Socioeconomic assessment and monitoring of aquatic species at risk in the Canadian Maritimes

Murray A. Rudd

Fisheries and Oceans Canada, Policy and Economics Branch – Maritimes Region. 176 Portland Street, Dartmouth, NS B2Y 4T3, < RuddM@dfo-mpo.gc.ca >, Phone: 902-426-4825

Socioeconomic assessments are needed in support of a number of specific aspects of the Canadian *Species at Risk Act* (SARA). In the Canadian Maritime provinces, a variety of aquatic species are listed under SARA, each of which poses unique challenges for conducting socioeconomic assessments and developing integrated ecological-economic monitoring systems. In order to standardize the elements that assessments and monitoring programs consider, two species-specific projects – for Atlantic whitefish, Coregonus huntsmani, and leatherback turtle, Dermochelys coriacea – have been initiated to act as pilots to test the utility of using an institutional approach for monitoring aquatic species at risk recovery status and management effectiveness.

I use the Institutional Analysis and Development (IAD) framework to organize the pilot studies. The IAD framework encourages analysts to organize indicators to take full account of the ecological, social and institutional variables that shape the incentives and behavior of individuals and organizations. Societal responses to the erosion of natural capital, including declines in species abundance, are differentiated as investment choices (financial and stewardship activities) that various sectors of society – public, private and civil society – make in response to threats against natural capital assets. The choices regarding where investments are directed – towards capital assets themselves or in institutions ('working rules') that shape human behaviour – can be framed in terms of logic models that link the investment alternatives with conservation and efficiency outcomes.

The IAD monitoring framework is illustrated using the case of the Atlantic whitefish, an endangered species under SARA. The Atlantic whitefish is presently confined to one river system in southwestern Nova Scotia and is the sole representative of a unique lineage of whitefish in North America. Diverse natural and human-induced threats have led to the reduction in fish abundance and geographic range. Responses to these threats have included targeted investments in natural capital, social capital and institutions. The Atlantic whitefish monitoring challenges, where threats are largely endogenous, are contrasted with those for leatherback turtle, where major threats to the population occur beyond Canadian jurisdiction.