

# Ecosystem Sensitivity Mapping

## Belize



### Why Map Ecosystem Sensitivity?

Mapping ecosystem sensitivity spots helps identify critical areas where mercury affects important human food sources or threatened and endangered fish and wildlife species.

Mercury emissions and deposition from contaminated sites are important, but explain only part of the spatial story of mercury pollution. The sensitivity from this input and food web relationships help further describe the actual risks to human and ecohealth.

Elemental mercury is converted to a more toxic organic form through the process of methylation, which occurs with the help of bacteria found primarily in wet areas. Variations in methylmercury concentrations may occur in different parts of the food web depending on the sensitivity of the ecosystem to mercury input.

Where methylmercury availability is elevated, fish and wildlife may exhibit harmful mercury concentrations and represent the places that will require the most attention by countries and global monitoring programs.

### Minamata Convention on Mercury—A Global Effort

Participation in this project will help Belize comply with four Minamata Convention Articles, including:

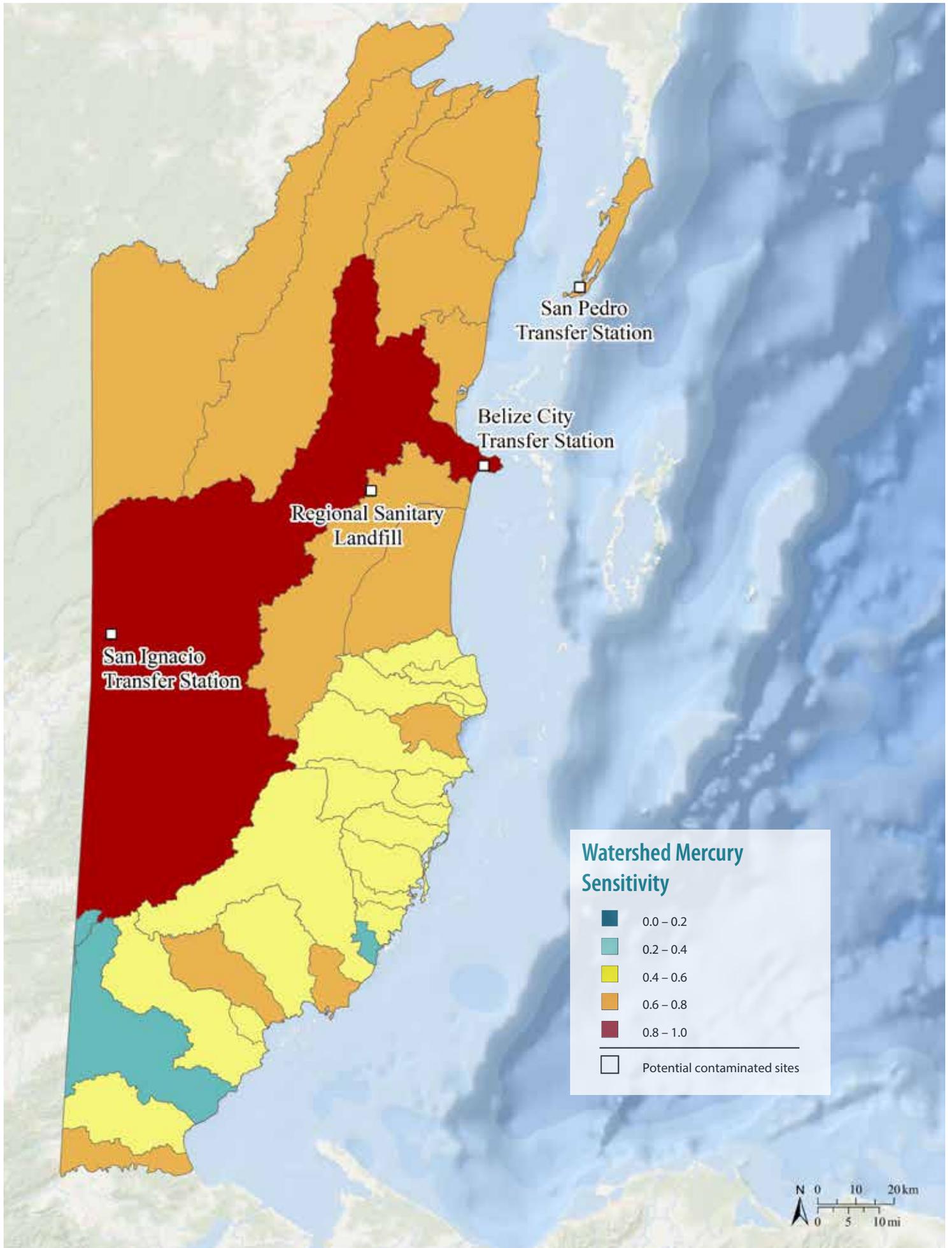
**Article 12:** Requirements for identification and evaluation of contaminated sites

**Article 16:** Health aspects, which details requirements to develop strategies to identify and protect populations at risk and to promote health care services

**Article 18:** Public information and awareness, which outlines the need to develop outreach programs

**Article 19:** Research, development and monitoring, which outlines the need to develop inventories and assess impacts of mercury on human health and the environment.

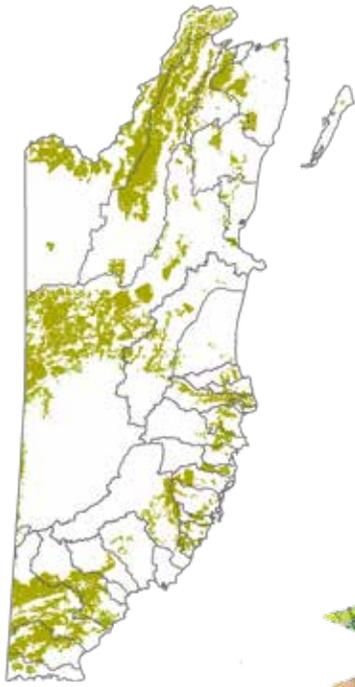




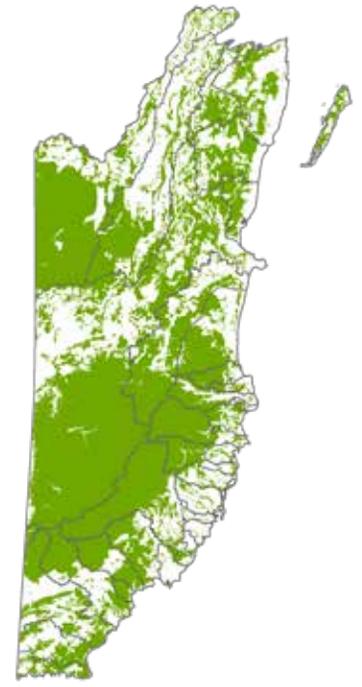
## GIS Layer Selection

Using an approach that combines spatial information on the distribution of habitats and species with the extent and severity of contaminated sites, BRI scientists can model the potential ecosystem response and risk exposure to methylmercury availability.

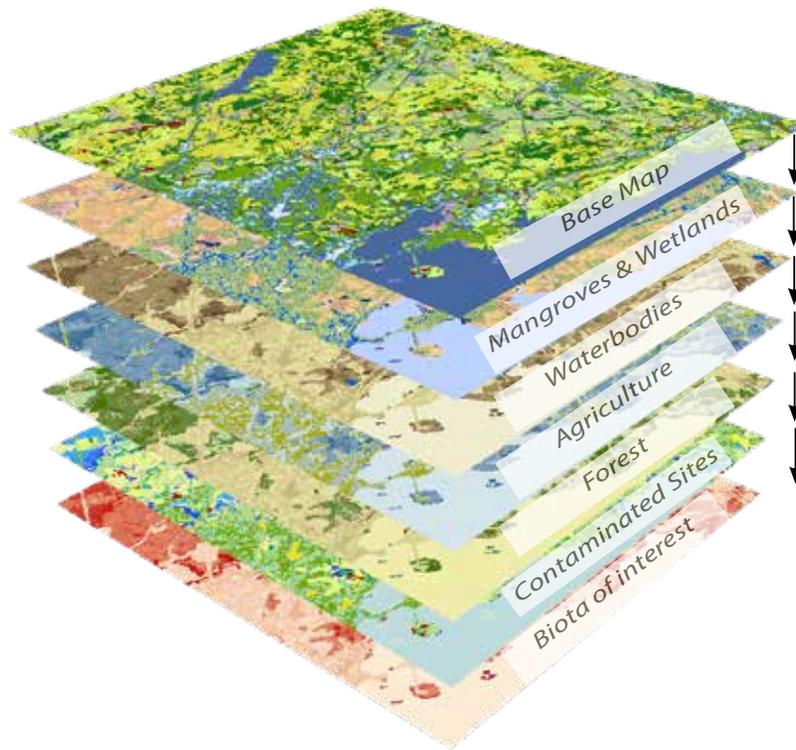
These data can be mapped to specific locations to better inform natural resource managers, regulators, and other decision makers to help prioritize resources for best protection of human and ecohealth.



Agricultural Areas

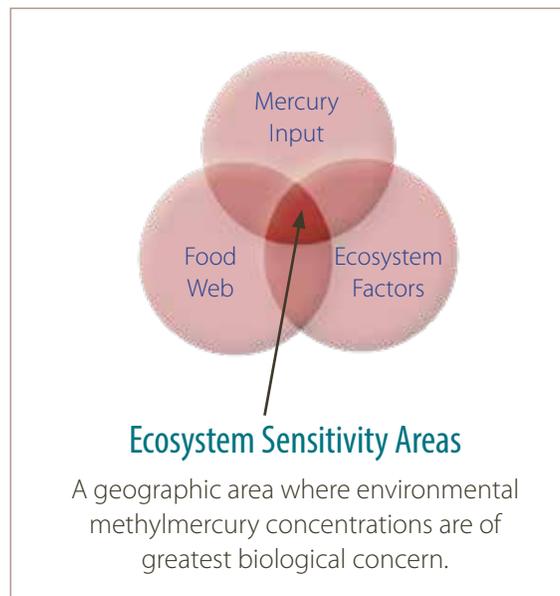
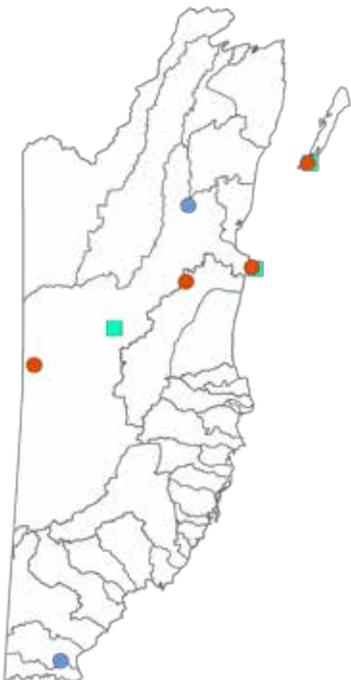


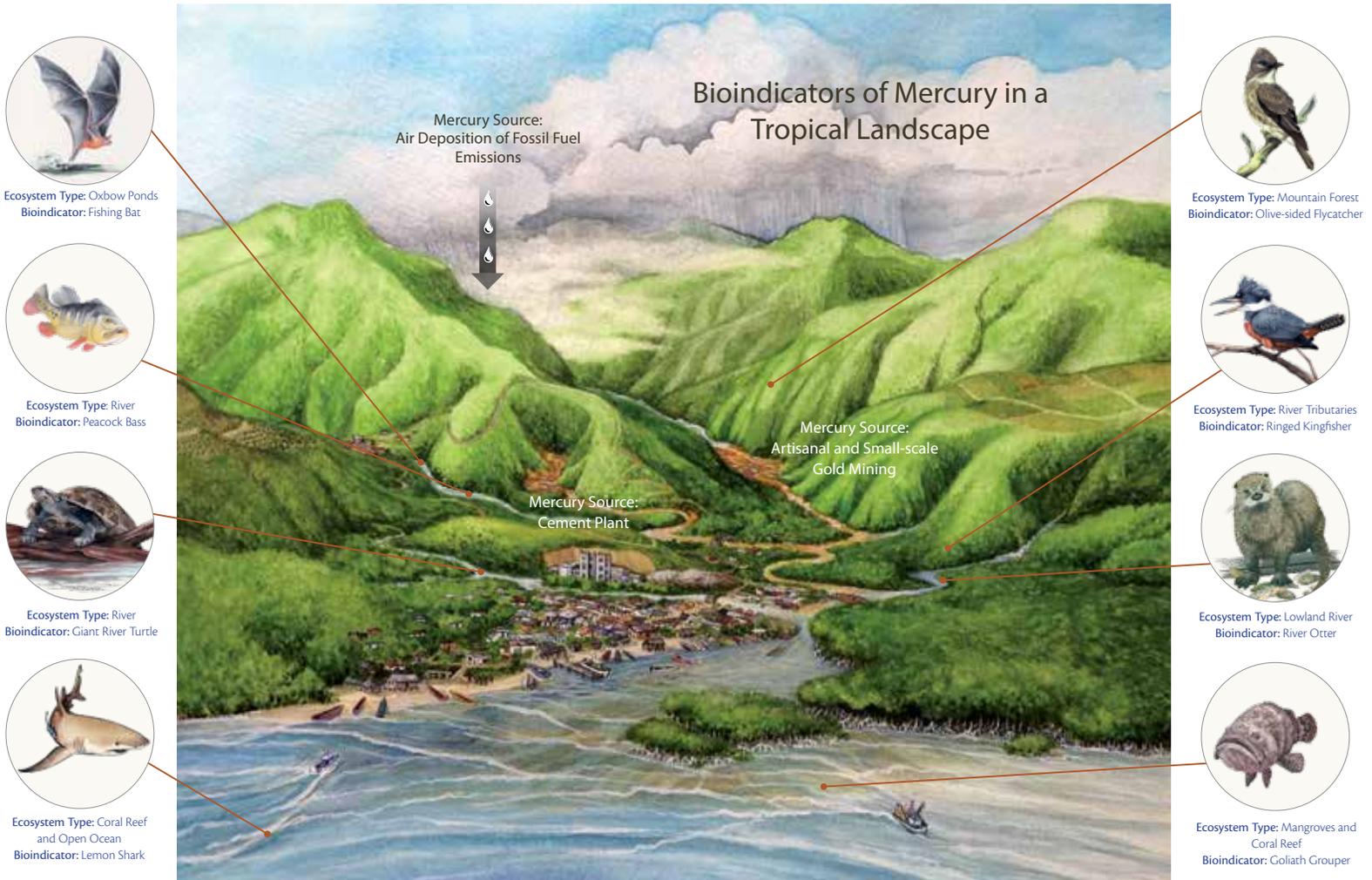
Forested Areas



Potential Contaminated Sites

Mangroves and Wetlands





## Next Steps

Mercury sensitivity mapping helps to identify and track areas of concern. The following steps will help ensure that Belize will be included in the global mercury monitoring network that is being developed for COP4:

1. Determine your country's goals and priorities within the Minamata Convention.
2. Develop partnerships among and within your country's Ministries and local nongovernmental organizations, where there is agreement with participation of regional and global mercury monitoring.
3. Identify funding sources and partners to further develop pilot studies that may be of interest for future GEF projects.
4. Joint regional networks such as the Caribbean Region Mercury Monitoring Network.

For comments or questions, contact:

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## Credits

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