Allison Hill

Imagine for a moment that South Dakota didn't have any rivers or streams. Our towns would be struggling to support their populations with enough water, animals would be scrawny and thin, and plants would be small and dry. What would be able to grow? Who would be able to live here? We often take our rivers and streams for granted. We depend so much on them, yet hardly take the time to think about what they are truly contributing to our state. So, what are some of the advantages of our rivers and streams? Three benefits of South Dakota's rivers and streams are that they give protection from flooding, offer habitats for wildlife, and help people to stay active. We all know that rivers and streams give us water, which we need. But what happens when we get too much water?

The first benefit of rivers and streams is that they help to prevent flooding. In the Northeastern part of our state, there are fewer rivers and streams. This means that when floods occur, there are fewer places for the water to go. So, floods occur more often, are bigger, and last longer, because there aren't very many outlets for the water to flow and spread out. In comparison, the rest of the state has a lot more rivers and streams. These outlets provide ways for the water to travel, and as a result, floods are fewer, smaller, and don't last as long. Floods are dangerous for people and our homes, but they don't just affect us. They affect wildlife, too. Many animals depend on the rivers and streams of South Dakota.

Another benefit of our rivers and streams is that they give wildlife a good habitat. According to Game, Fish, and Parks, we have over one hundred species of fish in South Dakota. And it's not just fish that depend on rivers and streams, but many kinds of wildlife. Animals like geese and deer depend on our rivers and streams, as well as beavers, ducks, turtles, bears, frogs, and many others. Rivers and streams provide animals with sources of food, such as vegetation or

fish, and provide clean drinking water and homes for them. While people don't depend on rivers and streams for their homes, many of us love to spend time in and around the water.

Lastly, rivers and streams benefit South Dakota by helping people to stay active. According to the CDC, almost fifty percent of adults and a shocking seventy-four percent of adolescents don't meet the minimum aerobic physical activity guidelines. In addition, about twenty-five percent of adults engage in no leisure-time physical activity. Rivers and streams provide an easy, fun way for people of all ages to get outside and to stay active. I remember when I used to live in Pierre, I would go down to the river with my family and friends. One time, my friends brought an inflatable raft. Let me tell you, when you have four small kids trying to steer a raft with paddles that are twice as tall as they are, the raft doesn't really go where you want it to. We ended up paddling in circles and splashing each other most of the time. But we had a lot of fun, and it was a great way for us to get some exercise outside in the sunshine and fresh air. It was so much better than sitting inside all day and watching TV. Rivers and streams are an accessible way for people to have fun and bond with one another while also staying active. So, rivers and streams help people individually, as well as benefitting South Dakota as a whole.

In conclusion, rivers and streams help floods to abate, animals to survive, and people to remain active. Every living thing on this planet, whether a plant, an animal, or a human, depends on water. To take away water is to take away life itself. Oliver Wendell Holmes, Jr. once said, "A river is more than an amenity, it is a treasure." So let us treasure our rivers and streams, because they not only help us to live, but allow us to thrive. And that's why rivers and streams truly benefit our wonderful state of South Dakota.

The Importance of Rivers in South Dakota

Ashley Tieszen

When thinking about the landlocked state of South Dakota, water might not be the first thing that comes to mind, but for the residents of the state we all know about our beloved "Big Muddy" that runs through the center of the state; better known as the Missouri river. South Dakota is estimated to have about 9,500 miles of river running through the state, according to rivers.gov. These rivers include the James River of southeast South Dakota, the White River of southwest South Dakota, the Little Missouri River of northwest South Dakota, and the Big Sioux River of eastern South Dakota. So, as you can see, rivers are important in all regions of the state. Rivers contribute a lot to the state of South Dakota, and their preservation saves much more than just their waters.

For starters, rivers are important the drinking and household water we use everyday, the average South Dakota home uses about 93 gallons of water per day, and the state as a whole uses more than 73 million gallons of water each day, according to neefusaorg. One specific example of this usage is found in southeastern South Dakota. This region gets much of its water from the James River. Other regions of the state will use water from lakes or ground water reservoirs to supply the community, but this also depends on rivers. Most of the lakes in South Dakota are river fed. This means that the lake would not exist without the river flowing into it constantly adding in more water. The same is true for ground water. As rivers flow over land, water from the river seeps down into ground water reserves through the river beds, recharging the resource. In South Dakota, agriculture is the primary industry, and our water in used in this as well. Some regions of the state use water to irrigate their crops, sustaining plant life, one of our most important natural resources, or to water their livestock, sustaining animal life, another of our important natural resources.

It is not only domestic animals that benefit from our river waters though, so do the wild and native animals of the state. This can include bison, deer, prairie dogs, squirrels, other mammals, reptiles, and more than 400 different species of bird. Of these bird species, it includes migratory birds, such as geese. These are of particular interest because they often use the Missouri River as a migration route north and south at their respective times of the year, so that they are never too far away from a water resource. Their migration is important to the state because of hunting season. Hunting is a large tourist draw for South Dakota, and important to our industry.

Now, going back to agriculture. It is highly dependent on fertile soil. To raise livestock, you need good feed, and to have good feed you need fertile ground. When crops are grown in the soil, depending on the type of plant they take different nutrient types out of the soil. Crop rotation and fertilizers are used to help restore these stripped nutrients, but nothing works quite as well as a good old fashioned river flood. River floods deposit nutrient rich sediments in the area they cover, naturally restoring soil health, and protecting the third of our most important natural resources.

Finally, there are five large dam on the Missouri River in South Dakota. These are the Garrison dam, Oahe dam, Big Bend dam, Fort Randall dam, and the Gavins Point dam. There are several other smaller dams in South Dakota, but these are the major ones, and they are important because they produce hydroelectricity. 50% of the state's energy comes from hydroelectric sources. This is a clean energy because it not produce any smoke, smog, or carbon that is released into the air unlike the burning of fossil fuels. Because such as large portion of the state's energy comes from this clean source, less fossil fuels are used, and this preserves our air quality, the final of the most important natural resources.

In short, rivers are vital to several different components of South Dakota including everyday water use, agriculture, wildlife, the energy that powers your homes and businesses, and finally even our air, but even besides all of these reasons, our beautiful rivers are worth conserving because of the opportunity to relax and enjoy their pristine beauty on a gorgeous summer weekend with family and friends.

Autumn Lentz

A river is water in its loveliest form, rivers have life and sound and movement and infinity of variation, rivers are veins of the earth through which the lifeblood returns to the heart."

- Roderick Haig-Brown

Since man has walked the earth he has been fascinated by the mesmerizing charm of moving water. Rivers and streams not only stir the human soul, they are an integral part of our past, present, and future. People have used rivers since the beginning of civilization as a source of water, food, transportation, defense, power, and recreation.

Before we dig further, let's take a moment to discuss what a stream actually is. According to National Geographic, a stream is a body of water that flows on Earth's surface. The word stream is often used interchangeably with river, and while they are similar rivers usually describe larger streams. Streams and rivers need two things to exist: gravity and water. When precipitation falls onto the ground, much of it flows downhill across the surface as runoff and collects into A watershed, or drainage basin. These are the areas that collect water before it runs into a stream.

Streams and rivers provide many benefits to humans including drinking water for both human and livestock, irrigation for crops, electricity through hydropower, and many recreational activities such as swimming, fishing, and boating.

Nowlet's look at how many rivers and streams there really are in South Dakota. In 2020 South Dakota Integrated Report and Surface Water Quality Assessment reported that South Dakota has 10,094 miles of perennial rivers and streams and 87,424 miles of intermittent and ephemeral streams. Just think, there are over 97,000 miles of streams in SD, that would be like driving from Sioux Falls to Rapid City over 280 times.

So now that we know what a river is and what it can be used for let's take a quick look at South Dakota's most famous river, the Missouri. According to the American Rivers website, the Missouri River begins just west of Bozeman, Montana. The Missouri River will travel more than 2,300 miles before it joins the Mississippi River at St. Louis, forming the world's fourth longest river system as it rolls south to the Gulf of Mexico.

The Missouri River is considered the "Center of Life" for the Great Plains, the river has served as the main artery for exploration, food, trade, and transportation for millions of people over thousands of years. About one-fourth of all the agricultural land in the U.S. is found in the Missouri River watershed, which provides more than one-third of the country's wheat, flax, barley, and oats.

Fishermen often flock to the Missouri river for its excellent walleye, pike, and smallmouth bass fishing. Some anglers even try their luck to catch a very unusual native species, the prehistoric-looking paddlefish. In fact there are over 150 species of fish within the entire Missouri River

Basin. The basin also supports 300 species of birds along with many other mammals, reptiles, and amphibi

Let's take a look at what we know so far. We have discussed how important rivers and streams are to humans, livestock, and wildlife. We know there are thousands of miles of streams and rivers in SD. Are these wonderful gifts perfect? Do we ever need to worry about losing these jewels of the prairie? Unfortunately yes.

The 2020 South Dakota Integrated Report and Surface Water Quality Assessment did a study observing about 5,875 stream miles in the past five years. During that 5 year interval 78% of the stream miles did not support one of more beneficial uses. Beneficial uses are assigned to each stream or river and can include: Domestic water supply waters; permanent fish life propagation waters; Immersion recreation waters; Irrigation waters; and Commerce and industry waters.

The most common cause of rivers no longer having benefits was either total suspended solids or E. coli contamination. Suspended solids are typically caused by agricultural nonpoint sources and natural origin. When soil particles wash off fields or streambanks erode this adds sediment to streams and rivers. E. Coli typically occurs due to manure or manure laden water running into a stream or river. This contamination typically is caused when domestic livestock have direct access to a waterbody or when an animal feeding operation (AFO) is not properly contained. Wildlife can also contribute to E. Coli contamination when they congregate near water bodies.

So is all lost, are we doomed to have impaired streams and rivers in SD? The answer is a resounding no! We have numerous tools to help improve and protect our precious streams and rivers. For example, many farmers and ranchers are already implementing best management practices (BMPs) such as fencing out riparian areas from livestock and providing alternative water sources. Many local, state, and federal agencies and organizations such as the local conservation districts, department of environment and agriculture, and the USDA Natural Resources Conservation Service can provide both technical and financial assistance in helping landowners achieve their conservation goals. As David R. Brower once said,

"We must begin thinking like a river if we are to leave a legacy of beauty and life for future generations."

Breanna Wollman

In the summertime, there is nothing that I love more than going on a nice pontoon cruise with my family on Richmond lake. Whether we decide to throw in a line or take a dip in the water, it is always a blast. But as any good swimmer will tell you, it's the dangers that we can't see -lurking beneath the surface of the water that is threatening the livelihood of our lakes, rivers, and streams. Lucky for us, there are different organizations throughout South Dakota to help with problems lurking beneath our rivers and streams. Like our conservation districts, and game fish and parks which all allow for our communities to prosper around our heavily aquatic culture. Proving today's prompt of "Rivers and streams benefit South Dakota".

First, we are going to look at the benefits themselves derived from rivers and streams to South Dakota, before finally examining the efforts taken to conserve these bodies of water so they can continue to benefit us in the future.

If you'd ask anyone from South Dakota about their favorite summer activities, more often than not you'd get an answer like tubing, swimming, or fishing on the Missouri river. But the benefits from rivers and streams expand far beyond just some exciting recreational time, because without them, many urban and rural communities would have no source of potable water. For example, WEB water, the leading provider of water to 17 different counties in northeastern South Dakota, pulls in from the Missouri River. On top of that, there is also a financial benefit from rivers and streams from fishing. Whether it be in the Missouri River or the James - the fishing industry is a major tourist attraction. According to South Dakota game fish and parks, in 2016 the fishing industry in South Dakota generated over 271 million dollars. The article continues by saying that this money goes to support roughly 18,000 full and part-time jobs- which also has a net benefit on our economy. Overall, it is clear that our rivers and streams provide huge benefits if we just look a little closer.

But with all benefits considered, it's important to recognize the efforts taken behind the scenes to maintain our rivers and streams, because without them- there are no benefits. And that fun in the sun afternoon would be anything but.

For example, Richmond Lake may be considered an oasis to some, but this man made lake is a poster child for hazards lurking below. Anyone familiar with Richmond Lake knows it is not known for its crystal clear water- instead- for the fact that it is a swampy green. But it isn't all bad. The South Dakota legislature and stakeholders saw this problem. And introduced the solution of buffer strips- specifically, grass waterways, which are 50 to 150-foot sections of grass

planted along a waterway that stops runoff from getting into the streams and rivers. This is huge for conservation because it allows for us to continue to enjoy our recreational time without questioning the sanitation of these bodies of water.

Another way that our streams and rivers are protected is through simply fencing cattle out of the streams. While old Bessie may like to take a nice dip to cool her thirst by going into Mud Creek she shouldn't because that feeds into Richmond lake- and farmers and ranchers are recognizing this. You may be wondering why it's such a big deal if these cows go and wander free-range, but the problem lies at the foot of the issue- literally. Hooves tear up the stream bank causing erosion which threatens the overall stability of these bodies of water. Not to mention if you can't get your dad to not pee in the pool- I doubt the cows will listen either. So farmers are fencing them out of streams and taking advantage of solar-powered wells or Rural water systems like web water to provide fresh drinking water to their herds.

Finally, it's important to recognize the conservation effort that made it possible for bodies of water like Richmond, and Mina lake, and many more a reality- Dams. Richmond was made in the 1930s by the WPA when they dammed Mud Creek, but as time goes on, it's clear that it needs to be replaced. Luckily for us, earlier this year the South Dakota legislature approved the cash for it- and thankfully they did. Because we saw the harms from not repairing dams when necessary in 2018 when the Hidden Wood dam blew out. Thankfully, no one was hurt- but it simply shows the importance of maintaining our dams because when the dam fail, they release a lot of sediment and built-up pollutants- which is harmful to surrounding bodies of water and contributes to the destruction and loss of life- like the dam that blew out in Rapid City in 1972 resulting in 238 deaths.

So today, we looked at the benefits from rivers and streams to south dakota. Specifically, water accessibility, and the economic benefit from fishing, before finally, we some efforts taken to maintain these bodies of water so they can continue to benefit us in the future. Proving today's prompt of “Rivers and streams benefit South Dakota”.

So the next time you go out on the river, remember to recognize not only the fun from taking a swim or throwing in a rod but also to appreciate the myriad of conservative efforts taken to maintain the water's natural benefits and beauty.

Soil Conservation Speech Essay Contest - Fiala Herceg

As a little girl my dad and I would take the boat and go fishing on the Missouri at least once a week, and for younger me this was basically torture. Instead of getting to play with my barbies, I was forced to be in the middle of the dark deep water, with slippery and slimy things all over the boat. But, as I got older I realized that those slippery and slimy things my dad seemed obsessed with was actually part of a wonderful pastime. Nothing beats an epic battle with a 23 inch walleye that just refuses to give up. But, my experience is not unique from others. In South Dakota, water remains to be one of the most important aspects to our way of life, to our culture and the marked distinction between the East and West River and to livelihoods being built upon it. Because of this it is clear, Rivers and streams benefit South Dakota.

But before we can discuss the many ways that rivers and streams benefit South Dakota, there are mechanisms in place that ensure that these benefits can remain protected.
These mechanisms come in many forms, from Conservation efforts from the Game Fish and Parks that ensure that overfishing, length limits, and licensing regulations are all followed by sportsmen across our beautiful state. This ensures the sustainability of not only our rivers and streams but also the many diverse species inside of it. This isn't the only protection though, practices outside of the water can have just as much as an impact, from legislation passed by the South Dakota legislator to create safer farming practices such as providing incentive to plant nutrient run off strips that attempt to create a buffer between farming lands and the water to stop fertilizer from creating dead zones in our rivers and streams. Preventing dead zones is essential to river growth because when excess nutrients enter the water all of the oxygen is taken by the plants, and rather than the many other live creatures living there, leaving them to suffer and then I don't get that epic walleye battle on the river.
These protections allow our benefits from rivers and streams to be preserved, which is extremely important when these benefits create so many positive impacts, next we can discuss the diverse benefits.

In South Dakota we utilize our streams and rivers in many various ways. From the Oahe Dam created on the Missouri River near Pierre, South Dakota. The Associated Press explains, Oahe Dam generated 4.2 billion kilowatt hours last year, up from the long-term average of 2.7 billion kilowatt hours.This type of power is extremely useful hydropower plants can generate power to the grid immediately. Not only does the Oahe Dam provide a relatively cheap source of power, but it also allows for flood control, irrigation, and community drinking water. With the ever changing south Dakota weather, and the proneness to floods, the Oahe Dam and the reservoirs created around it allow us to maintain our farming lands, and general livelihoods.

In South Dakota our largest industry base is agriculture adding 32 billion to our economy yearly, however due to changing weather conditions year to year this practice for farmers can be almost as volatile as betting on the lottery. However, thanks to our rivers and streams irrigation systems can be created to ensure that crops receive water even in times of drought. The Campbell Scientific explains the importance of these systems, western South Dakota has vast

stretches of tablelands with agricultural potential. Carefully monitored irrigation is necessary for this region to thrive due to its differing needs. When South Dakotan farmers are suffering, irrigation systems fed by our rivers and streams step in to save the day. When Rivers and Streams allow us to create a protection buffer for our largest industry base in our state, the benefits are clear.

First we were able to discuss the many diverse protections that have been implemented, and second we looked at the many key ways that Rivers and Streams benefit us as South Dakotans.

While at first getting younger me to go enjoy a day out on the water was an uphill battle, I will now go fishing with my dad whether it's rain or shine, July or January, as long as we bring a heater for the iceshack of course, and my dad takes the slimy fish off of my pole for me. The rivers and streams of our great state create many lasting benefits and the protections of these benefits will allow many generations down the line to experience the joys of going fishing with their dad.

Calvin Grimsley

Many people have told me that the best way to start a speech is with some sort of joke. When I started this speech, I got to work and started looking for some, but could sadly only find bad jokes, and even worse puns. For example, "The fisherman lost his new fishing hook in the river. He refused to accept it. He was in de Nile."....or how about, "Where do fish keep their money? In river banks." However, while searching I did find a parable that I thought was quite interesting:

One day, in a small village, 2 villagers noticed a baby floating down the river from upstream. One of the villagers sprang into action, while the other started running upstream. The first asks, "Where are you going? We have to save these babies!" and the second replies, "I'm going to see who's throwing babies in the river!"

To me, this represents that, while it's important to address immediate needs and problems, it is equally important to seek long-term change. The 2022 Conservation Speech topic is, 'Rivers and Streams Benefit South Dakota'. If we wish to continue to reap the benefits of our rivers and streams in South Dakota, we need to make sure that we address problems at the source and seek long-term change. While it is important to clean up the trash and pollution already harming our natural world, it is equally important to seek long-term sustainability and secure the safety of all rivers. Today, I'd like to first talk about why rivers are important to everyone, secondly, why rivers are in danger, and lastly what can be done to help.

To begin, why are rivers important to us? Rivers are like the veins of nature. Although river water makes up only about 0.2 percent of all the fresh water on Earth, they play a very important role in the balancing of ecosystems, as well as the circulation of nitrogen and sediment, much like how our veins and arteries circulate oxygen throughout the body. Freshwater habitats support some of the most biodiverse habitats in nature. Along with this, many people in third world countries rely on these rivers for water to drink, food to eat, and fertile land to grow crops on. Rivers and streams not only support people and animals, but they also play a role in countless economic industries, including everything from fishing, to the trading and transportation of goods, and even paper-making. This means that if rivers continue being destroyed, people's lives and livelihoods will be at stake, as well as many populations of organisms that depend on rivers.

These events are already being seen across the world, and can be seen in countless examples in recent history. Take the Citarum River in Indonesia as a prime example. The river and its tributaries are a vitally important resource to a large surrounding area, with an estimated 26 million people relying on this river. Over the past 20 years, the river's water quality has decreased dramatically due to all kinds of garbage and untreated waste being carelessly dumped every day into the river. This pollution regularly clogs drains and blocks waterways, causing the river to flood alarmingly often. Not only this, but there are economic repercussions being seen. Over 2000 factories are located on the banks of this river, and it serves as an irrigation system to an estimated 5% of the country's rice. The pollution also has killed nearly all of the fish, forcing ex-fishermen to salvage pieces of this garbage and attempt to sell it to make a living and support their families and children. This pollution kills the rivers and the animals that rely on them, fosters disease, and largely decreases the quality of life for people in the area.

Rivers also play an important role in the Status Quo here in South Dakota. Some of the first Europeans to set foot in South Dakota used the Missouri River to gain access, with Lewis and Clark using the river as an easy way to transport their supplies. American pioneers continued to use these rivers for transportation, trade, and commerce. Nowadays, rivers and streams in South Dakota are used as an important source of freshwater for South Dakotans like me and you, as well as an extremely important part of our state's tourist industry. This industry is one of the most important to our state's economy, with tourism bringing around 4.4 billion dollars into our state annually. Tourism activity also contributes 11% of our state's tax money, and supports over 50,000 jobs across our state. I feel its safe to say that our rivers and outdoor attractions are an irreplaceable part of our state, and they must be protected from excessive pollution and destruction.

So, what can be done to help? While we have limited pollution and promoted conservation of the environment, destruction of it continues. Right now, massive steps are being taken all around the world to help ensure a sustainable future. On a communal level, it is important to keep our eyes open for opportunities to help, like a community clean-up or helping adopt a highway, or even something as simple as starting to recycle in your home. It's also relatively easy to start just a small group of helpers, whether it be with your church, school, workplace, or using social media. No matter how many laws are passed or agencies created, in order

to make long-term and permanent change, we all must do our part in our local communities.

Rivers and streams Benefit south Dakota

Joseph Laprath

4-6-22

Everything needs water to survive. Rivers and streams benefit South Dakota in many ways. Water is important to me by irrigating crops and creating electricity. Water is important because I live on a family farm and water is needed to irrigate gardens and livestock and the electricity runs many of our tools and machines. I also own my own business and for my business to be profitable, I need water.

There are over 25 rivers in South Dakota and just under 1500 streams. The definition of a river is a large natural stream of water flowing in a channel to the sea, a lake, or another such stream and the definition for a stream is a small river. Ironic right!. All of these rivers provide a very essential service four our agricultural industry; irrigation.. Irrigation supplies an abundant amount of water to plants and animals. The elements in water are oxygen and hydrogen which are key factors when growing plants. In dry years, irrigation is the only reason that some people have a crop. Irrigation is the tool for a great crop any year and the only thing that could stop that crop from being good is mother nature. These factors include early frost, hail, or wind. According to the Dakota water science center. In 2005, 292 million gallons of water were being used per day to irrigate crops in South Dakota. That is a lot of water being used but that was the only reason that farmers and ranchers would get a crop. On dry years, if we don't irrigate our garden, then we will not have any produce to can and store for meals.

Not only are rivers used by humans to irrigate crops, but rivers act as natural nurseries for one of the most important plants to me; Trees. I own and operate my own saw mill. Our local rivers

like the Keya Paha provide most of my raw materials. I cut a lot of cedar and oak trees and these trees grow on the sides of rivers. Without these rivers I would not have the amount of logs that I have on hand and would not be profitable. Trees are very important to me and my business.

The second topic I will be talking about is electricity generation. Did you know that about 5.8 billion kilowatt hours are produced per year from hydroelectric dams off the Missouri river in South Dakota. To break those big numbers down, 5.8 billion hours is 662 thousand years and If you put that 5.8 billion into seconds at 31.5 million seconds in a year, that would be 184 years. If that doesn't make you think that south Dakota produces a lot of electricity through the hydroelectric dams, you're crazy. That is a lot of electricity and could power 542 thousand homes. So the energy created from SD dams could power more than South Dakota in just homes. Hydroelectric power is transported through long distance electric lines which creates thousands of power lineman jobs in the state. So not only do hydroelectric dams create electricity but they produce jobs. Electricity powers many of my saws for my business and I can relate how important electricity is to me.

Water is needed by everyone and every living organism on earth and there will always be a need for it. Irrigation is important so that farmers and ranchers can water crops and cattle and produce the food that we all eat.. Electricity is needed for just about everything we use these days. Even that phone in your pocket wouldn't work without electricity. The streams and rivers benefit every single person in the state of South Dakota. My name is Joseph Laprath and I am very thankful for the natural resources that we have as they don't help just me but also my business.. Thank you

"Rivers and Streams Benefit South Dakota" By Seth T. Schoon

When I was about eleven years old I really enjoyed playing in our creek bank at our ranch, located near the Little White River in South Dakota. Ironically our ranch is also near the town named White River. In our creek, my brothers and I would build little dams made out of sticks and mud. We would build up enough of a barrier that the water would be stopped up for quite a while until it either washed away or the water ran over. Besides the amusement of miniature dam building, our creek serves very valuable conservation purposes.

Our creek has always been important in the summer months when our sheep and cows need to drink out of it. Most of the time it dries up by mid-summer though. As the water level gets lower and lower there is still mud at the bottom. In this mud, in the bottoms of our creek, Russian Olives and Sandbar Willows like to grow. These trees produce shelter for native birds and bugs who enjoy the shade. These trees also help to anchor the soil in the creek bottoms in place. This anchoring is helpful when the spring floods try to wash all the sediment into the Little White River.

One thing I have noticed over the years is that our creek banks have become increasingly less steep. This is the result of proper grazing techniques such as rotational grazing. As the soil on the creek banks becomes healthier it sloughs off from the top of the slope and tumbles into the creek. As this continues over time the sides of the creek become less of a cut bank. As the creek does this the healthy soil will grow productive water loving plants whose roots will help bind the soil together. These plants will stop sediment that is flowing onto our land and deposit it into our creek. This creates a healthy riparian area which stops the flood plane from being washed away. The whole process, that is spurred on by proper grazing, will increase wildlife habitat and creek bank forage production. It is this natural cycle of restoration, which God created, that we seek to+ revive by proper grazing.

During flooding season, which is usually March or April, the creek is impossible to cross for a few days. This is the result of snowmelt and rain that flows into the creek from deep woody draws upstream. As this water rushes down the creek much sediment and forage is ripped out of the bank and pushed down to the river. Every year, as proper grazing techniques are followed, this problem is slowly being eradicated. More and more sediment is kept from flowing down the river as more forage grows in the creek bottoms. This forage catches the sediment and keeps it from washing down the creek into the river.

Creeks and river banks also preserve history for future generations. They are the deposits of countless historical artifacts and fossilized creatures. My family and I discovered the remains of a horse about three or four feet underground along our creek bank. These horse bones had been preserved because of the mud along the creek that had eventually dried and kept the bones

hidden until we discovered them. Shells and fossils can also be found along the river banks as the sides continue to fall into the river. Thus exposing more and more bones. Creek and river mud preserve our history and prevent fossils from being lost forever.

I enjoy riding my horse along the Little White River that flows by our house. I have found the habitats of many native species of wildlife. I know exactly where a bald eagle perches and where its nest is located in a tall cottonwood. I also have seen tree stumps left from beavers gnawing. It also is common to hear woodpeckers and meadowlarks along the river bank. The Little White River and our creek are prime conservation areas because of the environment they provide for native species of fauna. It is very enjoyable to sit under the shade of a cottonwood tree and listen to the wildlife noises while my horse is munching grass nearby. I am very glad that the natural conservation areas of creek and river banks are part of my home on the South Dakota prairie.

Taya Chelmo

Where the Water Runs

We have a creek that runs through our pastures, tree belt, and on right past the edge of our farm. I have witnessed its highs after a heavy rain or snow melt, and its lows after a long hot summer. But no matter the season, where water runs, there is life! There is nothing else on earth quite like water for its role in life.

Our streams and rivers carry with them a wonderful story of life-sustaining and life-enhancing benefits, a story that I would like to share with you today. The chapters of this story begin with the formation of our streams, bringing water to our communities through Rural Water Systems, as well as recreational and economic benefits these rivers and streams brings to our state.

I like to call the introduction to this story *"A Watershed Moment"*. We owe our abundance of fresh, clean water to the Missouri River Basin watershed. This watershed is simply a large area of land, covering parts of Canada and 10 states, that channels the rain and snowmelt into small creeks and streams and eventually into the Missouri River. The benefits we enjoy from this water come from the creative ingenuity of man in using it, which brings us to our first chapter.

(Chapter One) "*Life's Greatest Necessity: Safe Drinking Water*"

In SD, in 1972, Rural Water Systems first began organizing to bring fresh drinking water from our rivers into our homes. Today, most of us take it for granted that we can get a good drink of water whenever we want, and have water for our animals, for washing our clothes and taking a shower.

But let's take a moment to reflect on what challenges were overcome by these Rural Water systems. Unless you lived on a river, folks back then had to drill wells or collect water in cisterns or barrels. Well water was often only fit for animals. Cistern water had to be run through charcoal to make it safe for drinking.

Then, even with making a huge priority of conserving water, it was often necessary to supplement the supply by hauling it from town.

Thanks to the fresh water supplied from our rivers, the arrival of Rural Water raised the standard of living in our rural areas. Today

our water comes from 33 different rural water systems across the state. It is a blessing we should all be thankful for.

The next chapter in the story of our rivers might be called
"Summer is Finally Here!"
Many of us look forward to summer picnics at the river, along with swimming, boating,
and camping. It is no surprise that most of our State Parks are situated along our streams and rivers. Outdoor recreation is important to our quality of life in SD and rivers play a big part in it.
Any warm day is a good day to head to the river, in my book:)

Turn now to Chapter 3: *"Hook, Line, and Sinker"*

Visitors from all over the Midwest know that here in SD the options for fishing are plentiful. Our state offers a collection of creeks, and rivers open for fishing, like fly-fishing for trout in the Black Hills, to trophy walleye from the Missouri river. These water resources bring in tourism dollars that are important to local businesses and have a big impact on our state's economy.

I named my final chapter Power Up! If you guessed that it's about producing electricity, you are correct! Another important benefit of our largest river is its ability to produce hydroelectric power.

Approximately half of the electricity used in South Dakota comes from power generated by the dams. There are four dams located along the Missouri River including Gavin's Point, Big Bend, Oahe, and the Fort Randall Dam. Along with hydroelectric power, the lakes that have been formed by the dams also provide our state with water for irrigation, industrial and domestic use and more great recreational options for us to enjoy.

In conclusion I believe each of us should help protect the streams and rivers we have available to us so that we can continue the story

of our amazing, life-providing resource, water. This story has touched on our most basic need for safe, clean drinking water, ways that our rivers and streams improve our quality of life through summer recreation and fishing and how our water resources help our businesses thrive. The abundant resources of water that we have been blessed with are fundamental to the health, economy, and ecology of our state.