



Strip-mining the Upper Mississippi

Frac-sand mines are a new and controversial feature in the Driftless Area, especially in western Wisconsin, where dozens are now operating. A couple of the older operations work extensive mines underground, but nearly all of the new mines are strip-mining the sandstone then processing it into frac sand, which is then shipped to new natural gas and oil well drilling sites.

Many of the strip mines, even though they are large-scale operations, are not very visible from the road. Even from the air their scale is sometimes hard to grasp, because the complex

topography blocks some of the view from any given angle. This is why we show some of the larger sites from several different angles.

When we contacted the companies that operate the mines in this photo essay, most were reluctant to answer some of our questions.

The upper right photo is by Robert J. Hurt, all others in this story were taken by Pamela Eyden in early May. The airplane was piloted by Drake Hokanson.



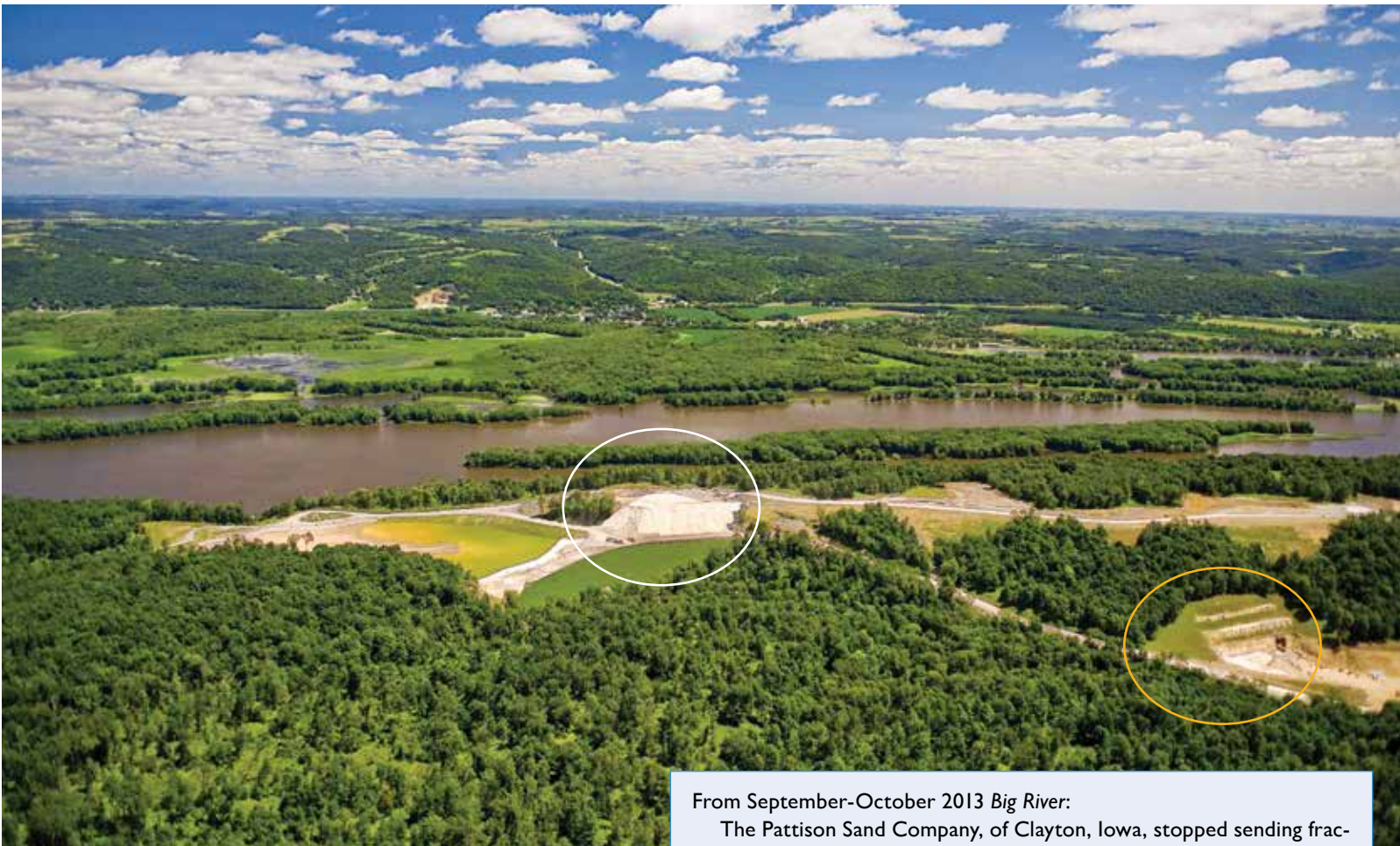
Sand mines have operated at the site of the Pattison Sand Company, LLC, at Clayton, Iowa, since 1878. The company now employs about 190 people and ships most of its sand by rail, with a small amount leaving by truck, according to Beth Regan, permit and environmental coordinator for Pattison Sand.

However, residents of nearby McGregor, Iowa, have complained of large numbers of trucks carrying sand through the center of town.

The photo at the top of the opposite page shows the bluff above Pattison's underground sand mine in 2010. The Mississippi River is visible in the background and Bagley, Wis., is just across the river. The photo below it was taken from about the same perspective in May 2013. The same two features are circled in both photos to serve as reference points. Note the surface excavations into the bluff.

The photo at top on this page shows the same bluff from the north. Note the processing and rail- and barge-loading facilities along the river.

The photo to the left shows mine entrances and what appears to be new surface excavations on the bluff top.



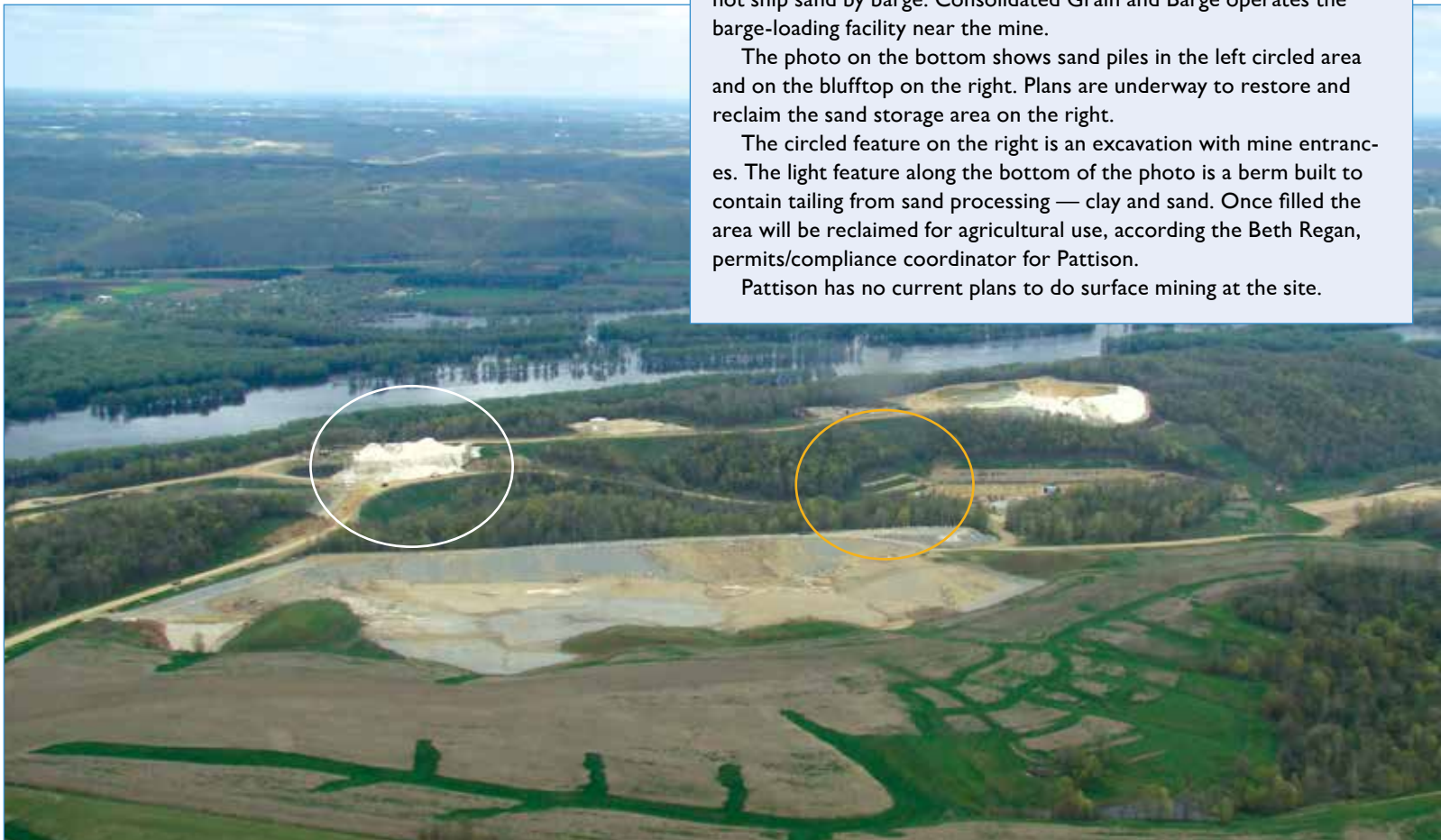
From September-October 2013 *Big River*:

The Pattison Sand Company, of Clayton, Iowa, stopped sending frac-sand trucks through McGregor in the spring of 2012 and currently does not ship sand by barge. Consolidated Grain and Barge operates the barge-loading facility near the mine.

The photo on the bottom shows sand piles in the left circled area and on the blufftop on the right. Plans are underway to restore and reclaim the sand storage area on the right.

The circled feature on the right is an excavation with mine entrances. The light feature along the bottom of the photo is a berm built to contain tailing from sand processing — clay and sand. Once filled the area will be reclaimed for agricultural use, according the Beth Regan, permits/compliance coordinator for Pattison.

Pattison has no current plans to do surface mining at the site.





Trempealeau County, Wis., has many frac-sand mines, the largest of which is probably this one, operated by Preferred Sands, LLC, near Blair, Wis. The Wisconsin Center for Investigative Journalism reports that the site covers 400 acres and 150 acres will be mined.

According to a company spokesman, the mine is owned by Michael O'Neill and has 88 employees. In 2012 it shipped 481,747 tons of sand by rail (none by truck or barge), and has a storage capacity of 15,000 tons in six silos.

It appears that all or most of some bluffs have already been mined away. These photos are all of the same site from different angles. Note the processing and storage operations, as well as the railroad switching yard in the bottom right photo.





The Biesanz Mine is in the Winona, Minn., city limits on a ridge in the southwest end of town. For decades they mined dolomite stone for construction, but recently they have been setting aside the dolomite to get at the frac sand underneath. Some nearby neighbors have complained about blasting at the mine.



Fairmont Minerals owns this underground mine just downstream from Maiden Rock, Wis., on Lake Pepin. The company employs 60 people at the mine, which extends 349 acres under the bluff. This mine has been in operation since 1929.

The company shipped about a million tons of sand from the mine in 2012, mostly by rail, according to a company spokesperson.

Note the sand processing and storage facilities in the top of the photo and the Great River Road and the Burlington Northern Santa Fe tracks at the bottom of the photo.