Municipalities face considerable challenges in implementing source water protection (SWP) strategies, a key component of integrated Water Resources Management (IWRM). In Quebec, these challenges have further increased with the implementation of the new regulation concerning water withdrawals and protection (RWWP), which requires mandatory watershed scale management. The integration of spatially referenced land use data and source water quality data is crucial for source water protection and vulnerability analysis.

The objective of this project was to develop a software-based methodology aimed at integrating data that is required to estimate source water vulnerability under the RWWP in a case study in Quebec. We simulated three methodological steps: (1) Source water protection regulation analysis; (2) Data identification, collection and validation; (3) RWWP software adaptation.

Once the data has been collected and validated according to the Government requirements, the last step is to adapt Enki® software. This software enables stakeholders to integrate all data, information and metadata that is required to estimate source water vulnerability.

**Results**

Software adaptations were elaborated to improve Enki® according to the needs of RWWP.

**Conclusions**

This software-based methodology is useful to efficiently combine water quality and land use data. By integrating the information gathered from various stakeholders, water resource manager will be able to improve the use and interpretation of relevant data. The use of Enki® allows data sharing optimization and an easy validation process for the estimation of the vulnerability for any drinking water source.

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**References**


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