

# Despite One Dam Thing or Another, Small Hydropower Slowly Resurges

by Ricka McNaughton

All the ingredients for small-scale hydroelectric power redevelopment in Vermont seem to be assembled. The state has no shortage of water, gravity or zeal for green-energy solutions, and responsible hydroelectric power is arguably one of the greenest. It uses no fossil fuels, puts out no waste, and consumes nothing but energy created from water pressure. There are some 1,200 existing, unutilized dam sites in Vermont, to say nothing of opportunities for a “run of the river” installation, which borrows water from streams for short distances and dutifully returns it to its natural course. Given all that, why aren't more developers coming forward?

In the 1970s and '80s there were some strong financial incentives to develop hydroelectric power in Vermont, including—for those connected to the grid—long-term sellback contracts with utilities at above-market rates. Then came a spell of about 20 years during which not a single proposal crossed a desk at the Vermont Agency of Natural Resources (ANR), the entry point for the hydroelectric permit process. The incentives dried up, and the sites most opportune for development, in that financial climate, were picked off. Then came further evidence of climate change.

In light of the world's gigantic carbon-footprint problems, skyrocketing oil costs and an electric-power void to fill if Vermont Yankee gets mothballed, the cost-benefit ratios of hydroelectric power are looking better for small-scale projects designed to serve commu-

nities, institutions and individuals choosing to live off the grid. Even so, the application flow to ANR is closer to a trickle than a stream.

One reason is that old dam sites are . . . old. They can have significant structural and liability issues. But if you knock off problems relating to engineering and related financial viability, which is setting aside a lot, you could argue that the next major obstacle to small hydroelectric power development is the permit-approval gauntlet.

In recent years, hydroelectric advocates have called for remedies to the permit process. There have been stories of applicants who tried to make their way through unchartable bureaucratic channels, and then, somewhere well into them, came up against requirements to produce yet more impact studies. Not only did the studies seem overreaching and duplicative, they came at a price of hundreds of thousands of dollars. And that was with no assurance of a permit at the end.

ANR, with its water-stewardship mandate, nonetheless regards itself as supportive to environmentally responsible hydroelectric development. But the Federal Energy Regulatory Commission (FERC) also has jurisdiction. And depending on the perceived ecological and societal impacts at any stage of the permit journey, a project can also trigger review by the U.S. Fish & Wildlife Service, the Vermont Public Service Board, the U.S. Corps of Army

Engineers and the Division of Historic Preservation. One reformist view is that the bulk of the regulatory murk originates upstream with FERC. Some think it would help if federal oversight could be delegated to the state level.

In a report to the legislature in 2008, ANR essentially said that it didn't have the resources for that shift and didn't think such a move

would appreciably change anything for applicants seeking certification. That's still the case today, according to Brian Fitzgerald, who is the streamflow protection

coordinator in ANR's Department of Environmental Conservation. Not long ago, another state tried to pull off that same delegation of authority. “If we had followed that model,” Fitzgerald noted, “applicants would still have the same span of obligations.” It shouldn't, and apparently didn't, close the door on the need to bring more organizational rigor and clarity to the permit process. Which raises the question, how simple should it be?

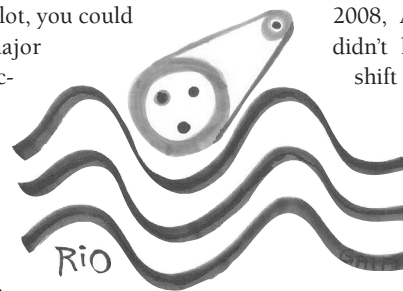
Society's expectations concerning water stewardship are higher now than they used to be. Even small projects don't necessarily have small impacts. In addition to fish, animals, plants, bugs and things you need a microscope to see, every Vermonter is a potential stakeholder. In 2008, the state's waters were given the legal status of a public-trust resource, meaning that water is now protected for the

benefit of all Vermonters and can't be used at will to the detriment of others. Once a small hydroelectric certification is granted, it's usually in force for a period lasting from 35 years to, effectively, forever. Seriously. That's a decision you don't want to screw up.

So, finally, here comes the good news for hydroelectric supporters. In spite of the design hurdles and lush cornucopia of regulatory complexities, Vermont is seeing a slow resurgence of small-scale hydropower redevelopment. FERC futilities aside, Brian Fitzgerald said that ANR did find some ways to increase flexibility and compress time frames for moving small hydroelectric proposals along. In the last 18 months, three new projects have been certified, with another likely to pass muster in a few weeks. Another half-dozen applicants are in talks with ANR, combing through environmental issues prior to filing their permit applications.

There are growing numbers of easily found renewable-energy advocate organizations, and private consulting engineers are ready to be of service. If they can't advance your project, they can at least save you, early on, from a financial plunge over the falls. Some tax incentives can be had, and Vermont's Clean Energy Development Fund (a program of the Vermont Department of Public Service) may have something to offer. So now might be the time, as Houghton Cate once did, to “go at it.”

*Ricka McNaughton is a writer who lives in Plainfield.*

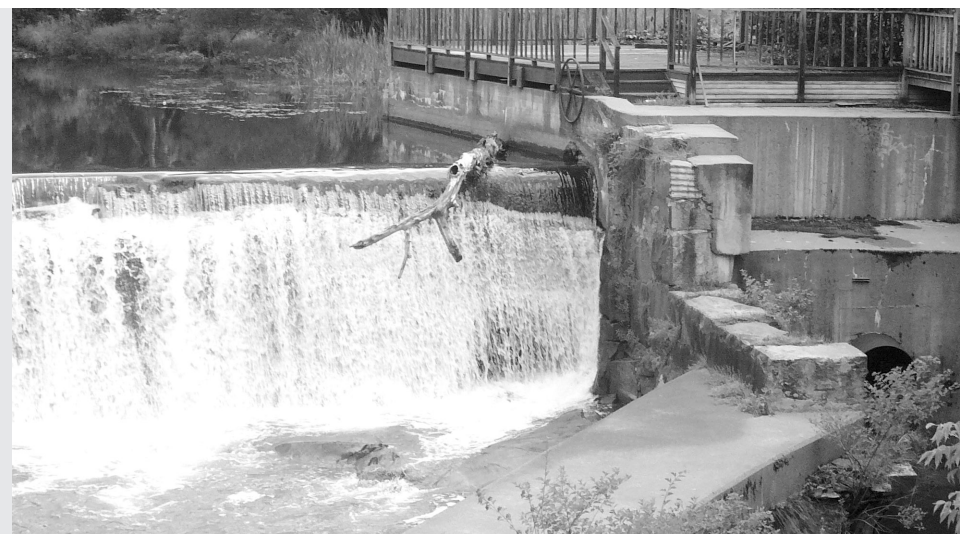


## The Lane Shops: Dam of Dreams

by Bill Holland

Back in 2001, Montpelier native Eddie Walbridge dreamed of a place where kids could go on a summer night for some wholesome entertainment. After going \$500,000 into debt and banging on the doors of local businesses for support, he made that dream come true. It's called the Vermont Mountaineers, an organization for which Walbridge served as president for seven years.

Today he has another dream: that of making the State House of the Green Mountain State the first in the country to be powered by green, renewable energy—in this case, hydroelectric power, a form of energy that annually supplies 7 to 10 percent of the state's electricity (depending on the wetness of the year), but whose untapped potential, advocates claim, could easily supply a good deal more, since only 95 of the state's 1,200-odd dams are currently used for this purpose. Back in the 1940s, before the advent of TV, computers and air conditioning, in-state



*Dam at the Lane Shops. Photo by Bill Holland.*

equipped with smaller, more-advanced turbines, can produce 60 kilowatts, enough to power 60 to 70 homes or, in keeping with his grander aspirations, the State House. What's needed at this