

Uniform Appearance? Yes. Uniform Terms? Not yet.

by Larry L. Norris

Based on the conclusions set forth in this article, The Palmetto believes that the Florida Native Plant Society and The Palmetto should adopt the use of the word "alien" when referring to plants we now often call "exotic" or "introduced". The editor requests your comments, both pro and con, on this proposed stylistic change in articles published in The Palmetto. Please mail to Peggy S. Lantz, Editor, P.O. Box 680008, Orlando, FL 32868.

(This article first appeared in "Park Science — A Resource Management Bulletin" published by the National Park Service. Reprinted by permission.)

The National Park Service promotes a uniform appearance among its rangers throughout the National Park system. There even exists a special catalog to ensure this uniform appearance among NPS personnel. *Uniform* means "one image". To stray from this would result in confusion.

Would that our use of descriptive terms for the status of certain species were similarly uniform!

This article is an outgrowth of a presentation I gave to the Pacific Mountain Parks Interpretation and Resource Management workshop at Sequoia NP in September 1986. I had become aware of general confusion over definitions of some often-used descriptive terms. Interpreters and park managers need to make clear — first among themselves and then to the public — their definitions of what constitutes a threatened or endangered species, of what denotes rarity in a species, of what is a relict species, of the nature of a sensitive species, and of what qualifies as a native species or an alien species.

Interpretation of these species designators cannot be valid without agreed upon, recognized definitions. The tossing about of vaguely defined terms for species status does not have to be. Published definitions do exist and general use has strongly established others. What I would like to present are those published definitions of terms, along with clarifications and proposals for terms for which we have no written definitions.

Threatened and Endangered Species

The NPS should be uniform in the definitions and use of the terms "threatened" and "endangered" as they pertain to species status, because we must use those definitions given in the Endangered

Species Act. NPS Management Policies direct us to follow the U.S. Fish and Wildlife Service's lead in this matter. An *endangered* species is one that is close to extinction throughout all or a significant part of its range. A *threatened* species is one likely to become endangered in the near future. Never use threatened or endangered to describe a species that is not officially listed as such. By *not* using these terms where they do not apply, we preserve the impact and weight of their true definitions.

Rare Species

Rarity is a more difficult concept. What constitutes rarity in a species? Generally, park visitors perceive the word *rare* to mean "only a few left", but that view is too narrow. Species rarity can be categorized in three different ways:

1. **Numerical rarity.** A numerically rare species may be found over a wide area, but has few individuals in any given population. Examples are rare fur bearers such as wolverine and fisher. The California Condor was a numerically rare species as well as an endangered species, now presumably totally absent in the wild. Spotted Owl and Red-cockaded Woodpecker also fit into this rarity category. They occupy a wide geographic range, but few individuals exist within that range.

2. **Geographic rarity.** A geographically rare species may be abundant in a local area, but is not found away from that small geographic area. Park visitors viewing a geographically rare plant, the population of which numbers in the thousands, have a difficult time understanding that the plant is rare. In a regional or global sense, the species is rare, but it may leave the impression that it is a common plant in its area of local abundance.

For example, the Sequoia gooseberry, a prostrate plant, forms a fairly continuous ground cover in some of its populations, giving the appearance of a common, successful species; this causes dispute over its

rarity. But when one considers that only eight populations of Sequoia gooseberry are known in the world, seven of which are in the park, then the geographic rarity of the species becomes evident.

3. **Rarity because of demand.** This simply means that the species cannot reproduce in the wild fast enough to meet the collection demand placed upon it. In this case, the species need not be numerically or geographically rare. In most park units, this kind of rarity does not apply because we regulate collectors through a permitting system. However, theft for commercial market or over-collection (demand) can make a species rare.

Relict species

Webster's Dictionary defines relict as being "a persistent remnant of an otherwise extinct flora or fauna or kind of organism." Relict species are often rare species, sometimes threatened or endangered, and almost always are of a local geographic occurrence tied to specific, fragile habitat. One example is the hemlock stands in Shenandoah NP, relicts of the last glacial period. Also, rare, endemic Hawaiian tropical rain forest birds can be considered relicts of an otherwise extinct fauna.

Sensitive species

The catch-all term often used when one is unsure of the status of a species is "sensitive" — now used so commonly that it has lost any true definition except in two instances. Staff members of the Air Quality Division in Denver are consistent in their use of "sensitive species" as being one that shows biological sensitivity to air pollution or acid precipitation. This is the most valid use of the term because it is not dependent on rarity status for further definition.

The second definition of sensitive species comes from the U.S. Forest Service in California, which views any species that cannot withstand more than routine visitor use or management activities as a "sensitive species". This definition is too broad for NPS use. I would like to see the term "sensitive species" reserved and used only in the air pollution or acid precipitation context.

Native species

This term should cause no confusion. To quote from the *Guide for Pesticide Use* in the National Park System, native species are "species which presently occur, or once did occur, prior to some human influence, in a given place, area, or region as the result of ecological processes that operate and have operated without significant direct or indirect, deliberate or accidental, alteration by humans." Huh? Run that by me at 33 1/3?

Simply put, native species are those species that naturally occur in a given area.

Weed species

"Weed" is a term that belongs in the realm of IPM (Integrated Pest Management) jargon. It is not a species status term in the context of this article because a weed could be native or alien, rare or common. A weed is unwanted and considered a pest; hence, its relegation, along with the term "pest", to the realm of IPM.

Alien species

"Alien species" is a term that I hope will catch on Service-wide, because it clearly states the species status to park personnel and park visitors alike. The definition of the term has remarkably uniform application to plants, animals, people, or creatures from outer space. An alien is some organism that is foreign to the local ecosystem of concern, does not fit well into it, and is usually disruptive of the ecosystem until it gets its way by sheer numbers, taking over a niche. (It also may die out completely as on unsuccessful introduction.) Alien species only occur in a new area by way of human assistance or feral populations. Examples of alien species in national parks are wild pigs, burros, water hyacinths, and European

starlings — all alien species that should be eradicated from park units.

In common usage, the terms "exotic" and "introduced" species often are used interchangeably, especially in the area of IPM. NPS also commonly uses "exotic" instead of "alien". These terms work well enough for park personnel, but when we refer to alien species as "exotic", they are not perceived by the visiting public to be the truly disruptive, time-consuming, costly, pestiferous organisms which they tend to be.

When I was leading nature walks in Sequoia NP, I would make it a point to use variously the terms "exotic", "introduced", and "alien" for species we encountered along the trail, and note the expressions on the visitors' faces at the use of each of the terms. When I said, "These wild oats are an introduced species into the area and have substantially altered the foothill woodland ecosystem," very little response was noted. "Introduced" is too kind a word; the people would almost shake hands with the oats. "See that European starling?" I would say. "It is an exotic species in the park, and is competing with native blue birds and woodpeckers for nest sites in the oaks." Their eyes would gaze into the distance, perceiving "exotic" as a good thing — palm trees, white sand beaches, sun and surf, and starlings flitting

by — another chance lost for interpreting the food fight.

I walked along until the trail narrowed, the brush got thicker, and the canopy closed overhead. Then I used my last and best term. In a loud, surprised voice I gasped out, "Alien!" A short period of pandemonium generally ensued. Then I gathered them together if they had not run too far, and we would discuss the lowly alien plant. The starling and the wild oats were also remembered. "Alien species" is a clear term that cannot be misconstrued.

Conclusion

We are effective at reaching our objectives only up to the point at which we are no longer correctly perceived; after that comes misunderstanding. If we could agree on certain definitions for these terms and break our old habits on "exotic" and "introduced", we would better understand ourselves at meetings, conferences, and in our own literature.

And more importantly, we would be able to clearly define what we mean when we use such terms at public meetings, legal hearings, and the like. The NPS is often misunderstood in its attempts to manage wildlife, vegetation, or some other resource. We can alleviate some of the misunderstandings by being consistent in our terminology.