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RESOURCE ECONOMETRICS

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December 26, 1990

Attn: Communications Director
Guidelines Comment
US Sentencing Commission
1331 Pennsylvania Ave., NW, Suite 1400
Washington, DC 20004

Dear Commissioners:

I write to call your attention to an inconsistent and misleading procedure in the present sentencing guidelines (*Guidelines Manual*, Nov., 1990) in cases involving endangered species, and to suggest how these problems could be addressed. I recommend that special guidelines be established for endangered species.

Under the Endangered Species Act, interstate commerce in plants and animals or parts thereof of listed endangered species is prohibited. Because trade is prohibited, there is no market, and therefore no market value, for these plants and animals. However, the guidelines recommend that the offense level be based in part on the "market value of the specially protected fish, wildlife, or plants..." (§2Q2.1. (3) (A), page 2.145). This is obviously impossible. Provision §2Q2.1. (3) (B) could apply instead, but it does not specifically address the Endangered Species Act, and does not fully consider the appropriate public values. Only provision §2Q2.1. (3) (A) potentially addresses the relative values of various species.

Economists have means of estimating "non-market" or "market-equivalent" values--prices or values equivalent to those that would be found in freely operating markets for goods and services that in fact have no markets or that have only distorted markets. There are numerous precedents in which courts have accepted market-equivalent values in place of market values in instances in which realistic market values are not available. For instance, see *State of Ohio, v. USDI*, Federal Reporter 880 F.2d 432 (D.C. Cir. 1989). Further, market-equivalent values could be estimated for endangered species. However, in this case the sentencing guidelines are misleading because the guidelines imply that an inappropriate market-equivalent value be estimated. To see why, we must examine the philosophy guiding the sentencing guidelines and the public purpose of the Endangered Species Act.

It seems obvious from the present guidelines that the severity of a given sentence is intended to reflect the degree of public injury resulting from the crime. Since market values in some cases indicate the appropriate degree of injury, it may be appropriate to link the severity of some sentences with the market values of the crimes. This holds for endangered species if we substitute market-equivalent values for market values.

However, it is not obvious what aspect of the plants or animals is to be evaluated. The

sentencing guidelines imply that the market value of trading the plants/ animals is the appropriate value, but such values, if available, would not reflect the kind of public injury against which the Endangered Species Act was intended to protect. The act prohibits interstate trade, importation, and possession of endangered species or parts thereof. However, these prohibited acts do not by themselves injure the public. Other plants/animals are regularly traded and imported with no significant injury to the public. Instead, it is the *taking of endangered plants/animals from the wild*, dead or alive, that may injure the public. The main value of concern to the American public for endangered species is the meaningful existence of these species. People believe that humankind has a responsibility to try to maintain the existence of all species with which we can reasonably co-exist. The loss of a species or even a noticeable reduction in the integrity of a species offends public sensibilities and significantly reduces the value people derive from the natural world. The Endangered Species Act prohibits trade and importation only because Congress lacks jurisdiction over the taking of most plants/animals from the wild, especially plants/animals that reside in other countries. Prohibiting trade and commerce is intended to lessen any unjustified taking of such plants/animals from the wild.

It follows that the appropriate market-equivalent values for determining the severity of sentences for violations of the Endangered Species Act would include the corresponding losses in public value due to the taking of the plants/animals that were imported, traded, or possessed without permit. That is, the appropriate value includes both (1) the market-equivalent value of trading the plants/animals, and (2) the market-equivalent value of increased endangerment of a species due to the loss of one or more individual plants/animals--which we could refer to as *endangerment value*.

Endangerment value is usually not reflected in the value of trade for the plants/ animals. The existence of a species is not a good or service one can own to the exclusion of other people. There are no private property rights for the *existence* of a species. Therefore, the existence of a species has no market and no market value. The value of the existence of a species is generally a purely non-market value. Little or none of this value is passed along to buyers or sellers in markets for trading in these plants/animals. For instance, hunters, trappers, and gatherers are not required to compensate an owner, the local community, or the world community for further endangering the species in exchange for their acts of removing endangered plants/animals from the wild, although harvesting rights, if sold, would command higher prices for scarcer plants/animals.

Economists refer to the market-equivalent value of the existence of an entire species as its *existence value*. Endangerment value, then, would be the value of the increased probability that the entire existence value would be lost. Other values could also be lost in addition to endangerment value: some or all of the values of various future consumptive and non-consumptive uses of the species, such as viewing, hunting, medical and other discoveries, and useful interactions of the animal with other

components of its ecosystem.

Economic studies have shown that the value to the US public of the existence of a single endangered species could be several billions of dollars, even for plants/animals that exist only outside the US. The loss of a single plant/animal from a wild endangered species population could increase the risk that the entire multi-billion dollar value would be lost. Thus, even if the loss of one plant/animal increased the probability of loss of the whole species by only 1/100 of 1 percent, the market-equivalent endangerment value of this loss could still be several hundred thousand dollars, comparable to an increase in offense level of 8 to 11 levels.

Endangerment value is part of the market-equivalent value of the cost of taking any endangered wild plant/animal. It expresses much or all of the loss imposed on the public as a result of the taking of the plant/animal. Other values that could be relevant for the purposes of the Endangered Species Act might include the plant/animal's market value as a trophy, museum display, or uses in clothing or drugs, the market value of the hunting/fishing experience in taking the plant/animal, and similar values or their market equivalents. Endangerment value is also part of the replacement cost of such an plant/animal. That is, since trade is prohibited and the plant/animal's market value is not available, one might instead inquire as to the cost of replacing the plant/animal as an indicator of its market value. To replace the plant/animal, one must either remove another plant/animal from the wild or obtain one from a captive stock. In either case, removal further endangers the entire species and incurs endangerment value.

Including such values as part of the sentencing guidelines would directly address the public policy purpose of the Endangered Species Act and appropriately consider the public values at stake. However, even if the guidelines clarified this point, the information needed is not yet available. Economists have not yet estimated the specific market-equivalent values that would be needed to enable judges to follow the guidelines in sentencing individuals for specific crimes. That is, they have not estimated the values to the US public of the existence of any exotic plants/animals, nor have they yet directly estimated the value of the loss of a single plant/animal from any wild endangered species population.

Under the present sentencing guidelines, the appropriate values are not even being considered. For instance, this was true in the sentencing hearing in *USA vs. Paul W. Asper* last month in the US District Court of the Middle District of Pennsylvania. I served as an economics consultant and expert witness for the United States regarding that hearing. The valuation question for *Guidelines* provision §2Q2.1. (3) (A) focused on the market value of mounted trophies of several endangered species which Mr. Asper had illegally imported and possessed. The court established that the trophies had no market value by virtue of the legal prohibition of interstate commerce in these species. Therefore, the court proceeded to estimate the replacement costs of the

trophies instead. However, endangerment value (the impact on the US public of removing such animals from the wild) was not even introduced by the government as part of replacement cost because such values have not yet been estimated. Instead, Judge Muir was trying to determine only the cost of going to the countries in which the animals were found, hunting and mounting the trophies, and shipping them to the US. The fact that the animals were endangered had practically no bearing on these costs.

I recommend that the Sentencing Commission either establish a schedule of values of endangered species recommended for use for purposes of sentencing, or a schedule of recommended offense levels for each endangered species.

I would be happy to provide further information, and to suggest procedures for establishing such schedules or for estimating endangered species values. For more details on the difficulties of applying the Sentencing Guidelines in *USA vs. Asper*, I suggest you contact either Mr. Robert R. Long, Jr., Assistant US Attorney, Middle District of Pennsylvania, Federal Building, 228 Walnut Street, P.O. Box 11754, Harrisburg, PA 17108 (phone: 717-782-4482), or Mr. S. Jonathan Blackmer, Trial Attorney, US Department of Justice, Land and Natural Resources Division, Benjamin Franklin Station, P.O. Box 7369, Washington, DC 20044-7369 (phone: 202-633-3923).

Sincerely,

A handwritten signature in black ink, appearing to read "Dan R. Talhelm", with a long horizontal flourish extending to the right.

Daniel R. Talhelm
President

cc: Long, Blackmer