Global change, including climate change as well as habitat destruction and fragmentation, have caused biodiversity to quickly decline in many parts of the world in the last century (Butchart et al., 2010; Dirzo et al., 2014; Fischer & Lindenmayer, 2007). The future of biodiversity could be bleak (Bellard, Bertelsmeier, Leadley, Thuiller, & Courchamp, 2012), and thus there is an ever-increasing demand from ecosystem managers to evaluate and mitigate biodiversity loss, and to assess current and proposed management plans (Brondizio, Settele, Díaz, & Ngo, 2019). Global change trends in biodiversity and ecosystem functioning, and associated temporal uncertainty and spatial bias, have been closely monitored (Gonzalez et al., 2016; Pereira et al., 2010; Sala et al., 2000; Scholes et al., 2008). Finer scale ecological research is needed to further our ability to predict change at the global scale (Mouquet et al., 2015; Pereira et al., 2010; Randin et al., 2009; Yates et al., 2018).

The result of such events in a local population tend to alter the genetic distance of this population with surrounding populations (Segelbacher et al., 2010).

Jjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjjj

Simulation and empirical studies have shown that there may be time lag between a demographic event and the detectability of its effects on genetic diversity (Holzhauer, Ekschmitt, Sander, Dauber, & Wolters, 2006; Landguth, Cushman, Schwartz, et al., 2010).

Landscape genetics can therefore help us address a wide array of questions which can be divided in four categories depending on what they focus on (Wagner & Fortin, 2013): population-level genetic diversity (node-based), local population-level connectedness (neighborhood-based), spatial separation of genetically-coherent clusters of populations (boundary-based), and finally the connectivity between populations (link-based).