

VISION FOR THE ECOLOGICAL RISK ASSESSMENT COMPONENT OF THE MITE RESEARCH NETWORK

The purpose of this vision statement by the Board of Directors is to clarify the role and outputs of the Ecological Risk Assessment (ERA) component of the MITE Research Network.

Background

The Board believes the outputs expected from the ERA component of the Network must be aligned with the overall purposes of the Network and with the motivations behind forming the Network. Accordingly, the Board sees the ERA work as being based on the following rationale:

- The continued safe production and use of metals, as well as incidental emissions of metals, are linked to managing the risks metals pose to the environment.
- The effective risk management of metals includes having knowledge about their sources, chemical properties, toxicities, movements through environmental compartments, and pathways through which specific effects on biota occur.
- Risk assessment is increasingly being used in risk management and risk assessment provides a framework for applying knowledge.
- The product of a risk assessment is a well-articulated and evidence-based position that describes the probability and severity of effects of a particular substance or a particular activity.
- Risk assessment information contributes to decision-making, the development of public policies, and the implementation of risk management strategies.
- The confidence in risk assessment outcomes is improved when the scientific information is of the highest quality and when the use of default assumptions is minimized.

The Network was formed to provide scientific information in a number of areas where data gaps were known to exist. The Network is therefore concerned with knowledge generation. But of equal importance to the Network is the rapid and effective delivery of this new knowledge to the people engaged in assessing the safety of potential environmental toxicants, including metals, metalloids and process chemicals. An example of this kind of engagement is that substances flagged as Priority Substances [under Canadian Environmental Protection Act (CEPA)] must undergo assessments of risk in which their entries to the environment, exposures, and effects are characterized. Often the people carrying out such assessments or developing concomitant public policies are distant from the scientists who have generated data and who have detailed understandings relevant to such assessments.

It is therefore incumbent upon the Network to devise ways of effectively communicating the knowledge it generates to potential users. Communication can and should be done by the scientists themselves at conferences or in peer-reviewed

publications. The Network is also developing a number of other communication instruments (e.g., web site, newsletter, symposia, and policy workshops) to facilitate the rapid communication and transfer of newly acquired knowledge to end users. However, the Network realizes that a special facilitation activity is needed to integrate and interpret the new knowledge about metals and to specifically assist in interacting with risk assessors who will use the knowledge. The ERA component of the Network contributes to filling this need.

The Role of ERA in the Network

The ERA component of the Network is concerned with the integration of a variety of information on metals and putting it into a form for effective communication. The Board believes that good communication of its new knowledge is a critical component of the Network's objectives, and that communication is most effective when parties are able to understand the perspectives of one another. In the Network's case, not only should the policy makers and risk assessors receive the data from scientists, but also the scientists should appreciate and understand how their data are likely to be used. The ERA component of the Network facilitates this two-way exchange by:

- Informing scientists about environmental risk assessment frameworks and why data being generated are important and how data will be used. This, we believe, will help scientists formulate hypotheses and select experimental methods to obtain the most relevant data for risk assessments of metals. It will also help scientists (in writing manuscripts and making technical presentations) to communicate with a wider audience. In short, it will help make their data more accessible.
- Informing risk assessors and others about how the Network's data can be used. It is necessary that the Network have an activity aimed at providing new information to risk assessors and policy makers. This activity must not only deliver the information, but also put the information in context and help in its interpretation and use. Of particular importance in this regard is the effort needed to alter existing criteria and parameters used for individual synthetic organic compounds to those relevant for metals and inorganic compounds. Criteria for proper assessment of mixtures of compounds are also important.

Some generic aspects of and advice for risk assessments of metals may be dealt with by the ERA component of the Network, but it will not carry out detailed new risk assessments. Over the next few years, it may be desirable to conduct specific assessments at a high priority, but the Board sees this activity as occurring after the Network has completed its first five years. As such, these detailed assessments would require independent contracts and funding outside the scope of the Network.

In order to fulfil its mandate, the ERA work within the Network must be able to understand the results from each project, must be able to see how results from one project impact on other results, and must ultimately be able to put together a picture of how the totality of information can be applied in a risk assessment framework that is valid for metals. Output of the ERA work will likely take the form of presentations, workshops,

peer-reviewed papers and one-on-one meetings. The output formats will have to be continuously reviewed to reflect the needs expressed by risk assessors.

The Board emphasizes the importance of each project investigator assisting the ERA workers (Peter Chapman and Peter Campbell) to fulfil their mandate so that the Network's research and communications products can improve the quality of policies and decisions on the safety of metals and their compounds in Canada and elsewhere.