

# Towards Biocultural Diversity Conservation: Knowledge, Cultural Values and Governance of Species at Risk

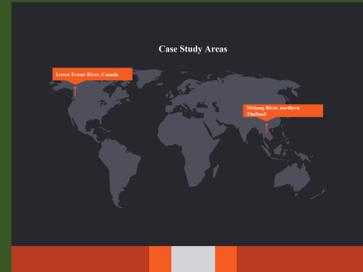
## Context

Declining biodiversity is causing shifts in local livelihoods and human well-being around the world. We are losing unique languages, ways of life, knowledge and value systems that evolved through generations of living intimately and sustainably with nature.

Many experts and internationally recognized authorities have written about the important contributions local people, indigenous knowledge systems and cultural values have in conservation and environmental management. However, in most cases, biodiversity conservation strategies are informed by scientific data and only focus on biological resources.

Existing conservation strategies aimed at “protecting” the White Sturgeon and the Mekong Giant Catfish have altered local livelihoods and this is eroding local culture and knowledge systems

The concept of Biocultural conservation suggests conservation strategies may be more effective if we broaden our approach to conserve both human and environmental aspects that interact in complex social ecological systems.



## Objective

To better understand the concept of biocultural diversity and its value in species conservation, my research explored the role of local fishers’ knowledge and cultural values in decision-making about the conservation of threatened, culturally significant fish in the Lower Fraser River (Canada) and the Mekong River (Thailand).

British Columbia’s Lower Fraser River population of the White Sturgeon ‘sko:wech’ (*Acipenser transmontanus*) is currently under consideration for listing under Canada’s Species at Risk Act. A key objective of this research was to identify ways local fishers and governments could improve the way conservation strategies are designed and implemented so that might protect both biological and cultural diversity. This research applies some of the “lessons-learned” from Thailand’s experience applying local fisher’s knowledge and value systems in the case of the “Endangered” Mekong Giant Catfish ‘pla buek’ (*Panasianodon giga*).

The local fishers participating in this research included:

- Stó:lō Coast Salish fishers of the Lower Fraser River. The Stó:lō have established fishing rights and interests and have been connected to the watershed since time immemorial.
- Fishers of Baan Had Krai. For many generations, the Ethnic Lao villagers from the Dai Yuon Tribe sustained themselves through a mixed fishing livelihood that relied heavily on the Mekong Giant Catfish.



## Why these species?

Both are:

- Extremely large, ancient, charismatic mega fauna and important indicators for biodiversity
- A key component of local livelihoods and social constructs

Through fishing, local people developed unique:

- Technology/strategies/skills/knowledge to harvest these species
- Knowledge related to these species’ critical habitats, behaviors, role in the ecosystem
- Ceremonies, stories, songs, dance, art to maintain and transfer knowledge about these species

Local Fishers have had to stop fishing these species because of Conservation initiatives.



## Methods

This thesis used exploratory, qualitative research into the case of the White Sturgeon or “skō:wech” (*Acipenser transmontanus*), and the Mekong Giant Catfish or “Plaa buek” (*Pangasius gigas*) Through semi-structured interviews and a review of existing information, this research set out to determine:

- 1) What kinds of knowledge do local fishers have about threatened species?
- 2) Are Local and Traditional Ecological Knowledge influencing processes (research, assessment, monitoring) and informing conservation strategies for threatened species? If so, how?,
- 3) Do cultural values influence conservation strategies for threatened species? If so, how?
- 4) Are there any opportunities to increase the role of local knowledge and cultural values to enhance existing conservation strategies and achieve both biological and cultural diversity conservation?



## Acknowledgments & Key References

Dr. Brenda Parlee, Associate Professor, U of A. Director of *Tracking Change – Local and Traditional Knowledge in Watershed Governance* [www.trackingchange.ca](http://www.trackingchange.ca).

MEKONG REGION: Dr. Kanokwan Manolom of Ubon Ratchathani University, Thailand; and, Dr. Ian Baird from the University of Wisconsin – Madison. Chak Kineesee, Khru Ti (Niwat Roykaew) Rak Chiang Khong and the Mekong School in Chiang Khong

LOWER FRASER: Ernie Victor, Dr. Dave Sheape, Sonny McHalsie, and all the people from Stó:lō Research and Resource Management Centre (SRRMC), Ts’elxweyeqw Tribe, the People of the River Office, the Stó:lō Xwexwilmexw Treaty Association and the Lower Fraser Fisheries Alliance



Assembly of the Poor and Southeast Asia Rivers Network (2002). Final Report of Thai Baan Rese  
 Baird, I. G. (2003). Local Ecological Knowledge and small-scale freshwater fisheries management in the Mekong River in southern Laos. In (Editors N. Haggen, C. Brignall; L. Wood. *Putting Fishers Knowledge to Work* (pp 87-99). Fisheries Center, University of British Columbia, Vancouver, BC, Canada.  
 Baird, I. G. & Flaherty, M.S. (2005) Mekong River Fish conservation zones in Southern Laos: Assessing Effectiveness Using Local Ecological Knowledge. *Environmental Management* 36(3), 439-454.  
 Berkes, F. (2015). *Coasts for People. Interdisciplinary Approaches to coastal and Marine Resource Management*. Routledge Taylor & Francis Group. New York & London.  
 Carlson, K., Schaep, D., McHalsie, A., Smith, Rhodes and Dunfield. (2001) A Stó:lō-Coast Salish Historical Atlas eds. Douglas and McIntyre: Vancouver, BC.  
 Kakonen and P. Hirsch (2010) The Anti-Politics of Mekong Knowledge Production, Chapter 13 in Molle, F., Foran, T. and M. Kakonen (2010). *Contested Waterscapes in the Mekong Region. Hydropower, Livelihoods and Governance*. Published by Routledge. London, New York.  
 Maffi L. and E. Woodley (2010). *Biocultural Diversity Conservation. A Global Sourcebook*. Earthscan Ltd, Dunstan House, London. UK.  
 Menzies, C. R. (2006). Traditional Ecological Knowledge and Natural Resource Management. University of Nebraska Press. Lincoln and London.  
 Miller B. G. (2007). *Be of Good Mind – Essays on the Coast Salish*  
 Pretty, J., Adams, B. Berkes, F., Ferreira de Athayde, S., Dudley, N., Hunn, E. Maffie, L., Milton, K., Rapport, D. Robbins, P. Sterling, E. Stolton, S., Tsig, A., Vintinner, E. and S. Pilgrim, (2009). The Intersections of Biological Diversity and Cultural Diversity: Towards Integration. *Conservation and Society* 7(2) 100-112

## Results

Conservation strategies that prohibit harvesting directly impact local cultures, livelihoods and knowledge systems.

Local Fishers have unique knowledge and perspectives that can contribute to research, monitoring, assessment and all phases of decision making.

Each case had examples of where local fishers had successfully influenced certain aspects of species conservation, but this preliminary research suggests there are more opportunities to increase local fishers’ knowledge and values in current approaches employed to conserve Species at Risk.

Conservation strategies can be designed to protect both cultural and ecological resources.

Maintaining some level of traditional fishery and support for cultural practices, education and outreach are critical aspects of maintaining local fishers’ culture, values and knowledge systems linked to these threatened species.