Brook trout habitat loss by hydroelectric project: learning’s on habitat compensation methods. \*F. Burton and M. Gendron, Environnement Illimité inc. (frederic.burton@envill.com)

The impoundment of reservoirs for hydroelectric production generally causes habitat loss in lotic sections of rivers and streams. In many projects, salmonids are the most impacted species and, in Quebec, brook trout is one of the principal affected species. Although the entire habitat is normally affected, the habitat losses that are most often compensated are those associated with spawning and feeding. This presentation focusses on spawning habitat compensation methods employed in rivers, streams and lakes of James Bay, Saguenay-Lac Saint-Jean and St-Laurence drainage basins. In systems impacted by hydro-electric projects the compensation site was determined (based on criteria such as brook trout presence, real habitat needs, road access) and a construction concept and methodology was proposed. Diversity of site types causes a variety of challenges. In highly dynamic streams or small rivers, the substrate displaces easily, conversely in sectors of lower water velocities sand deposit and algae can be observed. In lakes, location of groundwater presence is of first importance. Although some of the follow-up studies are still in progress, we present the pros and cons of the different methods of construction with examples of stability over time and efficiency.