United States Department of the Interior
U.S. GEOLOGICAL SURVEY
Office of the Director
Reston, VA 20192

TAKE PRIDE IN AMERICA

SEP 2 4 2008

In Reply Refer To:
Mail Stop 300

On July 26, 2008, the U.S. Geological Survey (USGS) received your complaint about information quality and request for correction regarding the following publication and news release:

- Rodda, G. H., Jarnevich C. S., and Reed R. N., 2008, What parts of the US mainland are climatically suitable for invasive alien pythons spreading from Everglades National Park? Biological Invasions, in press. Published on-line on February 27, 2008, http://www.springerlink.com/content/n33112741052777t/

- Rodda, Gordon, Reed, Robert, and Snow, Skip, 2008, USGS maps show potential non-native python habitat along three U.S. coasts, USGS News release dated February 20, 2008.

With regards to your specific complaint, you allege that "erroneous" information was conveyed through the report and news release in the following five areas:

(1) They characterized the climate throughout the entire natural range of the Indian python, *Python molurus*, rather than the smaller range of the Burmese python, *Python molurus bivittatus*, and then used that characterization to project the potential range of Burmese pythons now established in Florida (this was justified in the scientific paper by the unsupported conclusion that *P. m. bivittatus* is a "questionable" subspecies);

(2) They ignored information available from the U.S. Fish and Wildlife Service that supports an inference that the Burmese pythons, now established in Florida, very probably came from tropical regions in southern Vietnam or Thailand;

(3) They inappropriately assumed that the climatic tolerance of the Burmese pythons established in Florida is the same as the climatic tolerance of Burmese pythons from the periphery of the subspecies' natural range;

(4) They failed to account for the fact that Burmese pythons have been released or have escaped from localities in other parts of the United States, but have become established in the wild only in Florida; and

(5) They applied the precautionary principle to their scientific method, when that principle should be limited to management activities."

In the separate attachment, the authors of the report have provided responses to each of the concerns raised. I have reviewed their responses and find them to be comprehensive.

I considered your complaint very seriously, as the USGS is committed to providing the Nation with unbiased, objective scientific information upon which other entities may base judgments. Upon evaluation, I find the USGS products to be technically correct, unbiased, and objective. Therefore, the USGS products in the Information Quality Act request will not be modified.

USGS information is published in many media, and because of the scientific nature of the information, it passes through many quality assurance reviews, including peer review, to ensure the utility, objectivity, and integrity of the information. As scientists, we can in good faith disagree with published findings or the methods used to arrive at those findings and as scientists, we can offer alternative research hypotheses. The publication of research helps to raise scientific questions that should be vigorously debated and used to help design subsequent investigations and further our collective goal of conducting better science.

Sincerely

Sue Haseltine

Susan D. Haseltine
Associate Director for Biology

Attachment

Attachment:

Statement 1: The appropriate portion of the snake's native range to consider in identifying climate tolerance should be limited to the subspecies *P. m. bivittatus*.

Response: Following the original submission of your appeal under the IQA, a supplemental report by Pyron et al. (2008) was also submitted for review by the authors. The importance of this paper in the present context is that another set of authors considered the problem of projecting the climate envelope of the python onto the United States and chose to use the entire species range, as done by Rodda et al. (2008). By definition, the assumptions going into a model are arguable and unprovable. That is, they can neither be disproved nor confirmed with the information presently available. Thus scientific editorial practices demand only that the assumptions be explicit and justified. The crux of this issue is that the climate range of the species *Python molurus* may be broader than that of the individuals making up the population presently in south Florida. We know of no data bearing directly on this question, but a narrower climate tolerance range is certainly possible for the extant Florida population. A hypothesis can be made regarding what the climate envelope of these individuals might be, but we have no means at this time of quantifying it.

Statement 2: The authors ignored evidence that pythons in Florida originated from Vietnam or Thailand.

Response: [redacted] alludes to the use of the Fish and Wildlife Service import (LEMIS) data to guess the origin of the pythons present in the Everglades. The data was not used because:

1) Many LEMIS entries are secondary points of sale and therefore do not accurately reflect geographic origins,
2) Some LEMIS/CITES entries have country of origin falsified by importers, in order to circumvent import or export restrictions,
3) Although some countries are more likely to be sources, as reflected in LEMIS data, many countries have provided some pythons; therefore we could not exclude any possibility on the basis of importation records alone,
4) The date of importation of the pythons in the Everglades is highly uncertain (the stock could have been imported generations before the pythons were released in Florida), and it is highly likely that at least some pythons subsequently released in Florida were imported before LEMIS records were collected in a retrievable (computerized) form.

Statement 3: Climatic tolerance of pythons in Florida is not the same as that of pythons at the periphery of the range of *P. m. bivittatus*.

Response: While local climatic adaptation is plausible, we have no scientific basis for either quantifying what would be the demographic consequences of such local adaptation or identifying the geographic origin of the individuals presently occupying southern Florida. It is highly likely that additional genetic contributions have occurred or will occur. We cannot know what the future will bring, but we do know the climate tolerance of the species. It is not a perfect measure of what may happen, but it is the best choice for the data available to date.

Statement 4: If pythons could live in non-Florida parts of the U.S., they would already have done so, as there have been numerous releases of pythons throughout the U.S.

Response: To our knowledge, the failed colonizations of pythons in North America do not include examples of purposeful introductions, but merely single snakes that escaped from cages or were released by negligent owners. Such single individuals rarely result in a population, and such releases are almost always undocumented in the scientific literature. We did not evaluate these in our paper because they are largely uninterpretable.

Statement 5*: The Precautionary Principle applies only to management, not to applied research. (Note: This statement was listed as a second item 4 in the complaint.)

Response: Our application of the Precautionary Principle was appropriate as it was intended to inform management. We stated exactly how we applied the Precautionary Principle, so that readers can omit the Precautionary Principle if they see fit to do so.

In his appeal, _____ emphasizes his reliance on "information published since the publication of the material in question." We are not responsible for inclusion in a paper information that was not available at the time of publication. If _____ wishes to produce or disseminate new information, we encourage him to follow standard scientific practice and submit his new data for publication.

References Cited

Pyron, R. A., F. T. Burbrink, and T. J. Guiher. 2008. Claims of potential expansion throughout the U.S. by invasive python species are contradicted by ecological niche models. PLoS ONE 3(8):e2931.

Rodda, G. H., C. S. Jarnevich, and R. N. Reed. 2008. What parts of the US mainland are climatically suitable for invasive alien pythons spreading from Everglades National Park? Biol. Invasions in press.