1086-AC-1309 **Paul R. Ehrlich*** (pre@stanford.edu). *Overpopulation: A Central Factor in the Prospective Collapse of Civilization.*

We are faced with environmental problems that threaten a collapse of civilization. These include climate disruption, biodiversity loss and resource depletion. This short list of problems reflects the interactions of two complex adaptive systems – the biosphere and our socio-economic system. The problems are getting worse, driven by overpopulation, overconsumption, and environmentally malign technologies. All of the interconnected problems are caused in part by overpopulation. Ecological footprint analysis shows that to support today's population sustainably at current levels of consumption would require roughly another half a planet; at the U.S. level, it would take four to five more Earths. Mathematicians are well-positioned to help make society more aware of the consequences of unsustainable actions, beliefs or decisions. E.g., the belief of many economists and politicians that an economy can grow at the rate of 3% per year indefinitely, as well as many everyday decisions such as how many children to have, or where to live. A central goal of the Millennium Alliance for Humanity & the Biosphere (MAHB) is mobilizing society for sustainability. By joining MAHB, mathematicians can contribute to this effort, broaden their scope, and help society steer a safer course. (Received September 21, 2012)