

*Friends
of the* **Stockdale Mill**

www.stockdalemill.org



Around the Mill

The year 2017 has been a year of high water on the Eel River. Waves of heavy rains brought the river to flood stage several times from January through mid July. Five times water reached within inches of the floor boards on the lower level of the Mill. Thankfully, water did not enter the mill and no damage was incurred. Finally by the first of August, the river returned to normal flow.

High water levels kept us from being able to operate the mill on many days. Ironically, more water does not produce more power with our turbines. For the turbines to work properly, they require falling water—the lower the water level, the more power is produced. Continually high water also interfered with Mill restoration and maintenance.



One of the completed projects is the installation of an “Education Center” in the Visitor Center. The room features displays and a new flatscreen TV and DVD player.



Visitors who may not wish to follow a complete Mill tour may view it by video. A large library table holds printed materials about the Mill.

Space for the room was made available by clearing out a lumber rack bay, adding shelving, and then moving stored supplies into the converted area.

SWEET SIXTEEN

The Mill this year is celebrating “Sweet Sixteen Decades.” It was established in 1857 by partners Baker and Ranck. Wheat flour was milled commercially through 1964. Mill restoration has been ongoing ever since the non-profit mill foundation formed in 2002. Water turbines located beneath the Mill generate the mill’s power from the Eel River’s waters. Today’s visitors will see four floors of operating antique machinery.



Groundbreaking Day: Susanne Fouts - Jerry Sweeten - Dwight Fouts - Brian Kynard - Boyd Kynard - Martin Duffy - Ron McColley - Herb Manifold - Jennifer McColley

Tradition meets Innovation

One portion of the mission statement of the Stockdale Mill Foundation includes: *We shall be good stewards of the mill, dam, and river as we educate the public on their historic significance.* When Dr. Jerry Sweeten, Biology Professor at Manchester University, first approached us with the idea of a fish ladder, we were immediately interested. However, we listed a number of contingencies. Perhaps the most challenging was that it not interfere with the historic appearance nor the aesthetics of the dam. We are pleased to report that this criteria has been met.

The ladder arrived from Massachusetts in prefabricated sections. A bed was excavated behind the dam's south wing wall. Concrete footers were placed and the fish ladder



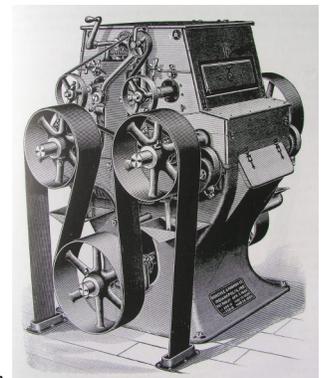
“tube” was assembled. Headwall and foot-wall extensions, with openings for the ladder, were added to the existing wall. The entire ladder was then encased in concrete. Site engineer Martin Duffy then relocated ballast boulders, that had long ago been placed behind the wall, for new uses in landscaping and water flow control.

Environmental students from MU will utilize the ladder to conduct ongoing studies of fish migration. Fish are tagged and sensors in the ladder will record their passage. The project is directed by the Marion, IL office of the US Fish and Wildlife Service.

All About Belts

Power is transferred from the water turbines to operating machinery throughout the Mill by a series of gears, line shafts, pulleys, and belts. Originally all belting was made of leather.

Around 1950 some worn belts were replaced with cotton belting. In our current restoration we use an engineered compound with canvas facing.



A quick inventory shows that the Mill has 16 drive belts that power machinery. There are 17 secondary belts on the machines themselves. There are 3 transfer belts between line shafts. This count includes 4 smaller leather belts still in operation. Add to that 11 elevator belts with cups, each 130 feet long, lifting grain or ground material. Besides belting, there are 8 link chains on various machines. Splicing, adjusting, and replacing belting is one of the many tasks undertaken by our volunteers.

Designing a Fish Ladder

by Boyd Kynard, Ph.D.
(BK-Riverfish, llc) - Amherst, MA

The need for a fish ladder that will pass fish with a moderate swimming ability has been evident for decades. However, fish passage in the USA has been devoted to diadromous migratory fish (fish migrating between salt and freshwater on the Pacific and Atlantic coasts) and not to migratory freshwater fish. Recent studies on freshwater riverine fish estimates about 80% are migratory; thus, to enable these fish to complete their natural migrations, we need a fish ladder that will pass them over barrier dams.

I began to develop a ladder for riverine fish in 1999 while working as a research biologist at the S.O. Conte Anadromous Fish Research Center, (USGS), in Turners Falls, MA. We developed a laboratory prototype ladder that passed many riverine fish including sturgeons, but the prototype had some bad characteristics and was abandoned.

In 2015, eight years after retiring from USGS and forming the business BK-Riverfish, LLC, Donovan Henry (USFWS) and I discussed the need for a fish ladder for



river fish in the mid-west of the USA. The FWS was able to contribute funds toward installation of a ladder if BK-Riverfish paid for R&D and the ladder. He identified Stockdale Dam as a dam that needed fish passage and referred me to Jerry Sweeten, head of the Biology Dept. at Manchester University, which is near Stockdale Dam. Thus, a team was formed. We met with the Stockdale Mill Foundation and they gave the project their blessing in October 2015.

My co-worker at BK-Riverfish, llc, (Brian Kynard) and I used our business funds for 2 years to build a small hydraulic flume



and conduct R&D tests on a ½ scale model ladder to design a ladder with characteristics that passed diverse fish species. The scale model ladder passed even moderate swimmers like small shiners. We then designed a full-scale prototype ladder for Stockdale Dam and added to the team, an engineer (Martin Duffy) for site preparation and installation of the ladder. Martin and Jerry coordinated site preparation. We installed the ladder at Stockdale Dam on 14-15 August 2017 in 1.3 days. Martin completed the ladder entrance and exit structures in another week.

This is the first fish ladder of this design ever installed at a dam and is being patented. The ladder is a prototype and will be evaluated for success in passing fish. Jerry's team will evaluate the fish ladder. We went from discussing a ladder for Stockdale Dam to installation of a prototype in 2 years. Not bad for a team of Fish and Wildlife, University, and Private Entities.

CORNMEAL

A limited amount of fresh cornmeal, stone-ground by water power, is produced at the Mill. Here are some new ideas to try.

Cheesy Cornbread Muffins

(from one of our mill visitors Lesley Nixon)

- 3/4 cup flour
- 2-1/2 t. baking powder
- 3/4 t. salt
- 1 T. sugar
- 1/2 cup yellow cornmeal
- 1 cup shredded sharp cheddar cheese
- 1 large egg
- 3/4 cup milk
- 2 T. melted butter

Mix dry ingredients, blend in cheese. Separately whisk the egg, add milk & butter. Lightly blend in the egg-milk mixture. Fill muffin cups two-thirds full. Bake in preheated oven at 400 degrees for 17/22 min.

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Also try

Add 2 or 3 tablespoons cornmeal to your favorite pancake or waffle batter for a rich texture.



Comments from Mill Guests

- Amazing—great tour, we will be back.
- Thank you for restoring this mill and an excellent tour.
- Wow! Thank you!
- Great tour and the guides were very knowledgeable.
- Very excellent return to the past.
- I loved it!
- Very educational. Enjoyed by the whole family.
- So interesting! Loved it!
- Very interesting—gave a good insight into the hard work and ingenuity of the people back then.
- Wish everyone could see this place.
- Great—what an addition to our area.
- Really enjoyed the tour. Very historic. The guide was awesome.

MILL ROOF PROJECT

The Stockdale Mill is scheduled to have a new roof installed. A special fund drive was announced in March of 2016 specifically for the roof. Thanks to generous donors, we have raised the necessary amount. Beacon Credit Union awarded the Mill a prize from their “Spotlight Program” that was applied to the fund. A grant of \$4,460 from the Wabash County Community Foundation, covering the cost of materials, put us “over the top”, pun intended.

Metal roofing material was selected. A survey revealed that more than half the remaining old mills have metal roofs. Research found that metal roofs in the US date back prior to 1800.



With frequent rain storms this year, our roofing contractor is running behind. The August installation date is understandably pushed back. Watch our web site for updates.

It will be necessary that visitors stay clear of the Mill area when the contractor is on the site. We request your cooperation in this matter.

Great Eel River Duck Race

Sponsor a Duck - Support the Mill

*The only duck
race where ducks
go over a dam to
win!
Sept 10, 2PM*



* * **DONATION CARD** * *

Stockdale Mill Foundation
c/o Pam Musselman
5432 E SR16
Denver, IN 46926

Donation by: _____

Amount: _____

Note :

SPECIAL HOURS
Roann Covered Bridge Festival

tour hours:

Saturday Sept 9 10-6

Sunday Sept 10 12-4

PICTURE YOURSELF

Picture yourself greeting a family from Wyoming who have stopped in at the Stockdale Mill. Not knowing what to expect, they rely on you to show them around. “What does the mill do? Does it actually use the river for power? How long has it been here?

The mother turns on her camera and begins taking pictures—many pictures. The father wants to know about the operation. Brother wants to bang the giant hammer against the flour bin. Sister wants to ring the bell and feel the sifter silk.

From high above on the top floor, they all gaze upon a view of the dam that none of them ever expected. When their tour is finished and you send them over to the Visitor Center, they gratefully express their amazement at what they have experienced.

Our tour guides get to enjoy this reaction many times over—different groups, different interests, different stories. If you can picture yourself being that tour guide, we can provide you with materials and training. Before you know it, you will be treating everyone from kids



to senior adults to an unexpected adventure. Get started by calling 765-833-9065 Or 260-571-6738 Help one Saturday a month to keep Mill tours going.

Online Newsletter



Your newsletter will continue to be mailed unless we hear from you that you wish otherwise. We now

have an on-line option available. On your computer go to:

www.stockdalemill.org home page,
then select *news*

There you will find the current newsletter along with past issues. News updates will also appear. If you prefer this option, please send us your email address.

Please check your mailing label for accuracy. To update your mailing label or to notify us that you will be reading online, please send a note to the address on the back of this newsletter, or email to: *info@stockdalemill.org*



Stockdale Mill Foundation
c/o Ron McColley
6836 N SR15
Roann, IN 46974

**Stockdale Mill Foundation
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The Stockdale Mill Foundation is a non-profit Indiana corporation with the purpose of preserving the Stockdale Mill. We are a 501©(3) organization, enabling donors to deduct contributions. All donations are used 100% for historical preservation and restoration. We invite you to come experience what our dedicated volunteers have prepared for your visit.

E-mail us:
info@stockdalemill.org

Find us on the web:
www.stockdalemill.org

Answering machine:
(765) 833-2019

Regular tour hours are
Saturdays
Noon to 4PM
May through October



**Special tours may be arranged for
your family group or organization.**

SUMMER 2017