

Speciation and Extinction. Human Influence on Biodiversity.

The history of our planet is replete with extinctions. As our planet's environment and conditions evolve, and as the various species which live upon it evolve, speciation and extinctions occur. At the point of writing there are an estimated 8.7 million different types of life forms of which animals number between 1 to 2 million and plants just below 400,000. These are rough estimates of course, given the difficulty of discovering and numbering the vast number of living things in the world. There is a natural rate of extinctions in a dynamic system such as our planet, and a natural rate of mutations resulting in new species. Most species do not alter their habitat significantly or significantly quickly to alter the balance of creation and destruction. One species defines itself by its ingenuity, ability to use tools, ability to organize itself to achieve macro sized impact, and ability to intentionally change its environment to suit its own purpose. Humans. Humans do not set out to systematically cause mass extinctions within or across species. They may do so out of neglect or inability to foresee the collateral consequences of their actions. One of the most damaging impacts of humans is that their actions, by reason of their macro influence, correlate the extinction phases of multiple species. They also interfere with the duration of speciation and extinction. This loss of temporal diversification is damaging. In addition, human's colonization of greater areas of the planet also reduce geographical separation and impedes speciation. The result is a net reduction in bio diversity as speciation is slowed relative to extinction. The actions humans take to encourage bio diversity have unpredictable results. Any systematic approach to encourage bio diversity could introduce

systematic biases which miss the point of temporal diversification and balance between speciation and extinction.