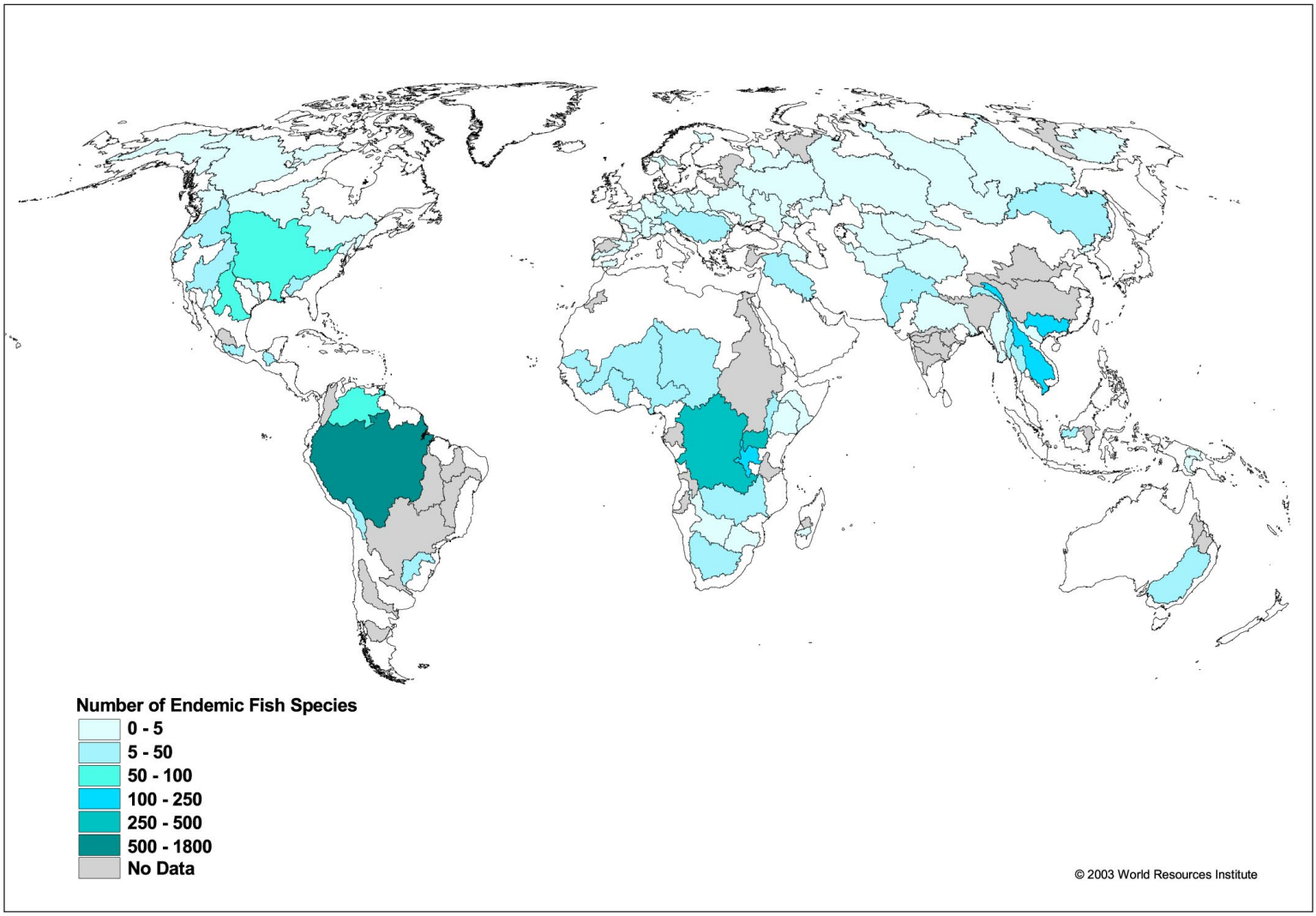
Watersheds of the World : Global Maps

03. Freshwater Endemic Fish Species by Basin



Map Description

Fish species, particularly endemics, are good indicators of the importance of freshwater biodiversity. Many lakes, such as Lake Victoria and Lake Tanganyika in Africa, have unique species assemblages with many species adapted to very specific habitats and ecological niches. This map presents the pattern of fish endemism by river basin for selected major watersheds of the world. The pattern of endemism shows strong similarities to the pattern of species richness shown in the previous map, particularly in Central Africa, South America, and Southeast Asia. In temperate regions, the Colorado, Rio Grande, and Alabama basins in North America stand out as having large numbers of endemic fish.

Because there is a correlation between number of species and basin area, large watersheds tend to have more fish species than smaller ones. To help eliminate this bias and classify the top basins in terms of fish species endemism, we grouped basins according to size: large (more than 1,500,000 square kilometers), medium (between 400,000 and 1,499,999 square kilometers) and small (less than 400,000 square kilometers).
Following these categories, the pattern of fish endemism shows that the top three large basins in terms of number of fish endemics, is the Amazon with 1,800 endemic fish species, the Congo with 500, and the Mississippi with 107. Within the medium-sized basins the top three include the Mekong with 124, the Xun Jiang or Pearl River with 120, and the Orinoco with 88. Finally, among the small basins, Lake Victoria (309), Lake Tanganyika (238), and the Salween (46) are the top three basins in terms of endemic fish.

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Mapping Details

Data on fish species, including number of endemics, were compiled from multiple sources by World Conservation Monitoring Centre of the United Nations Environment Programme (UNEP-WCMC). Data were referenced to major rivers or basins. Because there are several potential sources of error in the species richness and endemics values, these numbers should be taken as general indicators of fish diversity and not actual measures. Sources of error include: the amount of research done in a particular basin; species extinctions; and introductions of non-native species. Some rivers, for example, have been highly sampled and most species present identified, while others, particularly in the tropics, have not been thoroughly studied and may contain many not-yet-identified species.

Map Projection

Robinson

Sources

Revenga, C., S. Murray, J. Abramovitz, and A. Hammond, 1998. Watersheds of the World: Ecological Value and Vulnerability. Washington, DC: World Resources Institute.

Ichthyology Web Resources available on-line at: http://www2.biology.ualberta.ca/ jackson.hp/IWR/Regions/Africa/Lake_Tanganyika.php. Viewed February 17, 2003.