

THE MILL RACE RESTORATION PROJECT
FINAL REPORT



THE MILL RACE RESTORATION PROJECT



Investing in Springfield's Heritage

**University of Oregon
Environmental Studies
Service Learning Program**

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Our project was completed through the Environmental Studies Department Service Learning Program (SLP) throughout the 2003-2004 academic year. Our group consisted of four undergraduate students and one graduate student project manager. Our team worked with the City of Springfield to provide education and outreach support for the City's Mill Race Restoration Project. The City of Springfield and Springfield Utility Board (SUB) were the partners for this project.

Our group developed several methods for educating the public and informing them of the goals of the restoration project and the positive role that the public can play in improving Mill Race water quality.

In Fall 2003, the Mill Race team began gathering information about the Mill Race, including information on the history of the Mill Race, current water quality issues, impacts on fish & wildlife, and the plans for restoration. The team produced a Mill Race Restoration Project web page under the Service Learning Program website, which was updated throughout the year. It provided information about the Mill Race history and the reasons why the Restoration Project is necessary. The website included several different diagrams, maps, and photos in order to give people a better understanding of the Restoration Project.

The Mill Race team started most of their education work in Winter 2004. The team produced an informative 8-page brochure which is suitable for mass mailing, and is designed to be mailed to all residents in Springfield. The team created four educational posters to be used in future public meetings and presentations. The topics for these posters included: the history of the Mill Race, the impact of the Mill Race on Water Quality, the upcoming changes with the restoration project, and the long-term vision for the Mill Race. The team also produced four interpretive site posters designed to be placed at points of interest along the Mill Race. Topics for these posters were: the bioswale, the riparian zone, salmon, and erosion at the inlet. The bioswale poster is designed to be posted next to the Agnes Stewart Middle School, and the riparian zone poster is intended for the new LTD bus station in Springfield. The salmon poster is designed for the outlet, and the erosion at the inlet poster is designed for the inlet to the Mill Race.

In Spring term, the Mill Race team gave five presentations about the Mill Race Restoration Project at public schools in Springfield—four at Agnes Stewart Middle School and one at Springfield High School -- during science classes. The Mill Race team



also developed an additional four interpretive site posters that covered four topics: the history of the early mills, groundwater, irrigation & agriculture, and the old swimming hole.

The team also organized a clean-up day partnering with the Agnes Stewart Middle School. The middle school students helped to restore the riparian zone along Jasper Slough which is a tributary to the Mill Race. The students planted trees donated by the City, they picked up trash, they cut down non-native plants, and they made drawings and measured routes along the area.



2.1 BACKGROUND

The Mill Race flows from the Middle Fork of the Willamette River, just downstream of Clearwater Park, through the southern part of Springfield, and rejoins the Main Stem of the Willamette downstream near Island Park. The Mill Race supplies water to Springfield Utility Board (SUB) and provides fire protection for McKenzie Forest Products. The two diversions that come off the Mill Race are called Gorrie and Quarry Creeks. Gorrie Creek is very important to SUB because it flows into a large percolation basin which recharges the groundwater at one of SUB's well fields. This well field provides municipal water for the City. The Mill Race also receives runoff from a small tributary called Jasper Slough.



For over 150 years, the Springfield Mill Race has been an important part of Springfield history. Due to its historical significance, the Mill Race is eligible for listing in the National Register of Historic Places.

During the late 1800s and early 1900s, millraces were built across the Pacific Northwest to support the growing timber industry. Like many others, Springfield's Mill Race was used to provide power and to store logs destined for local mills. The Mill Race is a valuable resource for Springfield, having been used for many purposes throughout its 152 year existence, including water power, recreation, irrigation, flood and fire control. The Mill Race still plays an important role in the groundwater system that

provides municipal water to the citizens of Springfield. In addition, it provides important habitat for a variety of fish and wildlife.

The Mill Race channel is 3.5-miles long, and it was created in 1852 by Elias Briggs, the founder of Springfield, by connecting a series of abandoned stream channels. Briggs dug the canal, with his brother Isaac's help, using an ox-plow and shovels in order to provide power for the first grist and saw mills in the area. A sawmill was constructed in 1853 and a flour mill built the following year.

In 1902, Booth-Kelly Lumber Company built a new mill and the current Mill Pond. A dam about 15 feet high with a fish ladder holds back the Mill Pond. In 1959, Georgia-Pacific bought out Booth-Kelly and acquired the lumber mill and the Mill Race. In 1985, Georgia Pacific donated approximately two-thirds of the Mill Race, Mill Pond, and 76 acres of the old Booth-Kelly property to the City of Springfield. The City agreed to control flows in the system to prevent flooding and to maintain water supply for the fire protection at McKenzie Forest Products.





Springfield's First Grist Mill

Source: Springfield Museum

| A BRIEF TIMELINE | |
|-------------------------|--|
| 1852 | Elias Briggs began digging the Mill Race with his brother. |
| 1853 | The Briggs and Driggs company built Springfield's first gristmill and sawmill, both powered by the water in the Mill Race. |
| 1901 | Electricity arrived in Springfield. |
| 1902 | Booth-Kelly built a lumber mill. Following this, they built the Mill Pond for easy storage and moving of logs to be cut into lumber. |
| 1911 | The Booth-Kelly Mill burned and was rebuilt. |
| 1949 | Weyerhaeuser opened their Springfield Mill. |
| 1959 | Georgia-Pacific bought out Booth-Kelly and acquired the lumber mill and the Mill Race. |
| 1985 | Georgia-Pacific gives 2/3 of the Mill Race and the Mill Pond to the City of Springfield, including 76 acres of the old Booth Kelly mill. |
| 1993 | A group of concerned citizens and Government agencies attempted to begin restoring the Mill Race, but funding was not available. |
| 1998 | The City of Springfield requested that the USACE investigate the potential for habitat restoration. |
| 2005 | Restoration is scheduled to begin. |

2.2 ISSUES

Since the 1850's, the Mill Race has been used by local industries and as a drainage channel for the city's runoff. It has supported industries including a quarry, a flourmill, and a sawmill.

The Mill Race water level is low in the summer due to the conditions at the inlet and sedimentation along the Mill Race channel. The low volume of water in the Mill Race is quickly warmed in the summer time, and this results in high temperatures and low dissolved oxygen content in the water. This is especially problematic at the Mill Pond where the flow of water is slowest. Lack of riparian vegetation along the Mill Race also causes high water temperatures because there is not enough shading on the water. The high temperatures and low dissolved oxygen levels negatively affect fish such as salmon and trout that require low temperatures and high dissolved oxygen.

Springfield's drinking water comes mainly from groundwater obtained from public water supply wells operated by the Springfield Utility Board (SUB). One of SUB's wellfields is located between the Mill Race and the Middle Fork of the Willamette River. Low summer flows in the Mill Race present a problem for keeping the aquifer recharged at this important wellfield.

Another issue with the Mill Race is a lack of public awareness. Many people do not know that the Mill Race is such an important resource for Springfield. The City believes that public awareness is a key to success with the restoration project. Therefore, the SLP Mill Race team worked to provide public education and outreach support for the City of Springfield to inform the public about the issues surrounding the Mill Race.



2.3 Project Partners

The City of Springfield



The City of Springfield is planning to begin the Mill Race Restoration Project in 2005 pending on funding from the Corps of Engineers. The City directed the tasks for the SLP project, they provided guidance for the mailing, and they selected the locations and topics for the posters. The city also donated equipment and native trees for use during the clean-up day at Agnes Stewart Middle School.

Springfield Utility Board (SUB)



The Springfield Utility Board provides water and electric utility serving Springfield, Oregon. The Mill Race Restoration Project is important to SUB because water from the Mill Race flows into the groundwater system and recharges the aquifer. Low water levels in the Mill Race can affect the drinking water supply. Therefore, the Mill Race Team helped SUB by informing people about the importance of protecting the Mill Race water to sustain the quality of their drinking water.

United State of Army Corp of Engineers (USACE)



**US Army Corps
of Engineers®**

The Army Corps of Engineers is a federal organization. They plan, design, build and operate water resources and other civil works projects throughout the United States. The Mill Race team

did not work with USACE directly, but we used a USACE report for a large part of our research. USACE is working with the City of Springfield to provide constructional and financial support for the Mill Race Restoration Project.



3.1. Presentations at Springfield Schools

3.1.1 Goals

The goal of the school presentations was to inform public school children in Springfield about the Mill Race and the Restoration Project in a fun and interactive way. We felt that if they are aware of the problems at the Mill Race and the restoration efforts they will be more likely to be concerned and to get involved both now and in the future.

3.1.2 Implementation

The Mill Race team presented at five classes, four to 7th grade science classes at Agnes Stewart Middle School and once to a high school science class at Springfield High School. Our project manager made contact with the instructors of these classes, set up presentation times, and received input from the instructors on what the content and level of detail of the presentations should be.

One of the team members then created the PowerPoint slides for the presentation and we began to rehearse. We previewed the presentation to City of Springfield staff and made their suggested changes. We made minor adjustments after presenting to the first class. We also added a few more detailed slides for the high school presentation. Overall, we tried to make the slides interesting and fun to try to keep the students' attention. We made the slides very colorful and added lots of animations.

3.1.3 Feedback

Feedback for these presentations was very positive. Each class reacted differently, with some students being much more enthusiast and interactive than others. The instructors of the classes we presented to were very supportive and appreciative of our efforts. Our Service Learning director, Steve Mital, and Ed Black from the City of Springfield each attended one presentation and each had many positive comments on the slides, content, and overall presentation.



3.2 Educational Posters

3.2.1 Goals

A primary goal of creating educational posters for the Mill Race was to spread information about the Mill Race restoration project to the public. The posters were designed to be used in future public meetings and presentations. They covered four themes: the history of the Mill Race, water quality issues, upcoming changes, and long-term visions. The history poster provided the timeline of the history of the Mill Race and information on why the Mill Race was created. The water quality poster had a simple diagram to describe a relationship of the Mill Race and the Springfield public water supply. The upcoming changes poster explained the four big changes of the Mill Race: creating a new inlet, removing the dam from the Mill Pond, restoring native vegetation, and removing non-native vegetation. The long-term vision poster gave some ideas of what people can enjoy at the Mill Race after the project is finished.

3.2.2 Implementation

Each team member was assigned different theme to work on. The Mill Race team designed the posters individually by using Microsoft PowerPoint and gathered information from the City of Springfield, Springfield Utility Board, the Springfield Museum, and web resources. It took approximately three months to design the educational posters. The Mill Race team revised each poster twice with input from the City of Springfield.

3.2.3 Results

The posters will be printed out in 30 X 48 inches paper, and they will be used for school and public presentations.



3.3 Interpretive Site Posters

3.3.1 Goals

A goal of creating interpretive site posters is to provide visitors with some information about sites of interest along the Mill Race. The posters cover eight themes, and will be posted at eight different key points along the Mill Race. The first set of posters was done in April, and covers: the bioswale, the riparian zone, the inlet, and the outlet. The bioswale poster will be posted next to the Agnes Stewart Middle School, and the riparian zone poster will be placed at the new LTD bus station in Springfield. The inlet and the outlet posters will be posted in their respective locations in regards to the Mill Race.

The second set of posters was created in May, and they cover the following topics: the old swimming hole, irrigation and agriculture, the early mills, and the relationship of the Mill Race to wells and groundwater. The swimming hole poster is designed for the old swimming hole location where 28th street crosses the Mill Race. This was a popular spot for recreation in the Early 1900s. The early mills poster is designed for the Booth-Kelley crane shed. The irrigation & agriculture poster is designed for anywhere along the agricultural area of the Mill Race. The groundwater poster is designed to be placed near SUB's wellfield.

3.3.2 Implementation

Every team member learned to use the Adobe Photoshop program to create graphics for the interpretive site posters. Creating original graphics was an excellent way to describe each theme for the project. The graphics were imported into PowerPoint and were then converted into pdf's.

3.3.3 Results

Each poster will be printed out in 30 X 48 inches paper, and they will be posted along the millrace.



3.4 Term Presentations

3.4.1 Goals

At the end of each term, the Mill Race team gave a PowerPoint presentation in order to update the audiences and the sponsors on the progress of the Mill Race team's work. The Mill Race Restoration team gathered a lot of useful information from different sources and combined the information into a clear and easy-to-understand PowerPoint presentation. After each presentation, the Mill Race team had a "Question and Answer" period in order to clarify peoples' understanding of our project.

3.2.2 Implementation

Each team member was responsible for developing a few slides for the presentation. The presentations included the overview of the history, partners of this project, water quality issues and the upcoming changes of the Mill Race. Also, we would introduce the products such as the posters and brochures that we had produced. One of the Mill Race team members was responsible for organizing and compiling the slides. The PowerPoint presentations were at the end of each term. Each presentation was approximately fifteen minutes long with a five-minute "Question and Answer" section.

3.2.2 Feedback

After the presentations, the Mill Race Team received positive feedback from our audiences. In the fall term presentation, the Service Learning Program project coordinator, Steve Mital, stated that the Mill Race team did a very good presentation, however, he suggested the team needed to fix some technical problems and to get more practice in order to make the presentation proceed in a smoother way. In the Spring term presentation, based on the knowledge and experience the team gained in the previous presentation, the Mill Race team's presentation was much improved. Mr. Black, from the City of Springfield, said he was very satisfied with our presentation. Also, Steve Mital said that the Mill Race team improved a lot and we gave a very detailed and thorough presentation. He also said the presentation would be more informative if the team can add more slides about the details of the maps and water quality issues. The Spring Presentation was well received and Nancy Moreno from the Springfield Utility Board was in attendance.



4.1 Mailing

4.1.1 Goals

The main goals for this mailing are public education and outreach. The brochure will provide a way for the City of Springfield to reach its citizens with the concept and details of the Mill Race Restoration project in hopes of generating interest and public participation in the project.

4.1.2 Implementation

The contents of the brochure were originally separated into four sections. Each member of our team was responsible for the text and graphics included in their section. The compilation, layout, and editing of the brochure were then completed primarily by one team member and our project manager. After a series of editing sessions with the City staff, the brochure was deemed satisfactory.

4.1.3 Contents

The contents of our brochure include the following sections:

- Brief introduction to the Mill Race, including its importance as a historical community landmark.
- Description of upcoming changes included in the planned restoration project.
- Explanation of why these changes are necessary.
- Reasons why the citizens of Springfield should be concerned about and involved in the restoration efforts.
- Interesting facts about the Mill Race.
- Recreational and educational opportunities that will be available upon completion of the restoration project.
- Economic significance of the Mill Race and its restoration.
- Water quality.
- Who is involved in the project?
- Ways the citizens of Springfield can learn more about the project and get involved in restoration efforts.



4.1.4 Distribution

The brochure was formatted using PowerPoint. It is designed to be two 17” x 11” pages folded together to create 8 pages. Distribution was originally intended for the spring of 2004, however, due to changes in the City of Springfield’s planning schedule, mailing of the brochure has been postponed until a later date.

4.1.4 Feedback

Feedback on this part of the project has been limited, as the brochure has not yet been distributed to the public. However the Mill Race team has received positive feedback from City of Springfield staff and fellow Service Learning Program participants.



4.2 Organizing Volunteer Clean-up Day

4.2.1 Goals

The goal of the Clean-up Day was to get citizens involved and to generate interest in the Mill Race Restoration Project.

4.2.2 Implementation

The Clean-up Day was originally intended to be a two-day event to help create a Friends of the Mill Race group. However, this was later changed to a one-day event with students from Agnes Stewart Middle School when the Friends of the Mill Race idea was dropped by the City. The Mill Race Team worked with Carrie Patterson to coordinate a restoration day along Jasper Slough behind the Middle School. The area was very overgrown with blackberries, and the school would like to turn the area into a usable area for outdoor education and to restore riparian habitat. The project manager and two high school students went to the area a week before the clean-up day and cleared out large areas of blackberry vines using weed-whackers loaned by the City of Springfield. The City also donated about 15 native plants for the project, and they loaned shovels for use during the clean up day.

On May 21st the Mill Race Team worked with three classes of 7th graders to plant trees, remove invasive species, and to clean up trash. There were 7 adults including the Mill Race Team, Carrie Patterson, and Tom Madison. This allowed for good supervision of the students. The students were the same ones that received our Mill Race presentation and they were very enthusiastic about getting involved.



3.4.3 Results

Large areas of blackberries were removed including two paths to get down to the water to enable the classes to do water quality testing. A path was also cleared along the

fence. Roughly 15 native plants were planted, including: Western Red Cedars, Douglas Firs, willows, wild roses, and dogwoods. The students were a great help in cleaning up the area and restoring the riparian habitat. Hopefully this will have helped with their education and will generate lasting interest in the Mill Race restoration project.



4.3 Mill Race Website

4.3.1 Goals

1. Provide easy access to educate the public about the Mill Race Restoration Project.

The Mill Race website was established to inform people about the goals of the restoration project in order to let people get a better understanding about the Mill Race Restoration Project. The website also provides easy access about the Mill Race history so as to provide some background knowledge of the Springfield Mill Race. People can also find information of how water from the Mill Race affects the Springfield's drinking water quality. Besides the background information, the website also informs the public about the upcoming changes around the Mill Race and promotes a vision for the future of the Mill Race after the restoration project.

The SLP team has done a lot of different projects in order to promote the Mill Race Restoration Project and the website introduces the Mill Race team education and outreach support in order to arouse public's attention and encourage public and students participation. The website also includes several useful and important links to let interested groups find additional information.

4.3.2 Methodology

The website is divided into eight pages.

1. The goals of the Mill Race restoration team education and outreach project.
2. History of the Mill Race
3. Springfield water quality issues
4. Mill Race upcoming changes
5. Long term vision of the Mill Race
6. Useful links
7. Contact the Mill Race team
8. Service Learning Program (SLP)

4.3.3 Implementation

The Mill Race team used the website design software, Dreamweaver, to develop this website. The team started gathering information about the Mill Race in September



2003. Our information sources are mainly from newspaper articles, websites, books and journals. Each team member developed a page and then the Mill Race team organized and combined all the pages together. The team also updated the website periodically throughout the year.

4.3.4 Results

The website provides some useful information about the Mill Race. People can get a better understanding about the Mill Race's past, present and future with respect to the importance of having the Mill Race restoration project. The City of Springfield will be provided with a CD containing all the files in the website for their future reference.



5.0 Recommendations

5.1 Recommendations for future clean-up events

1. Confirm sponsorship.

Meet with the sponsors and make sure their goals and expectations are in alignment with yours.

2. Be informed.

Educate yourself as much as possible about the area that you are focusing on cleaning up. Learn about the native habitat.

3. Tap into your resources.

Interview everyone you can about the best way to go about your project. Learn the best times to work with plants, with the wildlife, the weather and the pre-clean-up labor team (removal of blackberries, non-native species, preparation of soil, etc.)

4. Be very clear about the time, place and length of time that will be spent on the project so there is no confusion.

5. Invite people in a casual, friendly and fun way.

If they come of their own accord, as opposed to a feeling of obligation from coercion, they will bring something invaluable to the project.

6. Tell as many people as possible, including the media.

The attention will pique the interest of the public so even if they don't volunteer, they'll be aware of what you are doing.

7. Provide educational and informative presentations months in advance for potential volunteers.

8. Advertise and inspire by being an example.

When you share how much the project matters to you and what experiences you have had in the past, people will be interested in your real life stories and successes.

9. Bring goodies. Round up a few volunteers to bake cookies and bring water jugs.

10. Have fun doing it.

This is a great opportunity for the community to work together to make a difference. Having fun will inspire others and keep people motivated for future volunteer days.



5.2 Recommendations for Organizing a Friends of the Mill Race Group

5.2.1 Methodology

The first step of creating a “Friends of the Mill Race” community group to participate in the Mill Race restoration is to confirm the sponsorship that would support the group. The sponsor for this project would be the City of Springfield.

Secondly, it is necessary to consider why the group needs to exist and what we would hope to accomplish. The answer to this two-part question is that the group needs to exist to ensure that there will be community involvement and pride in the restoration project so that in the future the group will maintain the improvements and keep awareness up in the community for future fundraising and volunteer work. The “Friends of the Mill Race” would focus on the accomplishment of LONG-TERM maintenance and outreach over the years following the restoration project. Once construction is finished, the group will serve as representatives of the Mill Race in the future, keeping citizens involved and informed so that future generations can enjoy the benefits of the Mill Race.

The third step is to mail out an informational brochure, inviting the citizens of Springfield to participate in the group. It is important to provide clear, concise information, with adequate explanation of the goals so that it is clear what the group is out to achieve.

5.2.2 Implementation

Advertising with posters, radio spots and flyers at local businesses is important to alert people to the restoration project and the “Friends of the Mill Race” group.

A public meeting is also important. If it is properly advertised, it can draw citizens. This is a great opportunity to inform them of the restoration project and have them there to physically sign up to join the “Friends of the Mill Race” group.

At this time, it would be beneficial to create a contact list and set up a regular meeting date to get the meetings underway.

Once the initial steps have been taken and meetings are underway, it is time to be active and remain active in the community on behalf of the Springfield Mill Race.



6.1. Mailing





Water wheels powered many early mills.

For over **150 years** the Springfield Mill Race has been an important part of Springfield's history.

The **Mill Race of the Past** powered early industries and provided plentiful swimming and fishing opportunities.



One of Springfield's first mills.

Unfortunately, **Today's Mill Race** is struggling with periodic low flows that result in poor water quality and unfavorable fish habitat.



The Mill Race flowing through an early wooden culvert.

Over the past several years, the City of Springfield has worked with community partners to develop a plan for the **Future of the Mill Race.**

The City's plan to **Restore the Mill Race** is designed to benefit everyone. It will help protect the City's drinking water supply, improve water quality, restore habitat, provide new recreation areas, and help to revitalize downtown businesses.

Look inside to see how a **Vision** is turning into **Action** to restore this important piece of **Springfield's Heritage.**

Photos courtesy of the Springfield Museum



What's Happening? What's Happening?

Planned renovations for improving water quality and fish and wildlife habitat:

Creating a new inlet to the Mill Race upstream from the existing inlet. This will enhance water flow through the Mill Race and improve habitat for numerous aquatic, riparian, and wetland species.

Removal of the Mill Pond dam. This will provide better water flow along the course of the Mill Race and allow safe use of this aquatic habitat by many species, including our native Spring Chinook salmon and Western Pond Turtle.

Restoration of riparian and wetland habitat and removal of invasive plants. After removing invasive species, such as blackberries and reed canary grass, native plants will be planted along the Mill Race banks and new wetlands will be established by creating small seasonal ponds at the former Mill Pond site. These changes will encourage re-population of native wildlife.



The Mill Race and its surroundings contain significant habitat for the ecological health of our area.

Threatened species- The local area is home to a total of 26 plant and animal species listed as "Endangered," "Threatened," or "Species of Concern" under the *Endangered Species Act*. The Mill Race itself provides important habitat for the threatened Spring Chinook salmon.

Threatened habitat- As land next to our rivers becomes more developed, the value of places like Springfield's Mill Race becomes increasingly important. Restoring Springfield's Mill Race will preserve important habitat for future generations.

Why is This Important?

Restoration of the Mill Race is designed to improve the **quality of life** in Springfield by adding recreational and educational opportunities such as hiking, picnicking, wildlife viewing, and nature study.

The **local community** has put a great deal of effort into planning the recreational and educational development of the Mill Race.

Citizens are invited to **participate** in the restoration project to gain a better understanding of the process and to take **pride** in the restoration of this historic area. Ultimately, it will be the **people** of the Springfield community who benefit from the restoration of the Mill Race.

Recreational and Educational features of the restoration project:



Parking, trails, and restrooms that will serve the public by creating better access to the Mill Race.

Informational signs and interpretive kiosks will invite the public to learn about the ecological, cultural, and historical significance that the Mill Race represents.



Viewing areas will provide the public with opportunities to observe wetland, riparian, and aquatic habitats without disturbing the flora and fauna of the area.

Did You Know?

For over 150 years the Springfield Mill Race has been an important part of Springfield's history. The Mill Race currently provides water for several important local uses, most notably the Springfield Utility Board for the municipal water supply, and McKenzie Forest Products for fire protection.

The Mill Race's place in Springfield's history:

The 3.5 mile-long stream was created in 1852 by Elias Briggs, who hand dug connections of natural channels existing throughout the area. Briggs was one of the founding fathers of Springfield. The Mill Race provided power to the first gristmill and sawmill in the area.



Elias Briggs

Throughout its history, the Mill Race served as a popular place to gather for picnics, canoeing, fishing, and swimming. For a time, there was even a diving board and changing room at the corner of Mill and 28th!

Approximately 2/3 of the Mill Race, 2/3 of the Mill Pond, and 76 acres of the old Booth-Kelly Mill were donated to the City of Springfield by Georgia-Pacific in 1985.

Since the Mill Race connects the Willamette River and the Middle Fork of the Willamette, fish were once abundant in the Mill Race. Fishing was a popular activity along the banks of the Mill Race and it is said that at one point the salmon runs were so healthy that a person could catch fish by spearing them from the bank!

Photo courtesy of the Springfield Museum

Economic Significance

The Mill Race is currently an **untapped resource** near the downtown area of Springfield. Restoration of the Mill Race will help spark renewed interest in the area. A variety of businesses will be encouraged to take advantage of this new opportunity for the benefit and enjoyment of the local community and visitors. A restored Mill Race will give a **boost** to the downtown area and will help to **revitalize** the local economy.

The citizens of Springfield have expressed an interest in several City improvements to accompany a restored Mill Race. Ideas have included:



Restoration of a **working flourmill** near the Mill Race



Canoe and bicycle rentals



A **farmers' market** in the Booth Kelly Shed

A **museum**



Public access to the Mill Pond wetlands with **parking areas**

Water Quality

Effects on Drinking Water and Wildlife Habitat

Portions of the Mill Race currently has poor water quality for several reasons:

The inlet to the Mill Race is on the Middle Fork of the Willamette River. Due to natural erosion, water levels and velocity have decreased.

Low water flows increase water temperatures and reduce oxygen levels needed for fish.

Storm water runoff from nearby industries, agriculture, and urban areas can impair the water quality of the Mill Race.

Increasing the flow of water in the Mill Race will reduce water temperatures and will increase oxygen necessary for healthy fish populations. Reestablishing riparian and wetland vegetation will filter the water entering the Mill Race and improve water quality. Since water in the Mill Race recharges the groundwater for a portion of the City's drinking wells, improving water quality in the Mill Race benefits both fish and people.



Image courtesy of Todd Madson



The U.S. Army Corps of Engineers and the City of Springfield are partnering to provide most of the construction and financial support for physical changes to the Mill Race.

The first phase of construction will continue over the next two years. Future phases of improvements will be made in the coming years as funding becomes available.



How Can You get Involved?

Please check the box next to activities you are interested in. Cut out and mail this card and we will send you additional information.



Name: _____

Address: _____

Phone: _____

Email: _____

Mail to: City of Springfield, Public Works
225 5th Street
Springfield, OR 97477


I am interested in:

- Cleaning up the Mill Race or removing invasive vegetation
- Joining the new "Friends of the Mill Race" group
- Contributing money or services




6.2 Educational Posters

SPRINGFIELD MILL RACE HISTORY




Waterwheels were used to provide power to the mills.




Water was an important part of the logging and lumber process nearby Springfield.

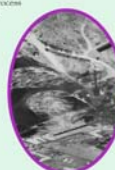
The Springfield Mill Race is significant to Springfield's history. In 1932, Elias Driggs and his sons built a race excavated the 3.7-mile channel, by connecting a series of old stream channels. The Mill Race was created for the sole purpose of providing water power to the area's first saw & grist mills. While much has changed since then, the Mill Race remains a part of the Springfield landscape and plays an important role in providing water to the citizens of Springfield. Flowing from the Middle Fork of the Willamette River and through Springfield, it remains the main stem of the Willamette near downtown Springfield. More than just a resource, it is part of Springfield's heritage.




Elias Driggs - Developer of the Mill Race




Springfield's first saw mill



Booth-Kelly Lumber Mill




Reviewing the restoration plan



Canoeing along the mill race

| 1852 | 1855 | 1902 | 1957 | 1985 | 1995 | 1995 | 1997 | 2005 |
|---------------------------------|---|-------------------------------|--|--|--|---|--|--|
| Elias Driggs digs the Mill Race | The first grist and saw mills are built | Booth-Kelly builds a saw mill | Georgia-Pacific Purchases the Booth-Kelly Mill | Georgia-Pacific donates Mill Race to City of Springfield | Citizens and government agencies propose Mill Race restoration | City of Springfield passes a bond to fund the Mill Race restoration Project | U.S. Army Corps of Engineers presents a preliminary restoration plan | Springfield Mill Race Restoration Project begins |


Designed by: Cindy Madson
Vintage photos courtesy of Springfield Museum



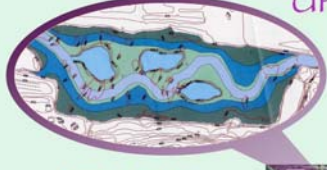
At the turn of the century the Mill Race was no longer used for power due to the development of electricity. By that time, the Mill Race had become an essential part of logging and lumber. Logging water power, however, logging and sawmills were just a few of the activities that connected Springfield restoration and sawmills. In the early 1930's and 1940's the Mill Race Restoration was a worthy cause of action that restoration could save the Mill Race. The work on the Mill Race for Today. The area of Springfield, Oregon, is a beautiful Spring, Oregon, and is a listed as a National Historic Landmark under the Department of the Interior. Efforts are ongoing throughout the Willamette watershed to restore nature habitat.

In 1995, the City of Springfield approved a general obligation bond to fund Mill Race improvements and restoration.

In 1997, the U.S. Army Corps of Engineers and the City of Springfield worked together to create a restoration plan. The restoration will improve water quality, habitat and reduce sediment and recreational opportunities for the public, with improved public access points. Restoration is slated to begin in the summer of 2005.



UPCOMING CHANGES TO THE MILL RACE




RESHAPING THE MILL POND

The Mill Pond dam will be removed, and the area will be reshaped to include a series of smaller seasonal ponds & wetlands with a meandering channel for the Mill Race.

BENEFITS OF REMOVING THE MILL POND DAM

- Removing the dam & Mill Pond will significantly reduce water temperature in much of the middle reach of the Mill Race. Lower water temperatures will produce higher amounts of dissolved oxygen necessary for fish.
- It will provide better water flow along the course and improve the aquatic habitat for native Spring Chinook, Salmon & other types of fish, such as steelhead & trout.




CREATING A NEW INLET

A new inlet will be constructed 200 feet upstream of the boat ramp at Clearwater Park. The Mill Race will flow through part of an older channel of the Middle Fork of the Willamette on the north side of the park.

BENEFITS OF A NEW INLET

- In the past, the city needed to use a bulldozer in the river each year to channel water into the inlet of the Mill Race. The new inlet will make this unnecessary.
- The new inlet will be more stable and will provide higher flows to the Mill Race that will improve habitat for fish & wildlife.




REVEGETATION OF RIPARIAN & WETLAND PLANTS


Invasive plants such as blackberries, English ivy, Scotch broom, & reed canary grass have choked out much of the native vegetation along the Mill Race.

Planting with native plants will greatly improve the quality of the riparian area along the Mill Race.


Where possible, new riparian vegetation will be planted within 100 feet of the Mill Race. Approximately 20 acres of new wetlands will be created in the Mill Pond area.

Native wildlife such as the western pond turtle, red-legged frog, migratory birds, beaver, otter, & waterfowl will benefit from the created riparian habitat.






Designed by: Eva Chan



Coming changes to the Mill Race include four major physical changes:

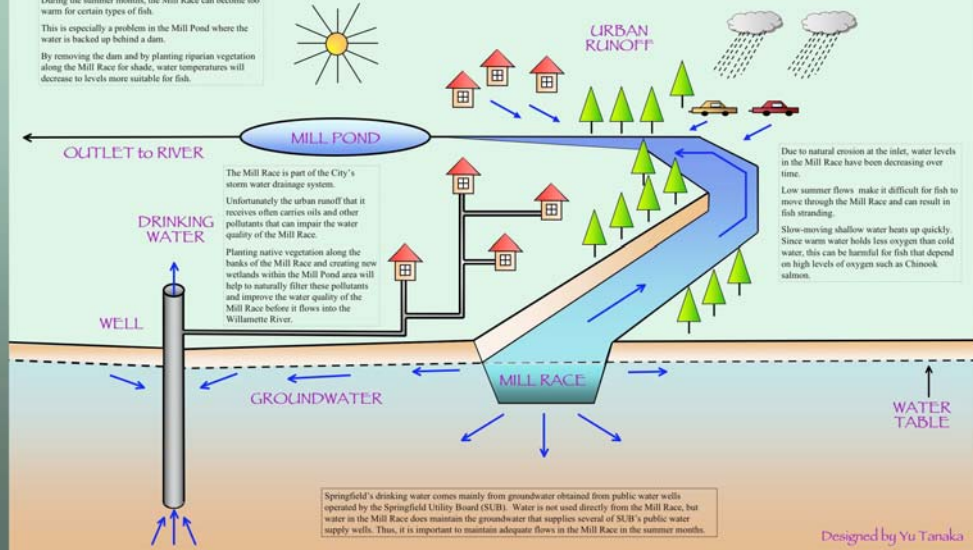
- The construction of a new inlet upstream of the current inlet at a more stable location. The new inlet will provide higher flows to the Mill Race & will assist in the authority of the Springfield Utility Board's South 22nd Street water field.
- Removal of the Mill Pond dam will increase water velocity, lower temperatures, & increase oxygen in the water as it travels through the Mill Race.
- Removal of invasive non-native plants along the banks of the Mill Race.
- Wetlands creation at the Mill Pond and vegetation along the Mill Race will help treat storm water, provide food control, and improve fish and wildlife habitat.

These physical changes will be undertaken by the City of Springfield & the U.S. Army Corps of Engineers starting in summer 2005.



THE MILL RACE & YOUR WATER

During the summer months, the Mill Race can become too warm for certain types of fish. This is especially a problem in the Mill Pond where the water is backed up behind a dam. By removing the dam and by planting riparian vegetation along the Mill Race for shade, water temperatures will decrease to levels more suitable for fish.



High quality water is important to the success of Springfield. It is the responsibility of the City to ensure the health of the Mill Race. To restore the Mill Race will improve water quality in ways that will benefit our environment & fish. Currently the water in the Mill Race has low flows and high temperatures during the summer months. High water temperatures decrease the amount of dissolved oxygen in the water. Fish in the Mill Race need dissolved oxygen in the water to breathe just like we need oxygen to live. By increasing Mill Race flows and shading over the Mill Race, the water temperature will be lower. Water with lower temperature has higher dissolved oxygen, resulting in higher quality water for fish. Wetland plants have a special ability to filter water. Adding wetland plants along the Mill Race will improve water quality through this natural cleaning process. Since water in the Mill Race also flows into the groundwater, it is important to maintain the water quality of the Mill Race as we also maintain the quality of our drinking water.



Designed by Yu Tanaka

LONG TERM VISION FOR THE MILL RACE

Conceptual Drawing for a Restored Mill Race



The restored Mill Race will help revitalize downtown Springfield as a vibrant economic center. It will also be a gathering place for community events and social activities.

Improved natural areas will provide recreational and educational opportunities as well as crucial habitat for native plants and animals.

Ideas for improvements along the Mill Race have included a farmers' market in the Booth-Kelly Crane Shed, a museum, a working flour mill, and sites for canoe and bicycle rentals. Enhancements such as these will provide new recreational opportunities for the local community and visitors.

Conceptual Drawing of a Millrace Greenway to Enhance the Downtown Area.



Conceptual Drawing of Waterfront Park



The Mill Race of the Future: beautiful trees, bike and walking paths, and plenty of clean flowing water. With easy access from the downtown area, the Mill Race will be an ideal place to get in your daily walk or a quiet place for stress-free lunch hours. It will be a great resource for family recreation and a welcoming bit of nature just minutes from your door!



Over the past several years, the City and our community partners have developed a new vision for the future of the Mill Race. The Mill Race of the Future will be a vibrant economic center for the citizens of Springfield. It will include better, and improved access points for walking & bicycle recreation. It will be a place where families can participate in activities and events, and the Springfield community can enjoy fishing, swimming, canoeing, & recreation. Restoring the Mill Race will also help to revitalize the downtown economy, with new things to see and do, such as a new museum or a farmers' market. The Mill Race will provide yet another reason for people to visit and do business in downtown Springfield. The Mill Race of the Future will demonstrate that environmental restoration can be complementary to improving our community. By improving our economy, our recreation, and water quality, the Mill Race Restoration Project will benefit fish & wildlife along the Mill Race as well as the citizens of Springfield. The Mill Race Restoration Project is part of a vision for the future that Springfield residents will take pride in and should look forward to creating. If you would like to be involved in securing planning events and projects to improve the Mill Race, please contact the Springfield Public Works Department.



Designed by Anna Kummer
Artwork courtesy of the Millrace Restoration Initiative



6.3 Interpretive Site Posters

WHAT IS A BIOSWALE?

Water enters the bioswale from the City's storm water collection system

Part of the water from this bioswale drains into Jasper Slough which flows into the Mill Race

Part of the water drains through the bottom into the groundwater

Plants shown: Blue Flag Iris (*Iris versicolor*), Spikerush (*Eragrostis sp.*), Pond Turtle (*Emydoidea blandingii*), Horsetail Rush (*Equisetum laevigatum*), and others.

Springfield Mill Race Restoration
Working in partnership with:

Runoff from urban areas is a common source of water pollution. It can carry varying amounts of sediment, fertilizers, metals, oils and household chemicals that can be harmful to fish and wildlife.

Bioswales are a natural way of removing sediments and pollution from storm runoff before it reaches our streams.

A bioswale is a drainage basin with a dense cover of grasses and other plants. Runoff is directed through this bioswale during storm events. The dense cover slows the flow of the water and allows pollutants to settle. The pollutants are then absorbed or adsorbed into the soil where they are decomposed.

The vegetation within the bioswale provides water treatment by absorbing nutrients and metals in the water. The vegetation within the bioswale provides food and habitat for wildlife. This bioswale is designed to reduce sediments, reduce flooding, and provide habitat for native wildlife such as red-legged frog, western pond turtle, and migratory birds.

Some of the water that enters the bioswale filters into the groundwater and recharges Jasper Slough water. The water that infiltrates into the ground flows into Jasper Slough which connects to the Mill Race. The water in the Mill Race flows into the Willamette River and eventually out to the Pacific Ocean.

Designed by Candia Mathison

A New Inlet for the Mill Race

Conceptual drawing of the area surrounding the new inlet.

Why is a New Inlet?

The process of headcutting has left the inlet of the Mill Race sitting higher than the riverbed. During low flows in the Middle Fork of the Willamette River, the current inlet to the Mill Race does not receive enough water to maintain healthy flows.

How Has the River Changed Over Time?

The river has meandered from side to side over the years due to natural erosion of the banks. The diagram above shows the extent of the channel movement near the Mill Race inlet from 1944 to 1990. In only 56 years the inlet to the Mill Race moved 250 feet! Lateral movement is less of a concern now that the banks have been reinforced with large stones called "rip-rap." However, headcutting continues to be a problem at the Mill Race inlet. Due to headcutting, the erosion of the river bottom has occurred at a faster rate than erosion of the Mill Race bottom.

Will the New Inlet Have the Same Problem?

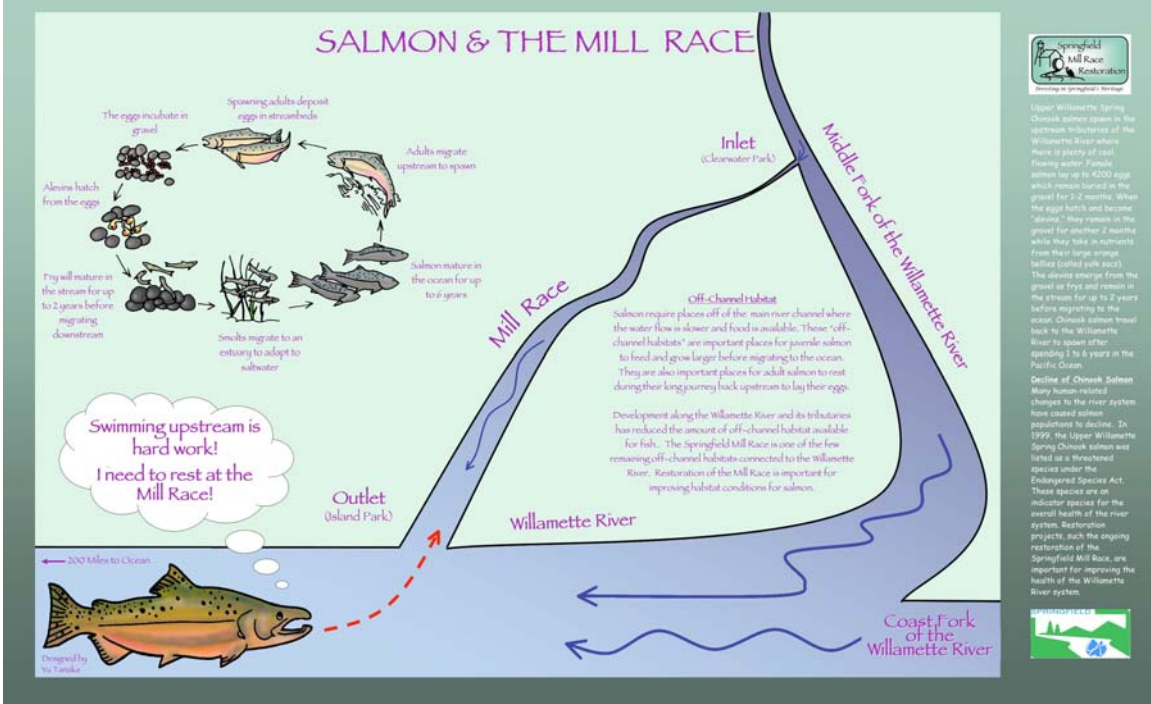
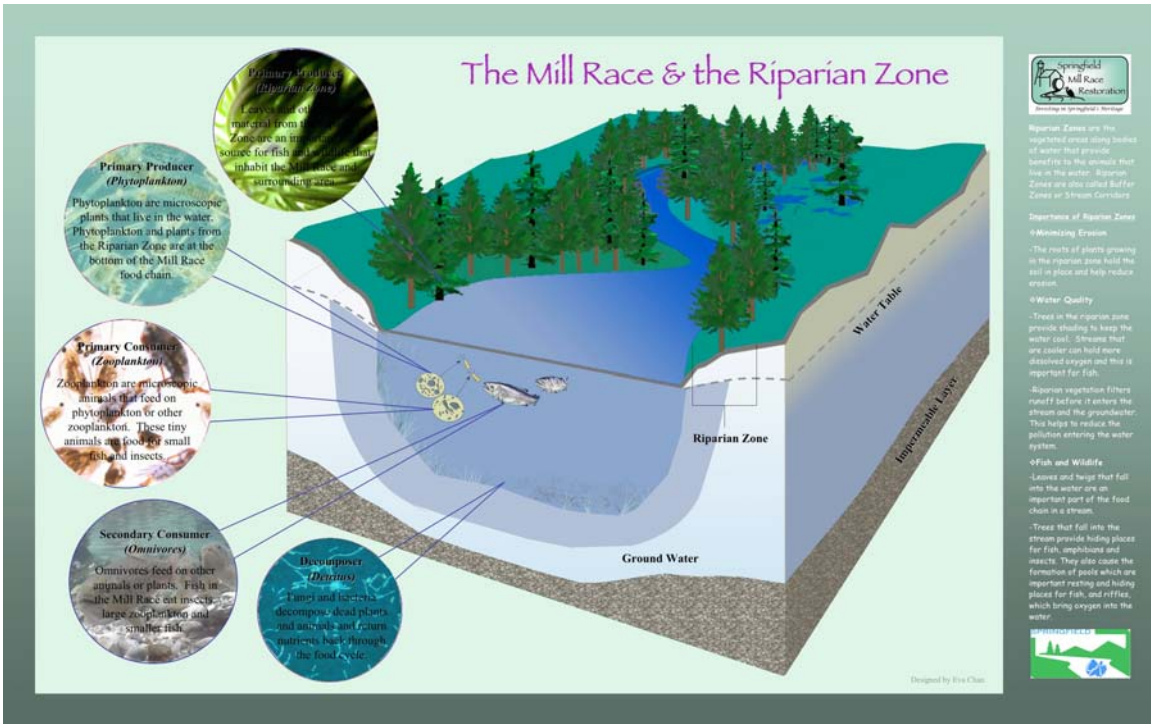
The new inlet will be located approximately 1800 feet upstream of the existing inlet. The riverbed at the new location is made of bedrock, which is very stable and does not easily erode. The new inlet will allow healthy water flows into the Mill Race for many years into the future.

Springfield Mill Race Restoration
Working in partnership with:

Healthy rivers are vital to the health of our communities. The current inlet of the Mill Race is located in an area that has been eroded by the process of headcutting. The current inlet to the Mill Race does not receive enough water to maintain healthy flows.

Over the years, the river has meandered from side to side over the years due to natural erosion of the banks. The diagram above shows the extent of the channel movement near the Mill Race inlet from 1944 to 1990. In only 56 years the inlet to the Mill Race moved 250 feet! Lateral movement is less of a concern now that the banks have been reinforced with large stones called "rip-rap." However, headcutting continues to be a problem at the Mill Race inlet. Due to headcutting, the erosion of the river bottom has occurred at a faster rate than erosion of the Mill Race bottom.

At the inlet to the Mill Race, the river bottom has eroded through a process called headcutting. A steep section in the riverbed called a nick point has formed. The riverbed at the new inlet will be made of bedrock, which is very stable and does not easily erode. The new inlet will allow healthy water flows into the Mill Race for many years into the future.



Springfield Mill Race Irrigation & Agriculture



Runoff from livestock pens and fertilized fields can flow into the Mill Race and impair the water. Water from the Mill Race that is used as drinking water is slowly filtered through the groundwater system and is thoroughly cleaned before reaching the public. However, pollutants such as pesticides, animal wastes, and fertilizers may harm fish or livestock who use the water before it is filtered.

The Springfield Mill Race provides irrigation water to property adjacent to the Mill Race. Land owners pump water from the Mill Race to water their crops, orchards, yards, and livestock. For these citizens, the Mill Race is an especially valuable water resource. The Mill Race also serves many other uses. The Mill Race provides water for recreational opportunities. It recharges water to an aquifer used for drinking water, and it provides habitat for native fish and wildlife such as the threatened Upper Willamette Spring Chinook Salmon. By fencing livestock away from the Mill Race, limiting use of pesticides and fertilizers, and conserving water whenever possible, the condition of the Mill Race can be improved for the use and enjoyment of future generations.



Domestic animals left free to roam can find their way to the Mill Race to drink. The hard hooves of these animals can trample native riparian vegetation along the banks of the Mill Race. This native vegetation is important as food and shelter for native wildlife. It is also important for providing shade on the water to keep water temperatures suitable for fish.

Designed by Lara Kammer

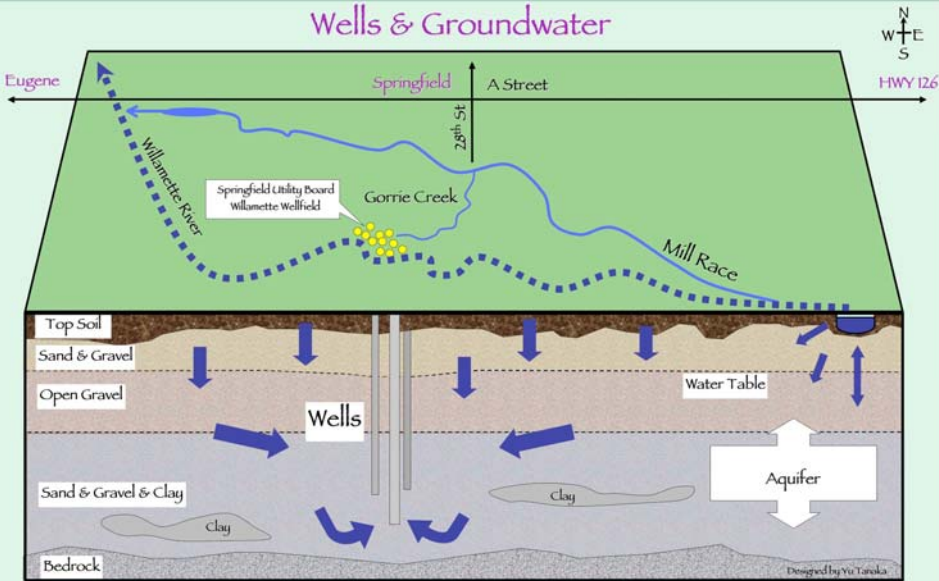


For over 100 years, the Mill Race has been an important resource to the citizens of Springfield. The Mill Race was originally created to provide water power for the area's first mills. The Mill Race provided important water for logs on their way to the saw mill. In the early 1900s, locally produced runs were a common occurrence in the Mill Race and fishing was a popular activity. Swimming was also a popular community activity and there was even a diving board and changing rooms installed where joggers crossed the Mill Race.

Since these early years, the Mill Race has also provided water for local farms. The Springfield community continues to include farmers and livestock owners who depend on the Mill Race for water. Farming and ranching bring many benefits to the Springfield community, but it can also have environmental impacts that should be addressed. The Springfield Mill Race Restoration Project will work to reduce the impacts of human activities, such as agricultural and industrial activities, on communities along the Mill Race with less of an impact on the native fish and wildlife.



Wells & Groundwater



Surface water seeps downward through empty spaces in the soil, sand, and gravel until it reaches bedrock or clay which contain openings too small for water to move easily. Water fills the empty spaces above the bedrock up to the level of the water table. This underground water storage area is called an aquifer.



Where does Springfield's drinking water come from? Most of Springfield's drinking water comes from public wells which pump groundwater from several local aquifers. The public wells are operated by the Springfield Utility Board (SUB) which provides water for about 50,000 people in Springfield.

Approximately 1/3 of the public water supply comes from the Willamette Wetlands, which is located between the Mill Race and the Willamette River. The Mill Race and Gorrie Creek are important for recharging the aquifer at this site.

The Willamette wellfield has 11 operating wells and 2 river pumps. SUB uses 100% groundwater and 10% surface water pumped from the Willamette River. The water is treated at the water treatment plant located at the wellfield.

SUB's water treatment plant is the first treatment plant in the Pacific Northwest to adopt a fairly new technology for water treatment using ultraviolet (UV) light. The system uses UV light to kill microorganisms that live in the groundwater or surface water. This is a very effective method of treatment which can treat up to 5000 gallons of water per minute.



Springfield's Early Mills



In 1849 Elias Driggs and his wife Mary came from Kentucky and founded the town of Springfield. Elias's brother, Isaac, joined them two years later and the two brothers began plans to build the area's first sawmill and grist (flour) mill. The Driggs brothers found financing for their plans from Jeremiah Driggs & Thomas Monmouth. Together these men formed "Driggs, Driggs, and Company" and they hired a professional architect to help them design their mill. Elias & Isaac dug the Mill Race in 1852 with help of T.J. Henderson by connecting a series of abandoned stream channels.



Springfield's first mills were powered with water from the Mill Race using wooden waterwheels. The first saw mill was probably powered by an "undershot wheel" which turned as water hit wooden paddles at the bottom of the wheel. The first grist mill was probably powered by an "overshot wheel" which turned as water passed over the wheel and fell into bucket-shaped paddles.



The original Mill Pond was located at the corner of Mill Street and South A Street. It was a small pond that was used to supply a steady flow of water to the first mill. The Mill Pond was relocated when South-Kelley Lumber Company purchased the mill in 1926. The new Mill Pond was one to four days full so they went to the mill and it had the capacity to hold 25 million board feet of logs.



"It is doubtful Isaac and Elias Driggs decided to start a milling operation prior to leaving for Oregon since neither one knew what the valley looked like. They did know the importance of the grist mill to the pioneer, and the sight of the magnificent timber in the surrounding foothills of the Cascade Mountain Range, along with the ragging song of the willow-wren. River must have convinced them of the small potential."

—David C. Clarke
The Springfield Mill Race and Early Mills 1989



Restoring to Springfield's Heritage

Over the last few years through the generous donations of Springfield Mills, we have placed an important role in restoring the historic mill race. The Mill Race was a sawmill built by Driggs, Driggs, and Company in 1852. This mill processed wood for many of our's first buildings including the first one building constructed in 1851. The Mill Race provided power to all of the early mills, however it was not to different as an technology improved.

The first mill used a waterwheel to power an "up and down" saw. In 1898, the mill was rebuilt using a turbine instead of a water wheel. This turbine provided a constant size which increased the efficiency and the power of the mill. When South Kelly Lumber Company purchased the mill in 1926, the company dismantled the mill and replaced it with a very large and complex 200 feet. This large mill used water and steam, but the mill is not in use since the Mill Race at a water plant next to the mill. This river plant provided some power to the power plant on the river, power was to power lights in the city.

Unlike the saw mills, which burned to the ground several times in the early years, the first grist mill had the building used and burned in 1930. This mill refers to the power to the Mill Race also built by Driggs, Driggs, and Company. It is the first Mill Race in the City. The mill used a part of "French Industries" industries to grind the grain into flour and 1940 when the mill was replaced it was built with which could produce four 100 tons flour.



THE OLD SWIMMING HOLE



"That was the diving board..." An Anderson



"That used to be a great swimming hole and there was kind of a picnic area there too." Mr. Leonard L. Lawrence



The old swimming hole was located where 28th Street crosses over the Springfield Mill Race. Carter Creek flows out of the Mill Race at this point. Oral history shows that the old swimming hole was the hub of social activity in Springfield during the summer months.



"It would die to have and drop back or whatever you'd right down here and there was a place to get out...where it was a shallow..." An Anderson



The Springfield Mill Race at Carter Creek in a wooded area.

Designed by Claudia Anderson



Restoring to Springfield's Heritage

The Springfield Mill Race was dug in 1952 for the purpose of providing water power to the area's first mills. However, by the turn of the century, the Mill Race had become an important source of recreation for the citizens of Springfield.

While 28th Street crosses over the Mill Race at Carter Creek there was once the most popular swimming hole in the area. Oral historians tell us that at one time there was a diving board and changing room built at the location to accommodate the many visitors to the site. It is also said that this swimming hole was the hub of social activity in its heyday.

Times have changed and the water level in the Mill Race is much lower than it was in the early 1900s. However, it is time to imagine the history and the fun that was had at the old swimming hole.

One of the main goals of the Mill Race restoration plan is to restore recreational opportunities along the Mill Race for the citizens of Springfield. Once the project is completed, water flows will be higher, public access to the Mill Race will be improved, and you too will be able to enjoy recreational activities such as swimming and canoeing, much like the earlier citizens of Springfield!



6.5 Final Work Plan

| December | | | | | | |
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January 2004

| February | | | | | | |
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| 23 | 24 | 25 | 26 | 27 | 28 | 29 |

| Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday |
|---|---------------------|-----------|---|--------|-----------------|------------|
| Dec 29 | 30 | 31 | January 1 New Year's Day | 2 | 3 | 4 |
| 5 Week 1 | 6 4 PM SLP Class | 7 | 8 Review Presentati... | 9 | 10 | 11 |
| Refine Project Goals | | | Team Members create brochure components | | | |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| Refine Project Goals | | | Compile brochure | | | |
| Team Members create brochure components | | | Build website framework | | | |
| Week 2 | | | 4 PM Team Meeting | | | |
| 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| Compile brochure | | | Research for Educational Posters | | | |
| Build website framework | | | 4 PM Team Meeting | | | |
| Martin Luther K... | | | | | | |
| 26 | 27 | 28 | 29 | 30 | 31 | February 1 |
| Research for Educational Posters | | | Brochure Due | | Progress Report | |
| Week 4 | | | Construct Educational Posters | | | |
| Tour Interpretive Sites | | | 4 PM Team Meeting | | | |

1

| January | | | | | | |
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February 2004

| March | | | | | | |
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| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | 31 | | | | |

| Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday |
|---|---------|-----------|---|--------|-----------------|------------|
| January 26 | 27 | 28 | 29 | 30 | 31 | February 1 |
| Research for Educational Posters | | | Brochure Due | | Progress Report | |
| Week 4 | | | Construct Educational Posters | | | |
| Tour Interpretive Sites | | | 4 PM Team Meeting | | | |
| 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Construct Educational Posters | | | Research for Interpretive Site Posters (Set #1) | | | |
| Week 5 | | | 4 PM Team Meeting | | | |
| 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| Construct Educational Posters | | | Review Educational Posters with client | | | |
| Research for Interpretive Site Posters (Set #1) | | | Prepare Public Meeting slides | | | |
| Week 6 | | | | | | |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| Review Educational Posters with client | | | Edit Educational Posters | | | |
| Prepare Public Meeting slides | | | Compile & edit Public Meeting Slides | | | |
| President's Day | | | 4 PM Team Meeting | | | |
| 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| Edit Educational Posters | | | 4 PM Team Meeting | | Progress Report | |
| Compile & edit Public Meeting Slides | | | | | | |
| Week 8 | | | | | | |

2



| February | | | | | | |
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March 2004

| April | | | | | | |
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| Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday |
|--|----------------|-----------------|--|--------|--------------|--------|
| March 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Week 9 | Update Website | | Develop Meeting Announcements | | | |
| Public Meeting Rehearsals | | | Construct Interpretive Site Posters (Set #1) | | | |
| | | | 4 PM Team Meeting | | | |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| Develop Meeting Announcements | | | 4 PM Team Meeting | | | |
| Construct Interpretive Site Posters (Set #1) | | | | | | |
| Week 10 | | | | | | |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| Finals Week | Update Website | | Poster Set #1 Due | | Spring Break | |
| Publicize Public Meeting | | | | | | |
| | | | 4 PM Team Meeting | | | |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| Spring Break | | | 4 PM Team Meeting | | | |
| | | | | | | |
| 29 | 30 | 31 | April 1 | 2 | 3 | 4 |
| Week 1 | Update Website | Progress Report | Review Public Pre... | | | |
| Millrace Public Meeting (Date?) | | | Prepare School Presentations | | | |
| | | | Research options for Friends of the Millrace | | | |

3

| March | | | | | | |
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April 2004

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| March 29 | 30 | 31 | April 1 | 2 | 3 | 4 |
| Week 1 | Update Website | Progress Report | Review Public Pre... | | | |
| Millrace Public Meeting (Date?) | | | Prepare School Presentations | | | |
| | | | Research options for Friends of the Millrace | | | |
| 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| Prepare School Presentations | | | Rehearse School Presentations | | | |
| Research options for Friends of the Millrace | | | Prepare a Concept Plan for Friends of the Millrace | | | |
| Week 2 | | | 4 PM Team Meeting | | | |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| Rehearse School Presentations | | | Preview School Presentations with client | | | |
| Prepare a Concept Plan for Friends of the Millrace | | | Review Concept Plan for Friends of the Millrace with Client | | | |
| Week 3 | Update Website | | Research for Interpretive Site Posters (Set #2) | | | |
| 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| Preview School Presentations with client | | | Implement Concept Plan for Friends of the Millrace | | | |
| Review Concept Plan for Friends of the Millrace with Client | | | 4 PM Team Meeting | | | |
| Research for Interpretive Site Posters (Set #2) | | | | | | |
| 26 | 27 | 28 | 29 | 30 | May 1 | 2 |
| Implement Concept Plan for Friends of the Millrace | | | 4 PM Team Meeting | Progress Report | | |
| Week 5 | Update Website | | Construct Interpretive Site Posters (Set #2) | | | |

4



April

| M | T | W | T | F | S | S |
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May 2004

June

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| Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday |
|--|----------------|----------------|-----------------------------------|-----------------|----------|--------|
| April 26 | 27 | 28 | 29 | 30 | May 1 | 2 |
| Implement Concept Plan for Friends of the Millrace | | | | | | |
| Week 5 | Update Website | | 4 PM Team Meeting | Progress Report | | |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Implement Concept Plan for Friends of the Millrace | | | | | | |
| Week 6 | | | 4 PM Team Meeting | | | |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| Week 7 | | Update Website | Publicize & Organize Cleanup Day | | | |
| | | | Write Final Report | | | |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| Publicize & Organize Cleanup Day | | | Prepare Final Presentation | | | |
| Write Final Report | | | | | | |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| Write Final Report | | | Friends of the Millrace Follow-up | | | |
| Prepare Final Presentation | | | | | | |
| 31 | June 1 | 2 | 3 | 4 | 5 | 6 |
| Friends of the Millrace Follow-up | | | 4 PM Team Meeting | | | |
| Memorial Day | | | | | | |

5

May

| M | T | W | T | F | S | S |
|----|----|----|----|----|----|----|
| | | | | 1 | 2 | |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | | | | | | |

June 2004

July

| M | T | W | T | F | S | S |
|----|----|----|----|----|----|----|
| | | 1 | 2 | 3 | 4 | |
| 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| 26 | 27 | 28 | 29 | 30 | 31 | |

| Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday |
|-----------------------------------|---------|--------------------|-------------------|--------|----------|--------|
| May 31 | June 1 | 2 | 3 | 4 | 5 | 6 |
| Friends of the Millrace Follow-up | | | | | | |
| Memorial Day | | | 4 PM Team Meeting | | | |
| Week 10 | | | | | | |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| Finals Week | | Final Presentation | | | | |
| Final Report Due | | | | | | |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 28 | 29 | 30 | July 1 | 2 | 3 | 4 |

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