

Activity 2: Ecosystem Services Answer Sheet

Distribute this worksheet to groups. Participants are to discuss and describe many examples of the services provided by ecosystems. Discuss in large group.

- **Gas regulation:** Plants provide CO₂ + O₂ balance. *For example:* One tree produces enough oxygen for a family of four. For each ton of growing wood, an estimated 1.47 tons of carbon dioxide are removed from the air and 1.07 tons of oxygen are produced.
- **Climate Regulation:** Clouds, greenhouse gases, etc. *For example:* Forests are important sinks for greenhouse gases and provide natural barriers to wind, snow, rain and solar radiation.
- **Energy:** Provide thermal heat, wind, fossil fuels.
- **Habitats:** Regulate disturbances such as floods, drought, and winds.
- **Water Regulation:** Pervious surfaces allow for recharge, and transpiration.
- **Water Supply:** Drinking water for households, industry, and electric energy. *For example:* Forest soil absorbs runoff, filters water and traps/transforms contaminants.
- **Erosion Control:** Retention of soil within an ecosystem. *For example:* Trees and other plants reduce the impact of rain while root systems hold soil in place.
- **Soil Formation:** Weathering of rock and accumulation of organic material.
- **Nutrient Recycling:** Nitrogen fixation and cycling of nutrients.
- **Waste Treatment:** Detoxification by plants that absorb pollutants and decomposition.
- **Pollination:** Insects, bats, and birds allow for propagation of vegetation.
- **Biological Control:** Predator control of prey and vegetation control.
- **Refuge:** Refuge for nurseries and habitats for migratory species. *For example:* Forests provide a diversity of habitats over time.
- **Food Production:** Fish, game, and crops.
- **Genetic Resources:** Resources for medicine and breeding.
- **Recreation:** Hiking, hunting, fishing, etc.
- **Cultural:** Aesthetic values, artistic inspiration, and education. *For example:* Forests provide Christmas trees, artistic inspiration, and outdoor classrooms
- **Carbon Sequestration:** Carbon emissions that cause global warming are "stored" in forests and soils.
- **Other**