

Docket Number: FWS-R5-ES-2016-0030

Overall, I agree with listing of Kenk's Amphipod, *Stygobromus kenki*, as a federally endangered species.

1. Does the proposed rule provide an accurate and adequate review and analysis of the threats, categorized under the Act's five factors, affecting the Kenk's amphipod (KA)? The five factors are:

A. The present or threatened destruction, modification, or curtailment of its habitat or range-

The proposed rule gives a thorough and adequate review of current and potential threats to the habitat of Kenk's Amphipod, especially in the light of the seemingly isolated nature of the different populations in the Rock Creek area of the District of Columbia. The narrow buffer between the urbanized neighborhood surrounding seepage springs where Kenk's Amphipod occurs is a major concern. The proposed rule appropriately addressed the relationship between the increase in impervious surfaces in urbanized areas and potential negative effects of pollutants such as heavy metals, increased nitrate and chloride levels, petroleum products and sewage from sewer pipe leakage on the water quality of the subterranean hypotelminorheic habitat of the amphipods. One issue addressed by the proposed rule under Factor E (below) is the potential impact of global warming. Although there is a time lag of warming on the surface to warming of groundwater in general, the shallow nature of the hypotelminorheic habitat means a much shorter lag time of the effects of warming on Kenk's Amphipod and other occupants of the habitat. I think the proposed rule underestimates the potential threats in this regard, because the impact of pollutants on Kenk's Amphipod may likely be compounded by even a slight increase in the water temperature due to a potential increase rate of uptake of pollutants in concert with increased metabolic activities.

The proposed rule correctly stated that there is currently no study on the tolerance of close relatives of Kenk's Amphipod to potential pollutants and toxicants. Most toxicological studies use the standard model *Hyallela azteca*, an amphipod belonging to a different family. Such studies necessarily involve killing specimens of the target organism and is inappropriate for Kenk's Amphipod. However, the Potomac Groundwater Amphipod is a closely related, common, widespread and abundant species occupying some of the same sites as the Kenk's Amphipod. I think a willingness by FWS to fund studies on the tolerance of the Potomac Groundwater Amphipod to potential pollutants will address this issue not only for Kenk's Amphipod, but also for Hay's Amphipod which is already listed as endangered and co-occurs at some sites with Kenk's Amphipod or the Potomac Groundwater Amphipod or both.

I agree that the habitat of Kenk's Amphipod at Fort A.P. Hill is not under threat because of the extensive buffering from undeveloped land. A good sign is that there is some understanding that activities conducted within Fort A.P. Hill will avoid such habitats, however, there should be some formal assurance, such as development of a MOU between the FWS and Fort A.P. Hill, that some procedure may be developed to ensure that future land use at the base will avoid recharge areas of known Kenk's Amphipod sites.

B. Overutilization for commercial, recreational, scientific, or educational purposes-

There is no obvious commercial value or interest in Kenk's Amphipod. In terms of recreation, the only threat is from potential trampling of the seepage spring area by errant hikers, but this is highly unlikely because the soft and muddy substrate near the seepage springs is a deterrent. Collection for scientific study is a potential concern, but the current requirement for a collection permit is an adequate oversight. Although the current limit is ten specimens for scientific collection, it is unclear the rationale behind this number. As stated in the proposed rule, no systematic work has been done to estimate the population sizes of Kenk's Amphipod or any other amphipod species accessible at these seepage springs. The FWS should

encourage any non-destructive future work to assess the basic biology of Kenk's Amphipod and other amphipods at these sites.

C. Disease and predation-

I agree there is no information available on effects of disease and predation on Kenk's Amphipod. However, the potential effect of warming, as stated above, may introduce disease, such as fungal pathogens, and predators, such as crayfish predatory insects, to the seepage springs. Long term monitoring of these sites is necessary to ensure the future survival of this species.

D. The inadequacy of existing regulatory mechanisms-

I agree that the existing regulatory mechanisms are inadequate to address issues related to Factor A above. Much of this results from the recharge areas of many seepage springs being outside the jurisdiction of federal agencies except for Fort A.P. Hill, of course. However, as stated above, non-destructive efforts to assess the basic biology of Kenk's Amphipod is within the scope of FWS and NPS.

E. Other natural or manmade factors affecting its continued existence-

The proposed rule focused appropriately on the isolated nature of different populations of small population sizes based on non-systematic visual observations. There is a lack of analysis of even such limited data from a metapopulation perspective. In addition, the assumptions of small population size and genetic isolation among populations is untested. Some analyses of DNA sequence information will shed light on the metapopulation structure among sites for this species, such as potential for migration of individuals among sites, the genetic diversity within sites and whether this diversity varies over time at a site.

As alluded to above under Factor A, the effect of global warming may significantly impact the viability of Kenk's Amphipod.

2. Is our analysis of the five factors logical and supported by the evidence we provide?

I agree that the analyses provided in the proposed rule were logical and supported by the existing evidence. However, as stated above, the analyses were based on inadequate information on the basic biology of the species at any one site as well as the lack of any information on metapopulation structure. Overall, I do think that the proposed rule builds a good case for the listing of Kenk's amphipod as a Federal Endangered Species.

3. Do we cite all necessary and pertinent literature to support our scientific analyses?

Yes. The analyses were based on available pertinent literature.

*U.S. Fish and Wildlife Service
Participation in Peer Review of Kenk's Amphipod Proposed Listing Rule*

**BACKGROUND INFORMATION
AND
CONFLICT OF INTEREST DISCLOSURE**

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CURRENT EMPLOYER: American University

This form as two (2) parts:

- Part I – Background Information, and;
- Part II – Conflict of Interest Disclosure.

Please complete both parts, **sign** and **date** the form on the last page, and **return the form to Julie Thompson Slacum, U.S. Fish and Wildlife Service, U.S. Fish and Wildlife Service, Chesapeake Bay Field Office, 177 Admiral Cochrane Drive, Annapolis, MD 21401 or julie_thompson@fws.gov**. **Please retain a copy for your records.**

**PART I
BACKGROUND INFORMATION**

INSTRUCTIONS

Please provide the information requested below regarding **relevant** organizational affiliations, government service, public statements and positions, research support, and additional information (if any). Information is “relevant” if it is related to -- and might reasonably be of interest to others concerning -- your knowledge, experience, and personal perspectives regarding the subject matter for which this form is being completed. If some or all of the requested information is contained in your curriculum vitae (CV), you may prefer to simply attach your CV to this form, supplemented by additional responses or comments below as necessary.

I. ORGANIZATIONAL AFFILIATIONS. Report your relevant business relationships (as an employee, owner, officer, director, consultant, etc.) and your relevant remunerated or

volunteer non-business relationships (e.g., professional organizations, trade associations, public interest or civic groups, etc.).

Member, Board of Directors, Cave Conservancy of the Virginias
Member, International Society for Subterranean Biology
Member, The Crustacean Society
Member, National Speleological Society

II. GOVERNMENT SERVICE. Report your relevant service (full-time or part-time) with federal, state, or local government in the United States (including elected or appointed positions, employment, advisory board memberships, military service, etc.).

None.

III. RESEARCH SUPPORT. Report relevant information regarding both public and private sources of research support (other than your present employer), including sources of funding, equipment, facilities, etc.

Cave Conservancy Foundation
US Fish and Wildlife Service

IV. PUBLIC STATEMENTS AND POSITIONS. List your relevant articles, testimony, speeches, etc., by date, title, and publication (if any) in which they appeared, or provide relevant representative examples if numerous. Provide a brief description of relevant positions of any organizations or groups with which you are closely identified or associated.

None.

V. ADDITIONAL INFORMATION. If there are relevant aspects of your background or present circumstances not addressed above that might reasonably be construed by others as affecting your judgment in matters within the topics addressed in the proposed rule, and therefore might constitute an actual or potential source of bias, please describe them briefly.

None.

PART II CONFLICT OF INTEREST DISCLOSURE

INSTRUCTIONS

It is essential that a peer reviewer used by the U.S. Fish and Wildlife Service as part of its peer review of proposed listing and proposed critical habitat rules under the ESA not be compromised by conflict of interest. For this purpose, **the term “conflict of interest” means any financial or other interest which conflicts with the service of the individual because it (1) could significantly impair the individual’s objectivity or (2) could create an unfair competitive advantage for any person or organization.**¹ Except for those situations in which the Service determines that a conflict of interest is unavoidable and promptly and publicly discloses the conflict of interest, no individual can participate in a peer review process used by the Service in a proposed listing or proposed critical habitat rule if the individual has a conflict of interest that is relevant to the functions to be performed.

The term “conflict of interest” means something more than individual bias. There must be an *interest* that could be directly affected by your participation as a peer reviewer.

Conflict of interest requirements are *objective* and *prophylactic*. They are not an assessment of one’s actual behavior or character, one’s ability to act objectively despite the conflicting interest, or one’s relative insensitivity to particular dollar amounts of specific assets because of one’s personal wealth. Conflict of interest requirements are objective standards designed to eliminate certain specific, potentially compromising situations from arising, and thereby to protect the individual, the Service, and the public interest. The individual and the Service should not be placed in a situation where others could reasonably question, and perhaps discount or dismiss, the information produced through the peer review simply because of the existence of conflicting interests.

The term “conflict of interest” applies only to *current interests*. It does not apply to past interests that have expired, no longer exist, and cannot reasonably affect current behavior. Nor does it apply to possible interests that may arise in the future but do not currently exist, because such future interests are inherently speculative and uncertain. For example, a pending formal or informal application for a particular job is a current interest, but the mere possibility that one might apply for such a job in the future is not a current interest.

The term “conflict of interest” applies not only to the personal interests of the individual but also to the *interests of others* with whom the individual has substantial common financial or other interests if these interests are relevant to the functions to be performed. Thus, in assessing an individual’s potential conflicts of interest, consideration

¹ This definition and the other information in these instructions are drawn from the National Academy of Sciences Policy on Committee Composition and Balance and Conflicts of Interest for Committees Used in the Development of Reports (May 12, 2003).

must be given not only to the interests of the individual but also to the interests of the individual's spouse and minor children, the individual's employer, the individual's business partners, and others with whom the individual has substantial common financial or other interests. Consideration must also be given to the interests of those for whom one is acting in a fiduciary or similar capacity (e.g., being an officer or director of a corporation, whether profit or nonprofit, or serving as a trustee).

Such interests could include an individual's stock holdings in excess of \$10,000 in a potentially affected company or being an officer, director, or employee of the company. Serving as a consultant to the company could constitute such an interest if the consulting relationship with the company could be directly affected or is directly related to the subject matter of the regulatory process.

An individual's other possible interests might include, for example, relevant patents and other forms of intellectual property, serving as an expert witness in litigation directly related to the subject matter of the regulatory process, or receiving research funding from a party that would be directly affected by the regulatory process if the research funding could be directly affected or is directly related to the subject matter of the regulatory process and the right to independently conduct and publish the results of this research is limited by the sponsor. Consideration would also need to be given to the interests of others with whom the individual has substantial common financial interests -- particularly spouses, employers, clients, and business or research partners.

The following questions are designed to elicit information from you concerning possible conflicts of interest that are relevant to the functions to be performed by your peer review.

1. EMPLOYMENT. (a) If the information received by the Service through the peer review process were to provide the basis for government regulatory action or inaction with respect to the Kenk's amphipod --

(i) If you are employed or self-employed, could your current employment or self-employment (or your spouse's current employment or self-employment) be directly affected?

(ii) To the best of your knowledge, could any financial interests of your (or your spouse's) employer or, if self-employed, your (or your spouse's) clients and/or business partners be directly affected?

(iii) If you are an officer, director or trustee of any corporation or other legal entity, could the financial interests of that corporation or legal entity be directly affected?

(iv) If you are a consultant (whether full-time or part-time), could there be a direct effect on any of your current consulting relationships?

(v) Regardless of the potential effect on the consulting relationship, do you have any current or continuing consulting relationships (including, for example, commercial and professional consulting and service arrangements, scientific and technical advisory board memberships, serving as an expert witness in litigation, or providing services in exchange for honorariums and travel expense reimbursements) that are directly related to the subject matter of the possible government regulatory action or inaction?

(b) If you are or have ever been a U.S. Government employee (either civilian or military), to the best of your knowledge are there any federal conflict of interest restrictions that may be applicable to your service in connection with this peer review?

(c) If you are a U.S. Government employee, are you currently employed by the Service?

If the answer to all of the above questions under EMPLOYMENT is either “no” or “not applicable,” check here (NO).

If the answer to any of the above questions under EMPLOYMENT is “yes,” check here (YES), and briefly describe the circumstances on the last page of this form.

2. INVESTMENT INTERESTS. Taking into account stocks, bonds, and other financial instruments and investments including partnerships (but excluding broadly diversified mutual funds and any investment or financial interest valued at less than \$10,000), if the information received by the Service through the peer review process were to provide the basis for government regulatory action or inaction with respect to the Kenk’s amphipod --

(a) Do you or your spouse or minor children own directly or indirectly (e.g., through a trust or an individual account in a pension or profit-sharing plan) any stocks, bonds or other financial instruments or investments that could be affected, either directly or by a direct effect on the business enterprise or activities underlying the investments?

(b) Do you have any other significant financial investments or interests such as commercial business interests (e.g., sole proprietorships), investment interests (e.g., stock options), or personal investment relationships (e.g., involving parents or grandchildren) that could be affected, either directly or by a direct effect on the business enterprise or activities underlying the investments?

If the answer to all of the above questions under INVESTMENT INTERESTS is either “no” or “not applicable,” check here (NO).

If the answer to any of the above questions under INVESTMENT INTERESTS is “yes,” check here (YES), and briefly describe the circumstances on the last page of this form.

3. PROPERTY INTERESTS. Taking into account real estate and other tangible property interests, as well as intellectual property (patents, copyrights, etc.) interests, if the information received by the Service through the peer review process were to provide the basis for government regulatory action or inaction with respect to the Kenk's amphipod --

(a) Do you or your spouse or minor children own directly or indirectly any such property interests that could be directly affected?

(b) To the best of your knowledge, do any others with whom you have substantial common financial interests (e.g., employer, business partners, etc.) own directly or indirectly any such property interests that could be directly affected?

If the answer to all of the above questions under PROPERTY INTERESTS is either "no" or "not applicable," check here X (NO).

If the answer to any of the above questions under PROPERTY INTERESTS is "yes," check here (YES), and briefly describe the circumstances on the last page of this form.

4. RESEARCH FUNDING AND OTHER INTERESTS. (a) Taking into account your research funding and other research support (e.g., equipment, facilities, industry partnerships, research assistants and other research personnel, etc.), if the information received by the Service through the peer review process were to provide the basis for government regulatory action or inaction with respect to the Kenk's amphipod --

(i) Could the research funding and support for you or your close research colleagues and collaborators be directly affected, or

(ii) If you have any research agreements for current or continuing research funding or support from any party whose financial interests could be directly affected, and such funding or support is directly related to the subject matter of the regulatory process, do such agreements significantly limit your ability to independently conduct and publish the results of your research?

(b) Is the central purpose of the proposed rule for which this disclosure form is being prepared a critical review and evaluation of your own work or that of your employer?

(c) Do you have any existing professional obligations (e.g., as an officer of a scientific or engineering society) that effectively require you to publicly defend a previously established position on an issue that is relevant to the proposed rule?

(d) To the best of your knowledge, will your participation in this peer review process enable you to obtain access to a competitor's or potential competitor's confidential proprietary information?

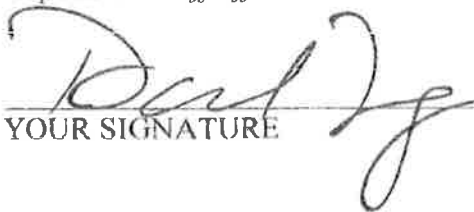
(e) Could your service as a peer reviewer create a specific financial or commercial competitive advantage for you or others with whom you have substantial common financial interests?

If the answer to all of the above questions under RESEARCH FUNDING OR OTHER INTERESTS is either “no” or “not applicable,” check here (NO).

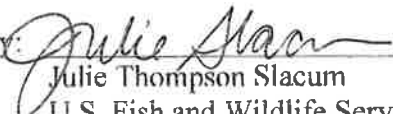
If the answer to any of the above questions under RESEARCH FUNDING OR OTHER INTERESTS is “yes,” check here (YES), and briefly describe the circumstances below.

EXPLANATION OF “YES” RESPONSES:


During your period of service in connection with the activity for which this form is being completed, any changes in the information reported, or any new information, which needs to be reported, should be reported promptly by written or electronic communication to the responsible staff officer.


YOUR SIGNATURE

11/29/2016
DATE

Received by: 
Julie Thompson Slacum
U.S. Fish and Wildlife Service
Chesapeake Bay Field Office
Division Chief, Strategic Resource Conservation

11/29/2016
Date

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U.S. Fish and Wildlife Service
Northeast Regional Office
Endangered Species Listing Coordinator

12/12/16
Date