**Ecosystem Type: WETLANDS**

**Category: Biodiversity Conservation**

1. **Materials**

***Supplier*** – Wetlands supply a habitat for a diverse group of species to exist (Rozanski, 2016; Gala and Young, 2015; Howard et al., 2015). For example, migratory birds need wetlands because they provide a temporary place for them to stay during winter months (Functions and Values of Wetlands, n.d.). Wetlands are even important habitats that foster the life cycle of some species. Between fifty and eighty percent of ducks hatch on prairie wetlands (Gala and Young, 2015). Compared to upland habitats, wetlands are more likely to have a richer diversity of species present (Howard et al., 2015). One study found that depressional wetlands had greater diversity of plant and animal communities compared to the neighboring uplands (Gala and Young, 2015). In fact, endangered birds like the pallid sturgeon, bald eagle, and piping plover depend on the depressional wetlands habitat for survival (Gala and Young, 2015).

***Driver*** – Drying wetlands for alternative uses can lead to a decrease in habitat and a reduction in biodiversity (Lou et al., 2016). Herbaceous wetlands are especially vulnerable to land use changes because the aquatic floral species depend on wet soils for their survival. During the drying of a wetland, marshes can change to wet meadows, which reduces overall biodiversity (Lou et al., 2016). On the other hand, growing crops on wetlands like flooded rice and soybeans can actually provide an important habitat for birds like the northern shoveler and geese because they have food resources like seeds from the crops (Feaga, Vilella, Kaminski, and Davis, 2015).

***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*** – The ability for wetlands to mediate waste, toxics, and other nuisances is important for biodiversity conservation. For example, the richness of bat communities depend on large, unpolluted wetland habitat (Straka et al., 2016). Generally, wetlands can help protect water resources from nutrients, salts, and bacteria that support species richness in plants and animals (Qasaimeh, AlSharie, and Masoud, 2015; Westbrook, Brunet, Phillips, and Davies, 2011; Functions and Values of Wetlands, n.d.).

***Driver*** – Changes in land use can increase the nutrient loading in wetlands. This may cause the wetland to exceed its capacity to retain pollutants, reducing the ability for them to perform nitrification, sedimentation, and adsorption (Bassi, Kuma, Sharma, and Pardha-Saradhi, 2014). This can affect the composition of species and the overall diversity that wetlands are known for.

***Demander*** – not applicable

1. **Mediation of Flows**

***Supplier*** – Wetlands support a diverse group of species because they are unique ecosystems that contain microhabitats. These microhabitats are formed because wetlands mediate the flow of water (Gala and Young, 2015) and trap sediments. The residence time of the water and abundance of sediment can be determined by the composition of plant species.

***Driver*** – Developed land that is adjacent to a wetland increases the overall runoff flowing into a wetland. Greater runoff decreases the overall residence time that water has in a wetland, which impacts its ability to perform important ecosystem services such as nitrification, sedimentation, and adsorption (Bassi, Kuma, Sharma, and Pardha-Saradhi, 2014). As a result, water quality of nearby waterways may decline and species diversity is threatened.

***Demander*** – no literature review available at this time

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

***Supplier*** – Wetlands supply terrestrial and aquatic species that filter ecosystems and trap nutrients, such as nitrogen, phosphorous, and dissolved organic carbon (Ross, 2016; Qasaimeh, AlSharie, and Masoud, 2015; Westbrook, Brunet, Phillips, and Davies, 2011; Functions and Values of Wetlands, n.d.). This improves overall biodiversity of wetland plants and animals because more nutrients are available for plant production and downstream water quality is more pristine supporting the life of a more diverse group of aquatic species.

***Driver*** – no literature review available at this time

***Demander*** – not applicable

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

***Supplier*** – no literature review available at this time

***Driver*** – no literature review available at this time

***Demander*** – not applicable

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

***Supplier*** – no literature review available at this time

***Driver*** - no literature review available at this time

***Demander*** - not applicable

**Sources:**

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