



Tales from a
Sisters Naturalist
by Jim Anderson

Going, going ... gone

In the last 20 years, or so, things have been going on out there in the wild world of nature that both concerns and bewilders science. The condition of Earth's atmosphere and climate, are, of course, the biggest concerns that make us wonder what's really going on, and how long it will be before the Earth's ecosystems become unraveled.

The science supporting climate change is pretty hard to argue with. The atmosphere is warming, therefore the oceans (and other large bodies of water) are also warming. That warming is effecting weather patterns which in turn are causing hardships on people of the Earth, and a lot of people think it's all our own doing.

However, others of us also wonder if some other factors are shifting in the natural order of things, contributing to the obvious change in weather patterns, which in turn are affecting plants and animals of Earth. Be that as it may, the people saying that we have nothing to do with it just haven't looked around them. They can scoff at the science all they want to, but physical proof is there.

Take for example the Earth's rainforests.

Rainforests at the equator are, have been, and will always be Earth's heat sink and oxygen-provider.

Tampering with them has serious negative consequences for the biospheres all around our globe. Since around 1941, Brazil's rainforest has been under attack.

Where there were once millions of gigantic trees helping to cool the Earth, there are now saw mills, soybean fields and cows. The soils the giant trees were growing on is not suitable for agriculture, however chemicals and money changed all that, so soybeans and grass would grow, and now the intensive agriculture going on creates carbon and other gases where trees were once soaking up heat and generating oxygen.

Coincidentally, at nearly the same time, in 1946 the pestiferous Rocky Mountain pine beetle, *Dendroctonus ponderosae*, escaped from its frozen habitat in the northern Rockies and began spreading south — the deep freeze that kept them there inexplicably warmed up only a few degrees. It took 30 years for those little beetles to reach Central Oregon, and within months they killed thousands of acres of lodgepole and turned them red, especially on the slopes of Newberry.

Their timing for arrival here was perfect. In the early 1900s most of the native forests had been cut for lumber. Lodgepole moved in and used so much water and nutrients they ultimately went into severe stress. Then the Forest Service talked themselves into selling all the snags (dead trees, aka, "fire hazards") for



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The heat sink of Earth, going...going...gone!

ornamental lumber. (Brooks Scanlon named their product, "Brooks Wood"). That scheme removed cavity-nesting-bird habitat which resulted in a serious decline in woodpeckers, gleaners and other birds that would have used the alien beetles for food.

So when they got here they had it made — plenty of host trees, and very few enemies.

As we speak, the rain forests are vanishing in Brazil and Africa, and the same in Indonesia. Indigenous trees are being replaced by palm trees that are providing palm oil. As of now, Indonesia and the surrounding countryside is supplying over 50 percent of it to world markets.

To say palm-oil production is important to the economy and social conditions of Indonesia is an understatement. Today's oil plantations stretch across 6 million

hectares (roughly twice the size of Belgium), and in 2015 another 4 million additional hectares was added to oil-palm biofuel production. The major environmental threat that palm oil production is causing is the deforestation of millions of rainforest acres in Indonesia and Malaysia.

We humans are threatened by the increased destruction of rainforests and eventual changes in atmospheric conditions. It's also a serious threat to social conditions. Human rights abuse in the form of child labor and debt bondage in plantations of Borneo and Sumatra are being driven by greed. Endangered species such as Borneo pygmy elephants, Sumatran elephants, Sumatran tigers and both species of orangutans are also threatened as rainforests vanish.

More than 150 acres of

rainforest is lost every minute of every day, and 78 million acres lost every year! More than 20 percent of the Amazon rainforest is already gone, and much more is severely threatened as the destruction continues. It's estimated that the Amazon alone is vanishing at a rate of 20,000 square miles a year.

According to the United Nations' Food and Agriculture Organization, overall tropical deforestation in this decade is 8.5 percent higher than during the 1990s, and according to the latest predictions will go even higher.

And you're wondering why the oceans are warming, El Niño has gone nuts, and it's 60 degrees outside in the first part of November? Mother Earth is going to have a tough time coping with these changes and still provide biological conditions for Man to survive.

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