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Dr. Galbraith is an ecologist with particular expertise in terrestrial ecosystems and the impact of human disturbance, particularly climate change, agriculture, recreation, water use, and contaminants, on animal and plant populations and communities. The results of this research have been published in over 60 papers in books and peer-reviewed journals including *The Journal of Applied Ecology*, *Climate Research*, *International Journal of Biometeorology*, *Climatic Change*, *The Journal of Avian Biology*, *Ornis Scandinavica*, *the Journal of Zoology*, *Environmental Management*, *Environmental Toxicology and Chemistry*, *Ecotoxicology*, and *Ibis*.

Before any power line project such as the one that is proposed is implemented, a detailed and thorough environmental impact study should be carried out. This should address all of the issues identified

Fragmentation and habitat loss in highly diverse area. Bird survey work performed by Dr. Hector Galbraith over the last four years has shown that the Farwell/Wilson/Patriquin properties support a high diversity of bird species. A total of 94 species has been recorded (if the West River is included as part of the survey area this total approaches 100). This list includes species that are highly sensitive to habitat fragmentation and disturbance including northern goshawk, red-shouldered hawk and Cooper's hawk. At least ten of the species recorded are categorized by the State of Vermont as being of "Greatest Conservation Need". One of these species, the hermit thrush, has shown a population decrease of more than 60% in the last few years, according to a recent Audubon Society report. In addition to the birds, Dr. Galbraith recorded the presence of 11 mammal species including black bear, red and grey foxes, coyotes, and moose.

Fragmentation and the Putney Mountain – West Dummerston wildlife habitat corridor. The Farwell/Wilson/Patriquin properties are ecologically important in a regional context. Together they comprise the largest unfragmented habitat block in the Town of Dummerston. They also abut a corridor of undeveloped forest land that stretches north to Putney Mtn. and the Pinnacle Ridge. Mapping performed by the WRC has confirmed that this comprises an important wildlife corridor. Implementing the proposed power line project could seriously fragment this corridor and impair its ability to continue functioning.

Colonization by invasive plants. Power lines provide corridors by which invasion of native woodlands by invasive non-native plants often occurs. The existing southern corridor in West Dummerston is already infested by such species, particularly Japanese barberry. Once established along the powerline corridors, these species then spread into the adjacent forests and impair their ecological integrity. At present invasive species are relatively few and far between on the Farwell/Wilson/Patriquin properties, a situation that would likely change rapidly if the power line corridor was installed.

Colonization by edge species. Ecological research carried out over the last few decades has conclusively established that fragmentation of habitat leads not only to habitat loss, but also to the degradation of the habitats that remain, as they become invaded by edge species such as brown-headed cowbirds and predators. These can then seriously impair the breeding success of native species (such as wood thrushes and hermit thrushes). This process would be expected if the proposed powerline corridor is implemented.

Uncertainty about the further ecological importance of the area. Observations on bird populations over the last few years have shown that the threatened area is highly diverse and important in local, regional, and state contexts. We also know that the area contains at least three vernal pools with populations of obligate amphibians. However, we know next to nothing about other taxa that the area may support – plants, invertebrates, amphibians and reptiles, for example. Much more study is necessary before we can be confident that any proposed projects would not seriously impact such organisms.