

Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences



Graduation Plan: All tracks

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

The graduation plan consists of at least the following data/segments:

Personal information	
Name	Katarzyna Prokopiuk
Student number	6061990

Studio		
Name / Theme	Explore Lab	
Research mentor	Claudiu Forgaci	Urbanism
Design mentor	Geert Coumans	Form studies
Technology mentor	Georgios Karvelas	Building technology
Argumentation of choice of the studio	<p>Explore Lab allowed me to work on a topic that I have a personal connection to, and a site where I can possibly make a real impact. It allowed me to choose a research and design assignment that spark my interest, and through this I can build genuine engagement in the graduation process. Thanks to the studio I can work on a site in Warsaw, my hometown, that I know well and where I can apply the knowledge gained during my Master studies.</p> <p>It is inspiring to see other people in Explore Lab working on their respective topics – I believe that I can still learn a lot from the variety of approaches and methods that are used. On the other hand, the individual aspect of the studio is a great challenge to test my maturity in design at the end of this chapter of my academic journey.</p>	

Graduation project	
Title of the graduation project	In conversation with the river
Goal	
Location	Port Żerański, Warsaw, Poland
Problem statement	Vistula River holds a special place in Polish history and mentality, it has also become the symbol of Warsaw – the capital city. However, as a figure of such importance, Vistula has had to face some troubled times, especially in the last century. Until very recently, it was seen as a dividing element, perceived as polluted and disconnected. In the last twenty years, it has been one of the city's top priorities to help Warsaw and its residents turn to face the river again.

	<p>The starting point of this research, which brought attention to the debate about the future of Vistula River, is the case of Port Żerański, still mostly undeveloped and surrounded by industrial activity, with a big part of the port remaining a natural habitat for animals. There are many sides of the conversation about the future of this place – real estate developers, local activists, nearby residents, industries and sports people. What strikes in the multitude of wishes and needs is a question too rarely asked – what would the river itself want? This question, crucial for sustainable urban planning, yet impossible to answer with certainty, is valid not only in Port Żerański, but also for the entirety of Vistula in Warsaw. This paper tries to explore the voice in the debate that, paradoxically, cannot be vocalized – the voice of Vistula River itself.</p>
<p>Research questions</p>	<p>This research aims to give voice to the river and notice its agency and influence. It will focus on the main research question - how can understanding the voice of the river help to better connect it with the urban landscape? The voice of the river entails its identity, natural processes, and socio-environmental influences. The research, through a set of sub-questions, will try to deconstruct the complexity of the river and formulate a new narrative that will allow the inclusion of the river's voice in future debates.</p> <p>Sub-questions:</p> <p><i>Does the river have an identity? If so, what makes it?</i></p> <p><i>How to represent the complexity of a river?</i></p> <p><i>How to give voice to the water? Or how can we learn to hear it?</i></p> <p><i>How to include the river's voice in the debate about its future?</i></p>
<p>Design assignment</p>	<p>The resulting design assignment is an attempt to look at the site of Port Żerański from the perspective of the river (in this case it is the Żerański Channel, directly connected to the main course of Vistula, and with similar ecological characteristics). This means understanding the socio-ecological processes that happen at the intersection of land and water, defining the needs of nearby residents and other potential users, and incorporating them with respect towards the natural environment. The design will first focus on the urban scale, and refer to it at later stages of the process. In Port Żerański, it is particularly important to keep an integrity of the whole area, therefore it will be important to consider the network of interactions – those existing already in Port Żerański, and the ones created by the design project.</p> <p>The envisioned outcomes are:</p> <ul style="list-style-type: none"> - A resilient plan for Port Żerański area on an urban scale, including its interactions in a further context, based on research and urban analyses - A strategy for the preservation of wildlife and biodiversity on site

	<ul style="list-style-type: none"> - Detailed Architectural design of a building/complex of buildings serving the community – Warsaw water sports center with additional recreational and educational functions - Potentially other small architectural interventions on site
--	---

Process

Method description

To achieve the designed outcomes, the research implements an extensive methodology with multiple ways of data collection and analysis. They can be primarily divided into on-site and off-site research. Field research was conducted in Warsaw and included data collection through interviews, sketching, journaling, photography, and audio-visual recordings. The activities are then mapped and compared with other mappings developed in the research process. The off-site part of the research consists of a literature review and archival mapping collection, as well as analyzing the data acquired on-site.

The chosen methods are designed to answer the research sub-questions. They overlap and intertwine, resulting in using several methods to answer one question and different questions being partially answered by the same method. It is through a thorough analysis of the collected material that the questions will be fully answered. Together, the methodology will lead to an organized catalog of representations of the river and narratives describing its perspective.

The field research is also a starting point for the design process. It included several site visits – with one on a kayak to get as close as possible to the perspective of the river. The interviews conducted in Port Żerański offer a broad understanding of the context, and engaging in activities locally was crucial to later understand the potential interactions an architectural design will create. The design process will also include using journaling and sketching to build a more personal relationship with the river. In later phases, working physical and digital models, drawings, visualizations and potentially environmental simulations will be used to develop the final design.

Theoretical framework

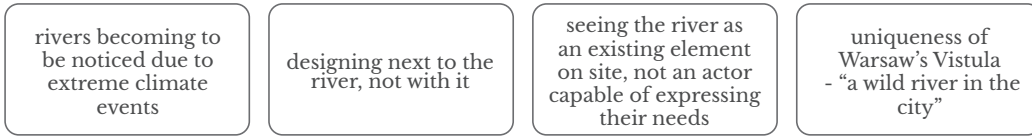
Dilip Da Cunha
hydrofeminism
global rights of nature
rivers' legal personhood

**IN CONVERSATION
WITH THE RIVER**

Context

Vistula River in
Warsaw

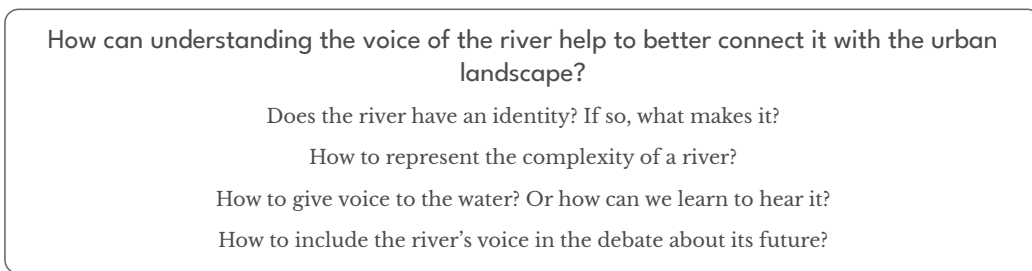
Problem statement



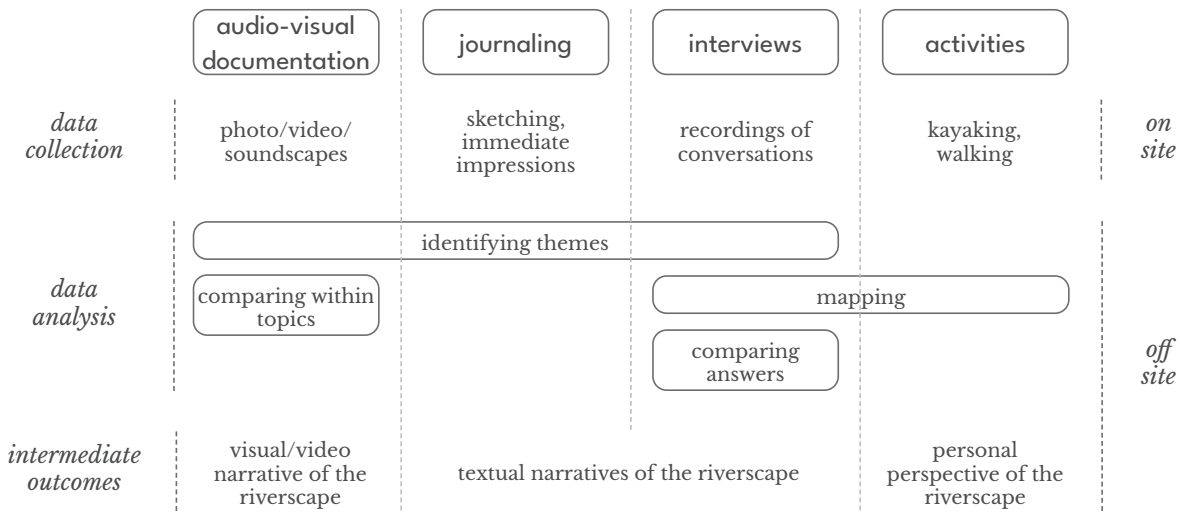
Site

Port Żerański in
Warsaw

Research question



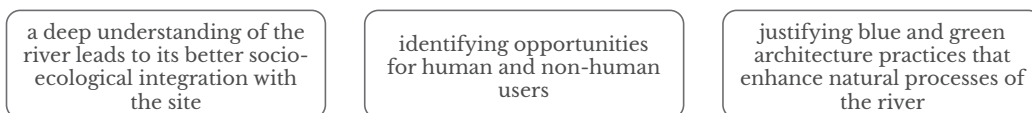
Methodology



Outcome



Relation to design



Literature and general practical references

The literature used in this research can be divided in two main categories – sources regarding Poland, Warsaw and Vistula specifically, and the ones discussing general theories about rivers in cities, their socio-ecological integration and ways to listen to the voice of the river. On the last topic, the most abstract of them, the literature is limited – which additionally justifies the choice of research subject.

The main themes and ideas in literature review include:

1. Context specific: history of Vistula River, its significance in four domains – technological, social, spiritual, and environmental, Vistula in Warsaw
2. General: river management in cities, social-ecological integration of rivers, River Culture, social connectivity of rivers, eco- and hydrofeminism, Rights of Nature, legal personhood of rivers

List of sources:

Angiel, J. (2017). *Rzeka Wisła, materiał edukacyjny dla uczniów i nauczycieli*. Rok Rzeki Wisły. https://www.rokwisly.pl/download/materialy/Joanna_Angiel_Wisla.pdf

Bartmiński, J. (2017). Językowo-kulturowy obraz rzeki Wisły. In K. Marcol & J. Kajfosz (Eds.), *Językowe i kulturowe modelowanie świata* (pp. 39–55). Kongres Polaków w Republice Czeskiej.

Biernacki, Z. (2000). *Wisła w Warszawie. Geomorfologia i wody powierzchniowe*.

Cano, N. (2024). *Ways to listen to a river*. Spring Performing Arts Festival. <https://springutrecht.nl/en/programme/ways-to-listen-to-a-river/>

Chwalba, A. (2023). Wisła jest kobietą. In *Wisła. Biografia rzeki* (1st ed., pp. 13–18). Wydawnictwo Literackie.

Clark, C., Emmanouil, N., Page, J., & Pelizzon, A. (2019). Can you hear the rivers sing? Legal personhood, ontology, and the nitty-gritty of governance. In *Ecology Law Quarterly* (Vol. 45, Issue 4, pp. 787–844). University of California Boalt Law Business. <https://doi.org/10.15779/Z388S4JP7M>

Da Cunha, D. (2018). *The Invention of Rivers : Alexander's Eye and Ganga's Descent*. University of Pennsylvania Press.

Duchnowski, T. (2013). Exploitation of the Vistula River from earliest times to the outbreak of World War II. *Acta Energetica*, 2(15), 24–31. <https://doi.org/10.12736/issn.2300-3022.2013202>

Duda-Gromada, K. (2018). Tereny nad Wisłą w Warszawie jako miejsce spotkań (w opinii mieszkańców wybranych osiedli). *Prace Geograficzne*, 152. <https://doi.org/10.4467/20833113pg.17.031.8254>

Forgaci, C. (2018). *Integrated Urban River Corridors Spatial design for social-ecological resilience in Bucharest and beyond*.

Fortescue, E. (2022, March 15). *If a polluted river could speak, what would it say? Sydney Biennale gives waterways a voice*. The Art Newspaper. <https://www.theartnewspaper.com/2022/03/15/its-only-natural-sydney-biennale-invites-rivers-to-take-part-in-2022-show>

Fundacja Sendzimira. (2022). *Rzeki Warszawy w oczach mieszkańców. Wyniki geoankiety poświęconej percepcji dolin rzecznych*.

Fundacja WWF Polska. (2024, December 18). *Apel do Rządu w sprawie wycinki drzew nad Bugiem*. <https://www.wwf.pl/apel-do-rzadu-w-sprawie-wycinki-drzew-nad-bugiem>

Glegoła, K. (2024, May 23). *Wianki nad Wisłą 2024 coraz bliżej. To największa wiślana impreza roku. Co się będzie działo w Noc Świętojańską?* <https://warszawa.naszemiasto.pl/wianki-nad-wisla-2024-coraz-bliziej-to-najwieksza-wislana/ar/c13-9703385>

Gosk, I. (2022). *Zarządzanie miejskimi dolinami rzecznyymi*.

Grębowiec, M. (2019). Rzeka Wisła w mieście stołecznym Warszawie jako element kreowania wizerunku regionu i rozwoju lokalnej turystyki śródlądowej. *Zeszyty Naukowe. Turystyka i Rekreacja*, 1(23), 93–113.

Grochowski, C. (2001, February). *Wisła Ostatnia Dzika Rzeka Współczesnej Europy. Ekologiczne Znaczenie Wisły*. Ekologia.PL. <https://www.ekologia.pl/srodowisko/wisla-ostatnia-dzika-rzeka-wspolczesnej-europy-ekologiczne-znaczenie-wisly/>

Kondolf, G. M., & Pinto, P. J. (2017). The social connectivity of urban rivers. *Geomorphology*, 277, 182–196. <https://doi.org/10.1016/j.geomorph.2016.09.028>

Konferencja “Warszawa wraca nad Wisłę.” (2017, October 9). Senate of the Republic of Poland. <https://www.senat.gov.pl/aktualnoscilista/art,10083,konferencja-warszawa-wraca-nad-wisle.html>

Kowalski, H., & Magnuszewski, A. (2020). Wisła oddaje ukryte skarby. *Magazyn Polskiej Akademii Nauk*, 2/62/2020, 90–93. <https://doi.org/10.1002/hyp.13234>

Krajowy Instytut Polityki Przestrzennej i Mieszkalnictwa. (2018). *Atlas fizjograficzny Miasta Stolecznego Warszawy*.

Krawczyk, B., & Węclawowicz, G. (2001). *Badania środowiska fizycznogeograficznego aglomeracji warszawskiej*. <http://rcin.org.pl>

Legends and myths about rivers: Fascinating stories from different cultures. (2024, August 6). https://balticayachts.pl/legends-i-mity-o-rzekach/#Wisla_legenda_o_krolowej_Wisly

Ludwicki, P. (2017, September). Głos “Kuriera”. *Królowa... Kurier Warszawski*, 4 (57), 3.

Majewski, W. (2013). General characteristics of the Vistula and its basin. *Acta Energetica*, 2(15), 6–15. <https://doi.org/10.12736/issn.2300-3022.2013201>

Marshall, C. (2024, September 19). *The Australian river legally recognised as a ‘living entity.’* Australian Geographic. <https://www.australiangeographic.com.au/topics/history-culture/2024/09/yarra-river-legally-recognised-as-a-living-entity/>

Miasto Jest Nasze. (2024, September 11). “*Niszczycielska Trójka*” zagraża przyszłości Wisły.

Mies, M., & Shiva, V. (1993). *Ecofeminism*. Zed Books Ltd.

Miradyanti, L., Srinaga, F., & Dewi, J. (2021). River-space development as a social interaction space through the placemaking approach. *BEST: Journal of Built Environment Studies*, 2(2), 1–8. <https://journal.ugm.ac.id/v3/BEST>

Neimanis, A. (2017). *Bodies of Water*. Bloomsbury.

O’Donnell, E. (n.d.). *The river’s voice*. The Association of Commonwealth Universities. Retrieved January 13, 2025, from <https://www.acu.ac.uk/the-acu-review/the-rivers-voice/>

O’Donnell, E. (2020). Rivers as living beings: rights in law, but no rights to water? *Griffith Law Review*, 29(4), 643–668. <https://doi.org/10.1080/10383441.2020.1881304>

O’Donnell, E. L., & Talbot-Jones, J. (2018). Creating legal rights for rivers: Lessons from Australia, New Zealand, and India. *Ecology and Society*, 23(1). <https://doi.org/10.5751/ES-09854-230107>

Plit, J. (2012). Widoki z arterii komunikacyjnych “Przód i tył miejscowości.” *Infrastruktura komunikacyjna w krajobrazie. Prace Komisji Krajobrazu Kulturowego*, 18, 141–148.

Porozumienie Bezpieczne Rzeki. (2019, January 7). *Stopień północny na warszawskiej Wiśle jest niezbędnym*.

Potrząski, K. (2018). Bulwary nadwiślańskie na łamach prasy warszawskiej w okresie międzywojennym. *Progress. Journal of Young Researchers*, 10. <https://doi.org/10.4467/25439928PS.18.002.8501>

Rok Rzeki Wisły. (n.d.). *Idea Roku Rzeki Wisły*.

Ronikier-Dolańska, A. (2000). *Wisła w Warszawie. Przyrodnicze oblicza doliny Wisły*.

Skład Solny. (n.d.). *Siostry Rzeki*. Retrieved January 13, 2025, from <https://skladsolny.pl/siostry-rzeki/>

Stefanowska, A. (2014). Rola rzeki w rozwoju turystyki miejskiej na przykładzie Warszawy i wybranych miast europejskich. *Turystyka Kulturowa*, 8.

Stone, C. D. (1972). Should trees have standing? - Toward legal rights for natural objects. *Southern California Law Review*, 45.

Studium uwarunkowań i kierunków zagospodarowania przestrzennego m.st. Warszawy. (2021). President of the City of Warsaw.

Twardowski, Ł. (2015). Rola Wisły jako rzeki granicznej na tle historycznych podziałów kraju i jej znaczenie w aktualnym podziale administracyjnym. *Studia z Geografii Politycznej i Historycznej*, 4, 221–252. <https://doi.org/10.18778/2300-0562.04.09>

Urząd m.st. Warszawy. (2022, December 30). *Ochrona siedlisk kluczowych gatunków ptaków Doliny Środkowej Wisły w warunkach intensywnej presji aglomeracji warszawskiej*. <https://um.warszawa.pl/waw/europa/-/ochrona-siedlisk-kluczowych-gatunkow-ptakow-doliny-srodkowej-wisly-w-warunkach-intensywnej-presji-aglomeracji-warszawskiej>

Voices of the River. (n.d.). Retrieved January 13, 2025, from <https://www.voicesoftheriver.org/>

Wang, H., & He, G. (2022). Rivers: Linking nature, life, and civilization. In *River* (Vol. 1, Issue 1, pp. 25–36). John Wiley and Sons Inc. <https://doi.org/10.1002/rvr2.7>

Wantzen, K. M., Ballouche, A., Longuet, I., Bao, I., Bocoum, H., Cissé, L., Chauhan, M., Girard, P., Gopal, B., Kane, A., Marchese, M. R., Nautiyal, P., Teixeira, P., & Zalewski, M. (2016). River Culture: an eco-social approach to mitigate the biological and cultural diversity crisis in riverscapes. *Ecohydrology & Hydrobiology*, 16(1), 7–18. <https://doi.org/10.1016/j.ecohyd.2015.12.003>

Warszawskie Towarzystwo Wioślarskie. (2023). *Historia WTW*. <https://wtw.waw.pl/historia/>

Wolski, J. (2023, June 28). *Potencjalna roślinność naturalna Polski*. Polska Akademia Nauk Instytut Geografii i Przestrzennego Zagospodarowania.

Zdzitowiecka, H. (2010). *Legenda o powstaniu rzeki Wisły*. https://web.archive.org/web/20120317050933/http://atrakcjewisly.pl/show_page.php?mid=6

Zingraff-Hamed, A., Bonnefond, M., Bonthoux, S., Legay, N., Greulich, S., Robert, A., Rotgé, V., Serrano, J., Cao, Y., Bala, R., Vazha, A., Tharme, R. E., & Wantzen, K. M. (2021). Human–river encounter sites: Looking for harmony between humans and nature in cities. In *Sustainability (Switzerland)* (Vol. 13, Issue 5, pp. 1–20). MDPI AG. <https://doi.org/10.3390/su13052864>

Reflection

This research tries to understand the voice of Vistula River to include it in the discussion about the future of riverbank areas and adjacent ports in Warsaw. It aims to build awareness, primarily in designers, about the complexity of the river, which is rarely thought of and taught about in architecture schools. Rather than offering a fixed set of rules and guidelines, this paper suggests a shift in thinking about the rivers – from that of a resource represented by a line or a patch, serving political purposes, to that of a living entity that should have a saying in the debate about its own future. By being rooted both in academic findings and in the local context of Warsaw and Vistula, the research aim is to propose an approach to design that might lead to a better connectivity of the city with its river. To achieve this goal, it explores alternative (to the traditional design process) narratives and representations of the river that help to better understand it. Although this paper provides insights that can be of value to all users of the river, its message is firstly meant for designers, urban planners and city officials. To people who have most agency over the course and use of the river. If they hear the message in the voice of Vistula, they can convey it in their projects, initiatives and legislations.

This project, although carried out within Architecture Track, lies at the intersection of architecture, urbanism, landscape and environmental studies. To me, it shows that architectural design cannot be confined within one discipline, and should be discussed in relation to the impact it creates. The approach proposed in this project – listening to the voice of the river – encourages to think outside

of the box. Although this graduation research is focused on Vistula, Warsaw and Port Żerański, similar methods can be used in other contexts as well, if properly adjusted. This opens countless possibilities for river exploration in academic field and beyond.