

# The Biodiversity of Lake Baikal: Status, Problems and Solutions

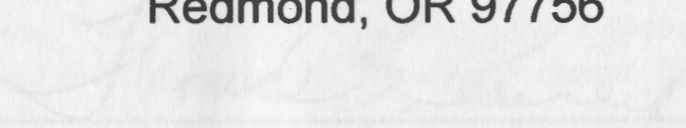
by


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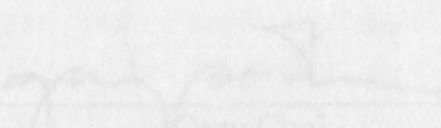
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Master's Thesis  
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## Acknowledgments

This Thesis for the Master of Environmental Studies Degree

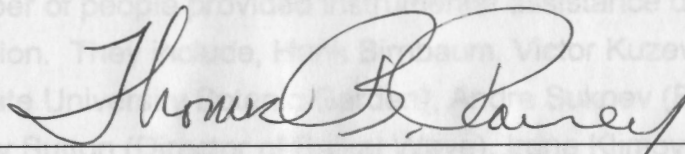
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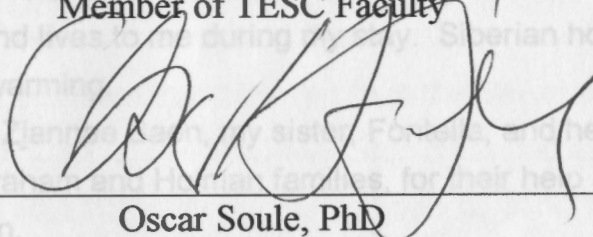
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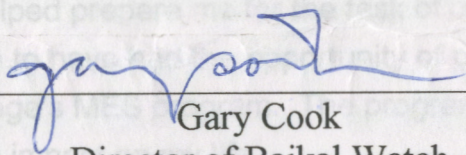
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Finally, I give thanks to Great Spirit for the incredible beauty of this planet and my ability to experience it.



## Abstract

The purpose of this study was to make a comprehensive assessment of biodiversity in the Lake Baikal watershed, including overall status, the value of Baikal's biological diversity, problems impacting it, and solutions to those problems. A multidisciplinary approach was taken, with consideration being made of ecological, social, political, cultural and economic issues.

The methods used include exhaustive literature review, personal communication with experts in a variety of fields and a one month research expedition to the Baikal region.

Research revealed a high degree of biodiversity in the Baikal watershed comprised of 11,110 known species, significant human cultural diversity and a wide assortment of ecosystems. The nearly 2,500 species found within the lake proper mark it as the most biologically diverse freshwater system on the planet. Moreover, the lake supports an unparalleled level of endemism; 70 percent of all species found there occur nowhere else on Earth.

Evidence clearly revealed that biodiversity in the Baikal watershed is declining. Nearly three hundred species have been classified as threatened or endangered by various regional and national authorities. A number of distinct populations have become extinct. Degradation at the ecosystem level is occurring throughout the landscape. And, the region's indigenous human cultures are struggling to preserve traditional lifestyles, customs and languages

Damage to Baikal's biodiversity is already proving costly in both ecological and economic terms. Signs of systemic stress on the region's species and physical systems are evident throughout the watershed. Key fisheries, drinking water supplies and important agricultural areas are in various states of decline. Further ecological damage in the region will exacerbate economic difficulties for the people living there and will diminish quality of life by reducing opportunities for recreation, aesthetic enjoyment and spiritual enrichment. Irreparable damage to Lake Baikal and its environs will also be costly to the

global community which benefits from Baikal's function as a natural laboratory for the study of evolution and climate change. Finally, in assessing the impacts of damage to the Baikal watershed, consideration must be made of the needs of future generations and the intrinsic, non-utilitarian value of the non-human species found there.

The problems impacting biodiversity in the Baikal watershed are complex and require a comprehensive, interdisciplinary approach. I propose six primary goals to address these problems. One: Strengthen existing efforts to protect Lake Baikal and its environs. Two: Increase economic stability and opportunity in the region. Three: Increase sense of personal responsibility and sense of individual and collective empowerment. Four: Increase understanding of Lake Baikal and its environs. Five: Halt and, wherever possible, reverse damages caused by known sources. And Six: Develop a new/ renewed conservation ethic. I have outlined a total of thirty-seven objectives under the six primary goals.

Chapter 8) Solutions to the Biodiversity Crisis in the Lake Baikal Watershed.

Chapter 9) Conclusion.

Appendix 1A) The Global Context: Biodiversity and Extinction.

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