

The Environmental History of the Upper Mississippi River at Trempealeau, WI

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ABSTRACT

The theme of this project is to examine the environmental history of the Mississippi River in the area surrounding Lock and Dam Number Six near Trempealeau, Wisconsin. With oral histories as our main source, our goal is to trace changes in the river environment after lock and dam construction in the 1930s. After taking part in several oral history interviews and utilizing much secondary source research, conclusions have been drawn as to what aspects of the river have changed since construction, as well as possible changes or problems that may occur in the future. Some of the topics to be covered are changes in fishing, wildlife, vegetation, water quality and habitat. The causes of the changes have also been examined, as has what the future and its environment may hold.

INTRODUCTION

It was not until I became involved with the Public History program here at UW-La Crosse that I realized what an important entity the Mississippi River is to us all. For most, it is a source of recreation; for others, it is a way of life, as commercial fishing and shipping are still prevalent. Even with usage of the river currently on the rise, we must not forget there is a great history behind the river and its environment. Through the Public History program and the Wisconsin Department of Natural Resources (DNR), I became involved in an oral history project to trace the environmental changes that have taken place on the river since the construction of the lock and dam system in the 1930s. The need for the project stemmed from the proposed draw-downs of certain pools in the upcoming year, with hopes of improving the river ecosystem in those areas. The DNR requested some historical background on the changes in the river, so as to gain a perspective of the past changes and what they may hold for the future, and from this, this undergraduate research grant was born. What follows is the historical background of the river at Trempealeau, from the earliest attempts to harness the flow of the river to the fight over the lock and dam system.

ATTEMPTS TO CONTROL THE FLOW OF THE MISSISSIPPI RIVER

Since the early nineteenth century, many have attempted to harness the Mississippi River, with hopes of utilizing the river for great benefit. As early as the 1830s, the Federal government was dynamiting rock and removing snags from the river in order to make the depth of the river adequate for boat travel when the water level was low. After the Civil War, it was evident that a change was needed. Captain Frank Fugina, an experienced river man and boat captain saw a great need for improvement. "...Those of us who lived on the river and fol-

lowed steamboating as a vocation for many years, and who have noticed channel conditions during high and low water stages, know very well that the packet boats had a hard time navigating the Upper Mississippi in the early days, except in times of high water.”¹ At the time of writing this article, the river was a winding and snaking entity, complete with rapids, rocky bottoms, vegetation growth in the river bottoms and miles and miles of sloughs. Each section of the river was as unique as the one prior, making travel tenuous and inconsistent.

By 1878, Congress had authorized a four-and-a-half foot channel project for the Upper Mississippi to aid the rafting business and packet boats. The four-and-a-half foot channel stretched from the mouth of the Ohio River to Minneapolis, and was achieved by dredging and constructing wing and closing dams, instead of blasting rock from the channel. Narrowing the width of the river to eight hundred feet, wing and closing dams were also used to deepen the channel by scouring. In 1907, Congress authorized the construction of a six-foot channel from Saint Louis to Minneapolis. These projects greatly aided river traffic, increasing traffic substantially, as well as speeding up the river current, which aided in reducing pollution, especially in large metropolitan areas.²

These projects did not meet the desired results everywhere. Low water still existed in many places and in times of low water, so low that people could walk across the river, many towns were grounded and river travel was extremely difficult. Many other problems persisted as well. The cities along the river, many of them once booming because of river traffic and commerce, were now dying a slow death due to a lack of outside income. A new channel was needed to boost the amount of river traffic and the amount of shipping tonnage. The nine-foot channel project was seen as the salvation needed for the river, the towns, the people and their livelihoods. Trempealeau, Wisconsin was one of these towns that needed the nine-foot channel to survive.

HISTORY OF TREMPEALEAU, WISCONSIN

Trempealeau, as many Mississippi River towns, was first discovered by the French. Although Trempealeau had been inhabited by native peoples for nearly ten thousand years, “the mountain with its foot in the water,” or *La Montaigne qui tremp a l’eau* in French, was not discovered by white men until 1680.³ Father Louis Hennepin, a missionary sent by La Salle to explore the Upper Mississippi, and his two companions were the first whites to view the Mississippi River from the Trempealeau area. In the winter of 1685-86, Nicholas Perrot, another French explorer, created a settlement at Trempealeau. Setting up camp at the foot of Trempealeau Mountain, Perrot and his men amassed a huge stock of fur for trade, which later made its way to Paris. After Perrot left in 1686, men such as Jonathan Carver and Zebulon Pike made their way through Trempealeau, but did not make a permanent settlement there.

In the 1800s, Trempealeau became a well-known landmark for steamboats as they traveled on the river. J. Constantine Beltrame, a noted explorer and traveler, commented on the beauty of the area. He writes, “From this spot, I see a chain of mountains whose romantic character reminds one of the valley of the Rhine, and leads to the mountain that dips into the water.”⁴ In 1837, the American Fur Company established a port for its steamboats to pick up wood across from Trempealeau. By 1840, James Reed and his family had become the first permanent settlers in the Trempealeau area. As Trempealeau gained in notoriety, commerce increased greatly. By 1857, Trempealeau had become a major port for wheat shipments headed downstream. That did not last for long, however, as farmers began to ship grain by rail as early as 1871, putting Trempealeau’s role as a shipping point into major decline. All that

Trempealeau had for commerce were the steamboats that would pull into the harbor and occasional passenger trains, but even those would be short lived, as by the 1880s, nearly all passenger business had migrated to the railroads. To make matters worse, a fire broke out, destroying the majority of the two-block business district.

The river was in constant use by the residents of Trempealeau. From swimming to duck hunting to commercial and sport fishing, the Mississippi River served as life force for many people. Those who did not make their living on the river cherished it for recreational purposes. However, as time went on, the quality of the river decreased dramatically. In the summer of 1932, the river reached its lowest level ever. Sandbars once hidden beneath the water were now visible. At certain points on the river, people were able to walk on the river bottom from the Wisconsin shore to Minnesota, without getting their heads wet.⁵ Many days could pass without seeing one boat on the river. River commerce was lacking and pleasure crafts were not yet popular. Falling into disuse due to channel constriction and a lack of effective dredging, the river began to die a slow death.⁶ The previous channel projects were no longer effective, and a solution was needed.

THE ADVENT OF THE NINE-FOOT CHANNEL

By the late 1920s, the river needed to be deepened in order to sustain river traffic. In 1927, businessman and shippers began to lobby Congress for channel improvement. That same year, the Federal Barge Line was created; a government backed corporation that had high hopes of reinvigorating river traffic. The Federal Barge Line was not exempt from low water stages; channel fluctuation and the many meanders of the river made the F.B.L. realize something needed to be done. A deeper channel was needed, but the problem of how to go about it existed. Although dredging the river had aided in maintaining the four-and-a-half and six foot channels, the nine foot channel was much too large of an undertaking for dredging to be the sole method of maintenance.⁷ The only viable alternative was to create a series of locks and dams to restrict the flow of water and maintain a nine-foot channel from Saint Louis to Minneapolis. In 1930, Congress realized this was the only option, and proceeded with the River and Harbors Act, which authorized the nine-foot channel. It was later signed into law by President Herbert Hoover. The estimated cost for twenty-three locks and dams was \$124 million.⁸ After Hoover signed the act into law, progress went slowly until Franklin Roosevelt was elected president in 1932. With the need for jobs after the depression and the advent of the "New Deal," the timetable for construction was moved up. Public works funds were added to the initial budget and the Corps of Engineers was assigned the giant task of finding workers to aid in this massive undertaking.

PROPONENTS OF THE LOCK AND DAM SYSTEM

The most obvious proponent of the nine-foot channel project was shipping interests. With an increased channel depth, tows would have very few problems traveling on the river, with shallow water and other hindrances things of the past. The Mississippi Valley Association, a lobbying organization for shippers, was the foremost proponent for the project. Coal shippers and granary operators believed strongly in the argument that freight could be shipped much cheaper by water rather than by railroad, and the tonnage shipped could be greatly increased as well.

With a nine-foot channel, there would hardly be a limit to the amount of tonnage. The chief drawback to the six-foot channel is that it fluctuates too much. It is not dependable. With a nine-foot channel, the stage of water would be held more uni-

form, the channel would be straighter, more room would be provided for boats and barges, and schedules could be adhered to more closely.⁹

Furthermore, they believed that too much money had been invested in the channel already, with the four-and-a-half and six-foot channel projects, to give up and let the river die. Also, estimated saving in shipping a ton of coal from Illinois to Saint Paul, by water, rather than by rail, at fifty cents and that a nickel could be saved by sending grain from Saint Paul to New Orleans by barge, rather than by rail.¹⁰

Another group that supported the lock and dam system were local chambers of commerce of river towns and cities. With the river now being more accessible to large-scale river travel, many towns had dreams of recapturing their past glory as stops for boats on the river. Furthermore, there was great hope that new industries would come to the town, such as grain elevators and shipping companies that use the cities as holds for coal and wood needed for firing the large engines on the tows. With this project going on, it also meant more retail business in towns, as shopkeepers, tavern owners and innkeepers all figured to benefit greatly. Material suppliers also expected to receive some windfall from the construction. In the Trempealeau area, the Trempealeau Lime Company had the only nearby abundance of rock needed for the project. The Johnson Gravel Pit was looking forward to being the source for the fill needed to supplement the dredge needed at the foot of the dam. Timberland owners also looked to profit, as there would be a great need for the hardwood piles used in the construction of the cofferdams.

OPPONENTS OF THE LOCK AND DAM SYSTEM

Even though the number of opponents to the nine-foot channel project was greater than the supporters, they still lost their fight. Foremost in the fight against the project was the railroad industry. All of their concern was finance-based, as they served to lose a great deal of business if the project went through. It was feasible that everything that could be shipped by train, from grain and coal to petroleum and scrap iron could be shipped by barge, and at a much cheaper rate. Nationally, many railroad groups¹¹ fought vehemently against the nine-foot channel project. They believed that since all of their work was done without government subsidy and that the railroads paid an exorbitant amount of federal, state and local taxes, that they should be protected from this loss of business. The railroads attempted to get three amendments added to the gist of the project. These included reimbursement of funds to the United States, by waterway businesses, for the nine-foot channel project; all waterway projects should not be government subsidized, just like the railroads; and that the War Department should be held responsible to all damage or alterations done to railroad property during the course of construction.¹² Of utmost concern was the fear that tracks would be severely damaged by construction. In Trempealeau, the Burlington Route on the east bank, the Milwaukee Road on the west bank were affected and the North Western route cutting across the area would be affected. With the rise in water level, railroads would have to install bridges, install larger culverts and install rip-rap rocks to prevent erosion at the water's edge to prevent erosion. Also, the track would have to be raised. This was of major concern in the Trempealeau area, since the water level would be much higher in the lower part of the pool.¹³

Many conservation and environmental groups were against lock and dam construction as well. One of the earliest opponents of the project was Major Charles L. Hall, a district engineer for the Army Corps of Engineers at Rock Island, Illinois. When speaking at the School of Wildlife in McGregor, Iowa, Hall warned his audience of the possible effects that could

occur due to construction. Hall believed that “that channelizing the river would complicate sewage disposal, radically alter the flora and fauna of the river and drive some species of fish and wildlife into extinction.”¹⁴ Sportsmen vehemently attacked the proposed project as well. The “Voice of the Outdoors,” a regular column of the *Winona Republican-Herald* regularly featured editorials opposing the project. “The nine-foot channel slackened river would become a giant sewer, a death trap for fish and a menace to public health,” predicted the column.¹⁵ In a later issue, the column stated:

...we are still against the alleged nine-foot channel under the dam form of construction. We are now more firmly convinced than ever that it will be a gigantic commercial failure and will be impossible to maintain without spending millions of dollars each year in dredging operations. It will completely destroy bass fishing on the river and will form a series of badly polluted pools that will look a lot like link sausages on a map and smell worse than said sausages if they were exposed to the present heat for a week. The scenic attraction of the river will be completely wiped out.¹⁶

These sportsmen were greatly interested in the river for many reasons. Many of them were raised on the river and saw it as a sustainer of life, while others used it merely for recreational purposes. The main reason why they were against the dam was that many had fought for the establishment of the Upper Mississippi Fish and Wildlife Refuge in 1924, and considered it a symbol of their victory and part of a legacy they could pass onto their children.¹⁷

At the national level, the Izaak Walton League was at the forefront of habitat preservation. From the outset, the Izaak Walton League was against the lock and dam system, but later strayed from that point of view. They believed that the nine-foot channel could be a good thing for the river, if it was done correctly and habitat damage could be minimized, especially to the Upper Mississippi Fish and Wildlife Refuge. Believing that the Corps of Engineers was solely concerned with navigation and not the environment, the League enlisted the Bureau of Fisheries and Bureau of Biological Survey to help out with the planning. Eventually, the commission formed a set of resolutions aimed at improving the Corps’ plan for the nine-foot channel project. These resolutions included erosion control, stabilized water levels in the pools, dam location to avoid the use of the refuge as a reservoir and putting in place of fishways around the locks and dams.¹⁸ Bureau of Fisheries representative M.M. Ellis believed that maintenance of water level was the biggest concern. In previous times, when water levels were lowered, it led to the destruction of prime spawning ground, but also the suffocation of thousands of fish as well. Ellis also urged the government to purchase land adjacent to the river as overflow lands, so that they would not be drained by private land owners and developers.¹⁹ First, the Corps’ decided not to drain the pools during the winter, in the interest of fish and wildlife, calling for stable water levels in the pools at all times. Second, the government purchased overflow lands adjacent to the pools, seeking to preserve them as fish and wildlife refuges.²⁰

EXPECTED OUTCOMES

The research collected will show that there has been a change in the number of fish, type of fish and fishing habitat in the Mississippi River since the lock and dam system was put in.

The research collected will show that there has been a change in the river habitat in, on or near the Mississippi River since the lock and dam system was put in. This includes the condition shorelines, backwaters, sloughs and river islands.

The research collected will show the effects of the lock and dam system on the wildlife of the Mississippi River. This may include the removal or loss of certain species, lessening in numbers of certain species, as well as habitat loss.

METHOD

For this project, the methodology is quite simple. Beginning with a list of names, I sought to interview those whose knowledge of the river best suited this project. The oral history interview is the key to this project, as the majority of the information reported here is culled from those interviews. Topics covered in the one-hour interviews ranged from fishing and habitat preservation, to favorite fishing stories and reminiscing about days long since passed. After performing the interviews, I then edited them so that they would fit better into a formal research document, as this is. The interviews were edited for content (to make it compre-

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- ¹ Fugina, Frank. "River Captain for Nine-Foot Channel," *The Buffalo County Journal* (Alma, Wisconsin) April 1932, N.A.
- ² Scarpino, Philip V. *Great River: An Environmental History of the Upper Mississippi, 1890-1950* (Columbia: University of Missouri, 1985) 167.
- ³ Elkins, Winston. *Trempealeau and the Mississippi River Dam* (Whitehall: Trempealeau County Historical Society, 1985) 1.
- ⁴ Bua, Deborah K. *Trempealeau, Wisconsin: A Little History* (Whitehall: Trempealeau County Historical Society, 1978) 74.
- ⁵ *The Galesville Republican*, 20 October 1932, N.A.
- ⁶ Elkins, *Trempealeau*, 3.
- ⁷ Fugina, Frank. *The Lore and Lure of the Upper Mississippi River* (Winona: Kroger and Jacobs, 1945) 138.
- ⁸ House Document 290, *Mississippi Between the Mouth of Missouri and Minneapolis: Hearings*, 71st Congress, 2nd session. Three dams, the Ford Dam at the Twin Cities, the Hastings Dam and the Keokuk Dam were already in place, bringing the total to twenty-six.
- ⁹ Fugina, F. "River Captain for Nine-Foot Channel." N.A.
- ¹⁰ Brunet, Patrick. *The Corps of Engineers and Navigational Improvements on the Channel of the Upper Mississippi River to 1939* (Austin: University of Texas Press, 1977) 115.
- ¹¹ Brunet, *The Corps of Engineers*, 115. Nationally, the groups fighting against the lock and dam were the Brotherhood of Locomotive Firemen and Enginemen, the American Shortline Railroad Executives and the Association of Railway Executives.
- ¹² Brunet, *The Corps of Engineers*, 115.
- ¹³ Elkins, *Trempealeau*, 9-10.
- ¹⁴ "Pre-Judging the Nine-Foot Channel." *The Minneapolis Journal*, 23 August 1929, 12. Two months after his speech, Major Hall was removed from his position on a special board of engineers designated to survey the upper river.
- ¹⁵ "Voice of the Outdoors." *Winona Republican-Herald*, 9 October 1929.
- ¹⁶ "Voice of the Outdoors." *Winona Republican-Herald*, 16 July 1930.
- ¹⁷ Scarpino, *Great River*, 170.
- ¹⁸ Warren Frank M. to Patrick J. Hurley, 6 May 1931, Resolutions appended, entry 111, U.S. War Department Army Corps of Engineers, RG 77, Suitland.
- ¹⁹ Scarpino, *Great River*, 173.
- ²⁰ Scarpino, *Great River*, 175.

hendible), for grammatical errors and changes were made to make the text flow more smoothly. Selecting the best excerpts for the paper was the most difficult part, since there were many poignant moments throughout the interviews. However, an oral historian cannot include everything in a document, only what fits the best.

The introduction and conclusion aspects of the paper are merely standard research documents. The introduction serves as the background for the reader who might not be familiar with the lock and dam system or its history. The conclusion will serve as the hard evidence needed to back up the statements and ideas presented in the results section. The conclusion contains specific information that will back up the information presented in the results. This is not to say to the information in the results is falsified or inaccurate, but merely strengthens the ideas posed in the paper.

RESULTS

The results shown here were obtained from several oral history interviews done from June 1999 to January 2000. What is shown here are excerpts from these interviews, edited by the author for grammar, context and authenticity. What follows is an accurate portrayal of what the author feels are the most important changes and issues for the Upper Mississippi River.

FISHING

George Richtman: Yes, there are a few fish that used to be in the water up here, but aren't any more. A fish I've never seen, but heard my dad talk about called the skipjack. They are a member of the herring family and actually migrated up the Mississippi before the pools were flooded. But, when they put in Lock 19 with a waterfall and a forty-foot lift, that stopped the migration of the skipjack to the upper river. I've heard occasionally where somebody will get one above Lock 19. My dad explained that another fish, called a mooneye, another member of the herring family, used to be in the river. They used to only get to be about a pound and a half or two pounds. They were like a skipjack, but a little bit smaller.

Ray Sherin: You can't catch fish in the quantity or the size, or as easy as you could back then. It all depends on how some fish are lucky enough to reproduce under certain conditions on the river. It is surprising sometimes when you find in a pool that it is just full of silver bass, and then you don't see a hatch like that for many years. Now, some guys are saying there's a lot of sturgeon in the river, which is something we have never seen before; a lot of rock sturgeon, which is surprising. As far as fish are concerned, there's a lot more bass in the river, at least smallmouths, and quite a few saugers, but nothing of size. Panfish went down a few years ago, but they are coming back too. Right now, there are only a few places that fish can reproduce, since you have to have the backwaters. Any place where the water is flowing a lot, or you get high water in the spring, everything gets washed out.

- R.S.: There was so much spawn back then. When you went through the backwaters, where all the vegetation was, you'd see sacks of spawn everywhere. It was floating around in the weeds, attached to a fallen tree. I haven't seen that in years. I think the increase in population and stuff that goes in the river from the cities and human waste has had an impact on that.
- Casey Fugina: When I was growing up, and you go back to these draw-downs in this letter to Truman (written by Clarence Fugina, the speaker's father), the fishing was absolutely horrendous. There was no fishing, for all purposes, during the war. My dad would go out and he would fish for hours. He would throw a fly for hours and catch nothing. This went on for years. I remember when I was a kid, and I would ask, "What did you catch today, dad?" He would say, "Well, we had one strike tonight. Missed it." I didn't start fly fishing until August of 1947, when I would have been eleven. I think back and say, "Why didn't my dad teach me how to fly fish before I was eleven?" I ask this because I have two sons: one is twenty-one and at Winona State and one is still in bed – he's eighteen. I taught my kids when they were six and I wonder why didn't my dad take me out to fly fish when I was six. Both my sons are very adept at it and it took them about five minutes to fly fish and they were six. I can remember going out the first night – August 28, 1947 – I can remember the day because I remember that kind of stuff. Anyway, I go out and I catch my first smallmouth – it was a three-pound smallmouth – and my dad nearly fell out of the boat. He hadn't seen a three-pound smallmouth since before the draw-downs, which would have been 1940. I caught one the first night and I caught another small bass, eleven inches or so, which was a keeper in those days. I was wild about fly-fishing. I'm still an avid fly fisherman. I think back, and I'm sitting this morning, saying that he didn't teach how to fly fish because you couldn't catch anything. In about the time of '47 and '48, this would have been three or four years after the draw-downs, the fish started to come back. Now, the fishing is unbelievable. For fly fisherman, this is like dying and going to heaven.
- G.R.: Spawning beds have definitely been affected. A lot of fish don't spawn in the sand. A lot of vegetation gets covered up by the sand and silt. Normally, the silt has enough nutrients in it and the vegetation will re-root itself. Another thing is the depth of the water: some fish need shallower water to spawn, and some need deeper water. A lot of the deeper water has filled in and that has affected spawning areas. Plus, if the market for carp doesn't get better, it will hurt the sport fishing industry and commercial industry too. We will have an overpopulation of carp, and with that goes the weed bed and there goes the spawning areas too. What will happen is when the sun fish and others come in there to spawn, the carp will come in there at the same time and root everything up, and all the other spawn will go floating down the river and be useless.

CLAMMING

- G.R.: There has been a lot of clamming in the area over the years. It was big back sometime after the turn of the century. How much done here in Trempealeau, I don't know. I know there was a lot done in and around Fountain City at that time. My dad talked about clamming when he was a kid quite a bit. It had a rejuvenation here about three or four years ago, but now again, it is pretty much at a standstill for two reasons. The biggest was that the market in Japan had pretty much deteriorated. The other reason is the zebra mussels have taken over. They have attached themselves to the native mussels and will pretty much choke out the native mussels in due time. But, the biggest thing was the market.
- R.S.: There were a lot of clams, but not a big clamming industry. There have been clammers that have gone up and down the river in recent years. If there is money in something, people will do it. Now, fishermen are pulling up clams covered in zebra mussels, a big ugly chunk of them. Last year, I saw some clams that didn't have a single zebra mussel on them. I came down the river with some boys one time, down to Eagan's Dam (wing dam near Trempealeau). We were camping there, right on the point. We went out there, the water was about four feet deep, and it was solid mussels. We filled the boat half full of them, looking for pearls. We opened them up all night, but we only found five.

WILDLIFE

- R.S.: When we needed something to eat during our adventures on the river, we took it out of the water or found it along the banks. Our most favorite food was crawfish. I can remember getting a five gallon pail and going out and looking for crawfish mounds. There would be acres of them! Remember, this was before the dams raised the water level. So, we would go out and knock the top off of these dirt mounds, reach down into the hole and we'd get these big crawfish and fill that pail up, boil them and eat the tails out of them. They tasted better than lobster to us back then.
- R.S.: The bottoms were full of snakes and reptiles of every kind. The banks were just loaded with snakes. There was a different kind of snake, and I think it would be called a endangered species or an extinct species today, because you can't find any of them on the river anymore. They were called a diamondback watersnake. They were a thick-bodied snake and looked very menacing with a wide head, and people kind of associated them with cottonmouths. They were fairly harmless. They were a fishing snake and I saw them by the hundreds underneath trees in big masses, like gobs of angleworms. I sat down on the bank one day and I had piles of them all around me. I didn't know it because the grass was high and I just sat down and they were laying all around me. I looked down at my feet and there were dozens of them. Then, I looked out in the water and they were coming up with fish in their mouths. That was just when they had raised the water level.

R.S.: As a youngster, when we walked through the bottoms around Winona, we used to carry clubs with us to see how many snakes we could kill. We had knives called "tote-stuffers," and we'd try to hang a lot of snakes on the fence. If you were barefoot, you were stepping on them. They were just thick everywhere. When you went along the highways and roads out in the country, there were always snakes coming across the roads. You never see one anymore.

HABITAT LOSS/CHANGE

G.R.: One reason fish numbers are down is the habitat is going. The deep water is gone in the backwaters. Sand has filled in a lot of the backwater. That was more of a mud base and more of a spawning area. I hear so much about that we've got to hold this environment, we're losing this environment. How come the environment's going? The environment we see out here was created when the pools were flooded. All that is happening now is the river is filling in and getting back to where it was prior to the pools being flooded. The only thing is that it is six or eight feet higher depending on how much water is being held back. Sure, the habitat is going, there's no doubt about it. I don't see where there will be any change unless they fill the pools more, which they will never do because of all the development right at the water level. It is going to gradually disappear.

R.S.: When one looks at Pool Six, one of the biggest impediments that changed the landscape up there was the railroad track, which was built in about 1860. When they put something like that up along the river, you're going to change the course of the river. When they went up there in Pool Six, they separated that area there and called the one side the Delta Fur Farm, and now it's the Trempealeau National Wildlife Refuge. The locals up there call it "the delta." Now, they're putting barriers in there and they're going to do some research on plant life in that area. When the railroad track was put in, I imagine the river flowed on both sides of Trempealeau Mountain. I went by a farm up there and the guy excavated to enlarge his barn and he found animal prints from long ago, hidden way down. They found fir trees, thirty or forty feet down, so there must have been big flowage up there at one time. The Indians and early settlers called it "Sunken Mountain," because you had water on all sides. That has been filling in since they put the tracks in. The Trempealeau River was one of the best pieces of real estate, right around the park there. That is where all the Indians camped - a real scenic and spiritual place. They could look out and see a big bay that stretched way up. They could see elk; they could see everything. Gradually, that has all filled in. Now, there's just a bay where you can see the bottom. The Trempealeau River comes right down and it is narrow. At one time, it was one huge bay. When I was a little shaver, we camped right there. My mother always liked how you could look and see that it was all water there. Now, it has wild rice, swamp potato and cattails and everything up through that country. It's all filled in and it's just a change in habitat.

G.R.: I've got a law book here from grandfather. He was a game warden in 1913, and he had this law book, and in the back of it, he wrote the town or city that was within his jurisdiction and he put a notation in there of the complaints he got for the year. Well, his jurisdiction ran from the mouth of the St. Croix River, which is Prescott to the

mouth of the Wisconsin River at Prairie du Chien – about 150 miles of river. One of his notes in there says “‘Brownie’ Max Coolis rides his big white horse shooting muskrats in the spring on hay meadows below east Winona. I knew Brownie when I was a kid. I easily caught several hundred pounds of fish off those same hay meadows Brownie was riding a horse on. If I live another fifty years, I’ll probably see hay meadows there again myself because it is filling in so much. My dad, who grew up in Fountain City, talked about the low water in the summer. Kids used to walk across the river in Fountain City. Guys have talked about walking across the river here in low water in the middle of the summer. Steps are being taken to prolong it, but it’s going to happen. Probably from the Trempealeau dam here to Winona, in the backwaters, you couldn’t even see the channels where there used to be sixteen feet of water. I could show you probably fifty or sixty different places that now only have three feet of water and some are dry sandbars or mud bars. That is just natural filling in. People get excited when they see weed beds growing up. The river has been filling at the same rate all along. But there’s just a few of us out there that saw it twenty years ago, and now can see a hole filled in from twelve feet to eleven feet to ten feet and so on. Each year it filled in more and more. It’s just those of us, like commercial fisherman, that your livelihood depends on knowing how deep it is.

- G.R.: As far as losing habitat and stuff, it’s your natural siltation that is taking effect. A lot of your shorelines – bigger and bigger boats are coming on the river everyday – and they throw high rolling waves that chew on the shorelines. A lot of the shoreline is getting cut out under the trees and roots. Trees are falling into the river. Towboats get blamed because they do throw a lot of water when they go by, but the wave of a towboat is slow and easy. It doesn’t have that rolling action like surf. These cruisers have that rolling action. After a cruiser goes by, it’s just muddy along the shoreline. It’s a trend that has changed in the river.
- G.R.: Dredging gets blamed for loss of habitat, and it has lost some habitat. There have been some places where sand was put out on an island, and it washed back into the river. But, then these sandbars were created, and they are the ultimate recreation for people out there.
- C.F.: Now, at the time when I was a little kid, there was a humongous amount of dredging going on. They dredged the whole river, all the way from Hastings, down to Saint Louis and on down to Alton, Illinois. Often in the summertime, the dredge would operate right out here. Well, what happened was all of these banks out here that you see, out across the river over there, that’s all dredged in. At the time in the ’40s, we had a beach out here that extended about 150 feet. This was solid sand because it had been dredged for in a whole number of summers. It stretched all the way down about 1500 yards, and it was all sand. Those islands out there were all dredged in when I was a little kid. Now, that island used to extend up here at least another 300 yards probably, and that has eroded away. Now, they got spoil sites for the dredge. The Corps of Engineers cannot arbitrarily dump sand anymore. I remember in ’41 or ’42 that the cottage goes really lobbied for the sand. My dad was a sportsman. This was not for him because as a sportsman, there were certain fishing holes that he had been using. But, there were more people that wanted a beach than those who didn’t. Well, in those days, they would just arbitrarily bring the dredge in, the dredge Thompson, and they would just start pumping, and they would pump it anywhere. I

remember when I was a little kid: there was no growth, there were no trees over there (across the river). All these islands were just sand islands. Somewhere, the whole concept was changed and now they have to drop their sand spoils in certain sites.

- G.R.: People are getting excited about loss of habitat that was manmade when the pools were flooded. I remember my dad talking about the old timers saying that “When they put them dams in, it’s going to ruin the river. There’s not going to be any fish or anything in the river anymore.” A week before my dad died (twenty-seven years ago) he would have told you there’s a lot more fishing habitat and wildlife on this river than there ever was prior to the pools being flooded because there is a series of basically creeks and sloughs with dry land on both sides. You didn’t have that big mass of water area, flooded area, where you have that big spawning area. You’ve got muskrat habitats. You’ve got waterfowl habitat. You didn’t have that as much as you’ve got right now. But, no doubt we’re losing it.
- R.S.: I can visualize it, what it was like before the dams. Lake Onalaska was just four or five sloughs, and there were farms all over. I talked to men that farmed up there and they told how the government came in and chased them off the land and gave hardly anything for it. Below me, in the bottoms at Trempealeau, was farm too. There used to be farm machinery way out in there. Originally, they farmed corn and wheat, stuff they have today. When the settlers came in, they really didn’t know what to do, so they had little plots where they grew wheat, just using a horse and a little plow.
- G.R.: The habitat is going back to what it was. Anytime you slow up a fast moving river, it’s going to drop the sand it’s carrying. That’s what the locks and dams do. There’s an island across from us here (in Trempealeau). It was a high island, but it’s on the lower end of the pool. The dam is only a mile down stream from us. This area was not affected as much because it was not flooded as Winona was. It’s reverting back. Instead of the elevation being 645 feet in the channel, it will probably end up being 648 or 650 feet above sea level just because it’s filled in that much.
- G.R.: I don’t think they can change the habitat again by raising the channel level. When they originally built these locks and dams, they had to buy the land they flooded from the people who owned it. The government actually bought the land. Now, you have established developments along the river. If they flooded now, they would have to buy out \$200,000 homes. They can maintain a nine-foot channel through dredging. They do a lot of different types of dredging now. They haul it out of the river basin and into a containment area, where municipalities haul it out for fill. Highways use it for sanding roads in the winter. The nine-foot channel can be maintained. The Corps of Engineers, the DNR and the State have put in wing dams in different areas, replacing old wing dams that were washed out or sanded over, which actually deterred the river. It made it straighter in some places so you didn’t get the silting action. When I was on the dredge *Thompson*, we dredged twice a year along the Lansing area. They changed wing dams and cut dredging down to ten percent of what it had been just by using those wing dams to channelize the river.

- R.S.: One of the biggest problems on the Mississippi today is sedimentation. A lot of it comes from the Chippewa River. You get big flowages that come down from the river up there. This stuff is always shifting. The river is constantly changing, a fluid life form. The river is not apart from the banks, because that is where everything comes from. Erosion was a major thing that people didn't do much about until after World War II. We lost a lot of our best soil due to floods. We had a tremendous flood in the early 1950s that washed out trout streams and everything that was in those streams.
- G.R.: The silt that comes into the river now is different than what it was before the pools were flooded. It is a sandier silt than what it was originally on these islands. On a lot of these islands there is this really heavy gumbo. It's like clay; it's real fine and real hard. When the banks erode away, they don't slither away like sandbar. Big clumps erode away, almost like a glacier. There will be more sand deposited.
- C.F.: Most of these wing dams, when I was growing up, when the river was down in July or August, the wing dams were still visible. But, they weren't visible to the point where you could walk out on them – just a few rocks here, a few rocks there. Well, the wing dams were constructed with willow bundles and rocks on top of them. The reason why we don't see this anymore is that the bundles have rotted away and rocks have compressed – the rocks are still there, but the willow bundles are gone. What I remember is that most of these dams had rocks on them, and now there's only a couple. If it's gets low enough, sometimes we will see them. They're great fishing holes.
- G.R.: When I was a kid, Telegraph Island, between that and Jack's Slough - I grew up in this area. When I was a kid, there was a big ice breaker pier in the river and through the years, it started tipping over and washed down. There used to be a minimum of twenty feet of water out around that pier and across. Right now, where that pier was, there is a sandbar that tails all the way down here. There is a sandbar probably three hundred feet long where the water used to be twenty feet deep. Right now, it's all sand bottom or real soft mud. Depending on if the current brought the sand in and dropped it or if it was where the current was already slack before the dirty water got in there. If you've got an area that has current, then it deposits sand. If you get into slack water, then of course it's going to deposit silt, the soft stuff, the mud, and then your vegetation comes from that. I can take you real deep into these sloughs. Take Rogers Slough here - it used to have real deep water when I was a kid. I trapped there again this fall and there is maybe three feet of water in the deepest area. In the Upper Backyard Slough, we used to pull seine lines in there and it was about twelve to fourteen feet deep. Right now, the deepest I can find in there is probably six feet. Now, the gap to get in there is just a little strip of opening.
- G.R.: I remember one of the first years I was on the dredge *Thompson* we had high water and couldn't dredge on the river. We went right up in the mouth of the Chippewa and dug a great big hole with the dredge. The next year, you couldn't even find that hole because it filled in. I don't know how many thousand cubic yards we pumped out of there a year later. The volume of sand that comes out of there is phenomenal. You see, the Chippewa empties directly into the Mississippi. It doesn't run through a delta like the Trempealeau, and even the Black River sort of does.

LOOKING FORWARD / LOOKING BACK

G.R.: Well, obviously, a big change came in just the building of the dam. It was the depression era, so a lot of work was created – it gave people jobs. I think there has been a lot of income created off the river. There has been a lot of income for guys like me who have a job and who want to go out there, play around and catch a few fish or muskrats – added income stuff. Well, just directly related to the towing industry, with elevator work and harbor work with boats, there are a lot of jobs to be had there too. With the Corps of Engineers, there were a lot of extra jobs created on the lock and dam themselves. Lock Six has put a lot of money in the economy of Trempealeau from the time it was first being built until today. My check comes here; I buy a lot of stuff in Trempealeau. Recreation on the river was helped by the lock and dam, and that benefits the river towns too. You look at the nice marina we have down here and all the boats and revenue that that brings into Trempealeau and the surrounding areas: hotels, restaurants, everything. For small towns like Trempealeau, this is the biggest asset we have, that river out there. I don't foresee that happening with a normal flowing river. We wouldn't see those big cruisers. Sure, we would have people in canoes like the Chippewa and the Black Rivers do, but we wouldn't see nearly as much money coming in. It has been a real economic boost.

CONCLUSIONS

FISHING

From the information gathered and presented here, it can be concluded that changes, some more significant than others, have occurred with regards to fishing since the construction of the lock and dam system in the 1930s. All of these changes have not been negative in nature, as some have augmented certain aspects. For example, with the creation of the lock and dam system, the amount of commercial fishing has increased because of pool creation and an expanded area of aquatic habitat.¹ Sport fishing has also been affected by the pools. Right after construction, the fishing in the river was outstanding. In a letter to President Harry S. Truman, Clarence Fugina, a respected lawyer and sportsman in the Coulee Region relates how the fishing changed prior to the damming of the river. Fugina writes,

The dams were built and the nine-foot channel was established. It looked as though the dreams of the sportsmen had come true. The upper Mississippi River had always been a pretty fair fishing and hunting stream, but for a few years after the completion of the dams in the Nine Foot Channel Project, it became a hunter and fisherman's paradise. ...The sportsmen along the river were happy. Nothing was done to improve fishing or hunting by any of the departments who had so promised, but it wasn't necessary. The dams kept a stable level, fish multiplied...in the backwaters.²

Nearly all of the fish that existed in the upper Mississippi River before construction remained with but a few exceptions. However, many of the fish that were unable to propagate in the new habitat were not fish seen as being key to sport or commercial fishing. Deborah Bua writes,

Lock and Dam #6, finished in 1936, created a barrier to the upstream migration of many fish such as the paddlefish, skipjack, American eel, Ohio shad, buffalo fish, shortnose gar, freshwater drum, carp, shovelnose sturgeon, three kinds of catfish and the blue sucker. Populations of these fish dropped dramatically upstream from one dam to the next. The spawning of the skipjack, blue sucker and Ohio shad was

seriously affected. The blue sucker was completely lost on the upper Mississippi. The decline of the skipjack also affected the niggerhead mussel which uses the fish as host for its larvae.³

It can be argued, however, that Lock and Dam #6 is not specifically to blame for the loss of many of these fish. As early as 1913, with the construction of the dam at Keokuk, Iowa, fish such as the paddlefish could migrate upstream. The dam at Keokuk contains the Des Moines Rapids that make it nearly impossible for fish to travel through here.⁴

Harriet Carlander notes that "the effects of the dams on fish and fishing in the river probably have been more qualitative than quantitative. The change of the river to a lake habitat has favored some species while working to the disadvantage of others."⁵ She also notes that while more fish may be present, fishing may be seen as more difficult due to the presence of submerged snags which hinders their ability to successfully catch large amounts of fish.⁶ From 1894 to 1922 more fish were caught and sold per year than any year after 1930, which shows that perhaps the pre-lock and dam habitat was superior for fishing than what exists today.⁷ However, the number of fisherman on the river has decreased greatly mainly due to the deterioration of the fish market, not necessarily because that fish numbers as a whole had gone down. As George Richtman consistently noted in his interview, there is hardly any fish being caught and sold anymore because of the lack of a market, and is not necessarily an environmental problem.

HABITAT LOSS

From the information gathered, it can be surmised that a great deal of change in the river habitat has taken place since the construction of lock and dam system. The main issue dealing with habitat loss is sedimentation and siltation. Coming in from tributaries like the Chippewa and Trempealeau Rivers, as well as shoreline erosion caused by boats and dredge spoils, the amount of sediment in the river consistently changes the habitat in the river. A prime example what sedimentation has done to the river habitat is the condition of Trempealeau Bay. Trempealeau Bay was once a prime recreational spot, but the Trempealeau River was diverted into the bay in the early 1900s, and sand and mud bars began to develop.⁸ Soon, Trempealeau Bay became a swamp. The nine-foot channel was seen as what could save the bay, and was cleared in 1936.⁹ However, it was short-lived as the bay once again filled in, and is now a marshy land rarely used for fishing or boating. What happened in Trempealeau Bay is not a direct result of the lock and dam project, but is a clear example of what is happening on the river as a whole. Bay, harbors, sloughs and other openings are filling in constantly, taking away much river habitat. Before the lock and dam system, the river was filled with many sandbars and marshy areas. Now again, we are seeing this as the river is merely reverting back to what it once was.

The habitat after the lock and dam was constructed was seen as ideal in many ways. However, it only lasted for a few short years, as in the winter of 1941-42, massive draw-downs took place in the upper Mississippi River. Clarence Fugina explains the effects of the draw-downs in his letter to President Truman. He writes,

Then came the so-called war time necessity. In the winter of 1941-42 the War Department decided that it needed the water in the pools on the upper river to provide additional water for transportation on the lower river. After the freeze-up that fall they drew down the pools to the old river level. Sportsmen were shocked, but answers to their inquiries were that it was a war measure. This draw-down was repeated in the winter of 1942-43 and in the winter of 1943-44. The kill of fish in

the pools, according to reliable observers was almost unbelievable. The back waters went dry. The ground froze, plants providing duck food were winter-killed, and the effect upon the fur bearing animals of the area was disastrous.¹⁰

Along with sedimentation, dredge spoils also contributed to the harming of the environment right after construction. Calvin Fremling, Donald Gray and Dennis Neilson, in their study at Winona State University, observed that although water area was increased, it was not used effectively. They write,

...within five years of the dams' first operation, this potential was not realized due to the dredging and sedimentation of sands and silt and the increase of industrial pollution. Fish spawning areas were covered by dredge spoils or became silted in. Slough openings and wildlife habitats were destroyed due to silt and sand accumulation on the flood plain; the pools themselves were filling fast. Spoils were placed on the closest convenient area, usually marsh lands. This process became continual, accumulative and irreversible.¹¹

Backwater deterioration is another key problem for the upper Mississippi River. Without a good backwater habitat, the propagation of life becomes difficult and constantly at risk. Siltation is one problem, not only because the amount of water decreases, but so does channel size. With the decrease in channel size, high water in the spring is more likely to harm the channel and the banks, which would tear fish spawn from the banks or a dead tree. Spawn needs somewhat stagnant water, and if high water comes through, it will do great harm. Pollution is also a problem in the backwaters. Bua writes,

Since Lock and Dam #6 was built, the backwaters have deteriorated due to pollution. The pools of the lock and dam system themselves act as sewage lagoons, which help decrease pollution downstream. However, this situation can become unsightly and unpleasant to recreationalists and nature lovers. Winona, Minnesota used to emit great amounts of sewage into Pool #6. A new treatment plant built in 1972 greatly helped to decrease the pollution flowing into the river.¹²

A positive to come out of the construction of Lock and Dam Number Six was the increased size of the Upper Mississippi Wildlife and Fish Refuge. Land needed for not only flowage purposes, but for conservation purposes as well was purchased by the federal government.

¹ Elkins, *Trempealeau*, 22.

² Fugina, Clarence to President Harry S. Truman. Personal Letter. 10 October 1945.

³ Bua, *A Little History*, 24.

⁴ Elkins, *Trempealeau*, 21.

⁵ Carlander, Harriet B. "History of Fish and Fishing in the Upper Mississippi River," (Upper Mississippi Conservation Committee, 1954) 22.

⁶ Carlander, "History of Fish and Fishing," 22.

⁷ Bua, *A Little History*, 24.

⁸ Elkins, *Trempealeau*, 22.

⁹ *The Galesville Republican*, 14 December 1933, 5.

¹⁰ Fugina, C., Personal Letter.

¹¹ Fremling, Calvin R., Donald V. Gray and Dennis N. Neilson. *Environmental Impact of Pool Six of the Northern Section of the Upper Mississippi River, Phase III Report* (Winona: Winona State University, 1973) N.A.

¹² Bua, *A Little History*, 22.

GENERAL

In summation, there have been many changes that have taken place on the upper Mississippi River at or near Trempealeau, Wisconsin. Obviously, some alterations, such as those dealing with habitat are more serious than others, but nevertheless, changes have occurred in nearly all aspects of the river environment. From the declining population of river snakes to the rise of the zebra mussel, changes are constantly taking place on the river. Many of these were caused by the construction of the lock and dam, however, some are merely natural changes in the environment that occur all the time. As seen with the excerpts from the oral history interviews, the opinions of each person varied according to their own personal experiences. The river means many things to many different people, and there is not set opinion on what has gone on in the last sixty-five years. Each person interviewed saw the river in a different light and the changes that have taken place affected them differently as well. Nevertheless, things have changed and will continue to be altered as long as the Earth keeps spinning.

LIMITATIONS

With this project, there were very few limitations that came into play. The foremost limitation is the amount of time one has to interview people. Ideally, the oral historian would like to interview twenty or thirty people in order to get the most diverse and most accurate portrayal of history, but that is impossible, so one must get by with what they can manage. Furthermore, it is difficult to find historical sources on the environmental history of the upper Mississippi River because many of them are science-oriented. Others only briefly dealt with the topic and differently than I had hoped. What was attempted here was a historical document, not one for the sciences. This is why oral histories are so important to a project like this because those who live, work and play on the river are those who can give the most accurate information regarding changes because it affects them nearly every day.

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This is the upper level of the house located in Trempealeau right off of the Great River State Trail and Perrot State Park. It is 2 miles away from the Mississippi River and the Lock and Dam. Other attractions in Trempealeau include Elmaro Winery, Eckers Apple Orchard, the Wild Life Refuge and the Historic Trempealeau Hotel. Read more about the space. Contact host. Amenities.

The Mississippi River is one of the world's major river systems in size, habitat diversity and biological productivity. It is also one of the world's most important commercial waterways and one of North America's great migration routes for both birds and fishes. Native Americans lived along its banks and used the river for sustenance and transportation. Early European explorers used the Mississippi to explore the interior and the northern reaches of what was to become the United States. Fur traders plied their trade on the river and soldiers of several nations garrisoned troops at St. Infobox River | river name = Upper Mississippi River caption = The Upper Mississippi River near Harpers Ferry, Iowa origin = Lake Itasca, Minnesota coord|47.253|N|95.212|W| mouth = Cairo, Illinois (flows into Lower Mississippi River) In terms of geologic and hydrographic history, the Upper Mississippi is a portion of the now-extinct Glacial River Warren which carved the valley of the Minnesota River, permitting the immense Glacial Lake Agassiz to join the world's oceans at the Gulf of Mexico. The collapse of ice dams holding back Glacial Lake Duluth and Glacial Lake Grantsburg carved out the Dalles of the Saint Croix River. "The Upper Mississippi River valley likely originated as an ice-marginal stream during what had been referred to as the "Nebraskan" glaciation.