

THE NEW FARMER'S
ALMANAC

VOL. V

Grand
Land Plan

GREENHORNS

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The New Farmer's Almanac, Volume V
Grand Land Plan

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GREENHORNS

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—SVTF

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and typographical perfection.

—BRO

DEDICATION

This Almanac is dedicated to our descendants.





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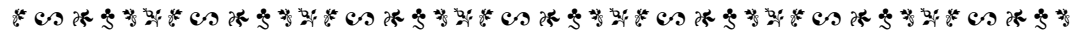
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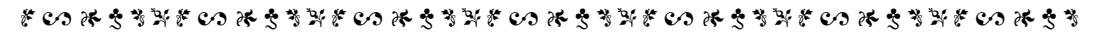
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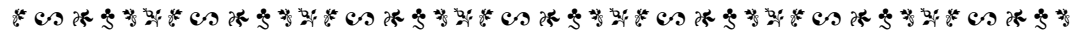
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The Almanac



ALMENAK ALMANACH AL-MANÁKH ALMANAQUE ALMANACK

Briana Olson

EDITOR'S NOTE

In the time warp of 2020, farmers—not the industrial sort plowing under their surplus acres of green beans and slaughtering their pigs for nothing, but the small-scale, diversified farmers, the farmers living dreams of a more localized food system, a healthier planet and community—have emerged as the stalwarts, the envy of many a New Yorker. Demand for rural land is on the rise; small cities suddenly gleam and sparkle more than the great metropolises. It has been a difficult year, a year of loneliness and loss, but also of shifting perspectives and the kind of possibilities that arise only when change—transformation—is the only option.

It has been a year of unknowns, a year of *what now? what next?* Will we earthly denizens clutch at the same old broken systems, or will we change the way we eat and live, the way we pay? The urbanite migrants who are buying and leasing and trolling for property in towns and mountains and valleys and plains—after they unpack, will they roll up their sleeves and help clear the canyons and riverbanks infested with tamarisk? Will they plant for native pollinators? build compost? be judicious, responsible users of water? Will they be as considerate of the literal and figurative infections they carry as they are of those from which they've hightailed? Will they participate and become active members of their new communities? Are they—are *we*—game for the heavy work ahead?

I've asked these questions as my worldly ambit has shrunk to meet the boundaries of the physical space—home, garden, neighborhood, parks, city edging into the New Mexico

wilderness—where I live. And while we at Greenhorns have gathered this constellation of thinking and art rooted in restoration and in land, I have practiced the art of mapping my scruffy town while holding—expanding—challenging the maps of the world I carry in my mind.

I haven't traveled on planes; I haven't peered out onto the gridded landscapes of city blocks and sunken, oversimplified farmland. I haven't flown, but walked and watched those who evolved to do so. The seagulls who arrived in late winter and stayed into spring, their white encampment a surprise on the Rio Grande, three thousand miles from the nearest coastline. The cliff swallows who built their mud dwellings under the bridges over the river. The yellow finches in the sunflowers. The sandhill cranes who landed in October and will feed all winter on grubs and grains in the city's open spaces, at the federal and state-run wildlife refuges, marking the season with their ancient guttural music and their grace.

Thankfully, no songbirds fell dead before me even after months of drought, when smoke on the horizon was at its thickest. But the unprecedented die-off of migratory birds throughout New Mexico, Colorado, and Texas is another exhibit in the case for the interconnectedness—the mutual dependence—of earthly life. Farmers, living in tune with the seasons, the cycles of life and death, experience this more directly than most. In a year when seed companies and CSA shares sold out, when front yards turned into gardens and restaurants turned into grocery stores, more and more



humans woke up to the value of growing food, to the fact that a field of potatoes is the epitome of real.

Yet as vital as farmers are, they cannot single-handedly save the world. They need—as the commodity farmers surviving government trade wars thanks only to government bailouts know well—the support of people and government. More than acknowledgment, argue the writers in these pages, they need land reform, fair prices, and health care. They need respect, and they need help from urban and suburban users of the land. They need architects, wildlife refuge managers, and citizens who vote.

Because what might save the world—and by world I mean the network of wondrous green things, waters and gases, the air we breathe; the ants and worms and bees; *life on earth*—is this: all of us, ALL, heeding the advice of one of our contributors and starting to think like agroecologists, on and off the farm. From the tables where elected representatives hash out policy to the plants along our highways. From developers to mutual aid networks to exercises in environmental democracy. From backyard art to negotiations for tribal sovereignty. It is

that idea, that belief in our shared responsibility for one another and the land, that animates this *Grand Land Plan*, and that we offer as a guide for 2021 and beyond.

The path to collective survival requires reckoning and repair for our communities and the complex ecologies we love and rely on. Let's restore the fishways, our contributors say, and let's restore the oyster reefs, the forests and savannas. Let's restore land and water to the descendants of those from whom it was stolen. Let's learn all that can be learned from everyone who has survived despite—not because of—capitalism, white supremacy, and the philosophy of the #1. Instead of turning our attention away from the earth, to the high-res galaxies flattened into the black holes ever at our palms, let's look to the dirt.

Let this be the year we live into the present and prepare for a future on Earth—a future in which our planet remains inhabitable thanks to the collaboration, intelligence, and reciprocity of the humans and nonhumans who reside here.

This is our invitation to you, reader, whoever you be. ○

Severine von Tscharnher Fleming

INTRODUCTION

No matter what is happening in the outer circumstances,
to stay open.

—Pema Chödrön



Poppy Litchfield *Tide Maps*

Hard to think big, while stuck inside. Stuck inside our bodies, stuck inside this rinky-dink doomsday. Each one of us feeling thwarted. Avoiding the smoke. Avoiding the corruption, the crackdown, the bailout, the backlash, and the lash-out. Such a lot of hunkering, bunkering, domestic digital addiction. A reminder how profoundly we humans ALL require access to our forested uplands, our commons, for a calming walk, to inoculate our microbiomes. To breathe in what the trees breathe out with each transpiration: love, serve, surrender.

Bodies of forest, bodies of water. Bodies at borders, in camps, on rafts, struggling to move northward from places of climate consequence. Ambition to get out, to survive, fists clenched with the willpower of migration. The faith to flee. Bodies fighting fires, bodies cutting meat, bodies hauling goods, loading ships, swiveling dollies; bodies dutifully riding up escalators from the transit system, reporting for work. Bodies making sense of what this threat to the body means, or might mean, for family, for community, for nation. Simultaneously, thousands of bodies slack, in pyjamas, not working, not playing, not flying, not up and down in elevators, not dancing or dining out. Bodies denied purposeful movement, simmering in the brain-juices of trauma and polemic. All

these bodies tell the score, rhyming with the inevitable pain of our epigenetics, our cultural identities, our appropriations, our complicity. Bodies in the streets vibrating with hurt. Bodies masked, enclosed in individual plastic packaging. All of us in little bento boxes, bound into supply chains carved up before we arrived here, cutting like wounds into the living world.

Here we are. There is no whole sane place to escape to. What is left is left to us. To do something. To discover our place in the work, in thankfulness for the gifts, in acknowledgment of the poisoning, in the humility of a human body that holds us in—and against the temptation for inaction at a time that requires us to jump into motion.

This fifth edition of the *New Farmer's Almanac* is about tuning into the needs expressed by the life force of this world we share, each in our own corner, our own basin. Each contributor to this book has in some way tuned in to “earth life”; their work, action, or thinking has committed them to the civics, forethought, bravery, stamina, and cooperation that affirms the destiny of their home place. Each is working, restoring the function and health of working ecologies, preparing home places for dire predictions as they come at us in waves. Homing in on home-making, home-keeping, home-pro-

tecting, home-nurturing. Growing greater yields, greater resilience, greater humanity, deeper safety—whether in urban gardens, fish ponds, irrigation ditches, forests, roadsides, or intertidal zones.

What is left to us is what is left to us to help heal. Acknowledging our limitations, the pain, safety considerations, and historical violence—those of us writing here, reading here, thinking and working on land, have enough traction for tremendous changes. Our grand plans may come true yet! Many hundreds of thousands more of us need to have access to land and subsistence, affinity and security. A basic income is not enough; we need a basic ecology. What would it mean if we tried to increase tenfold the actions toward resilience, the training for new farmers and restorative professions? What if we mobilized our currency to pay for it? Can the experiences and case studies and envisionings of this multigenerational movement catalyze state-funded initiatives on a far grander scale?

More of us must and are rising to serve, in office, in bold culture-making, program-making, and policy-making, and in binding the tattered kinships of each basin of relation, holding gently our togetherness, our affinity for life. The next decade will be about recruitment **TO THE WORK**—of makers of local change, healers of land violations, civil servants, performance artists of restoration in the commons. Our human brains have evolved for complexity, nuance, and adaptation. The work ahead is work for us.

Tidal Currents

The Roosevelt family spent summer holidays on Campobello Island, a small Canadian island at the edge of Cobscook Bay, just inside of Grand Manan and Nova Scotia on the Atlantic Coast, and just visible from my bedroom

window at my farmhouse in Downeast Maine. As a nine-year-old, Franklin Delano Roosevelt (FDR) was mentored by an elder of the Passamaquoddy tribe, Tomah Joseph, with whom he explored the bay in a birch bark canoe.¹ Biographers say he gained his appreciation for water power from experiencing the twenty-two-foot tides. He fished and romped, and grew the sensibilities that would inform lifelong convictions for conservation and natural resource management. His presidency reflected that sensitivity; his institutional creations and those of his colleagues in the Soil Conservation Service, the Civilian Conservation Corps, the works Progress Administration, the Conservation Districts—including of course the thousands of dams and drainages—were attempts to merge human initiative with the natural potential of the landscape. He put millions of individuals into action to protect the underlying ecological power of the United States. Flawed, yes. But how instructive for those who would articulate an agroecology platform for the Green New Deal to study this play-out of values and outcomes.

Look out over nearby Passamaquoddy Bay when the tide is low, and you can see a herring weir on the north side, haunting as a cemetery on high ground and testimony to an abundance interrupted by “progress.” The watershed of the St. Croix River drains one million acres² as it pours from the north into this confluence of waters. The whirlpools of these bays once surged with unbelievable life force—an extraordinary volume of herring, their wellings and swellings driving fish life, bird life, and whale life.

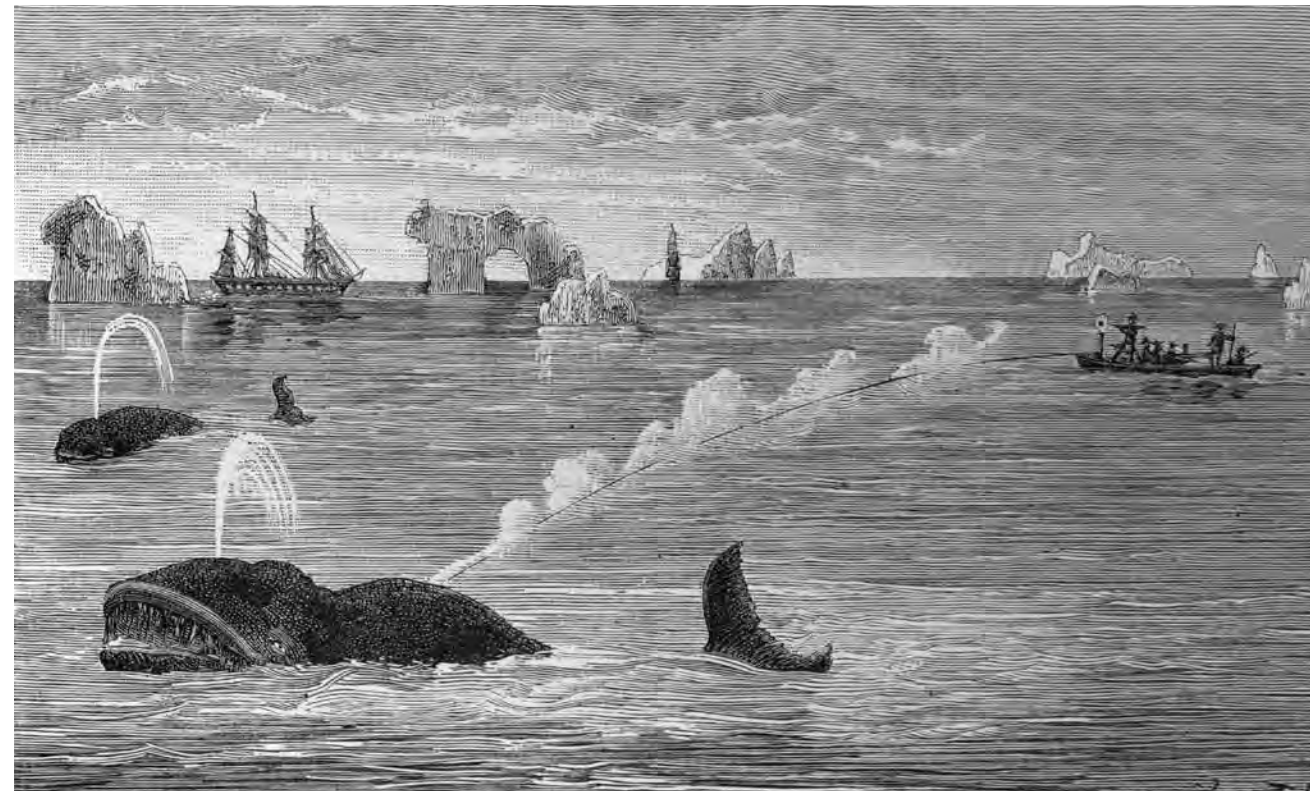
Homeland and fishing grounds of the Passamaquoddy for thirteen thousand years, it is estimated that historically between thirty and forty million alewives returned every year

to this river, more fish than in the rest of the state combined. But in 1936, seven miles of causeway were built for FDR’s tidal power project at a cost of 15 million dollars.³ The road neatly divided the Cobscook–Passamaquoddy convergence and created a funnel to contain the electrogenerating potential of these huge bays, cutting right through the Passamaquoddy reservation. The road interrupted most but not all of the fish; this remains a place of global ecological significance and marine productivity, including some of the last 325 right whales to exist on earth. The hydrodam was never built, but still that weir stands silent; people say it doesn’t really work.

Story layers on story. As we in the US enter into public works conversations for the next stimulus bills, and the next midterms, on

which logic will our economic recovery hinge? Last time around, the decision was to dam the rivers. The lyrics in Woody Guthrie’s commissioned songs laid clear the thinking: let the water do the work.⁴ This time around, it’s “clean green” energy that gets the headlines. Our addiction to electricity is ever greater with warehouse fulfillment robots and the hurtling fastness of giga-everything, with each streaming video, each bitcoin transaction, each increasingly plugged-in kid. Glowing faces of children yanked out of social contexts and plunged into flickering silos of poisonous impulse and artificial reality. A damned river drops its sediments, becomes listless, loses its rhythm. So too the children dammed up behind their screens. And so, too, a debate that swaps out the petroleum poison for another

Demonstration of bomb harpoon killing North Atlantic right whale, 1877



flavor^s without affirming the urgent mandate to REDUCE and reshuffle our systems so that we require much much less energy, each of us.

It does all seem to hinge on how we make sense of our own safety, on what we are willing to give up and what we are willing to commit to. On which human bodies, water bodies, and cultural bodies we hold in allegiance. On whether we are able to orient our “build back better” with an ecological integrity based on systems of diversity, resilience, absorbancy, and vegetative buffering. These standoffs at Standing Rock and Pebble Mine, the latter of which risks contaminating the biggest salmon run in the world and the biggest river system of North America⁶—what could they be but decision points for our species? Does our hankering for endless disposable immediacy obviate our true duty as one species among many? Or are we willing to harmonize our human laws to match the laws of nature? Do we have the wherewithal to define a forward path that affirms ecological justice, restoration, and reparation? Are we able to kindle a guiding narrative about homeland that will help us all orient our individual vectors and volitions into a magnetic allegiance with the earth? What kind of nourishment prepares us for bravery? What does that leadership look like at the most local level? Who is going to do it—will you?

What Is Left Is Left to Us

This work will require us to tune in to the body of the earth in a different way. To heed the insights for human settlement, movement, harvest, and tending learned through thousands of years of observation by Indigenous peoples and settlers tuned to the earth’s soils, drainages, and navigational potential. The Mayan milpas, Zuni waffle gardens, Spanish colonial *mercedes comunitarios* (communal



Vegetable gardens surrounding the Indian Pueblo of Zuni, New Mexico, 1873

land grants)—all these have been mapped before by careful observance. These places of potency and potential on the landscape are discoverable to us now as well; we too can map with high levels of specificity the creaturely habitats, the bird layers, the estuarine boundaries, the intersecting factors that inform the migration of animals across millennia. We have tools sensitive enough to take a more nuanced approach than “fence row to fence row.” FDR made policies driven by engineers who wanted to capture the streams of potential energy, interrupting the rivers, blasting the mountains. This next phase requires us to constructively apply the tireless tally-taking of field biologists in the healing of our waterways, our forest uplands, our wetlands, our wind buffers and stream edges. It may have taken Paul Bunyan

to wield his axe and fell the mighty redwood, but even a middle-school girl has enough strength to shovel a hole for a young tree.

This means cherishing and protecting our most critical places: the headwaters, the streamsides, the places where the herring swirl and can be caught, the best beaches for clams, the mountain lion corridors, the Camas Meadows. This kind of work has all been done before; Spanish arrivals to what is now New Mexico found the curve of the valley that let them channel a diversion ditch—an *acequia madre*—off the main stream of the river, a compromise with the native hydrology. The Polynesians mapped and ingeniously manipulated the upland springs to flow down into their taro ponds, where terrestrial richness became a nursery for baby fish. Those scientists who’ve been fed by agriculture, powered by electricity—one thing we can say is that they’ve made us some very potent data layers. We know the biodiversity hotspots and the Vavilov “centers of origin” where crop species arose and came into domestication; we know in minute detail the historical courses of all our water systems; we have LIDAR to describe the whole surface of the earth. We have the tools to approach this project of healing with tremendous biological integrity and an efficiency of effort as orderly as CAL FIRE, but more proactive, and less brutal.

The key ingredients, of course, are political will and cultural consensus that we humans must constructively protect our living systems, that our best farmland cannot be developed, that our headwaters cannot be clearcut, that the earth is a commons we must share and steward for the long term. We know enough to know where we need to start planting, though we cannot predict which of us will be hosting and which fleeing as the islands of habitability shift and flux. As more and more of us discover

ourselves in the cause of healing, will we reconstitute the kinds of social relations that hold us accountable to the many lives bound up with our own?

Safe Harbor

Most harbors, these days, are not actually safe—not to eat the fish from, anyways. But there is safety in a group, and I’d argue that the harbor is a potent grouping to organize from. Bound up in the harbor’s cultural bundle lie concentrated the human activity, settlement, sediment, trade, wharfage, anti-fouling paint, runoff fertilizer, and effluent—and also a coherent constituency, a posse with a reputation to defend. In the 18th century, our Maine trading towns and river mouths were known in Canton, Shanghai, and Cork for the magnificent boats, schooners, and clipper ships sent out into the world. Sheltered river mouths made possible the fur trade, the lumber plunder, the settlement along tributaries. With a restoration lens, we can approach each harbor as it has defined itself, addressing each particular history though the ballast of meaning and interest held by the first Indigenous settlers, the propertied early trader families, their descendants and associates, the migrants, the ethnic neighborhoods, the condos, the wharf-rats, all who are there. It is, thankfully, a defineable “we” with a group identity—the kernel of an activation.

The contamination of the harbor concerns a defined land-slice of humans. This drainage is not a metaphor but a specific place where specific people would like to be able to fish again, with confidence. Terrestrial transpiration accounts for 85 percent of rainfall on land. The paving, plowing, and deforestation of the water basin drive dessication. As our basin loses water cycling, it dries the neighboring regions as well, driving a net loss in carbon biomass—



Matt Biddulph *No Dumping, Drains to Ocean*

less water, less plant growth, less leaf litter, less soil-building. The sponge withers.

The “act locally” crowd has long understood that watershed boundaries can orient our cleanup. They already orient the people stenciling fish skeletons and “Drains to Bay” on street gutters, labeling streams, stitching creeksides with willows, widening culverts for fish passage, and rushing out in the rain to protect salamanders as they crawl across highways.

Can we make this restoration logic catchier? Can we translate and transpose from the logic of transportation and navigation to that of transpiration, evaporation, respiration, and precipitation? Could *Sesame Street* put in some curb gardens and sing songs about the water cycle and help children follow the water upstream like a fish to find the first blockage, the first point of intervention? What will it take to un-block ourselves for this work?

Dam Site

The first dam on the Pennamaquan River was at the old Pembroke Ironworks. This was a typical 18th-century stone-built industrial compound made by Welsh, Irish, and English immigrants, quite grand. Ores brought in by sailboat were melted down by forges fanned

with water-spun belt blowers and made into the iron pins and shanks and various nautical buckles and hardware for sailing ships. Shipbuilding was a major activity on the Pennamaquan River because it is protected and has a nice wide flat sandy bottom. So, the working of iron caused the damming of the river and the interruption of the yearly alewife run.

What was once a densely settled industrial district—a village along the river—is now overgrown with wild hops, wild chokecherry, eastern poplars, jewelweed, willows, muskrat, and chirping little parulas who nest in the usnea-covered apple trees along the forest’s edge. This is a place that has seen nearly one hundred years of out-migration. Fewer schools of fish, fewer schools of kids.

Grey Lodge stands tall at the site, wrapped for winter awaiting her clapboards in spring-time (yes, we need help with this project)—a noble-boned boarding house with a brand new roof. We Greenhorns got it at a tax auction and have set it up as a fermentory and hospitality center, fermenting feral apples into apple cider vinegar and welcoming conservation-minded tourists to our little town on the coast of Maine. Prior to us, the building was used by Golden Hope Mines, a mining speculation company that drilled into mountains and doused the cores with acid, trying to find gold. We inherited a basement full with sodden mining ores. Funny the psycho-geography of this particular rise, where the dam site causes a whole watershed to pool up underground, flooding our basement. As the well man said, “You could start a bottled water company here!” We’ve put our mycological lab into a room with mining procedures scrawled in marker on the walls—it’s nicely sterilized now. Next is the trash room, then the ceramics studio.

Beside the dam is the new fishway, a simple

ramp that lets the fish jump up a series of ladders to get upstream to spawn in the warm lakes. We made a film about it called *EARTH-LIFE: FISH*, so you can watch and read online about how Downeast Salmon Federation engineered this ramp to help the alewives back over the dam in larger numbers, perhaps up from seven hundred thousand to three or four million returns per season. Between Grey Lodge and the dam is the Crossroads Motel, long rectangular trailers of moldy vinyl rotting into the hillside—a place of tremendous potential as a commons if we can get the price reduced and some help with redevelopment.⁷

Funny, the quirks of retrograde opportunism in our down-and-out neck of the woods; no sooner had we pumped out the basement than the miners came back and wanted to claim the

ores that they’d abandoned for years. Now that the price of silver is up, they’d like to reprocess those ores. The guys around town say this would represent more than a million dollars in exploration costs. Maybe we’ll let them haul it all out to make more room to store vinegar. Or maybe we’ll use the ores for drainage in the facility we build to process organic wild blueberries. Mother mountain, will she be mined to make more transistors and gizmos? Are we to have another smelting event in this watershed?

How can we repurpose the buildings and materials and institutions we have been left with? Can we turn the cemetery into a fruit commons? the historic fort along the river into a grazing commons? the Odd Fellows hall into a community café, a place for Al-Anon meetings?



→ *Men Drilling for the Passamaquoddy Tidal Power Project, 1936*

Can we reclaim the main street abandoned for bigger towns and malls? remake it as a place for daycare, beauty parlors, a local food depot? This adaptive reanimation frames our approach to the work ahead. We admire those grand old textile mills in Biddeford turned into bakeries and commercial kitchens, and we're glad that the wharf-buildings were saved and turned into high density condos. But it's pretty clear that whale watching and summer tourism will not keep our rural schools from consolidating and shutting down. Nor can we reopen the twenty-seven canneries that have closed along our bay. We have to figure out things to do here that can endure, with settlement patterns and employment that suits the circumstances we find ourselves in.

Instead of canning fish, can we can fruit? Instead of smelting iron, can we smoke and ferment fish? Instead of an economy based on exploitation and export of raw materials (wood pulp, biomass) couldn't we rebuild a conservation-minded, high-value, natural-resource economy based on what grows here in wild abundance? The blueberries, the spontaneous feral apples, fruit adapted and adapting, expressing the free will of self-selection, the wily ones surviving. The half-breeds that handle the late frost, the early frost, the late

spring, the early spring—year after year. In historic preservation circles as in horticultural ones, there's a tendency to miniaturize and fetishize the "heritage" apples chosen for baking, pie, and sauces. Valuable history, yes, but a house museum will not suffice for the future we're facing. It's time to cherish the half-breed apples, the cross-cultural culinary potential of this landscape in a great fullness of the enterprises and microproductions that can work here. The sweet fern, sweetgrass, sweet bay, balsam fir, goldenrod, rugosa rose, St. John's wort, wild mushrooms, and wild honeys. Just as remote mountain villages in Romania, Switzerland, Albania, and Spain support a supply chain of aggregators and processors for such products, couldn't we in Washington County dry and distill our wild glory and ship it to market?

This is an argument that goes far beyond farms and food, but let's start there, with a delicious umami broth made from our Maine nori and kombu, Maine-fermented fish sauce, Maine-fermented miso, Maine shiitake, Maine wild chive blossoms, and Maine carrots and leeks and caraway seed.⁸ What a powerful kaleidoscope we can reconstitute from apples from the forest's edge, analog climates, shisandra and szechuan peppers, quinces and chestnuts, rhodiola and greenhouse ginger, wild natives and wildish forest-scapes of our own invention. Hardy kiwis, let us see what these twirling trellis-lovers will yield!

Softening the Landing

As above the waterline, so below. Before we leave the waterfront, I want to tell the story of Sunken Seaweed. They're a group working to clean up contaminated waterways in San Diego. On shaky old wharves, they grow a seaweed called ulva that metabolizes phosphorus and

nitrogen, binds heavy metals, and takes up carbon. This seaweed can then be made into biochar or compost that can be used to remediate urban soils, to fertilize young urban trees surrounded by woodchips and swales planted with native bushes that trap dust, sediment, rainwater runoff, and contaminants. It can help remediate waterways degraded by the port, the military, the suburbs, and the cities, healing the human footprint on a delicate ecology. Along with the structural microcosm of the biochar, the hormone-laden seaweed creates the conditions for more life. The soil becomes more porous, more spongy, more filtering, more holding of moisture. This is the land-softening that is needed upland of every harbor, every waterway, and particularly those so degraded.

Many harbors have port authorities keen to ameliorate their working waterfront. These are places which have quite a lot of jurisdictional agency and potential for federal funding and innovative reuse. The Port of San Diego happens to be an entity with lots of land and cash to do some experimenting. Such organizations, like hulking hulls of tankers, can support many young barnacles, many young remediators. These small initiatives can instigate a succession of enterprises, especially if they are conspiratorial and not overly concerned with the hype of venture capital. If they build kinship and share insights, connect with municipal planting departments and climate change researchers. If they reconnect in the way that each place must.

Work Is Essential

If we are serious about resilience and adaptation for the whole of our human society, then we must be serious about the work that is involved. Will this new stimulus program move the work into places where work is needed,

where new businesses and organizations are needed, or will it all stick to the trillion-dollar ribs of the largest dinosaurs in the US economy? If we're serious about restoration, we need to make this work available and accessible and remunerative. We need to create trainings, stipends, grants, loans, and professional pathways. We need a diverse range of economic forms within which to work (e.g., landscaping companies, restoration contracts, sideline work, seasonal work). We need this language of possibility and this physical work made available to those who would enter the Peace Corps, the Conservation Corps, and Ameri-corps; to those who would enter professional sports; to those who would enter the armed services; to those who are already working in the fields. We need massive structural reform in creating REAL OPPORTUNITY for training and pay in the restorative arts. Imagine blending the moral indignation of the Edible Schoolyard kids and the climate strikers—the Gretas and Extinction Rebellion and the Sunrise Movement—with the out-of-work granddaughters of miners and lumberjacks, the sons of liberty, and the kids with vocational degrees. Imagine them all getting oriented to careers in restoring ecological infrastructure. It happened during the Great Depression; millions of working arms were mobilized by the Civilian Conservation Corps, fed three square meals, and provided lodging and vocational training for massive public works projects. Imagine the side-by-side working, not of a prison crew, but of a mosaic social unit reflective of who we are as a nation and a species.

Many of the places most in need of restoration in the US are the places where disinvestment, contraction of industry, consolidation of natural resource economies, and population decline have coincided with fearfulness and



Wild Maine blueberries

retrograde identity politics. What if there were well-paid work planting street trees in these towns and cities, tending hedges around those mill sites? What if the strategic beautification of our degraded places were so successful that these became highly desirable places to live once again? What if doing that work alongside people who are different from ourselves spurs the regrowth of compassion and neighborliness?

We need an applied, sustained epoch of epic loving handwork—a multidimensional, multi-generational project of earth repair. Work that is available at all scales and to many kinds of people, many of whom will need to be trained. It must happen in a manner that affirms the economic and cultural diversity of our urban and rural places. There have been calls for a Green New Deal. I'm hoping that federal funding

and stimulus packages that follow on the heels of the US CARES act comprise after-school programs, job training programs, educational stipends, and funding to states for grants and conservation innovation.

Moving Out to the Country

It used to be the punk rockers in Detroit who put bumper stickers on their bikes reading "Fuck cool cities"—now it seems even the cool cities are fucked. People are moving. Some are moving to small towns because they can work from anywhere. Some are moving back to small towns to attend to aging family members or take over a family business, or to shelter in place with lower overhead. Yes, there is gentrification going on. We in the countryside can all see it and feel it, the slice-and-dice of

sanctuary making—of whatever flavor of vacation home—that hacks into farmable fields. Harder to figure out is how to create the conditions where people begin moving to, and moving back to, small towns specifically to undertake the kind of work that makes the nation stronger, healthier, and more absorbent of rainfall.

What's the difference between someone who's coming to engage versus some who's coming to hide away? Since the fall of the age of sail, many Maine islands and coastal historic towns have become summer-home communities, without the hospitals, firefighters, and civic participation to actually cope with the summer-flush. Consider the small-town volunteer fire department's fourth of July parade and picnic, with hot dogs and potato salad, iced Bundt cake and styrofoam coffee cups, flags flapping over the hot afternoon pavement. The ladies auxiliaries of the Grange, Odd Fellows, Veterans of Foreign Wars, Elks, and Lions have been hosting such iconic town happenings for decades, many of them into their eighties and nineties. Fraternal orders, town governments, volunteer firefighting, rural schools, rural churches, rural foodbanks—these institutions share the crisis of contraction and out-migration.

Here's the thing: Towns take work. More than many people feel they have time for, and the current crew have been holding things together for longer than is realistic already.

In many cases, or so goes the scuttlebutt in farm circles, the re-ruralizing underway isn't playing out in sync with actual civic needs, civic services, or civic engagement.

Towns require townspeople, people who take on the PTA, the council positions, the bakesales and bean-supper coordination, the recycling depot at the transfer station, the

conservation district board, the planning board, the historical society, the grantwriting, the watchdogging, the citizen science, the neighbors helping neighbors. City-raised people don't always have familiarity with these practices, this tradition of volunteerism. Weed growers, wine growers, horse people—they get a bad reputation as takers, and sometimes for good reason. This is a fixable issue, a potent transformational tactic for the coming decade—to reenergize these local positions and revalue the humility of working together.

Building back better doesn't just mean big-money school bonds, or big-truck contractors fixing the bridges; it also means reenergizing our small-town institutions, our county supervisors and town councils and volunteer fire departments. It means fostering networks, fostering the caring that it takes to hold together. This is a discourse I look forward to in 2021.

It's been perplexing to watch as the "have already's" gobble up real estate from the "still-haves" while so many feel relegated to "never will have" status. Efforts to create social finance to support land access and equity for new farmers, farmers of color, and young tradespeople, like those of Agrarian Trust, struggle to keep up as land prices climb and climb. As my "cli-fi" reading friends tell me, a few more pandemics could produce a far less populous world where chutzpah, skill, and teamwork would be more powerful than capital.

Those countless forlorn main streets in our vast land invite re-invention, if the invitations go out. The hazard of expecting the work to be done remotely—by a robot, by someone else—is that the work often goes un-done, the newly burned forestland naked in the first strong rain, running off into the creek. As I sit here full of hyperbole and conjecture, the ecology continues to unravel.

What is leadership?

- * Take responsibility for what you know needs to happen.
- * Put yourself in a position to create impact.
- * Think from where you sit and what you know: What would it take to develop the needed skills and leverage points? What would need to change? Who else would need to be involved and mobilized?
- * Articulate a plan.
- * Line up the people and convene the necessary conversations.
- * Make it accessible at the lowest possible level of governance.
- * Act like you've already won.

- * Buckle down and commit to the social work it takes to make the ecological work work.
- * Figure out how to learn as quickly as possible to iterate.

Multiple Choice!

- | | | |
|-----------------|---|----------------------|
| Public trust | ✧ | Public confidence |
| Public works | ✧ | Public office |
| Public health | ✧ | Public land |
| Public service | ✧ | Public water |
| Public interest | ✧ | Public rights of way |

Roadsides and Radical Gifts

This road we're on seems like a crash path, but there are still points of intervention. Barbara Deutsch, my eighty-year-old fairy godmother, and I were en route to our first butterfly walk together, driving in the Oakland hills, she like a safari driver zooming around sharp corners, swerving as she called out the ceanothus and pipevine hedges. She made rounded gestures and cooing sounds in reference to the sun-warmed south-faces where the lepidoptera love to alight. Amidst the golden glow, we came across a stretch of road littered with trash. I made some silly comment about people who throw trash out windows. She hit the brakes, slowed nearly to a halt, looked me straight in the eye, and said, "The trash isn't the issue, Dear. The road is the issue."

This road we're on is not a metaphor; it is a road. But the road is not only a road; it is also a water catchment system, a micro-dam, a solar collector, and a pollution vector. The road exists in multiple dimensions, as do we all. The road is a design challenge, a site for the public art of

George A. Grant, NPS Civilian Conservation Corps enrollees carrying on erosion control operations along Vicksburg National Military Park's Graveyard Road in 1934



erosion control, for native plantings, mulch-bag garlanding, and water-catchment demonstration. The road is not just a violation; it is an opportunity for remediation and redemption! This road was built by the Works Progress Administration during a great depression.

Each curve provides a wrinkle of drainage that can sustain a very happy native tree or shrub. Barbara's other fairy goddaughter, Amber Hasselbring, managed to negotiate a necklace of habitat across San Francisco for the green hairstreak butterfly. She connected patches of habitat in parks, creating a tender, dappled flutter-path across paved neighborhoods. The work is not glamorous, but with her twinkling smile she offered to rip out the pavement and plant habitat. These interventions in the road give us all a place to slow down, a place for the collected debris and dust to settle, a spongy, mulchy spot to slow the water and sink it. A place where animals can cross. A place to advertise to one another that we care about beauty. That we care about each other. That love is possible.⁹

Shade Trees and Group Work

What actions and cultural approaches affirm human survival? What kinds of humans do the trees need us to become? Common to the documented functioning of a commons are seasonal, ritual, public rites of engagement. Be it the springtime walk (and cleaning) along the contoured irrigation ditch (*la limpia de la acequia* in the Southwest US) or descending the mountain meadows in a formal costumed procession with cows wearing crowns of flowers (the Swiss alpine commons) or visiting the water temples at the top of the watershed (Balinese rice gardens), these cultural happenings integrate the janitorial duties associated with managing large-scale ecologies, agroecologies

that sustain whole systems. They make clear our affiliation to the land, our belonging to a place, our connecting to one another, and our responsibilities to the whole. These boundaries and the bonding that goes along with them create consonance, aligning each individually charged needle with the magnetism of the entire watershed.

New Zealand is a land with no native mammals, a sheep colony that exports spring lamb and milk powder through Chinese-owned ports—but it is also a place where the pregnant prime minister announced a campaign to plant a billion trees the first week she was in office.

A producerist, maximalizing behavior has come to define much of New Zealand's agronomy. I've been told the rapid removal of subsidies in the 1980s led to this massive intensification and export optimization. Fence posts are dipped in arsenate, ditches are sprayed with herbicide, airplanes drop baited poison, and far too many cows stand beside polluted rivers in fields far too irrigated, fertilized, and compacted. It's enough to give you toxic pinpricks, this puncturing and neutering of the microhydrology, this interruption and violent reorientation of the sentience of the landscape. Bulldozed new road expansions, on-ramps ripped from delicate dunes—land violations to the left and the right. Then the land slumps and collapses, and scarred hillsides are bandaged up with a sad little repertoire of European fix-it trees. Poplars twinkle, but really it should be bush. It could be bush. Thank god for manuka honey, so that some still is.

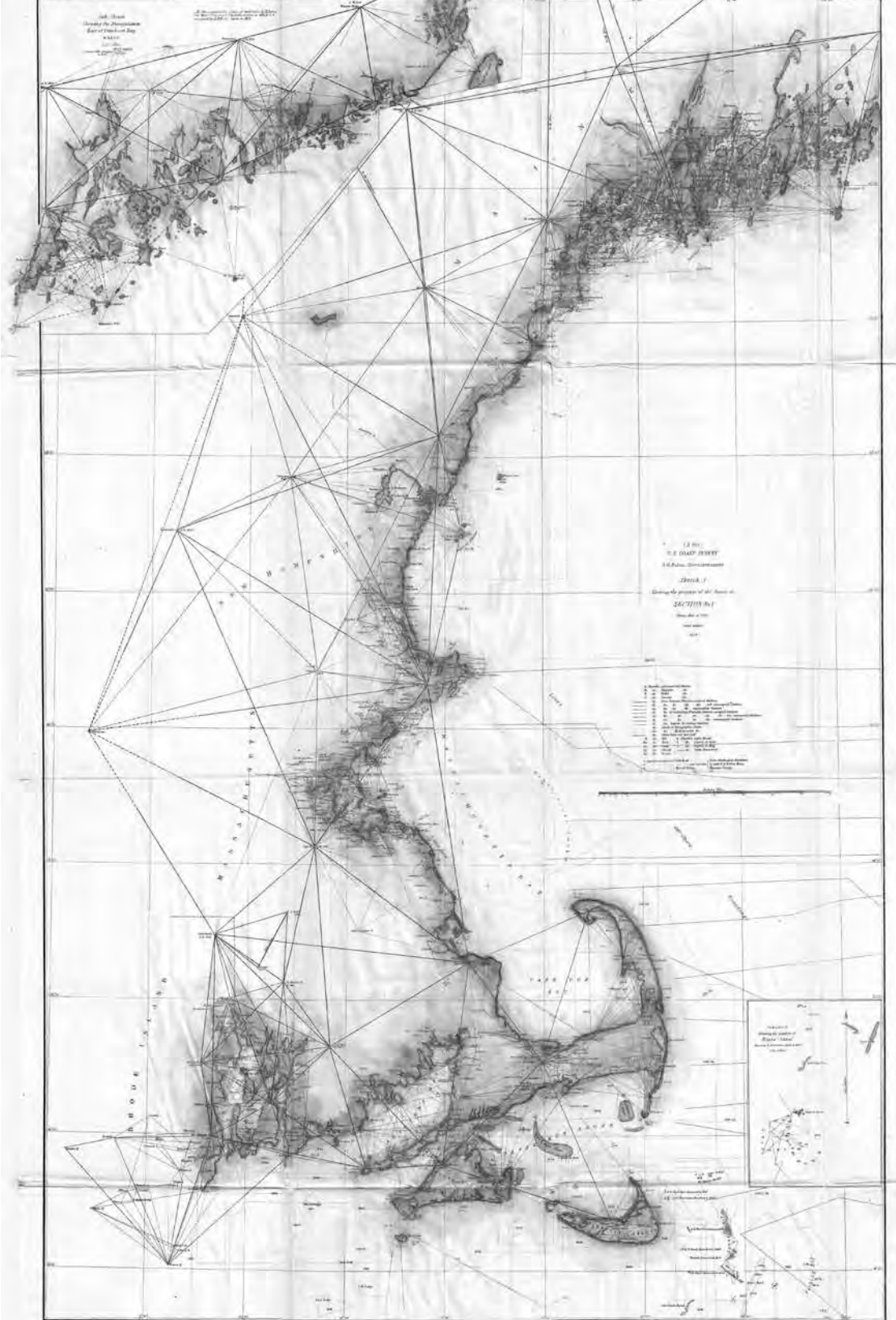
As usual, that is not the whole story. The mainstream is not the whole of the watershed, and thanks to the Edmund Hillary Fellowship, I was able to meet and experience a powerful subculture of activated, regenerative farmers and thinkers who are transitioning their



Kai 'Oswald' Seidler Rice field in Bali

pastures and operations. Intensifying grazing management, reseeding paddocks with dozens of clovers and diverse forages, restructuring their farming such that the land can fix its own nitrogen and the farmers can kick the habit of importing rock phosphate from across the world. Is such a transition as daunting as clearing the forest to begin with? Surely not—if those ole' colonial bushwackers and lumberjacks in the 18th and 19th centuries could build these dams and knock down these forests, we can muster the willpower to build back better!

As I sped along to meet the wonderful protagonists around the tidy countryside, I kept noticing the long stretches of roadway lovingly planted with charismatic native plants, somewhat in the style of a 1970s hotel landscape, but in a good way. Dramatic six-foot hedges of New Zealand flax, flanks of reflected light beaming off the vertical panels. And below, twinklings of the heather-like, the fern-like, the sword-like, the upright reeds, the gunnera stalks, pitospermums, the furry paws, the privet-like, the box-like, the unfurling waving wands, the pom



poms, tendrils, cups, and lilies. On and on! Such a marvelous Pacific island flora, blacks and purples, temperate and sub-tropical. In quite a number of provincial regions, planting contracts are held by Māori organizations, supporting solid jobs. Even if this highway treatment amounts to a Potemkin treatment for tourists, I'll take it. Let's start there—someone get Greta a shovel, and let's bring those fierce transgressive teenagers out to reclaim the commons, commandeering the center median. From there, they'll penetrate other boundaries, other constructs, other wounds that need tending.

Because I agree with them—it's not fair. We "adults" should be ashamed that the young have to contend with and content themselves to coping with such a degraded planet.

As the trillions trickle out, it seems imminent that we'll realize that only within a re-viving ecology will our aspirations for recovery work out. And that swinging a pick to plant a shrub, stitching back the walls of a creekside, and restoring the cultural infrastructure are what make rural living convivial. What politician could oppose a public works project housed in a community college or trade school, offering paid training in restoration and afforestation? What congressman would oppose

native plant nurseries with state contracts and professional training sites at high schools? What mayor could ignore an urban forest strategy that actively increases air quality, cutting up pavement to make way for drainage, infiltration, windbreaks, shade, and cooling? Why not riparian restoration to house the birds and pollinators along all the flyways? bioremediation of lead- and metal-contaminated urban lands? Buffers, fruit trees, gardens, and drought-resistant native flowers where now are lawns! Church, school, and community gardens, dust-trapping hedges that bear fruit! Grants for towns to invest in historic preservation, hire local contractors, restore civic buildings, churches, and community centers! Grants to remediate parking lots! make biochar! tend forests! build and maintain hiking trails!

The list is long and grows longer with all the voices contained in this Almanac. Each expression of hope, each analysis of the work that lies ahead, each poem and essay is an invitation to you, our public, to collaborate with the public thinking and policy that lies ahead. Merrily we must repair and revitalize, adapt and renew, restore, refurbish, reconstitute, and shore up for what's still coming; to see how well we can outlast the storms. ○

Notes

1. That exact canoe now sits in the Smithsonian Museum, lovingly restored by Steve Cayard and David Moses Bridges, an almost lost art which they have since revived. Come learn to build one during Greenhorns summer camp programming in 2022, COVID-pending.
2. California's first one-million-acre wildfire burned this year, and was dubbed a "giga fire," so in Downeast parlance you could call this a "giga river."
3. *Passamaquoddy Tidal Power Project*, curated by Christina DeBenedictis for the US National Archives, n.d.
4. Woodie Guthrie wrote "Grand Coulee Dam" and twenty-five other *Columbia River Ballads* when commissioned by the Bonneville Power Administration in 1941. The song promoted hydroelectric power with lines like, "Roll along, Columbia, you can ramble to the sea, But river, while you're rambling, you can do some work for me."
5. President Obama's green energy "beyond coal" mandate turned out to be a boom time for natural gas. See *Planet of the Humans* by Michael Moore for a takedown of the green jobs/green energy boondoggle.
6. Richard Read, "This Alaska mine could generate \$1 billion a year. Is it worth the risk to salmon?", *Los Angeles Times*, October 23, 2019.
7. Grantwriters and social investors sought to partner on this project.
8. This "Mermaid broth" is available at smithereenfarm.com.
9. Inspired by this work we Greenhorns have created a FREE guidebook called *Habitat Everywhere*.

← A. D. Bache, uscs Sketch A Shewing the progress of the Survey in Section No. 1

The US Coast Survey's 1859 triangulation chart of the New England coastline. An inset map in the upper left focuses on Penobscot Bay.

Celestial Calendar



Jon Levitt Parula

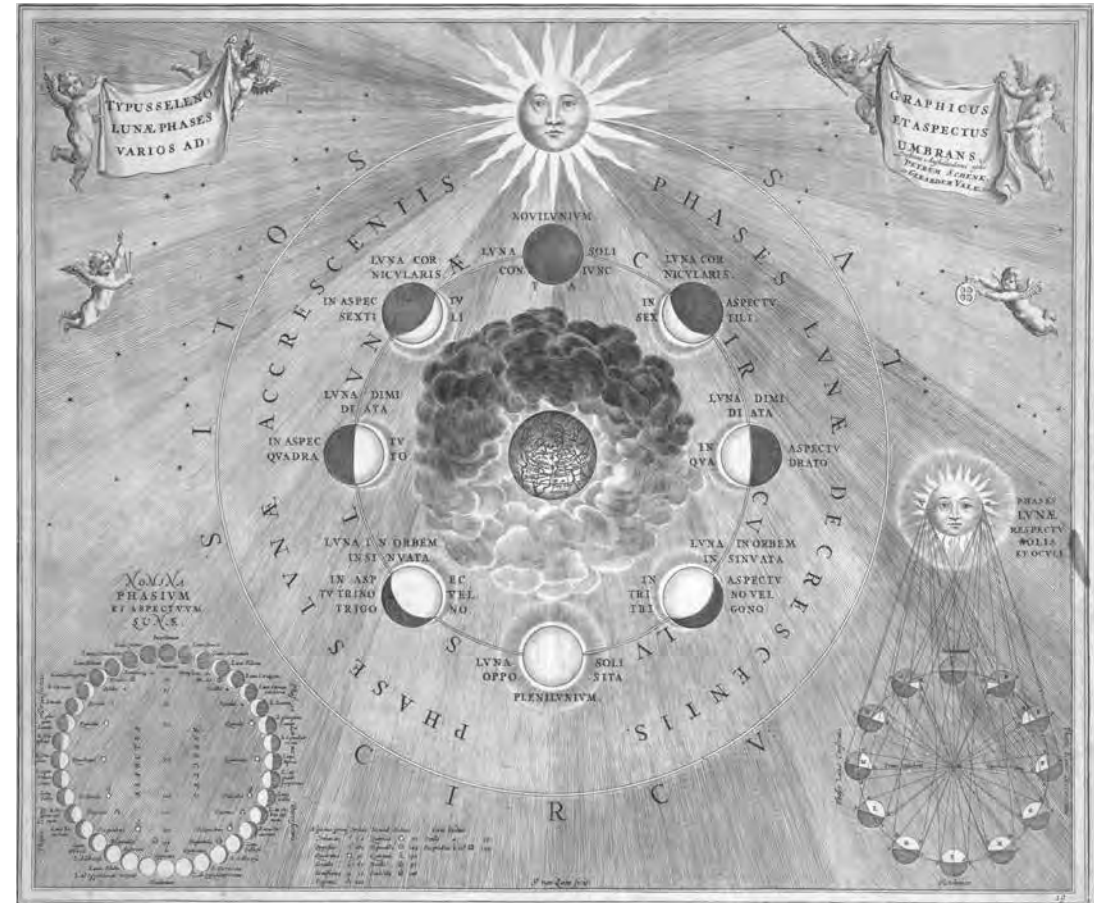
Postscript:

Here's a song recommended to me by Sharifa Rhodes-Pitts, whose beautiful voice I hope you will hear when you tune into the EARTHLIFE podcast. She has written a wonderful book about Harlem, *Harlem is Nowhere: A Journey to the Mecca of Black America*.

Bernice Johnson Reagon's performance of this traditional gospel song is available on *Smithsonian Folkways Recordings*.

Come and go with me to that land. To that land where I'm bound.
Nothing but peace in that land.
Nothing but peace in that land. Where I'm bound.
No more hatred in that land.
Come and go with me to that land. Where I'm bound.

We'll all be together in that land.



Calendars and Data

PHASES OF THE MOON

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday
JAN						1	2	3	4	5		7	8	9	10	11	12	
FEB	1	2	3		5	6	7	8	9	10		12	13	14	15	16	17	
MAR	1	2	3	4		6	7	8	9	10	11	12		14	15	16	17	
APR				1	2	3		5	6	7	8	9	10		12	13	14	
MAY					1	2		4	5	6	7	8	9	10		12		
JUN		1		3	4	5	6	7	8	9		11	12	13	14	15	16	
JUL					2	3	4	5	6	7	8		10	11	12	13	14	
AUG	1	2	3	4	5	6	7		9	10	11	12	13	14		16	17	18
SEP				1	2	3	4	5		7	8	9	10	11	12		14	15
OCT					1	2	3	4	5		7	8	9	10	11		13	
NOV	1	2	3		5	6	7	8	9	10		12	13	14	15	16	17	
DEC			1	2	3		5	6	7	8	9		11	12	13	14	15	

Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday
14	15	16	17	18	19		21	22	23	24	25	26	27		29	30	31	
18		20	21	22	23	24	25	26		28								
18	19	20		22	23	24	25	26	27		29	30	31					
15	16	17	18	19		21	22	23	24	25		27	28	29	30			
13	14	15	16	17	18		20	21	22	23	24	25		27	28	29	30	31
	18	19	20	21	22	23		25	26	27	28	29	30					
15	16		18	19	20	21	22		24	25	26	27	28	29	30			
19	20	21		23	24	25	26	27	28	29		31						
16	17	18	19		21	22	23	24	25	26	27		29	30				
14	15	16	17	18	19		21	22	23	24	25	26	27		29	30	31	
18		20	21	22	23	24	25	26		28	29	30						
16	17		19	20	21	22	23	24	25		27	28	29	30	31			

PRINCIPAL PHENOMENA 2021

Phenomenon	Date	Time
Perihelion	January 2	08:50 EST
Equinox	March 20	5:37 EST
Solstice	June 20	23:32 EST
Aphelion	July 5	18:27 EST
Equinox	September 22	15:21 EST
Solstice	December 21	10:59 EST

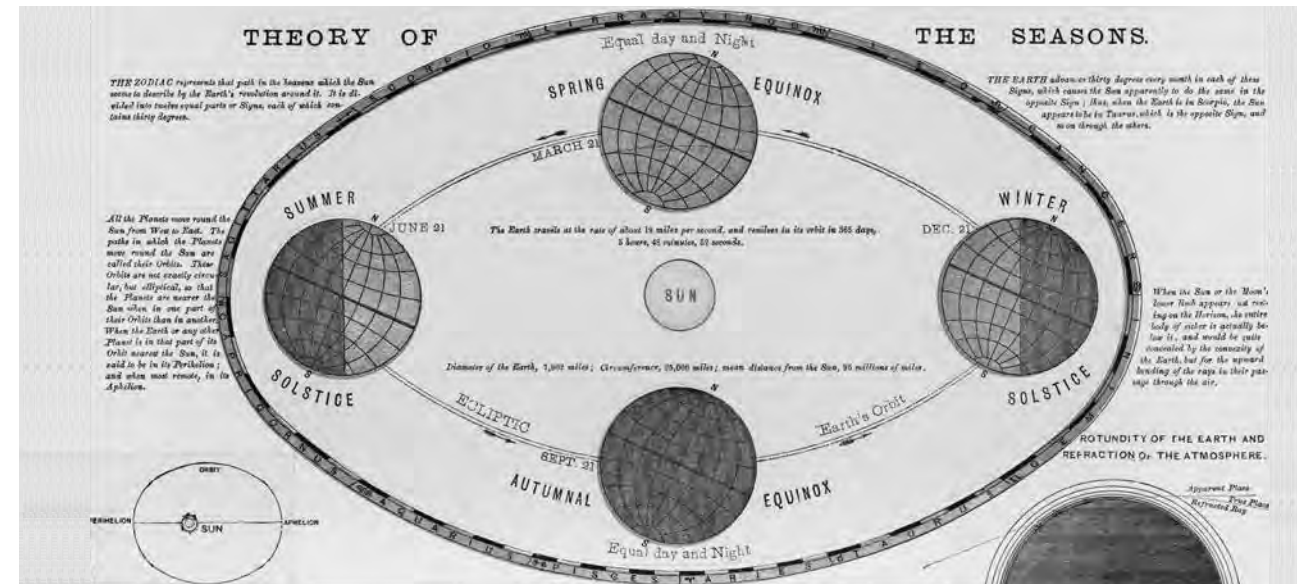
January 2, 3 Quadrantids Meteor Shower
April 21, 22 Lyrids Meteor Shower
May 4, 5 Eta Aquarids Meteor Shower
May 26 Total Lunar Eclipse 4:47–9:49 EST
 A total lunar eclipse occurs when the Moon passes completely through Earth's dark shadow, or umbra. During this type of eclipse, the Moon will gradually get darker and then take on a rusty or blood red color. The eclipse will be visible throughout the Pacific Ocean and parts of eastern Asia, Japan, Australia, and western North America.
June 10 Annular Solar Eclipse 4:12–9:11 EST
 An annular solar eclipse occurs when the Moon is too far away from Earth to completely cover the Sun. This results in a ring of light around the darkened Moon. The Sun's corona is not visible during an annular eclipse. The path of this eclipse will be confined to extreme eastern Russia, the Arctic Ocean, western Greenland, and Canada. A partial eclipse will be visible in the northeastern United States, Europe, and most of Russia.

June 24 Full Moon, Supermoon 14:40 EST
 This full moon was known by the Algonquian tribes in the northeastern US as the Strawberry Moon because it signaled the time of year to gather ripening fruit. This moon has also been known as the Rose Moon and the Honey Moon. This is also the last of three supermoons for 2021. A supermoon occurs when a new or full moon nearly coincides with perigee, the closest that the Moon comes to Earth in its orbit, leading the Moon to appear slightly larger and brighter than usual.
July 28, 29 Delta Aquarids Meteor Shower
August 11, 12 Perseids Meteor Shower
August 22 Full Moon, Blue Moon 8:02 EST
 This full moon was known by the Algonquian tribes in the northeastern US as the Sturgeon Moon because the large sturgeon of the Great Lakes and other major lakes were more easily caught at this time of year. This moon has also been known as the Green Corn Moon and the Grain Moon. Since this is the third of four full moons in this season, it is known as a blue

moon. Most tropical years—years measured from one winter solstice to the next, as in the old *Maine Farmer's Almanac*—contain twelve full moons. But periodically, a tropical year contains thirteen full moons, so one season has four full moons instead of three. Blue moons occur on average once every 2.7 years.
October 7 Draconids Meteor Shower
October 21, 22 Orionids Meteor Shower
November 4, 5 Taurids Meteor Shower
November 17, 18 Leonids Meteor Shower
November 19 Partial Lunar Eclipse 1:02–7:03 EST
 A partial lunar eclipse occurs when the Moon passes through Earth's partial shadow, or penumbra, and only a portion of it passes through the darkest shadow, or umbra. As it moves through Earth's shadow, part of the

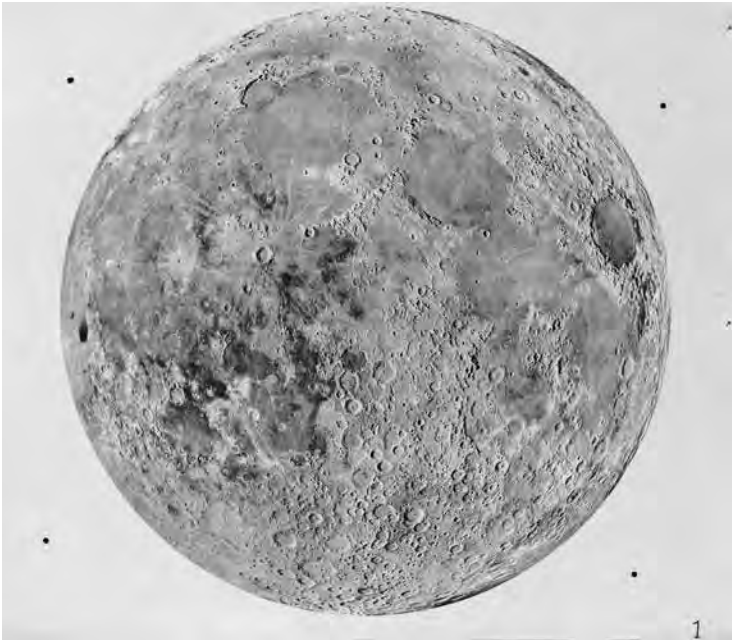
Moon darkens. The eclipse will be visible throughout most of eastern Russia, Japan, the Pacific Ocean, North America, Mexico, Central America, and parts of western South America.
December 4 Total Solar Eclipse 07:33 EST
 A total solar eclipse occurs when the moon completely blocks the Sun, revealing the Sun's beautiful outer atmosphere, known as the corona. The path of totality for this eclipse will be limited to Antarctica and the southern Atlantic Ocean. A partial eclipse will be visible throughout much of South Africa.
December 13, 14 Geminids Meteor Shower

Data drawn from NASA Map and Eclipse Information, the US Naval Observatory, and the 1937 *Maine Farmer's Almanac*.



JANUARY

Resistance • Recovery



↑ Donald E. Davis, Don E. Wilhelms *Maps of the surface of the Moon*
→ Andrew Stuart *Great Orme Kashmiri goats on the streets of Llandudno, Wales*



Jenni Monet

PENOBSCOT MILLION

Colonization's Continuum of Indigenous Lands in Maine

In the fall of 1980, teenagers Kirk Francis and Mark Chavaree watched their Penobscot Nation elders make national headlines from Maine. Some media accounts labeled the tribe's historic land claims settlement a Native rights victory; others called it the surrender of tribal sovereignty. Four decades later and upon

Maine's bicentennial, now-Chief Francis and Chavaree are tribal leaders—and they are still sparring with the state, a continuation of a two-hundred-year-long tussle over who owns the land: the Penobscot people who have spent lifetimes along the Penobscot River, or the colonizers who purchased the territory illegally?

Today's land dispute centers on portions of the Penobscot River that flow through the tribe's reservation boundaries. Francis and Chavaree are among an estimated 2,400 tribal citizens who contend that rights to the riverbed belong to them, an argument advancing at a particularly advantageous time in the United States. Since the Indigenous uprising at Standing Rock, the pendulum of justice increasingly favors federal Indian law and policy. Historic treaties signed between tribes and the US are being recognized for the legally binding pacts that they are. More importantly, they're being upheld. The recent landmark US Supreme Court case, *McGirt v. Oklahoma*, is a similar land battle and the most immediate victory of its kind. The fight for the Penobscot River will likely be decided by a federal appellate court before the year is out.

For Francis and Chavaree, their stake in the river war is generational. Fifty-one-year-old Francis recently secured his fifth term as Chief of the Penobscot Nation, making him the tribe's longest-serving leader since elections were first held in 1850. The son of a longtime tribal councilman, Francis followed in his father's footsteps, first serving on the council before becoming chief in 2006. In June 2020, Chavaree, who is fifty-eight, marked his third decade as the tribe's in-house staff attorney.

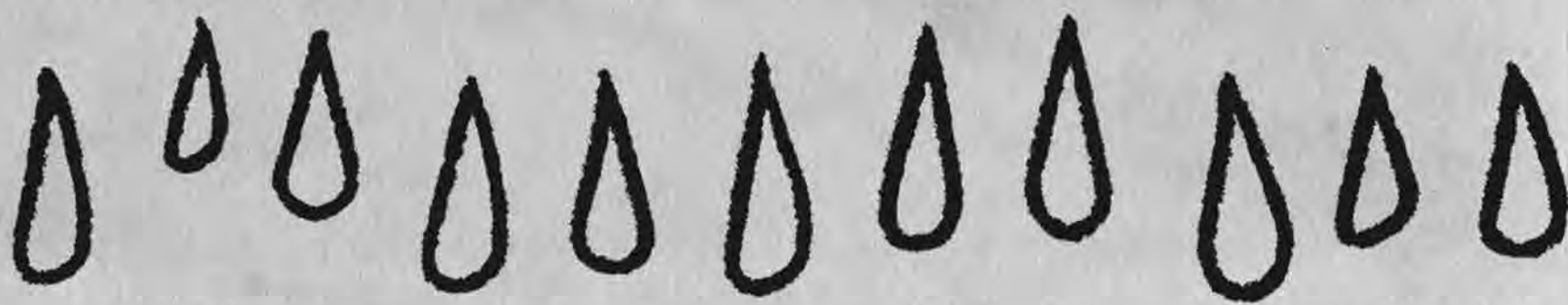
Born and raised on Indian Island in the heart of the Penobscot Nation, Chavaree is the grandson of fluent Penobscot speakers, the language of the *Pa'nawampske'wiak*, or "people of where the river broadens out."

Their forebears, before signing a 1796 treaty, had explicitly claimed the Penobscot River as theirs. Ancestral Penobscot territory is co-terminous with the entire Penobscot watershed, curving around Indian Island like a beaded necklace, spanning some seventy miles northward toward the Canadian border and flowing thirty miles south to a smattering of islands in Penobscot Bay. Comprising four branches, the total system stretches an estimated 265 miles, making the Penobscot the longest navigable waterway in Maine.

In the Penobscot way, their namesake river flowed from a monster frog defeated by Gluskabe, the Wabanaki spiritual chief.¹ The frog forbade the Natives the use of water until he was killed by a yellow birch tree cut down with Gluskabe's ax. As the creation story goes, all the branches of the yellow birch tree transformed into water that became the four branches that today empty into the Penobscot's main stem.

Ancestral Chief Attean Elmut proclaimed in 1807 that "the God of Nature" had gifted the tribe with abundant resources along the





**UNFAILING
GOODS**





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SUBMISSIONS



At the end of every Almanac is . . . the start of the next Almanac!

Was your voice missing from Volume V? Have you discovered new strategies for repair, woken to post-Trumpian epiphanies, drafted a fresh, enduring manifesto for the rights of Earth?

Tune into our website, blog, newsletter, and social media to catch the call for submissions for Volume VI, "Adjustments and Accommodations." You can also share your visions for building, planting, seaweed farming, community land ownership, transformative finance, citizen science projects, rotational strategies, wildcrafting, rooftop gardens, seed migration, sleeping outside, and the art of the possible by email: almanac@greenhorns.org. To submit to our 2023 edition, reach out by March 2022.

We look forward to hearing from you.

ABOUT THE GREENHORNS



The Greenhorns works to promote, recruit, and support the next generation of farmers through grassroots media production. Our role is to explore the context in which new farmers face the world, through publications, films, media, and events—and by promoting the important work being done by so many organizations, alliances, trusts, and individuals around the world.

Starting in 2020, Greenhorns has adapted selected workshops into a digital production, part podcast and part magazine. The first series of *EARTHLIFE* features maritime and agricultural resources in Downeast Maine, highlighting the people who tend, conserve, protect, and adapt to this region. *EARTHLIFE* is a journey where we meet and speak with people doing the work and interpreting the potential of their landscapes.

Greenhorns is based in Downeast Maine along the Pennamaquan River in the old Pembroke Ironworks. Our campus is spread out around town with a carpentry shop, boat shop, mycological lab, agrarian library, and many living and art spaces. There's always something new getting going, and we welcome potential collaborators to come for a visit.

Stop by greenhorns.org to watch *EARTHLIFE*, download a guidebook, register for a seaweed webinar, or order all five volumes of the *New Farmer's Almanac*.

Join our mailing list for monthly news of naturalist trainings, *EARTHLIFE* releases, the next *New Farmer's Almanac*, and invitations to adventures on land, sea, and internet.