The farmer as a conservationist

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FOREWORD

Those of us engaged in broad action

programs sometimes tend to lose sight

of individual values in conservation.

Here, Mr. Leopold reminds us of these

and what they mean for the community

and for the future of better land use.

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THE FARMER AS A CONSERVATIONIST

Conservation means harmony between men and land.

When land does well for its owner, and the owner does well

by his land; when both end up better by reason of their partnership,

we have conservation. When one or the other grows poorer, we do

not.

Few acres in North America have escaped impoverishment through-

human use. If someone were to map the continent for gains and losses

in soil fertility, waterflow, flora, and fauna, it would be difficult

to find spots where less than three of these four basic resources

have retrograded; easy to find spots where all four are poorer than

when we took them over from the Indians.

As for the owners, it would be a fair assertion to say that

land depletion has broken as many as it has enriched.

It is customary to fudge the record by regarding the deple-

tion of flora and fauna as inevitable, and hence lea ving them out

of the account. The fertile productive farm is regarded as a suc-

cess, even though it has lost most of its native plants and animals..

Conservation protests such a biased accounting. It was necessary,

to be sure, to eliminate a few species, and to change radically the

distribution of many. But it remains a fact that the average

American township has lost a score of plants and animals through

indifference for every one it has lost through necessity.

Vlfhat is the nature of the process by which men destroy land?

What kind of events made it possible for that much-quoted old-timer

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to say: "You can't tell me about farmings I've worn cut three

farms already and this is my fourth"?

Most thinkers have pictured a process of gradual exhaustion.

Land, they say, is like a bank account: if you draw more than the

interest, the principal dwindles. When Van Hise said "Conservation

is wise use," he meant, I think, restrained use.

Certainly conservation means restraint, but there is some-

thing else that needs to be said. It seems to me that many land

resources, when they are used, get out of order and disappear or

deteriorate before anyone has a chance to exhaust them.

Look,, for example, at the eroding farms of the cornbelt.

When our grandfathers first broke this land, did it melt away with

every rain that happened to fall on a thawed frost-pan? Or in a

furrow not exactly on contour? It did not; the newly broken soil

was tough, resistant, elastic to strain. Soil treatments which

were safe in lckO would be suicidal in 19^0. Fertility in I8u0

did not go down river faster than up into crops. Something has got

out of order • We might almost say that the soil bank is tottering,

and this is more important than whether we have overdrawn or under-

drawn our interest.

Look at the northern forests: did we build barns out of all

the pineries which once covered the lake states? ITo. As soon as

we had opened some big slashings we made a path for fires to in-

vade the woods. Fires cut off growth and reproduction. They out-

ran the lumberman and they mopped up behind him, destroying not

only the timber but also the soil and the seed. If we could have

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kept the soil and the seed, we should be harvesting a new crop of

pines now, regardless of whether the virgin crop was cut too fast

or too slow\* The real damage was not so much the overcutting, it

was the run on the soil-timber bank.

A still clearer example is found in farm woodlots. By pas-

turing their woodlots, and thus preventing all new growth, cornbelt

farmers are gradually eliminating woods from the farm landscape. The

wildflowers and wildlife are of course lost long before the woodlot

itself disappears. Overdrawing the interest from the woodlot bank is

perhaps serious, but it is a bagatelle compared with destroying the

capacity of the woodlot to yield interest. Here again we see awkward

use, rather than over-use, disordering the resource.

In wild-life the losses from the disordering of natural

mechanisms have, I suspect, far exceeded the losses from exhaustion.

Consider the thing we call "the cycle," which deprives the northern

states of all kinds of grouse and rabbits about seven years out of

every ten. Were grouse and rabbits always and everywhere cyclic?

I used to think so, but I now doubt it. I suspect that cycles are

a disorder of animal populations, in some way spread by awkward land-

use. We don ! t know how, because we do not yet know what a cycle is.

In the far north cycles are probably natural and inherent, for we

find them in the untouched wilderness, but dovm here I suspect they

are not inherent, I suspect they are spreading, both in geographic

sweep and in number of species affected.

Consider the growing dependence of fishing waters on artifi-

cial restocking. A big part of this loss of toughness inheres in

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the disordering of waters by erosion and pollution. Hundreds of

southerly trout streams which once produced natural brook trout

are stepping down the ladder of productivity to artificial brown

trout, and finally to carp. As the fish resource dwindles, the

flood and erosion losses grow. Both are expressions of a single

deterioration. Both are not so much the exhaustion of a resource

as the sickening of a resource.

Consider deer. Here we have no exhaustion; perhaps there

are too many deer. But every woodsman knows that deer in many

places are exterminating the plants on which they depend for winter

food. Some of these, such as white cedar, are important forest

trees. Deer did not always destroy their range. Something is out

of kilter. Perhaps it was a mistake to clean out the wolves ; per-

haps natural enemies acted as a kind of thermostat to close the

"draft" on the deer supply, I know of deer herds in Mexico which

never get out of kilter with their range; there are wolves and cougars

there, and always plenty of deer but never too many. There is sub-

stantial balance between those deer and their range, just as there

v/as substantial balance between the buffalo and the prairie.

Conservation, then, is keeping the resource in working order,

as well as preventing over-use. Resources may get out of order be-

fore they are exhausted, sometimes while they are still abundant.

Conservation, therefore, is a positive exercise of skill and in-

sight, not merely a negative exercise of abstinence or caution.

"What is meant by skill and insight?

This is the age of engineers. For proof of this I look not

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so much to Boulder Dams or China Clippers as to the farmer boy tend-

ing his tractor or building his own radio. In a surprising number

of men there burns a curiosity about machines and a loving care in

their construction, maintenance, and use. This bent for mechanisms,

even though clothed in greasy overalls, is often the pure fire of

intellect. It is the earmark of our times.

Everyone knows this, but what few realize is that an equal

bent for the mechanisms of nature is a possible earmark of some

future generation.

No one dreamed, a hundred years ago, that metal, air, petro-

leum, and electricity could coordinate as an engine. Few realize

today that soil, water, plants, and animals are an engine, subject,

like any other, to derangement. Our present skill in the care of

mechanical engines did not arise from fear lest they fail to do their

work. Rather was it born of curiosity and pride of understanding.

Prudence never kindled a fire in the human mind; I have no hope for

conservation born of fear. The I4.-H boy who becomes curious about

why red pines need more acid than white is closer to conservation

than he who writes a prize essay on the dangers of timber famine.

This necessity for skill, for a lively and vital curiosity

about the workings of the biological engine, can teach us something

about the probably success of farm conservation policies. We seem

to be trying two policies, education and subsidy. The compulsory

teaching of conservation in schools, the I4-H conservation projects,

and school forests are examples of education. The woodlot tax law,

state game and tree nurseries, the crop control program, and the

soil conservation program are e xan.pl es of subsidy .

t offer thi s otD inion \* ~~ ^ ~ ^ g j ^ „ ^\_ ^ ^ c — \_ „ y. ~- >-» g

land use will accomplish their purpose only as the farmer matches

"them, with "this thing which I have called skills Only he who has

planted a pine grove with his own hands, or "built a terrace, or

tried to raise a tetter crc~ of birds ca:; attreciate hew eas" it is

understanding the mechanisms behind it. Subsidies and propaganda

nay evoke the farmer's acquiescence, but only enthusiasm and affec-

tion will evoke his skill. It takes something more than a little

"bait" to succeed in conservation. Can our schools, by teaching,

create this something? 1 hope so, but 1 doubt it, unless the child

brings also something he :vs at heme. That is tc cay, the vicari-

ous teaching of conservation is .just one more kind of intellectual

crphanagej a stop-gap at best.

Thus vre have traversed a circle, V.'e want this new thins:,

we have asked the schools and the government to he In us catch it,

but vre have tracked it back to its den under the farmer\* s doorstep.

1 feel sure that there is truth in these conclusions about

the human qualities requisite- to better land use. I am less sure

about many puzzling questions of conservation economics.

Can a farmer afford to devote land to woods, marsh, pond,

win db r e ak s ? Those are semi -economic land uses. - that is. thev ha":

utility but thev also yield non-economic benefits.

Can a farmer afford to dc-vcto land to fencerows for the birds,

to snag-trees for the coons and flying squirrels? Ecre the utility

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shrinks to what the chemist calls "a trace,"

Can a farmer afford to devote land to fencer ows for a patch

of ladyslippers, a remnant of prairie, or just scenery? Here the

utility shrinks to zero.

Yet conservation is any or all of these things.

Many labored arguments are in print proving that conserva-

tion pays economic dividends. I can add nothing to these arguments.

It seems to me, though, that something has gone unsaid. It seems

to me that the pattern of the rural landscape, like the configura-

tion of our own bodies, has in it (or should have in it) a certain

wholeness. TTo one censures a nan who loses his leg in an accident,

or who was born with only four fingers, but we should look askance

at a man who amputated a natural part on the grounds that some other

is more profitable. The comparison is exaggerated; we had to ampu-

tate many marshes, ponds and woods to make the land habitable, but

to remove any natural feature from representation in the rural land-

scape seems to me a defacement which the calm verdict of history

will not approve, either as good conservation, good taste, or good

farming.

Consider a single natural feature; the farm pond. Our god--

father the Ice-king, who was in on the christening of Wisconsin,

dug hundreds of them for us. We have drained ninety and nine. If

you don T t believe it, look on the original surveyors plot of your

township; in l8l|.0 he probably mapped water in dozens of spots where

in 19U0 you may be praying for rain. I have an undrained pond on

my farm. You should see the farm families flock to it of a Sunday^

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everybody from old grandfather to the new pup, each bent on the

particular aquatic sport, from water lilies to bluegills, suited to

his (or her) age and waistline. Many of these farm families once

had ponds of their own. If some drainage promoter had not sold

them tiles, or a share in a steam shovel, or some other dream of

sudden affluence, many of them would still have their own water

lilies, their own bluegills, their own swimming hole, their own

redwings to hover over a buttonbush and proclaim the spring.

If this were Germany, or Denmark, with many people and little

land, it might be idle to dream about land -use luxuries for every

farm family that needs them. But we have excess plowland; our con-

viction of this is so unanimous that we spend a billion out of the

public chest to retire the surplus from cultivation. In the face

of such an excess, can any reasonable man claim that economics pre-

vents us from getting a life, as well as a livelihood, from our

acres?

Sometimes I think that ideas, like men, can become dictators.

We Americans have so far escaped regimentation by our rulers, but

have we escaped regimentation by our own ideas? I doubt if there

exists today a more complete regimentation of the human mind than

that accomplished by our self-imposed doctrine of ruthless utili-

tarianism. The saving grace of democracy is that we fastened this

yoke on our own necks, and we can cast it off when we want to, with-

out severing the neck. Conservation is perhaps one of the many

squirmings which foreshadow this act of self -liberation\*

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The principle of wholeness in the farm landscape involves,

I think, something more than indulgence in land-use luxuries. Try

to send your mind tip in an airplane ; try to see the trend of our

tinkerings with fields and forests, waters and soils, We have gone

in for governmental conservation on a huge scale. Government is

slowly but surely pushing the cutovers back into forest; the peat

and sand districts back into marsh and scrub. This, I think, is as

it should be. But the cow in the woodlot, ably assisted by the ax,

the depression, the June beetle, and the drouth, is just as surely

making southern Wisconsin a treeless agricultural steppe. There was

a time when the cessation of prairie fires added trees to southern

Wisconsin faster than the settlers subtracted them. That time is

now past. In another generation many southern counties will look,

as far as trees are concerned, like the Ukraine, or the Canadian

wheatlands, A similar tendency to create monotypes, to block up

huge regions to a single land-use, is visible in many other states.

It is the result of delegating conservation to government • Govern-

ment cannot own and operate small parcels of land, and it cannot

own and operate good land at all.

Stated in acres or in bos.rd feet, the crowding of all the

timber into one place may be a forestry program, but is it conserva-

tion? How shall we use forests to protect vulnerable hillsides and

riverbanks from erosion when the bulk of the timber is up north on

the sands where there is no erosion? To shelter wildlife when all

the food is in one county and all the cover in another? To break

the wind when the forest country has no wind, the farm country

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nothing but wind? For recreation when it takes a week, rather than

an hour, to get under a pine tree? Doesn't conservation imply a

certain pepper-and-salt pattern in the warp and woof of the land-use

fabric? If so, can government alone do the weaving? I think not.

It is the individual farmer who must weave the greater part

of the rug on which America stands.\* Shall he weave into it only the

sober varns which warm the feet, or also some of the colors which

warm the eye and the heart? Granted that there may be a question

which returns him the most profit as an individual, can there be

any question which is best for his community? This raises the ques-

tion: is the individual farmer capable of dedicating private land

to uses which profit the community, even though they may not so

clearly profit him? We may be over-hasty in assuming that he is

not.

I am thinking, for example, of the windbreaks, the evergreen

snow-fences, hundreds of which are. peeping up this winter out of the

drifted snows of the sandy counties. Part of these plantings are

subsidized by highway funds, but in many others the only subsidy is

the nursery stock. Here then is a dedication of private land to a

community purpose, a private labor for a public gain. These wind-

breaks do little good until many land-owners install them; much good

after they dot the whole countryside. But this "much good" is an

undivided surplus, payable not in dollars., but rather in fertility,

peace, comfort, in the sense of something alive and growing. It

pleases me that farmers should do this new thing. It foreshadows

conservation. It may be remarked., ..in passing, that this, .planting of

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windbreaks is a direct reversal of the attitude which uprooted the

hedges, and thus the wildlife, from the entire cornbelt. Both moves

were fathered by the agricultural colleges. Have the colleges changed

their mind? Or is an osage windbreak governed by a different kind

of economics than a red pine windbreak?

There is still another kind of community planting where the

thing to be planted is not trees but thoughts. To describe it, I

want to plant some thoughts akout a bush. It is called bog-birch.

I select it because it is such a mousy, unobtrusive, incon-

spicuous, uninteresting little bush. You may have it in your marsh

but have never noticed it. It bears no flower that you would

recognize as such, no fruit which bird or beast could eat. It

doesn\*t grow into a tree which you could use. It does no harm, no

good, it doesn T t even turn color in fall. Altogether it is the per-

fect nonentity in bushes j the complete biological bore.

But is it? Once I was following the tracks of some starving

deer. The tracks led from one bog-birch to another j the browsed

tips shovfed that the deer were living on it, to the exclusion of

scores of other kinds of bushes. Once in a blizzard I saw a flock

of sharp-tail grouse, unable to find their usual grain or weed seeds,

eating bog-birch buds. They were fat.

Last summer the botanists of the University Arboretum came to

me in alarm. The brush, they said, was shading out the white lady-

slippers in the Arboretum marsh. Would I ask the CCC crews to clear

it? PJhen I examined the ground, I found the offending brush was bog-

birch. I cut the sample shown on the left of the drawing. Notice

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that up to two years ago rabbits had mowed it down each year. In

1936 and 1937 "the rabbits had spared it, hence it grew up and shaded

the ladyslippers. Ytfhy? Because of the cycle; there were no rabbits

in 1936 and 1937\* This past winter of 1938 "the rabbits nowed off

the bog-birch, as shown on the right of the drawing.

It appears, then, that our little nonentity, the bog-birch,

is important after all. It spells life or death to deer, grouse,

rabbits, ladyslippers. If, as some think, cycles are caused by sun-

spots, the bog-birch might even be regarded a sort of envoy for the

solar system, dealing out appeasement to the rabbit, in the course

of which a suppressed orchid finds its place in the sun.

The bog-birch is one of hundreds of creatures which the far-

mer looks at, or steps on, every day. There are 350 birds, ninety

mammals, 1[;0 fishes, seventy reptiles and amphibians, and a vastly

greater number of plants and insects native to Wisconsin, Each

state has a similar diversity of wild things.

Disregarding all those species too small or too obscure to be

visible to the lavnan, there are still T ;erhaDs 500 whose lives we

might know, but don't. I have translated one little scene out of

the life-drama of one species. Each of the 500 lias its own drama.

The stage is the farm. The farmer walks among the players in all

his daily tasks, but he seldom sees any drama, because he does not

understand their language, neither do I, save for a few lines here

and there. "Would it add anything to farm life if the farmer learned

more of that language?

One of the self-imposed yokes we are casting off is the false

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idea that farm life is dull. What is the meaning of John Steuart

Curry , Grant Wood, Thomas Benton? They are showing us drama in

the red barn, the stark silo, the team heaving over the hill, the

country store, black against the sunset. All I am saying is that

there is also drama in every bush, if you can see it. When enough

men know this, we need fear no indifference to the welfare of bushes

or birds, or soil, or trees. We shall then have no need of the word

conservation, for we shall have the thing itself.

The landscape of any farm is the owner's portrait of himself.

Conservation implies self-expression in that landscape,

rather than blind compliance with economic dogma. What kinds of

self-expression will one day be possible in the landscape of a corn-

belt farm? What will conservation look like when transplanted from

the convention hall to the fields and woods?

Begin with the creek: it will be unstraightened. The future

farmer would no more mutilate his creek than his own face. If he

has inherited a straightened creek, it will be "explained" to visi-

tors, like a pock-mark or a wooden leg.

The creek banks are wooded and ungrazed. In the woods,

young straight timber-bearing trees predominate, but there is also

a sprinkling of hollow-limbed veterans left for the owls and

squirrels, and of down logs left for the coons and fur -bearers.

On the edge of the woods are a few wide -spreading hickories and

walnuts for nutting. L'any things are expected of this creek and its

woods: cordwood, posts, and sawlogs; flood-control, fishing and

swimmings nuts and wildf lowers 5 fur and feather. Should it fail to

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yield an owl -hoot or a mess of quail 0:1 demand, or a bunch of sweet

william or a coon-hunt in season, the matter will be cause for in-

jured pride and family scrutiny, like a check marked "no funds."

Visitors when taken to the woods often ask, "Don't the owls

eat your chickens?" Our farmer knows this is coming. For answer,

he walks over to a leafy white oak and picks up one of the pellets

dropped by the roosting owls. He shows the visitor how to tear

apart the matted felt of mouse and rabbit fur, how to find inside

the whitened skulls and teeth of the bird' s prey. "See any

chickens?" he asks. Then he explains that his owls are valuable

to him, not only for killing mice, but for excluding other owls

which might eat chickens. His ov/ls get a few quail and many rab-

bits, but these, he thinks, can be spared.

The fields and pastures of this farm, like its sons and

daughters, are a mixture of wild and tame attributes, all built

on a foundation of good health. The health of the fields is their

fertility. On the parlor wall, where the embroidered "God Bless

Our Home" used to hang in exploitation days, hangs a chart of the

f arm 1 s soil analyses. The farmer is proud that all his soil graphs

point upward, that he has no check dams or terraces, and needs none.

He speaks sympathetically of his neighbor who has the misfortune of

harboring a gully, and who was forced to call in the CCC. The

neighbor's check dams are a regrettable badge of awkward conduct,

like a crutch.

Separating the fields are fencer ows which represent a happy

balance between gain in wildlife and loss in pi owl and. The fence-

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rows are not cleaned yearly, neither are they allowed to grow in-

definitely. In addition to bird song and scenery, quail and

pheasants, they yield prairie flowers, wild grapes, raspberries,

plums, hazelnuts, and here and there a hickory beyond the reach

of the woodlot squirrels. It is a point of pride to use electric

fences only for temporary enclosures.

Around the farmstead are historic oaks which are cherished

with both pride and skill. That the June beetles once got one is

remembered as a slip in pasture management, not to be repeated.

The farmer has opinions about the age of his oaks, and their rela-

tion to local history. It is a matter of neighborhood debate whose

oaks are most clearly relics of oak-opening days, whether the

healed scar on the base of one tree is the result of a prairie fire

or a pioneer 1 s trash pile.

Martin house and feeding station, wildf-lower bed and old

orchard go with the farmstead as a matter of course. The old

orchard yields some apples but mostly birds. The bird list for

the farm is l6l species. One neighbor claims 165, but there is

reason to suspect he is fudging. He drained his pond; how could

he possibly have 165?

His pond is our farmer's special badge of distinction. Stock

is allowed to water at one end only: the rest of the shore is fences

off for the ducks, rails, redwings, gallinules, and muskrats. Last

spring, by judicious baiting and decoys, two hundred ducks were in-

duced to rest there a full month. In August, yellow-legs use the

bare mud of the water-gap. In September the pond yields an armful

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of water-lilies. In the winter there is skating for the youngsters,

and a neat dozen of rat-pelts for the "boys 1 pin-money. The farmer

remembers a contractor who once tried to talk drainage. Fondless

farms, he says, were the fashion in those days; even the Agricul-

tural College fell for the idea of making land by wasting water.

But in the drouths of the thirties, when the wells went dry, every-

body learned that water, like roads and schools, is community pro-

perty. You can\*t hurry water down the creek without hurting the

creek, the neighbors, and yourself.

The roadside fronting the farm is regarded as a refuge for

the prairie flora; the educational museum where the soils and

plants of pre-settlement days are preserved. Vihen the professors

from the college want a sample of virgin prairie soil, they know

they can get it here. To keep this roadside in prairie, it is

cleaned annually, always by burning, never by mowing or cutting.

The farmer tells a funny story of a highway engineer who once

started to grade the cutbanks all the way back to the fence. It

developed that the poor engineer, despite his college education,

had never learned the difference between a silphium and a sunflower.

He knew his sines an cosines, but he had never heard of the plant

succession. He couldn't understand that to tear out all of the

prairie sod would convert the whole roadside into an eyesore of

quack and thistle.

In the clover field fronting the road is a huge glacial

erratic of pink granite. Every year, when the geology teacher

brings her class out to look at it, our farmer tells how once, on

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a vacation trip, he -Latched a chip of the boulder to its parent

ledge, two hundred miles to the north. This starts him on a

little oration on glaciers; how the ice gave him not only the

rock, but also the pond, and the gravel pit where the kingfisher

and the bank swallows nest. He tells how a powder salesman once

asked for permission to blow up the old rock "as a demonstration

in modern methods." He does not have to explain his little joke

to the children.

He is a reminiscent fellow, this farmer. Get him wound

up and you will hear many a curious tidbit of rural history. He

will tell you of the mad decade when they taught economics in the

local kindergarten, but the college president couldn f t tell a blue

bird from a blue cohosh. Everybody worried about getting his

share; nobody worried about doing his bit. One farm washed down

the river, to be dredged out of the Mississippi at another farmer\*

expense. Tame crops were over-produced, but nobody had room for

wild crops, "It T s a wonder this farm came out of it without a

concrete creek and a Chinese elm on the lawn," This is his whim-

sical way of describing the early fumb lings for "conservation,"