The Bicentennial and the Origins of Conservation

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As a boy, I enjoyed climbing hills to look around--to see where I had been and to see what lay ahead. The enjoyment lay in the physical conquest, the expansive view and in the anticipation of things yet to be done. I still climb hills on my farm and when I travel--wherever I find a good hill--and I climb for the same reasons.

The Bicentennial Commission is asking the people of this country to consider the two-hundredth birthday of this country as a peak, that each citizen in his own way, should climb, so as to look back on his heritage, look ahead to his horizon and acknowledge ~~our national~~ common accomplishments and hopes with festivities.

Today I shall be looking at the Bicentennial by relating the life work of conservationists to the development of this nation. We are here because we are concerned about land--the soil and water upon which all life depends and we translate that concern into improved management of soil and water. The dedication of a professional life to an activity means a belief in the importance of that activity. A belief that it has been and will be important to people.

Let us examine the historical record for the roots of our current beliefs about natural resources, and particularly, the conservation of soil and water.

OUR HERITAGE

The place to start is in Europe, as almost all of our ancestors were there in 1776 when this country was born. How had these people, farmers and tradesmen who were soon to be emigrants, treated their homelands? Would some objective commission, if given their record, have permitted them to take over a virgin land?

The European record was spotty; for every good point there was one that was questionable or downright bad. More than 200 years ago, the European landscape had been altered to some degree everywhere, and in some regions so completely and irrevocably, that one can only speculate as to what its original appearance may have been. Only small tracts of forests remained and some of the native species of plants and animals had been lost forever. On the other hand, the farmland that man had created was in many places not only more productive of things that man needed, but was pleasing to the eye as well. In other areas man's use had transformed the land into monotonous barrens having little of value to man or wild beast.

Change had come largely without plan as the result of individual acts: cutting of trees, grazing of grasses, plowing of soil, draining of wetlands, burning of pastures, and mining of minerals. The accumulative effect of many small acts, particularly in the growing cities had fouled the rivers and had begun to foul the air. The Thames already carried such a stench that in the seventeenth century it penetrated the halls of Parliament and the London sky was often obscured by smoke rising from thousands of fireplaces. The tailings of coal and iron mines were not only creating eyesores in the English midlands, but were contributing leach waters to already polluted streams.

Perhaps the most dramatic change in the landscape had occurred in the Mediterranean. Hillsides that originally had been covered by parklike savannas yielding lumber and fuel and forage for cattle, had been cut, overgrazed and burned. Now they were covered with shrubs that shaded out the grass, allowed erosion, and provided neither lumber or forage. With increased erosion, fertility was lost, groundwater fell and flooding periodically occurred, causing extensive damage to the lowland cities.

Harbors were silted and flooded fields became marshlands, providing habitat to malarial mosquitoes. Malaria eventually forced evacuation of formerly productive farms along the Italian coast. Floods continue to this day, and in 1966 destroyed thousands of irreplaceable art treasures of Florence. The degradation of much of the Mediterranean coast is irreversible and has reduced the productivity of the land and impoverished the people.

Authorities are in less agreement as to the role of man in the creation of the extensive moors--the acid-soil uplands--of northern Europe. However, there is evidence that timber cutting, overgrazing and burning have extended moors in some areas and that certain of the Scottish moors were productive forests as late as 1750. The desolate beauty of the moors is an essential ingredient of English literature, but life on the moors is hard and forced the emigration of many.

I have seen erosion in England in narrow country lanes that have been cut by traffic and wind and water to depths of 4 to 6 feet, or in stone fences that stand on bases 4 feet above the cultivated fields or in houses in the lowlands whose first floor is 2 to 3 feet below the level of the courtyard. All of these changes show that the surface was once several feet above or below where it is now and that wind or water has transported millions of tons of soil. A farm that once supported its owners well, now gives their descendants less than a living.

Almost all of the crimes that can be perpetrated against soil or water had been invented and perfected by Europeans before 1776.

On the other side of the picture, Europeans had developed most of the good practices: manuring of soils, use of lime on sour soils, rotation of crops, rotation of pastures, use of cover crops, introduction of legumes, terracing of hills, sustained yield of forest, and the selection of animals and plants for increased hardiness and productivity.

Human institutions developed in Europe to manage land, contributed to both care and abuse of land. Europeans conceived the idea that man could possess land and do with it what he willed, sell it, or pass it on to his descendants. Transfer of land from generation to generation was by one of two systems, father to eldest son (the custom in much of England and Scandinavia) or from father to all children, each sharing alike (the custom in France and Ireland). The first system was a hardship for all but the first born, and became a stimulus for emigration, but it did recognize the function of land. It permitted farm operations and systems of rotation to be preserved over many years. The latter custom subdivided the land to the point that fields became too small to use. Some holdings in France are now less than a square yard (~~acres~~) in size.

Land held in common, chiefly pasture land, was to be found in many communities. Unfortunately, without restraints, some individuals increased the number of their cattle until overgrazing of the commons led to decreased yield for all cattle owners (fallacy of the commons, discussed by Garrett Harden).

Public lands were a late development. Most originally belonged to lords or the king and were treated as private holdings. Through the desire for the sporting pleasures, chiefly of hunt, or by chance, some large tracts of forest and undeveloped land were maintained with little disturbance until, in modern times, they were transferred to the government.

The record of the European in 1776 was a record of an exploiter who had learned a few lessons in conservation but seldom practiced them. His philosophy was based on the belief that man had the right to do as he pleased with land, whether it led to extinction of other forms of life, or endangered the future of his own descendants. If there had been an impartial commission that ruled on petitions of men to emigrate and become developers

of new lands, I doubt that our European forefathers would have been given the right to come to America.

In 1776 Wisconsin was still a wilderness in the minds of the citizens of Boston, Philadelphia and London. Apart from the old French trading posts in Green Bay and La Point, Wisconsin was populated by an assembly of Indian tribes who combined farming and food gathering with fishing and hunting. Their cultivated lands, which were located almost entirely on alluvial soils along streams where it was enriched by spring floods, made up an insignificant fraction of the total area. Good stands of wild rice were limited, and rights to them were defended with the determination now given to maintaining access to oil and gas fields. In order to most effectively raise crops, gather rice and hunt or fish, almost all Indian tribes moved their residences with the seasons. This made personal ownership of land in the European sense meaningless to the Indian. Land was occupied and used by tribal units for specific purposes. Loss of any of these areas, cropland, rice marshes or hunting country, meant hunger for the tribe, and usually occurred only as a result of warfare. To sell or cede land by treaty was like selling children, only done by one who was drunk or insane. These were the people who had been the trustees of the land and who were soon to be asked to step aside for the emigrants.

While Indians did little exploitation of the land, a small amount of farming, mining of copper and a few other minerals, and the building of some sizable earthworks for ceremonial purposes, they had modified the landscape on a grand scale. This was done by burning the grasslands. John Curtis in Vegetation of Wisconsin, cites a body of evidence that the continued existence of savannas and prairies that covered southern and western sections of Wisconsin when Europeans first entered the state, was dependent upon the firing of grasslands by the Indian. Fires were set to drive game or to facilitate movement across the tall grass prairies in pursuit of game. Fire held woody plants in

check and permitted only resistant trees, like the bur oak, to reach maturity. With cessation of burning in the late 1800s, forests appeared with amazing rapidity. So the Indian had not only determined the appearance of much of Wisconsin by a cultural practice, but because of it, had determined the nature of the soil itself. His legacy was the rich prairie soil of southern Wisconsin.

After the establishment of the U.S. Government in 1776, and before authorization by treaty, Wisconsin Territory was penetrated by U.S. citizens. The early magnets were fur trade and rumors of mineral wealth. Settlement of the land for farming, and with settlement, changes in appearance of the landscape awaited the flow of new immigrants from Europe, Welsh and Cornishmen, Norwegians and Irish, Germans and Swiss. Wave after wave of immigrants came.

By 1876, villages had been established over much of the state, dirt roads, railroads and canals were being built at a feverish rate. Forests were being cut and cleared. Prairies were being plowed. The enthusiasm everywhere in America was for civilizing the land. The wilderness was to be tamed. The forests were to be cut. Land was to be plowed, wetlands were to be drained.

Then, for reasons no one has fathomed, this policy of total transformation was first questioned a hundred years ago, and the leaders of what has become the conservation movement, emerged in Wisconsin.

But let us pause to look at some of the unfortunate developments that had already resulted from the activities of immigrants entering Wisconsin before 1876. Large alluvial sand flats deposited during glaciation along the lower Wisconsin river were treeless prairies before the arrival of settlers. A marker on Highway 14 marks the site of Dover, an early English settlement abandoned after a few years. Sand exposed when the sod was broken dried quickly and became wind-borne. Today, active sand dunes alternate with desert pavement, and old

dunes are being stabilized by jack pine, cactus and wormwood. Land biologically productive as prairie, and unsuited for agriculture, was degraded beyond use for over one hundred years.

You know the story of marshes drained and of agricultural failures that followed, of great fires that destroyed 1,000 years of organic accumulation. The eventual repurchase of these lands by the state, was followed by expensive renovative programs and eventually restoration of wetlands that are now productive of waterfowl.

You are also aware of the up-down hill plowing of the steep ridges of southwestern Wisconsin. The rapid loss of topsoil, the formation of gulleys--6 feet deep in a single rain. You know the distressing inversion of soil horizons along stream banks in that area where one can see 3 to 4 feet of clay overlaying an equal depth of rich black organic soil.

In a few decades, this state was robbed of much of its heritage. If an economic value could be placed upon it, the sum would be in the hundreds of millions. No action was taken in the legislature to stop the pillage.

But voices were raised in Wisconsin. Back in 1875, Thure Kumlein of Lake Koshkonong, published a paper in the 3rd volume of the WASAL TRANSACTIONS, entitled..."The Rapid Disappearance of Wisconsin Wild Flowers;...." Another Academy member, Increase Lapham, had published a pamphlet 6 years earlier on the rapid exhaustion of timber resources. This was at a time when the cutting of the northern woodland had only begun. These were among the first recognitions that the resources of the U.S. were finite and that their exhaustion was not only predictable, but would have adverse effects on the future of the country. The TRANSACTIONS were to publish in 100 years many papers on the geology of the state, on significance of glaciation, and on the origin of soils. There was discussion of lakes and streams, their water quality and the onset of pollution.

The changes in fauna and flora were carefully recorded. In the pages of TRANSACTIONS, we find a bare line on natural resources of the state and of man's thinking about them.

The first man to teach Americans that wilderness had value, that some lands should never be tamed, was Wisconsin farm boy and UW student, John Muir. To him we owe the development of the national park system, the preservation of the redwoods, the whole concept of wilderness areas. One of the wildest places on this continent, Muir Glacier in Alaska, is named after him. The impact of John Muir was worldwide. Today we simply cannot appreciate how radical his teachings were for the time, and how phenomenal his skill as a propagandist.

Aldo Leopold is another giant. His statement of land ethic has become the eleventh commandment.

> "Man shall not harm the land on which he lives, and deprive his descendants and other creatures with which he shares the land, the right to enjoy what that land now provides."

Degradation of the landscape and the extinction of forms of life became, because of Leopold, a moral crime for which man should be held accountable. This is being recognized here and in other countries. The degradation process spanned many generations in Europe; it happened within a generation in the United States. The speed helped to open the eyes of perceptive individuals. Once it had been said everyone could see "that the emperor had no clothes."

Wisconsin has had a role in development of technologies for conserving our resources. One of the earliest demonstrations of contour farming was in western Wisconsin. The science of limnology developed here. Some of the classical papers of Juday and Birge appeared in TRANSACTIONS. Pioneering work on lake bacteriology and water quality involved people like Edwin Fred, Emeritus President of UW-Madison. The tradition of research on environmental problems in the higher educational institutions of Wisconsin is long and distinguished. I need not detail it.

What about horizons?

We have two competing philosophies about conservation typified by the two leading national action agencies, the Soil Conservation Service and the Environmental Protection Agency. SCS and its collaborating agencies have used education and incentives to secure cooperation of people in reaching certain conservation goals. The program requires a significant participation of local committees in establishing goals and achieving cooperation. The results have changed the face of the landscape.

EPA has used the club, employing panalties for noncompliance with standards that are set at a very high government level, by a process that emphasizes legal procedures rather than scientific considerations. Its workability and cost effectiveness have yet to be proven. It has been subject to more uncertainties and sudden changes in implementation. Which of these philosophies will determine our future? We must soon decide.

There are other kinds of philosophical questions.

What is environmental quality? Is it determined by absence of qualities or things like ugliness, monotony, pollution or noise? Or is it the presence of beauty, diversity and life-supporting substances in proper balance? Can highest quality be found in a primeval environment or in a man-modified one? How can we find a definition on which most of us can agree?

What do we mean by highest use? Is it determined by economic, esthetic or biologic values, or by a multiple value system? Does it take into consideration irreversible actions and open options? Does it consider uniqueness of a given site?

Is the destruction of unrenewable resources a crime against the future? Like a stock of food on a desert island, the amount used depletes the store by that amount. What is used by our generation means that much less for our children and theirs. Have we a responsibility?

Petrochemicals are such a resource. Originally formed by the trapping of the sun's energy by plants over hundreds of thousands of years, we can deplete all deposits in a few generations. Yet the remaining world reserves are equivalent to only 2 weeks of energy received by the earth from the sun. This is the only income the earth receives. Utilizing anything else is living on the balance in the bank. Should we get at the business of earning an income? And can we do things at the state level without waiting for Washington?

FESTIVALS

I have saved Festivals for the last. Let us look at what we can do now about celebrating the contribution of Wisconsin to conservation and wise use of natural resources. I make this suggestion for your consideration. Richard Perrin, Milwaukee architect and my predecessor as president of WASAL, proposed some years ago a project that is coming to fruition next year--a major element in the Bicentennial celebration of Wisconsin. Drawing on the rich ethnic heritage of this state, exceptionally well preserved in artifacts and buildings, a folk museum is being assembled at Eagle called Old World Wisconsin. In Europe, folk museums are immensely popular and serve to interpret the past of ordinary people in a most effective way, as they show as functional units, farmsteads and village streets.

I know of no better opportunity to tell the story of man's evolution from a rash destroyer of his environment to a thinking, sensitive being who wishes to preserve his environment. It is a fascinating story in which Wisconsin people have played leading roles. An interpretive center could tell it. We know it needs to be told. I am suggesting that conservation organizations could explore the concept as its contribution to the Bicentennial ~~report~~ effort.

The Center should tell how much of the fertility and beauty of this state was lost (Paradise lost) and how the destruction was stopped and building started (Paradise regained). The message should be presented in human terms--through stories of people and places.

Here are two stories from my experience of *Paradise lost*.

It is called Roachville. Stacks of salvaged wood, sheltered a little by scrubby jack pines, sit among stabilized dunes. In front of each is a midden heap of tin cans and garbage. To the side or in back are half-buried wrecks of old cars and no gardens. Kids and dogs play in the sand. Sometimes the kids go to school and the teachers complain that they are slow learners. The adults subsist as did their parents and grandparents on county relief and a little "borrowing."

These are real Wisconsin people. Did poor soil make nonproductive people or do nonproductive people live on poor soil?

The second story concerns an unused stone-land farm. A rutted road leads to unpainted buildings. Lilacs and poison ivy grow in the yard. Behind are gullied fields too small to work. And brush-grown pastures lined by fallen fences. The family saw their dreams crumble and escaped into drunkenness and illness. For some, it was madness or suicide. This is what happens when the land is lost and with it, hope. Why not tell it as it is?

Paradise regained is the story of the salvage of lost Wisconsin lands and the saving of others in time.

It is the tale of geesereturning to healed marshlands, and of reforested hills echoing again to the drumming of grouse. Of trout leaping to flies in a stream running clear again.

It is also the tale of corn and alfalfa growing green on the deep prairie soils.

I remember the day Anton showed me the countryside near his home. He knew each farm, its history and the dreams of the owner.

As we neared the end of the drive he said, "What better memorial can a man ~~have~~ leave than a living farm that he created by siting the buildings well, by laying out good fields, and establishing practices that will keep the land producing generation after generation." Then he stopped and looked down on his farm. He wanted me to say that it was beautiful--and it was.

All of the people of this state need to know how we almost lost our land, and of the work and dreams that it takes to keep it productive and beautiful.

Why not retell this story on our two hundredth birthday?

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