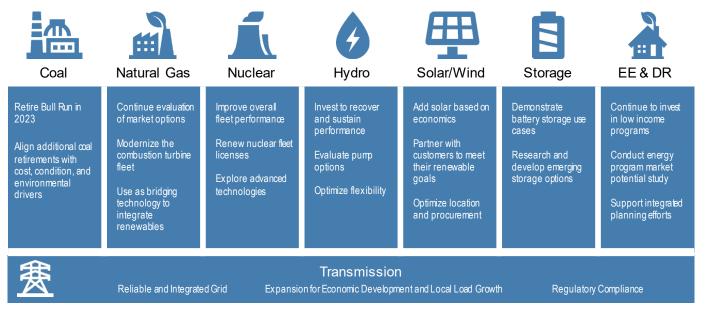
Senior Vice President, Power Operations

April 20, 2021



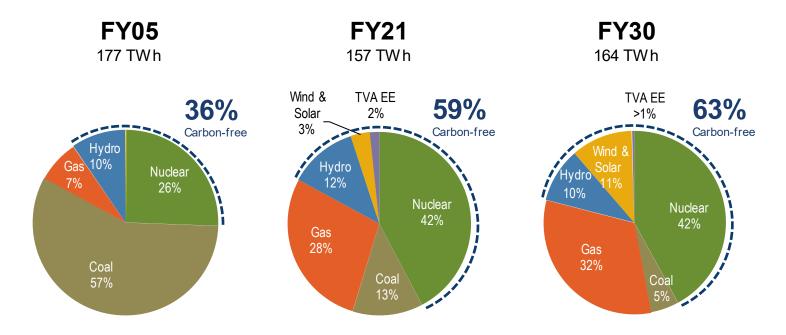
Asset Strategy Initiatives

TVA's asset strategy was developed based on 2019 Integrated Resource Plan (IRP) strategic direction and key signposts, grounded in least-cost planning, and includes the following initiatives:





Diverse and Cleaner Energy Mix

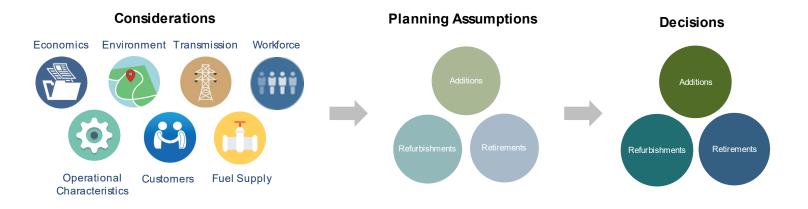


Graph represents energy. FY21 and FY30 forecasts are based on current planning assumptions in the FY21 Trajectory. EE includes TVA Energy Efficiency Program impacts on a Net Cumulative Realized at Systembasis, 2007 base year, and excludes energy efficiency effects from external factors.



Asset Strategy Decision Making Process

In order to make the best possible recommendation to the Board, we start with a number of considerations, which inform the development of plans. The plans are then modelled, adjusted, and refined as new information becomes available.



Plans must go through a series of steps before recommendations are made to the Board. Decisions require Board approval.



Workforce Strategy | LTIWP Key Elements

- Finalize the long-term asset plan
- Work toward a 5-year rolling window of certainty for staffing needs
- Understand the impact on employees caused by reduction of current and future staffing needs
- Provide opportunities for employee transition, such as training, movement to other plant or business unit positions, VRIF, and identification of external opportunities



VALLEY

Employee and union partner input will be critical to developing and executing this strategy \mathbf{N}

TVA Restricted Information – Deliberative and Pre-Decisional Privileged









Energy System of the Future: Building a Sustainable, Clean Future

Rebecca Tolene, Vice President, Environmental Compliance



Why continue to drive sustainable decision making and a move to a cleaner future?

- Strengthens our ability to attract and retain major businesses that create jobs and support economic growth in the Valley
- Customer demand
- Possible climate requirements and policy direction
- Protects and preserves the environment and the value of public power for future generations



Upcoming Report

Planned Issuance on May 6

Report Improvements

- Simplicity
- Web based information
- Stakeholder engagement

Focused content:

• Impact and Value to the Valley





What is Sustainability at TVA?





Annual Sustainability Program Cycle

Plan is to move from only reporting on past performance to driving strong sustainability continuous improvement.





Developing Sustainability Program: Governance and Roles

Board of Directors

- •Set strategies, goals and policies and concur on appropriate sustainability goals
- Incorporate sustainability in relevant committee charters
- Develop informed sustainability oversight; review material sustainability areas
- •Incentivize management for sustainability performance
- •Disclose the role the Board plays in prioritizing sustainability
- Above Roles from CERES report: View From the Top: How Corporate Boards Engage on Sustainability Performance

Federal Advisory Committees (RERC and RRSC)

- Review Material Sustainability Areas
- Provide stakeholder engagement on sustainability program to the Board

Enterprise Leadership Team - ELT (led by CEO)

- •Recommend sustainability goals and priorities to Board
- Drive business strategy and deployment, align with sustainability goals
- •Oversee and guide internal Sustainability Executive Council

Chief Sustainability Officer

- Oversee Sustainability Program and Reporting
- Engage a TVA-wide Sustainability Working Group
- Engage Sustainability Steering Committee to provide input on reporting and goal development

Chief Risk Officer

Oversee TVA's enterprise risk management function

Operations

- Sustainability Working Group generates ideas and implements initiatives to support goals
- Implements sustainability initiatives



TVA Sustainability Metrics: Global Reporting Initiative (GRI)





RRSC Advice

How could TVA improve its Sustainability Report and raise awareness of its Sustainability Program?

- Define sustainability
- Include Executive Summary
- Improve readability, more graphics, less text
- · Create an interactive website, with in-depth details
- Use independent QA review to evaluate readers experience before publication
- Include sustainability in all TVA outreach efforts.
- Add sustainability topics to regular meetings/briefings with directly served customers, local power companies, and local governments / municipalities
- Engage Local Power Companies, local elected officials, industrial, agricultural and educational entities
- Bring interested stakeholders together to work collaboratively on sustainability issues for the Valley
- Offer brief public virtual sessions feedback sessions

What priority areas should TVA target for improvement in its Sustainability efforts?

- Establish goals around key areas
- Show leadership sustainability by succession planning
- Benchmark TVA to others in the industry and organizations recognized for excellence in sustainability
- Examine TVA's performance in the Global Reporting Initiative (GRI)
- Add regional lens, and examples of community Sustainability Programs and their impacts
- Continue or expand focus on:
 - Local Carbon Impacts
 - Solid Waste Reduction, including recycling efforts
 - Energy Affordability, Energy Efficiency and Reliability
 - Valley Biodiversity and Water Quality
 - o Environmental Protection
 - Electric Transportation and Broadband
 - Sustainable Land Use Related to Solar Installations



Sustainability Areas



Environment

•GHG Emissions

- •Air Quality
- •Water quality and availability
- Waste Management
- •Habitat and Biodiversity Protection

Governance

- Transparency
- •Board and Executive Diversity
- Systemic Risk Management
 Ethics
- •Cyber and Physical Security

Social/Community

- Public Health and Safety
- •Environmental Justice
- •Community Vitality and Engagement
- •Reservoir and Stewardship Benefits

Economic

- Energy Affordability
- Reliability & Resiliency
- Jobs Created/Retained
- •Flood Management
- Business Model

Employees

- Safety
- •Diversity and Inclusion
- Labor Relations
- •Recruitment, Development, and Retention
- Skilled Workforce Availability

Partnerships

- •LPC Partnership Health
- Investor Relations
- Supplier Partners
- Public Policy Relations



3 Ways We Report on Carbon

Carbon is typically measured in three ways:

RATE (Ibs/MWh) which calculat the pounds of carbon emitted megawatt hou electricity deliv	d per r of	MASS (tons) which refers to the total amount of carbon emitted.				CLEAN ENERGY which reflects percentage of total energy from carbon-free sources: hydro, wind, solar, nuclear and energy efficiency.			
CY2005 1328		/MWh		116 tons			36%		
CY2020* 562 lbs		′MWh		42.5 tons			59%		

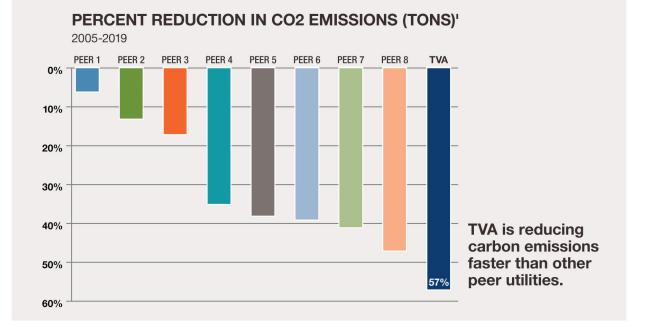
*Numbers not yet finalized. Current estimate.



Leadership Today- Outpacing our Regional Peers

TVA is a leader among regional peers in actual carbon reductions achieved. We have reduced our mass carbon emissions by 60 percent since 2005.

This cleaner energy mix continues to deliver on TVA's obligation to provide power at rates as low as feasible.



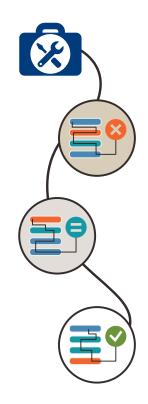


Guiding Principles

There is not a single solution to decarbonization, but we have identified guiding principles that we know will be part of any path forward. TVA will:

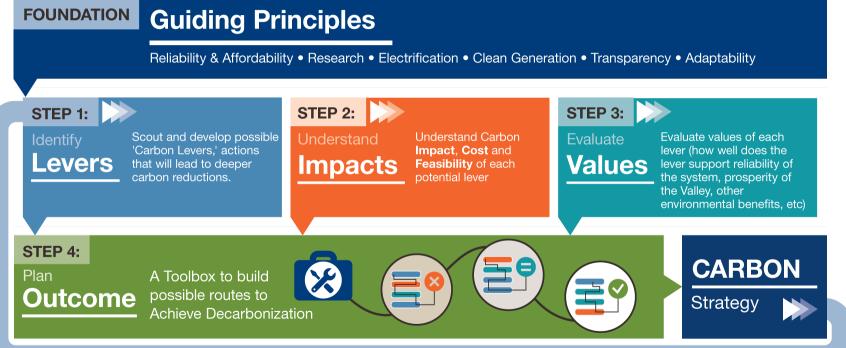
- Prioritize the needs of Valley stakeholders-maintain RELIABILITY AND AFFORDABILITY
- Use best available science and support RESEARCH
- Partner with customers and communities on economywide ELECTRIFICATION

- NUCLEAR and HYDRO generation and a strong TRANSMISSION GRID are crucial
- Be TRANSPARENT in measuring and sharing our progress
- Adapt and be willing to CHANGE as technology advances





A Framework to Evaluate Carbon Reducing Options



ROUTINE STRATEGIC PLANNING



Value Analysis

CARBON REDUCTION OPTIONS- PILOT ANALYSIS OF VALUE

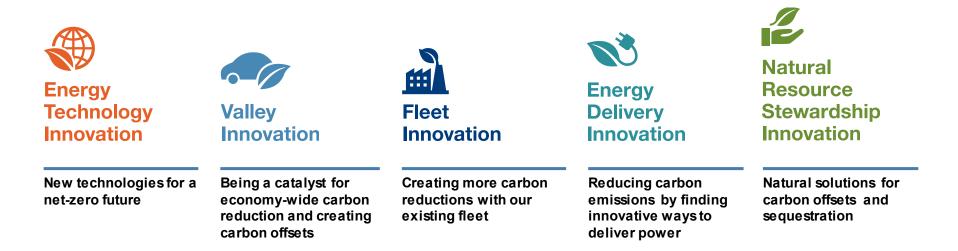
	Other Environmental Benefits	Power System Benefits	Partnerships Potential	Economic Development Benefits	Economic Prosperity	Supports Valley Customers	Technology Readiness	Scalability	Environmental Justice
Option 1		θ							
Option 2	θ	θ					\checkmark		
Option 3	Ð		₿						
Option 4		θ		θ	₿				θ
Option 5	θ	θ		θ	θ	θ			θ
Option 6	θ			\checkmark					
Option 7	θ		€						



= Meets Some / It depends

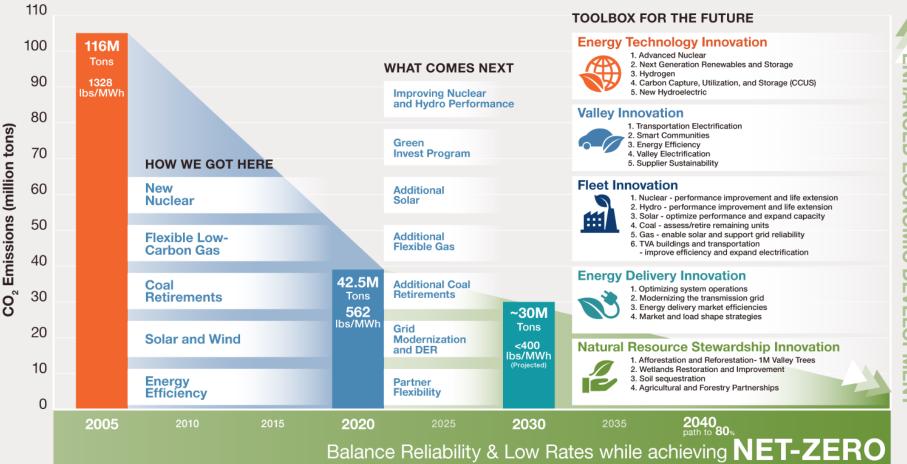


Carbon Reduction Toolbox





TVA'S DECARBONIZATION JOURNEY



Progress We have reduced our mass carbon emissions by 60% from 2005 levels.

Plan Our current asset plan supports a 70% reduction in carbon intensity by 2030.

Path We are working on pathways, including advanced nuclear and additional renewables, that would lead us to a 80% reduction by 2040.

Purpose

We are exploring new technologies and options and aspire to net zero emissions without compromising the low rates and reliability that sustain the communities we serve and while supporting the region's growing clean energy economy.



Questions





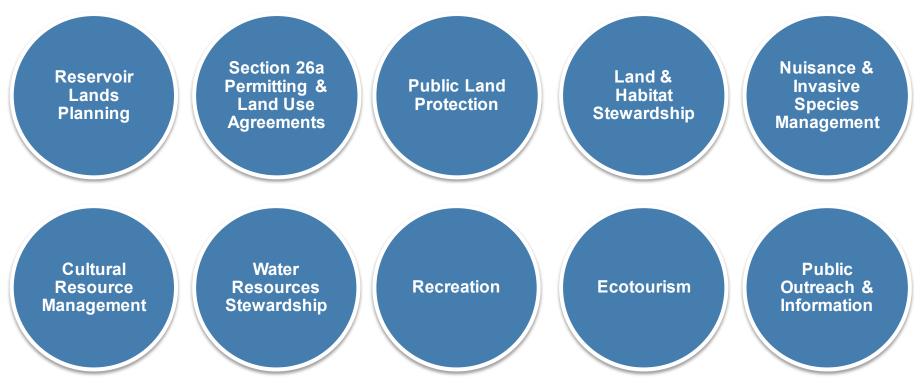
Serving the Valley through Environmental Stewardship

TVA Natural Resources

Director, Bucky Edmondson

April 20, 2021

Natural Resource Plan 2020





Recreation

Increased Popularity of Outdoor Recreation

TVA collaborated with commercial recreation partners to create new and enhanced recreational opportunities.









Tennessee was largest U-Haul® growth state in 2020





Public Outreach & Information

Public Outreach Innovations

Volunteer Program



Public Engagement





Environmental Education



Reservoir Lands Planning

COVID Challenges Public Input to Tellico Land Management Plan Revision



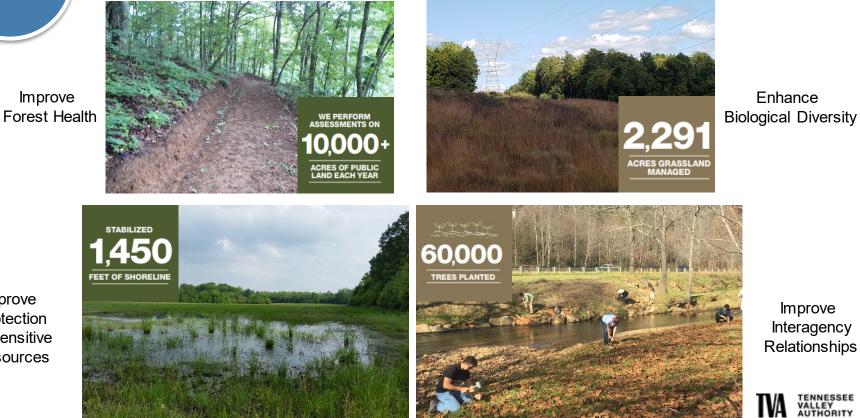


Created a virtual forum



Land & Habitat Stewardship

Natural Resource Management



Improve Protection of Sensitive Resources

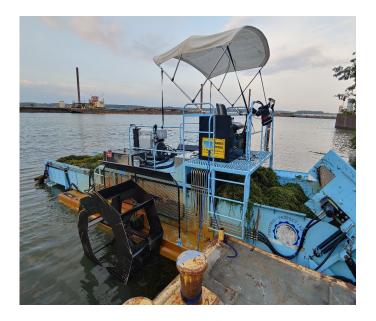
Nuisance & Invasive Species Management



Eel Grass

Invasive Aquatic Vegetation at Browns Ferry

Two aquatic weed harvesters ran for over 550 hours straight to help keep water intakes operational





Submerged Aquatic Vegetation



Recreation

Operating Fontana Village Resort









Recreation

Floating Cabin Program Status



Final draft of regulations to be submitted this spring



Partnership with Tennessee RiverLine



TVA joined the University of Tennessee as a Principal Partner with a \$1.2 million investment







2020 saw the addition of 15 new partner communities in the Tennessee RiverTowns program



Ecotourism

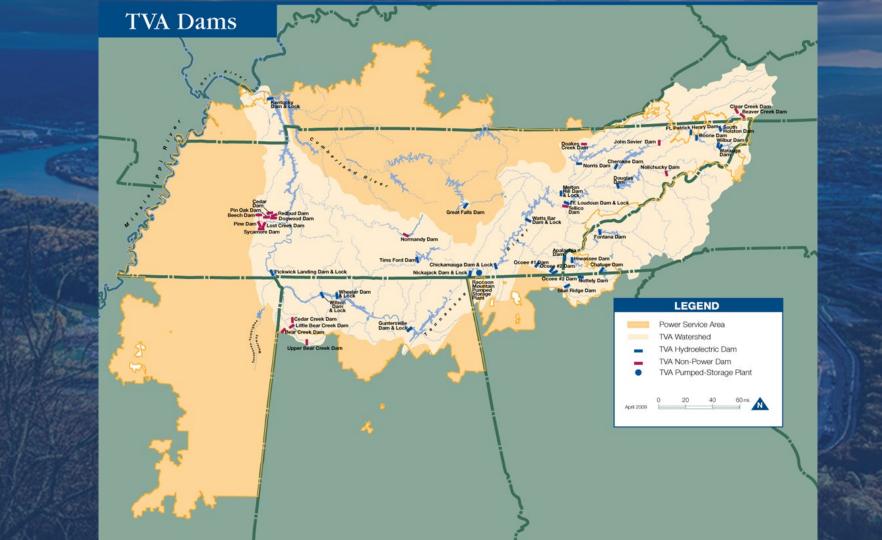
Questions



River Management Update

Tom Barnett, P.E. GM, River Management





Integrated Tennessee River System Management



Navigation



Water Supply



Flood Damage Reduction



Recreation



Power Generation



Water Quality



Flood Control



- Store water during flood to reduce crest
- Issue flood forecasts for regulated system
- Release water at non-flood rate after crest
- Annual average flood damages averted are \$288 million (\$8.8 billion to date)
- Additional \$19 million averted annually on the Ohio and Mississippi Rivers



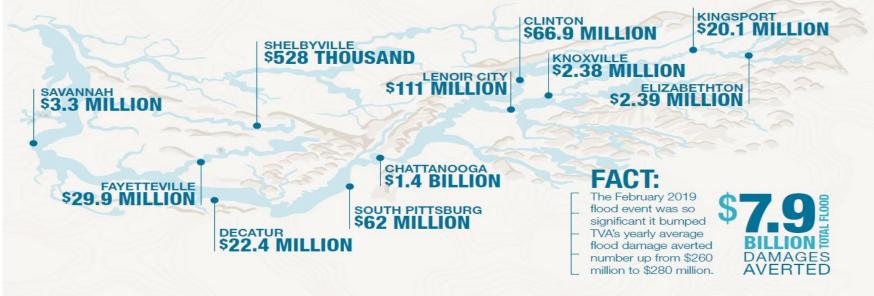
Rainfall Extremes

- 2018, 2019, and 2020 are the 3 wettest years of 131 years of record
- Record 13 months of above average rainfall from Oct. 2019 to Oct. 2020
- FY 2020 had 75.7" rainfall most ever for a FY total... Previous record was 66.5" in 1973
- TVA has worked to avert over \$1 Billion in flood damages in each of 2019 and 2020



Over \$1.6 Billion in Damages Were Averted in the Tennessee Valley

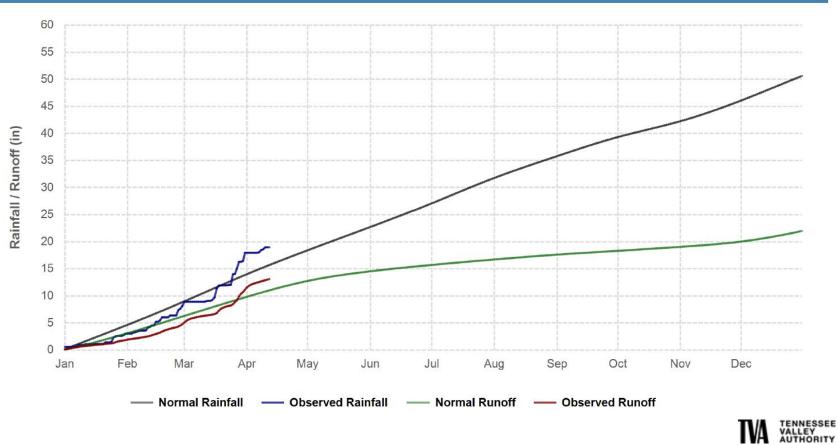
When the clouds parted and the rain finally stopped, it was clear that TVA had spared many towns along the river from millions of dollars in flood damage. In fact, TVA averted damages everywhere below the dams—even in towns that experienced significant flooding. Altogether, TVA averted at least \$1.6 billion dollars in structural flood damage throughout the Tennessee Valley.











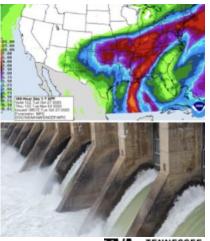
Rainfall - Runoff Cumulative CYTD 2021

59

Stakeholder Outreach

- Directly to County Emergency Management Authorities
- Conference calls with State Emergency Management
- Conference calls with Navigation Industry
- Updating National Weather Service routinely







Updates to recreational interests, marinas, rowing venues, campgrounds, etc.

- Updates to major industries near the Tennessee River
- Updates to industries in the lower Tennessee and Ohio Rivers
- Updates daily to Redstone Arsenal
- Dozens of follow up site visits and briefings with elected officials and Emergency Managers
- Social Media

Navigation

- Cost-effective transportation
- Raw materials, coal, grains, aggregates, iron, steel, petroleum
- ~ \$1B/year in shipper savings
- 800 miles of commercially navigable waterways
- Partners with the U.S. Army Corps of Engineers and U.S. Coast Guard, and towing industry
- MV Sideview





Navigation

Kentucky Lock

Chickamauga Lock



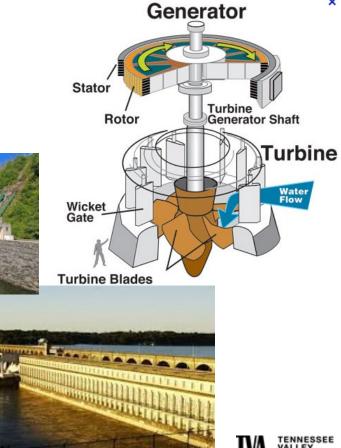


TENNESSEE VALLEY AUTHORITY

Hydropower

- 3,538 MW Conv. generating capacity (109 Units)
- 1,653 MW Pump-storage capacity (4 units)
- Peaking, rapid dispatch and flexibility
- ~ 10% of TVA's energy portfolio
- Low O&M Costs
- Used to displace more expensive fuels
- Water temperature support at thermal generating plants
- CY18 118%, CY19 115%, CY20 133%
- CY21 117%





Water Supply and Quality





- Temperature and Dissolved Oxygen monitoring
- Adaptive Management for T&E species
- Minimum flow for downstream habitat
- Thermal compliance at TVA coal and nuclear stations

- 700 Water Intakes
- Process water for industry, thermalelectric cooling, municipal, irrigation
- Drinking water for 5 million people
- Provide minimum depth for intakes
- Manage inter-basin transfers
- Water Reliability Study







Eelgrass

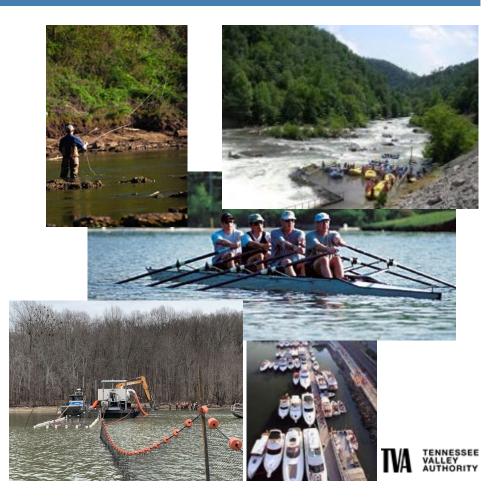
Aeration – Dissolved Oxygen Enhancement





Recreation

- Spring Fill
- Drawdown restricted June 1 Labor to provide higher summer lake levels
- Numerous tailwater releases to support trout fishing, whitewater rafting and drift-boating
- Economic Boost
- Stakeholder Involvement
- Special flows and elevations to support community events
- Asian Carp

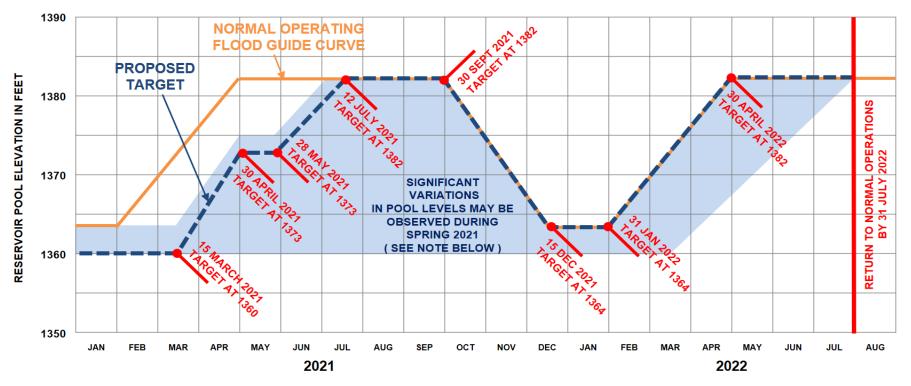


Boone Dam Remediation Update





Proposed Pool Levels During Refill



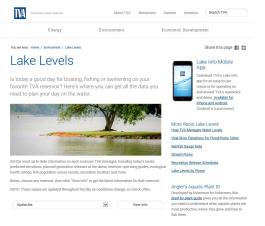


Summary

- TVA continues it's river management mission dating back to the TVA Act
- Operations are driven by rainfall and runoff as guided by Reservoir Operations Policy
- Integrated operation allows TVA to balance numerous river system benefits
- The Tennessee Valley experienced record breaking rainfall in 2018, 2019 and 2020
- More information available:



www.tva.com





Questions







Public Comment



This is a listening session; responses are typically not provided



Thank You



PRO BONO DURING A PANDEMIC: GENERATING JUSTICE

Kendra Mansur, Office of General Counsel, Attorney and Chair of Generating Justice: Pro Bono Opportunities;

April 20, 2021



TVA's Generating Justice: Pro Bono Opportunities

- Is TVA's first pro bono initiative to meet critical legal needs in under-served communities.
- Implemented in 2020.
- Links TVA attorneys and other professionals with legal services organizations, which have appropriate opportunities to serve lower-income individuals.
- Provides opportunities for service.
- Members of the public who are seeking pro bono help should contact a legal services organization in their local area.



Improving Lives of People in the Tennessee Valley & Beyond



Pro Bono Prior to the Pandemic in 2020

Top TVA attorneys at an in-person clinic to serve qualifying individuals, in collaboration with legal aid and a private law firm.

TVA attorneys and other professionals assist with Wills to provide peace of mind



TVA attorneys and other professionals assist with powers of attorney and advanced directives





The Why



Need

- Prior to the pandemic, more than 86% of individuals living in the United States who are low-income did not have access to a lawyer for civil legal services, such as consumer law, debt relief, discrimination issues, family law, family violence, elder law, housing and evictions, and public benefits.
- Prior to the pandemic, more than 60 million Americans had family incomes below 125% of the Federal Poverty Level.

Benefits

- Fosters TVA's Service Commitment.
- Provides team building for attorneys and other professionals, development of business and legal skill sets, reputational advantages, compliance with ethics guidance, and meaningful and critical legal services in our local communities throughout the seven (Valley) states.
- Continues stakeholder engagement and serves under-represented populations.



Background

Federal:

Executive Order 12,988 to "improve access to justice to all persons." *Exec. Order No. 12,988, (Feb. 5, 1996).*

Executive Order 13,985 for "advancing equity throughout the Federal Government." *Exec. Order No. 13,985, (Jan. 20, 2021).*

National:

American Bar Association (ABA) Model Rules 6.1 – 50 hours per year for attorneys are encouraged.

State:

All seven (Valley) states' rules of professional conduct strongly encourage attorneys to provide pro bono services to lower-income individuals and have enacted limited-scope representation rules for pro bono work.

More than 50 federal agencies have pro bono programs.

ABA Model Guidelines for Utilization of Paralegals. A lawyer who employs a paralegal should facilitate the paralegal's participation in appropriate continuing education and pro bono activities. Licensing entities in the seven states ask attorneys to report the number of pro bono hours each attorney has contributed pro bono in the prior year.



Together We Serve

Pro Bono During the Pandemic

TVA is named a Champion of Justice by the Memphis Bar Association, Access to Justice Committee and a Pro Bono Leader by the American Bar Association for TVA's work on ABAFreeLegalAnswers in 2020.







Questions



Closing Remarks

The next meeting is the fourth of this 11th Term. It is scheduled for September 22, 2021.

Once we get closer to the date, we will let you know if it will be in person or virtual.



