

CONSERVATION

It has taken about a century to define and refine what we call conservation. Among many distinguished and prolific scientists, activists, and writers about specific conservation issues and broad conservation philosophy, five individuals stand out. The term “conservation” was first applied to natural resources by **Gifford Pinchot** who was the first forester educated in the United States, advisor to and friend of Republican President **Theodore Roosevelt** (his conservation efforts introduced the concept to many, especially African wildlife), who appointed him first Chief of the United States Forest Service (1905), and was later elected Governor of Pennsylvania. A second preeminent conservationist was **Hugh Hammond Bennett** who saw the need for application of conservation concepts to the management of soil productivity and urged the creation of the Soil Conservation Service in the mid 1930s. The SCS was an important component of the conservation program in the New Deal of Democratic President **Franklin D. Roosevelt**. The fifth preeminent conservationist was **S. V. Ciriacy-Wantrup**, a professor of resource economics at the University of California at Berkeley, California. He defined the term as “shifting rates of resource use toward the future” in a series of now classical Extension Service publications. There were, of course, many other well-known and productive individuals who wrote, taught, and/or practiced conservation.

Today, the term is used rather loosely and is important in political campaigns, though not necessarily in elected officials’ list of accomplishments. Nowadays, people often confuse conservation with exploitation and preservation of resources. Clarifying these associated terms is necessary: a *resource* is a thing that has utility (use) and scarcity (variation in time and space); *exploitation* of a resource is all use and no time; *preservation* of a resource is all time and no use. Neither is good or bad: we need both in varying degrees and depending upon many factors. *Conservation*, however, may now be defined as being concerned with the control (management) or *use* of resources over *time*. Thus, conservation is *a balance of preservation and exploitation of natural resources that effects shifting rates of natural resource use toward the future*. That balance changes from place to place and time to time, and is properly an issue for the public, professionals, and law makers. It is very much in the political realm. But, basic agreed-upon definitions are essential, especially in light of the variety of factors that affect our views of conservation. For example, *use* only takes on meaning in terms of human activity. Thus, conservation must be discussed in light of the magnitude, distribution, and rate of growth of Earth’s human population, especially in the context of the world’s *renewable* and *nonrenewable* natural resources. And *time* is of especial concern because it reflects the natural changes in resource availability, function, and importance. Time simultaneously provides a framework within which to evaluate use and abuse of the natural resources on which humans depend for sustenance. Thus, there is an inevitable linkage between use and time in that rates of resource use automatically increase as population grows. Use of the interest rate to determine future value of a present sum is fine; however, the inverse, finding the present value of a future sum, referred to as *discounting*, is not, as it devalues (discounts) future values for our descendants, which is unconscionable. As we learn more about the factual side of living with our planetary environment, the need for conservation becomes ever more urgent, primarily, of course, because the total resource base is limited and the human population that uses that base has done nothing but expand to date. This is in addition to our demands on natural resources to enjoy an increasing standard of living, consistent with clean water and sufficient land and biota for physical and mentally healthy communities.

Conflict over conservation of natural resources ranges from small disagreements over property rights and language at the local level to inter-jurisdictional legal conflicts over ownership, access, and allocation of scarce resources at the international level, and wars. One practical Native American conservation philosophy is: “Don’t pick the first berries or shoot the first deer you see, or keep the first fish you catch; then you know it will not be the last.” Political institutions reflect and react to conflicting views on issues often without obvious concern over conservation. High quality *air* and *water*, our most precious and essential natural resources, know no political boundaries but are defined by natural geographical limits; both are undervalued and spawn controversial issues. *Energy resources*, on the other hand, are readily traded across both artificial and geographical borders with potential for immense and powerful monetary rewards and power. Thus, energy resources are readily overpriced by producers, undervalued by users, and are subject to manipulation (subsidies, taxes, import quotas, and wars) for political control in international markets. *Soil productivity* is geographically based and considered as real property (hence “real estate”), where pricing is based on quantity, quality, and location (or accessibility) concerns. As a basis for taxation, real estate is both a political and economic issue fundamentally linked to food production and national wealth and trading status. Since it is weather and climate dependent, it stands as a major source of vulnerability in the face of global climate change.

It is in this fundamental context that the future of resource-using humans on planet Earth must be seriously considered. Ultimately, *conservation is the cornerstone of sustainability*, and its flaws represent considerable challenges.

– Peter E. Black, September 10th, 2003; rev. February 10th, 2005; rev. May 6th, 2005