



Possible Rochester 2022

An initiative of Possible Planet, a 501(c)(3) Nonprofit
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White Paper: Restoring Backyard Ecosystems May Be the First Step in Healing the Earth

Can Saving the Planet Start in Our Own Backyard?¹

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"We now know that restoring flourishing landscapes is critical not only to preventing further biodiversity loss, but is also critical to reversing global warming and addressing climate change. This project has the possibility of engaging millions of ordinary citizens in useful and meaningful action by providing an understandable opportunity to make a difference."

Our Possible Rochester community focus for 2022³

Saving the planet's a tall order. Here's what you and I can do about it today.

Turning our yards into vegetable and butterfly gardens may not seem like a big deal. But it's a first step toward undoing the damage that modern civilization has inflicted on the soil, the water, and the air that surrounds us.

It's hard to recognize just how profound or how pervasive this damage is because we've been conditioned to see it as "normal." We drive around on impervious asphalt streets, mow our chemically-treated lawns, rake and have trucks pick up our fallen leaves, and accept that the majority of our foodstuffs come from "conventional" agriculture. This all needs to change.

¹ Technically, it's not the planet we're saving, but the biosphere that surrounds it and sustains all life, including our own—but the distinction is really meaningless.

² With much thanks to Connie Herrera for editorial improvements; to Patty Love for the permaculture landscape designs featured; and to many others for their input and encouragement.

³ **Possible Rochester** is a local initiative of **Possible Planet**, a 501(c)(3) nonprofit founded by the authors in 2013 to support the transition to a regenerative future for humanity through the use of innovative project finance strategies.

What's obvious, when you think about it, is that our immediate surroundings are hardscapes or monocultures that do not support a sufficient diversity of life-forms to constitute a self-regenerating system; they require constant input from us, whether in the form of chemical fertilizers or of asphalt and concrete, to maintain our environments the unnatural way they are.

And as we begin regenerating our immediate environment we start to see the bigger picture: it's not enough to create tiny oases in a landscape that no longer supports abundant life—we need to restore the Earth's vitality at a bioregional level, one ecosystem and one watershed at a time. As more of us begin to recognize this and join groups and networks that are working on healing the planet, we are creating a movement—a movement that, as permaculture teaches us, can restore the primordial fertility and productivity of the Earth. It begins with seeing that we are not separate from nature, and that parts of the human environment that we have built are toxic to the planet.⁴

*The Earth, as we know it, is more than a mere ball of rock. It's part of a living system; for some, it is a living system, and at the very least is the matrix from which all life springs. By "saving the planet" I truly mean **healing the Earth**, undoing the damage. It's about a lot more than climate change, though carbon pollution is an important part of it. But the immediate threat to Gaia and to humanity may have more to **do with the loss of biodiversity, the accelerating extinction of species that are integral to the web of life we depend on.***

If we are to slow down and reverse the rate of loss, we need to restore the landscape around us to one that perpetuates life rather than harming it. What we currently are doing, in the city, the suburbs, and the countryside, is damaging our shared habitat, whether through negligent disregard or mere ignorance of the consequences of paving over the land (in the city), covering it with lawns (in the suburbs), and of tilling and monocropping our farmland. What we today call "the insect apocalypse" is really what Rachel Carson warned us of in ***Silent Spring***.⁵ It may no longer be DDT, but our use of pesticides, herbicides, and chemical fertilizers has diminished the insect population by 75% or more during the last 50 years.⁶

It's not enough to set aside some remote areas for "conservation." To provide a sustainable level of biodiversity according to current assessments we would need to conserve a third-to-a-half of all land and ocean areas. That's not something that can happen "somewhere else."

Restoring a majority of our backyard ecosystems—which includes enhancing their vitality and productivity and value to us, their human inhabitants—is critical to re-establishing the balance of our society with nature, and having the Earth system as a whole flourish. It may not avert the worst consequences of climate change, which are now almost certainly unavoidable (unless we find a way to refreeze the Arctic, and even that may not be enough), but it is a step to undoing the damage we have done to the Earth through our supposed domination of it.

There are alternatives, from green infrastructure to "delawning" to regenerative agriculture, but we're not implementing them fast enough or widely enough to restore the Earth's biological vitality and natural regenerative capacity. We need to accelerate the transformation of our neighborhoods and communities at a scale that restores biophysical balance and regenerates each bioregion appropriately so that it can continue to evolve and flourish. And since more than eighty per cent of land in most areas is privately owned, individual

⁴ Architect John Picard has stated unequivocally that "our buildings are killing us." Actually what's killing us is our entire humanmade physical infrastructure that we've imposed on the land without incorporating what *it* needs to stay healthy.

⁵ First published in 1962. See https://en.wikipedia.org/wiki/Silent_Spring

⁶ Dave Goulson, *The insect apocalypse: 'Our world will grind to a halt without them'* (July 25, 2021,

<https://www.theguardian.com/environment/2021/jul/25/the-insect-apocalypse-our-world-will-grind-to-a-halt-without-them>)

owners need to be encouraged and/or required to take remedial action. (And the good news, which we'll get to a bit later, is that much of it can be paid for.)

What we see all around us is evidence of our disharmony with nature

It's difficult to realize that "degraded land" looks like what we see all around us—impervious surfaces, neatly-mowed lawns, and upturned soils—surfaces which hold virtually no organic matter and create "dead zones" for most species. It's not just the barren, dried-up hillsides that we're used to seeing in third-world countries. Many of our poorest neighborhoods are also the most barren areas, denuded of all vegetation, with soils that are too toxic to use for growing food.

Revitalizing these areas means, in large part, re-greening them. This can also create a wide range of green jobs, but the investment needs to come first—directed at a local level but guided by ecological knowledge, social systems analysis, and psychological awareness. Odd as it may seem to say this, but we need to bring life back into the places where we live—as well as to those abandoned to poverty, blight, and desertification. Tree-lined streets are a start; but there is so much more that can be done.

An initiative that strongly parallels ours is Doug Tallamy's "Homegrown National Park" (<https://homegrownnationalpark.org/>). Tallamy writes:

"Chances are, you have never thought of your garden—indeed, of all of the space on your property—as a wildlife preserve that represents the last opportunity we have for sustaining plants and animals that were once common throughout the U.S. But that is exactly the role that built landscapes are now playing and will play even more in the near future. If this is news to you, it's not your fault. We were taught from childhood that plants are decorations and our landscapes are for beauty; they are an outlet for expressing our artistic talents and an oasis for having fun and relaxing in. And, whether we like it or not, the way we landscape our properties is taken by our neighbors as a statement of our wealth, our social status, and our willingness to follow cultural norms.

But no one has taught us that we have forced the plants and animals that evolved in North America (our nation's biodiversity) to depend more and more on human-dominated landscapes for their continued existence. We have always thought that biodiversity was happy somewhere "out there, in nature," in our local woodlot or perhaps our state and national parks. We have heard little about the rate at which species are disappearing from our neighborhoods, towns, counties, and states. Even worse, we have never been taught how vital biodiversity is for our own well-being.

Our National Parks, no matter how grand in scale are too small and separated from one another to preserve species to the levels needed. Thus, the concept for Homegrown National Park, a bottom-up call-to-action to restore habitat where we live and work, and to a lesser extent where we farm and graze, extending national parks to our yards and communities.... what if each American landowner converted half of his or her yard to productive native plant communities? Even moderate success could collectively restore some semblance of ecosystem function to more than 20 million acres of what is now ecological wasteland. "

We've written about Tallamy's work at some length last year in "A New Hope for Nature,"⁷ and think that our initiative is very much aligned with his views. Tallamy's work has been well-received, and the idea of a

⁷ <https://possiblerochester.org/2021/08/21/new-hope-for-nature/>. Doug Tallamy is the T. A. Baker Professor of Agriculture in the Department of Entomology and Wildlife Ecology at the University of Delaware, where he has authored 104 research publications and has taught insect related courses for 40 years.

“homegrown national park” came out of his interaction with business development strategist Michelle Alfandari. Their attractive and inspiring website offers an opportunity to list replanted properties, in the hope of spurring others to “plant native.” But the emphasis remains on “conservation” — which to most people means leaving areas alone — rather than regeneration, which requires active human engagement.

As far as suburban lawns go, our own approach differs very little from Tallamy’s (as he says, “Every square foot of land under your care is an opportunity to regenerate biodiversity”), except that we emphasize growing food as well as insect-attracting native landscapes, and transforming urban and rural landscapes as well as backyard gardens. We also think it’s important to connect the physical transformation of landscapes with the regeneration of communities, the recovery of indigenous wisdom, and the transformation of culture. But even if there were no differences in our approaches, we believe it is still important to develop distinctive local initiatives as a basis for action.⁸

*By way of a local example, we are currently transforming a quarter acre of lawn in Brighton into a permaculture garden and small orchard or “food forest,” and plan to report on it to motivate others here to do the same. “Restoring the Earth starts in our own backyard” is something we take literally and see as integral to the mission of Possible Rochester and Possible Planet, **knowing that transforming the land also means transforming the people.** We believe that using permaculture’s principles of “earth care, people care, and fair share” in reviving the landscapes of degraded areas provides a context for reviving the community.*

We need to build a social movement, and we think this is a message that will resonate with almost everyone—homeowner or tenant, civic leader or public official, lay or professional. Restoring our backyard ecosystems needs to become a priority for everyone, and a principal occupation for a new generation of backyard naturalists seeking to increase the community’s resilience. How we will pay for this may take a number of different forms, from donations and sponsorships to private investment to neighborhood improvement districts. Providing financing for local ecosystem regeneration is an extension of what we already do in the areas of clean energy and resilience—indeed, it may even be considered a form of resilience.

⁸ Another completely aligned—and much larger—initiative is emerging around Paul Hawken’s new book, *Regeneration* (2021) and web site, <http://regeneration.org>. See <https://www.youtube.com/watch?v=6UKYN3rd0h8> for an interview in which he mentions a new online climate action site under development. The main site also has an amazing compendium of resources at <https://regeneration.org/nexus>. Most recently [Climate First Bank](#) has partnered with Project Regeneration to develop “a one-of-a-kind checking account that will support, promote and create funding for the environmental nonprofit’s mission of planetary regeneration.”

Part II: Expanding the Movement

(1) Sharing Our Experience of Finding Meaning and Purpose at Home by Restoring a Backyard Ecosystem

For many of us, the past couple of years has been highly disruptive. Whether or not you yourself have lost family members—as almost a million American families now have—the COVID-19 pandemic has had profound consequences. It has shuttered businesses, disrupted education, curtailed travel, limited indoor social activities, accelerated the digital transformation, and shifted many to working from home. It even reduced carbon emissions, though only briefly.⁹

Some of these outcomes may be transitory, but others are expected to be long-lasting. More of us are expected to stay at home and use video conferencing for business and social interaction. For those of us concerned about the climate—which is most of us these days—this provides an unexpected opportunity to rewild our cities and suburbs by getting rid of lawns, planting food forests and vegetable gardens, and bringing back native species including birds and beneficial insects. As we noted in our post on [Doug Tallamy's new hope for nature](#), this may be essential for preserving our existence on this planet.

Maybe the first place to start is in our own backyards. Since so much land is privately owned, it's important that we encourage people to take action to restore natural habitat on their own properties, both to protect biodiversity and absorb carbon.

There are many good reasons to get rid of lawns.¹⁰ Apart from the fact that they require regular mowing, lawn maintenance companies frequently use a range of chemical fertilizers, herbicides, and pesticides. Many of which are harmful to children, pets, and other species. When used with these chemicals, lawn grass tends to crowd out other species and compact the soil. And until states ban gas-powered lawn and landscaping equipment—as California is doing¹¹ and New York¹² is contemplating—lawn mowing, leaf blowing, and other activities may be responsible for as much carbon and particulate pollution as gas-powered vehicles. California's Air Resources Board notes that “there are almost three million more small engines in California than light-duty passenger cars (16.5 million vs. 13.7 million)” and given the lack of pollution control devices these machines “emit way more pollution than a passenger car over the same time period.”

In some areas, like the New Jersey suburb where we lived for twenty years, homeowners' associations and municipalities resisted calls to ban harmful lawn chemicals, and residents fear lawn-free landscaping will

⁹ Surprisingly, while carbon dioxide emissions were cut by an estimated 5.4% globally, the amount of CO₂ in the atmosphere continued to grow at about the same rate as in prior years. NASA observations suggest that the oceans absorbed less CO₂, “probably in an unexpectedly rapid response to the reduced pressure of CO₂ in the air at the ocean's surface.” (<https://www.nasa.gov/feature/jpl/emission-reductions-from-pandemic-had-unexpected-effects-on-atmosphere>, November 9, 2021)

¹⁰ See “Why Lawns Must Die” (6/11/21, <https://www.youtube.com/watch?v=megly0mO5-4>). Perhaps the only good reasons to keep them are as children's play areas and as dog parks, and in neither case do you want them treated with chemicals. Even turf grass itself is not the only option for ground cover.

¹¹ “California has passed a new ban on highly polluting small engines [AB 1346], setting up for quieter and cleaner lawn work across the state starting in 2024.” (<https://www.msn.com/en-us/autos/news/california-enacts-ban-on-gas-powered-lawn-mowers-leaf-blowers/ar-AAPVZWa>, October 25, 2021)

¹² “New York State Senator Pete Harckham introduced new legislation [S.7462] that requires all in-state sales of new lawn care and landscaping equipment, such as mowers, leaf blowers, and trimmers, to be zero emissions by 2027.” (<https://www.nysenate.gov/newsroom/press-releases/pete-harckham/harckham-introduces-zero-emission-lawn-and-landscape-equipment>, October 27, 2021)

lower their property values (evidently more important than the potential harm to human health or the environment). The good news in the Rochester area is that towns like Brighton, where we have recently settled, are supportive of landscaping practices that include lawn removal and emphasize native plantings.

Our Demonstration Project

Over the next few weeks and months, we plan to document our progress in replacing our quarter-acre of lawn with a permaculture food forest and garden, designed by **Patty Love** of [Barefoot Edible Landscape and Permaculture](#), who is also the founder of the [Genesee Valley/Rochester Permaculture and Resilience Network](#). For more details see our forthcoming series on [PossibleRochester.org](#).

Working with the land, even for a very short time, has led us to a different place, able to look at the world from a different perspective. We're still committed to our work on clean energy financing for commercial buildings, but now see it in the context of what we are all about, which is regenerating the Earth. Decarbonizing buildings is an important part of reducing our CO₂ emissions. Regenerating the land uses nature to draw down excess CO₂ and store it in the soil where it is needed to support the foundational processes of life. And this is something that many of us can do, starting where we are. Our little quarter-acre may seem insignificant, but if everyone (or maybe even 10-15% of us, according to Paul Hawken¹³) did this, we could restore the carbon balance in a single generation.

Sharing Our Larger Goals

Which brings us to the main reason we're doing this, and writing about it. If we want to do something about climate change, restoring the landscape we actually inhabit is one place we need to start. And everyone who owns a home or property or lives or works on one can do something to restore it—to revitalize it, to rewild it, to regenerate it.¹⁴ (One of our friends calls it “lawn farming.”¹⁵)

We're not the first to recognize the need for this large-scale transformation of our landscapes. At the end of this paper we include a list of resources and possible collaborative partners for the broader movement of Earth regeneration at every level. Indeed, we could say that we're late to the party, and that we really just need to get aligned with one or more of the other groups promoting it—just as we've joined Earth Regenerators¹⁶ and other networks. What we bring is, however, our personal story of gradual self-awareness, along with the transformation of our own property as a local demonstration project, our access to regenerative financing, and our holistic view of the Earth's bioregional systems. We also see the possibility of a real shift in perspective on the part of many more people and groups to one that sees the restorative potential of our own immediate environments and structures to reverse carbon emissions and thus global warming.

In the countryside, we call it *regenerative agriculture*; in the suburbs, it's *permaculture landscaping*; and in the city, it's *regreening*—re-embedding our buildings and streets in nature, with green roofs and living walls and tree-lined boulevards. We need to do these things to restore life in the soil and in the air—insects and birds, butterflies and caterpillars, frogs and worms and fungi—and the plants that depend upon them. It's this living

¹³ I have not seen the data to support this, but it's certainly an effort worth trying.

¹⁴ Maybe not “everyone,” individually, but all of us can join with others to make this a community goal. At first this may seem completely daunting. But it's actually easier and more profitable to restore the environment to one that's healthy and wholesome for all than it is to deal with the loss of usefulness when we have to abandon the land, as is happening in a growing number of areas in the world today; or become accustomed to a greatly impoverished life.

¹⁵ Walter Borowiec (private conversation). But see also <https://www.resilience.org/stories/2016-05-12/lawn-farming-the-next-big-thing/> where “lawn farming” is seen as a potential additional source for hay for farmers.

¹⁶ <https://earth-regenerators.mn.co/feed>

matrix, that sucks in carbon dioxide and breathes out oxygen, that fixes nitrogen and carbon in the soil, that keeps us alive.

It may not be the total solution to global warming, but it's like other actions that are consistent with addressing climate change: it absorbs and re-utilizes carbon dioxide in the soil to revitalize its living biome. This is worth doing for its own sake even if it is not sufficient to re-absorb all the greenhouse gases we've emitted since the industrial revolution. And the good news is that recent analyses show that slowing our carbon emissions will actually begin to have cooling effects much earlier than previously estimated.¹⁷

The political environment is also changing, partly as a result of COP26 and the Biden Administration's policy goals of reducing emissions by 50-55% by 2030. Climate change is no longer a thing of the future; it's happening now. Which means that action is urgent. Is it too late? Yes—for the species we've already lost. But it's not too late for those on the verge of extinction. The climate, and the atmosphere of the planet, are also not static. The air we breathe is created and maintained by organic and chemical processes that are constantly being renewed. It was perhaps James Lovelock, the originator of the Gaia Hypothesis, who first recognized that the atmosphere, essential to life, exists in a dynamic equilibrium, mainly driven by life itself. If that equilibrium is disrupted, the system becomes unstable and unpredictable. Whether you choose to see the Earth as Gaia, in need of healing, or through the lens of Earth Systems Science, matters less than what you choose to do with that awareness.

As an organization we look forward to co-learning and co-evolving the regenerative community solutions we need to sustain human beings through and beyond the collapse. Our original mission was to develop and provide “regenerative community solutions” in the wake of Superstorm Sandy, which led us to focus on providing the financing needed to make this transition in the built environment. As a way of supporting our work, we offer C-PACE financing in several states and jurisdictions to decarbonize commercial buildings, farms, factories, apartment buildings, and nonprofits such as schools, hospitals, and churches.¹⁸

(2) Articulating the Vision

In 1994, Donella Meadows delivered an address to the Third Biennial Conference on Ecological Economics, held in Costa Rica. In it she noted that vision is “the most vital [missing] step” in policy development.

If we don't know where we want to go, it makes little difference that we make great progress. Yet vision is not only missing almost entirely from policy discussions; it is missing from our whole culture. We talk about our fears, frustrations, and doubts endlessly, but we talk only rarely and with embarrassment about our dreams.¹⁹

¹⁷ According to NASA, “if we stopped emitting greenhouse gases today, the rise in global temperatures would begin to flatten within a few years. Temperatures would then plateau but remain well-elevated for many, many centuries. There is a time lag between what we do and when we feel it, but that lag is less than a decade.” (<https://climate.nasa.gov/faq/16/is-it-too-late-to-prevent-climate-change/>)

¹⁸ For more information on C-PACE, please visit RegenerativeFinancing.org, Possiblerochester.com/ (& [.org](https://www.org)). If you are interested in collaborating with us on any of our projects, in whatever capacity, please contact us; working together allows us to share with you our experience of effective action in a world that is rapidly coming apart.

¹⁹ “Envisioning a Sustainable World” (Written for the Third Biennial Meeting of the International Society for Ecological Economics, October 24-28, 1994, San Jose, Costa Rica (Found at <https://donellameadows.org/archives/envisioning-a-sustainable-world/>))

In fact, talk of vision often evokes anger, resentment, and cynicism. “Why is it,” she asks, “that we can share our cynicism, complaints, and frustrations without hesitation with perfect strangers, but we can’t share our dreams?”

Most climate and biodiversity objectives are still phrased in the negative today: reducing or stopping emissions, avoiding the extinction of endangered species, and staying below 2° C of global warming. But what do we think the world would look like if we reversed mass extinction and restored the climate? What would our society have to look like?

Environmentalists have been especially ineffective in creating any shared vision of the world they are working toward—a sustainable world in which people live within nature in a way that meets human needs while not degrading natural systems. Hardly anyone can imagine that world, especially not as a world they’d actively like to live in. The process of building a responsible vision of a sustainable world is not a rational one. It comes from values, not logic. Envisioning is a skill that can be developed, like any other human skill.

Most of her speech—which is worth reading in its entirety—is devoted to sharing a vision of a restored environment and of the approach she used to focus on it.

I can see this vision clearly and in detail. I can see the farms; I can see the kitchens. But you get the point. Maybe you are already filling in your own details, or maybe you are uncomfortable in the presence of such visionary language. Whatever your reaction, notice where it comes from, notice what has been laid upon you by your culture, and notice that there is a place inside you, close to the surface or deeply buried, that desperately wants a world something like the one I’ve just sketched out. I have noticed, going around the world, that in different disciplines, languages, nations, and cultures, our information may differ, our models disagree, our preferred modes of implementation are widely diverse, but our visions, when we are willing to admit them, are astonishingly alike.

In developing our initiative on **Restoring Backyard Ecosystems** we must similarly take time to envision some of our everyday environments as they might look when fully restored. Perhaps our cities would look like overgrown gardens and tangled forests, with buildings popping up covered in green roofs and green walls. Would our suburbs be a series of victory gardens, capable of feeding everyone? Our countryside growing mostly perennials, pastured animals, and edible forests?

This goes beyond what most people see as the work of halting biodiversity loss or reversing global warming. But it’s also easily imaginable as capable of transforming whole neighborhoods and communities through a bioregional perspective. It’s also concrete, pragmatic, and likely to appeal to a much wider audience than simply those interested in switching commercial buildings to clean energy. It offers a different approach to the conservation movement, one that is much more hands-on, and inspired by visible results on the ground. Finally, it’s a context in which the possibility of buildings becoming carbon sinks rather than carbon sources begins to look more readily conceivable.

One of the surprising things, once you get this perspective, is that everywhere you look there is a patch of dirt or of grass that could be bursting with life. Imagine restoring an urban or suburban neighborhood to this kind of natural profusion, growing food for all in pocket parks and rooftops, removing carbon from the atmosphere and purifying the air, inspiring a generational cohort of nature stewards who are rewarded for restoring the commons.

This can be part of the solution to the major divides in our society, whether by the color of our skin or the wealth gap or our ideology of politics and government. If we can put a value on restoring our urban, suburban,

and rural ecosystems, we can enroll several generations of American citizens in the work of restoring our country to the state in which it was maintained by our indigenous ancestors for thousands of years, augmented by the wealth, knowledge, and technology we have today.

(3) How We Get There from Here

There are a number of practical steps we can take to foster a movement of earth regenerators, by connecting with several emerging networks and groups and coordinating with other environmental nonprofits. Focusing attention on our immediate surroundings as seen within the larger picture, through such frameworks as the Story of Place,²⁰ bioregional learning, permaculture, and Earth Systems Science, allows us to reconnect with nature—or more precisely to rediscover our intrinsic connections—and play an evolutionarily significant role in unfolding the future.

Along with our partners, we propose to

- a) identify and document local and regional groups involved in bioregional regeneration,
- b) reach out to each of these groups and seek to identify common approaches to Earth regeneration,
- c) post this document and other articles online at PossibleRochester.org,
- d) raise money for educational programs, workshops, and learning journeys,
- e) host local gatherings, work parties, garden tours, and online events,
- f) advertise using the free Google AdGrants each month available to nonprofits,
- g) engage Catchafire volunteers to work on collateral materials,
- h) create or cooperate with a membership organization which people can join, and
- i) identify “bioregional wisdom keepers” and reach out to co-create and convene a bioregional learning center and bioregional congress for the Rochester area
- j) invite others to consider a more transformative possibility, that of a restored Earth that is returned to its full potential healthy functioning and fertility

For this we will need a coordinating committee of some kind and we invite the readers of this document to suggest names and help us recruit them.²¹

There are many potential beneficial outcomes of this kind of organizing effort for all of those involved, including our own organization, **Possible Planet**. Most importantly, while pursuing our own vision of what’s needed to create a regenerative society, we are seeking synergy with other organizations so that we can build this new world together.

We have some specific skills and resources to offer, most notably in the area of financing clean energy through Commercial Property Assessed Clean Energy (C-PACE). Through our work in C-PACE we can bring billions of dollars of private investment and share some of the fees we earn for assisting in the process with other nonprofits.²²

²⁰ See the pioneering work of Regenesi Group (<https://regenesigroup.com/services/story-of-place>) and other sources.

²¹ Some obvious groups in the Rochester area we’re already in discussions with and hope to be able to share our collaboration with, including those listed last section of this paper. For more suggestions, or support the initiative, please contact Victoria or Jonathan (contact information provided at the end).

²² More information on our C-PACE opportunities in Rochester, Monroe County, and other parts of Western New York, is available at <http://possiblerochester.com>.

In addition to being a way to spread the community C-PACE conversation, this initiative provides a further impetus for developing “PACE4Nature,” a way of financing projects involving ecosystem regeneration that we proposed to the international Conservation Finance Alliance in 2019. A full description of the concept is provided elsewhere, but essentially it aims to replicate the assessment-secured financing model used by PACE in the built environment to finance clean energy, in order to provide capital to restore ecosystem services wherever a financial return can be anticipated for the property. That return can be provided by government, by a foundation or not-for-profit, or by the private sector. The program can support all types of properties, provided there is a predictable revenue from restoration and rehabilitation, and consequently can be used to remediate conditions that are preventing the property from manifesting its greatest potential in diversity of living species it supports. The seed capital can be raised by the community or provided by government or the private sector to create a revolving fund for this kind of place-based investing.²³

This is not to say that everyone accepts the premise that we can repurpose the strategies of finance capitalism to countering its history of extraction, exploitation, and degeneration. The PACE model may not work for every regenerative project, but the essential concept is that of borrowing against a foreseeable future use of the property to finance improvements today, investments which will make that future use possible.

(4) Re-Building Paradise: Urban, Suburban, and Rural

Talk of restoring “Eden” or “Paradise” may seem like fantasy, but it’s not. Parts of the Earth that are now barren deserts were once lush savannahs and forests, and we know how to restore them.²⁴ A flourishing future is possible—if we chose to restore the whole Earth and preserve its health, vitality, and evolutionary capacity.

We have compiled an initial list of helpful resources, some of which we intend to showcase on our portfolio of web sites, including PossiblePlanet.org, PossibleRochester.org, WorldThatWorks.org, CRCsolutions.org, and AppropriateSolutions.org. And we invite others to submit and celebrate visions of:

- Urban regeneration
- Suburban renaissance
- Regenerative food and agriculture
- Ecological and cultural renewal
- Etc.²⁵

Here are some examples of helpful resources:

- Geoff Lawton’s *Urban Permaculture* (2020), <https://www.youtube.com/watch?v=7qXgbrlYcFE>
- Gabe Brown’s *The Future of Agriculture* (2021), <https://www.youtube.com/watch?v=zIMqtjda6Ag>
- Jan Spencer’s *Suburban Permaculture* (2000-2021), <https://www.suburbanpermaculture.org/>
- Healthy Yards Monroe County <https://www.healthyyardsmonroecounty.org/> (and <https://www.healthyyards.org/> [Westchester, NY])
- Genesee Valley/Rochester Permaculture and Resilience Network, <https://www.meetup.com/RochesterPermaculture/>

²³ The PACE4Nature concept is still being developed, and no projects of this type have been financed yet. If you are interested in investing or obtaining assessment-secured capital for an ecosystem restoration project (with or without buildings) with a predictable cash flow, please contact us (contact information at the end of this document).

²⁴ See, e.g., <https://www.livescience.com/4180-sahara-desert-lush-populated.html>; <https://www.treehugger.com/deserts-that-used-to-be-verdant-fields-and-forests-4868543>; and <https://greentumble.com/how-can-we-prevent-or-reverse-desertification/>.

²⁵ We are particularly looking for collaboration and assistance with developing, updating, and maintaining web sites featuring these topics.

Jan Spencer writes: “...in 2000, I bought a mid 50’s suburban house on a quarter acre property in the River Road Neighborhood [in Eugene, Oregon]. The intention from the beginning was to transform this place into a permaculture Shangri-La. Living here and transforming the property has been a highlight of my life.... It is a small example of the much larger transformations in land use, culture and economics I would like to see.

The site has become a community resource for showing what a nothing special suburban property can become. I have hosted many tours and workshops here. Permaculture is a key element in my personal ethos. It is an invaluable tool for organizing thoughts and designing practical alternatives to mainstream culture and economics ranging in scale from a quarter acre property to the neighborhood and beyond.” (<https://www.suburbanpermaculture.org/>)

- Earth Eden Sanctuary, <http://www.earthedensanctuary.org/>
- The Bhakti Barn, https://business.facebook.com/thebhaktibarn/?business_id=875565545903860
- Taproot Collective, <https://taprootcollective.org/en-US/about/team/>
- City Roots Community Land Trust, <https://www.cityrootsclt.org/>
- The Butterfly Beltway, Seneca Park Zoo <https://senecaparkzoo.org/education/butterfly-beltway-2/>
- Adrian Ayres Fisher, <https://www.ecologicalgardening.net/>

Adrian Ayres Fisher writes: ‘Why Not Start Today? Backyard Carbon Sequestration Is Something Nearly Everyone Can Do’: “...we can practice backyard carbon sequestration by becoming carbon gardeners, ourselves, and in the company of others. I agree with those that argue that unless there are mass movements and unless governments and corporations change their ways, individual changes won’t mean that much. However, I also believe that the butterfly effect is just as real in human systems as in earth systems, and in fact, backyard soil carbon storage works in both at once.

“Thus I say, again, strongly, to everyone who is in charge of caring for a backyard, front yard, side yard, or some other patch of ground where plants grow, soil carbon sequestration is something you can do, on your own, fairly easily. You will have to give some things up, such as synthetic fertilizer, but rather than feeling deprived, you will be helping create abundance.

“Considering that we in the US have in excess of 40 million acres of lawn and untold millions of acres of conventionally cared for gardens (including “landscaping” and vegetable gardens), there’s room for a great deal of carbon sequestration on domestic and institutional land within cities, suburbs, towns, villages and hamlets.

...

“So what is regenerative gardening, anyway? Regenerative gardening is an umbrella term that embraces many styles and traditions of organic cultivation and adds explicit intentionality regarding carbon sequestration. The recent Rodale white paper, “Regenerative Organic Agriculture and Climate Change,” says that, “regenerative organic agriculture refers to working with nature to utilize photosynthesis and healthy soil microbiology to draw down greenhouse gases.” The same goes for gardening. Like regenerative farming and ranching, regenerative gardening aims for land cultivation and management that builds soil health and helps improve the health of the ecosystem within which that garden is located, while growing plants and harvesting crops useful to humans, whether food, medicine, fiber or wood—and along the way, creating beauty. And, doing all this while, importantly, helping mitigate climate change by sequestering carbon in the soil and reducing nitrous oxide emissions....

“These days, as we search for ways to pull excess carbon out of the atmosphere in order to mitigate global warming, new attention has focused on [“natural climate solutions,”](#) or managing land for carbon sequestration by conserving and restoring ecosystems and changing agricultural and gardening practices. Scientists calculate that these low tech methods could [draw down over a third of global carbon emissions by 2030](#), while simultaneously rescuing ecosystems, strengthening biodiversity, managing water, and mitigating pollution.” [Adrian Ayres Fisher, Cook County, IL - <https://www.ecologicalgardening.net/>]

The initial goal of this project, then, is just to connect with other groups—locally, regionally, nationally, and internationally—who share this vision of possibility for the Earth, and to explore our synergies. Together we can restore the Earth, property by property, watershed by watershed, bioregion by bioregion, until all the land is restored.²⁶

²⁶ It’s also important recognize, however, that 70% of the Earth’s surface is water, so we need to restore not only the land but also the oceans, which involves very different techniques and approaches, and is much less accessible to the average person. The question to ask ourselves is, could we have a living planet with a dead ocean? I think most of us would realize, upon reflection, that that’s impossible, but this is a subject for another time.

Conclusion: Regenerating the Earth from Our Own Back (and Front) Yard

We began by suggesting that saving the planet can start in our own back (or front) yard. We mean this literally but also metaphorically: we need to take action where we live, and it needs to be physically transformative.

We may feel we need to begin by healing ourselves before we can help others, and for many of us that's essential. But the planet also can't wait. A lot of things need to happen simultaneously—the transition to clean energy, the creation of a circular economy for meeting our consumer needs, the electrification of vehicles and buildings, a more just distribution of society's resources, a change in the business processes and objectives we expect of our corporate citizens. But along with these system-wide transformations, changing our local environment will do more to signal a change in society than almost any other conceivable action. And healing the planet is how we heal ourselves.²⁷

We need to allocate public and private resources so as to regenerate our bioregions, one ecosystem and one watershed at a time. We need to document and assess the conditions of our corner of the biosphere, develop sustainable solutions, and restore the regenerative vitality of the region and of the community. Passion and engagement are contagious, and usually evoke create solutions in those who are touched and altered by them. If our goal is to collaborate with others in “Restoring Paradise,” this is a place we can start, and make a difference pretty much right away. “Let's restore a little bit of paradise every day,” says John D. Liu, the founder of a worldwide network of Ecosystem Restoration Camps.

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Wednesday, January 26, 2022

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Additional Resources

John Todd's *Healing Earth: An Ecologist's Journey of Innovation and Environmental Stewardship* (2019)

“Jersey-Friendly Yards”: <https://www.jerseyyards.org/> and <https://www.jerseyyards.org/create-a-jersey-friendly-yard/>

Timothy Sexauer, *Muse Ecology Podcast*—#s 25 & 26, Addressing the Other Leg of Climate Change, <https://museecology.com/>

Biodiversity for a Livable Climate, Restoring Ecosystems to Reverse Global Warming, <https://bio4climate.org/>
 EDF: *The Climate Crisis is a Butterfly Crisis* (Mailer, 2022)

Appendices:

- (1) A Larger Vision: Regenerating Bioregional Economies and Ecosystems
- (2) Creating a Bioregional Learning Community in the Rochester (NY) Area
- (3) Offers and Requests

We'd love to feature photos of your own permaculture and caterpillar/pollinator gardens, and to support the work of other organizations that you would recommend. We have unique resources to offer. And we have requests—for feedback, partnerships, volunteer participation, and project-specific funding. Appendix 3 (to come) will describe our offers and requests in specific, actionable terms.

Appendix I: The Larger Vision Behind Our Backyard Initiatives

A Larger Vision Statement:

Regenerating Bioregional Economies & Ecosystems

- Regenerating local ecosystems within a bioregional framework is central to our mission of halting the loss of biodiversity and reversing global warming, and has a wide range of public benefits that could justify the use of assessment-secured financing, aka PACE4Nature.
- Possibly beginning with city-owned properties, restoring degraded land in every neighborhood also has the potential for regenerating community on the ground, mobilizing residents to make positive changes.
- Changing zoning laws to encourage lawn removal as a natural consequence of the need to restore maximum ecosystem capacity to absorb carbon, restore soil health, and create a healthier and more flourishing environment for all.
- Changing zoning laws to permit increased housing density and encourage best practices such as ecovillages and cohousing.
- Groups and communities interested in cohousing should be given the opportunity to restore and maintain such healthy ecosystems everywhere, while providing additional housing options and reduce the shortage of affordable homes in the nation.
- Creating a Story of Place in collaboration with Regenesi Group offers the area an extraordinary opportunity to reinvent itself in the context of its unique geological, prehistorical, historical, and biological characteristics, thus maximizing its potential.
- A community-owned Green Bank could finance ecosystem restoration based on future revenues generated from the restored properties, individually or as part of special improvement districts; and the Clean Water State Revolving Fund is already an available source of low-interest capital across the country
- What we're all about is financing that regenerates society, and this could include financing ecovillages and cohousing developments through assessment-secured investment
- A campaign that starts off fairly modestly, as backyard ecosystem regeneration, can lead to a much deeper understanding of the biodiversity crisis and the role of land-based ecosystems in restoring the climate, as well as to a movement—not just to protest the lack of government action in addressing climate change, and the role played by the fossil fuel industry, but a movement to restore the Earth as our Great Work, our way into the future (as articulated by thinkers from Thomas Berry to Joe Brewer)
- It also depends on changing perceptions, shifting paradigms, and personal transformation that includes the biocultural restoration of the role of planetary steward

Appendix 2: Taking Action in Our Local Community

The Possibility of a Bioregional Learning Community in the Rochester Area

“Whatever the problem, community is the solution.” —Sue Staropoli (in a Pachamama video)

Our experience is that people who want to live in community don’t just want to live together, in ecovillages or cohousing. They want to live differently, and make a statement, to themselves and to the world, about what they value, and how much they value each other. If we can agree on this purpose, I think we will have a starting point for establishing priorities, discussing opportunities, and when appropriate taking action.

Ultimately I think many of us share a concern for repairing the Earth and its people, starting with ourselves. “Bioregionalism” is the best framing I’ve seen for bringing together all the elements we’re all increasingly aware of —

- Climate change
- Biodiversity loss
- Housing that makes sense, from an ecological, social and economic view
- Overshoot
- Racial divides
- Political divides
- Our nation’s history of genocide and slavery
- Environmental and social injustice
- Suicide, depression, addiction, alienation and self-marginalization
- Cultural fragmentation
- Physical desertification of urban, suburban, and rural landscapes
- etc.

Bioregionalism is a perspective that locates us in a place, with a belonging and a role to play to restore the regenerative capacity of the land, of the community, and of ourselves.

Bioregionalism is a perspective that seeks to weave together the most effective elements of the emerging cohort or generation of evolutionary activists in our region, to strengthen bioregional learning and the awareness of our interdependency, to be ready to deal with the consequences of the collapse that we’re already in, and to collaborate to co-create a vision of a sustainable human future.

It creates a foundation for an intentionally eco-aware community, that is seeking to alter the extractive social and economic structures that keep many people trapped in what they see as a degenerating biosphere and a sense of futility around what can be done to fix it ...

So I see a community that is focused on learning, teaching, and action to regenerate the Earth and create greater resilience right here in our bioregion....

...Seeking the wisdom of the First Nations peoples, seeking to decolonize our own thinking, and finding common cause with frontline communities

...That has an interest in strengthening neighborhoods and in creating examples of meaningful cohousing and ecovillage communities across the region, weaving the people and properties together in a network of mutually-supporting individuals and groups and the resources they have access to

...Furthering the work and the vision of a worthwhile human future as stewards of the land, of the culture, and of the transformation of communities, institutions, and individuals through dialogue, education, and cooperation

We're not (at least not yet) proposing a new bioregional organization, but instead suggesting that we frame our discussion in terms of the kind of community we're seeking to create. By sharing our insights, interests, and resources we can best discuss the opportunities for collaboration.

Our current intention with this project, therefore, is to release a series of posts—incorporating this material—at Possible Rochester and Possible Planet, and possibly other sites, and share this proposal for a local / bioregional community campaign with other activist groups. Our message is, if this resonates with you, we invite you to join us, or share your goals with us, and you can count on our support and collaboration.

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