Rationale:
Why "Native" Is Not Enough

Note the fence posts in the foreground.
Only 40--50 years ago, this land was grazed.

June 2010

Besides invasive exotic plants, this image demonstrates a more insidious threat the native plant system faces and therefore soils, fungi, bugs, and the animal food pyramid, a threat that goes almost completely unnoticed because "it's Natural."

Wildergarten 5.2

This book was originally produced under the name *The Responsible Party* for which there were two revisions, 1.0 & 2.0. Major revisions are for complete rewrites. Decimal revisions are for revised chapters or navigational changes and are not archived. Back revs are viewable by the numbered links below.

Revision History 1.0 2.0 3.0 3.1 3.2 3.3 3.4 3.5 4.0 4.1 4.6 5.2

Vande Pol, Mark Edward, 1954 –

Other writings by Mark Edward Vande Pol:

Natural Process: That Environmental Laws May Serve the Laws of Nature, ©Wildergarten Press, 2001, 454pp, ISBN: 0-9711793-0-1, LOC Control #2001092201.

Shemitta: For the Land is Mine: ©Wildergarten Press, 2009. Contains: 217pp text, 980pp overall, 14 picture books, 2 tables, 963 photographs, 9 maps, 2 drawings, 2 charts, 145 footnotes, 358 citations, and 216 other source references, not including external Internet links. ISBN 978-0-9711793-1-8

Articles at Wildergarten Press: collected writings on Constitutional history and regulatory racketeering by tax-exempt “charitable” foundations

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June 2010, across the road from us

All these plants are native. Fire-exclusion has prolonged succession toward dense perennial cover, suppressing expression of early-successional plants, particularly annuals. As with our place, this spot has gone so long without disturbance that most of the dormant seeds of native plants in the soil have long lost their viability. In this case, I can tell you for a fact that if this site burned what would come up would be almost entirely non-native French Broom *(Genista monspessulana)*. Our property was once considerably worse.

In this region, “succession" is typically characterized (and grossly over-simplified) as a process in which forbs are replaced by grasses, then brush, and then broadleaf forest, finally "stabilizing" as a “climax” conifer forest. The process persists as a matter of public policy in the form of fire-suppression to protect residential development. Note the red arrows indicating the tree seedlings in this photo. Then imagine ALL of them growing at once into full-sized trees, all in such a small area. I pull them, or it wouldn’t be healthy, would it?

It's not. In even-aged stands, forests go through a phase called "stem-exclusion," in which canopy closure, water competition, and leaf litter combine to inhibit other plants. "Preserve" it and this is what you get. Although this process is described in the literature as "natural," it was an unlikely condition under the fire-management of aboriginal Indians. This oak/madrone woodland is similar to the way most of ours once was, in that many trees started in dense brush together and grew without disturbance until the brush died and rotted, except that on our place the entire understory had then been invaded by exotic French Broom. These trees are tall, slender, weak, and unstable. Notice also the vestiges of a cattle fence are still visible in the foreground. In the 1940s, this was a grassland.

This is a fuel bomb. None of these plants are healthy. In these mountains, succession run amok is doing more damage to the types of plants that provide wildlife with food than any other environmental factor, more than weeds and more than development. Wait long enough, and the post-disturbance system dies as the forest succeeds to conifers as it is doing here. What if we just let it do that?

Well, here you go. As the fir matures the redwoods invade. The fir keeps growing until water competition and shading by the redwood render it susceptible to bark beetles. The forest succeeds to redwood. Guess what the redwoods do?

Redwoods proceed to a dominant monoculture too! You see, the reason “old growth” forests were diverse is that the Indians burned them frequently to get productive understory vegetation going. It reduced tree density before this happened. Wait long enough without disturbance, and the early post-disturbance system dies, period. So, what if we just let impacted forests burn?

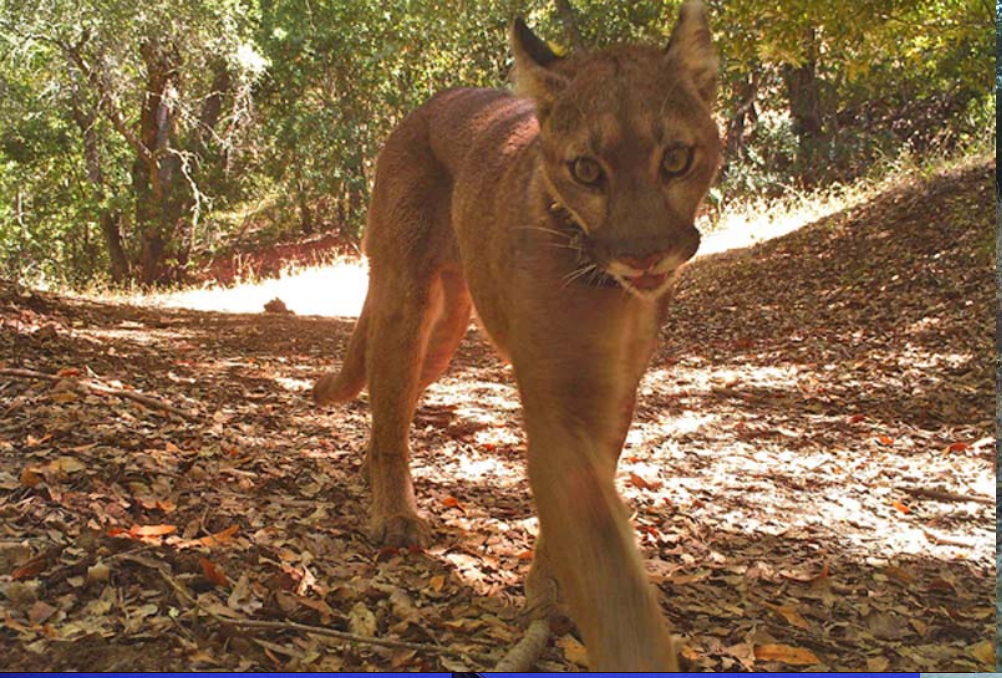
August 2014 – Star thistle invading what is still a catastrophic fuel load.
Leave it as dry standing fuel and the next fire will likely be hotter.

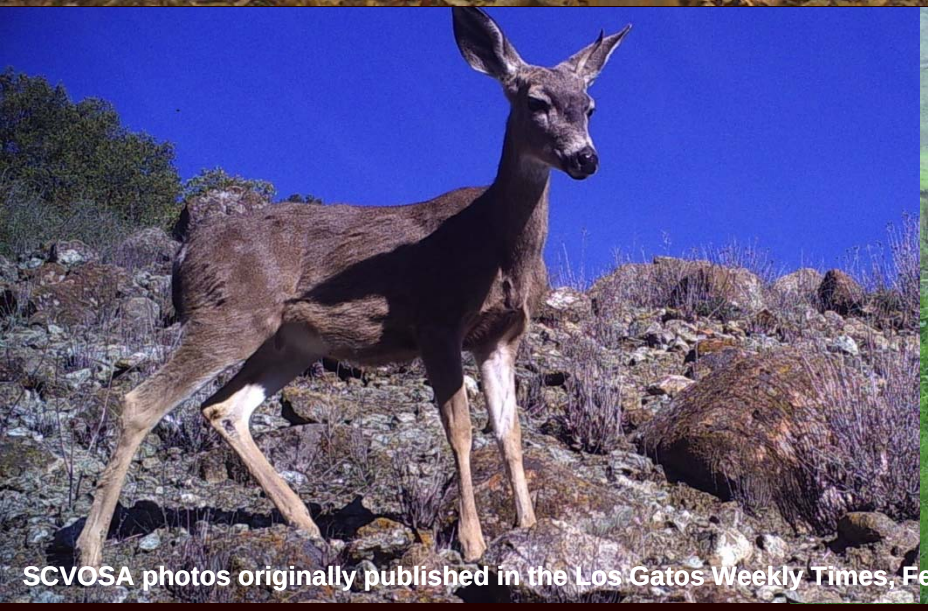
The US Forest Service bought that “Natural” idea, effectively adopting the Sierra Club’s “let it burn” fire policy, holding that fires, landslides, or floods are simply “inevitable.” While partly true, it is possible to mitigate the severity of the fuel load so as to improve the outcome, which of course the Club would not allow. Accordingly, after the catastrophic Rim Fire near Yosemite (above), the weeds sprouted along the road, with neither the USFS nor the Sierra Club doing anything to stop them. Whatever they might do from here will cost much more and be much more damaging. Repeating disturbance with weeds present usually helps them spread.

Musk Thistles and Cheat Grass, Mesa Verde National Park, July 7 2005
Photo by Steven Rich, Rangeland Restoration Academy

Like this. This is Mesa Verde National Park. The Park Service thinks fire is “Natural” too. Well, in this case it’s not, at least neither the way we usually define the word “Natural,” nor is this the way Indians managed fuels for the last 10,000 years. Indians had no concept for “wilderness”; the land was their home that they cared for. Nor did the Indians have hundreds of species of exotics to deal with (of which you see but two here).

Forests, brush, rangeland, it doesn't matter**:** After a disturbance, if exotics are present in the seed bank (and they usually are) the weeds typically make gains, which you can witness today with Yellow Sweet Clover *(Melilotus officinalis)* in Yellowstone National Park.





SCVOSA photos originally published in the Los Gatos Weekly Times, February 2015

Do these animals look healthy to you? These candid photos are from the Santa Clara Valley Open Space Authority, published in the local paper, because they were so proud of them, the "best" photos they got in 10 years. Note the emphasis upon predators. Look at the forage: it is either weeds or non-existent. Most of the animals listed as "endangered" got that way because of one of two factors: lack of food and/or over-predation. In either case, native herbs and shrubs that once provided food for this system are in bad shape.

August 2008 – Six years after the Croy Fire on land belonging to the Mid-Peninsula Open Space District

So, if there is a disturbance that reverts succession and the vegetation *is* native, is that good enough? Well, this fits that description. Do you see biodiversity here? Do you see yummy forage for wildlife? If it burns again, will it just "clean things up, or will you get another carpet of pine trees ready to blow again? "Nature" doesn't care what happens if we ignore the problem and just walk away.

If weeds are present, after repeated cycles of disturbance, they usually win. Eventually, the system reaches the point that the natives will no longer breed even if their seed is still viable. Eventually, the native seed dies and the native plant is then extinct and its fungal and insect associates with it. With annual disking, the dominance of this exotic mustard in this orchard is total. This may not be a bad thing here, but we do need *some* undeveloped places where the native system still works. Disturbance is not the only answer.

July 2010 – The base of the Hamilton Range north of Paradise Valley, NV.
The brown areas on the lower hillside are exotic cheat grass *(Bromus commutatus).*

To recap, “leave it alone” and, even if it is native, succession runs amok, depressing germination of native post-disturbance plants until there is a catastrophic disturbance. After that disturbance, higher order successional plants restart at the same time as the post-disturbance plants, thus reducing the numbers of post-disturbance plants over repeated cycles. If exotics are present, or are in the seed bank (they usually are), when there is a disturbance the weeds make gains, which you can witness today even where stringent standards are in place (above). Repeat the cycle and the natives eventually go extinct. But is this just some hand-wringing theory on my part? Well, let’s take a quick look at our experience here at the Wildergarten and then we’ll get to the point of this little diatribe.

As will be discussed in the site history chapter, two hundred years ago, our property was dominated by grasslands. It was succeeded by brush and then an oak/madrone forest. By the time we started thinning in the winter of 1990, exotic acacia and eucalyptus had invaded and dominated nearly a quarter of the property. The dense oak woodland had packed up with trees and was going decadent. Conifers, particularly Douglas fir, were invading the oak woodland. The native brush understory was nearly dead and gone. Instead, exotic French broom bushes dominated 70% (10 acres) of the oak understory. In total, there were perhaps 60 visible plant species, of which perhaps 50 were native; mostly trees, ferns, and a few native shrubs. By acreage, it was 70% dominated by weeds.

January 2017 – This surface curves over the base of the oak stump at the top. The left side usually gets fall and winter sun. The weed bank there has long been cleansed there so it is all native, mostly *Stachys rigida*. In fall 2106, we had a lot of rain in October. The extra water and fall sun on the right brought up mouse-eared chickweed (Cerastium glomeratum), soon to be deceased.

When I thinned it what came up? Was it the natives in the seed bank? NO!!! As is discussed in the chapter on "pestilence" in the Grasslands section, we in fact had more of a "weed bank" than a seed bank. The first to come up was French broom, gobs of it. After that, rip gut brome, after that… It was like peeling an onion. Every time I thin more forest, I get to start over, there. Every time we get a year with unusual weather, I can expect the unexpected (above). Cleansing the seed bank is a major focus of this project.

January 2017 – Consider the complexity in this photo; I remove tiny and fast maturing weeds such as *Cardamine hirsuta* or *Cerastium glomeratum* from the understory of these clovers… acres of this

Our **plant list** shows that this property hosts 374 species (example above), 131 of which are exotic (of which 25 are now eradicated).
In other words, succession and exotic invasion had crowded out 193 out of 243 native plants species.
Oh, but they were in the seed bank, right? Sorry. Some made it. Many didn't.

According to the 1964 *Flora of the Santa Cruz Mountains,* by John Hunter Thomas, there were 5 native annuals found within less than a mile of here of which I have never seen *any* anywhere within 3 miles of here in 25 years, to which CalFlora.org adds another 5. Altogether, there are 16 local annuals in our immediate area that have not been recorded here since 1953. Most are probably locally extinct. The blue *Gilia achilleifolia* –(above) is not among them, yet Gilia was once a dominant spring annual on Bay Area hillsides. This was only the second time I had ever seen any in the area. So, as I said, the situation is still at least somewhat savable, for now.

As you see here, I collected some of that Gilia seed and tossed it about in various places. I was hoping for something, but did not have high expectations (native plants can be hard to germinate). Here I got a strong validation of the thesis of this chapter and how I do this kind of "science" in general. Note that the left part of this image is charred. I had put a 20' long burn pile atop some of that seed (the end of the pile was well to the right of the area in this photo). Big matted piles tend to burn from the top down toward the middle. So as it approaches igniting the last material near the surface, I flip the unburned "mat" with a shovel toward the middle of the pile (I let the middle burn down into a coal bed). This reduces the area of coals cooking the soil, so that bunch grasses in the merely singed area pop right back up. Just beyond one edge of the hot section, up came Gilia in a nice row of plants. Nowhere else. So then I caged some of it to protect it until it seeded, and found out that the deer really like it. So now we can guess why we don't have much Gilia: no fire, succession, weeds, and deer eating what little does come up. You try things, because it doesn't all come back on its own.

Yerba buena, honeysuckle, blackberry, and mountain sweet cicely, mixed in with various annuals.

Among the 145 native dicot herbs on our species list, only 5 were still reproducing (barely) on our property when we moved here. As our project progressed, an estimated 23 herbs came up from the seed bank and 86 immigrated (a guess on my part) and are now reproducing here today. Over fifteen years I found and relocated 6 more here locally (including the Gilia). I'd like to find the other 30 someday, but 8 have not been seen here since at least 1953, and 6 of those not since 1914. Most are probably locally extinct.

Among the 32 native shrubs on our species list, 15 were still here, of which 6 were almost gone (2 above). Once I thinned the forest and got our 10-acre French broom infestation under control, 10 more came up or in on their own. It took me a decade to find the next four. I'd like to find the other 7 someday but none have been recorded here for over a century.

Ten years ago and after five years of looking, at last I found a patch of some canyon gooseberry bushes still alive *(Ribes menziesii)*, about 1.5 miles from our place. They were spindly, with sparse leaves and no fruit, obviously not doing well because the canopy was so thick. I transplanted a couple into cages and they did fine until the deer found them too (scarcity focuses browsing pressure on those few individuals that are left, just as depleted animal prey species can be caught in a “predator pit” unable to breed sufficiently to maintain a sustainable population). Given that I had failed, had I done the right thing? I went back there in 2015 to see if there were still any left alive. No. Since then, broom, bedstraw, South African veldt grass *(Ehrharta erecta),* and forget-me-nots had started invading the area. The latter two will assure eventually that the *Ribes* never gets another chance. This forest is a fire bomb.

Just because a plant is there, doesn't mean things are OK for them either. These are mules' ears *(Wyethia helenioides)* the only such plant in the neighborhood on a neighbor's property. It usually spreads by rhizomes, but has not in 10 years. Obviously it makes lots of seed, so I tried to propagate it, but failed. Of the seed I sampled, none were fertile (the achenes were empty). Some plants need to be in sufficient numbers to reproduce because they require another plant for fertilization. Others require sufficient and/or particular pollinators to breed. Soil infertility too can induce empty seeds. This one follows fire. I suspect that weed competition is a factor.

May 2015 - Bulbs, grasses, and herbs growing together at Wildergarten

Grasses follow forbs as successional species. Together with forbs, grasslands once dominated the inhabited part of California. Among the native monocots listed for this immediate area (grasses, lilies, sedges, and the like), I don't recall ANY grass species of any kind that was still here and reproducing when we bought the property (although I can guess at a few). There were no sedges or rushes. There were possibly a few iris, but that would be it. After thinning, 28 exotic grasses were either in the seed bank or returned. Of those, 7 are eradicated and the rest are are very close to that. Today, we have 34 native grass, rush and sedge species, with another 12 other monocots, such as lilies. Seed is mobile. If it is native, we make a place for it to live and breed.

***Bromus carinatus* grasslands in mid-June 2015, a drought year.**
You won't find open grasslands as green as this anywhere else around here this time of year.

Succession to perennials suppresses germination of post-disturbance plants. Disturb the system and weeds will do the same UNLESS somebody kills them. It's really that simple. Here at the Wildergarten, this system was dying but we have pulled most of it back from the brink. There appear to have been some permanent losses, but every couple of years a new entrant makes itself known. They are here and breeding, but we still have little idea of how it all stitches together yet given the lack of fire and harvesting Indians had done.

June 13, 2014 – Almost all the groundcover you see here is non-native.

This ideology of “preserving Nature” while native grassland plants continue to dwindle is taught by the best and brightest. This is the world famous Stanford University Jasper Ridge Biological Preserve (also once a ranch). Here, soils are undisturbed. Here, trace minerals are adequate. And here, the 2014 operating budget was over $1 million (not including research grants). This is where Dr. Paul Ehrlich saw to it that the Bay Checkerspot butterfly *(Euphydryas editha bayensis)* was “protected” as “endangered.” Here it went extinct. Dr. Ehrlich, who never grew the plantain or paintbrush plants the butterfly needs, is now working with lawyers to “protect” those few places where the Bay Checkerspot can still be found, principally ranch land. In a place infested with exotic plants like this, “preservation” can be deadly to native biodiversity, both in plants and their dependents.

These are our native grasses two days after our visit to Jasper Ridge. This is where sandy soils were wrecked with bulldozers. This is where key trace minerals are virtually nonexistent. This is where the budget came out of a nurse's paycheck with two kids in college. The weather is hotter here too, as Jasper is in a marine climate near San Francisco Bay, nor did we get more rain in 2014. Do the academics know about this difference. Some do, but that does not mean they'll go as far as to admit it.

***Galium parisiense* – Wall bedstraw is one of the most annoying and destructive weeds we have left here, but there's less of it every year.**

The point of this little data dump and diatribe was not some esoteric stressing about a single obscure "endangered species" but the unconscious loss of the foundation of the entire successional system as repeated across the entire continent. Everywhere I go I see the same problems: "Environmental protection" (effectively mandated neglect) allows uninterrupted succession and growing weed infestations slowly to abet mass extinctions of locally adapted plants. Once the plants are gone, how much longer the associated biota will last is anybody's guess. Experiments here indicate that while there is cause for concern, there may be time to at least partially fix it.

So, who is going to do that? Have you ever heard anyone even talking about it? Do we even know how to fix it? Heck no, most people *want* "environmental protection"! Yet in reality this hugely profitable racket raises margins for housing for the corporate sponsors of the policy. To its dependents in government, it means jobs, but only as long as there are problems to justify them! To resource landowners, businesses, and their employees, it has been a disaster. Having researched this process for 20 years, with activists, bureaucrats, academics, contractors, and lawyers doing the witless bidding of these plutocrats, what none of them seem to get is that preventing mercantilist tyranny is why the authors of the Constitution instituted limited government in the first place. These are not intrinsically bad people driving this, but they are deluded by ideology, implementing their preferences through governments by slowly diluting constitutional protections for private property.

People built the original ecosystems we all want to save. People are the answer, not the problem. Yet this is not about single "right answers," simply because both land and the needs people put on it are so varied. Nor do we really know enough about native ecosystems to be making blanket prescriptions. Instead, we must design systems to *learn* how to fix this, using the tools of greatness**:** experiments, tests, publication, patents, and contracts, because this is about managing competing risks among many unknowns. Here at the Wildergarten, we're trying. Want to join us? Just head out the back door and get started! It really is best to start small, because nobody actually knows how to restore early successional plants at large scale. It can be frustrating, painful, and expensive, but it is immensely rewarding work.

In writing this book, my hope is to inform you of the real challenges we face and their terribly misunderstood causes, to convince you that “Nature takes care of itself” simply does not work, not for people, not for native habitat, nor for wildlife. You will see what we did, why, and the results. My hope is to inspire you to discover more about how things work in your own back yard, no matter how small. ***I am not asking everyone to do things the way we did.*** Every situation is unique; people’s values and capabilities are different and over time, we all do learn. That is the beauty of responsible liberty, because by trying different things and sharing what happens we all learn more to do the best we can, to free ourselves from this mass-psychosis; learning that how things work really is in our hands.

Table of Content

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These are LARGE files; they do take time to load

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