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PROTECTING THE SEAGRASS BIOME: REPORT FROM THE TRADITIONAL SEAGRASS KNOWLEDGE WORKING GROUP

S. Wyllie-Echeverria, K. Gunnarsson, M. A. Mateo, J. A. Borg, P. Renom, J. Kuo, A. Schanz, F. Hellblom, E. Jackson, G. Pergent, C. Pergent-Martini, M. Johnson, J. Sanchez-Lizaso, C. F. Boudouresque and K. Aioi

Both natural and human-induced disturbance vectors reduce seagrass cover. However, global declines, now extending to 24 different species, are largely driven by human activity (Short and Wyllie-Echeverria, 1996; Aioi and Omori, 2000; Hemminga and Duarte, 2000). It is clear that the legal/judicial model, upon which conservation initiatives are based, is not effectively arresting this trend.

Kurien (1998) suggests that the ingredients for the increased protection of coastal resources might be embedded within the history and tradition of a community's interaction with these resources. This is in keeping with Agenda 21; Chapter 17, passed at the Earth Summit (1992: Rio de Janeiro, Brazil), which states that government agencies, charged with coastal zone protection, must integrate Traditional Ecological Knowledge (TEK) and socio-cultural values with management agendas. TEK is now more specifically defined as Traditional Ecological Knowledge and Wisdom (TEKW), a concept that combines the worldview of a people with their use of resources over time (Ford and Martinez, 2000). Consequently, TEKW is acquired through multi-generational relationships with natural resources and, at its source, is linked to the fact that people rely on particular resources to sustain their communities over time. In addition, Nazarea (1998) reminds that this knowledge, as well as the preservation of threatened taxa, is critical for the preservation of biodiversity.

To advance the notion that TEKW may strengthen regional efforts to protect the seagrass biome, scientists from Iceland, Spain, France, Malta, United Kingdom, Sweden, Germany, Australia, Japan and the United States recently formed the Traditional Seagrass Knowledge (TSK) Working Group at the Fourth International Seagrass Biology Workshop (Corsica). This effort is guided by studies that demonstrate seagrass flora had both cultural and socio-economic value for coastal dwellers in the North Atlantic and North-east Pacific for many generations (Felger and Moser, 1973; Chemello and Toccacelli, 1990; Boudouresque et al., 1994; Wyllie-Echeverria and Cox, 1999; Wyllie-Echeverria et al., 2000; Wyllie-Echeverria and Cox, 2000; Mateo et al., 2002). The objectives of the TSK working group are to: (1) compile information and data describing traditional use of seagrass species from the scientist's country of origin using the conceptual model proposed at the ISBW-4 (Fig. 1.); (2) transfer information and data to the School of Marine Affairs, University of Washington, Seattle, Washington USA for analysis and synthesis and (3) jointly publish the results of the project by the end of 2003.

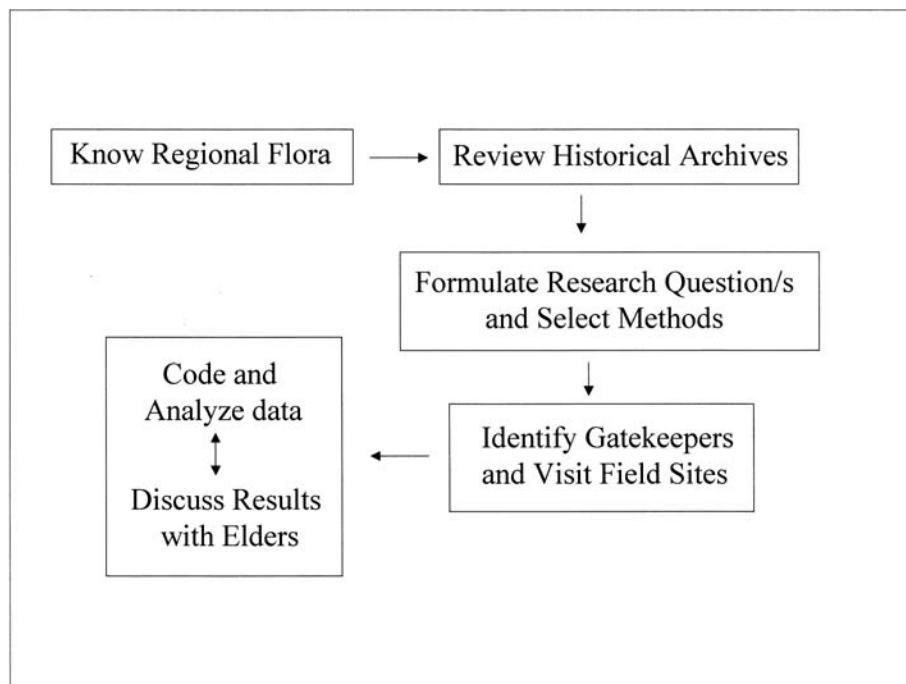


Figure 1. Conceptual model for assessing traditional seagrass knowledge.

LITERATURE CITED

- Aioi, K. and Y. Omori. 2000. Warming and Japanese seagrasses. Pages 57–60 in A. Domoto, K. Iwatsuki, T. Kawamichi, and J. McNeely, eds. A threat to life. Tsukiji-Shokan Publishing Co., Ltd. Japan and IUCN: Gland, Switzerland and Cambridge. 162 p.
- Boudouresque, C. F., V. Gravez, A. Meinesz, H. Molenaar, G. Pergent and P. Vitiello. 1994. L'herbier *Posidonia oceanica* en Méditerranée: protection légale et gestion. Actes du colloque scientifique OKEANOS, Maison de l'Environnement de Montpellier publ., France, 209–220.
- Chemello, R. and M. Toccacelli. 1990. La bionomia bentonica ed I molluschi: 6 Il piano infralittorale: I-ecosistema della prateria di *Posidonia oceanica*. Notizario SIM (Palermo, Sicily) 9(3–4): 55–60.
- Hemminga, M. A. and C. M. Duarte. 2000. Seagrass ecology. Cambridge University Press, Cambridge, United Kingdom.
- Felger, R. S. and M. B. Moser. 1973. Eelgrass (*Zostera marina* L.) in the Gulf of California: Discovery of its nutritional value by the Seri Indians. Science 181: 355–356.
- Ford, J. and D. Martinez. 2000. Traditional ecological knowledge, ecosystem science and environmental management. Ecol. Appl. 10(5): 1249–1250.
- Kurien, J. 1998. Traditional ecological knowledge and ecosystem sustainability: new meaning to Asian coastal proverbs. Ecol. Appl. 8(1): Supplement S2–S5.
- Mateo, M. A., J-L, Sanchez and J. Romero. 2003. *Posidonia oceanica* 'banquettes': a preliminary assessment of the relevance for meadow carbon and nutrient budget. Est. Coast. Shelf Sci. 56(1): 85–90.
- Nazarea, V. D. 1998. Cultural memory and biodiversity. Univ. Arizona Press, Tucson, Arizona.
- Short, F. T. and S. Wyllie-Echeverria. 1996. Natural and human-induced disturbances of seagrasses. Environ. Conserv. 23(1): 17–27.

- Wyllie-Echeverria, S. and P. A. Cox. 1999. The seagrass, *Zostera marina*, [Zosteraceae] industry of Nova Scotia (1907-1960). *Econ. Bot.* 53: 419–426.
- _____, P. Arzel and P. A. Cox. 2000. Seagrass conservation: lessons from ethnobotany. *Pac. Conserv. Biol.* 5: 329–335.
- Wyllie-Echeverria, S. and P.A. Cox. 2000. Cultural saliency as a tool for seagrass conservation. *Biol. Mar. Medit.* 7(2): 421–424.

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