Jeremiah's Progeny: Our Dilemma

13 August 2014

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You may not remember Jeremiah, the frog – he got second fiddle in my post of 1 November 2012 (Butterfly Report + Jeremiah, the Frog). Jeremiah never had any intention of becoming a metaphor. He just liked to croak, very loudly. According to the Encyclopedia of Reptiles and Amphibians that probably means he was trying to attract a female or repel a male frog.

Jeremiah's croaking stopped, as I related in that post two years ago, when somebody slashed to the ground every reed in his puddle, in a ditch at a road intersection by our farm. Apparently the county road crew wanted horizontal visibility to be assured for a year. Jeremiah survived, somewhat traumatized (Fig. 1), but seemed to lose his voice for a long time.

Jeremiah impressed my grandsons, Jake and Connor, partly because, as far as we know, he is the only frog with his own song. Also, it seems, a servant. When it didn't rain for a long stretch, I ran a hose from my orchard. When rotting vegetation began to make the puddle smell like a sewer, I raked it out.

Jeremiah's croak returned. It turns out that the smaller frog on the other side of the puddle must have been a female, as several smaller frogs appeared in summer 2013. Apparently Jeremiah decided this is a high class place, fresh water when needed, enough water provided before winter so the puddle didn't freeze solid to the bottom, a servant cleaning up the place, a good place to raise a family. This summer there are at least half a dozen full size frogs. How many next year?

Uh, oh – something has to give. My wife's friend, a wildlife rescuer, says if I take the frogs to a lake they will die – they like their puddle. So, a dilemma: tinker further with a human-perturbed situation? In a later post, I will make an analogy to the climate situation we are creating if we do not *rapidly* phase down fossil fuel emissions. We and our children could end up facing a choice: massive geoengineering or catastrophic loss of species and major human dislocations.

Fig. 1. Jeremiah hiding behind slashed vegetation.

So a slight digression: We have already reached a point such that a lot of "soft" geoengineering will be needed, even if we get a global agreement on a rising carbon fee. Soft geoengineering refers to things such as reforestation of marginal lands, improved agricultural and forestry practices, and application of biochar and other techniques to increase the carbon content of soils.

My oldest grandchild (Sophie) and I initiated a biochar experiment this summer. We mix biochar with the (lousy Pennsylvania clay) soil (we're not in Iowa anymore!) around certain trees, most of it in the drip zone and 2-3 feet outward to a depth of 6-8 inches. Most trees were planted in recent years, so the root zones are still expanding. We choose to treat (biochar) the poorest trees of each species, a practical choice that most homeowners would prefer, rather than trying to find a matching control for each treated tree. So it's not a perfect scientific experiment, but we will learn something after several years. We photographed all trees, measured circumferences at 4-foot height, and took soil samples.

Back to Jeremiah's progeny. I can't keep slaving on the ditch – which would probably lead to 25 frogs next year – and I have no time to make a pond in the foreseeable future. So last week-end my grandsons, Jake and Connor, and their fathers and I set out to catch Jeremiah's progeny. We caught two. One escaped in my office in the barn, as we tried to transfer him to a box to take on the canoe, but Jake (6 years old, going on 7) proudly captured him in his bare hands.

We took the box to a peaceful arm of a nearby lake, finding a place with the same reeds as in the frogs' ditch, as well as water lilies. After we released the frogs, they looked around for a while, seemingly in amazement, and then headed for shallower water (Fig. 2).

My guess is that Jeremiah's progeny will do o.k. in their new surroundings, but it's hard to know the net effect of all human impacts on them. Amphibians in general are having some problems (see golden frog discussion in my 2012 post), and human meddling, including climate change, probably has something to do with that.

Fig. 2. Jeremiah's progeny heading for shallower water.

Back to geoengineering, briefly – I will discuss it more in conjunction with an upcoming paper. Sophie and I are just finishing our first half-ton load of biochar. Compare this to the amount of carbon in the 830,000 barrels per day of tar sands crude that would be carried by the proposed Keystone XL pipeline. That gives an idea of the remediation required if KXL goes forward

A psychologist told me of an adult seeking help for depression brought on by governments' failure to address the deteriorating global situation. His concern has a basis, but he should not be so pessimistic. He should be made aware that we are potentially near the crucial turning point, and he could help us achieve the singular requirement for rapidly phasing down emissions.

There are high officials in the Chinese government and in U.S. Administration who understand that the only way to achieve rapid phasedown of emissions is via a rising carbon fee, which would be made near-global via border duties on products from non-cooperating countries. Europe is recognizing that cap-and-trade is ineffectual (see comments of Christine Lagarde, IMF Director, re the need for a carbon tax). When this is brought home, the only way it will gain approval of conservatives in many countries, including the U.S., is if the fee is revenue neutral, i.e., it is not used to grow the government. That revenue-neutral property will allow the fee to grow, spurring economic activity, reducing poverty, and developing clean energies.

Yes, the UN public talks will still involve a great deal of bluster about national responsibilities. However, emission targets and "caps" are not worth a dried turd. They are much worse than that, because they allow the pretense that something is being accomplished. What is needed, independent of the bluster, is agreement among the powers that be on a carbon fee, even if it is small at the start. Thus a system that would work, and which could readily grow, could be put in place. That is the essential urgent step that we should be supporting and demanding.

Reparations for innocent developing countries are an important separate matter. Agreement on these may not be so difficult – for example, developed countries are going to need the cooperation of developing countries in various ways, including preserving forests, reducing non-CO_2 climate forcings, and perhaps implementing soft geoengineering to draw down excess CO_2. Reparations should be continually dependent upon demonstrated cooperation in these matters.

Now that we have outlined solutions to the world's greatest problem, we can return for a moment to Jeremiah. Jeremiah is too wily for us, diving into the culvert under the road when we approach. That's o.k.: like some of us, he's.an old geezer. I believe it is Three Dogs Night singing his song. They would not be spring chickens now, so Jeremiah has been around a while. Unlike dragons and such, frogs don't live forever. We can let him be. It's time to play his song.