SUSTAINABILITY: LIVING WITHIN OUR (RENEWABLE) MEANS

In the article "Does LWVNM Need a New State Position on Sustainability", which appeared in the March issue of *La Palabra*, we pointed out that the concept of sustainability is already present in many state and national positions. In particular, several of the LWVUS Natural Resources positions emphasize preservation of "the physical, chemical and biological integrity of ecosystems" and mention the "carrying capacities of earth area's natural resources". Nevertheless, League positions fail to address some essential aspects of sustainability. In particular, as LWV California has pointed out in their Sustainable Communities Action Policy (http://ca.lwv.org/lwvc/issues/suscomm/suscommap.html), "to take action with respect to limits on population, growth, or consumption, further study leading to new positions would be needed."

Indications that we are approaching, or have even overshot, some physical and biological limits of our ecosystems are appearing almost daily in the news. Consider:

- Speaking at an international conference in Mauritius in January of this year, the Chairman of the Intergovernmental Panel on Climate Change reported that concentrations of carbon dioxide in the atmosphere have already reached dangerous levels and that immediate, deep cuts in the pollution are required for human survival. The rate of increase of the concentration of carbon dioxide in the atmosphere has accelerated abruptly in the past two years. A readable series of articles, "The Climate of Man" by Elizabeth Kolbert in *The New Yorker* (April 25, May 2 and May 9, 2005), captures the escalating scientific alarm.
- All over the world, water tables are falling as water is pumped from aquifers faster than they can be recharged. New Mexico too has become increasingly dependent on groundwater pumping, undermining a legal framework that is based primarily on surface water and temporarily masking the effects of unmanaged growth. A good summary of the situation in New Mexico is the 2002 report prepared by 1000 Friends of New Mexico, *Taking Charge of Our Water Destiny*, available at http://www.1000friends-nm.org/publications/new_water.html.
- In the middle of the twentieth century M. King Hubbert, a geologist working for Shell Oil, used his knowledge of reserves in the United States to predict, correctly, that American oil production would peak about 1970. When applied to oil production world wide, Hubbert's technique, as well as other estimation methods, suggest a production peak within the next two decades and quite possibly within the next two years. Unperceived by the general public even a few months ago, "peak oil" has become the subject daily news stories (see http://www.energybulletin.net/.)

These are symptoms that the global economy is outgrowing not only its nonrenewable resource base—oil and other mineral resources—but also resources that are nominally renewable, such as fresh water and nature's ability to absorb our wastes. Ultimately the sustainability of the economy will depend on its using renewable resources at a rate that does not exceed the rate at which they can be regenerated. Scientists have concluded that the limiting factor in this regeneration is the rate at which solar energy is converted to

biomass by photosynthesis, a process which produces useful materials—food, fiber, building materials—while reabsorbing carbon dioxide from the atmosphere. This natural "bioproductivity" of the Earth is limited by the amount of land and continental shelf area suitable for the growth of plants and bacteria capable of photosynthesis. It also requires suitable temperature ranges, minerals made available by healthy soils and oceans, and the decomposition and pollination services provided by other organisms.

One way to compare human consumption rates to this bioproductive capacity of the Earth, or "biocapacity", is called an "ecological footprint". The *Living Planet Report 2004* (LPR2004), available at http://www.footprintnetwork.org/, summarizes footprint calculations both globally and by country. Using globally available economic production statistics, LPR2004 calculated that the world's population of 6.15 billion in 2001 (set to pass 6.5 billion this year) required 120% of the actual biocapacity of the Earth for the production of economic goods and services. Like any deficit, this "ecological deficit" represents a debt against the future, one on which no defaults will be allowed.

U.S. consumption exceeds its own biocapacity by almost a factor of two, even though our per capita biocapacity is more than 2.5 times the world average. Unsurprisingly, the most rapidly growing component of our footprint is the need for additional absorption capacity to remove excess carbon dioxide from the atmosphere, but of course we also "import" biocapacity in the form of goods from other countries.

Are there solutions to these seemingly intractable problems? The first step, surely, is to acknowledge their existence. Currently many American politicians and the population at large appears to be in denial. Once the problems are faced, however, there are indeed a wealth of alternative visions and promising proposals to consider, spanning the areas of governance, social and economic policy with which the League has always concerned itself. To be sure, technology will also play a role in human survival, but it is clear that technology by itself is not enough. Unguided by a policy of conservation, technology has so far served mostly to enable human production and consumption to grow well beyond the Earth's capacity to support them with any semblance of social equity.

The laws of nature are not subject to human legislation. As Ross Gelbspan writes in **Boiling Point** (2004), "Nature's laws are not about supply and demand. Nature's laws are about limits, thresholds, and surprises." But we can revise our human systems. In the remaining articles of this series, we will address the economic, social and governmental opportunities that are available to the League and to our country once we recognize the very real physical constraints on our future that have been outlined above and decide to face them head-on.

Questions: Should League positions explicitly acknowledge the limits to growth and the importance of recognizing them? Should the League take a leading role in educating politicians and the public on the urgency of global warming? (Note: LWVUS does support the U.S. signing the Kyoto Treaty, but has not gone further to acknowledge that much more is required of us.) Does LWVNM need an explicit position on a New Mexico water budget in order to develop a coherent set of action priorities for water legislation?