



*Creating the Nation's first BioPark*

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Letter From the Desk of David Challinor  
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The Western United States has been ravished by forest fires this summer and a score or more fire fighters have died fighting them. The federal government's policy is to try to suppress these conflagrations, especially where housing is threatened. This policy raises an interesting question: to what degree should all taxpayers underwrite the risk of those who choose to live in a fire climax forest, or in any fragile ecosystem?

This issue has been raised repeatedly whenever natural disasters reoccur at such vulnerable sites as the shrub-covered hills above Los Angeles, the Carolina coasts, or the Douglas fir forests of the Pacific Northwest. What makes the matter of more concern now than in the past is the rapid and growing human encroachment on heretofore uninhabited areas.

Two aspects of American life contribute to the growing problem: access and affluence. Once easy passage by road is available to remote places, people will soon follow. And more and more of them can now afford second dwellings. A good example is the vacation housing growth in the forests of the northwestern United States. The seemingly endless cover of Douglas fir exists because this tree and many other conifers are "fire successional." This means that the ideal conditions for their seed to germinate require that they be exposed to light and that they rest on mineral soil. Under natural circumstances, this state is created by a forest fire. For the past 40 years or more in the northwest, forest managers have clear cut Douglas fir in patches of varying sizes. When the logs have been removed, bulldozers pile the logging debris in windrows, scarifying the soil in the process, to prepare for the next seed crop from the surrounding uncut forests. If the clear cut site is particularly productive, the land owner may plant two-year seedlings either by hand or by tractor-drawn planters, rather than wait for natural regeneration.

Timber companies cannot afford to lose harvestable trees to fire, thus corporate-owned forests in much of the United States are criss-crossed with roads to provide access for fire fighters. Suppressing fire, however, creates increased availability of fuel (downed trees, branches, etc.) so that when the infrequent but inevitable ideal climatic conditions converge, such as a series of hot dry summers with high winds, lightning-started conflagrations soon rush out of control.



These large forest fires used to burn either until they ran out of fuel, or were put out by rain storms. Clearly the presence of humans and their homes prohibits the tolerance of such "destructive" fires. To what extent then should the poorly-paid or often volunteer forest fire fighters risk their lives to save the second homes of people who want to live in and enjoy the tranquility of the forest or the brush-covered hills overlooking the lights of Los Angeles?

At some point in the next century, the hypothetical graph curve plotting the wide choice of building a house wherever one wants will cross the tolerance curve of the taxpaying public. The taxpayers' involvement is based both on the federally subsidized disaster funds that are theoretically available to victims of natural floods, fires and earthquakes and on the high cost of fighting forest fires which, if no housing were threatened, might be allowed to burn out. If housing were banned on risky sites, no such rebuilding funds would be needed and the area would be eventually restored for the recreational benefit of all. Despite the seeming logic of such an action, it is unlikely.

Attempts have already been made to restrict rebuilding after disaster. For example, there was a bad earthquake in Prince William Sound, Alaska in 1964. Many expensive houses on a bluff overlooking Anchorage slid down off their foundations. For more than a decade, as I recall, the local authorities prevented rebuilding in this seismically active area. However, as time passed and memories of the 1964 earthquake grew dim, building restrictions were gradually lifted and this culturally desirable site is even more developed today than it was 30 years ago. Given the increasing pressure to build houses on undeveloped land, it seems unlikely that the local memory of past disasters is sufficiently durable to prevent rebuilding on sites with a long but intermittent record of previous property destruction by natural causes. As long as other citizens will share the risk through federally subsidized disaster insurance, there is little incentive not to rebuild.

If we think that massive rebuilding on land marginally safe for dwellings is a bad idea, what are the remedies? The property owners, whether individuals or developers of such fragile sites, may be too powerful politically ever to allow local governing bodies to require them to assume total risk. However, a start could be made if banks and mortgage lenders would increase their loan rates for any development of a risky site. The same strategy could be followed by real property insurers, but even they are handicapped in setting rates. Each state, for example, has an insurance commissioner who controls the rates a company can charge if it wants to do business in their state. High-risk dwellings that would normally be rejected for casualty insurance are put in a pool into which all insurance companies contribute,

according to the amount of business each does in the state. Pool-insured houses are a money-losing proposition for the companies, but politics, not risk, determines the insurance rate. All insured citizens suffer from this process because the companies can pass such losses on to their clients in the form of slightly higher rates. Companies, however, can also reinsure their risks through firms like Lloyds of London. Reinsurance was highly profitable until the huge losses incurred by hurricanes Hugo (Carolinas) and Andrew (Florida). However, to be fair to the property owner, some standard ought to be instituted to measure just how hazardous a given location is for building.

In the past, records of natural disasters have generally been kept only sketchily and with succeeding generations, details, such as the boundaries of destruction, are lost. Thanks to today's computer technology, records are less cumbersome and cheaper to maintain. Digital imagery allows extraordinarily accurate reproduction of the limits and the degree of destruction in a form that is readily retrievable.

With the experience gained from the storage of enormous amounts of satellite imagery by the federal government, it might be reasonable to expect a much smaller effort to design and store the images caused by natural destruction within the United States. Such a project might even make economic sense to local American lenders and insurers. In a relatively short time a building risk scale could be developed for the country so that each property owner could assume his/her fair portion of the risk in living at a chosen site.

The topic just considered is certainly not a life or death issue, or even one that has generated much political heat. However, I believe it is an issue that will soon become increasingly thorny as more and more undeveloped, risky sites are sought as dwelling places by a steadily expanding and affluent human population.

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