

CROGHAN, NEW YORK

# Croghan Dam Restoration Initiative for Local Business and Renewable Energy

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Press Packet

5/13/2011



## Overview

The Lewis County Development Corporation (LCDC) is leading a community wide initiative to restore the Croghan Dam, in Croghan, New York. On the dam stands the last remaining water-powered lumber mill in New York State, the Croghan Island Mill, a nationally registered historical landmark. Unless the estimated \$1.1 million can be gathered for repairs, the New York Department of Environmental Conservation plans to remove a section of the 93-year-old dam in the fall of this year which will force the mill to close.

Earlier this year, a St. Lawrence University study found added value in the Croghan Dam because of its potential to become a model for other dam refurbishment projects. With the addition of a small hydroelectric production facility, the dam could power local businesses, like the Croghan Island Mill, with renewable energy.

Domestic renewable energy production is even more important as both the price and the environmental cost of oil, coal, and natural gas continue to rise. With over 5,000 dams in New York State and many more in the northeast, this initiative has the potential to bring clean energy, community resilience, and growth to hundreds if not thousands of small towns. Therefore, this project is necessary not only to preserve a community treasure, but also to serve as a prototype for “green” power.

A new bill, 1149 in the NYS Senate, will allow micro hydro below 2000 KW to apply for net metering. This allows residential and non-residential hydroelectricity producers to either sell their excess energy back to the grid or use it directly in an industry. If passed, this bill will not only significantly reduce the payback period for re-outfitting the Croghan Dam with turbines, but will also notably increase New York State’s renewable energy production.

This packet provides information on the initiative to pass Bill 1149 and restore the Croghan Dam.

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The Croghan Island Mill is more than 100 years old. It's one of the last commercially operating water-powered sawmills. Wedged between two crumbling dams on the Beaver River, the mill will be forced to close if those dams are not replaced. The Department of Environmental Conservation already removed some of the most damaged stop logs last summer.

## Croghan Dam Village of Croghan

### Brief History:

The original log crib dam was constructed circa 1848. The southern section of this dam gave way in a spring thaw in 1918. That same year James P. Brownell, Civil Engineer, Carthage, was contracted to design a concrete dam with the contract for construction awarded to Mr. H. J. Wright of Watertown, New York. Construction was completed in 1918.

Three sections comprise the dam. The south dam is 120' long and 9.5' high; the retaining wall connecting the two segments is 240' long and a maximum of 11' high; and, the north dam is 180' long and 11.5' high. The dam creates a storage capacity of 482 acre-feet to the spillway crest.

Four mills, one located at each end of the southern and northern dams, used the waterpower that was generated. On the southern section, the John Lehman Mill, which later became Lehman and Zehr Lumber Co., was located on one side of the dam and their Sash and Blind Factory on the other. Wooden Penstock went from the dam to Shinnburn's Tannery which was located at the current site of Schulz's Restaurant. The Martins currently own and operate the former Sash and Blind Factory as the Croghan Island Mill, one of the only remaining water powered sawmills in NYS. The northern section of the dam had the Croghan Flour Mill on one side which is now vacant. The other side of the north dam had Rice Brothers Tannery and the J.R. Lafan Lumber Co., which became Croghan Flooring and Mfg. Co., later the site of Beaverite Products, Inc., and currently Interface Sealing Products, Inc.

According to the DEC, the Croghan Dam is classified as a Class C High Hazard Dam which means that it is "located where failure may cause loss of human life, serious damage to homes, industrial or commercial buildings... and/ or will cause extensive economic loss."



Pre-1918 photo of a log drive during winter in Croghan. Lumber was brought in by sleigh during the cold months.

*The importance of the Croghan Dam, a key infrastructure, cannot be overstated:*

1. In flooding situations caused by heavy rains, runoff, ice jams, etc., the dam ensures the safety of those people immediately downstream.
2. The impoundment of water provides the Village of Croghan and the Towns of Croghan and New Bremen within a two-mile radius of the dam with a body of water, integral to the fire service of the area.
3. Interface Sealing Solutions Inc. draws water from the pond created by the dam to feed its fire pump, which supplies its sprinkler system.
4. The impoundment of water provides green hydropower to the Croghan Island Mill, a property included on the NYS Register of Historic Places (10/30/09) and the National Register of Historic Places (7/30/10), one of the only remaining water-powered sawmills in NYS. The Croghan Island Mill operates year-round on hydropower, producing 75 horsepower with the capability of running 12 belt-driven, wood-working machines simultaneously at different speeds.
5. Retaining the dam helps maintain property values up stream, and, in some cases, the shore wells and water supply for residences and some farms upstream.
6. The Village of Croghan's 3.6 acre "Bridge St. Park" immediately upstream from the dam provides public recreational access to the Beaver River via the park's boat launch and contiguous grounds. Many kayakers, canoeists, boaters, fishermen, picnickers and hikers visit the grounds and enjoy the water.
7. The impoundment of water contributes greatly to the aesthetic value and therefore the tourist business of the area. Breaching the dam would reduce the Beaver River once again, after more than 150 years, to a stream – rising and falling with the release of water from the Stillwater Dam creating mud flats and, if not maintained, coastal erosion.
8. Retaining the headwaters of the Croghan Dam is necessary to continue to attract the interest of power companies to the site. If we lose the impoundment and the river returns to its 1849 state, it will be extremely difficult for an investor to develop green power on site.
9. Retaining the dam provides a site for economic development in Croghan with the potential creation of more green energy to:
  - drive the growth of local businesses and employment
  - stimulate the use of vacant buildings
  - provide for meeting the long term costs associated with the dam
  - stimulate tourism
  - provide a prototype for other communities of what can be done to develop their failing infrastructure

## Abbreviated Croghan Dam Timeline - Present to 1980

Notice: The Croghan Island Mill is currently running on electric power, not operating on water power. On 1/1/11 the river dropped considerably exposing the water wheel. Cold dry weather continued, and on 1/4/11 the wheel was able to run at an idle all day. On Wednesday with continued cold dry weather, the coupling cracked.

**4-29-11** – Second highest flood water on record is registered on the Beaver River 0.5 west of Croghan with a discharge of 4,630 cfs at 10:15 EST.



**4-18-11** - Artist Richard Trick donated an original water color painting of the Croghan Island Mill to the LCDC See <http://richardtrick.com/paintings.html> for other examples of Trick's work.

**4-13-11** - Croghan Dam & Island Mill Facebook page was established by St. Lawrence University (SLU) student Mike Petroni: <http://en-gb.facebook.com/pages/Croghan-Dam-Restoration-Initiative-for-Local-Buisness-and-Renewable-Energy/177887828922809?sk=wall>. Feel free to visit web site and comment.

**3-27-11** - Varrick Chittenden, Hannah Harvester and Mike Petroni, working on a Traditional Arts in Upstate New York project to get the Croghan Island Mill on its Register of Very Special Places, interviewed 7 local residents at the mill and 6 in Lowville collecting local history of the mill. (See <http://www.TAUNY.org> and [www.northcountryfolklore.org/rvsp/](http://www.northcountryfolklore.org/rvsp/))

**3-18-11** - The LCDC delivers The Rural Business Enterprise Grant Application to the Watertown USDA office.

**3-1-11** - The report "CROGHAN DAM RESTORATION PROJECT" by Amanda Lavigne, PhD SLU, and her ENV5 275 Energy and Environment Class is available on line at <http://lewiscountyny.org/content/Generic/View/114> under the heading "2010 St. Lawrence University Dam Re-use Report."

**1/6/11** – LCDC met with Gary Pereria, USDA, who attended the SLU presentation to review requirements for applying for Rural Business Enterprise Grant in the amount of \$99,000 for “Design Study” for the Croghan dam.

**12-6-10** – SLU professor Amanda Lavigne and students presented their proposal for development of site of Croghan Dam. Proposal included the development of small hydro to be used on site, the installation of a maple syrup production facility and the development of an energy storage facility utilizing flywheel technology. Approximately 50 people were in attendance.



Residents of Croghan gather in a meeting to brainstorm ways to restore and redevelop the dam and the surrounding area. The Lewis County Development Corporation is seeking a USDA grant to begin a study to save the dam before the DEC demands it be torn down

**11-2-10** - The DEC removed one stop log from the northern section completing its stop log removal for the season lowering the reservoir 2.5 feet in preparation for dam removal.

**10-29-10** - Professor Lavigne and four of her students met with Dwight Evans (Chief of Staff for Senator Griffo), Arnie Talgo and Glen Gagnier, LCDC on SLU campus.

**7-30-10** - The Director of the National Park Service listed the Croghan Island Mill (Croghan vicinity, 10000515) on the National Register of Historic Places.

**7-21-10** – General Construction Co. roughly estimates: rehab of dam \$1,560,000; rehab with 500 KW hydro installation \$5,896,000.

**6-28-10** - Information on the Croghan Dam became available on line:  
<http://lewiscountyny.org/content/Generic/View/114>.

**6-6-22-10** – SLU and Clarkson Professors met with LCDC and discussed developing the Croghan Dam as a pilot project using hydropower for a biomass production facility, creating a carbon neutral industrial site running on green power producing a green energy product.

**5-26-10** - DEC officials, and LCDC representatives, engaged in a conference call. The DEC is pursuing breaching the orphaned north section of the dam. The breach could occur sooner if the potential threat of dam failure was raised to “imminent threat” of failure due to high water conditions, etc. The safety of the people and properties immediately downstream and the continued deterioration of the dam are the major concerns. There exist funds within the DEC for dam removal, not reconstruction. When the dam is removed, the Croghan Island Mill will switch onto the grid to power their business. The alternatives: 1. The LCDC take ownership of the Beaverite portion and enter into a consent order with the DEC and address the safety issues; 2. The LCDC acquire the funding and proceed with the process of initiating repairs to the dam. The DEC is supportive of the LCDC’s efforts but will pursue breaching the dam.

**4/23/10** - Amanda Lavigne, Ton Qui, Kerop Janoyan, Ph.D., P.E., Associate Professor - Geotechnical Engineering, Clarkson University, Spencer Thew, Associate Professor - Construction Engineering, Clarkson University, Arnie Talgo and G.G. met. Discussion centered on dam design to include means of expanding hydro into solar or other green power thereby qualifying for NYSERDA funding. The potential of the universities having more of a role in the long term monitoring of a final product and an innovative design could generate additional funding.

**4/15/10** - Amanda Lavigne, PhD. Environmental Studies Department, St. Lawrence University, toured the Croghan Island Mill and the dam site with 10 students from her Energy and Environment class. The purpose was to provide information on the problems associated with the dam and spark the students' interest in thinking about and researching the mechanical hydro and energy/ business development potential of the site.

**3/13/10** - LCDC receives “Notice of Preliminary Permit Application Accepted” from FERC dated 3/3/10, allowing LCDC exclusive rights to the dam for 2 years.

**2/5/10** - Arnie Talgo, and Glen Gagnier met with Amanda Lavigne, Joe Amell, SUNY Canton; Emily McKenna, Community Development Specialist, NYS Tug Hill Commission; and Eric Virkler, Director of Economic Development and Planning, County of Lewis. Meeting included tour of site and Croghan Island Mill. Discussed site development alternatives including: industrial ecology development, carbon sales, the significance of the dam as a historic structure, a historic rehab site, archaeological investigation, mechanical hydro use for milling/ grinding, potential for a variety of products including

wood pellets/ biomass, possibility of additional businesses using hydro, sale of idle energy from existing mechanical hydro power to the grid or in house use by the CIM, marketing of products on site, etc.

**10/30/09** - Jim Martin, Croghan Island Mill, received notice that SHPO has listed the property on the State Register of Historic Places.

**4/1/09** - L.C. Economic Development Director, Daniel Sutterby, P.E. Sutterby Construction Services, Inc. and Glen Gagnier, LCDC, met to discuss possibilities of his company repairing the Croghan Dam and developing hydroelectric power.

**2/21/08** - Aqua Green Electric Energy, L.L.C. sends G.G. an analysis of development of hydroelectric power and hydrogen at the Croghan Dam.

**9/07** - Fortis Properties, met with John Martin & G.G. at the Croghan Island Mill to view the dam for potential hydro development.



**8/31/07** - LCDC receives notice from the DEC there is insufficient funding to provide an award for funding rehabilitation of the Croghan Dam after LCDC filed an application for a grant to rehabilitate the Croghan dam with the Division of Water NYS DEC.

**3/17/06** - A Feasibility Study for Dam Rehabilitation and Hydroelectric Development at Croghan Dam, was prepared by Gomez and Sullivan Engineers, P.C. with funding provided by NYSERDA and Senator Ray Meier.

Results:

1. The project cost of rehabilitation of the Croghan dam will be approximately \$1.0 M.
2. The project cost to rehabilitate the dam and install a hydroelectric generating station (500 kW with an average annual production of 2,350,000 kWh) sized to efficiently utilize the available head and flow is estimated at \$4.9 M. The payback period was found to be in excess of 45 years.
3. Installation of a hydroelectric station at the Croghan dam to assist in paying for the cost of dam rehabilitation is not feasible at this time.

**7/13/04** - DEC conducts visual inspection of dam and notes it is in similar condition to previous inspections with no apparent maintenance and continuing concrete deterioration.

**4/03** - Lewis County CEDS (Community Economic Development Strategy) Committee ranks Croghan Island Dam Restoration and Hydro Development project as #3 in its priority listing (behind the Town of Lowville Water District No. 1 Consolidation project and the creation of a Local Development Corporation).

**10/28/02** - NYSERDA denies "Combined Heat & Power and Renewable Generation Technical Assistance" grant request for the Croghan dam.

**4/99** - A "Special Flood Hazard Evaluation Report on the Croghan Dam" prepared for the NYS DEC by the US Army Corps of Engineers states, "In case of dam failure, all residents in low lying areas should be alerted and be prepared to evacuate." Report assigns Class C, high hazard classification.



**12/14/89** - A Public Hearing on fate of the dam was held at Village of Croghan office.

Results: "**Strong support for saving dam!!**"

- Croghan Island Mill - last hydro-powered mill in operation in the state - historical significance
- Impoundment has significant value: recreation with active boat launch, home values would decrease with loss of river, critical to fire protection for the village, water supply for Beaverite's fire sprinkler system, aesthetics of the area
- Removal of dam would result in return of river and mud flats until natural regrowth
- Development of hydro-electricity

**10/16/89** - NYS DEC, states "the Croghan Island Dam has been determined to be an unsafe structure, and resolution of the situation is necessary in order to protect people and structures below the site from the potentially hazardous effects of a dam failure... we are seeking your assistance in setting up a meeting with appropriate local government, industry and private sector representatives to discuss the fate of the Croghan Island Dam."

**4/89** - NYS DEC Consent order # R6-0407-84-10 directs owners to initiate repairs or remove the dam.

**Problems** with the dam **in 1981** as noted by the NY District Corps of Engineers include:

- The pier at the right end of the north dam has tilted away from the dam.
- The walls supporting the stoplog structures on either end of both spillway segments are seriously deteriorated.
- There is concrete deterioration on both spillway segments.
- Concrete is scoured.
- The concrete retaining wall is spalled and cracked.
- There is seepage through the dam walls and stop log structures.
- There is brush growing on both sides of the wall, which connects the two segments of the dam.
- The low-level outlet consisting of stop logs, at the base of spillway #3 leaks.

### *Pictures*



Croghan Island and Dam on the Beaver River, Croghan, New York. Red lines indicate property lots.



The Croghan Island Mill's water wheel draws 75HP from the river. Damaged because of low water resulting from the DEC removal of 2.5 feet of stop logs, the wheel may never run again. John Martin does not intend to repair the coupling if the dam is not repaired first.



John Martin is the mill's lone employee. Labor laws and modern safety requirements prohibit him from hiring anyone else. Martin's business survives on custom work, building windows and doors of irregular size and shape that are not available in stores like Lowe's or Home Depot. This slider window is destined for a home in the Thousand Islands.

The captioned photos in the packet like this one above are from North Country Public Radio's online slideshow tour of the Croghan Island Mill. To see more, visit: <http://northcountrypublicradio.org/news/slideshows/croghandam/>



**Poster Abstract**

**Lavigne**, Amanda S.<sup>1</sup>, Michael **Petroni**<sup>2</sup>, Hannah **James**<sup>2</sup>, W. Cameron **West**<sup>2</sup>, Peter **Papayanakos**<sup>2</sup>, Jonathan **Williams**<sup>2</sup>, George **Flynn**<sup>2</sup>, Jonathan **Eppolito**<sup>2</sup>, Alexander **Duane**<sup>2</sup>, Erin **Milette**<sup>2</sup>.

### Saving the Croghan Dam: A Site Development Strategy for Revitalizing Hydro Infrastructure

As finding cleaner, domestic energy sources becomes more important, some argue we need look no further than the 1000+ small overflow dams sitting at the heart of towns and villages throughout the Adirondack region. This study encompasses an analysis of potential development strategies and scenarios for small overflow dams, using the Croghan Dam, in Croghan, NY as a case study. After a period of initial research, it was determined that finding funding to simply rebuild these dams was not a likely scenario in the near term due to limited federal/state initiatives devoted to rebuilding hydro infrastructure. Therefore, a more holistic approach was adopted, refocusing attention on a more broadly-defined development strategy, highlighting the economic potential of the entire dam “site.” This more broadly defined “site strategy” deemphasizes the actual dam reconstruction and focuses on facilitating development of industrial/commercial businesses and/or university research and development test-beds, wherein dam reconstruction offers the unique opportunity to incorporate “free,” “green” power and electricity generated into all business development models. Three probable site development scenarios are the focus of this study: 1. New Business Development; 2. Alternative Energy Storage Technology Research and Development; 3. Value-Added Development to Support Existing Local Agricultural Businesses. The results highlight the social, economic, and environmental benefits that could be seen locally and regionally if this broader approach/perspective were adopted with respect to the revitalization of small overflow dam infrastructure in upstate NY.

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<sup>2</sup>Undergraduate majors, Environmental Studies Department  
St. Lawrence University, Canton NY 13617

**Bill 1149**

Description of bill from <http://open.nysenate.gov/legislation/bill/S1149-2011>

## TITLE OF BILL :

An act to amend the public service law and the public authorities law, in relation to net energy metering with micro-hydroelectric generating equipment.

## PURPOSE OR GENERAL IDEA OF BILL:

This bill expands the list of electric generating systems eligible for net metering to include micro-hydroelectric systems.

## SUMMARY OF SPECIFIC PROVISIONS:

Amends section 66-j of the public service law, to allow residential and non-residential customers utilizing micro-hydroelectric generating equipment to participate in net-metering.

## JUSTIFICATION:

The 2009 State Energy Plan estimates that New York has the potential to add 2,257 MW of hydropower and additional 1,000 MW of hydrokinetic energy by 2025. Expanding New York's net metering law to cover residential and non-residential utility customers utilizing micro-hydroelectric generating systems will encourage greater investment in facilities that generate energy from clean renewable sources.

## Articles Published

Note: North Country publications have been following the Croghan story but have yet to cover the connection between the Croghan Restoration and the 1149 net-metering bill. The inclusion of this legislation makes saving the Croghan dam more crucial in building a renewable energy future in New York.

### David Sommerstein of North Country Public Radio reports on The Croghan Dam and Island Mill-

For the full story and audio visit:

<http://www.northcountrypublicradio.org/news/story/17355/20110323/crumbling-dam-threatens-historic-croghan-mill?source=home>



The Croghan Island Mill

(03/23/11) Our series on New York's aging infrastructure continues this morning with a look at a crumbling dam in Lewis County and why it threatens a community's identity and culture.

There are more than 5,000 dams in New York State. They're mostly used for flood control, to provide drinking water, for hydropower, and to create lakes and ponds for recreation.

Even dam safety officials don't know how many need repair. But they do know 50 of the most potentially hazardous ones need to be fixed or dismantled.

One of those is on the Beaver River in the village of Croghan. If it can't be fixed, it may force the closure of one of the state's last water-powered sawmills. David Sommerstein reports.

The Croghan Island Mill sits – appropriately - on an island in the Beaver River in Croghan, a teeny village just outside the Adirondack Park. The wooden mill's wedged between two small dams. Barn red paint's flaking off the shingles.

Inside, hundred year-old band saws, planers and other machines crowd the dusty shop floor. One man presides over it all.

*Hi, my name's John Martin, and I'm one of the owners of the Croghan Island Mill.*

The other owner is Martin's 97 year-old mother, Delia, who sits all day in the mill with a cell phone in her hand, just in case.

*I don't like him here alone. I'm always afraid of the saws if he's cutting lumber, something might get.... You never know something might happen.*

Before we get to the dilapidated dam outside, here's why this sawmill is special. Martin grabs a chain that's latched to the floor. He unhooks it.

Just like that, the waterwheel submerged in the river starts to turn. Gears and shafts whir.

They power long belts and pulleys in the basement.

*You gotta be careful down here when it's running. Yup.*

And those belts power the saws and this mortice machine upstairs in the shop.

*Everybody wants to know how you bore a square hole. Well, this is how you do it.*

This is one of the last commercially operating mechanical sawmills in New York. No electricity. Just the power of the Beaver River and John Martin's craftsmanship make custom windows and doors you can't get anywhere else.

But the whole setup's in danger. The dams on either side of the island that produce the 10 foot head to power the mill's waterwheel are falling apart.

*Both sections are in dire need of repair. There's no doubt about it.*

Former Croghan mayor Glen Gagnier stands outside and points across the river. He says Croghan grew up around this dam.

*There was a mill there. There was a mill here. You can see the sash and blind where the Croghan island mill is, that was here and on the far side there was a lumber mill.*

Regulators first warned Croghan about the dam in the 1980s and again ten years later. But the owners – John Martin at the mill and two other parties no one can seem to find – don't have the money to do anything.

And this is what's difficult about dam restoration in general. While many people benefit from a dam– shoreline homeowners, boaters, people who drink from a water supply, fire departments who draw from the reservoir to fight fires – it's the private parties or municipalities who own the dam who are on the hook.

Alon Dornitz is the chief of dam safety for the Department of Environmental Conservation. He says unlike roads and bridges and sewer systems, there's not much funding to help repair dams.

*Y'know, municipally owned dams and privately owned dams, there is not a federal revenue stream and there is not at this point a state revenue stream for them to make any necessary repairs. So dam owners are really on their own.*

The DEC removed some of the stop logs at the top of the dam last summer. And the DEC's threatened to breach the dam if something's not done soon. If that happens, John Martin says the sawmill's done.

*I don't think it's going to be feasible for us to go electric. It'll cost way too much money.*

Local folks gather at a meeting to save the dam. They even enlisted students from St. Lawrence University to help brainstorm ideas.

It'll cost at least a million and a half dollars to repair. Resident Lance Anderson says it's worth it.

*I think it's important to the village. If you rip too many things out of the heart of a small community, and what are you left with? You're left with strip malls ten miles away, but what's right here?*

Arnie Talgo, who sits on several local government boards including the Tug Hill Commission, says what's right here is what 21<sup>st</sup> century America is looking so hard for.

*Everybody talks about renewable energy. This is renewable energy. And if we can't do it here and make it work here, where are we going to make it work?*

Former mayor Glen Gagnier admits they're fighting an upstream battle. But he says he built his home with wood from the Croghan Island sawmill. He's played in the waters the dam holds back.

*I can't turn my back on this business. They're part of the community. They're part of the river.*

Gagnier says the Lewis County Development Corporation is applying for a federal grant for a preliminary study. The county legislature and the local fire department have kicked in money, too.

In Croghan, I'm David Sommerstein.

**Watertown Daily Times staff writer, Steve Virkler's most recent report on The Croghan Island Mill and Dam-**

<http://www.watertowndailytimes.com/article/20110510/NEWS04/305109977>

## Historic mill's future unsure

FATE TIED TO DAM: Company depends on consistent high flows on the Beaver River

By [STEVE VIRKLER](#)

TIMES STAFF WRITER

TUESDAY, MAY 10, 2011

CROGHAN — Despite relatively high flows on the Beaver River now, low water levels four months ago effectively shut down a 150-year-old lumber business's water-powered operation, leaving the company's future in jeopardy.

The Croghan Island Mill Lumber Co. has been operating on electric power since early January, when bearings on the shaft of the company's water wheel broke after being exposed to the air, said James M. Martin, a part-owner of the business.

"If you don't keep the water over the bearings, they'll bust," he said.

State Department of Environmental Conservation officials last fall removed several stop-logs from an adjacent dam and are considering removal of the remaining logs before summer.

DEC's action, coupled with an annual New Year's holiday reduction in water releases from hydroelectric dams upriver, dropped the water level lower than usual, causing the malfunction, Mr. Martin said.

Since then, the mill has done limited work, using a small electric motor to power some of the equipment, he said.

Replacement of the broken bearings would be one option for resuming regular operations. However, Mr. Martin estimated that would take about three days of labor and between \$8,000 and \$10,000 in cash, all of which would be wasted if DEC officials eliminate the Croghan dam.

The mill could also enhance production by purchasing several electric motors, but the added cost — particularly in electricity usage — may make it too costly to remain in business, he said.

If electricity becomes the only option, family members will need to review operating costs and determine if the business is still feasible, Mr. Martin said.

"Once the DEC decides what they're going to do, then we'll have to sit down and decide what we're going to do," he said.

The company, at which a few family members manufacture handmade windows, doors and other wood products, is on the state and national registers of historic places.

"Our staff are not interested in harming the mill," said Stephen W. Litwhiler, DEC Region 6 spokesman.

The enforcement actions, instead, are aimed at avoiding a potential dam break that could lead to loss of life or property, he said.

DEC officials initially planned to remove enough stop logs to drop the water level by three feet but ultimately agreed to lower it by 21/2 feet to address the mill owners' concerns, Mr. Litwhiler said. The state agency also supported a recent application by the Lewis County Development Corp. for \$99,000 through the U.S. Department of Agriculture's Rural Business Enterprise Grant program in order to complete a proposed engineering study of the dam, he said.

Nearly \$50,000 in local funding has also been pledged, but the federal funding will be needed to move forward.

The hope is that a completed study will delay demolition either by debunking fears of a collapse or by showing DEC officials that progress is being made on dam rehabilitation, estimated to cost \$1 million to \$1.5 million.

Michael Petroni, a junior at St. Lawrence University, Canton, has assisted the effort through an independent study and is planning a summer research project on ways to outfit a dam for hydropower, using the one here as a case study.

The concrete dam, built in 1918 to replace earlier wooden ones, first was deemed unsafe by the Army Corps of Engineers in 1981

### Links to Other Articles Published

**5-10-11** - The Watertown Daily Times staff writer Steve Virkler featured an article : "Historic mill's future unsure"

<http://www.watertowndailytimes.com/article/20110510/NEWS04/305109977>.

**4-13-11** - Rachael Paradis, YNN 10, reports on the Croghan Dam:

[http://watertown.ynn.com/content/top\\_stories/539948/students-look-to-save-croghan-dam/](http://watertown.ynn.com/content/top_stories/539948/students-look-to-save-croghan-dam/).

**4-4-11** - John Moore, WWNY TV updates area on current status of Croghan Island Mill and Croghan Dam:

<http://www.wwnytv.com/news/local/Worst-May-Be-Yet-To-Come-For-Lumber-Mill-119215669.html>.

**3-28-11** - The Watertown Daily Times staff writer Steve Virkler featured an article, "Croghan dam gets more funding," <http://www.watertowndailytimes.com/article/20110329/NEWS04/303299982>

**3-23-11** - North Country Public Radio's reporter/Asst. News Director David Sommerstein featured two stories on the Croghan Dam:

<http://www.northcountrypublicradio.org/news/story/17355/20110323/crumbling-dam-threatens-historic-croghan-mill?source=home>

<http://www.northcountrypublicradio.org/news/story/17358/20110323/tour-the-croghan-island-mill>

**3-3-11** - The Watertown Daily Times staff writer Steve Virkler featured an article, "Lewis county puts \$10,000 toward study."

<http://www.watertowndailytimes.com/article/20110303/NEWS04/303039973>

**2-22-11** - The Watertown Daily Times staff writer Steve Virkler featured an article, "Study may save Croghan dam from demolition,"

<http://www.watertowndailytimes.com/article/20110222/NEWS04/302229976>.

**2-8-11** - David Sommerstein, NCPR, reports on the cutting of the Tug Hill Commission from the state budget: <http://www.northcountrypublicradio.org/news/story/17114/20110208/efforts-to-save-tug-hill-commission>

**2-4-11** - The Watertown Daily Times staff writer Steve Virkler featured an article, "LCDC seeks funds for design study to stave off razing of 'unstable' dam"

<http://www.watertowndailytimes.com/article/20110204/NEWS04/302049960>

**12-7-10** - The Watertown Daily Times staff writer Steve Virkler featured an article, "*SLU students work to save Croghan dam*"

<http://www.watertowndailytimes.com/article/20101207/NEWS03/312079938>.

**12-7-10** - D. Sommerstein's initial story on the Croghan Dam appears on NCPR:

<http://www.northcountrypublicradio.org/news/story/16790/citizens-and-students-team-up-to-save-croghan-mill>.

**11-14-10** -The Watertown Daily Times featured an article, "Croghan lumber mill kept alive by river's high flow" <http://www.watertowndailytimes.com/article/20101114/NEWS04/311149958>.

**10-1-10** - R.D. White, Channel 10 YNN, was on site and did a short feature on the high water:

[http://watertown.ynn.com/content/top\\_stories/519358/too-much-water-near-croghan-sawmill/?ap=1&MP4](http://watertown.ynn.com/content/top_stories/519358/too-much-water-near-croghan-sawmill/?ap=1&MP4)

**9-29-10** - The Watertown Daily Times featured an article, "DEC begins Croghan Dam log removal,"

<http://www.watertowndailytimes.com/article/20100929/NEWS04/309299969>.

**9-28-10** - John Moore, WWNY TV, reported on the removal of stop logs from the Croghan Dam:

<http://www.wwnytv.com/news/local/Tuesday-Croghan-Island-Dam-Removal-Underway-103960283.html>

**9-22-10** - The Watertown Daily Times featured an article, "State hears concerns on Croghan dam."

<http://www.watertowndailytimes.com/article/20100922/NEWS04/309229950>.

**9-20-10** - John Moore interviews various folks concerning the Croghan dam for feature presented on evening news, same day: <http://www.wwnytv.com/news/local/Home--Business-Owners-Worry-About-Future-Of-Beaver-River-103337224.html>

**9-18-10** - The Watertown Daily Times featured an article, "State plan likely will shut down Croghan mill" <http://www.watertowndailytimes.com/article/20100917/NEWS04/309179970>.

**9-17-10** - John Moore, WNYF TV, visits Croghan Island Mill and dam for feature presented on evening news: <http://www.wwnytv.com/news/local/Feedback-Historic-103084549.html>

**8-30-10** - The Watertown Daily Times featured an article, "Croghan park is good to go" on Bridge St. Park, a municipal owned park located on the headwaters immediately upstream from the Croghan Dam: <http://www.watertowndailytimes.com/article/20100830/NEWS04/308309989>

**8-26-10** - The Watertown Daily Times featured an article, "Dam in Croghan needs funding"

<http://www.watertowndailytimes.com/article/20100826/NEWS04/308269983/0/news>

**3/22/10** - The Watertown Daily Times featured an article, "Croghan Dam needs work"

<http://www.watertowndailytimes.com/article/20100322/NEWS04/303229995/0/news0>

Our goal is to communicate the importance of this project in order to gain support. Please do not hesitate to ask if you have any questions on the initiative. We are willing to provide as much information as you need and welcome your suggestions and recommendations. Please visit our WebPages on the next page for further investigation as well.

**Contact information for involved parties in no particular order:**

- Arnie Talgo, Current Commissioner and former Chairman of the Tug Hill Commission, Vice Chair at NOCCOG, Board Member ANCA, member of Renewable Energy and Biomass committee/taskforce at ADCAP, advisor to the Lewis County Development Corporation, Retired Senior Policy Analyst, NY Power Authority. talgo@dreamscape.com
- Amanda Lavigne, PhD. Environmental Studies Department, St. Lawrence University, ADKCAP Renewable Energy and Biomass Taskforce Leader, Adirondack Research Consortium Board of Directors. alavigne@stlawu.edu
- Kerop Janoyan, Ph.D., P.E., Associate Professor, Geotechnical Engineering, Clarkson University. kerop@clarkson.edu
- Spencer Thew, Associate Professor, Construction Engineering, Clarkson University. sthew@clarkson.edu
- Glen Gagnier, former mayor of the Village of Croghan and past president and current member of the Lewis County Development Corporation, Chairman of Lewis County Opportunities, Inc., Board Member of Snow Belt Housing. ggagnier@twcny.rr.com
- Eric Virkler, Director of Lewis County Economic Planning and Development, Secretary of the Lewis County Development Corporation. evirkler@lewiscountyny.org
- John Bartow, Executive Director of the Tug Hill Commission. john@tughill.org
- Mike Petroni, Undergraduate English/Environmental Studies Combined Major, Class of 2012, St. Lawrence University. mdpetr08@stlawu.edu

Visit Our WebPages:

The screenshot shows a Facebook page with a search bar at the top. The page title is "Croghan Dam Restoration Initiative for Local Business and Renewable Energy". Below the title, it says "Cause · Croghan, New York". There are two small images: one of a dam and one of a person. The page has a "Wall" section with a "Share:" button and options for "Status" and "Photo". A text box says "Write something...". Below that, there is a profile picture of Henry Smith and a post that says: "It is all very interesting as a local Historian especially the old pictures. I will look I may have some pictures to add."

<http://www.facebook.com/pages/Croghan-Dam-Restoration-Initiative-for-Local-Business-and-Renewable-Energy/177887828922809>  
 The Facebook Page allows for networking with other renewable energy initiatives. Please show your support by linking our page and providing discussion of suggestions on our wall.

The screenshot shows a webpage with a large image of a full moon over a landscape. Below the image, the text reads: "Croghan Dam Rehabilitation", "Croghan Dam Rehabilitation", "A Project of the Lewis County Development Corporation.", "Request for Proposals for Engineering Analysis of the Croghan Dam - February 11, 2011", "History of the Croghan Dam", and a list of links: "Dam Safety Report 1913" and "Dam Safety Report 1918".

<http://lewiscountyny.org/content/Generic/View/114>  
 The Lewis County Croghan Dam Rehabilitation page archives all the historical documents and studies relating to the project. All are available for public viewing, including the St. Lawrence and Gomez and Sullivan reports.

The banner features a yellow house icon on the left. The text reads: "Register of Very Special Places" in a large, elegant font, and "A PROJECT OF TRADITIONAL ARTS IN UPSTATE NEW YORK" in a smaller font below it.

<http://northcountryfolklore.org/rvsp/>  
 TAUNY's Register of Very Special Places highlights the historical and communal value of landmarks throughout the North Country. The Croghan Island Mill is currently working on being registered by the end of the summer.

**Value Statement:**

Saving the Croghan Dam:  
A Community Fighting for Heirlooms, Power, and the Future

Turning for over a century, the saw blades and the water wheel at the Croghan Island Mill have shown some remarkable resilience. As the last remaining traditional water powered lumber mill in New York State, the mill reminds us of a less dependent time, of a time where people saw, heard, felt and harnessed the energy of the river in small operations.

Places like this are invaluable to a village, town and community. As the three other neighboring mills on the Croghan Dam disappeared over the years, the Island Mill remained, holding strong in an era of steady change where conglomeration and outsourcing became more profitable due to the availability of fossil fuels. Today, the Mill still operates under John Martin and his mother Delia producing specialized, hand crafted windows and doors while simultaneously providing the Croghan community with identity, with a tangible history. When telling stories about a place, when remembering important moments, changes and lessons, it helps to have a landmark to point to, a physical reminder. Without these monuments, memories tend to slip away.

By practicing cohesion among the three ideals, The Croghan Dam and Island Mill combine a healthy point of view on economics, community and the environment. The Mill provides affordable, hand-crafted products made with the combination of skill and free, renewable energy, while also reminding the Croghan community of its history, capabilities, and togetherness.

The Croghan Island Mill and dam are symbols of a time and way of life ebbing from memory, a way of life not glossed with plastic and florescent lighting, an existence without a tail pipe. There is beauty in its simplicity. How can we as a society recreate a world without reliance on fossil fuels if we continue to let go of treasures, of role models, like this mill?

In these ways, The Croghan Dam and Island Mill are incredibly valuable resources to the community, to New York, to America. It is a source of pride, of history, of power. In its perseverance, this place teaches us all something important— it makes us think: Perhaps new ways are not always the best ways. Maybe looking back is often the best way to proceed forward.

Local legend has it that in 1918, when the existing dam was constructed, every able-bodied citizen in Croghan worked in round-the-clock shifts to mix, shovel, and pour the concrete. In the current fragmented society, it is increasingly difficult to find examples of whole communities coming together, working together, and recognizing common purpose. This dam and its story remind us of the combined power of community. Its capstones were laid with the idea of the common good, not individual enterprise. Having a reminder of this capability brings people closer together, knowing that folks have, can, and will cooperate on the communal level for the greater good of everyone.

Today a new community effort is underway. Landowners, county officials, fire departments, students, educators and environmentalists of Upstate New York have joined together to try once again to rebuild the Croghan Dam, but time is short. The New York State Department of Environmental Conservation has already lowered the level of the reservoir by 2.5 feet in preparation for breaching the dam in the fall of this year. Without the estimated 1-1.5 million dollars needed to repair the 93 year old dam, John Martin will be forced to close the doors to the Mill for good.

When looking at the Croghan Dam, Arnie Talgo, commissioner of the Tug Hill Commission and Amanda Lavigne, Assistant Professor of Environmental Studies at St. Lawrence University, see a renewable energy resource going unused. If repaired and outfitted to produce electricity for local industry or home consumption, the Croghan Dam could serve as a model for the estimated 5,000 other small dams in New York State. This summer, St. Lawrence undergraduate Mike Petroni will be finding out just how much clean power these dams could be producing as well as working on the crucial first step in tapping into these resources, saving the Croghan Dam.

Currently, former mayor of Croghan, Glen Gagnier, and the Lewis County Development Corporation (LCDC) have applied for a USDA Rural Business Enterprise Grant for a “Design Study” of the dam, the first step to making repairs. The Town of Croghan, Village of Croghan, Beaver Falls Fire Department, the Lewis County Board of Legislators, and property owners have all committed matching funds. The LCDC hopes the “Design Study” will prove the stability of the dam and postpone the DEC removal, allowing more time to collect the necessary money for repairs.

With the addition of NYS Bill 1149, which adds Micro Hydro to the list of renewable energy productions eligible for net metering, the prospect of saving the Croghan Dam has never looked brighter. All that’s needed now are more voices, more able bodied citizens to unite in this movement. Together we can rebuild this dam again and by doing so, start building a cleaner, closer, smarter future for the good of everyone. Thank you for your support and interest.