Graduation Plan

Master of Science in Architecture, Urbanism & Building Sciences

MSc Landscape Architecture 2023 - 2024

[Yiwen Wang]

Graduation Plan

Submit your Graduation Plan to the Board of Examiners (Examencommissie-BK@tudelft.nl), your mentors and delegate of the Board of Examiners one week before the P2 date at the latest.

I Personal information	
Full name	Yiwen Wang
Student number	5792223

II Studio / Lab information		
Name / Theme	Urban Forestry	
Main mentor	René van der Velde	Landscape Architecture
Second mentor	Willemijn Wilms Floet	Architecture
Argumentation of choice of the LA graduation lab	When I look back to my childhood, the forest emerges as a place that holds my memories of novel and adventurous experiences. It was like a window to the wider world, an escape from my constrained and tamed daily life. I was captivated by the diverse landscapes and species in the forest, longing to bring this experience back to the city. Urban forests hold immense potential to enhance urban livability while addressing challenges like climate adaptation, urban equity, and biodiversity conservation. In enrolling in the Landscape Graduation Lab, my aspiration is to embark on a journey that start by learning about a tree, to think about the city from a non-anthropocentric perspective, and to re-conceptualize the relationship between humans and nature.	

III Graduation project	
Title of the project	Rewilding Schijn Valley - Reimaging an Urban Riparian Corridor Integrating Ecological Restoration with Wildness Experience
Context and aim of the project	
Location (region / area / site)	Schijn Valley, Antwerp, Belgium
Problem statement	Throughout history, human advancement has been intertwined with the subjugation of nature. Moderate anthropogenic disturbances have also created or preserved landscape mosaics (Van Meerbeek, K. et al., 2019), offering opportunities for disturbance-dependent species. Nevertheless, it is evident

	that numerous contemporary human activities have surpassed nature's inherent regenerative capacities. Rapid global changes pose fundamental challenges to the persistence of natural ecosystems and their biodiversity. The swift rise in population and economic growth has led to unrestrained urban sprawl and infrastructure expansion. The city has become a locus of power influencing the natural world, sweeping everything toward its center (Merchant, 1996). With astonishing speed, in many places, complex and fascinating ecosystems are being diminished (Monbiot, 2014), leading to a growing disconnect between people and nature. Even today, despite an increasing acknowledgment of the importance of nature and ecology, there remains a stark 'otherness' between humanity and nature (Perlman, 1994; Cronon, 1996a, c). Nature is culturally perceived through lenses, often aligning with picturesque conventions rather than ecological reality (Nassauer, 1995). The utopian images of harmonious coexistence within a flourishing and vibrant natural environment where people live happily, have been ingrained in our collective consciousness for centuries. People tend to appreciate the refined and delicate landscapes while concealing or masking the messiness and randomness of nature. Especially in urban environments, people often find themselves deprived of any signs of spontaneity or contact with wildness of the wider non-human world due to living ever more constrained and ordered lives. It seems that people have forgotten the vastness, power, and magnificence inherent in nature. Current urban landscape plannings is dominated by a human-centric view, promoting short-term goals and predictable outcomes steered by a limited group. Natural systems are substituted by artificial systems that disrupt the innate order of ecosystems, affecting ecological benefits and often leading to further issues like floods and urban heat islands. Apart from this, in response to the growing social and economic complexities, resorting to dispersal policies is quite common in Europe. Boundaries are established between those inherently connected areas, undermining their interrelationships. Consequently, this strategy creates a fragmented city characterized by a continuous patchwork of ribbon developments and allotments. This fragmentation impacts species diversity through habitat loss, edge effects, and isolation, while also hindering the creation of a continuous and uninterrupted landscaped experience across the vast urban expanse. Antwerp exemplifies a region where the traditional natural and cultural elements have experienced significant disruption.

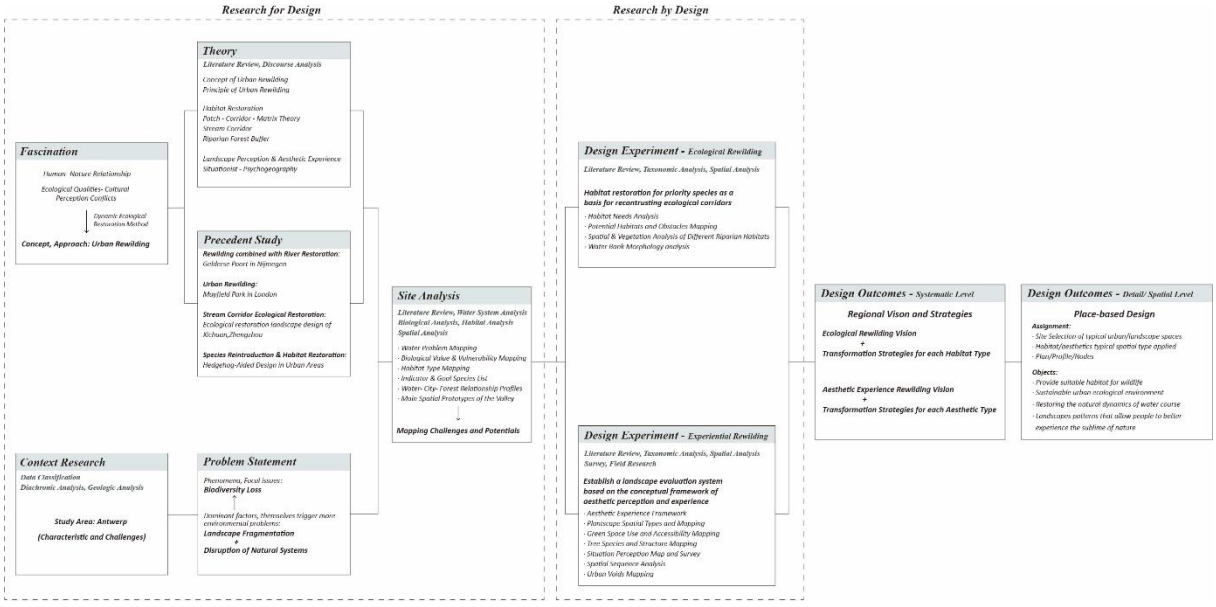
	Uncontrolled urban development have reshaped the city from a compact core on the Scheldt into a metropolitan. The sprawl invaded large parts of the territory in an unprecedented manner, leading to a heterogeneous urban carpet with fragments from different periods and of a very different nature. The robust construction including harbor expansion, transport infrastructure disturbed the once pure congruence between topography, landscape and urbanization, giving rise to series water-related problems. Simultaneously, the alterations in the water network's configuration have led to a succession of changes in landscapes associated with the water network. The wetlands and forests alongside watercourses have decreased, the once continuous green area was cut into various small isolated, and therefore fragile snippets. Habitat loss due to fast-changing land use and fragmentation are preventing significant biodiversity from developing. It is crucial to reevaluate and appreciate the spontaneity and vitality of nature. Ecosystems as dynamic systems whose future development cannot always be predicted, while urban environment is ever-changing, thus a dynamic approach is demanded. Unlike traditional conservation methods, rewilding is a process-oriented, dynamic approach with the goal of restoring natural ecosystem processes and reducing the human control of landscapes. However, amid the transitional phase in understanding nature in the Anthropocene, the term "rewilding" is controversial and poses design challenges: Someone found it initially had a scientific context but later became a "plastic" word adopted by environmental activists (Jørgensen, 2015), erasing human history and involvement with the land (Drenthen & Martin, 2018). Besides, most rewilding cases happen in remote areas, with very few urban examples. Urban areas, bearing the brunt of environmental damage during urbanization, emphasize the urgent need for a balance between urban development and natural restoration. However, urban rewilding presents distinct challenges, with competing human interests, overlapping policies, and judicial boundaries complicating environmental factors and ecological goals. Therefore, finding an appropriate compromise between urban rewilding and the varied benefits of stakeholders is important. There is a need of a tool that enhances the understanding of landscape language while embodying the philosophical attitudes and the design process represented by rewilding, which will be one of the focal points of my research and design inquiries.

Research question(s)	Main question: How can rewilding reimagine the coexistence and reconnection between humans and non-humans in the urban forest? Sub-questions: 1. How can urban forests become a tool to restore habitats for non-humans under the principle of rewilding? 2. How can wildlife help improve the provision of eco-system services while benefiting from urban forests? 3. How can rewilding establish a new aesthetic framework to inform new level of experience towards nature in the urban context? 4. What kind of wildness experience can be provided by designing urban forest?
Design assignment	In response to the impacts of urbanization and fragmentation on biodiversity and ecosystem services, this project aims to establish a continuous and legible blue-green structure in the Schijn valley — an urban riparian corridor. By restoring natural riverbank morphology, enhancing plant diversity, allowing for natural community succession, rebuild the continuity and integrity of the riparian ecosystem. The ultimate goal is to form a diverse conservation buffer incorporating wetlands, flood plains and dry forested areas to promote habitat reproduction and migration. On this basis, improve riparian spaces to create places for people to connect with the wider, mysterious non-human world, encouraging exploration and learning. Through a series of spatial designs, provide profound meaning and sublime experiences, fortifying people's bond with nature. Guided by principles of rewilding, the objective is to create an ecological corridor vision and develop transformation strategies for each habitat type. Simultaneously, to counter the design challenges arising from the gap between ecological reality and cultural perceptions, this project explores whether wildness can evolve into a new aesthetic category, prompting a shift from beautification to honesty, revealing, and embracing the unexpected. By establishing a landscape evaluation system based on the framework of aesthetic perception and experience, four aesthetic categories (the sublime, the beautiful, the interesting and the plain) and their corresponding cognition level and landscape pattern are established. The analysis of regional green space usage structure, plant space, build-up space, tree species and aesthetics, and scene experience will be integrated

	under this framework. The goal is to create a vision for a corridor of wilderness aesthetic experiences as well as enhancement strategies for each aesthetic category. By integrating these two systemic visions, an integrated regional vision will be achieved; specific spatial strategies for habitat and aesthetic prototypes will be presented in specific place-level designs. Through comprehensive design approaches spanning from regional to local scales, and from systemic concepts to detailed elements, the peri-urban landscapes are expected to transform into contemporary hybrids of diverse habitats for wildlife and self-willed urban wilds, encouraging active engagement from people, ultimately fostering a harmonious coexistence between humans and non-humans.

IV Graduation process

Method description



Literature and more applied references

Rewilding Related Literature:

1) Concept of Rewilding

Drenthen, M. (2018). Rewilding in layered landscapes as a challenge to place identity. *Environmental Values*, *27*(4), 405-425.

Lorimer, J., Sandom, C., Jepson, P., Doughty, C., Barua, M., & Kirby, K. J. (2015). Rewilding: Science, practice, and politics. *Annual Review of Environment and Resources*, *40*(1), 39–62. https://doi.org/10.1146/annurev-environ-102014-021406

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2) Habitat Restoration and Riparian Forest:

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Prominski, M., Stokman, A., Stimberg, D., Voermanek, H., Zeller, S., Bajc, K., & Zheng, N. (2023). *River. Space. Design: Planning Strategies, Methods and Projects for Urban RiversThird and Enlarged Edition*. De Gruyter.

3) Aesthetic Perception and Experience

Gandy, M. (2013). Marginalia: Aesthetics, ecology, and urban wastelands. *Annals of the Association of American Geographers*, *103*(6), 1301-1316.

Gobster, P. H., Nassauer, J. I., Daniel, T. C., & Fry, G. (2007). The shared landscape: what does aesthetics have to do with ecology?. *Landscape ecology*, *22*, 959-972.

Jankevica, M. (2012). Comparative analysis of methodologies for landscape ecological aesthetics in urban planning. *Mokslas–Lietuvos ateitis/Science–Future of Lithuania*, *4*(2), 113-119.
Jorgensen, A., & Tylecote, M. (2007). Ambivalent landscapes—wilderness in the urban interstices. *Landscape research*, *32*(4), 443-462.

Løvoll, H. S., Sæther, K. W., & Graves, M. (2020). Feeling at home in the wilderness: Environmental conditions, well-being and aesthetic experience. *Frontiers in psychology*, *11*, 402.
Nohl, W. (2001). Sustainable landscape use and aesthetic perception–preliminary reflections on future landscape aesthetics. *Landscape and urban planning*, *54*(1-4), 223-237.

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Parsons, R. (1995). Conflict between ecological sustainability and environmental aesthetics: Conundrum, canärd or curiosity. *Landscape and Urban Planning*, *32*(3), 227-244.

Rewilding Related Precedents:

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Ecological restoration landscape design of Xichuan, China by Horizon & Atmosphere Landscape. (n.d.). https://www.gooood.cn/ecological-restoration-landscape-design-of-xichuan-china-by-horizon-atmosphere-landscape.htm

Wildlife lives matter: Hedgehog-aided design in urban areas: ASLA 2021 student awards. Wildlife Lives Matter: Hedgehog-Aided Design in Urban Areas | ASLA 2021 Student Awards. (n.d.). https://www.asla.org/2021studentawards/3357.html

Site Specific Policy Plans and Precedents:

Bosstedenbouw in Vlaanderen. Een kort manifest voor Meer Bos in De ... (n.d.). https://bosplus.be/wp-content/uploads/2022/02/Bosrevue81a_Bosstedenbouw_in_Vlaanderen_Wim_Wambecq.pdf

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V Reflection on the project proposal

1. What is the relation between your graduation topic, the lab topic, and your master track?

My graduation topic is about urban rewilding, a process-oriented ecological restoration approach that emphasizes the spontaneity and dynamics of nature. This aligns with one of the four perspectives taught in the Landscape Architecture program-Process. Simultaneously, the project explores how to implement the ecological concept of rewilding into landscape spatial design, where perception and experience serve as research and design tools, aiding in the formation of conceptual frameworks to explore avenues for touching a person's life with wild nature. The goal of this project is to create wild forest spaces that encompass both ecological and cultural benefits. Among these, research on the spatial aspects of trees and other vegetation constitutes a core focus of the Urban Forestry Laboratory.

2. What is the relevance of your graduation work in the larger social, professional and scientific context?

My graduation work advocates for a reevaluation of our relationship with nature and emphasizes the importance of appreciating its spontaneity and vitality. The main topic is about rewilding, which places the history of human engagement with the landscape in a larger context and uses it to critique an overly humanized, anthropocentric view of life. The innovation in this work is evident in several aspects:

1) Urban forestry serves as a method of rewilding, facilitating the practical implementation of ecological restoration in spatial terms.
2) While many 'rewilding' projects typically focus on rural or peri-urban areas, this project propose to break this urban-rural distinction and start to address 'rewilding' as a holistic topic.
3) Existing literatures and practice on rewilding has predominantly concentrated on social and ecological values associated with the process. However, this project addresses a notable gap by exploring the role of aesthetic values in rewilding. It integrates both ecological benefits and aesthetic experiences, delving into the possibilities of rewilding in urban landscape design. The approach advocates for embracing the aesthetics of problems rather than use beautifying, hiding and masking friction to rob the spectator of a chance for discussion and reflection.