

Land Use and Climate Change

Environmental histories are cautionary. They tell us that our land planning must extend ahead more than a few decades. Even a few centuries may be insufficient. We must work on a really long time frame.

Gary Snyder (2007)

The last time we in the United States tried to do anything at the national level about land-use policy was in 1973. That limited effort was a bill (S.268) introduced in the U.S. Senate by Henry Jackson that aimed only to provide funds for those states bold enough to engage in land planning. Toothless though it was the bill was defeated with much patriotic chest thumping. And the Republic still stands—or more properly, sprawls—having reportedly lost an average of one million acres to badly planned “development” each year since and another million or so to soil loss.

In truth, we barely keep track of such numbers, preferring to take comfort in the total land reservoir of 2.2 billion acres that has so far buffered us from the consequences of bad judgment and the absence of intelligent planning. But the true costs of land lost to development and agricultural mismanagement are considerably larger even than the little we do count.

First, sprawling development requires more roads, wires, pipes, concrete, and materials than more condensed development or “planned unit development.” A 1974 report by the President’s Council on Environmental Quality concluded that “planned development of all densi-

ties is less costly to create and operate than sprawl” (CEQ 1974:7). Second, sprawl requires a lot more energy because more people and goods have to move longer distances, which thereby commits this and other land-use intensive nations to use more oil than they otherwise would need, leading to foreign policies predicated on dependence and in turn to belligerence or begging. Third, sprawl was financed primarily on a foundation of sand that is now washing away in a tsunami of bad debt and insolvency. Fourth, sprawl is bad for our health. Children cannot walk to piano practice or school, which begins a vicious cycle that leads to obesity and future health costs in the form of type 2 diabetes, heart disease, and less familiar ailments (Frumkin et al. 2004). Fifth, sprawl tends to disconnect children from nature, causing what Richard Louv (2005) calls “nature deficit disorder” and mental problems that arise from the lack of healthy contact with living things. Sixth, sprawl destroys natural habitats and is a main driver of the loss of species. Sometimes smarter development can lessen impacts on wild habitats, but the aggregate effect of any new development is probably never positive. And finally, sprawl contributes to the use of fossil fuels and to the loss of carbon sinks (including forests and soils) that are driving climate change.

According to the Fourth Assessment Report from the Intergovernmental Panel on Climate Change, we have already raised the temperature of the Earth by 0.8 °C and are locked

in to another 0.5 to 1.0 °C in coming decades no matter what we do in the meantime. Twenty percent of the excess CO₂ now in the atmosphere will still be there 1000 years from now. Assuming we summon the wit to cap the warming below a 2.0 °C increase, land-use changes, nonetheless, will be dramatic, if still somewhat conjectural. Sea levels will continue to rise, perhaps for another 1000 years, inundating coastal regions. Larger storms will batter coasts, and bigger storm surges will reach farther inland. Mid-continental areas will likely become hotter and drier, possibly leading to the abandonment of millions of acres that were once “breadbaskets.” Rain-fall events will become larger with more floods such as those in Iowa in June 2008. More-frequent tornadoes will stress our emergency response and rebuilding capabilities. Some inland lakes will lose much of their present volume, radically altering shorelines. Lake Erie, for one, is projected to lose 40% of its present volume by 2050. Forested regions will be degraded by larger and hotter fires until there is little left to burn. Climate change, in other words, is not so much a problem to be solved once and for all as it is a worsening condition that we will have to endure for a long time to come.

John Locke and others from whom we derive our foundational ideas about land law reckoned with none of this. For Locke, land became private property once someone in the distant past mixed their labor with the land. More than 3 centuries after Locke, defenders of private property, such as legal scholar Richard

Epstein, proposed that property rights ought to be essentially inviolable. The right of governments, then, to take privately held property ought to be confined to a small number of instances in which the taking redounds to the larger good, not just to a larger government (Epstein 1985, 2008). The upshot for Epstein and others of his persuasion is that the property rights of farmers, developers, private landowners, and corporations engaged in mining, logging, and energy extraction ought to be beyond the reach of government except in the most extreme cases of public need. Epstein's objections notwithstanding, the law has in fact been excessively kind to the rights of individual and corporate owners of land under the presumption that seizure of privately held land for public purposes ought to be compensated as an otherwise unwarranted taking proscribed by the terms of the 5th and 14th amendments to the U.S. Constitution. But the institution of private property, despite its many virtues, has often sacrificed community goods under the guise of protecting freedom (Freyfogle 2003).

Property law and land policy built over the past 3 centuries presumed that climate would be relatively less stable and that climate was God's business anyway, not ours. Human-driven climate destabilization, however, will dramatically challenge our views of land, private ownership, and public necessity. Global warming will lead to the inundation of coastal areas and larger and more frequent storms. These will create demands for expensive remedies, including massive earthworks built on land taken from private owners and funded by raising taxes. But at any more than a 1 m rise in sea level millions of people will have to be moved inland, and flooded property along low-lying coastal regions will be worthless. So, too, land in midcontinent areas that will likely dry out under prolonged drought and heat will be abandoned. It is difficult to imagine where climate refugees will

go to find relief or whose property is to be taken to provide land for housing and new infrastructure. Complicated and bitter disputes will attend proposals to transfer water from, say, the Great Lakes to the western United States, which is suffering permanent drought. Liability issues pertaining to mounting damages from climate change will grow increasingly contentious, rather like the tobacco lawsuits, only more so. Like the tobacco companies, no company engaged in extraction and sale of coal, oil, or natural gas can say they did not know the consequences of what they were doing.

John Locke's view of property rights has been particularly influential in the development of property law, but there is another, and less appreciated aspect of Locke. He argued that

[f]or this *Labour* being the unquestionable Property of the Labourer, no Man but he can have a right to what that is once joined to, at least where there is *enough, and as good left in common for others*. (emphasis added, Locke 1965: 329)

He believed men were entitled only to

[a]s much as any one can make use of to any advantage of life before it spoils; so much he may by his labour fix a Property in. Whatever is beyond this, is more than his share, and belongs to others. (Locke 1965:332)

In a mostly empty world such caveats were conveniently overlooked. But in a "full world" they will become more important, and they raise many complexities. For example, ownership of land, whether by corporation or individual, is singular, but "as much and as good" applies less clearly to any single entity, hinting at something more such as collective rights of a community or even later

generations that Locke did not discuss.

What does it mean, for example, for one generation to leave as much and as good for later generations? What might that standard imply for land law largely built on the rights of the living? Application of that standard leads to consideration of how to preserve land and its health for subsequent users and of the conditions that affect land such as temperature and rainfall presumed by Locke to be outside our control and responsibility. It is not difficult to extend the argument to include limits on activities that violate the standard of "as much and as good" more broadly to those factors that threaten subsequent generations' access to food, water, and security against storms magnified by the climate-forcing actions of earlier generations.

This leads to a broader interpretation of "takings" applicable to cases in which future generations could be deprived of life, liberty, and property without due process of law. The law as presently interpreted provides grounds neither for solace nor recourse against intergenerational takings, partly because of the complexity of assigning liability, establishing harm, and adjudicating the interests of the parties, one of whom does not exist and the other being too diffuse to name. But such perplexities do not diminish the reality of the deprivation.

If one accepts the possibility of intergenerational takings *and* the limits of remedy available in the present law, the proper course of action is in the arcane and much depreciated activity called planning and in its enactment as effective policy. In plain language we—the present generation—would have to decide what is properly ours and further decide not to transgress that line. We would have to further decide the policy means by which to enact those restrictions on all levels of land ownership. In economist James Galbreath's (2008:175) words, planning to prevent the worst of climate

change requires “empower(ing) the scientific and educational estate and the government . . . it must involve a mobilization of the community at large, and will impose standards of conduct and behavior and performance on large corporate enterprises.”

The idea of national planning is not as far-fetched as it might first appear. We developed comprehensive national plans to mobilize and fight two world wars. Now we face larger challenges. Climate change, the end of the era of cheap fossil fuels, population growth, and ecological degradation are converging to form a global mega crisis for which there is no precedent. But the present policy and legal apparatus for managing land, air, water, energy, and atmosphere in the United States and globally is fragmented, incremental, reactive, and short sighted. It is imperative that we extend policy and legal horizons to deal with larger systems over longer time periods, much as envisioned in 1969 in the National Environmental Policy Act (NEPA). This act requires federal agencies engaged in activities that have the potential to significantly harm the environment to assess environmental impacts that include potential harm to later generations and identify “irreversible and irretrievable commitments.” The NEPA was a step toward the kind of integrated and systemic policy planning that we urgently need, but to our great detriment it has been largely relegated to obscurity and ineffectiveness. The principles of NEPA ought to be dusted off, updated with current scientific knowledge, and serve as the basis for reconsidering land-use law beginning with management of the roughly 700,000,000

acres of farm, rangeland, and forest lands. And the short essays that follow sketch the case for extending our planning and policy horizons out 50 years or more in each of these areas.

As the grip of climate change tightens, however, we may discover that present law is inadequate to protect either the present or future generations. It may be that the entire system of ownership will have to be extensively modified in favor of what Brown (1994:71) calls “the trust conception of government,” which draws much from Locke’s “as good and as much” standard. Brown and others, including legal scholar Eric Freyfogle (2003), propose that land law be broadened to include the wider community of life and extended in time to include the rights of future generations. In important respects this is a return to the traditions of English law embodied in the Magna Carta, which included 2 charters. The first concerned the political and juridical rights of the nobles; the second, and lesser known, called “The Charter of the Forest,” guaranteed the rights of people to use the forest and all of its resources as common property (Linebaugh 2008). It was an economic document that rested on the obvious fact that political and legal rights are meaningless unless undergirded by guarantees of food, water, and materials.

The English commons was eventually whittled down by the conversion of common lands into private property, a process known in history as enclosure. In our time the age-old struggle between enclosure and public access to the commons continues, but at a global scale. The battle is now being fought over control of the common heritage of humankind includ-

ing forests, freshwater, the oceans, minerals, genetic resources, the atmosphere, and climate stability. In each case the powers of exploitation propose to fragment whole systems into pieces, extend the rights of private ownership over common property resources, preserve the domination of a single generation over all those to come, and shorten our policy attention to a few years. The challenge, as noted by Gary Snyder, is to create the policy and legal basis that works “on a really long time frame” so that there will be as much and as good for others.

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