

Thoughts on Keeyask Generation Project's Process for the Selection and Communication of VECs

Dan Soprovich attend to report to CEC Keeyask Generation Station hearings..

VECS (Valued Ecosystem Components/Valued Environmental Components) serve to focus environmental assessment, and are fundamental to the process. Despite this, there was little, if any, peer-reviewed literature respecting Keeyask Generation Station's VEC selection methodology (Terrestrial Environment. Introduction.). This may be due to what appears to be limited analysis of VEC selection processes in Canada. Olangunju (2012), in a recent review document, indicated that

- “surprisingly little research has been done in the past few decades to examine the principles, processes, and rationales applied to VEC selection in either assessment modality.” And
- “there remains a considerable gap in terms of understanding the processes applied in selecting VECs in project EAs and CEA.”.

Keeyask Generation Station provides an overview (Terrestrial Environment. Section 1: Introduction) and methodology (Appendix 1A. Terrestrial Environment. Section 1: Introduction) for its selection of Valued Environmental Components. Generally, the basis for selecting elements as VECs was reasonably communicated within these sections and the basis, in terms of indicating whether criteria were met, was provided in Table 1A-3. What does appear to be missing is a basic understanding of why some elements, despite meeting criterion, were not selected, and a fuller understanding for selection in general. Consider the following.

Yellow Rail

- Yellow rail is a species at risk like olive-sided flycatcher, rusty blackbird, and common nighthawk. Survey for yellow rail was conducted by Keeyask Generation Project, but none were found (Terrestrial Environment. Section 6: Birds.). I presume that yellow rail was not selected as a VEC because it was not observed during the bird surveys. However, Keeyask Generation Project's rationale for rejecting the species is not explicitly provided. It is perhaps noteworthy that some jurisdictions, in consideration of animal surveys for environmental assessment, require findings to be categorized as either present or 'not detected'. Absence is not one of the options, in recognition that there may be many reasons why a species is not observed in a given area (e.g., low sampling intensity). In the statistical vernacular, this addresses the Type II error inherent to any survey. That is, in this context, the probability of not detecting a species when it is really there. Type II error is of particular relevance and always a consideration when dealing with

species of low abundance (e.g., Hornbeck and Soprovich 2013), and there exist some means to try to control for its effects.

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- **Northern Leopard Frog**
- The western population of northern leopard frog is designated threatened. Keeyask Generation Project (Terrestrial Environment. Section 5: Amphibians and Reptiles) surveyed for 'frogs' and indicated that it did not find any northern leopard frogs, despite indication that, for example, the species had once been abundant per Traditional Ecological Knowledge. Again, one presumes that northern leopard frog was not included as a VEC because the species was not found during surveys. Importantly, some species of frogs, like boreal chorus frog, call early in the year while others, like northern leopard frog, call later. This necessitates that one must survey a number of times over the course of the spring and summer. Keeyask Generation Project (Terrestrial Environment. Section 5: Amphibians and Reptiles) did not indicate when it conducted surveys, other than 'spring', and therefore one wonders if northern leopard frog were in the 'not detected' category due to survey timing. This goes to concepts of level of uncertainty respecting the data, and the precautionary principle, in the context of VEC selection. This also goes to whether it is appropriate to use a relatively narrow sampling timeframe as basis for VEC selection, another aspect of uncertainty respecting the data. For example, in the absence of the Keeyask Generation Project, would we anticipate that northern leopard frog will once again become abundant in the area?

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- **Selecting VEC key topics**
- Table 1A-3 provides the basis for elevating 'key topics' to VECs. However, in some cases, it is not clear why the distinction was made. For example, per the Table, the 'Other priority bird species (priority species that are not VECs) met the same criteria as the three bird species that were designated VECs. Keeyask Generation Project (Terrestrial. Section 1: Introduction) would have considerably increased transparency if it had reported on the details behind Table 1A-3. For example, on what basis did Keeyask Generation Station determine that olive-sided flycatcher were a level one checkmark for 'High Importance to Local People'?

Berube (2007) indicated that, in Canadian EIAs, VECs were

- "elements of the environment, either natural or social, that are valued by the public and/or specialists in the study areas.", and that criteria for selection included
 - legal constraints (e.g., past and present requirements for the protection of fish habitat), and
 - government policies (e.g., Canada's policy on wetland protection).
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One of the criteria used by Keeyask Generation Project (Terrestrial Environment.

Section 1: Introduction) to decide on inclusion as a VEC was “The high importance to local people ... includes particularly high importance to KCNs”. While over-weighting the importance to local residents is appropriate, it might be that people from outside the Keeyask Generation Project area highly value some element. For example, Manitoban’s in general might value avian diversity or olive-sided flycatcher significantly more than local residents, and Keeyask Generation Project would not have recognized this. Similarly, some Metis residents of the area may have some of the same rights and traditional use as the KCNs, and appear to have been ignored.

Finally, in determining whether to conduct Cumulative Effects Assessment, one should not be bound by the need for a ‘significant’ effect at the Project assessment level (Olangunju (2012)). The case of the olive-sided flycatcher and the Keeyask Generation Project is an example of the truth of this statement. The scientific evidence indicates that the population is being seriously stressed outside of the Keeyask Generation Project area, thereby making the birds within the Keeyask Generation Project area likely to be highly valuable to the larger population. That context is important.