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**Environmental entrepreneurship: case studies of common pools
with the Ostroms at Indiana University**

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Free Market Environmentalism in Montana

1970 Bozeman was a small town with a cow college located in the most remote state the contiguous USA. How did this place become the epicenter for FME & NRE? Why did ecological and environmental entrepreneurship develop there? Like most entrepreneurial success stories, the answer mixes luck, ambition and location.

First an important distinction. All environmental studies may be divided into two parts:

- The first is noxious stuff that degrades natural settings. It injures and kills living things. We call that category *sludge* and try to avoid it. That's easy to do here.
- The second sector is comprised of parks, rangelands, wild lands, wildlife, wild waters, and some agriculture. This is the *romance* portion of environmental studies. Naturally, Bozeman

researchers and writers specialize in romance. We do so from a perspective developed by Lin and Vincent Ostrom at Indiana University and Garrett Hardin at U. C. Banta Barbara.

Here is the setting for our work. Bozeman, Montana lies in the Gallatin Valley. It is surrounded by mountain ranges and is a Mecca for trout fishermen and hunters. Montana State University (MSU), the town's largest employer, is Montana's agricultural and engineering school. It is also the University of the Yellowstone and is just over an hour from Yellowstone Park's northern border.

In about 1970 four newly minted PhDs arrived at MSU. All were interested in environmental policy from an institutional, public choice perspective. At that time as now, the great majority of academics interested in environmental policy held leftist views. Private property rights and profits were bad while more government ownership and management was good.

In the usual Green view, capitalism is the great despoiler, especially of common pool resources. This was their conventional default. Few Greens understood the logic and constructive role of property rights, scarcity, and the market process.

The great majority of Greens totally neglected the role of entrepreneurs in protecting and enhancing environmental quality. Indiana University led in creating a new paradigm. Here is how it developed and then came to Montana.

The New Resource Economics, or "Free Market Environmentalism"

It came to Bozeman, Montana via Bloomington, Indiana. Thanks to the mentoring of Lin and Vincent Ostrom at Indiana University and ecologist Garrett Hardin at U. C. Santa Barbara, my colleagues and I brought Public Choice economics to environmental policy. Here's how this group of senior scholars became linked to Bozeman and fostered the creation of NRE.

Public choice at IU

I went to Indiana University (IU) in the late 1965 to study Economic Anthropology. I was a grateful beneficiary of the 1960s experimentations in interdisciplinary studies. What luck! IU was the perfect place for me; I could build an individual Ph. D. program from several departments while on a generous fellowship. I had no specific or assigned duties and found substantial personal support and generous mentoring from faculty in various departments and centers.

I soon became friends with professors Lin and Vincent Ostrom. Although not a student in their fledging center, I was attracted to them and their work. (Their center became the Workshop in Political Theory and Policy Analysis in 1973.) I house-sat for the Ostrosms one summer while they vacationed in my parents place on the Manitoulin Island of Ontario, Canada. The following year I helped them construct their summer home on the shore of Lake Huron. This indicates the closeness of our linkages.

Here is how the Ostrosms and Buchanan and Tullock's Public Choice consolidated at IU. Ostrosms had come to

Bloomington from UCLA. They had met Buchanan there just after he left UVA. Gordon was at Rice University and both he and Jim wanted to relocate. Their radically different personalities were remarkably complementary. Many people would benefit if they found a common academic home.

Both Vincent and Lin Ostrom have been presidents of the Public Choice Society. They were working on problems of managing common property resources when they arrived at IU in 1964. They created a center, a "workshop" focused on the public choice and political economy traditions. They emphasized empirical research and applied policy analysis and were explicit in using theory to derive testable hypotheses. (Lin won a Nobel in Economics in 2009 for her work on how communities constructively manage the economics of the commons.)

Jim and Gordon's seminal work, *Calculus of Consent* (1962), was one of the Ostrom's key readings. Mancur Olson's *Logic of Collective Action* was another. (*f.n.* Olson's wrote his Harvard economics dissertation under Tom Schelling, another Nobel Prize economist who developed close ties to Bozeman when speaking in FREE's twenty five year long seminar series with Article III federal judges.)

The Ostroms told a few graduate students they wanted to attract Buchanan and Tullock to IU. They invited Tullock for talks and to meet faculty. They hosted a dinner at their

home on Lampkins Ridge Road, with a few faculty and at least one graduate student.

In 1966 Ostroms assigned grad students articles from Gordon and Jim's journal, "Papers in Non-Market Economics". Three issues later it became *Public Choice* with Gordon the editor. The journal featured articles applying economic theory to non-market phenomena, especially government and politics.

Gordon published one of my first articles there. It was co-authored with Richard Stroup in 1972, "Choice, Faith, and Politics: The Political economy of the Hutterite Communes". (Gordon was quite taken by our application of economics to religious organization and asked me to serve on the editorial board of *Public Choice*. I did for some years, light duty indeed.)

I feel exceedingly lucky to have gone to IU for grad school. Had I not, I wouldn't have studied with Vince and Lin, met Gordon and Jim, published a book with Garrett Hardin, studied the Hutterites, and received a post-doc in environmental policy. All this led to Bozeman and the creation of NRE with its foundations in Public Choice.

An important feature of the Ostrom approach at IU was their emphasis on entrepreneurship. They included the governmental, for-profit, and non-profit sectors. The last named is especially important in the "romance" sector of environmental management.

Nonprofit entrepreneurs

Entrepreneurship provides an alternative, constructive and peaceful perspective on environmental management. People observe their surroundings with an implicit model of how the world works. Very few however, even alert individuals, appreciate the scope of ecological entrepreneurship. It's easy to understand those seeking profits: They produce a new product or service and sell it in the market. Motivating incentives are obvious.

Nonprofit entrepreneurs are more illusive and their strategies vary. They find or create new opportunities to improve or preserve something not well addressed in the exchange market. They may do something directly, for example fund research on how we might save an endangered species such as whooping cranes.

In the conservation arena entrepreneurs often cooperate with a wide range of organizations; government agencies, firms, non-profits, and individuals. Examples include the many organizations created to protect wildlife and their habitat. Ducks Unlimited, Trout Unlimited, Pheasants Forever, Rocky Mountain Elk Foundation, and the International Crane Foundation are a few well-known organizations created by environmental or ecological entrepreneurs.

The American Prairie Reserve

APR may be the most ambitious conservation exercise concocted in the past century. This Bozeman based American Prairie Reserve became a public charitable foundation only sixteen years ago, in November of 2001.

It's goal for over three million acres in North Eastern Montana, an area one and a half times the size of Yellowstone Park, "...is to create and manage a prairie-based wildlife reserve that, when combined with public lands already devoted to wildlife, will protect a unique natural habitat, provide lasting economic benefits and improve public access to and enjoyment of the prairie landscape."

To accomplish this, it collaborates with over a dozen agencies, other nonprofits, and firms. APR even created one commercial beef firm, Wild Sky to supply high-end restaurants. *"When you buy Wild Sky you're getting more than a great steak on your plate—you're also helping build American Prairie Reserve, increase wildlife populations, and support our neighbors."* Photos of the ranch families appear on the menus.

Private and public sectors cooperation

The APR demonstration of twenty first century conservation may be the evolutionary successor to the Progressive Era state and federal resource management agencies such as the U. S. Forest Service and the Park Service. I am highly interested in exploring the APR experiment and expect to feature it in my next book.

The private sector has no monopoly on entrepreneurial ecology, but those outside government have far more liberty to innovate than do people in federal agencies, i.e, bureaucrats. Bureaucrats have strong and persistent incentives to color within the lines. Further, political constraints often thwart conservation goals. Some of the most successful conservation work involves cooperation among agencies, non-profits, private individuals, and firms.

One example is Wisconsin's Onion River, once and now again a productive trout stream. Horse and fish farms had built over two-dozen dams that blocked trout spawning grounds. A private conservationist couple bought the farms, tore out the dams, and gradually sold the properties to the Wisconsin DNR. The river again produces trout and is open to for public fishing. "We like to return wildlife to where it belongs and try to do it without hurting people as a result". (For an account of this successful saga see: Kamrath Restoration, Onion River Headwaters, Wisconsin Trout Unlimited website.)

Parachuting Beaver into Backcountry

We can celebrate such success and here is a public sector success to cherish. In the late 1940s beaver were over abundant animals in some areas of Idaho where they harmed irrigation and orchards. (Ramona and I understand this for we have experienced occasional but severe beaver damage on our ranch.) Beaver had been trapped out in some remote areas of Idaho.

As recently demonstrated by their return to Yellowstone Park, beaver make major contributions to other wildlife and watersheds. The *Journal of Wildlife Management* reported in 1950, "...(beaver) do much toward improving the habitats of game, fish, and waterfowl and perform important service in watershed conservation".

Understanding this, the Idaho Fish and Game Department live trapped beaver where plentiful and transported them to remote areas. The beaver would be live trapped and trucked to a trailhead. Then they would be packed by mule and horse train to back country meadows. Alas, this was a costly process and created

problems for mules and beaver. The mules didn't like carrying squirming, odiferous beaver and beaver mortality was high. Many beaver died from the summer heat while being packed.

Here was a promising ecological improvement, reestablishing beaver, but one with large delivery problems. Some creative individual in the Idaho Fish and Game Department devised a solution in 1948, parachute them in from airplanes. Beaver were placed in boxes that sprung apart upon landing.



To figure out how to do this successfully they experimented with a beaver named Geronimo. They determined that the best release height was from 500 to 800 feet. The parachute would open and the box would open upon hitting the ground. In 1948 they released 76 beaver with only one dying, he fell out of his box when 75 feet in the air.

“This was a savings over mule packing as four beavers could be moved for \$30. The experimental Geronimo was among the first group released to the wild, he with four young females.”

(Transplanting Beavers by Airplane and Parachute, Elmo W. Heter, *The Journal of Wildlife Management*, Vol. 14, No. 2 (Apr.,



1950), pp. 143-147, Published by: Wile

While we can celebrate this entrepreneurial effort of the 1940s, today's environment makes such creative ventures by a state agency quite difficult. Imagine the outcry over spending taxpayers' funds to deliver beaver by parachutes. Easy target indeed. Likewise, today's costs would be far, far higher than the per-beaver delivery cost in 1948, only \$72 in today's money. Further, the potential protests by PETA or other animals rights groups, and by fiscal watchdogs, would deter politically sensitive agency officials.

Teaching Whooping Cranes to Migrate With Ultralight Aircraft

The whooping crane is one of only two North America cranes. It suffered major population decline from habitat loss and over-hunting. The population declined to 15 individuals in the 1940s and cranes were classified as endangered in 1967.

I heard of its plight when George Archibald, president of the International Crane Foundation (ICF) visited Bozeman years ago.

Later I learned that friends of FREE at the Windway Foundation led recovery efforts. Here is the short version. (An account is given in *Chasing the Ghost Birds: Saving Swans and Cranes from Extinction* by David Sakrison, Watson Street Press, 2008.)

Terry and Mary Kohler helped return the trumpeter swan to Wisconsin by flying to Alaska and bringing trumpeter eggs back to Wisconsin to be hatched by the state's DNR. George Archibald learned of their good work and asked if the Kohlers would make additional trips to northern Canada to collect whooping crane eggs. They did so for six years, delivering the crane eggs to the ICF for hatching. They carried 60 eggs per trip in their custom-made temperature controlled box.

The ICF raised the crane chicks without direct human contact so they would not imprint on people. The next problem was teaching them to migrate. The answer was a series of ultralight airplanes. They were used to lead the birds to winter homes in Florida. After doing it once, the birds know the drill. They return to where born and the migration pattern goes on. Due to crane predation by Florida bobcats, cranes were also led by ultralights to a new wintering area on islands off Louisiana's Gulf Coast.



Conclusion

Here is a take-away lesson for individuals interested in ecological restoration and preservation. New conservation problems constantly emerge--and so do opportunities. Ecological entrepreneurs arise to bridge the private and governmental sectors. Neither their identities nor their practices can be predicted but we should be sensitive to their potential. This remains one of the key lessons of the Ostroms' perspective on environmental policy.

When we see examples, of failure as well as success, it is important to tell the stories. Explaining this process could be an important theme in environmental economics. As we learned with beaver, cranes, and swans, success can be contagious. An important part of FREE's mission is to foster such conservation success.

Carrying this theme to Europe and supporting our Aix en Provence conference was a pleasant venture. We are building intellectual foundations for harmonizing liberty, ecology and prosperity. In January of 2017 we begun spreading the message via FaceBook.