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Norris Dam: To build or not to build? A museum outreach program

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Norris Dam: To Build or Not to Build?

A Museum Outreach Program

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JAMES MADISON UNIVERSITY

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Abstract

Norris Dam: To Build or Not to Build? A Museum Outreach Program was designed to provide high school teachers with primary sources that can be used to teach students about Norris Dam, the Tennessee Valley Authority, and the New Deal. Through analysis of these documents and classroom discussion students are encouraged to come to their own conclusions about Norris Dam. The project is housed online at <http://jeanettepatrick1.wix.com/norrisdam> and teachers can either direct students to the site or print off the materials as needed. A brief history of Norris Dam and the Tennessee Valley Authority can also be found at this site.

Chapter 1-The Program

Norris Dam: To Build or Not to Build? A Museum Outreach Program is an interactive classroom activity that provides students with a variety of primary sources to analyze, to discuss in small groups, and to draw conclusions from. It was developed with high school history students learning about the New Deal and the Tennessee Valley Authority, or TVA, in mind but could be used in a variety of classes. The entire project is housed online and can be found at <http://jeanettepatrick1.wix.com/norrisdam>.

In 1933, President Roosevelt began implementing the New Deal. One of the first programs he created was the TVA. Over the next twenty years, the TVA dammed much of the Tennessee River Valley. Norris Dam was the TVA's first project. While the TVA worked hard to consider those living within the valley there were times when it did not, especially in the earlier years. For many years the government had considered building a dam on the future site of Norris Dam, so engineering and geological surveys were already completed. However, due to the tight timeframe the TVA established for Norris Dam, social and economic studies were not done prior to the start of construction. The TVA justified beginning construction without these studies because of the "urgent need to relieve unemployment." For future dams, social and economic studies became standard before construction. Since Norris Dam was already underway, those affected were not considered in construction plans. This is where the students come in. Based on information gathered from primary sources, students will decide if Norris Dam should or should not be constructed.

Students are first divided into five groups, and each group is given a different set of primary sources. As a group, students should examine the sources and decide if Norris

Dam should or should not be built. Once students are done discussing, rearrange the groups. The new groups will consist of one or two representatives from each of the previously assigned groups. Students will present their sources and draw new conclusions based on their new group. Once finished, have one or two group members present their conclusions to the class. If groups come to different conclusions, a class wide discussion could ensue. The amount of time needed for this activity is flexible, and can vary from half an hour to hours.

Everything necessary for this activity can be found within the website. The first couple of pages, “TVA History” and “Norris Dam”, contain brief histories of the TVA and the Norris Dam project. The “Resources” page has additional resources on the TVA and additional primary sources. The step by step directions are on the “In the Classroom” page, as are maps, movies, and downloadable copies of all of the primary sources used in the activity, their source material, and a handout for students. The “Students” page gives a very brief explanation of the activity with specific instructions found on the “Directions” page. On each group page are the seven primary sources for the students to analyze. Finally, the Common Core Standards this activity could contribute to are provided on the “Common Core” page.

Chapter 2: A Brief History of Norris Dam

The pile of mail kept growing. There was no stopping it. Each day the stack just got taller and taller. At this point it was toppling to the floor. There was no way anyone could read all of these applications. It just was not possible. What made it even worse was that deciding which man got the job meant deciding which family got food. Times were tough and everyone needed work. Luckily for some, a job was waiting for them at Norris Dam.

This dam would be the first of many built by the Tennessee Valley Authority (TVA). Founded in the spring of 1933, the TVA was a new type of government corporation that the nation had never seen before. This corporation was charged with a mission to change the course of the Tennessee River and to improve the lives of those who lived within the river valley. Construction at Norris Dam started on October 1, 1933 and would continue for the next three years. From 1933 through 1936 the construction of Norris Dam would lead to thousands of people being removed from their homes and relocated to high ground, decreased unemployment rates within the valley, and the development of a community around the new town of Norris. Through the efforts of those who worked at Norris Dam, it became the first of numerous dams constructed in the Tennessee River Valley to help control floods, and improve agriculture and daily life. Life in the Tennessee River Valley was substantially altered by the TVA.

The Tennessee River Valley is a region that covers a large portion of Tennessee along the Tennessee River, as well as parts of Northern Mississippi, Alabama, Georgia, Western North Carolina and Virginia.¹ Norris Dam is located in Tennessee about 30

¹ See Figure 1 in the appendix for a map of the Tennessee River Valley and Norris Dam.

miles North of Knoxville. The dam and reservoir constructed by the TVA include land from five Tennessee counties: Union, Campbell, Claiborne, Anderson, and Grainger. Times were especially tough in the Tennessee River Valley during this period and without the creation of the TVA they probably would have continued to be.

In order to understand fully the problems occurring in the Tennessee River Valley, they should be placed within their national context. The 1930s, commonly remembered as the Great Depression, were a rough time for most of the American public. Jobs were few and far between and crops kept failing. Up until this time, farmers across the United States worked their land as hard as possible each season, because the largest crop resulted in the highest pay. This caused a depletion of nutrients within the soil which made it more difficult for future crops to grow. This was especially true of row crops, crops that grow in uniform rows leaving the majority of the topsoil uncovered. Topsoil also contains the majority of the nutrients plants need to grow, and when it was left uncovered it was easily washed or blown away. Common row crops include cotton, corn, and tobacco. These crops, which were prominently grown in the Tennessee River Valley, often left the fields bare during the winter months, which provided an opportunity for erosion.² This degradation of the soil resulted in years of terrible harvests, leaving farming families without much money or food. When President Roosevelt took office in 1933, he had a plan to help the majority of the population. He would employ the masses in a wide variety of positions. Roosevelt's larger idea of creating government work

² Tennessee Valley Authority Information Office, *A History of the Tennessee Valley Authority* (Knoxville, TN: S.B. Newman Printing Company, 1983), 9.

programs was called the “New Deal,” which created many different agencies, including the TVA.³

There were two major reasons for the creation of the TVA: the first was the need to improve the agricultural lands within the Tennessee River Valley, and the second was to create jobs as part of the New Deal. The Tennessee River Valley, like much of the United States, had been over-farmed for years, and by the 1930s the soil did not have enough nutrients to produce a healthy crop. Another reason for the poor soil quality was the frequency of floods there which would wash away soils, crops, and fertilizers. Nebraskan Senator George Norris believed that if man could control the river through the use of dams it would prevent floods while creating dependable transportation and low-cost electricity.⁴ In 1933, Norris proposed a bill to the United States Senate which would allow for the creation of the TVA. President Roosevelt and his supporters saw this project as a way to create thousands of jobs in one of the sections of the country hit hardest by the Great Depression. This support allowed the bill to be signed into law on May 18, 1933. The planning process began immediately.

For the first time in the history of the United States, an entire river valley was taken into consideration as decisions were made about the use of land and resources. Previous projects would often only consider how one dam would affect a specific part of a river, but the TVA examined an area of 41,000 square miles along the Tennessee River.⁵ There were 2.3 million people living within this area in the 1930s, 51%, or approximately 1.2

³ Carroll Van West, *Tennessee's New Deal Landscape: A Guidebook* (Knoxville, TN: The University of Tennessee Press, 2001), 1-3.

⁴ Tennessee Valley Authority, *A History of the Tennessee Valley Authority* (Knoxville, TN: Tennessee Valley Authority, 1983), 9.

⁵ Tennessee Valley Authority, *Nature's Constant Gift: A Report on the Water Resources of the Tennessee Valley* (Tennessee Valley Authority: Knoxville, TN, 1963), 5.

million people, made up of farming families, while an additional half a million people were rural non-farming families.⁶ This means that only 25% of the population lived in any sort of urban environment. There were only two cities, Knoxville and Chattanooga, within the river basin that had a population of 100,000 or greater.⁷ The TVA wanted to provide jobs for many of these people while also improving their standard of living. Not only were people taken into consideration during the creation of the TVA, but so were the resources of the area.⁸ Instead of analyzing small sections of a river, the big picture was examined. The TVA was the first federal agency assigned to “developing a river so as to release the total benefit from its waters for the people.”⁹ This method allowed the TVA to construct a network of dams that would directly benefit those living within the Tennessee River Valley.

The TVA was not just building dams, but working to improve the lives of everyone who lived within the valley. The TVA began construction on Norris Dam in the fall of 1933, only four months after the organization had been created.¹⁰ This would be the first of eighteen dams built by the TVA in less than twenty years. As the river was dammed, the TVA also worked to provide farmers with new agricultural methods and tools which allowed them to farm more sustainably and reduce the amount of damage done to the

⁶ Tennessee Valley Authority, *The First Fifty Years: Changed Lands, Changed Lives* (Tennessee Valley Authority, 1983), 10.

⁷ Tennessee Valley Authority, *The First Fifty Years*, 10.

⁸ Overall the economic climate within this area was significantly better after the TVA, however, many families that had to move off their land never felt like they were taken into consideration. There is little evidence that individual families were considered; the TVA wanted to help the most people and knew some would have to be forced off of their land.

⁹ David Lilienthal, “Tennessee Valley Authority” in *American Environmentalism: Readings in Conservation History* Third Edition, editor Roderick Nash (New York: McGraw-Hill Publishing Company, 1990), 129.

¹⁰ The name Norris Dam is used throughout this paper no matter what year. It was not until July 30, 1933 that the dam was officially named Norris Dam. Until that date it was often referred to as Cove Creek Dam or the dam on the Clinch River. The dam was named after Senator Norris who was instrumental in the creation of the TVA.

soil. The increase in low-cost electricity also brought manufacturers to the valley, which helped decrease the valley's high unemployment rates. The TVA set up adult education classes to teach people skills to help them gain employment. While the main goal of the TVA was to "improve the navigability and to provide for the flood control of the Tennessee River; to provide for reforestation and the proper use of marginal lands...[and] to provide for the agricultural and industrial development of said valley," officials knew this could not be accomplished without providing services for the individual.¹¹

While much has been written on the TVA as a whole, its individual projects have received little attention.¹² When historians research all twenty years of work, the effort that went into each individual project cannot be fully conveyed. Thousands of people had to move off of their land for this work to occur. Thousands more helped construct the dams. However, by examining all of the projects as one, the impact on the people, towns, environment, and landscape is lost. Historians and scientists alike have written many books that analyze all the work done by the TVA in its first twenty to twenty-five years. When scholars narrow down their focus, they often frame their examinations according to agricultural improvements, dam type, or methods used in construction, but rarely focus on a single dam. This results in a chapter or two in broad secondary sources that might cover an individual dam, but there are often too many dams to focus on each dam individually. These problems have created a large gap in the historiography examining individual dams and the conditions that workers lived and worked in.

¹¹ United States Congress, *Tennessee Valley Authority Act of 1933*, May 18, 1933.

¹² For a good overview of the TVA, see; Gordon Clapp, *The TVA: An Approach to the Development of a Region*. (Chicago, IL: The University of Chicago, 1995), Marguerite Owen, *The Tennessee Valley Authority* (New York, NY: Praeger Publisher, 1973), or North Callahan, *TVA: Bridge Over Troubled Waters* (Cranbury, NJ: A.S. Barnes and Co., 1980).

While there are no secondary sources that specifically examine Norris Dam, there are many primary sources available that were published by the TVA. While most of their reports are technical, there is still much for social historians to gain by examining them. Many of these reports were printed during the 1930s and 1940s while the TVA was still working on dams, while others were compiled and published in the 1950s. In 1940, many TVA reports specific to Norris Dam intended for internal use were collected and published as one volume. This collection is vital to this study, because it is the only way to gain access to some of the sources created by the TVA during construction. Aside from the technical reports, there are many different informational guides for the general population. Since the TVA's goal was to improve the lives of those who lived within the Tennessee River Valley, these publications are often about the social programs available to the people. They also discuss the progress of the dam projects. The publications meant for the general public were all very positive and conveyed excitement about the progress the TVA was making, so they should be examined with this in mind. They are blatantly biased and supportive of the TVA, which makes sense since the TVA was writing and publishing them. The technical reports seem to have significantly less bias, because they are mainly facts and statistics on planned dam projects. It is possible that these are exaggerations, though there is nothing in the historiography to suggest this.

The location for Norris Dam was not decided in the 1930s by the TVA. As early as 1911 private power companies had considered building a dam on the site to produce electricity. There were many dams already in operation within the Tennessee River Valley at this time, mostly owned by private companies. In 1918 and 1922 the state of Tennessee and the United States government completed surveys of the area in hopes of

completing a coordinated dam system.¹³ These surveys made it clear there was a need to build a dam where Norris now sits because of the flooding it could control. Without a dam on this site, dams further downstream on the Clinch River would not be as effective. One of the possible projects further down the river was Muscle Shoals. This area of the river had been key to navigation on the Tennessee Rivers since the mid-eighteen hundreds. During World War I, the Muscle Shoals site became important because of its “production of nitrates essential for munitions of war and useful in the manufacture of fertilizer and other products in time of peace.”¹⁴ To be fully functional the government surveys determined that three dams were needed on this site to support river navigation and power production. The first two were completed by 1925, but the third would not be built until the 1930s. This third dam was the second dam completed by the TVA, Wheeler Dam. To support these three dams at Muscle Shoals an additional dam, Norris Dam, was needed upstream.

On December 5, 1929 a bill was passed through both the United States House of Representatives and Senate to build this dam. It was referred to as the Cove Creek Dam, through it would have been located where Norris is today. The Chief of Engineers submitted a report on March 15, 1930 of the estimated cost to build the dam based on additional surveys, but President Coolidge vetoed the funding necessary for construction. A new bill was drafted under President Hoover, but it died in a Senate committee.¹⁵ The major reason these bills kept failing was because of a large political debate surrounding

¹³ Tennessee Valley Authority, *The Norris Project: A Comprehensive Report on the Planning, Design, Construction, and Initial Operations of the Tennessee Valley Authority's First Water Control Project* (Washington, DC: Government Print Office, 1940), 7.

¹⁴ Tennessee Valley Authority, *The Norris Project*, 5.

¹⁵ Tennessee Valley Authority, *The Norris Project*, 9-10.

the idea of the government's involvement in projects that could be completed by private corporations. Many felt that corporations should not be given so much power over a basic need like electricity, especially when the government could be in control of the commodity. Others did not want to increase the size or power of the government and therefore would not support the government in building and running dams.

Almost exactly a month after taking office, President Franklin Roosevelt addressed Congress. During this speech, he discussed the need for legislation to be drawn up and passed to allow for the development of the entire Tennessee River Valley.¹⁶ This call to action, and a shift to Democratic control of both houses was just the push needed. On April 11th, the day after President Roosevelt's speech, Senator George Norris proposed a bill that would be signed into law on May 18, 1933, creating the TVA.

Most of the dams the TVA built over the next thirty years were not mentioned in this bill, but the dam on Cove Creek was. In Section 17 the act read that the TVA planned

to construct... a dam in and across Clinch River in the State of Tennessee, which has by long custom become known and designated as the Cove Creek Dam, together with a transmission line from Muscle Shoals... for the generation of power, in order that the waters for said Clinch River may be impounded and stored above said dam for the purpose of increasing and regulating the flow of the Clinch River and the Tennessee River below, so that the maximum amount of primary power may be developed at Dam No. 2 (Wheeler Dam) and at any and all other dams below the said Cove Creek Dam.¹⁷

Mentioning it by name shows the significance this dam had on the greater Tennessee River system. Without constructing it, flood control downstream would have been a major problem, as would power generation. Another significant part of Norris Dam was

¹⁶ Franklin D. Roosevelt address to Congress, April 10, 1933.

¹⁷ United States Congress, *Tennessee Valley Authority Act of 1933*, 25.

its change in name. On July 30, 1933 the dam would be officially named Norris Dam in honor of Senator Norris, whose hard work in Congress allowed for the creation of the TVA.¹⁸

Construction of Norris Dam officially began on October 1, 1933 and the first generator was put into service on July 28, 1936. During these three years massive changes would occur within this section of Tennessee. Thousands of people would be forced off of their land, new services would be created for those who lived near the new dam and reservoir, electricity would become affordable and available, and the landscape would be altered forever.

For many reasons the TVA did not always consider those living in the area before construction began. Since the site had long been under consideration, the engineering and geological surveys had already been completed. However, due to the tight timeframe the TVA was working under, important social and economic studies were not done prior to the start of construction. The TVA justified starting construction without these studies, because of the “urgent need to relieve unemployment.”¹⁹ For future TVA dams these studies would become standard before construction began. However, at Norris, since they were completed after the start of construction, it is probable the TVA did not fully consider their outcome. The TVA was not going to change its plan just because individuals were upset. These studies not completed beforehand included those focused on “family removal, problems of access to isolated areas, or the effects of governmental purchase of real property on local government finance.”²⁰ Since Norris Dam was already

¹⁸ Tennessee Valley Authority, *The Norris Project*, 12.

¹⁹ Tennessee Valley Authority, *The Norris Project*, 59.

²⁰ Tennessee Valley Authority, *The Norris Project*, 59.

underway, those affected were not able to say no or even be part of the conversation. TVA officials recorded that “[e]ngineering factors determined their (Norris and Wheeler’s) location, and the ability to adjust communities to capture potential benefits was not an element in the decision.”²¹ Additionally, the same report found that “[l]ocal benefits were expected to be small compared to the regional results achieved when Norris Dam was constructed.”²² While the TVA did a lot of good for those living in the valley, their early actions show that social wellbeing was not always their first priority.

The people living within Union, Campbell, Claiborne, Anderson, and Grainger Counties were not given the opportunity to fight the building of Norris Dam. According to Section 18 of the Tennessee Valley Authority Act, the TVA had the power “to exercise the right of eminent domain for all purposes of this Act, and to condemn all lands, easements, and rights of way, and other area necessary in order to obtain a site for said Cove Creek Dam.”²³ So while the TVA did have the power to take their lands, because construction started so quickly after the TVA was created, citizens did not fully understand the ramifications of the act. One man being pushed off his land said “We said if they drowned Loyston they drowned us along with her. A man’s house’s his home.”²⁴ As time passed this man became less resistant to the idea of leaving, but initially he was very upset. Also, because Norris Dam was the first dam built by the TVA, it was unclear to all how much power the TVA really had. By starting construction without having considered the social and economic impact of the dam, it is clear the TVA’s decision to build was based only on the river.

²¹ Marguerite Owen, *The Tennessee Valley Authority* (New York: Praeger Publishers, 1973), 125.

²² Owen, 125.

²³ United States Congress, *Tennessee Valley Authority Act of 1933*, 26.

²⁴ Martha Munzer, *Valley of Vision: The TVA Years* (New York: Alfred A. Knopf, Inc, 1969), 74.

Once these surveys were completed, it was clear that almost 3,000 people's homes would be directly impacted by the construction of Norris Dam. According to one TVA publication "approximately 2,900 rural families--the greater number of whom had lived their entire lives in the same community, were faced with the problem of seeking new homes in 'foreign' lands."²⁵ This sentence is misleading; later on in the report it is made clear that by 2,900 families it means 2,900 individuals, not 2,900 families.²⁶ These individuals were so rooted in the area that moving only a few miles was thought of as a foreign idea. For the purposes of their removal studies the TVA considered all families to be white and native-born. According to the initial contact with each family, fewer than six were identified as African-American and only two families had foreign-born heads of household.²⁷ The TVA, however, does not explain if these eight families were treated any differently than the other families required to move.

The TVA worked very quickly. The Reservoir Family Removal Section began work with families during the summer of 1934. This was a section of the TVA that worked with families to help make relocation as easy a process as possible. Despite the help, many lives were quickly changed. Some families were required to vacate the land by December 1, 1935, while most had until December 31, 1936. On this date the land was supposed to be cleared of all personal property, including any structures, but this did not usually happen.²⁸ Often the family would take what they could transport and leave

²⁵ Tennessee Valley Authority and Marshall A. Wilson, "Reservoir Family Removal Studies: Norris Area," Internal Report, September 1, 1937, 1. This is an unpublished report that was originally intended for internal use only.

²⁶ On page 14 of the report there is a chart that breaks down the number of families moved and total individuals relocated by county.

²⁷ Tennessee Valley Authority, *The Norris Project*, 65.

²⁸ Tennessee Valley Authority and Marshall A. Wilson, "Reservoir Family Removal Studies: Norris Area," 5.

their house and other structures still standing. This meant extra work for the TVA, since all of the structures needed to be removed before the reservoir started to fill. Despite the quick turnaround, only five of the families refused to leave their land and legal action was necessary to remove them.²⁹

Each landowner was paid based on the assessed value of their land. The land was appraised by the TVA Board of Appraisal, which might have upset some homeowners, but not all. One man's comment about the appraisal process showed the TVA was willing to work with landowners, "We're simple people," he said, "maybe, but nobody with enough sense to keep out of the ditch is accusing us of being dumb. They asked us how much we'd take and we told them. Then we asked how much they'd give and they told us. We split the difference."³⁰ This makes it clear why the TVA was adamant that all of the prices were fair and consistent across the project.³¹ About 50 percent of the properties were assessed between \$1,000 and \$3,999, and about 25 percent fell above and below that group.³² The TVA, on average, paid \$55 per acre while the average assessed rate was \$13 per acre.³³ Of those removed from their land, about 65 percent owned the land, while the other 35 percent were tenants.³⁴ The TVA does not explain if treatment was any different between landowners and tenants.

It was not just those living on the land that were affected by the relocation of all of these families, but the county governments as well. In total the TVA purchased about

²⁹ Tennessee Valley Authority and Marshall A. Wilson, "Reservoir Family Removal Studies: Norris Area," 6.

³⁰ Munzer, 75.

³¹ Tennessee Valley Authority, *The Norris Project*, 502.

³² Tennessee Valley Authority, *The Norris Project*, 65. According to the United States Department of Labor Consumer Price Index \$1,000 in 1934 would be equal to about \$17,750.15 in 2014.

³³ Tennessee Valley Authority, *The Norris Project*, 61.

³⁴ Tennessee Valley Authority, *The Norris Project*, 65.

152,000 acres of land located in five counties. This meant these counties lost thirteen percent of their taxable land.³⁵ In addition to this about five percent of those relocating did not remain within the five counties affected. Overall, all but Anderson County saw a net loss of individuals: 2 in Grainger County, 156 in Claiborne, 360 in Campbell, and 631 in Union County. Anderson County actually increased its population by 166 persons.³⁶ According to the TVA, these actions were justified because the 1935 census found a 42 percent increase in farm value from 1930.³⁷ While this may be true, the TVA does not explain if this increase was across all five counties or mainly in Anderson County. Also, by only examining the five counties together it is impossible to know what happened in each individual county. The TVA did not purchase the same amount of land in each county and should therefore not be reporting all five counties as a collective unit. In fact the majority of the reservoir is in Union County, which is the only county the TVA examined individually.

A separate assessment of Union County was necessary since it was the county that was most affected by the construction of Norris Dam. In 1937 tax values had fallen 50 percent from 1934 and the county had lost more than 630 people, a fourth of its population.³⁸ Had the TVA studied the effects the dam would have on Union County before construction began, it might have been possible to alter the plan. In addition to the short-term effects, there were long-term effects as well. In the 1930s the state of Tennessee distributed money for roads and schools based on county population. The

³⁵ Tennessee Valley Authority, *The Norris Project*, 59.

³⁶ Tennessee Valley Authority and Marshall A. Wilson, "Reservoir Family Removal Studies: Norris Area," 14.

³⁷ Tennessee Valley Authority, *The Norris Project*, 61.

³⁸ Tennessee Valley Authority, *The Norris Project*, 64-65.

TVA did not compensate the county for this loss, saying that “[t]he need for school and road revenue from the State is smaller since both the population and area to be served are greatly reduced.”³⁹ While this is true, the county was given very little notice of this substantial reduction in its budget.

Within Union County was the unincorporated town of Loyston, which had about 100 residents. Based on its location it would be entirely underwater when the dam was completed. The TVA bought the entire town, which included a few stores, churches, schools, and homes. The majority of the community decided to relocate about five miles away and called this new town New Loyston.⁴⁰

Caryville was the only other town directly affected by Norris Dam, however, it was a much different project than Loyston. While Caryville was much larger, with a population of about 1,100, only a third of the town ended up underwater. Instead of buying the entire area, the TVA bought only the land that would flood and built a very small dam to protect the town. This dam would ensure high levels of water would not flood the town. There were 70 buildings, including schools and churches, demolished or moved to higher ground to prevent damage. In addition, the town’s main street was also moved to avoid possible flood damage.⁴¹ For those who had to relocate the TVA was often seen as the villain, but the agency worked hard to make the process a little easier.

Another social and economic problem the TVA had to deal with was grave removal. Surveys of the land completed in early 1933 by the United States Army Corps of Engineers found 326 cemeteries which contained 12,005 graves.⁴² Of these, 5,226

³⁹ Tennessee Valley Authority, *The Norris Project*, 64.

⁴⁰ Tennessee Valley Authority, *The Norris Project*, 531-532.

⁴¹ Tennessee Valley Authority, *The Norris Project*, 532-535.

⁴² Tennessee Valley Authority, *The Norris Project*, 487.

graves were relocated at an expense of \$35,535.38.⁴³ The TVA gave each family three options as to what to do with their family's graves. First the TVA would pay a private undertaker up to \$20 per hour to remove and relocate the body. Option two was for the TVA to move the remains to the site selected by the family. The third option was to leave the grave alone and allow the reservoir to fill over it. Only 341 people chose to use a private company and 22 graves were left as they were. The TVA then relocated 4,885 graves to cemeteries above the high water mark. There were an additional 7,600 graves that were on the margins of the reservoir and were isolated, but not submerged. The TVA offered to move any of these graves by request. However, only 836 graves were relocated to accessible cemeteries.⁴⁴ Moving graves was seen by many citizens as a very honorable act; one man said the "graveyard will be a hundred feet underwater but there won't be anybody there. The government's moving those graves like it was Arlington Cemetery."⁴⁵ Through relocation of graves citizens of the valley felt like the TVA actually cared about their lives.

While the social and economic surveys were completed so was preparation for the reservoir. Through many different techniques it was possible to complete land surveys in order to ensure all of the necessary land was purchased. First property ownership maps were created. These showed the boundaries of each tract of land and any deed information. Next, aerial photographs were taken of a majority of the property.⁴⁶ These photographs eliminated the need for the TVA to send out workers to survey all 214,800 acres. While the TVA had the authority to buy any property within a quarter mile radius

⁴³ Tennessee Valley Authority, *The Norris Project*, 499.

⁴⁴ Tennessee Valley Authority, *The Norris Project*, 509-510.

⁴⁵ Munzer, 74.

⁴⁶ Tennessee Valley Authority, *The Norris Project*, 492-493.

of the highest estimated flood height, in some areas, additional land was bought. If land was so isolated that building a new road to it would cost more than the property was worth, the TVA often bought that land, as well.⁴⁷ There were some farmers who wanted to sell because their land was so close to the reservoir; many of these people feared their homes would eventually flood. In total, the TVA purchased 152,000 acres for the Norris Dam project. Of this, 94 percent was by voluntary transfer, 2 percent was condemned for title reasons, and 4 percent was condemned because of the owners' refusal to sell.⁴⁸

In addition to removing people from the land, structures, forests, and fences also had to be removed. This process occurred between February of 1934 and April of 1936, long before the water started rising. All of the land below the anticipated reservoir level was cleared. The land closest to the high level was completely cleared, whereas in the lower parts of the valley, trees were felled and wired into place so that they would not wash downstream.⁴⁹ While most of the wood was disposed of, some was saved to be used in TVA construction, while a very small percent was sold to private companies.⁵⁰ Only wood that could be used was even considered however, there does not seem to be any specific pattern used to decide when to save wood and when to burn it. It probably had to do with the location and quantity of the wood, and whether it would be financially beneficial to remove the trees, process them, and then either use or sell the wood as opposed to buying wood for a construction project. The TVA did sell about 40,500 logs;

⁴⁷ Tennessee Valley Authority, *The Norris Project*, 500-501.

⁴⁸ Tennessee Valley Authority, *The Norris Project*, 502.

⁴⁹ Tennessee Valley Authority, *The Norris Project*, 513.

⁵⁰ Tennessee Valley Authority, *The Norris Project*, 516.

however, there is no explanation as to what size a log is. In addition approximately 4,556,000 boards were produced and used by the TVA.⁵¹

During this two-year process of clearing the reservoir no fatal accident occurred, but this does not mean the work was not brutal. Workers were divided into three groups. The first group cleared brush and small timber. The second group came in with saws and removed the heavy timber. The final group piled the timber for burning. During these burnings many precautionary measures were taken to ensure the safety of the men and the surrounding area. Of the more than 18,000 acres burnt only 50 acres that should not have been burnt accidentally were.⁵² The TVA used almost exclusively human, not machine, power. Part of this was due to the terrain they were working on. The valley had many steep inclines that machines would not have been able to work along. Finally, in places where machines were used, costs were about double what they would have been without machines.⁵³ By using mainly manpower the TVA was able to employ more men which decreased the valley's unemployment rate.

TVA crews removed any manmade structures left within the reservoir area. There were a few different options for the removal of buildings. The landowners could take the buildings when they relocated, they could sell them to someone else who wanted to remove them, or they could leave them for the TVA to burn the remaining structures and clear their foundations. In total, approximately 4,000 buildings and foundations had to be cleared.⁵⁴ The total cost to clear the area of both natural and manmade objects was

⁵¹ Tennessee Valley Authority, *The Norris Project*, 516.

⁵² Tennessee Valley Authority, *The Norris Project*, 512-513.

⁵³ Tennessee Valley Authority, *The Norris Project*, 515.

⁵⁴ Tennessee Valley Authority, *The Norris Project*, 516.

\$1,140,358.32. All but about \$46,000 was spent on labor.⁵⁵ By spending this much on labor, it is clear the TVA decreased unemployment.

The TVA also had to adjust several highways, railways, and utilities that would be flooded by the new reservoir. Only 23 miles of state highways were affected, but over 275 miles of county highways had to be moved.⁵⁶ All bridges had to be removed from the reservoir area, but whenever possible the TVA removed them from one location and used them in another. In addition to moving roads, the TVA also established new ones. A 21-mile freeway was built between two existing roads that passed over Norris Dam. This new road would allow people to drive across a dam and see the turbulent spillway on one side and a calm reservoir on the other.⁵⁷ Additionally, two railroad lines, the Southern Railway and the Louisville and Nashville Railroad, were affected by Norris Dam. Both lines were relocated, and the cost was shared between the TVA and the railroad companies.⁵⁸ The relocation of utilities was the most complicated matter, because six different companies were involved. Telephone, telegraph, and power lines all had to be rerouted away from the buildings that would soon be underwater.⁵⁹

In addition to all the work that had to be done to clear the reservoir, the dam itself also had to be constructed. It would stand 265 feet at its highest point and be 208 feet thick at the base.⁶⁰ Three spillways would allow water to flow through the dam and two generators would turn rushing water into power. All major construction was planned for and successfully completed within 18 months.⁶¹ One reason this timeframe was so

⁵⁵ Tennessee Valley Authority, *The Norris Project*, 517.

⁵⁶ Tennessee Valley Authority, *The Norris Project*, 520.

⁵⁷ "Road 250 Feet Wide Over the Norris Dam," *The United States News* (January 22, 1934), 14.

⁵⁸ Tennessee Valley Authority, *The Norris Project*, 527.

⁵⁹ Tennessee Valley Authority, *The Norris Project*, 528.

⁶⁰ Tennessee Valley Authority, *The Norris Project*, 71.

⁶¹ Tennessee Valley Authority, *The Norris Project*, 221.

condensed was because of the amount of dolomite rock located on site. Dolomite rock has the right strength and durability to be crushed and turned into concrete. This was extremely helpful, because the plans for Norris Dam called for it to be constructed out of approximately 1,000,000 cubic yards of concrete.⁶² Having dolomite on site meant time and money were saved in the production of concrete. It also allowed the TVA to hire more men from the area to make the concrete.

Since Norris Dam was a New Deal project, employment was one of its main missions. The TVA created a work plan where “a maximum number of men would be employed economically.”⁶³ This boiled down to four five-and-a-half hour shifts for laborers and eight-hour shifts for supervisors. This schedule meant that laborers and supervisors never changed shifts at the same time, which allowed for the highest rate of production. This schedule was used for most of the construction period, although in September of 1935 it changed to four six-hour shifts since most of the construction was completed.⁶⁴ The TVA used these shift styles to ensure that the most men possible had work throughout the entire project.

High unemployment rates meant hiring was a major project. The TVA divided the positions into two categories: professional and nonprofessional. Professional employees were allowed to apply no matter what their current residency was and were judged by their qualifications and references. When the nonprofessional positions opened there were thousands of applicants, making it nearly impossible to evaluate all of them. The TVA decided to administer a series of examinations to judge potential

⁶² Tennessee Valley Authority, *The Norris Project*, 221.

⁶³ Tennessee Valley Authority, *The Norris Project*, 327.

⁶⁴ Tennessee Valley Authority, *The Norris Project*, 327-328.

workers. The test simply examined an individual's ability to follow oral and printed instructions, and included a short reading test and a mechanical aptitude test. There was also a non-written test which allowed those with little education a chance at a position.⁶⁵ In order to prevent a major increase in unemployed workers coming to the Tennessee River Valley, workers had to be from the valley area. This area included all of Tennessee and parts of Kentucky, Virginia, North Carolina, Georgia, Alabama, and Mississippi.⁶⁶ Once hired, workers were paid based on a schedule set by an Executive order. It was to be followed by all newly created emergency unemployment relief agencies. Since the TVA was not actually classified as an emergency unemployment relief agency, it did not have to follow these standards, but the Board of Directors decided to do so.⁶⁷ Following this schedule helped to create consistency across all of the TVA projects.

In addition to a job, workers at Norris Dam also received a place to live. Like many of the dams built by the TVA, the remote location meant building someplace for workers to reside. At all but two sites, these dwellings consisted of temporary buildings that were abandoned or used at another site when construction was completed. At Norris and Fontana, permanent towns were constructed for the workers and their families to live in throughout construction. Once the project was complete the towns were sold to private citizens.⁶⁸ The TVA chose to build a permanent town at Norris because of its need for a secondary administrative center in the headwater region of the Tennessee River Valley.⁶⁹

⁶⁵ Tennessee Valley Authority, *The Norris Project*, 329.

⁶⁶ Tennessee Valley Authority, *The Norris Project*, 329.

⁶⁷ Tennessee Valley Authority, *The Norris Project*, 330.

⁶⁸ Tennessee Valley Authority, *The Norris Project*, 161.

⁶⁹ Tennessee Valley Authority, *The Norris Project*, 173.

The town of Norris was built not only to provide housing but also a community setting for 2,500 employees and their families. In total, 250 single-family houses, 10 duplexes, and 5 apartment buildings were built for families, and 30 existing farmhouses were relocated from the area. There were also a series of dormitories built for individual professional men, nonprofessional men, and women.⁷⁰

Norris is considered important in the city planning movement of the United States, because it was one of a very few projects that started out with nothing. The town of Norris was not the result of tenant clearing or part of a larger city's suburban sprawl but a town built far from any others, completely from scratch. The TVA's goal for Norris Town was to achieve "an essentially fine environment through plain means and minimum expenditures."⁷¹ This goal was realized through an "attempt to visualize the kind of living conditions that the American people as a whole may legitimately aspire to have."⁷² This meant that Norris was not going to be an innovative town, but would have everything the typical American family could possibly need.

Not only was housing provided, but so were community resources. Within the town there was a cafeteria, which provided meals around the clock, due to the overnight work shifts. The seating capacity was 544, but during peak construction 900 workers were served at one meal.⁷³ The meals were described by one female worker as "not so much a question of being nourished as a question of how to keep from being over-nourished. The cuisine at Norris cafeteria is of a kind to sustain manual labor."⁷⁴ While

⁷⁰ Tennessee Valley Authority, *The Norris Project*, 174 and 193.

⁷¹ Tennessee Valley Authority, *The Norris Project*, 176.

⁷² Tennessee Valley Authority, *The Norris Project*, 177.

⁷³ Tennessee Valley Authority, *The Norris Project*, 191.

⁷⁴ Munzer, 102.

the food might have been too much for this young lady, she had not found a reason to complain about the taste or quality of the food. There was also a large community building in the town. This space held a post office, library, lounge space, combined gym and auditorium, a smaller auditorium, a game room, a small canteen, and additional office space.⁷⁵ A school was also built in the town and had room for approximately 400 students. Within the building there were 14 classrooms, a lab, library, music room with small stage, and a large room with an auditorium, gymnasium, and stage.⁷⁶ During the construction period classes were held here for children in kindergarten through 12th grade. There was also a town store building that housed the police, a country store, and a drug store. Elsewhere in town was a fire station, which also provided housing for the firemen. One other feature of the town was a fully functional dairy. It provided the town with its milk and butter supply.⁷⁷ All of these resources helped create a community around the dam building. With this sort of community, workers were often happier and more productive.

While not everyone could have enjoyed their work on Norris Dam, the overall spirit seemed high. According to architect John Kyle, “there was a continued flow of ideas and information back and forth at every level...for the same spirit permeating the architectural and engineering division of TVA was felt by the truck drivers and the work gangs, by the foremen and the timekeepers.”⁷⁸ The TVA worked hard in many different ways to improve the lives of its workers while they were on the job and after it was done. The TVA created a program that helped employees to develop their existing skills and

⁷⁵ Tennessee Valley Authority, *The Norris Project*, 191.

⁷⁶ Tennessee Valley Authority, *The Norris Project*, 211-212.

⁷⁷ Tennessee Valley Authority, *The Norris Project*, 214-215.

⁷⁸ Munzer, 103.

learn new ones. It also provided job training for basic rural occupations, and general educational and community programs for employees and their families.⁷⁹ Beginning with the training, many workers knew they were learning more than just a skill; one worker recalled that

The dam is not the end sought; it is but a means to bring about better living conditions in this vast area in the Southland. It is assumed that, when the dam is completed, most of the men who have been trained will go back into the communities from which they came and, if trained wisely, will become centers of influence in upgrading the community life.⁸⁰

As stated in the original act which created the TVA, as an organization it was committed to improving the lives of its workers. Through effective training, the TVA not only taught men and women the skills they needed to work on Norris Dam, but it also gave them skills that would help them later in life.

In 1935, Charles Bennett, a reporter for an *Industrial Education Magazine*, visited Norris Dam. While there, he spoke with many workers, from top officials to skilled laborers. Through his time at the dam he saw this emphasis on training and education and came to the following conclusion:

Thus it comes about that, while the TVA is not engaged in general education, as usually or formally given, it is effectively giving it as an integral part of a broadly conceived vocational training which, in turn, appears to be a by-product of a stupendous program of construction and production. Yet in reality, education is the chief product, and the dams and power plants are the by-products. It is this conception of the training program that makes it possible for the TVA to fulfil that second part of its purpose: “improving social and economic conditions within the area.”⁸¹

⁷⁹ Tennessee Valley Authority, *The Norris Project*, 331.

⁸⁰ Charles Bennett, “Impressions Gained at Norris Dam” *Industrial Education Magazine* Vol 37 No 3 (May 1935) 130-134, 131.

⁸¹ Bennett, 132.

It is clear from what Bennett saw and heard that he really believed the TVA's first priority was working to improve the lives of their workers.

Another way the TVA worked to encourage the education of workers was through portable libraries. Assigned to each of the work crews clearing the forests was a man in charge of keeping the tools sharp. In addition to this task he was the clerk for a small "field box library" which contained up to 50 books for the workers to check out and read during their free time.⁸² The books in this box were frequently changed to provide the men with new books. There was also a library in the town which included over 4,000 books on a wide range of topics.⁸³ Reducing unemployment was also a huge reason the TVA was created so early in President Roosevelt's term. Over one million dollars were spent just to clear the area for the dam and reservoir.⁸⁴ While TVA rates varied greatly by location and type of work, this amount of money spent on only a portion of one of the many dams shows how important the TVA was for supporting the economy in the Tennessee River Valley during the Great Depression. From 1933 through World War II, the TVA provided thousands of jobs to both men and women. In fact the TVA still employs over 12,000 individuals.⁸⁵

The TVA is one of very few New Deal projects left today, and it is impossible to miss the changes made by the TVA on the Tennessee River Valley. After three years of work the TVA completed its first project at Norris Dam. The Norris Reservoir, which sat behind this dam, contained 705 miles of shoreline, much of which would eventually be

⁸² Tennessee Valley Authority, *The Norris Project*, 513.

⁸³ Tennessee Valley Authority, *The Norris Project*, 331.

⁸⁴ Tennessee Valley Authority, *The Norris Project*, 517.

⁸⁵ Tennessee Valley Authority, "About TVA," Tennessee Valley Authority, <http://www.tva.com/abouttva/index.htm> (accessed October 2, 2014).

converted to park land.⁸⁶ The entire project was estimated to cost the TVA \$36,025,230. However, the project came in under budget, and the actual cost was only \$30,508,024.⁸⁷ Much of this money was spent on creating jobs during an era of extreme unemployment. President Roosevelt saw the need for dams and jobs in the Tennessee River Valley and the TVA provided both. While not all of those who were forced off of their land understood this need, time has shown that the Tennessee Valley Authority helped decrease unemployment while it also changed the course of the river.

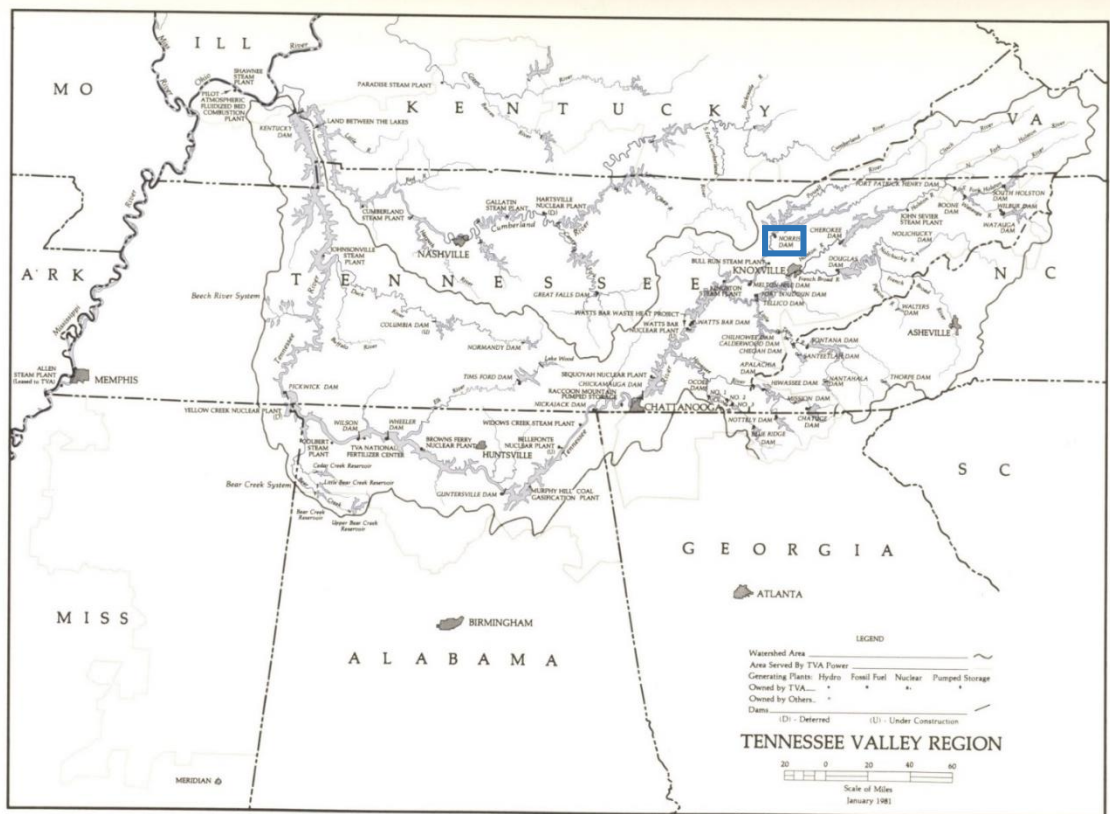
⁸⁶ Tennessee Valley Authority, *The Norris Project*, 485.

⁸⁷ Roscoe Martin, *TVA The First Twenty Years: A Staff Report*, (Knoxville, TN: The University of Tennessee Press, 1956), 88.

Appendix

Figure 1: This is a map of the Tennessee River Valley region.

Photo Credit: Tennessee Valley Authority in *A History of the Tennessee Valley Authority*.



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