

28 September 2008

Mark D. Myers, Director  
Office of the Director, Mail Stop 300  
U.S. Geological Survey, National Center  
Reston, Virginia 20192

Re: Appeal of Denial of Request for Correction of Erroneous Information

Dear Mr. Myers:

As permitted by section IV.4 of the USGS Guidelines for Ensuring the Quality of Information Disseminated to the Public, I am appealing a decision of the USGS denying my request for correction of erroneous information under the Federal Information Quality Act of 2001 (114 Stat 2763A-154, PL 106-554). My request was dated 26 July 2008. The USGS denial was dated 24 September 2008. Copies are enclosed.

My name, telephone number, and e-mail address appear in the letterhead. I am not affiliated with any organization.

I disagree with the USGS denial of my request on several grounds. The denial has two parts: (1) a letter from Susan D. Haseltine, Associate Director for Biology; and (2) an attachment by the authors of the erroneous information responding to concerns I raised. Associate Director Haseltine expressly approves and impliedly adopts the authors' attachment, so the two parts can be considered together.

A threshold problem with the USGS denial is that it is based on the traditional approach to science: if you don't like what a scientist has published, you publish data to challenge it. The enactment of the Federal Information Quality Act of 2001 imposed an additional obligation on federal agencies. The USGS denial pays lip service to the statute, but clearly is grounded in the traditional approach to scientific disputes and debate. For example, the last paragraph in Associate Director Haseltine's denial letter nicely summarizes the traditional approach in science. Also, the denial ignores later-published information, which may not be relevant in deciding whether a scientific paper was prudently published, but clearly is relevant in deciding whether information in a scientific paper is erroneous and should be corrected under the Information Quality Act. In short, the denial fails to comply

with the Information Quality Act because it fails to consider later-published information in determining whether the USGS publication at issue contained erroneous information.

My initial complaint focused on the authors' assumptions, but my supplementary submission of the Pyron report added a focus on the methods. The report by Pyron et al. (2008) (full citations appear in my complaint and supplement) is a repudiation of the method used by Rodda, Jarnevich, and Reed ("authors") - scientific repudiations don't get much clearer. Because of the authors' unwarranted assumptions and defective methods, it would be a serious mistake for managers to rely upon the USGS publication in making decisions about how to expend scarce resources for dealing with invasive species.

I don't want to belabor the contentions in my complaint, as supplemented, but I do want to respond briefly to the numbered points in the authors' supplement to the denial letter.

- (1) The authors fail to respond to criticism of their decision to ignore the status of *Python molurus bivittatus* as a legitimate subspecies. They simply argue that any assumption is OK in modeling as long as it is explicit and justified. Even if that is true (and I think the better rule is to make the most likely assumption based on existing knowledge), the decision to examine the much larger range of *Python molurus* to predict the potential U.S. range of the Florida *Python molurus bivittatus* is not justified. Their citation of the report by Pyron et al. (2008) is of no avail, because Pyron et al. had to use the range of *Python molurus* to make their results comparable to the USGS publication, and thus validate their severe criticism of the USGS results.
- (2) The LEMIS information is not conclusive. However, the LEMIS information is sufficient to support an inference that the Florida pythons almost certainly (or at least probably) originated from tropical areas in Thailand, southern Vietnam, or both. In choosing between assumptions, the LEMIS information would force one to lean toward a tropical origin of the Florida pythons. The authors did the opposite, and implicitly assumed that the Florida pythons were from the temperate extremes of the range of *Python molurus*. I am aware of no information that even hints that the Florida pythons originated from the temperate periphery of the natural range.
- (3) Contrary to the authors' assertions, the papers by Janzen (1967) and Ghalambor et al. (2006), in conjunction with an inference based on the LEMIS information, do provide a scientific basis for suspecting that the climatic tolerance of the Florida pythons is likely to be narrower than that of pythons from the extremes of the species' range. The

authors ignored that, and implicitly assumed instead that climatic adaptation or tolerance is uniform throughout the range of *Python molurus* and can be characterized by considering climatic tolerance at the most temperate periphery of the range.

- (4) The authors offer an explanation for the lack of python colonies in the U.S. outside of Florida. It may even be the correct explanation – I don't know. The point is, no explanation was offered in the USGS publication, and this is another example of the authors' failure to consider existing evidence relevant to the question they were addressing.
- (5) The authors contend that a reader can "omit" the precautionary principle. That is not true in this case. A reader can effectively "omit" the precautionary principle only if the authors present results both "with" and "without" application of the precautionary principle. The precautionary principle is mentioned in the USGS paper only once: "In keeping with the precautionary principle, we bounded our climate hypotheses (Fig. 2) to include all documented suitable climate space, rather than attempting to identify the rainfall and temperature thresholds that best discriminate between occupied and unoccupied native range." The authors do not provide the information necessary for the reader to "omit" the precautionary principle in this case. In addition, the fact that many of the authors' assumptions push the results toward a larger projected U.S. range suggests that the precautionary principle was in play more than the one time it is mentioned in the paper. The precautionary principle is not a scientific principle; it is a management tool. Scientists should provide managers with the information necessary to apply the precautionary principle or not, but should not attempt to apply the precautionary principle for the managers. The authors' attempt to characterize their work as applied research does not excuse them from the obligation to provide managers with the tools necessary to allow the managers to decide whether to impose the precautionary principle or not.

I also want to briefly summarize the later-published information that should have been considered in deciding whether the USGS publications contained erroneous information. To reiterate, this later-published information may not be relevant to determining whether publication of a scientific paper was prudent, but it is relevant to determining whether a scientific paper contains erroneous information for the purposes of the Information Quality Act.

- (1) The Pyron report has already been mentioned. It shows that the USGS paper contains erroneous information by establishing that the USGS methodology was far from the best available, and that strikingly different results are obtained when more sophisticated methodology is used.

- (2) Barker (2008) reported that, unlike boas, captive *Python molurus bivittatus* do not appear to be behaviorally programmed to avoid lethally cold temperatures. This information casts serious doubt on the authors' prediction that the Florida pythons might invade areas of the United States where sub-freezing temperatures are common in the winter.

In summary, the USGS publication is based on unwarranted assumptions and used defective methodology. The news release and interview based on that publication are similarly tainted. The result, a prediction that Florida pythons might be able to invade the southern third to half of the lower 48 states, is severely flawed. To comply with the Federal Information Quality Act, USGS must take affirmative steps to correct the errors, and cannot simply rely upon the traditional scientific process, which may or may not lead to corrections over time. It is the responsibility of USGS, not outside scientists, to correct the errors. USGS should remove the scientific paper, news release, and interview from its website, and should correct the errors by publishing a note in *Biological Invasions* and issuing a second news release. If USGS fails to correct the erroneous information, the risk of python invasions outside of Florida will be exaggerated, and the exaggerated risk may lead federal, state, or local managers to allocate scarce resources in ways that do not reflect the actual risk of python invasions.

Sincerely,

enclosures