BIODIVERSITY
RESEARCH INSTITUTE

a non-profit ecological research group

March 23, 2010

Mr. Per Bakken
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Dear Sir,

I am writing on behalf of BioDiversity Research Institute (BRI) in Gorham, Maine, United States to express the organization's interest in joining the UNEP Global Mercury Partnership. Based on the stated goals of the Partnership, I am confident that BRI's expertise and interests will help to further the mission of the program.

I understand that UNEP's focus is taking actions to address human health impacts. BRI has much information to share applicable to that goal. Further, we believe that – as discussed below - a consideration of ecological impacts can strengthen the case for reducing human health impacts from environmental mercury loads. We would like to advance discussions of these links within Partnership deliberations.

BRI is particularly interested in participating in the Air Transport and Fate Mercury Research area and, for this reason, I am providing a copy of this letter to the area lead, Dr. Nicola Pirrone, Director, CNR Institute for Atmospheric Pollution, Italy. I understand that partnership area plans to expand its scope beyond emissions, atmospheric transport and deposition activities, as outlined in its current business plan, to include research on aquatic transport, methylation, bioaccumulation in fish, and exposure. Further, I note that the Partnership area's 2008 report to UNEP recommended establishment of a global multimedia mercury monitoring network. BRI can help further these objectives. For over 15 years, BRI has been working to understand the fate and impact of mercury (Hg) in biota of freshwater, terrestrial and marine ecosystems.

BRI's efforts to assess ecosystem exposure and effects of Hg are comprehensive and include:

(1) Characterizing the exposure and effects of Hg in fish and wildlife populations across North and Central America, particularly in relation to the U.S. Fish and Wildlife Service's (USFWS) Natural Resource Damage and Assessment Program and the U.S. Environmental Protection Agency's (USEPA) Superfund Program;

(2) Relating influences of biogeochemical, hydrological, and climate-induced factors on methylmercury availability for human and ecological health assessments through the Federal Energy Regulatory Committee, U.S. Department of Agriculture, and the USFWS;

(3) Developing wildlife criterion values and other techniques to link regulatory needs with biotic endpoints for water (in New England), air (across the eastern United States), and sediment (based on data in San Francisco Bay, California and Penobscot Bay, Maine); and

(4) Establishing regional, national and international monitoring and database programs. Based on funding from the USEPA's Clean Air Markets Division, BRI is collecting and summarizing Hg data from across North America for sediment, water, lower food web, fish, and wildlife. Over 600,000 mercury data points have been amassed and are being standardized into an interactive mercury inventory on the internet called MercNet.

I believe that scientific ecosystem assessment and monitoring is crucial to evaluate linkages between Hg emissions and methylmercury concentrations in biota and helps us to better understand responses to emissions reductions. Unlike other pollutants, Hg measurements in the air, sediment and water are not necessarily reflective of how much methylmercury builds up in foodwebs. Therefore, biotic measurements are needed to best identify Hg hotspots that likely reflect high ecological sensitivity to environmental Hg input. As part of our effort to address environmental Hg issues I have worked with Hg scientists, federal natural resource managers, and policymakers from across the United States to develop an integrated National Mercury Monitoring Network. The proposed network would provide comprehensive, standardized information about ambient concentrations, deposition, watershed cycling, bioaccumulation, and biological effects of Hg. Legislation is pending to support this nationwide effort – which could have ramifications for a global Hg monitoring network.

BRI's commitment to collaborative science will be an asset to UNEP's Global Mercury Partnership. The organization has developed several Hg monitoring networks that link research programs and provide an arena for shared methods. BRI is a storage house for Hg data in North America and currently coordinates three research networks:

1. Global Loon Mercury Monitoring Research Network (GLMMR) – (http://www.briloon.org/science-and-conservation/centers/GLMMR.php)
2. Terrestrial Ecosystem Research Assessment Network (TERRA) – (http://www.briloon.org/science-and-conservation/programs/TERRA.php)
3. MercNet Monitoring Inventory, an on-line database of Hg data from the U.S. and Canada (http://www.briloon.org/about/staff/MercNetTheNationalMercuryMonitoringProgram.php)

As an example of the value of these networks, Environment Canada – as a result of the GLMMR network - is using the Common Loon as an endpoint indicator for monitoring environmental Hg loads related to changes in Hg emissions driven by new regulations. I

also have had the good fortune to serve in a primary leadership role for several scientific workshops, including:

1. Northeast Regional Mercury Synthesis (U.S. and Canada; 2001-2005) (http://www.briloon.org/about/staff/NortheasternMercuryProject.php)
2. Contaminants in Birds at the North American Ornithological Council (Worldwide; 2007)
3. Great Lakes Regional Mercury Synthesis (U.S. and Canada; 2008-2011) (http://www.briloon.org/about/staff/MercuryintheGreatLakesRegion.php)
4. Contaminants in Waterbirds at the Waterbird Society (U.S. and Canada; 2009)

I recently joined two new steering committees, the Marine Mercury Consortium, as part of a National Institute of Health project to organize marine Hg scientists and policy makers to generate publications over the next 3 years. I am also a member of the Science Steering Committee for the International Committee for Mercury as a Global Pollutant (ICMGP).

BRI recognizes the importance of international collaboration toward fulfilling the objectives of the UNEP Global Mercury Partnership. Over the past couple of years, the organization has worked with collaborators in parts of Central and South America to build local capacity to increase Hg monitoring in coastal and inland ecosystems. Data gained from these efforts will help to increase our global understanding of Hg transport, deposition and the spatial and temporal trends in biotic response. Such information is invaluable to local, national and global efforts to manage Hg exposure and risks to human and ecosystem health.

In closing, I would welcome the opportunity to bring BRI's expertise in ecosystem assessment and commitment to collaborative research networks and data accessibility to the UNEP Global Mercury Partnership.

Sincerely,

David Evers, Ph.D.
Executive Director, BioDiversity Research Institute
Telephone (207) 839-7600 x110

cc: Nicola Pirrone, Italy
Marianne Bailey, USEPA
Stan Durkee, USEPA
Grace Howland, Canada
Brenda Koekkoek, UNEP

UNEP GLOBAL MERCURY PARTNERSHIP
REGISTRATION FORM *

Partnership Area	Please check partnership areas that your organization intends to contribute to: ☐ **artisanal and small scale gold mining** ☐ **mercury cell chlor alkali production** √ **mercury air transport and fate research** ☐ **mercury in products** ☐ **mercury releases from coal combustion** ☐ **mercury waste management** Please indicate in your support letter how your organization intends to contribute to each of the indicated partnership areas.

Organization Name	BioDiversity Research Institute
Name, Functional Title of Representative	Dr. David Evers
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Website/URL	www.briloon.org
Type of Organization	☐ **Government** ☐ **Regional economic integration organization** √ **Non-government Organization** ☐ **Industry** ☐ **Scientific community** ☐ **Other, please specify:** _____

* UNEP Global Mercury Partnership Registration Forms are to be accompanied by a letter to UNEP signifying support for the UNEP Global Mercury Partnership and commitment to achieving the partnership goal.The support letter should specify how the organization intends to contribute to meeting the goal of the UNEP Global Mercury Partnership. Please submit the support letter and registration form to:

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November 25, 2020

Head, Chemicals and Health Branch
Economy Division
United Nations Environment Programme
Palais des Nations
8-14 avenue de la Paix
CH-1211 Geneva 10, Switzerland

For the Attention of: Head of the Chemicals and Health Branch, Economy Division

It is my honor to apply for registration as a partner to the UNEP Global Mercury Partnership. As a new employee of the Biodiversity Research Institute (BRI - http://www.briloon.org/), I will be working on the Global Mercury Partnership. I am currently working on projects directly related to the two Partnership Areas I have applied for: Artisanal and small-scale gold mining, and Mercury air transport and fate research (see accompanying application).

BRI works with agencies of the United Nations to develop and implement The Minamata Convention on Mercury. BRI has partnered with UN Environment Programme (UNEP), United Nations Development Programme (UNDP), and the United Nations Industrial Development Organization (UNIDO) to assist 35 countries and their ministries in conducting Minamata Initial Assessments (MIAs), a series of pre-ratification activities developed by the International Negotiating Committee (INC) and the Global Environmental Facility in order to help meet requirements of the Convention.

BRI currently serves as co-lead of UN Environment's Mercury Air Transport and Fate Research Partnership Area. As a co-lead, BRI is (1) assisting with the development of a globally coordinated mercury monitoring and observation system and (2) with the synthesis of the mercury inventories of the MIAs. Since 2013, BRI has collated biotic mercury data from peer-reviewed publications and governmental reports into one database—the Global Biotic Mercury Synthesis (GBMS). Data from the GBMS database are presented in BRI's report, “Mercury in the Global Environment” (http://www.briloon.org/mercury-in-the-global-environment).

As a member of the UN Environment’s ASGM partnership area, BRI collaborates with multiple agencies and organizations to reduce and, where possible, eliminate the use of mercury in the ASGM sector. Projects conducted to date include the Development of Miner Training Resources for Peru, Columbia, and Ecuador (2015-