

Commentary on the emerging National Biological Survey has been appearing here and there in print as the concept evolves. Some of the more interesting thoughts, from qualified "thinkers" on the subject are herewith excerpted and presented, together with the source from which they were taken:

From *Colorado Plateau, Quarterly Newsletter for Resource Management of Colorado Plateau NPs*, Vol. 3, No. 3, Summer 1993:

"Kilgore [Dr. Bruce Kilgore, Chief of Western Region's Division of Natural Resources and Research] is pleased with the Secretary's commitment to better science and to better service to resource managers by providing a national focus for inventorying and monitoring biological resources, by ensuring that NPS decision makers receive high quality biological information, and by conducting the proactive research needed to avoid conflicts between economic and environmental goals.

"Kilgore encourages Park Service personnel to work closely with Denny Fenn, Gene Hester, and the NBS Implementation Team to see that they are successful in achieving these very ambitious goals."

"Since the NBS proposal is to be implemented through the transfer of NPS and Fish and Wildlife Service research scientists, Kilgore states that 'the Park Service is faced with the challenge to find a way to ensure that the NBS can provide for both the broad strategic research needs of our country's ecosystems, while continuing to serve the immediate, short-range, tactical research needs of Park Service superintendents and other managers.'

"Kilgore also wants to ensure that 'our current NPS scientists and our CPSUs are supported in their new assignment in a way that not only allows them, but encourages them, to finish on-going high priority research projects and to begin a new series of both long-term and short-term I&M research and information transfer to managers.'

"Kilgore continues, 'It's my feeling that our superintendents need to have easy access to the new NBS Coop Units, not unlike the relationship they have developed with our existing CPSUs.'"

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From the statement by Gary E. Davis, Research Marine Biologist, presented at the NBS Eco-Center Meeting, May 3-5, 1993, in Portland, OR:

"To suggest an initial agenda for the NBS, I will identify four broad national trends affecting biotic resources, describe a research agenda to understand and mitigate the negative effects of those trends, and suggest a national focus for these programs to enhance NBS credibility.

Some Additional Thoughts On the NBS

"National attitudes toward natural resources drive all of the trends I will identify. Oddly, the Nation's approach to natural resource-based economic development did not change when the American frontier closed in the 19th Century. We continue to consume resources as if they were inexhaustible, as if we could still go over the next mountain range when we run out of land, but we can't. We live in a **finite** world with **finite** resources, yet we continue to act as if technology would always bail us out, no matter how much we degrade our environment. The rapidly increasing human population in the U.S. that continues to demand more resources per capita from a finite resource base drives trends in biotic resources that require immediate attention to avert economic, social, and environmental catastrophe.

Trends

"1. **UNSUSTAINABLE CONSUMPTION OF 'RENEWABLE' RESOURCES** drives populations and communities to failure, e.g. serial depletion of coastal fishery stocks and harvest of ancient forests. California's largest coastal fishery is a prime example. In southern California, the diving fishery exhausted stocks of abalone species, one after another, from 1950 to 1980, shifted to red sea urchins in the mid 1970s, expanded into northern

California in the late 1980s when stocks declined, and began developing new markets for purple urchins in the early 1990s. This pattern of biotic resource exploitation is common worldwide.

"2. **LAND-USE PRACTICES THAT FRAGMENT HABITATS** erode society's productive resource base when populations and communities collapse for lack of appropriate space, i.e. critical habitat. Coastal development threatens migratory birds and coastal fisheries with the loss of marshes and estuaries. Loss of large, wide-ranging predators alters community structure and function, thereby accelerating loss of biodiversity.

"3. **HUMAN ALTERATIONS OF AIR, WATER, AND SOIL** drive ecosystems toward unstable and less productive states, e.g. pollution simplified systems, reduced productivity of contaminated wildlife, ground water extraction, and surface water diversion.

"4. **SPREAD OF ALIEN SPECIES** causes loss of biodiversity and disrupts ecosystem structure and function. The virtual extinction of native birds on Guam caused by introduced brown tree snakes provides a sobering example of the serious ecological impacts of alien species. Alien species are wreaking havoc on Hawaiian flora and fauna."

Davis's statement asked that the NBS agenda address these trends "with directed programs, not simply collections of related projects." He named five areas of focus needed (1) to lead the exploration of ecological restoration, (2) to develop ecosystem monitoring protocols, (3) to improve understanding of viable populations, (4) to invent ways to predict ecosystem behavior, and (5) to explore adaptive ecosystem management.

"As Machiavelli warned his prince," Davis said, "a new organization that seeks to change established ways of conducting business has few allies. To overcome this handicap, I suggest that the NBS use the National Park System, to focus attention on the nationwide plight of biotic resources...not just to help resolve park issues, but to help realize the potential of national parks to resolve society's broader environmental issues and to produce truly sustainable economic development."