

Connection to Nature

Humans' connection with nature is a subjective trait most easily explained by the biophilia hypothesis. Biophilia is a term coined by prominent evolutionary biologist and entomologist, Edward O. Wilson, who defined it as the "innately emotional affiliation of human beings to other living organisms" and hypothesized that this psychological, and possibly genetic, phenomena arose due to humans' long time interaction with the natural environment (Wilson 1984, 1993). Biophilia is most evident by the popularity of zoos and outdoor activities and in people who have non-economic motivations for the protection of natural areas and biodiversity, such as positive experiences of an area, solastalgia, and having affection or sympathy for non-human species (Wilson 1993, Serpell 2004, Chawla 2006, Higginbotham et al. 2007, Martin-Lopez et al. 2007, Nisbet et al. 2011).



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Biophilia is also evident in other domains measuring healthy communities such as spiritual and cultural fulfillment, education, health, and leisure time. Humans, however, are experiencing an increasing disconnection with nature through urban development and technology- especially noted in children as the "nature-deficit disorder" and coincides with rising trends in obesity, attention deficit disorder, and depression (Wilson 1993, Kellert 2005, Louv 2005). An attempt to correct this growing disconnection and to incorporate the health of the environment in land use planning is through "biophilic design", which aims to enhance human physical health, psychological benefits, and productivity by fostering a human-nature connection (Baldwin et al. 2011). Although our detachment with nature will never completely rid us of desire to associate with nature, it can weaken our appreciation for nature and decrease our well-being (Kellert 1997).

Economic and social services have significant direct and indirect effects on the connection to nature domain. For example, economic programs and funding can increase or decrease natural areas, either by putting aside more areas or decreasing those areas through capital investment (e.g., new infrastructure, mining/extraction activities). Additionally, social services such as activism, community and faith-based initiatives, justice (e.g., environmental justice), and public works can affect policies that support ecosystems, or can possibly be used as indirect measures of our connection to nature.

Relationship to Ecosystem Services:

Biophilia is largely affected by biodiversity and amplified by access to nature and exposure to diverse, healthy ecosystems (Wilson 1993). Nature Relatedness (NR), similar to biophilia has been used to quantify our connection to nature (Nisbet et al. 2011). Natural areas and green spaces are needed for humans to experience nature and increase NR, which is most often accomplished through the ecosystem goods of recreation and aesthetics. The total area of these spaces directly affects the availability and diversity of recreational and aesthetic opportunities, and the health of the ecosystem and its ability to provide other services such as water and air quality regulation (EPA 1997, MEA 2005, Pongsiri and Roman 2007). Additionally, due to the interconnectedness of plants and animals occupying these areas, biodiversity is especially important for the functioning of the ecosystem and of humans psychologically (Kellert 1997, MEA 2005, Chavas 2009, Nisbet et al. 2011).