

How Much Development Can Our Creeks Stand?

A 2003 UC Berkeley study of the San Geronimo watershed found that one-third of the creekside parcels are undeveloped. In other words, there is the potential for increasing by fifty per cent the amount of creekside development, not to mention the impact of the seemingly inexorable expansion of existing homes. How much more stress can our salmon creeks take before their ability to support viable breeding populations is fatally damaged? Incredibly, we don't know the answer to that question.

Marin County's main tool for protecting streams is the Streamside Conservation Area (SCA), a 100-foot buffer zone for perennial and intermittent streams. Development is banned within this buffer zone. But there are exceptions. If, as is often the case, a property falls entirely within the SCA, or it can be demonstrated that building within the SCA would be less damaging to the environment than building outside it, development is permitted. The result is that property- owners often get permission to build a new house or even expand an existing one within the SCA.

Even if each development contributes only marginally to the destruction of the stream and salmon habitat, the cumulative impact of hundreds of such individual compromises is damaging to the habitat. But it is not only the creekside land that influences stream ecology and salmon habitat. The health of a stream is affected by activities in the entire watershed: land-clearing far upland causes erosion that ultimately reaches the creek; runoff from impervious surfaces anywhere in the watershed ultimately reaches the creek; an excessive nutrient load to the soil (whether the source is agricultural, industrial or human) ultimately reaches the creek. To effectively protect salmon habitat, we should apply stream protection standards to the entire watershed, not only to creekside properties.

Such standards need not be onerous: just as many small negative impacts can cause cumulative damage, many small positive interventions, taken together, can halt or reverse decades of damage. Among the watershed-wide actions that would help our streams are:-Limiting the size of buildings on steep slopes and small lots;-Adopting standards and practices to minimize removal of native vegetation, control erosion, and limit stormwater run-off from developed properties to a level equal to that of undeveloped properties;-Restricting public and private construction projects during the rainy season to minimize erosion and sedimentation.

While it makes sense to try to minimize the impacts of development, that is not enough. We also have to know what the 'development budget' is for a given watershed. As an analogy, spending as little as possible in each store one passes is one technique for keeping to a budget. But it is not enough. One must also know one's income and overall expenses. Is the amount available for spending \$10,000 or \$100,000? The answer will determine how many shops may be entered, and how much spent on each one. Similarly, it is not enough to minimize our impacts on the watershed. The basic question that must be answered is: How much development can a given watershed take before it becomes ecologically bankrupt?

One way to answer this question is to determine what factors are key to the health of the watershed. Several studies have looked at one such factor: impervious surfaces, which prevent rain from being absorbed by the soil and gradually released to streams. They have found that once 10% of a watershed is covered by impervious surfaces, stream ecology is threatened; if the amount of impervious surface reaches 30%, the ecological balance breaks down.

In areas that are completely built up, that critical level has already been exceeded. In those areas where things can hardly get worse, there is the hope that the situation can improve—if, that is residents and public agencies make heroic efforts to restore the health of their streams. By contrast, rural West Marin is not yet completely built up; there is the potential for perhaps 50% more development along our streams. Thus we face the dual challenge of trying to restore streams damaged by existing conditions and trying to control future development in order to prevent further damage.

Unfortunately, Marin County does not have the tools and information necessary to meet this challenge. We are still at the stage of trying to spend as little as possible without having any idea of what our overall budget is. Will we, with our existing stream protections, stay within our unknown budget, or are we already, unknowingly getting ever deeper into debt? Knowing the big picture will also allow us to spread the burden of salmon protection fairly among property-owners rather than rewarding those who rush to develop their land and penalizing those who wait until the last days of the salmon are at hand.

EAC, and our partners, SPAWN and the Sierra Club, are pressing Marin County to look at the big picture and answer the question, how much development can our salmon streams take, so that we can set development standards and implement protections that will ensure the health of our streams and our salmon now and into the future.

Once we have the information we need, there are many creative, positive, inventive ways to meet our goals. Among the tools available are creation of a

“salmon fund” to take critical properties out of the development pool, watershed-wide standards for creek protection, and inducements for property-owners to lessen their impacts on the watershed.

It is easier, cheaper, and much more certain to protect existing healthy habitats than to restore damaged ones. Without healthy habitats, the salmon will disappear and there is no guarantee that we will be able to bring them back. If we fail to act now, future generations will remember ours as the one that had the tools to protect this keystone species, but failed to do so, choosing instead to be railroaded by our insatiable desire for more of everything at the cost of that which cannot be replaced.

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