**Ecosystem Type: BARREN/ROCK AND SAND**

**Category: Clean Air**

1. **Materials**

***Supplier*** – Barren soils contain cyanobacteria, lichens, and mosses that help fix carbon and nitrogen (Belnap, 2003, two chemicals that are major contributors to greenhouse gasses.

***Driver*** – not applicable

***Demander*** – not applicable

1. **Nutrition**

***Supplier*** – not applicable

***Driver*** -not applicable

***Demander*** - not applicable

1. **Energy**

***Supplier*** – not applicable

***Driver*** – not applicable

***Demander*** – not applicable

1. **Mediation of Waste, Toxics, and Other Nuisances**

***Supplier*** – not applicable

***Driver*** – not applicable

***Demander*** – not applicable

1. **Mediation of Flows**

***Supplier*** – A study found that air flows through sand dunes, which also traps the gasses in the atmosphere that can contribute to air quality issues (Severinghaus et al., 1997).

***Driver*** – not applicable

***Demander*** – not applicable

1. **Maintenance of Physical, Chemical, and Biological Indicators**

***Supplier*** – not applicable

***Driver*** – not applicable

***Demander*** – not applicable

1. **Spiritual, Symbolic, Religious, and Social Experiences**

***Supplier*** – not applicable

***Driver*** – not applicable

***Demander*** – not applicable

1. **Physical and Intellectual Interactions w/ Biota, Ecosystems, and Land/Seascapes**

***Supplier*** – not applicable

***Driver*** – not applicable

***Demander*** - not applicable

**Sources:**

Belnap, J. (2003) The world at your feet: desert biological soil crusts. *Frontiers in Ecology and the Environment, 1*(4), 181-189. DOI: 10.1890/1540-9295(2003)001[0181:TWAYFD]2.0.CO;2. [abstract only]

Severinghaus, J.P. et al. (1997) Feasibility of using sand dunes as archives of old air. *Journal of Geophysical Research, 102*(D14), 16783-16792. DOI: 10.1029/97JD00525.