Hydrochorphy will be divided into two categories: (1) floating seeds and (2) suspended seeds. Conceptual frameworks from Groves et al. will be used as a basis for understanding the inputs and outputs of seeds by these two pathways (2007) (Figure 6 A and B).

Modeling - con’t

Hydrochorphy is analogous to sediment transport and erosion, where washload equates to floating seeds and suspended bedload material equates to suspended seeds. One can use the size and specific density of seeds to model seed transport and deposition in river systems (Groves et al. 2007). Therefore, a sediment transport model may be used in combination with a fluvial sedimentation model, where different discharge values are input to account for climate change (Asselam et al. 2003). Seed bank composition and seed viability within the seed bank will be useful input variables for fluvial erosion models.

References

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Input data for the flow model will be collected from a USGS gauge (03230300), which is located on the Little Tennessee River in the Neomondale Game Land. In the Neomondale Tennessee Valley Authority, which is the agency responsible for monitoring the dams on the Little Tennessee River.

The population matrix model will be used to predict population growth rate and viability using both within-reach and between-reach inputs. Within-reach inputs require empirical data about the current vegetation composition, seed bank composition, seed production and seed viability. Between-reach inputs will be derived from transport and deposition models (Groves et al., 2007).