

Vol 4 Issue 1

Spring/Summer 2014

# The Montana Steward

Free



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MontanaTech

Clark Fork Watershed Education Program



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April is Earth Month

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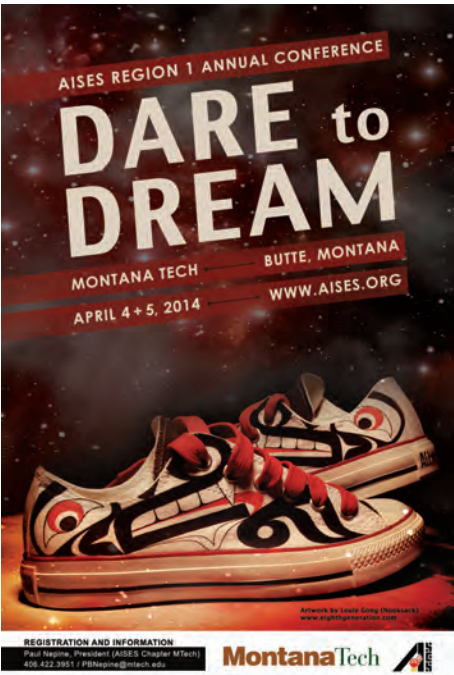
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# American Indian Science and Engineering Society

By Matthew Sparboe

Vice President of AISES  
“American Indian Science and Engineering Society” at Montana Tech.

I am a Northern Cheyenne Petroleum Engineering student. I was born in Crow Agency and raised in a small town, Joliet Montana. Both of my parents got their GEDs before graduation. I will be the first person from my family to graduate from college. Half of my cousins are incarcerated; last year one of my cousins was on the television show “Dog the Bounty Hunter”. The first time I saw my aunt was on an episode of “Cops.” My parents emphasized the importance of higher education when I was young, and if it wasn’t for them, I’m not sure where I would be today. My road to college wasn’t as traditional as most of my colleagues, but I feel my experiences have made me stronger. I was drawn to AISES (American Indian Science and Engineering) because of their mission to substantially increase the representation of American Indians and Alaskan Natives in science, technology, engineering and math (STEM) studies and careers. I know first-hand how education can change the course of your life. AISES has a national membership of over 3,000 students and professionals. There are chapters in all fifty states and we hope to grow the membership even more. The Montana Tech student chapter has been working hard to help realize this mission. Montana Tech is hosting



the AISES Regional Conference entitled “DARE TO DREAM”. We are encouraging students to dream of higher education. We hope to show high school students what is possible through education. We will host two days of events with educators and with industry employers. The Native American representation in the STEM fields has been low in comparison to other ethnic groups. AISES students believe this can change. Native American students often offer a fresh perspective to technical problems. Native students help to innovate whatever industry in which they work because of their unique perspective. Our region consists of Natives from British Columbia, Saskatchewan, Alberta, Washington, Oregon, Idaho, Wyoming, and Montana. We have invited students from our region, and we are hoping to have two hundred students in attendance. AISES at Montana Tech will continue to network with other Native students from around the country. Mostly we hope to impact Native High Schools in a positive way. We want to encourage students to continue to higher education. If we can impact the life of just one student, than all of our work will be worth it. I plan on graduating next year and remaining an active member of the AISES community. We encourage as many people to attend as possible. If you would like any information, please email me at msparoe@gmail.com.

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and said, I'm looking for something on the Rocker Treatment plant and again we just didn't have anything. Several months after the second request, a man came in and said "I found this document in my aunt's stuff and I have no idea why she had it." He hands me a document about the Rocker treatment plant. So there we are and there it was. I was able to call back both people who were interested in the Rocker Treatment Plant and share the new finding.

We've seen a lot of fascinating things here. It's really interesting because a lot of times people think that history is over, that we know everything that happened, that the books have all been written. Every day in our work we learn something new about the history of our community. Every month a new collection comes in that informs our history in a different way. I think that has been the most exciting component of our job, discovering how vibrant and interesting history really is. It is incredible to see who uncovers new information and how those pieces are interpreted.

*Cfwep.Org: What are your thoughts on the transition of the Clark Chateau, formerly the Arts Chateau?*

Our job is to do a preservation and restoration plan on the building in order to determine what needs to be done to ensure that it's stable. We will be putting out a request for proposals to solicit architects and engineers for that plan. We're also looking at grant funds for the restoration of the interior of the building. The outside of the building is in pretty good shape. We recently had a series of experts come in to work with the team to help us clean the building in a historically sensitive way. We also have had a textile expert look at the textiles. We have it for a year. Our role in this year is to ensure that we get a restoration and preservation plan in place, and get the government to approve and implement the plan over the next five to ten years. I believe the government needs to take responsibility for implementation of the preservation plan.

We are going to keep the Chateau open on the weekends and possibly a little more in the summer. We had a Santa Claus exhibit, which brought in more than 300 people and over \$500 in eight

weeks. We have a series of exhibits planned for the first year, including fashion, historic textiles, and clothing exhibits. We are also going to host a tea, which will be a fundraiser.

We will start our public meetings at the end of February. The purpose of the public meetings are to engage community members in discussion about what they want that building to be, what purpose do people see for the Chateau, what role will the Chateau have in the community? After the meetings we will solicit proposals. We've had a lot of interesting ideas come our way. We're hoping people will step up and bring some interesting ideas to the table. So far, museums, arts, and textile people have been interested in the Chateau. Some people who are interested in the humanities (have expressed wanting) a place to sit and talk about a variety of subjects.

When I looked at the reports from the Butte Silver Bow Arts Foundation, it has historically been a struggle for the organization to be financially responsible for the building, specifically, the maintenance, restoration, and preservation aspects of it. Arts organizations struggle on many levels. I think that the relationship with Butte Silver Bow and the lease agreement have to be different than it has been in the past. We need to approach this in a much different way. I think that during this time, my goal is to make sure that that building is safe and able to be used in the future.

We're excited about this Chateau project because we work a lot with the other museum and arts organizations in our community. We feel that our partnership with these organizations makes the Archives stronger. Our role is to ensure that these organizations have as much as they need to grow and be strong. We currently work with the World Museum of Mining, the Mai Wah, the Mother Lode, and the Butte Symphony. We work to ensure that they have every resource we can give them, and they, in turn, contribute to us. These relationships make a big difference.

*Cfwep.Org: What do you see as the fu-*

*ture direction of the Archives?*

Ellen: In general, archives have a role in preservation and maintenance of the historic record of a place, whether that be for an organization or a community. The Butte Silver-Bow Public Archives serves in this role for Butte. We are told all the time that we are the mecca of Montana history, which is a big role for us. Also, Butte has a huge role in the nation's history, so the preservation of our materials is critical. Another big facet of our mission is to provide public access to the records.

When scholars come to the Archives, they still come with their pencil and paper sometimes, but more often, they come with scanners and laptops. Scholars want access to historical records in different ways now. Over the last couple of years we have been digitizing upon demand. For a scholar in Wisconsin, it's cheaper for her to pay someone to digitize a collection of papers here for her use in Wisconsin, than to fly here and stay here for six weeks. So she has the group of records digitized. We then hold a digital copy as well as the manuscript. More documents will eventually be available online. This year we launched our website. We have been transcribing our hand written documents into a database. Our catalog and our digital collections are now online and freely accessible.

Through grants developed by Aubrey Jaap, we were able to put the Montana Memory Project, which includes the Hauswirth Papers, online. Hauswirth was a dynamic leader in our community. He published a little newspaper for Butte. He went all over the country soliciting business in the '30s and led a "Cleanup Butte campaign." He had a little Dutch girl for a symbol so people dressed up as little Dutch girls cleaning everything under the sun. Separate from the Montana Memory project, we have extensive collections that include images online.

Archivists are really worried about the digital world, because digital things are ephemeral and once software changes, if you aren't migrating everything that is digitized in one group of software into the new software, you're in real

trouble. Migration is a huge problem and digital materials are unstable. The world is creating records in this unstable digital format. It's very unnerving to the archival world that our time may become lost to historians because we can't capture all those zeroes and ones in the way they were created. Worldwide, archivists are working to resolve these issues and we're certainly at the cusp in many ways.

*Cfwep.Org: Recently, uptown renovation seems to be on the upgrade. What is your perspective on uptown improvements?*

I was invited to go to the Garden Club in the Gallatin Valley. Joan Hoff is a woman from Butte who is very wonderful. She sits with presidents of countries and is a scholar and an academic at MSU and at NYU. She invited me to talk to her Garden Club about Superfund. I asked her if I could bring Sara Sparks, the head of our Superfund here. The earrings on one woman in the audience would fund Superfund! I talked about Alma Higgins and about the women of Superfund because it's a very interesting, important topic. When Sara started talking, she had the attention of every single woman in that room. These were people who are highly educated, whose husbands are head of Phillip Morris and Merck, they were well-heeled. Every single question went to Sara, they were fascinated and enthralled. They mention "We were there for the Folk Festival, we didn't know if it was dangerous or not". Sara started to talk about the clean-up and suddenly, there's a completely different, much more positive way they perceive our community. During the talk, it occurred to me that we really need to market our community in a completely different way than we have been marketing it in the past. We should not leave any question that could be easily answered by our scientists out there unanswered. To continue our growth, we need small manufacturing and small businesses, powerful small businesses that come well-funded.

People should feel lucky they get to come here. The sun always shines here, it's beautiful, and it's fascinating.





# Voices of the Watershed



Frank Gardner

Interview with Frank Gardner  
by Rayelynn Connoles

The "Voices of the Watershed Series" features interviews and perspectives of various community leaders, citizens, technical advisors, and scientists who are willing to share their perspectives and opinions about the on-going restoration efforts throughout the Clark Fork Watershed. The goal of this feature series is to include perspectives from multiple viewpoints and from various stakeholders. As always, the Cfwep.Org program remains neutral and informational in our position regarding issues related to the restoration. The opinions and perspectives presented by the interviewees are reflective of that person and not necessarily those of Cfwep.Org or its partners. Our goal is to create an active and informed citizenry who are able to make decisions based upon scientific fact. We believe that sharing multiple viewpoints regarding the restoration process is a means to achieving this goal. We hope you enjoy the series!

For this special edition of the Montana Steward, we are pleased to interview Frank Gardner about his recollections of the events leading up to turning off the pumps in the Kelley Mine shaft. Frank Gardner is the former president of Montana Resources and was the General Manager of the Berkeley Pit.

Pam Roberts, director of the film, *Butte America*, once commented to an audience of history teachers that, "everyone in Butte is an amateur historian." This sentiment rang true to my ears as there are multitudes of stories told about the day the pumps were turned off and the resultant filling of the Berkeley Pit. These stories range from the clearly outrageous, "It was all a conspiracy!" to the very pragmatic, "Well, what were we going to do? The mine was going to close." We elected to call upon Frank Gardner to gather his perspective about turning off the pumps and the eventual re-opening of the mine. We are grateful to him for sharing his memories with

us.

I was born and raised in Butte and worked in the mines throughout my life. In 1974, I was the superintendent of the Berkeley Pit. At that time there were many problems with the mining operations, including lack of profitability, labor conflicts, and a host of environmental issues. It seemed that there wasn't much of a future for the mine. I left Butte to work in Tehran, Iran at a copper and molybdenum mine. My wife and I were there for three years, and in fact, my twin girls were born there. I left Tehran, Iran to take a management position in Canada at another copper and molybdenum mine.

In 1979, Dan Rovig asked me to come back to Butte to manage the Berkeley Pit. I was cautious because I wasn't sure that I would have the authority to do the things I knew would be necessary to run the mine effectively and profitably. The problems that were present prior to ARCO's purchase of the Anaconda Company in 1977 were still present. There continued to be lots of problems between management and labor. Additionally, the environmental issues were pressing, power was quickly becoming more and more expensive, and taxation was heavy at the time. I knew that if I were to return to run the mine, I would have to make some very difficult decisions, including layoffs, which of course are never easy. After Mr. Rovig assured me I would have the authority to make the difficult decisions, I returned to Butte late in 1979 to the challenge of making this mine profitable.

One of the first studies we conducted was to determine if we could complete near-surface block caving at the Kelley mine. ARCO eventually spent two years and millions of dollars to complete a feasibility study to determine if near-surface block caving would work in this area. In the case of the Kelley, the area was a honeycomb of shafts and stopes, which were supported

by timbers. In addition, as they mined the area, they used the cut-and-fill technique in which tailings are added to support the ground after the ores were removed. In order to complete block caving, the miners would collapse an area and remove everything within a certain section, which of course, would include the old timbers, tailings (previously used as fill), waste rock and ores. To extract the ore from everything else was not economically feasible. It was estimated that the area being proposed for block caving contained upwards of 15% timber. There was also subsidence in that area, which of course, would have increased with additional block caving. The study ultimately proved that block caving was not possible in this area.

The next event that heavily impacted the mining operations was the closure of the Anaconda Smelter in September, 1980. All of our copper concentrate was being shipped to Anaconda for smelting. With the closure of the smelter, we no longer had a buyer for our concentrate. The management of ARCO, who were located in Denver, entered into a contract with the Japanese to ship our concentrate to Japan for smelting. However, the quality of the ores deep in the Berkeley Pit was not as high as earlier extractions. It was considered a dirty concentrate due to high levels of arsenic and zinc. Other buyers didn't want the concentrate at all, and the Anaconda option was no longer there.

In 1981, as a direct function of our lack of buyers for concentrate, we had to lay people off at the mine. When I returned to Butte to work for the mine, there were 1,300 people employed in the mining and milling operations. These were good people and good workers. It is never easy to lay off people and at the time, relations between management and the workers were not good. Wild cat strikes started to plague mining operations during this time. It was difficult to get both parties to come to a solution that would enable us to keep more

people employed.

So now, we have a concentrate that is not saleable, and we need to identify higher quality areas in the mining district. Coupled with these issues, copper prices were declining. It was the beginning of a perfect storm. We started looking at new areas to mine, which incidentally, are the areas we are currently mining today. The quality of the copper concentrate was excellent, and these areas had the bi-product credit of molybdenum (moly), which was profitable. However, to develop this new area, would take money and time.

ARCO was spending \$10 million per year to pump and treat water from the Kelley mine shafts. At this time, the environmental issues were also coming to the forefront. The pH of the water coming from the shafts was between 2.0 and 3.0. We were allowed to discharge that water to Silver Bow Creek as long as it was in range of 7 to 11 pH, which was accomplished by adding lime. We knew that this standard would not last. We knew that additional water treatment would be necessary, yet at this time, there was no design for a plant to remove the other contaminants. The technology did not exist to treat large quantities of contaminated water.

One of the studies we conducted at this time was a groundwater study. George Burns, Chief Geologist of the Butte Operations with the Anaconda Company, helped us to forecast what would happen if we were to stop pumping. He determined the voids, direction of water flow, and how long it would take to fill the Berkeley. The Berkeley is down gradient from the mine shafts that were filling and would serve as a sink or reservoir for the water. By allowing the Berkeley to act as the catch basin for the water, we would have time to develop the treatment technology to ensure that our future water discharge would meet or exceed strict discharge requirements. ARCO elected to suspend underground

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(cont. from page 8)

mining operations and turn off the pumps in the Kelley based in part on this study. In March of 1982, we gave the order to bring the men up from the mine and the Berkeley Pit manager, Rick Ramsier, gave the order to turn off the pumps. I am not sure who was actually at the switch that day, and really, it doesn't matter. The decision to turn off the pumps was a long time coming and was a thoughtful one. We had done our studies, we had considered the options, and we gave our recommendations. Ultimately, it was the ARCO leadership team who made the final decision to turn off the pumps. However, it wasn't a decision that was made lightly and without input from the various stakeholders. Butte people had the impression that if we weren't pumping, there wouldn't be a mine. However, we were developing the new pits at the time, so this impression was unfounded.

After we shut the pumps down, we started working with the state and the EPA (Environmental Protection Agency) to determine when we would have to start treating the Berkeley Pit water for discharge to Silver Bow Creek. It was the state and ARCO who determined the critical water level, which of course, will be reached in the Anselmo mine before it is reached in the Berkeley Pit itself. The time that it would take to reach the critical water level in the Anselmo mine would give us time to develop appropriate treatment technologies. The state and the EPA were agreeable to this decision to store water in the Berkeley Pit and protect Silver Bow Creek in the meantime. We were literally between a rock and a hard place. I knew that we'd need to treat the water and that wasn't feasible at the time.

We were working closely with ARCO management, local leadership and the state to determine the best course of action. I recommended to the ARCO management team that we open the accounting books so that the public would be fully informed about the losses we were taking by staying open. I always had the feeling that

we would have to shut down the mine in order to address the problems and be able to create a profitable mine. At first, ARCO was resistant to opening up the books, stating that it wasn't anyone's business to see how much money we were losing. I pushed on this because I knew that if people could see what we were facing, they would understand the issues we needed to solve in order to be running.

In 1981, we lost \$65 million, and \$35 million in 1982. Despite our many efforts, the study to look at new developments, and our work with the labor unions, ARCO had decided to get out of the mining business. They would eventually spend \$1.1 billion to do so. In January of 1983, we announced that we would be closing the mine, with the final shutdown coming in June of 1983. The national news agencies

called it the "end of an era".

The original plan was to shut down for a year and then

re-open. The year would give us time to resolve many of the issues that were plaguing us at the time. ARCO had another mine in Nevada that they would re-open during our shut-down, which would allow them to fulfill contracts they had for copper and moly. However, during the shut-down, copper and moly prices continued to fall. We started to look for someone to buy the mine, but established mining companies were concerned about opening in Butte. By 1985, we were becoming economically obsolete, with over \$10 million in taxes owed to the county and state each year.

After the closure in 1983, Don Peoples, Butte's Chief Executive at the time, announced the formation of a committee which consisted of representatives from Butte-Silver Bow, ARCO, labor, Montana Tech, the Bureau of Mines, and local business leaders. The committee ensured that there was some give-and-take on all sides. We needed a different tax structure. We needed a different

relationship with labor. The work of the committee was to find solutions that would enable us to re-open. I knew that we needed everyone at the table, and we needed to envision how to make the mine profitable. As I stated, it was our intention to re-open within a year, but due to the copper prices and ARCO's desire to get out of mining, it didn't happen as I had hoped. We still had a core group of people who believed we could get the mine going again. We knew that the mine had value and could be operable. We couldn't keep going as we always had. In previous years, we'd lose one month (about 30 days) on average per year due to labor disputes. Management and labor were not functioning as a team. We had to change our thinking. This time we were completely open with the books in the committee meetings. Everyone knew exactly how much ARCO was losing prior to shut down. We had total transparency with everyone involved. I believe transparency enabled us to think about the re-opening as a joint effort, with all parties contributing equally.

Barney Rask represented labor on this committee. In the beginning, he and I did not see eye-to-eye. At the end of it all, we became friends, but it was certainly not that way in the beginning. He was agreeable to the new plan, which meant a 40% cut in the base wage for everyone—the miners, the staff, and the management, but included the profit-sharing model that we have in place currently. Barney knew that the mine wouldn't open without profitability. He was able to eloquently describe the new system. In fact, during a dinner with union officials and management, when ARCO was trying to sell the mine, Barney described the old Anaconda Company as a tree with two branches. He said that one branch was management and one was labor. As the tree grew, the branches grew further and further apart. He went on to say, "It's time to chop the tree down!" The profit-sharing model we developed enabled us to get the mine going again, and Barney Rask was instrumental in helping to make that happen. ARCO's deadline for sale was December of 1985. As the deadline approached, they started looking at salvage options. They were going to make the mine obsolete by tearing down the crusher. Once the mine was obsolete, they would be taxed as a scrap mine, which would save them approximately \$10 million per year on taxes. Companies started visiting the mine to look at scrapping out the concentrator. Dennis Washington was one of the people who visited. He and his partner were in the salvaging business at the time. Despite the apparent writing on the wall, our people



still believed that the mine could re-open with the right buyer. We showed Dennis Washington around the mine, but our hearts were really about re-opening and not at all about salvaging. In September of 1985, Dennis Washington called us back and asked for a second tour of the mining property. This time he came alone and asked us if we really thought it was possible to re-open. I told him that there would be some years that he would lose money and some years that he would make money. He offered to buy the mine right there and then. We told him that we couldn't make that decision. He asked, "Who can make that decision?" We told him it had to be the ARCO team in Denver. He told us to contact the ARCO management for a meeting and to pack our suitcases because we were flying to Denver that day. The final sale of the mine was in December of 1985, barely making ARCO's deadline. At this time, copper was trading at \$ 0.60 compared to \$1.25 per pound in 1980.

In 1986, we began working to identify better contracts with smelters, decrease our tax burden, and finalize our labor plan. Once we'd cleared those obstacles in April of 1986, Dennis Washington said, "Let's go!" At the time the price of copper was at \$0.58. By the end of that year, copper was up to \$1.30 per pound. This price ensured that the workers had a good bonus that year, which cemented the profit-sharing model.

The mine had employed 1,300 people when I first started, down to 700 by 1983, and now the mine employs 350 people. In terms of turning off the pumps and filling the Berkeley, it was a heavy decision, weighed against the best scientific and engineering information we had at the time, as well as the social and political implications. We had to make changes, which are never easy. However, these changes allowed us to keep mining in Butte. I think the future is bright for Butte. The current mining operation is managed very well under the leadership of Montana Resources President, Rolin Erickson, and should be operational for a long time under the parameters that are in place now.

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*We visited with Don David, former resident of McQueen, who was gracious enough to share some of his thoughts on growing up in McQueen and his life.*

*By Abby Peltomaa*

**Cfwep.Org: Where were your parents born?**

Don: My parents were born in Butte. My grandparents were born in Italy. I grew up living next door to my mother’s parents, Carlo and Virginia Consoni. My father’s parents, I didn’t know, as my grandfather, Dominic David, was killed in the mines in 1903. My grandmother, Felicia David, died in 1926 a few months before I was born.

**Cfwep.Org: What did your parents do?**

My mom, Carolina Consoni, stayed at home and raised us boys. My dad, Dominic David, was a blacksmith at one of the mines. When my grandfather was killed, my dad was 14 or 15 years old so he didn’t finish grade school because he had to go to work, his brother and him. He went to work in a livery stable and that’s where he learned to shoe horses. Of course then he became a blacksmith and went up to the mines, and he was about the only one there, in the later years, that could shoe a horse. And there were still very few horses in the mines, and so he would go down in the mines and shoe the horses, as well as do regular blacksmith work. Blacksmiths had charge of the cages, and after my dad became a blacksmith, he would go around the mines and inspect the cages (metal cages were used to lower and raise miners and their supplies). When he passed away, he was still working and was the number one blacksmith on the hill, seniority wise. I remember my dad told me about when he was working for this guy who took his family to Yellowstone Park and took my dad with him. They went in on horse and wagon, and took a month and traveled Yellowstone Park. They saw things we’ve never seen. He used to love to go to the Park, all the time. One time we went in the late 30’s and took all day, and went to Old Faithful and stayed in cabins. In one cabin, my brother, his friend and I stayed, and we came out of one room and there was a bear in another room. It finally left.

**Cfwep.Org: What was it like growing up in McQueen?**

Meaderville and McQueen were good places. McQueen was a really nice place to grow up in, lots of good kids and families. McQueen was no bigger or smaller than Meaderville. East Butte was a little smaller. It was alright to live then. Everybody was good, we all had a good time. Our home was at 2010 Leatherwood, across from the Holy Savior church. The

Franklin School was the boundary between McQueen and Meaderville. McQueen had Italians, English, and Austrians, and one French family, the Cotes. I remember my grandmother, Virginia Consoni, and her friends an Italian woman, a French woman, and an Austrian woman. None of them could speak English or the other’s languages, but they could get together and talk for hours. They knew what was going on.



Sunflower Hill is pictured in the top left corner with Ms. Margaret Gordon Cramer and Ms. Anna Rncev-ich standing in front of Ms. Roncevich’s home on Willow Street in May 1963. Picture courtesy of Bob and Mary (Gordon) Buck who lived in the McQueen neighborhood.



The top left corner of the picture is a haul road built for mining equipment to travel on at the end of Cottonwood Street. Ms. Cathy (Buck) Miller is pictured in front of her house in McQueen in September 1969. Picture courtesy of Bob and Mary (Gordon) Buck who lived in the McQueen neighborhood.

**Cfwep.Org: What was the neighborhood like?**

Lots of kids. I knew a lot of the kids in McQueen, some of them I didn’t even know their first name; everybody had nicknames and that was the only way you knew them. We all either went to Franklin School, which I did, or Holy Savior, and they were both right close to my house. In the summertime, my best friend - he went to Holy Savior - we were always up on the East Ridge someplace. Our second playground was Sunshine, or Sunrise - I can’t remember which it was - Mountain. We spent our days up there just walking; ‘course we knew where all the springs were, all the berries, and it was kind of a fun time. And we always played baseball. We used



Photo courtesy of Butte Archives

the back of my dad’s shed as a backstop. There was a baseball field in McQueen; the Copper league played there. That was an official-sized baseball field. We used to catch the streetcar to the Columbia Gardens and then walk home on Children’s Day. Thursdays we were always up at the Gardens, all us kids from McQueen. We would take our lunch and take the streetcar, and you’d get up there and eat your lunch so you didn’t have to carry it. You would save your wax paper and then when you went down the slide, you sat on your wax paper. The old teachers on the cowboy swings, man they were mean. ‘Course I don’t think we were the best in the world. We’d go up and bang the bars and then they’d scream at us, and then we’d go up and slide off. But you better slide off and run. Walking up and down that boardwalk was fun. It was a good place.

The dances were great. Of course, you always danced with someone you knew from McQueen. All winter at the Narodni Dom, a lodge building in East Butte, they had a dance there every Sunday night. All the kids from McQueen, Meaderville, and East Butte would go. Of course, that’s where we all learned to dance. It was really nice. Different lodges in Meaderville and McQueen had dances, and of course, that was a night out for everyone. All the parents would sit around the room and keep an eye on everyone. There were two great big families in McQueen, the Petritz’s and Antonovich’s. They had 11 to 12 kids in each. I used to remember on Miner’s Union Day, everyone would go to the Gardens and they would give a prize to the biggest family ... but they had to be there. It was usually who was sick that day in those families who won, but always between the Petritz’s and Antonovich’s. Most of the people worked in the mines or for the Montana Power, that’s about it. I

remember the Anaconda Company used to use rails instead of tin cans to run the water over (to collect the metals in the water), and they’d get out with their broom and sweep it. Back then the water would come in and you just sweep the copper off. McQueen had two grocery stores, Robert’s Store and Sesarini’s, and a couple of bars; of course one became the McQueen Club. The drug store was in Meaderville. There was a candy store, after the war, and in the back room they had a soda fountain. As we were growing up, we would go to Tipperary and they had penny candy, and you could get a dish of ice cream. You’d sit there for an hour picking out your candy, and I don’t think we’d have more than a nickel. It was a really good place to grow up.

**Cfwep.Org: Tell us about your life.**

I was born in McQueen in April 6, 1926. My brother, Carl David, was seven years older than me. He went into the service in ’41 or ’42. He married while in the service. When he came home from the war in ’45, he and his wife moved down to the Flats and then later transferred to San Diego. I didn’t go to high school at all. Back then you did what your father says. He said he did it to my brother who went right to business college and I had to go, too. He said that he didn’t like the mines, so you go to school and do something else. I was 14. And at 16 I started to work. First at Montana Leather, then at Montana Power, and then went to the service and came back. I got my high school diploma at the business college when I was married and had a couple kids. I joined the Air Force at 17 and stayed in for two years. Most kids in McQueen, a lot older than me, went into the service. Of course, my brother was gone right away and the guys his age went, and then guys my age went, and of course, I went, and some stayed in and made a career out of it.



# Perspectives of Butte: Past, Present and Future



by Monte Dolack

My grandfather, Steve Dolack, was a Slovak immigrant who started his own coalmine in Belt approximately 1914. My father Mike Dolack, worked for more than 30 years at the Great Falls Anaconda copper refinery. After graduating from high school, I also worked at the smelter in Great Falls during summers while attending college. It was a good paying job and an education into how mineral-rich ore from Butte’s mines was turned into copper and other metals.

Because of my family history in mining, it seemed natural that the resources of copper and coal might be interesting to inte-

grate into the art making process. Like a painter’s palette, there is a full spectrum of colors exposed on the sidewalls of the colossal Berkeley Pit in Butte. The toxic water, which has a rich concentration of dissolved metals, forms the lagoon in the bottom of the Pit. The colors of the lagoon change from red to turquoise depending on the time of day. In 1995 a large flock of snow geese died as a result of exposure to the lethal effects of alighting on the water, which they mistakenly misidentified as a normal lake. But there is something alive in there. A team of researchers has recently discovered microscopic organisms living in the contaminated waters of the Pit.



by Justin Ringsak  
Online and Public Information Administrator, Butte-Silver Bow

I was born in Butte in 1980, just before the mine at the Berkeley Pit closed down for the first time and before Butte earned the dubious distinction of being at the head of the largest Superfund environmental cleanup site in the nation in 1982. My father drove past the silent Berkeley daily on his way to work at Miller’s Boots & Shoes, a ritual I would repeat and never think much about as a Butte High School student in the 1990s.

Growing up in Butte, I didn’t think about the mines and the environmental damages they had caused. They were part of the surrounding environment, the same as the East Ridge, the Highlands, Blacktail Creek, I-90, the clouds in the sky.

As a teenager, I noticed the emptiness; all this old urban infrastructure on the hill with no people among it. Since that time, some of those vacant buildings have been filled: the Metals Bank, the Sears, the Grand Hotel. Others, mostly storefronts that used to quaintly contain actual stores, have been

left empty. This void at Butte’s core, this absence of humans, seems to have persisted, but also to have changed shape and location.

So, too, have the environmental damages shifted. Mine waste off of Main Street has shifted from yellow-orange bands on the surface of the earth to darkness below eighteen inches of clean topsoil, monitored and locked down like a felon. Mine waste at the former Milltown Dam shifted to the repository at Opportunity, flowing by train against the natural grade of the Clark Fork Basin. And at the edge of it all, the Berkeley Pit collects the toxic water running down from the Continental Divide, sequestered from the Columbia River Basin, a bowl of holy water below the Lady of the Rockies’ outstretched hand. Butte has and is changing: from brown to green around the Mountain Con mine and Foreman Park; from a Silver Bow Creek devoid of most life - outside of leeches and bright red blood midges - to a Silver Bow Creek where kids can catch native cutthroat trout marked by their telltale red streak; and from a mining town struggling with the concept of no mining to a

by Pat Cunneen  
Environmental Science Specialist, Natural Resource Damage Program

As a kid heading to grade school back in the late 1960’s and early 70’s, I remember walking out the back door and being greeted by the “hummmm” that was a hundred haul trucks making their rounds in the Berkeley Pit. That operation was over two miles away, but its sound was unmistakable. That faint yet steady groan gave us comfort that our fathers were already hard at work long before we had finished our Cheerios.

It was just a few blocks to the Catholic grade school, but they had closed their doors in 1969 or so. Now we had over a mile to go to the nearest public school. At least half a dozen of us would gather on the dirt pile behind our houses to make that journey together as there was strength in numbers. Our first order of business was to fill our pockets with rocks so we were ready to fend off the dogs that would always give us chase. God forbid you were late and the group left without you—if one had to make the journey alone, it was best to detour around those spots where the mean dogs lived. Once at school they would give you a “tardy” slip, but that was better than losing a hunk of flesh or getting your pants ripped by a dog. It was a sad day when the big kid with the good arm moved on to junior high, but that forced the younger kids to improve our skill.

Now, the East Continental Pit has only a dozen much quieter haul trucks doing all the work, and that “Berkeley hummmm” is gone. Also, it seems like most of our kids get a ride to school, even though our streets are much safer because of the enforced pet

ordinances and responsible dog owners. I wonder if our kids are somehow missing out on what used to be a daily adventure that helped form the bonds of friendship and create memories that last a lifetime.



by Colleen Elliott  
Geologist, Montana Bureau of Mines and Geology

The first time I saw Silver Bow Creek, I thought it was a great example of a sediment-choked channel, like what you might find draining from a glacier in the Yukon. It took some time for the reality to soak in – that the Silver Bow Creek flood plain was choked with toxic sediments in which no vegetation had grown for – at that time – 90 years. What impresses me now is how few people seem to remember what the stream valley looked like back then. None of my children can remember Silver Bow Creek as it was, and acquaintances who have been away from Butte for many years also fail to remember what Silver Bow Creek looked like. What they see now is a rather normal looking stream valley, and that is great. But I think it is important to remember how bad it was and make sure it never happens again.



by Kathy Foley  
Teacher, East Middle School

As far as what I remember about Butte 20 years ago... I would have to say the lack of trees uptown and everything being the color of bricks and dirt. The mine yards all seemed abandoned and in disarray and a lot of “whiteness” and sometimes, a green tinge to the dirt. Silver Bow Creek was filthy 20 years ago, and the land around it was pretty barren. Now I see much more vegetation in the uptown area and following Silver Bow Creek through Butte. There is diversity in the vegetation that is encouraging. With vegetation, new and different species of wildlife have emerged in the area, and the walking trail and clean air is inviting to many. It is great to see all the different species of birds along the walking trails, and fish returning to Silver Bow Creek where they belong.

Sadly, many businesses have continued to close down in uptown Butte. The dwindling population due to mining closures has affected the city in a negative way. The flip-side to that, however, is a higher standard to our air and water quality.

I am sure there are many other changes that have occurred over 20 years, but these are a few that come to mind.





*Cfwep.Org:* How long have you been the Butte-Silver Bow Public Archives director?

I have been the director of the Archives for a little over 20 years. I started here in 1990, so that’s about 24 years which is a long time, so it’s really kind of my baby now. It’s been really fun. The Archives had been open nine or ten years when I arrived. Access to material was extremely difficult because we were still finding it. It was mostly in heaps in the basement. The Archives started in 1981, so it almost parallels the era of Superfund. In fact, Superfund dramatically altered our work because there was so much need to understand what happened here. It was very interesting for to me to come from that.

*Cfwep.Org:* What did you do before your work began at the Archives?

I worked for a long time in the medical field and in laboratories. I worked at Silver Bow General Hospital as a phlebotomist, and I also worked in histology. When I went back to school at Montana Tech, I did historical research for the Montana Department of Environmental Quality (DEQ) as an intern, where I actually looked at groundwater. I learned a great deal doing this research because I had not studied much science up until that project. Back then I typically worked in the medical field because I could always get a job. I couldn’t always get a job doing historical research. My kids were little when the Archives director job came open. I saw the advertisement and I thought, “I want to do that.” It was part-time so I could be at home a couple of days a week. When I got the position, it was very funny because they said to me, “What will you do?” I said, “I will clean the basement because I hear it is a mess.” I had no idea what I was talking about. It took me 20 years to clean the basement. It was a big deal. After I was at the job for about a year and a half, a woman said to me, “Where do you see this (going)?” I said, “This is going to be the best research facility in the Pacific Northwest. This will be the historical repository of the Northwest.” I am very proud that we’ve achieved that goal. It’s been fun.

*Cfwep.Org:* This issue’s theme is “Perspectives of Butte,” can you share with us your perspective? What have you seen in the Archives in your career that is interesting or remarkable?

Butte has changed a lot in the last 20 years. Restoration has made a huge difference in the landscape and the mentality of how people view their landscape. Superfund has made a bigger impact on our landscape in a more positive way. I think that the culture of our community has shifted. When I was growing up, we were a blue-collar, working class community. People earned their money mining; they had great wages. Then when mining ceased, it totally abandoned that working class. Now, I think, we probably have more people with college educations in our community than we’ve ever had, and working in different



ways and working in balanced ways.

I have seen a bunch of things, remarkable things. When I started here the woman who was the Executive Director said, “Oh, not much happens here. You will see a few people, help a few genealogists, a few scholars come in now and then, really nothing exciting.” I was soon to discover that she was wrong.

It was 1991 and the first group of attorneys showed up from the Department of Justice. When they came in the door, it was cold in here because the heat wasn’t very good upstairs, and the basement was unheated, and there were critters. All of the government records had been delivered by dump trucks and dumped in the basement. I could only work down there in the winter for a couple of hours because it never got very warm. I said to the attorneys, “Access is very difficult.” “This is really

a problem for me because it’s the middle of winter and you have to go downstairs, and you are not dressed appropriately nor am I.” I told them, “Come back tomorrow.” They came back the next day, with a court order and said that I was violating their rights to have access to public records. I said, “Ok then, let’s go.” They were all still in their suits. It was cold and it was filthy. It was just a big mess. They left to go purchase Carhartt work clothes in order to stay warm and get dirty after their first trip downstairs. They brought up all of the records and I helped them sort through the piles. I said to them, “You wanted it.” At the time, we were operating part-time due to our funding. When the Department of Justice and the Atlantic Richfield lawyers started pushing at us to open the door, we had to expand our hours of operation to full-time.

I always thought Superfund was interesting as a court case because historians played a very important role, which doesn’t happen often. It is an interesting court case historically because Con Kelley was a brilliant man who argued the Bliss Case for the Anaconda Company. The Bliss case was one of the early famous cases that the Deer Lodge farmers brought against the Anaconda Company for their smelter emissions. The Plaintiffs argued that the smelter emissions were causing harm to their livestock and crops and were seeking damages for their losses. Ultimately, Anaconda won the case.

I am always interested in the questions that people bring to us at the Archives. For example, a gentleman came in and said, “I’m looking for something on the Rocker treatment plant,” We just couldn’t find a lot. Then a couple of months later, someone else came in and said, I’m looking for something on the Rocker treatment plant and again we just

didn’t have anything. Several months after the second request, a man came in and said, “I found this document in my aunt’s stuff and I have no idea why she had it.” He hands me a document about the Rocker treatment plant. So there we are and there it was. I was able to call back both people who were interested in the Rocker treatment Plant and share the

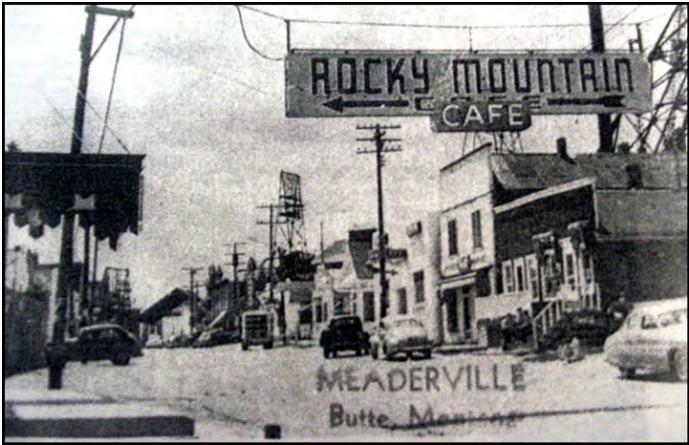
new finding.

We’ve seen a lot of fascinating things here. It’s really interesting because a lot of times people think that history is over, that we know everything that happened, that the books have all been written. Every day in our work we learn something new about the history of our community. Every month a new collection comes in that informs our history in a different way. I think that has been the most exciting component of our job, discovering how vibrant and interesting history really is. It is incredible to see who uncovers new information and how those pieces are interpreted.

*Cfwep.Org:* What are your thoughts on the transition of the Clark Chateau, formerly the Arts Chateau?

Our job is to do a preservation and restoration plan on the building in order to determine what needs to be done to ensure that it’s stable. We will be putting out a request for proposals to solicit architects and engineers for that plan. We’re also looking at grant funds for the restoration of the interior of the building. The outside of the building is in pretty good shape. We recently had a series of experts come in to work with the team to help us clean the building in a historically sensitive way. We also have had a textile expert look at the textiles. We have it for a year. Our role in this year is to ensure that we get a restoration and preservation plan in place, and get the government to approve and implement the plan over the next five to ten years. I believe the government needs to take responsibility for implementation of the preservation plan.

We are going to keep the Chateau open on the weekends and possibly a little more in the summer. We had a Santa Claus exhibit, which brought in more than 300 people and over \$500 in eight weeks. We have a series of exhibits planned for the first year, including fashion, historic textiles, and clothing



exhibits. We are also going to host a tea, which will be a fundraiser. We will start our public meetings at the end of February. The purpose of the public meetings are to engage community members in discussion about what they want that building to be, what purpose do people see for the Chateau, what role will





# The Director's Letter

Rayelynn Connole Cfwep.Org Director

We are proud to bring out this issue of the Montana Steward. In this issue you will find reflections from a variety of Butte folks who were willing to share with us their perspective about Butte, our history and our future. Many of the reflections exemplify the ‘never say die’ culture of Butte and you find in the articles, glimpses of how Butte citizens developed this attitude. Butte’s history is exceptionally rich and has provided many a scholar with work for a lifetime. However, the history we are creating today is equally as exceptional. When I personally reflect upon how Butte has changed within my lifetime, I feel a sense of pride and hopefulness. I grew up in the era of mining closures and with a landscape that was covered in waste rock and tailings. In my childhood, it seemed that everyone was moving out of Butte. We closed elementary schools. We lost many businesses. We watched our beautiful historic buildings decay from abandonment. Despite the challenges, the Butte citizens fought to clean up this city. The era of Superfund was ushered in, bringing with it a new economy of rebirth and revitalization. In areas where we had nothing but waste piles, we built parks, baseball fields and walking trails. We restored buildings that were abandoned by industry and converted them into community centers. We recruited new industries and we re-opened our mine. Our recent history is a story of re-birth and awakening. Today, Butte is an effervescent commu-

nity, hosting many summer festival events, tournaments, and arts activities. Our focus is forward, meaning that we now seek to grow our community. We seek to restore and remedy the landscape wherever possible. We seek to change our image from a rough and tumble town to that of the loving, welcoming community that we all know. Many people look back at the decisions that were made in relationship to the Berkeley Pit and various Superfund clean-up activities, and wish for a different outcome. However, when one investigates the multitude of factors that lead up to any one decision, it is easy to imagine how difficult and challenging those decisions were when they were made. As in any situation, there are factors involved including social, political, and economic issues. History is not as clean and easy to interpret as one would like it to be. History is complex, and understanding the various points of view is not always easy. The challenge of today’s leaders is to accept our circumstances as they are, and begin to embrace new ideas and new solutions for our city. Lamenting over the past will not allow us to grow and move forward into the future. Rather, celebrating our past and drawing upon our strength as a community will propel us forward. We hope you enjoy this issue as much as we enjoyed collecting the photos and stories. Happy reading!



The Montana Steward is distributed statewide with a circulation of 5,000 copies per issue. The publication is distributed to all of Cfwep.Org's students and is placed prominently throughout the state of Montana.

Cfwep.Org is part of the University of Montana system and our offices are located in Butte at Montana Tech. We are mandated to provide outreach information concerning the Clark Fork Watershed.

We appreciate your support in providing accurate information about our local watershed. Please let us know if you would like to support us with the advertising we need to keep the ‘Montana Steward’ program on track.

Thank you to our previous advertisers. We wouldn't have been able to publish the issues you see above without your support.

Cfwep.Org has been a leading provider of environmental and restoration education programs and services in western Montana since 2005. Cfwep.Org offers multi-disciplinary science and history programs for schools, teachers, and students in the Upper Clark Fork Basin. We also offer public education and outreach services, such as tours, events, and publications, that connect the public with the science and history of the amazing landscape of western Montana. Cfwep.Org is physically located in the Health Sciences Building on the campus of Montana Tech in Butte, Montana. Our mailing address is Cfwep.Org, Montana Tech, 1300 West Park Street, Butte, Montana 59701. Cfwep.Org is our web address. Please direct your comments and suggestions to [info@cfwep.org](mailto:info@cfwep.org) or **Rayelynn Connole** at [rconnole@mtech.edu](mailto:rconnole@mtech.edu). The Montana Steward is a quarterly publication of the **Clark Fork Watershed Education Program**. The Montana Steward reserves the right to control its own publication schedule. Cfwep.Org is part of the Institute for Educational Opportunities at Montana Tech of the University of Montana, a 501c3, non-profit educational institution.



## The Montana Waterfowl Foundation(MWF)

We failed in our last issue to include the contact address for the Foundation. The Montana Waterfowl Foundation (MWF) is a non-profit educational organization dedicated to the conservation of native waterfowl and their habitats. For donations please contact them at [www.mtwaterfowl.org](http://www.mtwaterfowl.org).

## Spotlight On Partners



**INSTITUTE**  
FOR EDUCATIONAL OPPORTUNITIES

The Institute for Educational Opportunities offers a comprehensive array of programs for students and teachers. The Institute's efforts are designed to build on strengths in mathematics, engineering, science, technology and environmental restoration, while making use of existing resources. Institute staff are committed to student success. As such, students are matched with programs that meet their individual needs. There is no “one-size-fits-all” approach to student support.

Teachers interested in challenging their students by integrating more inquiry and rigor can also turn to the Institute for support. There are a number of professional development resources available to help those teachers who wish to empower their students with the tools they need to succeed in college.



STEM STUDENT SUCCESS SERVICES

The Federal TRIO Programs (TRIO) are federal outreach and student services programs designed to identify and provide services for individuals from disadvantaged backgrounds. TRIO includes eight programs targeted to serve and assist low-income individuals, first-generation college students, and individuals with disabilities to progress through the academic pipeline from middle school to post-baccalaureate programs. TRIO also includes a training program for directors and staff of TRIO projects. One of these programs is Talent Search.

Montana Tech's Educational Talent Search (ETS) program provides academic, career, and financial counseling to our high school and middle school participants and encourages them to graduate from high school and continue on to the post-secondary school of their choice. Montana Tech's ETS program currently serves 111 high schools and middle schools in the Butte, Anaconda, Deer Lodge and Helena areas. If you would like more information on the Educational Talent Search program, please call the program's Associate Director, Michelle Christianson at 406-439-2387.



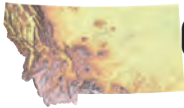
*On Our Cover*  
*"Sacred And Profane"*  
Painting: Monte Dolack

**Cfwep.Org**

Clark Fork Watershed Education Program



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### Thank You

Cfwep.Org would like to thank Montana's former governor Brian Schweitzer, the members of the Governor's Advisory Council, the members of the Butte Natural Resource Damage Restoration Council, the members of the Upper Clark Fork River Basin Advisory Council, the Natural Resource Damage Program staff members, and our former director, Matt Vincent, for their hard work and tireless efforts in ensuring Cfwep.Org's future. Through your efforts, Cfwep.Org now has partial funding for the next ten years. Without all of your hard work, dedication, and belief in the importance of education, we would not be here to educate the next generation on the importance and lessons of our watershed. Thank you from the bottom of our hearts.



# Teacher Feature: Chris Fisk - Butte High School



By Rayelynn Connoles

For this issue's Teacher Feature, we couldn't think of another teacher who was more apt to discuss perspectives of Butte. Chris Fisk is quickly rooting himself as one of Butte's well-known characters. His history club students are involved in a multitude of projects throughout Butte, not the least of which are their annual bison hunt and the Christmas displays. In order to catch up with him, I met him at his classroom at Butte High School. He graciously spent his prep period with me, discussing all things Butte. I arrived at his classroom just as the last lunch period was ending. His room was bustling with students who were taking their lunch period with Mr. Fisk. A few students were working on a Chinese lantern project to memorialize Butte students who were lost to suicide. Another group of students were preparing for a speech and debate tournament, while a few others were simply hanging out, enjoying a lunch free of social pressure. As I looked around at the students, they were a diverse group; however, they all were seeking belonging. Mr. Fisk provides a much-needed haven for students of all types, talents, and backgrounds. In his room, everyone is accepted for who they are and each is asked to do his or her best. Mr. Fisk's energy and enthusiasm spreads to the adults as well. During our interview, several teachers entered the room to discuss planning of various events. Each person was greeted warmly, introduced and invited to stay for our discussion if they liked. Mr. Fisk has won a numerous awards for teaching. One can easily see why his work is award-winning simply by stopping by the classroom.

*Cfwep.Org: Start at the beginning. How did you come into teaching?*

I grew up in Dillon and learned to love history from my Dad. I got my teaching degree from University of Montana-Western, and eventually got my Master's degree from Wesley University. I originally started out teaching in Lincoln, MT. I was the special education and history teacher there. When I came to Butte, I started out in special education and eventually moved into a full-time history position. I have always loved history. I had a couple of key professors who inspired this love, and as I mentioned, my Dad also was a big part of cultivating this interest.

*Cfwep.Org: The theme of this issue is "Perspectives of Butte." As a teacher and an historian, what is your perspective of Butte?*

As I said, I grew up in Dillon, which is a world apart from Butte. When I first moved here, I had to get used to the culture of Butte, how people related to one another. Butte has its own identity, its own personality, which is different from anywhere else. I started investigating Butte's culture

and history because first of all, it's fascinating, and secondly, I wanted to know the people better and understand where they were coming from in terms of their history. I discovered three common themes in my conversations with people who were born and raised in Butte. First, 100 years of mining has an effect on people. Mining is a dangerous job. Many families lost fathers, husbands, brothers, and sons in the mines. The families had to pick up and go on without their loved ones. Also, mining was rife with unrest. A miner wasn't guaranteed a job. At any given time there could be strikes, layoffs, or closures. The people of Butte adopted a work ethic that is unparalleled. Every kid in Butte knew that the way you got a job and kept that job was to hustle and work hard. There was no room for slackers.

Secondly, Butte has a strong ethnic identity which transcended to the younger generations. Neighborhoods were important. Roots were important. Although every culture assimilated into Butte, families held on to cultural traditions and identity. Today we are able to still draw upon those roots. Students in my classroom can tell you who their families are, when their ancestors immigrated, where they originally lived, what jobs they held in Butte, and so on. They know their histories, and this is unique. Not very many of today's students know their roots as well as Butte kids do. History to my students is not a story, rather it is an existence – it's their family, their lives.

Third, Butte is a community that has pulled itself up by the bootstraps for 90 years. Butte was destined to become a ghost town according to every expert out there. Yet, she always survives somehow. Leaving is simply not an option for Butte families. Butte kids embody that 'never say die' attitude from their parents. Butte also cares about its kids. Every parent in Butte wanted their child to be educated. Those people who worked in the mines knew the value of a quality education and considered it a blessing, not an inconvenience. That attitude still resonates in Butte families today. We pass our mill levies. We have parental support and community support for the things we need.

*Cfwep.Org: Tell us about your perspective on education in general. How do you approach your classroom?*

Teaching has been an extremely rewarding career. I have landed in a community where history is a part of who these students are, which makes my job easier. Our school is next door to the largest historic district in the nation. I am able to connect students to their community and what is relevant to them. In many ways, I have it easy here at Butte High. I've been able

to surround myself with passionate, like-minded people who have let me do what I do without a lot of question or controversy. I definitely push the boundaries, but I don't go past them. I try to incorporate experiential activities wherever possible and include hands-on projects, not just story-telling because history lives in our artifacts and artwork as well as the stories.

With the changes in our curricula and the pressure to perform on state assessments, students have it more difficult now than when I was in school. The constant pressure to hit benchmarks and ensure that we have rigor in math and reading has not left much room for unique experiences, which

groups. It is an incredible challenge for the students and adults alike and gives them memories for a life time.

The History Club also takes on several other projects and events throughout the year including: The Cabbage Patch experience; Branding; Oktoberfest; The Meaderville Christmas Display; and Ghost Walks. These experiences take students to an entirely new level of understanding and bring identity to the students as a member of the beautiful city of Butte.

I also bring in guest speakers whenever possible. I think it is important to connect students to community members and hear additional perspectives on history. Sometimes a speaker will be able to get across a concept or idea easier and more quickly than I can as their teacher. I find that students will become more connected to their community through these speakers, which I think is very important to their education.

In the classroom, I hold my students' feet to the fire. I expect them to perform at their best,

regardless of their situation. Sometimes a student will return a project and I know that they can do better. I simply ask, "Is this your best?" They will usually take another crack at it, if it's not their best. When you've built rapport and trust with your students, you can expect them to perform at a higher level. They will rise to the challenge. Many of my students will spend extra time on weekends and after school because they are into what they are doing. They don't have fear of going outside of the box. They know that they can be successful because they've had those key experiences.

*Cfwep.Org: What do you think about the future of Butte?*

I think the future looks bright. Butte is progressive and I like that. We had to be progressive in order to adapt and survive. Without progressivism, we would have died out a long time ago. Just look around at these kids; they come from good seeds. Butte parents have passed on excellent qualities to their children. Our work ethic, our honesty, our integrity, our sense of adventure, and our survival skills are highly-prized traits. These kids have those traits. They also don't take for granted a good paying job or a good day off. They will continue a legacy of excellence within our community. I am sure of it.



leaves the student's school experience flat, in my opinion. We don't have time for shop class or music. Students who aren't connected to the core academic group can fall out of the picture. I have attempted to invigorate my students through the History Club, which is outside of academic time. I want them to see that there is more to learning than just memorizing for the test. I want them to investigate their world, to experience history, and to express themselves freely. I try to give them the space to be themselves, to express their creativity and to explore their interests. It is within this space that learning occurs. I see my role as that of facilitator and try to give kids the right amount of flexibility to learn.

*Cfwep.Org: Can you give us an example of the experiences you try to create for your students?*

A great example is our annual bison harvest. Each spring, the history club students harvest a bison and complete the processing of the animal in the traditional Native American way, utilizing authentic tools. The animal is field dressed and skinned. The meat is brought back to school where the bison is processed, some of it is cooked and much is preserved for future use. The hide is further scraped then salted with all traditional tools. This experience might seem extreme, but we have found it to be a great connector between different peer



# Butte's Heritage is Also Chinese



*Editors note: The Clark Fork Watershed Education Program's mandate includes outreach and education for the stewardship of our environment. Our social makeup is part of the fabric of the understanding that determines our decision making. To this end we are attempting to understand just how we all played a role in what happened in our community and how it affects the world.*



*There are many cultures to recognize in the history of Butte, Montana. The Chinese influence was unique and its history is still being written today.*

**By Richard Gibson**

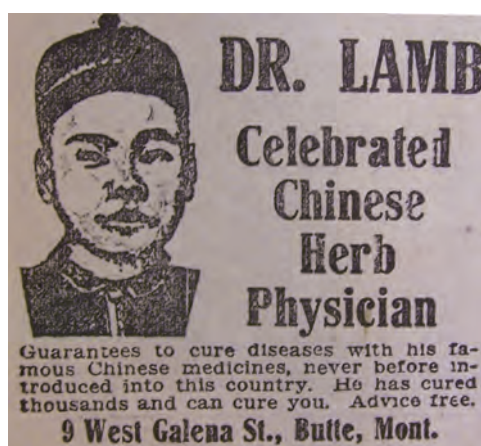
Butte's Chinese history lives on in the Tam family and the Pekin Noodle Parlor, while the Mai Wah Museum collects, preserves, and interprets artifacts



*Sam Huie's restaurant, 251 East Park Street (center of one-story building at left) Photo Butte-Silver Bow Public Archives, building inventory c. 1950s.*

and stories connected to early Butte. Chinese laundries, herbal doctors, noodle parlors, tailors and more were scattered all over the city, not just in Chinatown which was centered on West Mercury Street. The Mai Wah has been connecting with the descendants of several historic Chinese families, including the Chinns, who operated the Mai Wah Noodle Parlor and the Wah Chong Tai Mercantile; Dr. Wah Jean Lamb, a prominent doctor; and Sam Huie, a tailor and restaurant manager.

A visit to Butte by Tina Huie, granddaughter of Sam and Lily Chew, pointed us to some Butte history. Sam was probably a nephew of Dr. Huie Pock. Sam and Lily lived in Butte approximately by 1907, and had at least 13 children. Sam was a tailor in the early days, but by the late 1920s, he was running a restaurant at 251 East Park Street, the parking lot in front of Dr. Peggy Lowney's dental office today. Some of the older children, including Arthur and Katie, along with Huie Pock's son Quong, worked in the restaurant in 1927-28. With such a big family, it's no surprise that they lived in more than one place. Sam's



primary home was at 341 East Park, but some of the older children lived at 639 Utah Street, which was Dr. Huie Pock's home and office until he died in 1927. Sam Huie and family continued to live in Butte into the 1940s.



When World War II started, most of the sons of the Butte Chinese joined the American military. This was the case for the Chinns, as well as the Huies. Combined with the general decline

in Butte, this led to an exodus of many of the Chinese. Butte's Chinese population, estimated by historian Rose Hum Lee at about 2,500 in the 1910s, fell to probably 80 or 90 by the 1940s, and today the Tams are probably the only family here with their roots in Butte's historic Chinatown.

The Mai Wah will be dedicating an exhibit on the Chinn Family on June 28. It will also include new displays about the Lamb and Huie families. You can find more information about Butte's Chinese

**By Frank Ponikvar**

*It was my pleasure to sit down with one of Butte, Montana's most prominent citizens, Ding Tam. As a resident for almost 80 years, he has seen the history that has been made here through his own eyes. I caught him on an usual night at the Pekin Inn, one of the oldest food establishments still in business in Butte.*



Ding Tam's mother

Clanging dishes and glasses are familiar to the visitors to Ding Tam's restaurant, the Pekin Inn. Although, most folks know him as 'Danny' in Butte; they don't know that it was his great uncle that started the restaurant.

The Pekin Inn is the oldest family-owned restaurant in Montana.

I caught him cooking this night like he has every night the restaurant has been open since 1956. "You need to eat something," is a familiar refrain from Danny. Many a good friend has stopped by the restaurant only to have Danny fix his best dish and send them off satisfied for free. Danny is now 82. He has been in Butte since he arrived from Hong Kong, when he was nine in 1947. "I arrived here in September and it was the first time I saw snow". I've seen a lot in my time. In the early days, I packed the Chinese and Filipino miners' lunch everyday, and when



Ding Tam's grandmother

they didn't return for lunch the next day, we knew what happened to them."

Not too many folks know that Danny and his wife received an early education and attended high school in San Francisco in the 50's. It was right after that they both began to work in the restaurant.

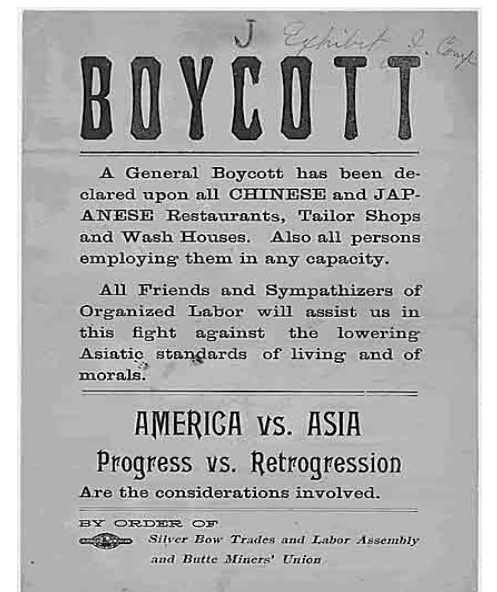


Ding's grandfather was a doctor in Butte. He owned the shop and casino downstairs of where the restaurant is today. "There were many Chinese and Filipino miners that worked the mines in the early days. They mostly all moved to New York after the war. They still stop and stay with me when they visit Butte."

I had to ask why there were so many versions of his name here. "My great uncle's last name was Wong, so when I started school in Butte, everyone knew me as that. I changed our family name back to the original 'Tam' when my great aunt passed away."

Ding started to reminisce, "I've always been treated well in Butte," he mused, "but it was not that way for my grandfather and his father."

*Ding Tam's Family photos courtesy Butte Archives*



*Flyer Courtesy Mai Wah Society,*



*Photo Courtesy Mai Wah Society, Chinn Family collection.*





GRANITE MOUNTAIN 1952



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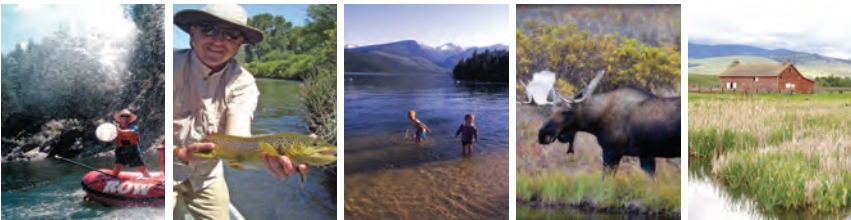
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EcoJazz Program

EcoJazz.Org will be Broadcasting around the world on April 22nd Earth Day.



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Perspectives of Butte, Montana: Past Present and Future

by Jocelyn Dodge

Butte is an amazing town, as most citizens already know. Looking at the changes the Butte landscape has realized over the past 20 years, there is much we can celebrate. Butte citizens have always been proud of their mining heritage, embracing the hard life many led to make a living. It also left the community with a challenge to transform mine areas from barren landscapes to more natural settings intertwined with steel headframes, buildings, and transportation corridors. The Natural Resource Damage Program, in cooperation with concerned citizens with a vision for change, helped convert hundreds of acres of mine sites and waste areas to natural, open space and community parks that people can enjoy for a variety of purposes.

Twenty years ago, we had few if any trails. Now Butte can boast an incredible urban trail system that winds through the heart of our community, and will soon provide a connection to Anaconda. The BA & P Railroad and Schotte/Ulrich (Blacktail Trail) are two outstanding examples of changes that have occurred. Blacktail Trail is one of the most popular trails located along Interstate 90. Walk any day along the trail and you will be greeted by geese and ducks, and entertained by the many songs of birds. Walk along the BA & P Railroad from Montana Tech to the Granite Mine Memorial, and you get a glimpse of the past. You can see the remnants of old mine yards - most long gone - now reclaimed as open spaces with grass and trees that provide habitat for birds and animals.

Many of our tailings areas and facilities, like the old dump, were rehabilitated as regional parks and open spaces. Butte has been able to protect and naturalize areas such as Big Butte, and the newly named Skyline Park and Fishing Pond. The Mountain Con yard, an abandoned mine site, is now a park where citizens can learn more about our mining history, enjoy a picnic, host a wedding, and have a panoramic view of the valley and mountain ranges that surround our community. Thompson Park, once a teen-party spot, now has over 25 miles of trails, including the Milwaukee Road Trail, and several picnic areas for families to enjoy. The reuse of land to improve our quality of life is not only good for our health, it adds another reason for people to move to Butte.

People’s attitude toward trails, parks, and open spaces has changed. People are asking for more outdoor opportunities to play, walk or ride a bike. They want connections to other recreational opportunities such as Maud S. Canyon and Thompson Park. Much has changed over the past 20 years, and it’s a good change. It took the work, not only of government agencies, but also the work of many individuals and groups who volunteered their time to make Butte a place people can enjoy. I applaud the community of Butte and the many people who have the vision and manpower to make Butte one of the premier outdoor recreation communities in the state.







(cont. from page 4 )

first big crusher and conveyor belts. And then that was over, so they laid us off. I had to go graveyard shift working in the Pit. And I worked on the belts I just put up. I lasted a week. I saw the business agent and he told me they were looking for someone at Western Iron Works. So Monday I went down to Western Iron Works and got a job, and stayed there 30 years until they closed.

Western Iron Works was a good place and job to work at. They treated us good. ‘Course we were in the machinist union, the four of us. There were 18 to 20 boiler makers and foundry workers and truck drivers. We worked on anything. Big customers were Stauffer and the Smelter. We went all over in Great Falls and Helena, too. We replaced things that had burnt out or were wore out. It was a tough place, as soon as you replaced something it would start to wear out. The amount of ore and acids were pretty tough on equipment.

And then I got married. I met Betty at the Columbia Gardens at a dance. I don’t think we missed many of the Sunday night dances up there, before or after we got married. We dated a year or so, and then we were married in 1947 and were married almost 65 years. After we married, we moved to the Boulevard area. We rented a little place; it was in the back of the Ferkovich’s lot. It was \$22.50 for the house and \$5 for the garage. And every year they made wine like the Italians, but they made the white wine. Mrs. Ferkovich would bring a great big pitcher of cold wine so we could sit there and have a drink.

**Cfwep.Org: Do you remember Silver Bow Creek before the Pit started?**

To walk uptown,you’d have to cross Silver Bow Creek in Meaderville. All the sewers ran into it, so not the best in the world. Must have been pretty acidic; we’d put license plates into it and after a couple of days ... they’d be gone.

**Cfwep.Org: What was the landscape of McQueen when the Pit started expand-**

**ing?**

Don: Area quality didn’t go down when they started mining, it was just a part of Butte. There were just more haul roads for the Pit back then. After the Pit got close enough, most people got moved and got fairly good deals, whether trading or being bought out. There was a lot to be said about living next door to someone for 40 years and then pretty soon you’re living next door to somebody else. I wouldn’t say bad feelings, but say that’s too bad you know. I sure miss that (the neighborhoods).

**Cfwep.Org: When the company was buying houses, how did people in the McQueen neighborhood feel about it?**

Don: I don’t think they felt too bad, really. They (the Company) would just go around town and ask. People would just go down and find a home and say, “trade ya’s,” and they’d just trade houses. You pick one house and you’d have to bargain. I don’t think they did too bad. They got some really nice houses. They would either buy houses or trade. People in Meaderville didn’t own the land, however, the Anaconda Company did. But the people in



McQueen owned the land.

**Cfwep.Org: What was it like when everyone started moving out of McQueen?**

Families were still pretty close when they moved from McQueen and Meaderville. They all brought houses, Meaderville especially, and went up the McGlone

*An interview with Don David, former resident of McQueen*

Heights and just put houses in line, and probably lived next door to the people they did before.

Mom had a stroke when she was living in McQueen before Dad passed away in 1957. My uncle, John Consoni, lived next door where my grandparents used to live. He tore that house down and built a small house for him to live in. When my dad passed away, my mother moved into



Confirmation held at Holy Savior Church in April 1964. Picture courtesy of Bob and Mary (Gordon) Buck who

that house and my uncle took care of her. He had a claim a long time ago that had manganese and it did pretty well. It took care of my mother and everything else, and him. The Anaconda Company bought our house and then it was gone. The Company tore ours down, but moved my uncle’s. We rented my uncle’s for a while when mother was in the rest home. They tore down our house later then 1957. But they didn’t tear down the Franklin and Holy Savior Schools, they just buried them. There were still people living in Meaderville and McQueen then.

You can still see trees and part of McQueen. A long time ago, I needed dirt and my dad had had a big garden. He built an enclosure to keep out mine waste; he had quite a garden. I still knew where it was. I asked the mine first to go to my folks’ garden, so they said sure, and I got two to three loads of black dirt and brought it to the house. And when I was going through the dirt, I found an arrowhead from the Indians that were around here. I don’t remember the Indians, but my mother and her mother remember them. There were tribes here then. One of the last Indian wars here was over the rights to the garbage dump.

Slowly everyone moved out of McQueen. There were lots of people still living there in ‘47. When most people moved out of McQueen, and after mom moved out, and

of course, the house was vacant, and a lot of houses were vacant and some people lived there, people started coming and stealing everything. And in fact, one guy was bitching he was watering his lawn and they stole the hose!

This fella lived across the street from my folks. He says, “you know people are stealing stuff.” He says, “you know with your mom’s house, why don’t you put the porch light on, so they’ll think someone is there.” I said, “that’s a good idea.” I left the porch light on and within a week, they stole the storm door because they had light to see! Oh well.

**Cfwep.Org: Do you remember when the Holy Savior and Franklin Schools were buried?**

I thought it was too bad. And I could see there was so much - of course I didn’t appreciate it at the time - of the beautiful work they had in the church and school. The trim in the school was so beautiful. They didn’t want to monitor who went in, so they didn’t let anyone in and so they buried it. They couldn’t have moved it. Same with the church, too. Anaconda Company engineering department used it for a while. I used to go in there and they showed me where they put so many files in there - the floor was sinking. Nothing from church was left in there and they got their stuff out ... and buried it.

I remember when they put the bell up at the church. It was in its own building; it was like a silo with a big bell on top. We were watching it and they finally got it up and they were ringing it for the first time. And we were there helping them, and they pulled the rope way down and I jumped up and grabbed the rope and went way up. That didn’t last too long.

**Cfwep.Org: What do you think about the restoration and the clean up of Butte?**

Don: I guess it’s alright; they should, it’s taken them a long time. We got some nice parks that we’ve never had. You know the way of life has changed; people like to move around and exercise and walk and run, and we have so many nice trails for those people. It’s alright and Anaconda is getting it, too - cleaned up. Its progress. You dig a big hole in the ground and something’s gotta happen, it’s gotta go someplace.

# The Native Plant Diversity Project



L to R Patrick White, Tedd Darnell, Callie Boyle, By Kriss Douglass

We can barely remember the jagged edges, the precipitous slopes of old mine dumps shedding rocks, and dust in every neighborhood, settling on streets and our front yards – Butte’s profile from 30 years ago. Today; her face is engineered-smooth slopes and bowls covered with green in early summer turning to golden waves of remediation by late summer. We barely noticed

when these gentle green slopes were divided by the Copper Trail switching and climbing from below Montana Tech to the Top of the World – the Corra Mine. We barely noticed that the Big Butte is our playground no;, Butte-Silver Bow can administer and maintain the trails and plan to connect to the Copper Trail. From neighborhood mine dumps, through clean-up and remediation to present early restoration, Butte is the Cinderella of Superfund.

The restoration phase is where native plant diversity comes into play. Montana Tech is now five years into the native plant diversity project. Reestablishing native plants will modify the slopes of green, waving grass into textured patches of shrubs and wildflowers. These patches, which we call

dispersal islands, will provide seed sources for diversifying the vegetation. Butte will see the return of a sustainable web of life, from soil microorganisms to bugs and birds cycling through the seasons.

We have seeds of more than 120 species of wildflowers and shrubs, and a handful of trees and grasses. The project collected early May-flowering douglasia—a native pink (flower of the primrose family), cloud-white cushion phlox, bright buttery groundsel, and a few erect kittentails – and also collected from the rare pocket of bluebells and several species of blue beardtongue which burst across the ridges after the snow melt.

As early blooms fade and begin setting seed, lupine and yarrow, blue and white appear, as well as tiny spiky, white sandwort, and small, cushiony mock goldenweed with its bright yellow daisy-like flowers. The flowering season exits after dogbane with its tiny pink and white flowers fades and goldenrod and late purple asters set seed.

At Montana Tech, the restoration team has established a ‘forb orchard,’ growing native plants in a protected environment to maximize our efforts of collecting seed. These seeds are then grown in ‘forb sods’ which are used to plant instant wildflower patches on Butte’s remediated superfund sites. Some of the seeds are grown in little tube-containers so we can easily customize wildflower and shrub species to a particular microsite. Bitterbrush seedlings are planted on the rocky knobs, bearberry is planted under aspen stands. Over the next several years, we will plant particular species in their optimal habitats.

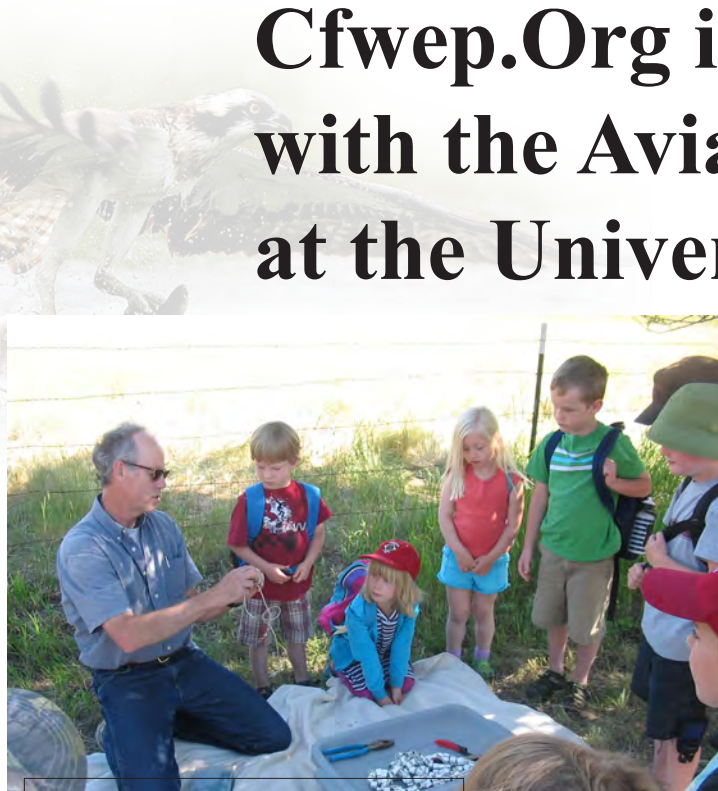
Visitors are welcome. Call if you or your group would like a tour of the greenhouse where the forb sods are ‘built’ during the winter and early spring. In summer the forb orchard is a beautiful display of local wildflowers. For more information call Kriss Douglass at 782-9060.





Cfwep.Org is proud to partner with the Avian Science Center at the University of Montana. Through this partnership, Cfwep.Org and the Avian Science Center have reached thousands of area students through the Bird's Eye View program. The partnership was a natural evolution as both programs focus on reaching children and adults, utilizing the Clark Fork clean-up and on-going research as a platform for education.

The primary goal of the Avian Science Center's programs is to provide families living within the Upper Clark Fork River Basin a "bird's-eye view" of the effects of past mining activities and of current restoration projects aimed at repairing mining-related damages. Participants are invited to observe birds up close at the banding stations, learn about Montana's riparian birds, and interact directly with biologists collecting scientific data on bird communities – thus it represents an opportunity for citizens to take part in the process of science. This program is unique because it takes place during the summer months and targets both children and adults. The Cfwep.Org core programming takes place during the school year and illustrates studying the history leading to the damages, the riparian habitat, water chemistry, and macroinvertebrates. The partnership with the Avian Science Center enriches the Cfwep.Org core programming by illustrating the effects of the restoration within animal communities.



Dr. Erick Greene with students

The Avian Science Center and Cfwep.Org also partner with Project Osprey at the University of Montana. Project Osprey educates participants about Ospreys and river health, while examining heavy metal blood-levels found in osprey chicks along the Clark Fork River. The researchers have published a detailed inventory of mercury and other contaminants in ospreys in the Clark Fork River Basin and are now focusing on the long-term effects of these contaminants on ospreys and the ecosystem in general. Another focus of Project Osprey is to educate area ranchers and citizens to the dangers of bailing twine for nesting ospreys. Because the bailing twine is bright and appears to be good nesting material, the ospreys will pick up the twine scattered throughout fields. This twine becomes harmful when the chicks hatch and are beginning to fledge. Often, chicks become entangled in the twine resulting in a chick death rate of approximately 10%.

Both Project Osprey and the Bird's Eye View Program offer public education events throughout the summer. Project Osprey has live cameras on several nests throughout the Clark Fork, which can be viewed at <http://www.cas.umt.edu/geosciences/faculty/langner/Osprey/index.htm>. Additionally, Project Osprey has a Face-

# Cfwep.Org is proud to partner with the Avian Science Center at the University of Montana

book page that is updated frequently by the project team.

To following are the Bird's Eye View banding schedule. The public is invited to join the scientists for any of the banding dates.

- MPG Ranch near Florence
- Valley of the Moon Nature Trail on Rock Creek
- Grant-Kohrs Ranch NHS in Deer Lodge
- Mt. Haggin WMA near Anaconda

- What can you expect to see & learn by visiting our bird banding station?
- Observe birds "in the hand" and find out what a "brood patch" is.
  - Learn why biologists capture and band birds and what kind of data we collect.
  - Gain bird ID skills and learn a few common bird songs.
  - Find out why riparian areas are so important to birds.
  - Learn the history of mining activities in the Upper Clark Fork Basin and the effect those activities had on bird communities.

Visitors should plan to arrive at either 7:00 am or 9:00 am in order to participate in the program. For more information about this program or to arrange a group visit, contact Megan Fyelling ([megan.fyelling@mso.umt.edu](mailto:megan.fyelling@mso.umt.edu)) or Sharon Fuller ([Sharon.fuller@mso.umt.edu](mailto:Sharon.fuller@mso.umt.edu)).



Dr. Erick Greene

*Please keep in mind that these programs are weather dependent – if the forecast is for rain or high winds, we may have to cancel – contact Megan or Sharon at 243-2035 for an update.*

Visitors should wear shoes and clothes appropriate for hiking near riparian woodlands & consider bringing snacks or a lunch, as well as water, sunscreen, a hat, and bug repellent (the mosquitoes can be quite numerous!) Bring binoculars if you have them and a camera if you'd like – this unique "bird-in-the-hand" situation creates nice photo opportunities. More information about this program is available at: [http://avianscience.dbs.umt.edu/projects/bird\\_banding.php](http://avianscience.dbs.umt.edu/projects/bird_banding.php)



## Skyline Park

Last year work began on a children's fishing pond and walking trail system in the area behind Hillcrest School. The Council of Commissioners has officially named the park Skyline Park, which should be complete in June 2014. In partnership with Skyline Sportsman's Association, Butte-Silver Bow was awarded a grant from the Natural Resource Damage program to build the park. Interpretive signage makes this park an ideal outdoor classroom setting for area students. Cfwep.Org will host a teacher professional development workshop in conjunction with the official park opening in June. Teachers will receive approximately \$100 in classroom materials and continuing education credits for attending the training. If interested, please contact Rayelynn Connole at [rconnole@mtech.edu](mailto:rconnole@mtech.edu) or 496-4898 for more information. Check out [www.cfwep.org](http://www.cfwep.org) or our facebook page for details.

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Silver Bow Creek at Ramsay Flats before remediation and restoration started. Clear evidence of tailings contamination is visible throughout the riparian habitat.

**From:** Students from Butte Central Elementary School, Drummond School, E. F. Duvall Junior High School, East Middle School, Fred Moodry Junior High School, Granite County Junior High School, and Ramsay School

**Questions:** Many students that receive our 5-day Restoration Education Program frequently ask about and express concern over Silver Bow Creek. They ask: “What was Silver Bow Creek like before the clean-up? How has the clean-up changed the creek?”

“What was Silver Bow Creek like before the clean-up?”

After almost 100 years of mining and urban activities, Silver Bow Creek was considered by many to be a ‘dead’ creek. It could not support fish nor the diversity of food they depend upon, the aquatic macroinvertebrates. “Devoid of life,” is what many said about Silver Bow Creek’s streambanks, and the riparian zone, floodplains and wetlands that surrounded it. Others described Silver Bow Creek’s riparian habitat as a barren, moonscape-like area, and they would have never imagined that this landscape would ever support life again.

The most severe damage to Silver Bow Creek resulted from mine tailings that were dumped into the creek from early mining activities that started in Butte in the 1880’s. Mine tailings, which are fine-grained in texture, are the leftover materials that result from crushing and concentrating ore. In our Butte area, the ore is rich in sulfur and contains the mineral, iron pyrite. When iron pyrite is exposed to oxygen and water, it causes acidic conditions which are harmful to all living organisms. In addition, these acidic waters increase the likelihood of heavy metals dissolving in water. Dissolved heavy metals disrupt gill functions, making it hard for fish and other aquatic life to absorb much-needed oxygen. The damage was quick. In 1891, reports from the U.S. Fish Commission claimed that no fish were found in the Clark Fork River

near Deer Lodge, the river into which Silver Bow Creek drains.

How has the clean-up changed the creek?

The most obvious and significant changes we, the citizens of Butte, can see is a flourishing and thriving vegetation community on the floodplains, and healthy wetland areas that support riparian plants, mammals, birds and more. We are also fortunate to now have a Greenway Trail along Silver Bow Creek. There are big plans for this public walking trail system; standing now at about six miles completed, the hope is to have the trail run all the way from Butte to Opportunity.

For many people who saw the area around Whiskey Gulch before, the clean-up, it is absolutely unrecognizable. Before the ‘soil’ looked rusty-yellow with hints of blue and green – this ‘soil’ was in fact tailings deposits. The area was barren, ‘devoid of life.’ These days, just try to see the creek’s waters! The willows along the banks of Silver Bow Creek are full and thick, and bursting with the songs of birds. A few lucky folks have reported observations of deer, moose, beaver, muskrats and mink, as well as bald eagles, ospreys, swans, blue herons and sandhill cranes.

Of course, a highly significant measure of success has been the return of trout and other fish to the creek. After decades of no fish being capable of surviving in Silver Bow Creek, and after just a couple of decades of clean-up, we now have a small local population of westslope cutthroat trout in Silver Bow Creek. In order to protect this population of trout, Montana Fish, Wildlife and Park (FWP) has set fishing regulations for catch-and-release only. This is the first time Montana FWP has assigned special fishing regulations to Silver Bow

Creek and its tributaries. As former Governor Schweitzer said during a celebration of this success, “fishing this creek is something no one has done since our great-great-grandparents.”

Need more evidence of improvement? Let’s compare water quality and aquatic macroinvertebrate data that was collected before and after Silver Bow Creek’s clean-up. With regards to water quality, we can

Ask Dr. A

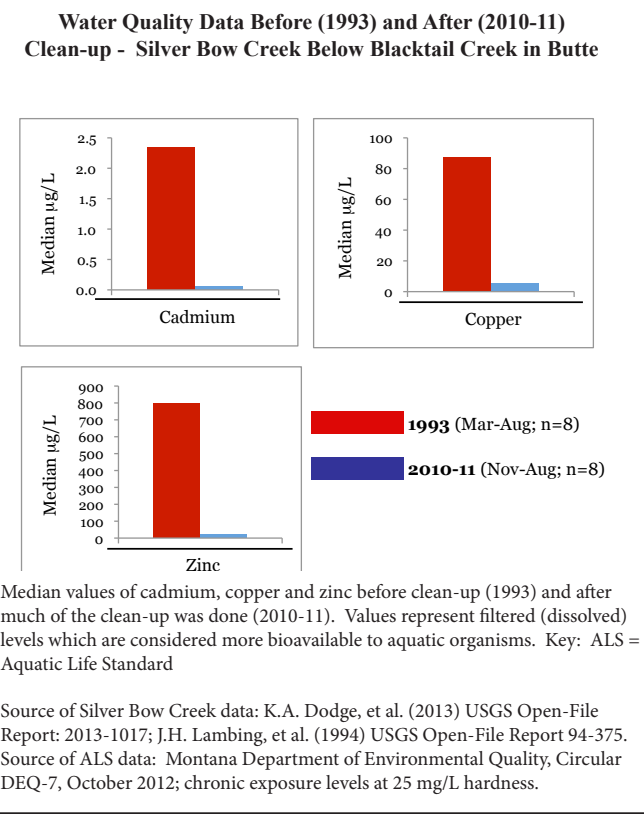
see from the graph that median levels of dissolved cadmium, copper and zinc – all heavy metals that are extremely harmful to aquatic life - were much higher in 1993 (before clean-up) as compared to 2010-11 (after clean-up). This comparison is not perfect since many other factors can affect these values.

It is certain, however, that dissolved heavy metals in Silver Bow Creek are lower than they used to be. In fact, when compared to aquatic life standards (ALS) which are the values above which the water quality is considered unsafe for aquatic life, the 2010-11 values for cadmium and zinc are below ALS, and copper is just slightly above ALS. Prior to clean-up, all these

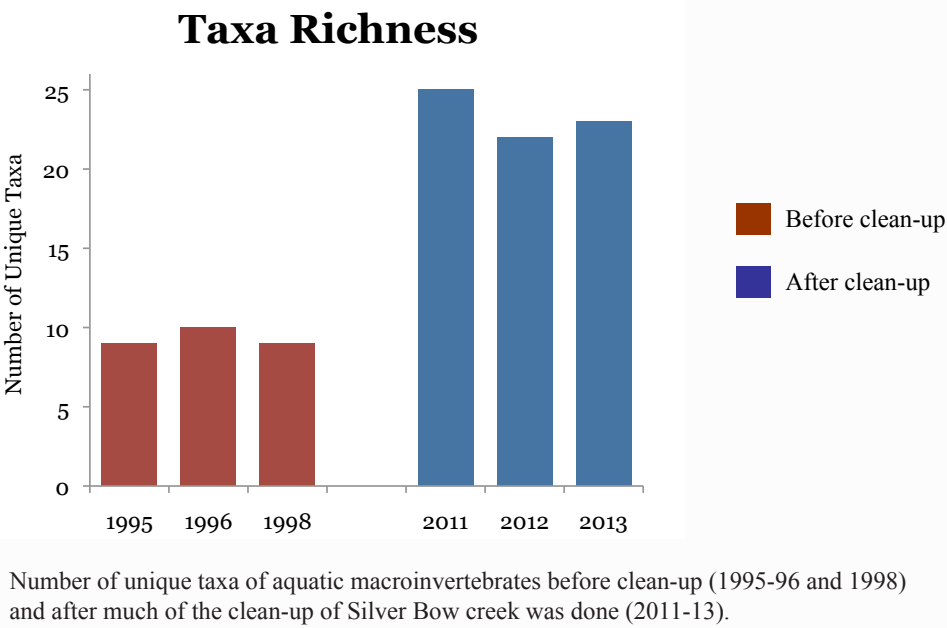


2013, taxa richness ranged from 22 to 25 different types. That is twice as many taxa after remediation/restoration compared to before the clean-up. I expect the number of different types of aquatic macroinvertebrates to keep increasing as the work on improving water quality continues.

The clean-up of Silver Bow Creek is one of the largest stream and floodplain remediation and restoration projects in the United States. This project which started in 1999, and is scheduled to take just a couple more years, has been recognized around the world and has won several awards for environmental excellence at the local, national and international levels. Next time you are looking for something to do, why not take a walk on the Silver Bow Creek Greenway Trail and enjoy the sights and sounds of life making a comeback!



Taxa Richness Before (1995, 1996 and 1998) and After (2011, 2012 and 2013) Clean-up - Silver Bow Creek at Rocker



Willows lining the stream banks along the first mile of Silver Bow Creek which was cleaned between 1999 and 2003.

metals were estimated at about 96% higher than ALS.

When we consider aquatic macroinvertebrates, the results are similarly positive. Since the cleaning, Silver Bow Creek’s waters are capable of supporting a richer diversity of aquatic macroinvertebrates. This can be seen on the graph of taxa richness, which is one measure of diversity. I created a graph from data provided by Rhithron Associates of Missoula. This graph on taxa richness shows that during the years of 1995, 1996 and 1998, the largest number of different taxa (a unit of biological classification) found in Silver Bow Creek at Rocker was no greater than 10. In comparison, during 2011, 2012 and







Photo Chad Okrusch



Photo Frank Ponikvar

Montana’s mining history helped shape the state’s economy, history and landscape. Unfortunately, past mining practices also left mine waste and contamination, damaging the environment and threatening human health.

The Clark Fork River is a prime example of the type of damage contamination can do to a river system, the surrounding floodplains and agricultural fields. The Department of Environmental Quality (DEQ), along with its partner agencies, the Environmental Protection Agency and Natural Resource Damage Program, recognize the economic and environmental importance of cleaning up the Clark Fork. they began the daunting, multi-year cleanup in 2013.

The primary sources of contamination in the Clark Fork are mine tailings mixed with soil in the stream banks of the historic floodplain. Arsenic is found in the tailings, as well as cadmium, copper, zinc, and lead.

These heavy metals were left behind by the Anaconda Company’s historic mining, milling and smelting operations in Butte and Anaconda.

The majority of the cleanup will occur along a 47- mile stretch of river from Warm Springs downstream to Garrison, known as “Reach A.” Phase 1 begins at the bottom of Warm Springs ponds and extends the first 1.5 miles of river. Cleanup of Phase 1 began in March, 2013 and construction was completed in December 2013. Approximately 330,000 cubic yards of mine waste were removed from the floodplain and river banks.

Some river banks were rebuilt to create stability and prevent erosion. An additional 180,000 cubic yards of clean rock and soil was put back into the floodplain and thousands of native shrubs, willows and other vegetation were planted. Additional plantings will occur in the spring and fall of 2014, for a total of 130,000 plants.

While construction is complete for Phase 1, vegetation will take a few years to become established. Giving this vegetation time to grow will create better recreation areas and lead to a healthier watershed.

“It is a daunting and humbling task to revitalize a river that has been polluted for over 100 years. This first phase has been a great success for DEQ, our partners, and the people of Montana,” says DEQ Director, Tracy Stone-Manning. “We appreciate the cooperation and support of all the people involved in the project and we look forward to moving the cleanup downstream.” Phases 5 and 6 of Reach A will be cleaned up next. If everything stays on schedule, the bid for construction is expected to go out in spring 2014, with construction starting soon after the bid process. Phase 2 is currently in the design phase and includes coordinating with landowners, since the work will be done on private property. Construction is expected to begin in fall 2014.

Cleaning up a river that has been contami-

nated for over 100 years is no small task. As remediation and restoration of this important resource continues, the agencies recognize the importance of correcting past and preventing future mistakes as the land is returned to productive use. Future generations will be able to enjoy the prosperity that a clean river brings to an economy, and live in a cleaner, healthier environment.

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## Environmental Educators Get Educated About Butte



On March 20th and 21st, Cfwep.Org hosted the Montana Environmental Education Association Conference (MEEA) in Butte. It was the first time in MEEA’s 23-year history that the conference was held in Butte. This year’s conference highlighted the remediation and restoration efforts that have been underway in Butte since the 1980’s. Speakers at the conference included Butte’s Chief Executive, Matt Vincent who led participants on a tour of Butte sites on Thursday. The keynote speaker for the event was Dr. Wallace J Nichols, who currently serves as a Research Associate at California Academy of Sciences and co-founder of OceanRevolution.org, an international network of young ocean advocates; SEetheWILD.org, a conservation travel network; GrupoTortuguero.org, an international sea turtle conservation network; and LiVBLUE.org, a global campaign to reconnect us to our water planet. Sponsors of the conference were: Montana Tech, Butte-Silver Bow County, Montana

Import Group, Quarry Brewing, and Fairmont Hot Springs. Special Thanks to our silent auction donors: Lou Parrett; Jade Hair Salon; Front Street Market; Great Harvest Bakery; Bob Ward and Sons; Pink Gloves Boxing; Frank Ponikvar; Hanging 5 Restaurant; Headframe Spirits; Montana Tech Bookstore; and NCAT.

