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15 August 2009

Prof. Douglas Toomey  
1272 Geological Sciences  
University of Oregon  
Eugene, OR 97403-1272

Re. Support for R/V Marcus Langseth marine geophysics research cruise  
to Endeavour Hydrothermal Vents Marine Protected Area

Dear Professor Toomey,

I am writing to express my support to you and your colleagues for your planned geophysical cruise to the Endeavour Segment of the Juan de Fuca Ridge.

I strongly disagree with those who propose that your project will not directly contribute to ecosystem or conservation research. Unlike any other ecosystem on Earth, hydrothermal vent ecosystems at Endeavour and elsewhere are entirely dependent upon subsurface heating and the resulting chemical energy to produce the organic matter that supports vent food webs. The seismic data will provide us with new insight into the magma sources that are driving hydrothermal circulation beneath each of the Endeavour vent fields. Such information is essential to our understanding of the stability of hydrothermal vent populations in the area, and to evaluating the importance of the MPA as a long-term species reservoir for the entire northeast Pacific spreading ridge system. There is currently considerable debate at the international level about the importance of long-lived hydrothermal systems to the survival of vent species. Long-lived hydrothermal fields accrue biodiversity and also tend to accumulate large mineral deposits, which are preferred targets for ocean mining operations. This conservation problem was identified as a priority for future research at an April 2009 InterRidge workshop on deep-sea mining held at Woods Hole Oceanographic Institution.

Although I make no claims to being a marine mammal expert, the information on the seasonal use (November to March) of the area by whales that was provided by DFO and

from the analysis of long-term hydrophone data from the area, together with the mitigation policy that will be in place on the Langseth, were sufficient to convince me that your short, summer-time seismic survey would pose little risk to marine mammals. CPAWS, in their comments to the Endeavour Hydrothermal Vents Advisory Committee, identified the Endeavour area as offering “highly suitable habitat for several species of whales for which daylight visual observation mitigation measures are inadequate”. Yet they provided no scientific evidence for this “highly suitable habitat” designation, which contradicts long-term empirical observation (hydrophone data) of the usage of the area by whales.

I wish you all the best in your upcoming efforts to get this cruise back on track.

Sincerely,

A handwritten signature in black ink, appearing to read 'S. Kim Juniper', with a stylized flourish at the end.

S. Kim Juniper, Professor  
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