



6th International Symposium on
Energy **C**hallenges & **M**echanics
- towards a big picture

14-18 August 2016
Inverness, Scotland, UK

Natural resource management in the United States - Leadership in a world of limits

W. Daniel Svedarsky

Northwest Research and Outreach Center, U of Minnesota, Crookston, MN 56715. USA

Accepted for publication on 29th February 2016

Natural resource professionals are grappling with how management programs relate to sustainability as global limits, especially energy and the land and water resource, become more obvious as drivers of resource management. To be effective in the future, natural resources agencies and non-governmental organizations (NGOs) will be compelled to; 1) reduce energy use (and thereby mitigate climate change) by increasing overall efficiency of unavoidable uses and reducing optional energy uses, 2) anticipate how rising energy costs will affect future resource use by various stakeholders, 3) play an active role in developing both adaptation and mitigation strategies related to climate change, 4) articulate the fundamental relationship between land development and related energy consumption, habitat deterioration, water quality, the need for food production in relation to soil conservation, and ecosystems services provided to society, 4) plan for the integration of biofuel production from the working landscape while minimizing adverse effects on other resources, and 5) clearly acknowledge the limits to all natural resources as they are being proportioned out to an increasing number of users. Due to their fundamental missions, natural resource entities have a special obligation to model exemplary conservation practices. Temporary low fuel costs may be fostering a sense of complacency as to energy supplies but higher fuel costs are a future certainty when embracing Peak Oil and will constrain some management practices and restrict access to participation in others. The time is now for the strategic use of cheaper energy resources in constructing and retrofitting agency infrastructure in anticipation of rising costs. Planning for a future with limits is urgently needed in order to ensure a smooth transition into the Post-Petroleum Era.

Keywords: sustainability, energy use efficiency, peak oil, resource management, climate change