



DOLORS PLANAS

SPAIN-CANADA

Emeritus Professor of the Université du Québec à Montréal, Canada. She started her scientific career in Spain and collaborated with several institutions of Europe and Latin America.

Her research focused on determining the abiotic factors that control the structure and function of aquatic communities in natural and perturbed freshwater ecosystems.

Her studies highlighted the relationship between land uses and fluxes of carbon, nutrients and contaminants in aquatic communities.

HERSTORY

In 1972, Dolores became the first woman to hold a Ph.D in Limnology in Spain. Her thesis was entitled: Limnology of the lake of Banyoles: Distribution of phytoplankton.

WATERSHED-LAKE LINKAGES

Activities within the entire watershed affect the function of lakes.



Nutrients from fertilizers

High phosphorus availability increased the nutrient content in tissues, the standing stocks, and the uptake rates of *Cladophora glomerata* in two lakes.



Forest harvest

Zooplankton abundance and biomass decreased after harvesting.

Dolors Planas, et al. (1996). *Freshwater Biology*.

Ellie E. Prepas, et al. (2001). *Canadian Journal of Fisheries and Aquatic Sciences*.

METHYLMERCURY IN AQUATIC FOOD WEBS

Methylmercury (MeHg) is a bio-magnifiable toxin.

Algae affect the bioavailability of mercury through the exudation of thiols, and thereby play a key role in the production of MeHg in biofilms.

Periphyton growing on wetland macrophytes also produces MeHg and transfers it to food webs.



The production of MeHg varies over the growing season due to variations in:

- Light and temperature
- Dissolved oxygen concentration
- Plant community structure and production

Maxine Leclerc, Dolores Planas & Marc Amyot.
(2015). Environmental Science & Technology.

RELEVANT CONTRIBUTIONS

Margalef, R., **Planas, D.**, Armengol, J., et al. (1976). Limnología de los embalses españoles. Ministerio de Obras Públicas. Madrid.

Planas, D., Lapierre, L, Moreau, G, Allard M. (1989). Structural Organization and Species Composition of a Lotic Periphyton Community in Response to Experimental Acidification. Canadian Journal of Fisheries and Aquatic Sciences, 46, 827-835.

Junger, M, **Planas, D.** (1993). Alteration of trophic interactions between periphyton and invertebrates in an acidified stream: a stable carbon isotope study. Hydrobiologia, 262, 97-107.

Desrosiers, M., **Planas, D.**, Mucci, A. (2006). Total mercury and methylmercury accumulation in periphyton of Boreal Shield Lakes: Influence of watershed physiographic characteristics. Science of The Total Environment 355, 247-258.

Leclerc, M., **Planas, D.**, Amyot, M. (2015). Relationship between Extracellular Low-Molecular-Weight Thiols and Mercury Species in Natural Lake Periphytic Biofilms. Environmental Science & Technology, 49, 7709–7716.

LOOKING
FOR MORE?

You can find more information about her story and research at:

<https://www.researchgate.net/profile/Dolors-Planas/research>

<https://orcid.org/0000-0003-0901-2887>