

Mapping Risk – Incorporating Environmental Sensitivities into Project Planning

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With the increasing availability of ‘big data’ (public datasets describing environmental resources at large scale), many are now using this information for site-specific project planning and broader regional planning. Solstice has been using this mapping approach for over a decade, helping clients identify constraints and opportunities from a regulatory and cost perspective, across a spectrum of large scale to site-specific projects. Through these projects we have learned the importance of accurate, relevant and detailed digital information to build truly informative mapping and ultimately, sustainable development projects. We are currently using this approach to map out environmental sensitivities and development infrastructure needs (e.g., roads, transmission lines) for the renewable energy industry, to help identify sites that will meet applicable regulatory and infrastructure requirements. Specific regulatory requirements include wildlife land use guidelines for the renewable energy industry, as well as reclamation requirements for native grasslands - both can influence site suitability, and development costs. Currently, proponents complete environmental field and desktop reviews on a site by site basis during or after the site selection process, a costly task in terms of budget, schedule and public concern. In the absence of regional information, sites may be selected before environmental mitigation or reclamation needs have been identified, adding to project costs. Our approach will map out the environmental risk and logistical factors across southern Alberta, by compiling available environmental digital data, and refining or creating new data, to enhance and in some cases replace poor quality data. The resulting mapping will provide a reliable regional summary of site-specific constraints and development opportunity that users can trust for important site-selection decisions, at greatly reduced cost. Our approach also lends itself well to collaborative planning with regulatory and public stakeholders, to help build consensus around development plans. In this talk, we will describe our approach to these projects, and how it can help with project site selection for the renewable energy industry, and others.

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Presenter Biographies

Dee Patriquin is an environmental consultant with over 25 years experience in environmental assessment and regulatory areas. Dee’s academic training in wildlife ecology (BSc and MSc) and in environmental policy (PhD, 2014) provide an interdisciplinary context for her consulting practice, merging expertise in ecology and policy development. Over the past decade, she has applied GIS-based mapping to inform regional land and resource use policy, and associated public engagement processes with clients such as the City of Edmonton and the Beaver Hills Biosphere Reserve.

Jenet Dooley is a scientist with expertise in wetland function and noise effects on wildlife. She has an interdisciplinary academic background in engineering, environmental science, and ecology. Jenet holds a B.Sc. (2010) in Engineering Management, a M.Sc. (2014) in Environmental Engineering Sciences, focused on wetland ecology; and a Ph.D. (2016) in Environmental Engineering Sciences. Jenet is a recent addition to the Solstice Canada Corp. team. Since joining Solstice in 2016, she has contributed to environmental assessment, environmental policy, and R&D projects.