NATURAL PROCESSES FOR THE RESTORATION OF LARGE MINES

David Polster[1]

Abstract: Natural processes have been restoring natural disturbances (landslides, volcanic eruptions, floods, earthquakes, glaciation, etc) for hundreds of millions of years. By understanding how these systems operate we can use them to restore major mines and other significant disturbances. The first step in developing an effective natural process based system for the restoration of a disturbed site is to identify the filters (or constraints) that are preventing the natural recovery. Polster (2015) identified eight abiotic filters and six biotic filters that operate at disturbed sites. At most mines abiotic filters such as steep slopes, compacted substrates, adverse textures, low nutrients, and in some cases adverse chemical properties are preventing recovery. Biotic filters such as excess herbivory, competition with seeded grasses and legumes and a lack of suitable seed availability may also occur at mine sites. This paper presents strategies for addressing these filters that are based on how natural systems address them. By using natural processes as a model for restoration of large disturbances the cost savings of getting natural processes to do the work can be enjoyed. Examples are drawn from the author's experience.

---

1. Polster Environmental Services Ltd. 6015 Mary Street, Duncan, BC, Canada, V9L 2G5.