

BIOPHILIA DESIGN IMPACTS Talking Points



Keywords: Ecological design, Sustainable design, Biophilic design, Regenerative design

Regenerative Design

Regenerative Pattern Name:	Short Description:
Adaptive Built Environments	Adaptive potential of buildings and infrastructure
Protect Nature's Adaptive Capacity	Adaptive capacity of local natural systems
Nature's Work as a Continuous Interaction	Allows life support functions to be processed through conversion, distribution, filtration, assimilation and storage with interaction throughputs systems to optimise resilience
Aggregate not Isolate, Integrate not Segregate	Integrate all parts to assist the inclusion of symbiotic relationships to promote regeneration
Self-Regulation and Feedback Loops	Include self-regulation of feedback loop systems in processes
Produce no Waste, Recycle and Assimilate	Make use of all inputs/outputs for a closed loop or net positive system
Conversion of the Solar Income	Include passive solar systems for energy, heating and cooling, thermal storage and conversion
Scale Linking to Facilitate Flow	Shaping the medium to facilitate flow, scale linking for support of maximum function at smallest scale
Storage as a Key Resource	For Energy, Water and Materials - maintaining adequate storage with balancing the replenish rate with the rate of use
Valued Renewable Resources and Services	Use and value existing natural, renewable resources for energy and biological services
Human - Nature Connections for Healthy and Prosperous Environments	The application of Biophilia strategies and designs to create healthy environments for both humans and nature

(Roös, 2017)

Economic Benefits of Biophilia

- Work place: encourages productivity; decreases absenteeism, loss of focus, negative mood, and poor health
- Hospitals: reduce the cost of both patient care and staffing while improving medical outcomes
- Retail Spaces: draw shoppers in keep them in store longer with interesting features
- Education: foster better test scores, health, and increased learning rates for students; greater satisfaction and retention from teachers. Schoolyards with natural elements can trigger mental restoration, better behavior and enhanced focus in students

(Dias 2015)

V. KEY REFERENCES

Review Articles

- Dias, Bruno Duarte. "Beyond Sustainability—Biophilic and Regenerative Design in Architecture." *European Scientific Journal*, ESJ 11, no. 9 (2015).
- Joye, Yannick. "Architectural lessons from environmental psychology: The case of biophilic architecture." *Review of general psychology* 11, no. 4 (2007): 305.
- Roös, Phillip, and David Jones. "Knowledge of Making Life: Design Pattern for Regenerative-Adaptive Design." *KnE Engineering* 2, no. 2 (2017): 203-210.
- Ryan, Catherine O., William D. Browning, Joseph O. Clancy, Scott L. Andrews, and Namita B. Kallianpurkar. "Biophilic design patterns: emerging nature-based parameters for health and well-being in the built environment." *International Journal of Architectural Research: ArchNet-IJAR* 8, no. 2 (2014): 62-76.

Primary Research

- Browning, W. D., N. Kallianpurkar, C. O. Ryan, L. Labruto, S. Watson, and T. Knop. "The Economics of Biophilia." New York, Terrapin Bright Green llc (2012).
- Kellert, Stephen R., Judith Heerwagen, and Martin Mador. *Biophilic design: the theory, science and practice of bringing buildings to life*. John Wiley & Sons, 2011.
- Marcus, Clare Cooper, and Marni Barnes. *Gardens in healthcare facilities: Uses, therapeutic benefits, and design recommendations*. Concord, CA: Center for Health Design, 1995.
- McGee, Beth, and Anna Marshall-Baker. "Loving nature from the inside out: a Biophilia matrix identification strategy for designers." *HERD: Health Environments Research & Design Journal* 8, no. 4 (2015): 115-130.

Popular Press

- Margolies, Jane. "How Healthy is Your Office?" July 31, 2018. <https://www.nytimes.com/2018/07/31/business/healthy-office-real-estate.html>
- "Frontiers of Design Science: Biophilia" *Metropolis*. November 29, 2011. Accessed November 14, 2018. <https://www.metropolismag.com/ideas/design-education/frontiers-of-design-science-biophilia/>