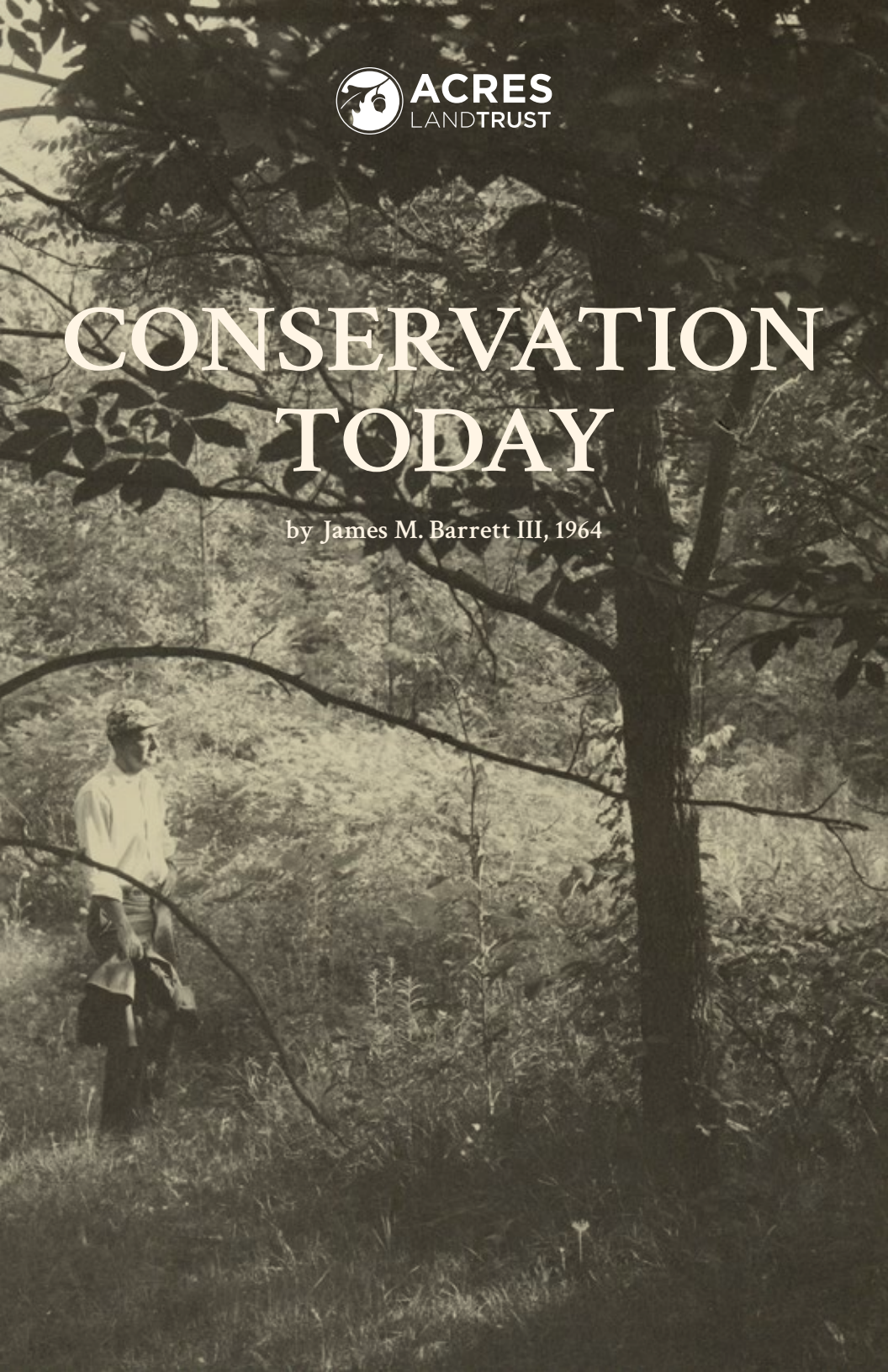

ACRES LAND TRUST

CONSERVATION TODAY

by James M. Barrett III, 1964

Introduction to "Conservation Today"

– Carol Roberts, ACRES board member, 2/12/20

Jim Barrett (1924-2011)

James M. (Jim) Barrett III read his "Conservation Today" paper to the Quest Club of Fort Wayne in April 1964, four years after he co-founded ACRES Land Trust, and two years before he wrote the Indiana Nature Preserves Act.

This mind-opening paper tells the compelling story of how people, plants and creatures sustain life on earth. His words continue to tug me in unexpected directions, nudging me to rethink the meaning of its central affirmation:

> **From our understanding of nature and our love and respect for it will grow an ethical basis for our defining our proper relationship to it.**

I stick these words on my refrigerator with a heavy magnet.

Jim Barrett was our neighbor upstream on Little Cedar Creek—a kind friend with a quick humor sharpened by wit and wisdom. He was well read and intensely curious. After earning both undergraduate and law degrees from the University of Michigan, Jim followed in his father's and grandfather's footsteps by practicing law in Fort Wayne. He and his wife, Pat, built a home and raised three children (Ann, Bob, and Barbara) on land bordering (what is now) ACRES' James M. and Patricia D. Barrett Nature Preserve.

Jim wrote about what he loved, and he lived the values he wrote about, including making significant land donations and bequests to ACRES. One of the pleasures of being with him was hearing his stories of what he had seen, heard, and discovered exploring Cedar Creek's wooded wetlands, and backpacking in Wyoming's Wind River Mountains with

Jim and Pat Barrett

his family and friends (ACRES co-founders, Tom and Jane Dustin, and friends Ted and Tali Lanham).Undergirding Jim's stories was a passion for a deeper understanding of how nature works, to talk not only about the trees and wildflowers, but also on their behalf.

Jim speaks of nature's "**beauty, mystery, magic [and] harmony**" as a "**refreshment of the human spirit,**" affirming that "**no form of life lives alone,**" and that "**the land and its life live together as a community.**" He shows us an image of this community as a healthy, self-renewing system—a biotic pyramid we can picture: it moves upward from soil, to plants, to insects, to birds and so on, up through the larger carnivores, including humans. Each layer depends on those below it for food and more, and in turn, furnishes food and other services to those above.

Jim's sense of wonder and search for understanding summon us to pay more attention to our earth, to take and make time to see, touch, savor, and celebrate it.

Two years after writing "Conservation Today," Jim drew on its values and rationale to write the Indiana Nature Preserves Act, stating:

"It is essential to the people of the State of Indiana that they retain the opportunities to maintain close contact with [such] living communities and environmental systems of the earth and to benefit from the scientific, aesthetic, cultural and spiritual values they possess."

Birds call, wildflowers bloom, a frog jumps into water. The lands preserved, protected and managed though Jim's foresight will continue to tell his story today, tomorrow, and forever. His paper will continue to inspire each of us to find joy in caring for our earth, in honoring its mysteries we don't yet understand, in finding *"the means of living in daily harmony and productive partnership with all of nature."*

Thank you, Jim, for urging us not to *"spend the last of the living mantle of this earth which we are blessed to have inherited"* but rather to *"cherish and conserve this land and its life with which we share the earth, that we may enrich our own vision, nourish our own spirit, and bless our children with its magic—that they may have the opportunity to live in that harmony we have not yet found."*

May it be so!

Art Eberhardt, long-time ACRES member and former board member, and Jim, at the ACRES office.

Conservation Today

by James M. Barrett III, 1964

"We abuse land because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we may begin to use it with love and respect." The contrast of attitudes and beliefs expressed in these words from the foreword to *A Sand County Almanac* by Aldo Leopold lies at the heart of the quiet crisis in conservation.

That land is a commodity is a principle so deeply embedded in our history and in our economic and political beliefs as to seem to many beyond challenge today. Yet challenged it is; for today, as we stand at the pinnacle of a wealth and power unknown in human history—of a wealth and power which are the fruits in large measure of the riches of this land itself and of the independence and resourcefulness which it bred in our pioneer ancestors—we are compelled to pay for the abuse of land a price greater than that of any earlier generation—the price of the loss of fertile soils, of the pollution of soil, water, and air, of urban congestion and ugliness, of the destruction of the natural landscape, of the alienation of men from the land, and the loss of that ennoblement of the human spirit which comes from the contemplation of wilderness—in sum, the price of the waste of our material resources and the impoverishment of our spirit.

Photo by Thomas Sprunger

But also today our growing understanding of the natural world teaches us of the essential unity of life on earth, of the dependence of all forms of life upon the inorganic materials of the earth, of the fact that man himself lives only because he is part of that community which is the land, and of the beauty, the mystery, the awesomeness of the being that resides in all matter and life; and from this understanding and beauty, this mystery and awe, grows our reawakening to the delicate, tenacious magic of life and to the love and respect of the land which is essential to our own well-being and the harmony of our spirit.

It was natural that man should treat the land and its life as objects to be subdued and bent to his will. Early man was at the mercy of nature. His life could be sustained only at the cost of an endless pursuit of food and shelter. His life could be taken by what seemed to him to be the mere whim of nature. To conquer and control his environment whether by propitiation, by magic or by labor, meant security and comfort. To turn its plants and animals and minerals to tools meant power and wealth.

As his technology expanded, his measure of control increased until it seemed that all nature was intended to be his servant. In Genesis we read that God created man and woman and said unto them, "Be fruitful, and multiply, and replenish the earth, and subdue it: and have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth."

And with an incredible energy and talent men have subdued the earth—and wasted much of it. The Fertile Crescent of the Near East, long known as the "cradle of Western Civilization," is now largely desert. In the land that flowed with milk and honey in Biblical times, the people of Israel struggle today to farm a wasted countryside, stripped of its forests and soil.

The soils created by the life of the forests and plains have fed a nation—but the axe and the plow and grazing stock have laid it bare to the wind and rain and much of the best of it has been carried into the sea.

The rivers transported the produce of forest and field to the market place—and flooded men's towns and farms with water no longer trapped by the once porous soils of those fields and forests.

The wildlife of the land, before its habitats had been destroyed, helped to feed and clothe a growing nation—and to glut its vain pleasure in fur and feather—but the eagle and the seal, the bear and the bison are now so singular as to be seen by most of us only in a zoo.

From a study of man's management of his environment, it is obvious that his environment has also managed him. In reaping its riches men have often abused the land because the effects of that abuse appear slowly and are not apparent to him while he acts. But nature demands her price in due time, and man is in turn abused by it. Men find that the costs of restoration—even when it is possible—far exceed those of wise management initially.

The lessons of the land's abuse are written in our landscape today as well as in our history. Few men have read those lessons and few still have considered them their personal concern. But today throughout the land we are beset with the problems created by our having treated the land as a commodity. Floods, pollution, lack of potable water,

the squalor and sterility of our urban environment, the destruction of the natural landscape—all beset us with urgency beyond our ability to respond adequately and wisely. The pioneer could leave his follies behind him and move westward. We must live with ours.

In our search for the new awareness required by the fruits of past ignorance, we may find guidance in the insights of the past. Not all men have seen the land as a commodity. If the God of Genesis bids us subdue the land the God of Leviticus warns us, "…the land is mine; for ye are strangers and sojourners with me." The American Indian—that "savage" whose treatment is our national shame—felt a reverence for the land which is alien to our concept of ownership. The Indian believed "the land is our mother." When approached by white buyers Tecumseh is said to have replied, "Sell the country?…Why not sell the air, the clouds, the great sea?"

The naturalists of 19th century America—William Bartram, Audubon, Thoreau, Francis Parkman among them—were sensitive to the "sublime revelations of nature." To them the true purpose of living was not getting and spending; it was the renewal and refinement of the human spirit through an understanding of and communion with nature. Of a pine forest wasted by logging Thoreau wrote, "…it is the poet…who makes the truest use of the pine… Every creature is better alive than dead, men and moose and pine trees, and he who understands it aright will rather preserve its life than destroy it."

Such institutions are supported by the knowledge that is being revealed today by the natural sciences, especially those which seek to understand the natural processes by which the land and the life that it supports have achieved their present forms and now maintain their existence.

No form of life lives alone, independently of the land. The land and its life live together as a community, participating in the endless stream of energy that originates in the sun, is trapped and stored by the green plants, flows into the animals, and then falls back to the earth, to be used again by the plants.

The James M. & Patricia D. Barrett Nature Preserve *Photo by Jarrid Spicer*

The image of the "land pyramid" built of successive layers is helpful to understanding the flow of energy along the "food chain" within this community. Soil forms the broad base of the pyramid. On it rests the plant layer, containing an enormous number of individuals of many species. Next is a layer of small animals, such as insects, still large in number. On them rests a layer of animals, such as birds and rodents, which feed on the insects. Above this layer lies another that feeds on birds and rodents, and so on up through the successive layer, each feeding on that below and serving as food for that above and each containing far fewer individuals than that below. At the apex are the carnivores, for whose existence countless plants and animals are responsible. The image is that of a pyramid, not a rectangle, because much energy is lost in catching and eating and living and the mass of a lower level must be much larger than that above.

In this community it is not the identity of the individual soils, plants, and animals that is of most importance. It is their relationships and dependencies. The members of a layer are alike in what they serve and by whom they are served, not in their appearances or family histories.

The image of the land pyramid is, of course, not wholly accurate; for many layers interfold with one another and the chains are really webs. The dependencies are multiple and complex. The "higher" organisms perform many functions and share many relationships at one time. The most important of these relationships is based on food—who eats whom.

There are three functional food groups—producers, consumers and decomposers. On the land the producers are the green plants that tap the fertility of the earth. Their chlorophyll enables them to accumulate the sun's energy in the form of sugars, produced from carbon dioxide from the air and water from the soil. These sugars form the basis of energy for life, that comes from their oxidation in diverse sequences of plants and animals until the sugars finally break down again into water and carbon dioxide, which is then free to re-enter the cycle. Many other elements are essential to the chemistry of life and each of them cycles again and again in endless patterns through the plants and animals. Especially important is the nitrogen cycle, for even the green plants themselves are dependent upon the nitrogen-fixing bacteria, which alone are able to use nitrogen in its pure form in the atmosphere. In the seas and fresh waters the producers are microscopic organisms which are part of the plankton and nourish the minute animals which also form the plankton.

The consumers are the animals, all of which are ultimately dependent upon the plants for their existence. Many animals must feed primarily upon other animals and some are unable to live off plants at all. Myriads of animals do feed directly on the plants, either by digesting the cellulose itself with the aid of enzymes or microbes or by digesting the protoplasm obtained by crushing the plant cells without digesting the walls. Yet no animal is able to extract food directly from soil or water. Upon the ability of the plants to produce the energy of life directly from the sun and the inorganic elements of the earth and upon the plankton of the sea rests the entire animal kingdom, including man.

The decomposers consist mostly of microbes and fungi, but perform a most essential role—the reduction of plant and animal remains to their inorganic elements so that they may again enter the energy cycle. Even the animals at the very apex of the pyramid must fall back again to the earth from which they came. Death and decay are as essential to the flow of life as are birth and growth.

The stream of energy flows in many channels. Few of them reach the top of the pyramid. Not all plants are eaten. Most die and decay, returning their energy directly to the soil. Some rabbits feed parasites, not owls. In the sea the largest of animals, the whalebone whale, feeds directly on the plankton. On land the grazing animals—wild and domestic—live directly off the plants, though only with the aid of protozoa that live symbiotically in their digestive tracks and break down the cellulose. Energy is lost in heat, dissipated in decay, or stored in long-lived forests; yet it is constantly in motion, slowly circulating through the land and its life.

But the production of food energy is not the only way in which the members of the community serve one another. The tree affords not only nuts for the squirrel but shelter for the owl, fuel for a man, shade for a wildflower, and all the while its roots split rocks to make more soil. The insect not only feeds the spider, it pollinates the flower. The rabbit eats the plant and carries its seeds about as he travels.

Little Cedar Creek from the James M. & Patricia D. Barrett Nature Preserve, by Jarrid Spicer

Closer relationships exist. The lichen is really a combination of a fungus and an alga living in partnership, the fungus providing structural support for both, and alga food for both. The larva of the Pronuba moth can develop only in the seed pod of the yucca plant. The plant itself can be pollinated only by the female moth as she deposits her eggs. The wolf seems only to seek food when he catches the deer, yet the dependence of each upon the other is more subtle. Were there no predators, the deer would soon outstrip their food supply and die of starvation.

The intricacies of the relationships and dependencies in the biotic communities are beyond our comprehension. We have scarcely begun to unravel their secrets. Yet we do know that the evolution of life

Plenus by Ann Barrett

has meant an increasing complexity in the forms of life and in their relationships with one another. Life that has left us the earliest fossil records was far simpler, its food chains far shorter. The pyramid has since increased enormously in size and complexity. The forms of life that exist today are the result of millions of years of change and growth.

Even the soil itself is the product of the life which it supports. No one has written more perceptively or sensitively about the community we call land than Aldo Leopold. Listen to his description of prairie soil:

> "The black prairie was built by the prairie plants, a hundred distinctive species of grasses, herbs, and shrubs; by the prairie fungi, insects, and bacteria; by the prairie mammals and birds, all interlocked in one humming community of co-operations and competitions, one biota. This biota, through ten thousand years of living and dying, burning and growing, preying and fleeing, freezing and thawing, built that dark and bloody ground called prairie."

Like the prairie, living communities throughout the earth have survived for thousands of years, demonstrating a remarkable stability. Stability and diversity have apparently gone hand in hand. Stable biotic communities have been able to extract fertility from the rock faster than it has been washed away by the weather and to circulate it through living beings which evolved ever more complex forms and relationships and utilized ever higher levels of energy and organization. The intricate webs of co-operation and competition, however inefficient they may seem from the viewpoint of a single population, afford the stability that insures the continuity of the community and thus of each of its parts.

Biotic communities are, of course, only relatively stable, and the abundance of the various species changes from time to time within a single community. As a change in one element of the energy cycle occurs, many others must adapt to it in order to maintain a viable balance. Over geologic time, many populations and even many whole communities have become extinct or severely limited in habitat when unable to adapt

to radical changes in the flow of energy within their environment. Yet from pre-Cambrian times of a billion years ago, life has elaborated and diversified its forms and functions until today we share the earth with a great host of beings whose ways of living are a constant marvel and to the grace of whose forms we still respond with wonder and praise.

Man only recently entered this great community of life. He did nothing to prepare the earth for its coming; he took no part in its creation; he fashioned none of the processes by which it lives; he made no decision as to the forms which it has taken; he foresaw none of its beauty and joy. It existed for untold ages utterly indifferent to his coming. He is wholly dependent upon it for his own existence and understands the merest fragment of its secrets.

Yet during the brief moment of recorded history man has wrought changes in the living communities of the earth more violent and extensive than any that have occurred in so short a time, and those changes have been largely unforeseen and unintended by him.

The compositions of the local communities are radically altered. The large predators are killed or driven to new habitats. Foreign species of domesticated grazing animals are introduced, shortening the food chains and disrupting the established flow of energy. The native species, unwanted by man, become pests or diseases and the farmer finds himself using ever more toxic agents to control them, with consequences to the whole community, including man himself, which no one foresees.

Intense farming of the soil with foreign crops often alters the natural flow of energy and reduces the soil's fertility. The native plants that formerly anchored the soil to the earth are destroyed, the imported ones do not flourish, and the soil is laid bare and eroded away. The prairie soils, the result of ten thousand years of living and dying, disappear in a few years under the plow. Energy circulates through the waters as well as the soils and its flow is disrupted when marshes are drained and rivers and streams are dammed or polluted.

Commerce and industry use the earth's energy in wholly new ways and release it into the environment in new forms.

Human modifications of nature seek the more efficient extraction of energy for man's use by simplification of the food chains and other channels of energy. In the process, the evolutionary trend toward diversity and stability is abruptly reversed.

Man has clearly learned much about how to control nature to produce the immediate effect intended by him, but he knows virtually nothing of the long-term effects of his acts and so has ignored them or assumed that they will not be unmanageable. But are we certain that we can safely destroy many of nature's parts, leaving only what appear to us at the moment to be useful or harmless? We only recently have learned of the vital importance of trace elements in the upward stream of energy from the soil into the plants and animals. What other vital elements are there of whose need we have no knowledge? What are the processes of nature which release their energies? What is denied the land when its natural plants and animals no longer live and die on it? Are we certain that they are not indispensable to the long-term health of the land, and so of us? In our drive to simplify nature that we may use her more efficiently, do we know that we alone will be able to preserve her fertility? Knowing so little of the secrets of life's self-renewal, are we not bound to conserve their visible signs, lest our blind power also destroy what we do not see?

While much of contemporary science has fragmented the world beyond our comprehension and secularized it beyond our belief,

the understanding and intuition of which I speak are bidding us to reawaken to the miracle that is life, to see the common drama which all living beings share here on earth, and to assume the obligation of stewardship which our unique relationship with the rest of life imposes upon us. The advance of scientific understanding has won us a reprieve, if we but have the will to use it.

And yet our present way of life is turning us in upon ourselves, away from a major source of our strength and faith and hope. Now that we seem to have subdued nature, to have bent her to our will and wrested from her untold riches, she is seen as having nothing else to offer.

Most of us in America no longer make our living from the land. We have turned to the cities, divorced ourselves from the land, and joined in building a culture in which our technology is the measure of all things. Few of us get closer to the sources of our food than the supermarket, where the fruits of the earth are measured only in coin. We forget that our clothing and shelter come from the earth and the communities of plants and animals that it supports. We forget that heat comes, not from the furnace, but from the fossil remains of plants and animals of another epoch, that stored the energy of the sun in their bodies. The weather becomes a nuisance and we grumble when we must leave the air conditioned comfort of our buildings. Our technology has progressed in many instances far beyond that needed for our accommodation to nature. What began as a means of achieving that accommodation—of obtaining food, shelter, comfort, security—has become an end in itself. Our tools channel our efforts, dictate our values, and isolate us from the community of life.

It is not only the values imposed by our technology that isolate us from nature. So also do many of the ways in which we have organized our knowledge. The nuclear physicist splits the atom apart in his search for the elementary "building blocks" of nature, but does not tell us what nature has built with those blocks. The astronomer searches the stellar spectra to learn how the elements have been formed in the stars, and only now begins to search for the life those stars sustain.

The molecular biologist divines the secrets of the genetic codes by which living cell reproduce themselves, but does not show us the divine harmony of the living beings those cells produce.

To understand himself man thinks it necessary to divide himself into bits and pieces of abstract ideas. The anthropologist analyzes men into the "roles" that culture forces them to play, and the psychologist studies the parts of man that react to the demands of his culture. The economist turns men into "labor forces" and "markets" and nature into "goods" and resources."

Much is learned by such specialization. The bits and pieces of man and nature are manipulated and controlled to produce the wealth and power, and the ease and health, most of us enjoy, but we ourselves become confused by the abstractions and resent manipulation. We learn neither the concepts by which to define ourselves as whole persons related to the larger community of life nor the means by which to enrich our lives and express their worth by living freely in that community. In indifference or confusion or despair we decline

Photo by Ben Wheeler

commitment and distract ourselves in amusement or rebellion, while secretly longing for a full communion with life.

At such a time, that quintessence of nature we call wilderness becomes all the more important to us. Its value rises as we disdain it; for it stands undefiled by man to remind us from whence we came, to reward us with insights yet unknown, to refresh us with its integrity, to call us back to the larger world—and to win our love and respect for all nature and thus also for ourselves.

The uses of wilderness today cannot be those of yesterday. What was not sacred yesterday has become so today. We can no longer ignore the obligations of our knowledge and power. We can no longer measure the uses of nature solely by the power of our machines.

The right uses of wilderness today are many. Recreation is only the most obvious of them. The millions who visit our national parks and forests each year may hunt and fish, may hike and camp, may wonder at their natural beauty, and return home refreshed. They have found

brief refuge from the insistent demands of a man-made life, have listened for a moment to the silences of the desert, have looked in quiet fascination upon the beauty of a bird or flower, have felt the challenge of the mountain peaks—even perhaps have discarded the gadgets of everyday life, taken up a pack and hiked into the primitive areas to know, with Sigurd Olson, "the deep and abiding satisfactions of primitive living under natural conditions." Their increasing numbers testify to the common need for wilderness.

We may go to wilderness to learn a little history, to see a remnant of the primeval land whose riches called men to our shores, to sense the challenge with which it drew them across an entire continent, to observe the changes which they made in the face of the land, possibly even to reassess the true cost of conquering wilderness.

Wilderness is the natural scientist's finest laboratory—an irreplaceable one. It provides him with a bench mark—an example of a healthy, self-renewing, whole community. He may discover whether it holds secrets by which we may better renew the fertility of our soils or improve the quality of our livestock. He may study how its stability depends upon its complex diversity and seek to understand the balance of the natural environment that we may better gauge the imbalance of the man-made one.

Some who go sense, as Thoreau did, that "We need the tonic of wilderness…At the same time that we are earnest to explore and learn all things, we require that all things be mysterious and unexplorable, that land and sea be infinitely wild, unsurveyed and unfathomed by us because unfathomable…We must be refreshed by the sight of inexhaustible vigor…We need to witness our own limits transgressed, and some life pasturing freely where we never wander."

And each of us who goes to wilderness may return with a sense of the drama of life and of the affirmation of the integrity of the natural world which it makes.

It is this drama and affirmation that is of most importance to us; for it is finally only upon its meaning to us that a viable conservation ethic can rest. No one has yet fully realized that ethic; but it is important that we consider it, search for it, and test our ideas of it against that nature whose preservation is our preservation. Contemporary man only appears to isolate himself from nature. Try as he may to live wholly within an environment of his own making, he secretly realizes that he cannot detach his world from that world, that his exists within the larger one, that on its health rests his own.

Thoreau wrote, "In wildness is the preservation of the world." Most of us see wildness in the stupendous and remote—in the high ranges of the Sierras and the vast expanses of the Colorado Plateau, in the surge of the Colorado River through its majestic canyons and in the towering redwood forests of California. Thoreau also saw wilderness in the commonplace, in the little things that we seldom notice—in the sedges and brakes stirred by the blue-black water of a spring thaw, in the "crystal globe" of a raindrop, in that "most subdued, but clear ethereal light" reflecting from the needles of a pine. He remarks with wonder that the water lilies, "those flowers which are most emblematical of purity should grow in the mud." He saw the little acts of continuous creation which renew the land.

As Henry Beston wrote in ***The Outermost House***, "…the creative forces are as great and active today as they have ever been, and… tomorrow's morning will be as heroic as any of the world. *Creation is here and now.* So near is man to the creative pageant, so much a part is he of the endless and incredible experiment, that any glimpse he may have will be but the revelation of a moment, a solitary note heard in a symphony thundering through debatable existences of time. Poetry is as necessary to comprehension as science. It is as impossible to live without reverence as it is without joy…Hold your hands out over the earth as over a flame. To all who love her, who open to her the doors of their veins she gives of her strength, sustaining them with her own measureless tremor of dark life. Touch the earth, love the earth, honour the earth, her plains, her valleys, her hills and her

seas; rest your spirit in her solitary places. For the gifts of life are the earth's and they are given to all…"

An appreciation of scientific understanding today heightens this reverence and mystery. We know that the same ceaseless energy of the carbon atoms born ages ago in some far-distant star surges both in us and in the giant redwood, both in the prairie soil and in the waters of the sea. All matter is energy. The distinction between living and non-living matter can no longer be drawn in material terms. It must be drawn in terms of the increasing complexity of the forms in which energy appears and of the activities in which it partakes—from the bewildering complexity of the nuclear particles and forces, which we dimly glimpse, to the incomprehensibly more complex and diverse forms of life which share this earth. Through uncounted ages of time, when man was unknown to this earth, life was building the matter and energy of the earth and sun into ever more elaborate and diverse forms, which today know joy and love and duty. That energy and matter recycle again and again through both "dead" and "living" forms, seemingly indestructible.

With such understanding the mysteries grow more profound, not less. Who can believe that they exist solely to serve man? Who, feeling the force of these truths, is now content to treat land as nothing but a commodity?

We must remember with Loren Eisley that "…nature itself is one vast miracle transcending the reality of night and nothingness…that each one of us in his personal life repeats that miracle." We honor it in our awareness of it and in our responses to it from which grow our art and science and our religious and ethical conscience, not in the fact that today we are of such numbers and strength that we may turn it to serve our merest whims. It is our perception of it, not our power over it, that will serve us best.

We once feared nature because we could not protect ourselves from her. Do we now fear her because of what she tells us? Are we afraid to admit that we are not self-sufficient, that we live together on this earth with all of life and are bound to observe the conditions under which it exists? Do we fear to acknowledge that, despite our immense differences from any other form of life we know, we are still more like that life than different from it and share with it the miracle and mystery of both life and death? Will we not rest content until that mystery and miracle are reduced wholly to human terms? How can we, sharing the beauty of nature, entirely fear what our understanding of nature shows us?

From our understanding of nature and our love and respect for it will grow an ethical basis for our defining our proper relationship with it. We now understand the land to be a community of life, but we do not understand it sufficiently to find solely in that understanding the guidance we need in living with it. We will find that guidance only if we couple our knowledge with our love, only if we temper our power with our respect for the life we do not understand and did not create, but with which we share this earth. Men still treat each other merely as means for achieving their own desires. We have not yet learned to treat each other as ends worthy in ourselves. Yet now our own numbers and power—and the duties imposed by our understanding—demand that we

Dawn by Ann Barrett

expand our ethical conscience to include the land and the life it supports. A new set of values, of convictions, of affections is needed. Wallace Stegner sees wilderness as "…a part of the geography of hope." By the moral act of preserving the remnants of wilderness with which we are still blessed and from the spiritual refreshment which that act will bring we may yet become persuaded to respect the living communities of the earth to which we belong and ourselves as an integral part of them. Then we will seek the principles of a conservation ethic, an ethic for living with all nature—and will cherish the privilege of doing so.

Men have always acted with limited knowledge and always will, but today we have become forcefully aware that our knowledge is limited. I submit that that awareness imposes on us the duty to act conservatively. When we know that we do not know all of the consequences of our acts, we are obligated to control the forces we bring to bear on nature. We must seek to minimize the effects which we do not intend. Who can confidently say that our intended effects are always more important than our unintended ones?

Who can confidently say that the unintended effects can always be reversed by us when we think it worth the cost? The story of the land's abuse shows to all who look that we cannot.

The ethic we seek will also require us to preserve as much of the diversity of life as remains. In that diversity lie the secrets of the health and stability and growth of the whole community. Those undisturbed communities we call wilderness exemplify the highest levels of elaboration and diversification in nature. The whole includes each of it parts. None may be extracted without injury to all. When we speak of the preservation of wilderness, we mean the preservation of all of its parts, from the predators down to the rock and water. With Thoreau we wish "to know an entire heaven and an entire earth."

Perhaps most important of all, that ethic will obligate us to intelligently limit our numbers. Nature shows us that an under-stocked habitat is a healthy one. Human culture has become what has been called a "geologic force," impoverishing its environment as it explodes across the face of the earth searching for the ever diminishing resources with which to sustain its growth and turning the earth into a biological slum. Mankind's numbers may become so great that nothing will be saved for joy, or beauty, or love—that in despair all must be consumed for survival. If so, what remains will hardly be what we know as man today. If man is to live by bread alone, will he not have lost all that raises him above the other creatures of the earth?

I have used wilderness as a symbol—for it exemplifies the integrity of the natural world and from our awareness of it and of our relationship with it we may learn to live with the natural world in our everyday lives. The preservation of wilderness is vital, but not sufficient. We need also to preserve all about us that wilderness Thoreau saw.

As our life becomes increasingly centered upon the cities and as they spread across the land with our growing population, it becomes all the more important that the esthetic, cultural and spiritual values which natural areas hold for us be preserved where they are readily accessible to everyone. Within and near our cities and suburban areas we must set aside open spaces for scenic beauty, hiking, hunting and fishing, and brief refuge from the demands of city life.

The diversity that still remains can be preserved in undrained ponds and marshes, in unpolluted streams, in woods and fields, even in the woodlots and hedgerows of farms and suburban lands. The wildlife we all enjoy can be protected in natural areas and wildlife refuges. Nature museums should be established in connection with the best of these areas so that a deeper understanding of the ways natural communities live may be gained by everyone who visits them. The understanding of the community of life which will flow from ready contact with these areas will prove to be of far greater value to men than the cost of withdrawing from commerce the few of them that remain. We will be poorer, not richer, if we measure the value of these areas solely by commercial development.

The economic uses of land will necessarily predominate so long as men live on this earth. The conservation ethic does not lead man to Erewhon, where nothing living may be used by him. The principles of conservation do not obligate us to abandon our technology, but they do require us to become aware of the needs which it cannot fulfill—needs which become all the more difficult to fulfill as the on-rushing culture of technology seems to find a smaller and smaller place in its life for them. The conservation ethic demands that as the standard of living rises the standard of life not be debased.

The issue in conservation today is whether we will honor the moral imperative with which nature confronts us—to re-evaluate our relationship with the natural world, to preserve as a living heritage what remains of wilderness, and to find the means of living in daily harmony and productive partnership with all of nature. We have learned the laws of physics and chemistry well enough to have conquered the earth and invaded the heavens, for we have seen the earth as an object to be manipulated; but we understand so little of the community of life on earth that we find no will to live in harmony

with it and ignore our moral obligation to do so. As we grow to see ourselves as a part of a single community which in all its manifold parts shares in a common creation and when we can look beyond our own cares long enough to thrill to the magic that is in all life, we will begin to honor the privilege of sharing that community.

We have borrowed heavily from the future, with little concern for how it will pay the debt. Let us not spend the last of the living mantle of this earth which we are blessed to have inherited. Let us rather cherish and conserve the land and its life with which we share the earth, that we may enrich our own vision, nourish our own spirit, and bless our children with its magic—that they may have the opportunity to live in that harmony we have not yet found.

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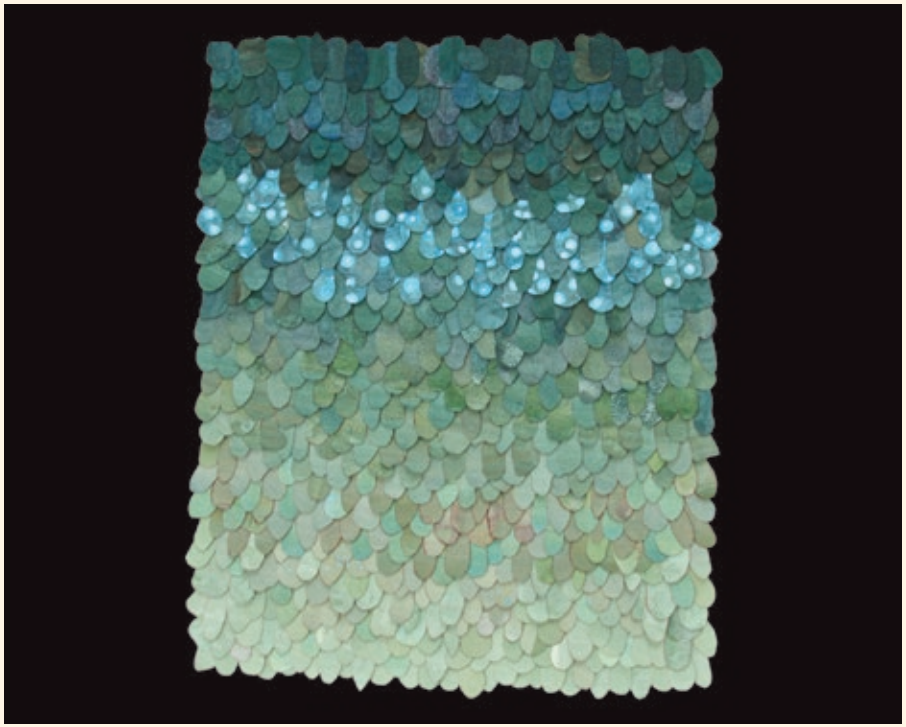
Addendum, 2009

Forty-five years later I am still in awe of, and deeply moved by, the perspective of the community of life my paper presents; but I find parts of it naive and on the whole far too narrow by today's awareness. For a much broader, more informed and utterly fascinating discussion of life and the essential function of economics in the growth of all life on earth, I recommend ***Nature: An Economic History*** by Geerat J. Vermeij, published by Princeton University in 2004.



Symbiosis by Ann Barrett

My brother, sister, and I are very lucky to have grown up with our father. He was his children's best teacher. Through our many questions, he taught us (often around the dinner table) how nature works. While hiking and camping, we developed the love and reverence for the land that my father talks about throughout his paper.

By providing images for this publication, I feel that in a way I am collaborating with my father, visually stating ideas similar to those he expressed in writing. Natural systems surround us. A myriad of species interact to carry out the functions that enable life to thrive, each opening up possibilities. I explore those possibilities through my artwork, where each form, color and stroke of paint works with all the others to find the balance needed to create the whole.

My artwork is a fantasy, but one no more fantastic than life itself. Thanks, Dad, for opening my eyes to the wonders of the natural world.

– Ann (Barrett) Hicks

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The Quest Club of Fort Wayne, Indiana was founded in 1911. It provides a forum to prepare, present, and discuss original research by Club members on social, economic, scientific, cultural, political, and historical topics.

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