

URBAN NATURE MUNICH

An aerial photograph of Munich, Germany, with a red outline tracing the city's boundary. The map is overlaid with green areas representing urban nature, including parks and green spaces. A blue river, the Isar, flows through the city from the top right towards the bottom left. The background is a semi-transparent green overlay.

Alix Gelibert - Final Project
Environmental Studies
Summer Semester 2023

a guide

Tabele of content

- 4 - Urban Nature_ what's at stake ?**
- 6 - Urban Nature_ what about Munich ?**
- 8 - Map_ guide**
- 10 - Tips and good practice in (urban) nature**
- 14 - Englischer Garten**
- 18 - Isar River**
- 24 - Munich's green Belt**
- 28 - Cemeteries**
- 32 - Nymphenburger park**
- 35 - Olympiapark**
- 36 - Unexpected nature**
- 40 - Urban Gardening**
- 44 - Micro green spaces**
- 48 - Map_ tours**

Discover Munich's Urban Natur A Guide to the Green Heart of the City

I introduce you to a guide that unlocks the essence of Munich's Urban Nature, based on my personal experiences. This non-exhaustive handbook delves into historical landmarks, noteworthy events, and impactful initiatives that have shaped the city's urban nature. wFrom tranquil riverbanks to vibrant community gardens, immerse yourself in the harmony of Munich's urban nature.

This guide serves you as a key to unraveling the dynamic relationships between a thriving city and its flourishing green heart. However, it is just the beginning of your journey, as Munich's urban nature has a lot more to offer, a world of discovery is awaiting you. Each district of Munich boasts its own hidden pockets of nature, waiting to be explored and savored. With this guide I aspire to inspire people to explore Munich's urban nature and promote a greater understanding of multi-species development and human-nature relationships.

URBAN NATURE

what's at stake ?

NATURE - uncountable noun

Nature is all the animals, plants, and other things in the world that are not made by people, and all the events and processes that are not caused by people.

The most amazing thing about nature is its infinite variety.

(Collins, 2023)

At their very beginning, cities were built in specific locations to take advantage of the features of nature, for instance, the topography, the proximity to rivers or forests ... These features represented advantages for the communities to exploit – for agriculture, protection, the abundance of resources – and increase their living quality.

Nowadays, cities are growing all over the world at an incredible rate. According to United Nations Data, 54 % of the world's population lives in urban areas. This number is still growing to reach around 70% in 2050. In Germany, already over 70 % of the population lives in urban areas. Transportation infrastructure and settlement areas increased by an average of 55 hectares per day between 2018 and 2021 in the country.

Beyond leading to the loss of natural landscapes through the expansion of the urban areas, urban sprawl also leads to the degradation, loss and fragmentation of landscapes and ecosystems of the hinterlands, due to increasing activities and the intensification of exploitation of the natural resources.

According to the primary definition of nature, one can assume that nature can't exist in urban areas where human influence is at its highest point, thus inhibiting natural processes allowed in the wilderness.

However urban nature can still show natural features, if natural dynamics and development processes are allowed within the urban context. These urban natural areas are mostly situated in urban forests and marshlands,

at river banks... These areas are called "old wilderness" by Kowarik, as opposed to the new wilderness, which developed within the urban context on the fallow ground of leftover spaces.

Kowarik distinguishes four types of nature in cities ("Vier Naturen"), Each type has its specific feature and supports ecosystems in its own way. Each has different functions and roles generating direct and indirect benefits for the ecosystems. Moreover, urban nature including plants and non-human animals can improve the environment for human well-being.

So, urban nature describes a rich variety of spaces in our cities, from recreational to other types of informal green spaces, for example, green streetscapes, nature areas, roof gardens and community gardens. Nature can be sometimes even more diverse in cities, due to the exploitation of large surfaces in the hinterlands. Moreover, cities offer very diverse habitats for the development of urban nature and ecosystems. Protecting and supporting urban nature is crucial to sustaining our still fragile ecosystems, as cities are likely becoming major refuges for biodiversity.

Urban Nature

The **nature of the first kind** "*Natur der ersten Art*" describes the "old wilderness", the remains of old natural areas, never built-up or exploited by humans. These areas are commonly located in the outskirts of cities (but not always), and are mainly used for recreational purposes. (Kowarik, 2011 & 2019)

The **nature of the second kind** "*Natur der zweiten Art* " depicts agricultural land which is still available today in the cities. (Kowarik, 2011 & 2019). Conflicts often arise between the agricultural purpose and the more lucrative real estate functions. Nevertheless, these spaces hold significance for urban biodiversity, providing habitats and food for many species, while facilitating essential natural processes such as pollination and the regulation of local microclimates. (Egerer, 2021)

The **nature of the third kind** "*Natur der dritten Art* " includes all kinds of gardening forms at all scales, from house gardens to street greenery, sports fields and larger landscape parks. This kind of nature sometimes overlaps with the nature of the first kind. This kind of nature sometimes overlaps with the nature of the first kind, parks with old trees are for instance often biodiversity hotspots in the city. Smaller green elements are also important for urban biodiversity, and play a significant role in the water management. In general, greenery in the streets plays a major role in the climate regulation of the cities. (Kowarik, 2011 & 2019)

The **nature of the fourth kind** "*Natur der vierten Art*" is about spontaneous natural development in formerly built-up areas, such as industries, railways, housing ... This is the so-called "new Nature". The resources used for these new natural ecosystems are mostly human-made and offer new kinds of habitats. (Kowarik, 2011 & 2019)



URBAN NATURE

What about Munich ?

Munich wasn't always the big city of today. The last 50 years were marked by huge developments in the city area. The diversity of rich habitats present in Munich positions the city as an important biodiversity reservoir in the urban area.

Moreover, the forests act as the green lungs of the city and offer very diverse habitats thanks to the specific conditions of the different locations, which were strengthened by different exploitations forms in history. (Referat für Klima- und Umweltschutz, 2023)

Dry biotopes similar to steppes develop from the gravel areas and give habitat for many plants and animals despite the low level of nutrients in the gravel. The remaining wetlands in the Northwest, North and Northeast can inhabit interesting ecosystems and offer important natural services. Streams, rivers, lakes, ponds, and their shores are also part of the richest biodiversity areas of the city, home to many fishes, insects, and birds. Ponds and artificial lakes (from quarry activity) - like the Lerchenauer Lake - are also located in the urban area and host a part of the urban biodiversity, aside from offering recreational areas for the citizens during summer.

Therefore, even here we notice the negative effects of the climate crisis and the limits of what we can benefit from the present urban nature: the past pandemic, heavy rainfalls, hot summer, urban heat island effect...

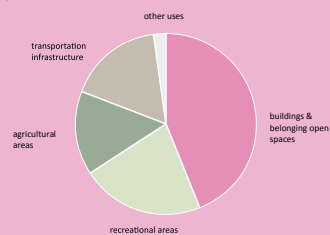
Therefore, rethinking our relations to nature in the city is important to support and preserve the quality of urban nature in Munich in order to adapt to the climate crisis and create a more resilient, inclusive, and multi-species-oriented future. In this regard, the city's administration planned the implementation of the biodiversity strategy and the climate-neutral goals ("Biodiversitätsstrategie München" und "Klimaneutrales München 2035"), two initiatives aiming at the sustainable development of the city.



MUNICH - How much space there is ?

According to the analysis from the Statistisches Amt der Landeshauptstadt München (Geisser, 2018), the city of Munich is the densest and most sealed city in Germany. In 2017, the city is about 31.071 ha large, with 44% of the surface used for buildings and belonging open spaces, 22% for recreational areas (Sports fields, parks, forests, water ...), 15% for agricultural areas, 17% for transportation infrastructure (streets, railways, paths ...) and 2% for other uses.

The report also compares the city to the other 1 million cities in the country: Berlin, Hamburg, and Cologne. Regarding population density, the report presents Munich as the densest city of the four, for both density related to the overall city surface and density related to the city surface after deducting the forest and water areas, as well as the agricultural land. These surfaces were strengthening a gap between the cities due to large unavailable surfaces in the other cities such as the harbor in Hamburg, for instance. Moreover, the report places Munich as the most sealed city of the four, with 46 % of sealed surfaces. Related both to the overall city area or only to the areas dedicated to Siedlungs und verkehrsfläche, Munich is denser than Berlin Hamburg, or Cologne. (Geisser, 2018)



Urban nature in Munich ?

Collection of words from the self conducted survey about the perception of urban nature in Munich - summer 2023



When thinking about nature in the city, these are the words that came out. Most of the participants named "parks" or the iconic natural areas of the city such as the Englischer garten or the Isar river. Meanwhile, the participants seemed quite aware of the importance of street greenery, with 42 citations (trees, alley, street greenery ...). The mention of water elements is also recurrent, with more than 30 mentions: lake, stream, rivers, Isar, or fountain.

SOURCES

Collins English dictionary (2023) Available at: <http://www.collinsdictionary.com/english/creative> (Accessed 10 August 2023).

Engerer M. (2021) Urban Agriculture - Powerpoint presentation of the lecture TUM.Stadt Summer 20/21.

Geisser .P (2018) Grau, Grün und Blau - die Bodennutzung in München - Münchner Statistik, 4. Quartalsheft, Jahrgang 2017 - Statistisches Amt der Landeshauptstadt München. Available at: https://stadt.muenchen.de/dam/jcr:93314652-5c20-4bea-b303-f2eb3160526a/MueSta_4_17_Grau,Gruen%20und%20Blau_die%20Bodennutzung%20in%20Muenchen.pdf (Accessed: 10 August 2023)

Hauck, T., and Weisser, W. (2014). AAD Animal-Aided Design [online] Available at: http://www.uni-kassel.de/fb06/fileadmin/datas/fb06/fachgebiete/LandschaftsarchitekturLandschaftsplanung/Freiraumplanung/Forschung/AAD/AAD_Web_10MB.pdf (Accessed: 10 August 2023)

Kowarik I. (2011) Novel urban ecosystems, biodiversity, and conservation, Environmental Pollution, Volume 159, Issues 8-9, Pages 1974-1983. Available at: <https://www.sciencedirect.com/science/article/pii/S0269749111000960> (Accessed: 06 August 2023).

Kowarik I. et Al. (2019) ECOSYSTEM SERVICES IN THE CITY PROTECTING HEALTH AND ENHANCING QUALITY OF LIFE. Available at: https://www.ufz.de/export/data/global/190507_TEEB_De_Broschuere_KF_Bericht3_Stadt_engl_web.pdf (Accessed: 10 August 2023).

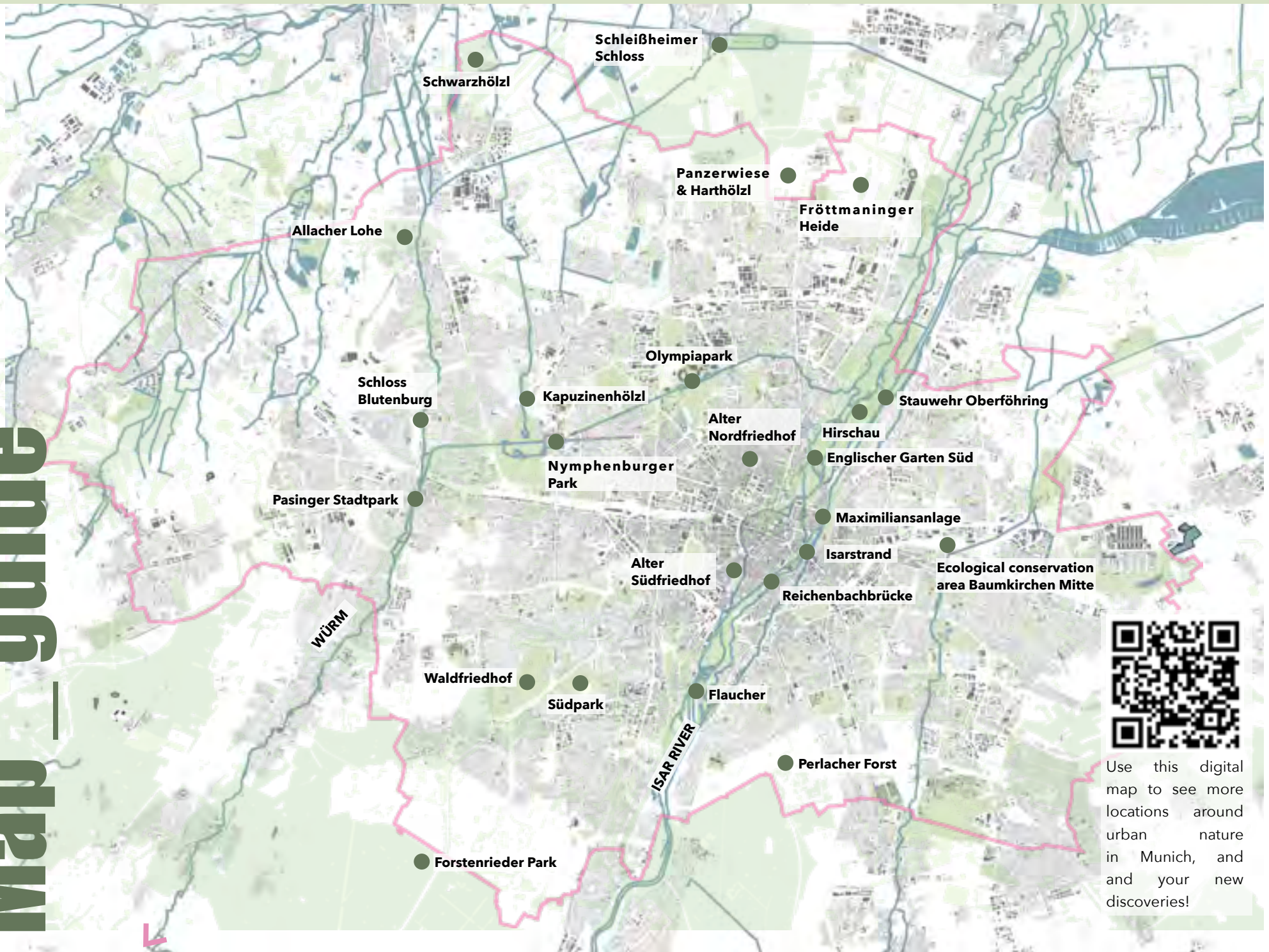
Landeshauptstadt München, S. (no date) Biodiversität in München, Landeshauptstadt München. Available at: <https://stadt.muenchen.de/infos/muenchen-biodiversitaet.html> (Accessed: 10 August 2023).

Umweltbundesamt (2013) Indicator: Land-take for settlements and Transport Infrastructure Available at: <https://www.umweltbundesamt.de/en/data/environmental-indicators/indicator-land-take-for-settlements-transport#assessing-the-development> (Accessed: 06 August 2023).

United Nations Human Settlements Programme (UN-Habitat) (2022) World cities report 2022 - Envisaging the future of cities. Available at: https://unhabitat.org/sites/default/files/2022/06/wcr_2022.pdf (Accessed 06 August 2023).

Zingraff-Hamed A. (2021) River restoration - Powerpoint presentation of the lecture TUM.Stadt Summer 20/21.

Map_guide



Use this digital map to see more locations around urban nature in Munich, and your new discoveries!



Tips and good practice in (urban) nature

- **Dispose of Garbage Responsibly:** Just as in the wilderness, avoid littering in urban nature. Even if you can't find a bin, carry your trash with you. Even biodegradable waste should not be thrown into nature.
- **Observe, Don't Feed:** While observing urban wildlife is a delight, refrain from feeding them. Feeding animals can disrupt their natural behavior and health.
- **Engage your Senses:** Engage all your senses—sight, hearing, smell—to fully experience and discover the wonders of urban nature.
- **Respect other users:** If you're cycling, be considerate of pedestrians, especially in crowded areas, it is safer to step down.
- **Connect with People:** Don't hesitate to strike up conversations with fellow nature enthusiasts. Nature often brings people together, offering opportunities to make new friends.
- **Carry water and snacks:** Even in the city, you might not find eateries everywhere.
- **Have fun, enjoy your journey through urban nature, you might be surprised of you experience!**

ENGLISCHER GARTEN

While considered one of Munich's most popular attractions, the Englischer Garten remains an enduring historical emblem of the city. As an integral facet of Munich's identity, this urban park provides residents and visitors with a vital natural sanctuary right at the heart of the city.

The *Englischer Garten*, one of the world's largest inner-city parks, stands as an iconic symbol of Munich. Despite its well-known status, starting this guide with it emphasizes the significance of expansive green spaces in our urban environments, benefiting both nature and our well-being.

Created in 1789 by Kurfürst Karl Theodor and designed by Friedrich Ludwig von Sckell under Benjamin Thompson's supervision, this historical park introduced a new concept to Europe—a recreational haven for all city dwellers. Its name, "*Englischer Garten*", denotes its design inspired by nature, contrasting with the rigid symmetry of French gardens. What appears as a naturally evolving landscape was meticulously

planned to evoke a romantic atmosphere. Notable features include meandering streams and pathways, the presence of small monuments like the Monopteros, planned by Leo von Klenze – famous Architect in Munich – after Sckell's passing in 1837, and ruin-like structures that evoke a melancholic past.

A visit to the *Englischer Garten* is a must-do in Munich, offering endless enjoyment thanks to its vast expanse. The park is characterized by two main sectors. The southern part is the most famous one and maybe the most visited, due to its very central location, a few minutes away from the *Odeonsplatz*, the Ludwig Maximilian University and the *Münchner Freiheit*. Moreover some



Natur-like design in Hirschau

of the most famous landmarks of the city can be found in this part of the park – such as the *Eisbach Welle*, the *Monopteros*, the *Biergarten am Chinesischen Turm* or the *Seehaus at the Kleinhesseloher See*.

In the summer months, the crowd of visitors can sometimes overwhelm the natural ambiance, transforming it into a more garden-like setting. Indeed, it is a very beloved place to either enjoy the sun, for beach volleyball, water activities in the *Eisbach* or in the *Schwabingerbach*, to have a drink or enjoy a walk.

Meanwhile, the *Bayerische Verwaltung der staatlichen Schlösser, Gärten und Seen*, in charge of the maintenance of the park started a project to restore species-rich wildflower meadows in the south part of the park.

First tests were run during the last years: 3.500m² near the University entrance were used to experiment different methods of soil preparation or different mixes of wild flowers and to analyze their impact on the local biodiversity. With this project, they aim to reintroduce some native plant species to create new habitats for

wild bees and other local insects and animals.

For a quieter experience, the northern part, also called **Hirschau**, across the highway from Seehaus, offers respite from crowds, in an almost twice a larger area than in the south.

A serene forest-like atmosphere awaits, with narrow paths, wild lawns and meadows accompanied by the tweet of the birds and buzzing of insects. You will feel just as in a forest with huge trees, some clearings and streams. As the affluence of visitors isn't as high as in the south of the park, natural processes can occur without being overwhelmed by intensive human activity. The expansive northern portion is predominantly a habitat for wildlife, granting visitors an opportunity to feel immersed in nature.

If you hear some bleats, you may be able to see the sheep flock of the Englischer Garten walking around and grazing between the trees. One cannot know their precise location, as the flock always moves around the park. In its northern section, the Englischer Garten also converges with the Isar River, providing delightful havens to beat the heat and enjoy the summer afternoons.

Open Air Theatre



Hirschau also has his hidden gems. Tucked within the trees, the green amphitheater of the Englischer Garten provides a unique gathering spot, specially for attending **Munich Summer Theater's** evening performances. This natural haven within the city embraces Munich's desire for both cultural enrichment and natural solace.

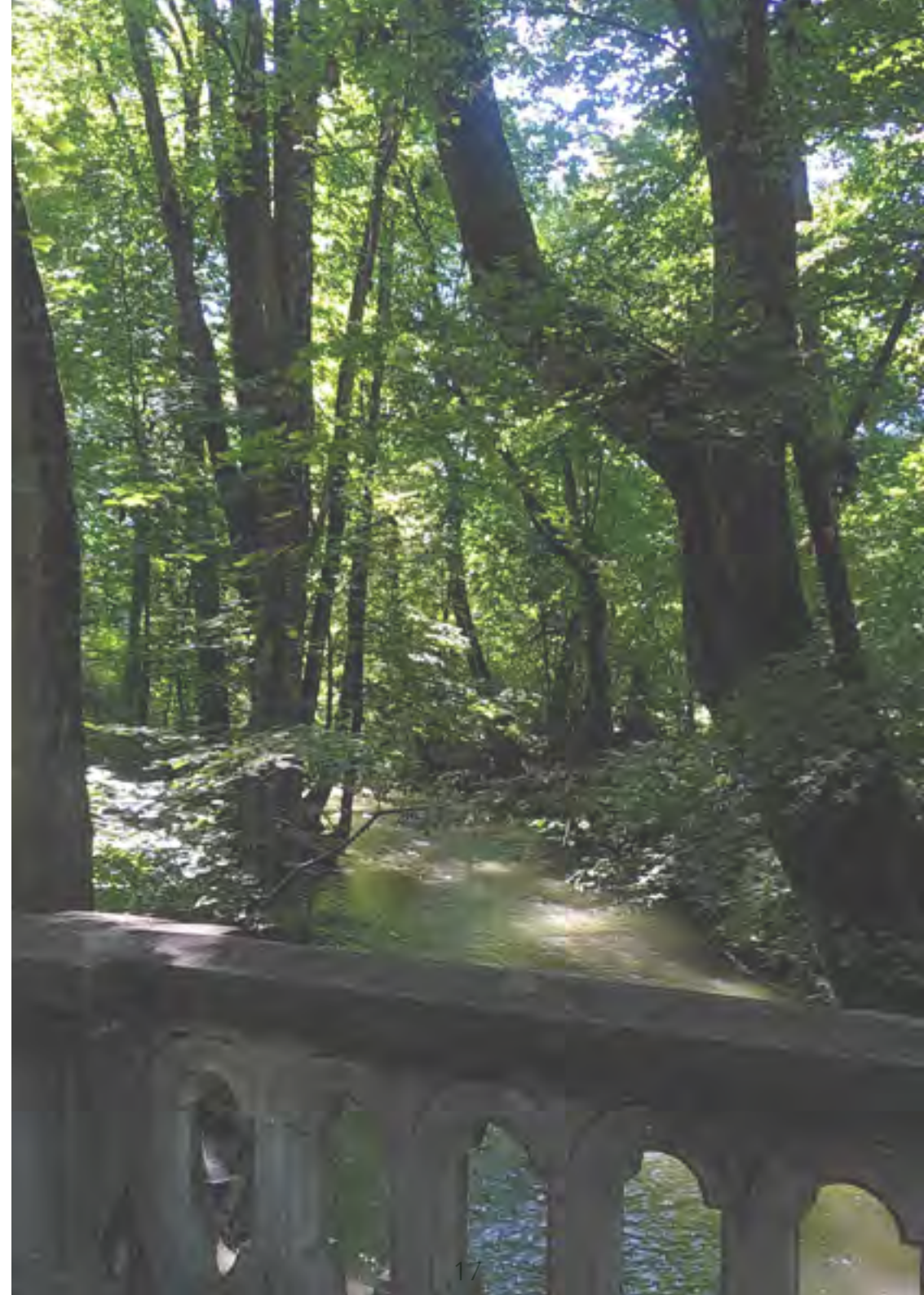
<https://www.muenchner-sommertheater.de/newsletter.html>

Source & Links

https://www.schloesser.bayern.de/deutsch/presse/archiv22/engl_garten/blumenwiesen26-04-22.htm
(Accessed 08.08.2023)

https://www.schloesser.bayern.de/deutsch/garten/objekte/mu_engl.htm
(Accessed 08.08.2023)

<https://www.englischer-garten-muenchen-infos.de/>
(Accessed 08.08.2023)



ISAR RIVER

There are so many ways and places to experience the river in Munich, and as it crosses the city from south to north, the river is accessible from many places in the city.



Isar river in Munich



Isar River - south of the Flaucher

Speaking of the **Isar river**, it is the largest river in Munich, and offers many recreational possibilities while hosting a rich biodiversity of plants and animals in different ecosystems. There are so many ways and places to experience it in Munich, and as it crosses the city from south to north, the river is accessible from so many places.

In the past, the river was channeled for different purposes, such as protecting the city from floods or to increase its hydro-electrical capacity. This led to the loss of important biodiversity, ecosystem

and cultural services, a decreasing water quality, while the flood risk still remained.

Thus, it was decided to restore the river, to find more ecological solutions, and bring nature back to the city center. The three main goals of the river restoration were to improve the flood protection of the city, develop a more natural riverscape and enhance the recreational character of the Isar river.

8 km of the river were restored between 2000 and 2011, crossing the city from north to south, and creating differentiated spaces,

supporting the riparian nature and accessible for the citizens of Munich.

Nowadays, the Isar River is one of the most beloved recreational areas of the city, which also leads to conflicts between recreational uses and nature conservation.

From south to north, you can start there are some spots you should see.

Flaucher is the part of the Isar riverbed in the south of Munich next to the *Tierpark Hellabrunn*. As part of the river restoration project,

the area is labeled as a Flora-Fauna-Habitat area (FFH thanks to the development of an important biotope in riparian context. To observe the nature a 335m long footbridge runs through the Flaucher, with its multiple small islands and its always changing landscape in the until 1 km wide riverbed.

Diverse fish species are present in the area such as bullhead, grayling, brown and rainbow trout, Barbels and more. Different birds can also find places to nest in the trees and meadows of the floodplain. Even protected species such as the Song thrush and the kingfisher



Isar plain from the Reichenbach bridge

can be found. Specially during winter some water birds can be observed in areas of shallow waters: Laughing gulls, hooded mergansers, and coots, geese and swans

Next to the *Gärtnerplatz* and the *Fraunhoferstraße*, the **Reichenbachbrücke** the bridge joins the west and east shores of the Isar River. It is an iconic meeting point for many inhabitants of Munich. The Isar plain and the *Frühlingsanlagen* offer a nice place to enjoy an afternoon with bathing possibilities and views on the catholic church St. Maximilian, the *Weideninsel* and the *Deutsches Museum*.

Between the *Museuminsel* and the *Praterinsel*, the **Isarstrand** displays an astonishing setting, with its large beach of smoothed stones. On one side a canal and on the other side the more natural Isar. Furthermore, footbridges enable unique perspectives and pleasant walks.

A bit farther north, the **Maximiliansanlage** remains of the glorious past of Munich. Planned by Carl von Effner, the landscaped park of the Maximiliansanlagen was meant

to bridge the height differences between the shores of the Isar.

At the highest point, the *Friedensengel* was built between 1886 and 1899, as a symbol of the 25 years of peace after 1871. The monument of about 38 meters represents a golden statue of the peace goddess Nike on a 23 m high column on an ornamental base. From there, the view shows the large and imposing *Prinzregentenstraße*, leading to the *Hofgarten*, the *Residenz* and *Odeonsplatz*.

Nowadays, on the east shore of the river, the *Maximiliansanlage* offers a peaceful green area marked by the various paths and the IsarRadweg, offering a north-south green connection.

Following the river northwards, the *Englischer Garten* will encounter the river at the **Stauwehr Oberföhring**, where a charming beach awaits, inviting you to relish the untamed beauty of the Isar River and the Englischer Garten.

Continuing northwards, you'll encounter the **riparian forest and the expansive floodplains** of the northern Isar - also labeled FFH area - extending into Munich's hinterlands.



*Cirsium Vulgare -
Common thistle
Isar*

*Smoothed stone
beach at the Stau-
wehr Oberföhring*

In a nutshell, the Isar river and its restoration offers many advantages to the city. It provides a more healthy environment for all living beings. It contributes to the protection of our city and the conservation of our urban biodiversity, through larger retention and infiltration plains. Thus, enabling multiple and rich natural processes to occur.

The multiple actions and commitment of various associations and stakeholders to raise awareness and among the users strengthen the identity of the river as a crucial element of Munich's urban landscape. Moreover, opening up the riverscape grants for socio-ecological fairness in the city, making natural areas accessible for many inhabitants from different districts.

ISAR CLEAN UP!



If you enjoy spending time at the Isar River and want to support the urban riparian ecosystems, **join the Isar clean up actions!** Events are organized on a regular basis, and if you want you can even organize your own clean up action, with the help of the association!

<https://www.isarcleanup.org/en>

Source & Links

https://www.schloesser.bayern.de/deutsch/garten/objekte/mu_max.htm
(Accessed 08.08.2023)

Wasserwirtschaftsamt München,
Landeshauptstadt München, July 2011,
A new Lease of life for the Isar River re-
trieved on https://climate-adapt.eea.europa.eu/en/metadata/case-studies/isar-plan-2013-water-management-plan-and-restoration-of-the-isar-river-munich-germany/munich_document-2.pdf (Accessed 08.08.2023)



GREEN BELT

Speaking of Munich's past, it is worth visiting the remains of some important historical natural areas, which nowadays, are part of the city's green belt.. Munich's historical natural areas offer a glimpse into its past and ecological significance.



Wildflower meadow at Munich's green belt - rich habitat for insect and small mammals.

The heathlands in the city's northern expanse encompass the **Fröttmaninger Heide, Panzerwiese, and Harthölzl**. These landscapes harbor remarkable biodiversity, with both the Fröttmaninger Heide and Panzerwiese designated Flora-Fauna-Habitat area and the Panzerwiese even as a protected area.

The heathlands are marked by dry pine forests, expansive gravel terrains ideal for pioneer vegetation, and dry meadows. This unique environment supports rare animal and plant species, particularly insects, reptiles, and amphibians, making these heathlands crucial for conservation efforts.

Distinctive plant species like German horseshoe vetch, keeled garlic, long-leaved hare's ear, and silver thistle flourish here. In terms of birdlife, the Fröttmaninger Heide is regionally significant, hosting around 60 bavarian bird species. Rare bird species include Northern Wheatear, Eurasian Skylark, Crested Lark, Yellowhammer, and European Goldfinch.

Moreover amphibians such as the natterjack toad and European tree frog reside in the heathlands

alongside common lizards. The always-changing terrain, hollows and bumps offers a rich habitat with mud, sand, gravel and stagnant water after rain events.

The area boasts nearly 50 butterfly species, half of which are listed as endangered. Insects like the blue-winged grasshopper and spotted keeled grasshopper inhabit the heathlands, and sustain important natural processes.

However, as urban expansion encroaches on the heathlands' edges, finding a balance between recreation and nature conservation remains essential. The Panzerwiese and Fröttmaninger Heide's unique biotopes must be preserved for Munich's benefit.

Tour: Bees & Schleißheimer Castle !

As nature goes beyond the city borders, extend northwards via a route through the fields and agricultural area to reach the Schloss unterschleißheim, which is really worth visiting in the summer, with the resplendent flowers of the garden. On your way, you can also make a stop at the Bienenzuchtverein München und Umgebung e.V. and learn more about bees and their roles in our urban ecosystems.

<https://bzvm.de/>

Accessible by public transport, the visitor center near the *Fröttmaning* subway station raises awareness about the heathlands' importance. From there, you can glimpse the *Allianz Arena*, home to Bayern München, the city's top-tier football team, designed by architects Herzog & de Meuron.

At the extreme northwest edge of the city, just next to the municipality of Karlsfeld, you can find an important protected area in the city and its very rich biodiversity reservoir, the *Schwarzhölzl*. The name "*Schwarzhölzl*" derives from the dark impression created by the imposing, old pine trees.

STADTNATOUR



Explore informative tour of the **Schwarzhölzl** through the StadtNaTour app, courtesy of Landesbund für Vogel- und Naturschutz (LBV).

StadtNaTour also offers a walk through the Allacher Lohe, another nature area in the northwest of the city.

<https://www.lbv-muenchen.de/natur-erleben/stadtnatour/feucht-und-trocken-standorte-im-schwarhoelzl/>

MUSHROOMS



The forests are ideal to **collect mushrooms during the autumn** due to the humid and shady atmosphere created by the big pines. Remember to consult the **mushroom advice desk offered by the city of Munich** during autumn, to avoid any risk of poisoning.

<https://stadt.muenchen.de/service/info/hauptabteilung-iii/1080636/>

The south of Munich is characterized by huge forest areas such as the *Perlcher Forst* or the *Forstenrieder Park*

Once the royal hunting grounds, the forests of the south of Munich are now protected areas. Historically dominated by a monoculture of spruce trees, they are now undergoing a transformation into mixed forests, propice for the development of a rich biodiversity. The forest is an important recreational area for the citizens, with paths and bike roads: It is possible to enjoy a hike without going out of the city! Moreover, many wild animals live in the forests and can be carefully observed for the pleasure of the visitors.

In the *Perlacher Forst*, a humid biotope has developed in a former

gravel pit and offers a rich habitat for native amphibians. In two ponds, countless tadpoles frolic in the spring, and various amphibian species thrive here, including newts, different types of frogs and toads, as well as grass snakes, and of course, birds in the surrounding trees. Info boards provide the visitors with information about the different species present in the area.

In the *Forstenrieder Park*, it is not rare to come across wild boars, and with a bit of patience, red deers, fallow deers can be observed. One advice, be as silent as possible, wild animals can be timid. Two quiet zones have been delimited in the forest to protect the wildlife from human activity. However, at the edges of the zones, animals get used to humans and no longer perceive them as a threat, and thus, longer observations are possible, especially in the early morning or during twilight hours.

The best chances for observing wildlife are in the early morning or during the twilight hours of the evening. During the winter season, there are supplementary feedings.

Going to the Perlacher forest offers the opportunity to explore **Neuperlach**, a significant urban extension from the 60s currently

undergoing transformation from a typical mainly concrete-built urban development area of the 60s with its highrises and huge buildings, into a sustainable district, to a sustainable and attractive district.

Initiatives like "**Creating NEBourhoods**" are fostering more sustainable Neuperlach through gardening and social projects, and including animal-aided-design in the transformation of the urban fabric, thus, cultivating a vibrant and inclusive community closely connected with urban nature.

Source & Links

<https://stadt.muenchen.de/infos/portrait-forstverwaltung.html>
(Accessed 10.08.2023)

<https://heideflaechenverein.de/freizeit/heidehaus/index.html>
(Accessed 10.08.2023)

<https://schleissheim.bund-naturschutz.de/natur-vor-der-haustuer/schwarzhoeelzl>
(Accessed 10.08.2023)

<https://schleissheim.bund-naturschutz.de/natur-vor-der-haustuer/froettmanger-heide>
(Accessed 10.08.2023)

<https://schleissheim.bund-naturschutz.de/natur-vor-der-haustuer/panzerwiese>
(Accessed 10.08.2023)

<https://www.nebourhoods.de/>
(Accessed 10.08.2023)

<https://hurra-draussen.de/forstenrieder-park-wildschweine/>
(Accessed 10.08.2023)

<https://www.baysf.de/de/ueber-uns/standorte/forstbetriebe/muenchen.html>
(Accessed 10.08.2023)

CEMETERIES

If it can be weird to have a walk in a cemetery for some culture and countries, in Munich it is something you can and should do to discover marvelous nature right in the city center !



https://de.wikipedia.org/wiki/Waldfriedhof_%28M%C3%BCnchen%29#/media/

*Biotope at the pond of the Waldfriedhof
(accessed 10.08.2023)*

The old cemeteries within the dense urban fabric of Munich are important open spaces for the communities - used as parks - and home for the local biodiversity.

In the *Maxvorstadt* the **Alter Nordfriedhof** is the green heart of the district, joggers, parents with children groups of friends visit the cemetery daily and make it a very lively place.

In the very dense fabric of the area, the cemetery represents a nature space and is even labeled as a protected natural element by the city of Munich for its biodiversity and its position as habitat for several bird species and other animals.

The former buildings of the cemetery are used by local associations and clubs to foster the livelihood of the place and strengthen its position as a social meeting point in *Maxvorstadt*. Moreover, at the edges of the cemetery, some sports infrastructure was installed to strengthen the durable and continuous intergenerational use of the cemetery.

So, if you are having a walk in the hipe district of *Maxvorstadt* where you can find many small shops and places to eat, have a look at

the *Alter Nordfriedhof*, it's worth a visit!

The **Alter Südfriedhof** located in the *Glockenbach Viertel* offers a different experience of a cemetery in Munich.

You won't miss it! it is almost impossible to ignore the long red brick walls surrounding the cemetery. The walls are the symbolic manifestation of the cemetery in the district, and the creeper growing and decorating it shows how nature can cohabit with human intervention afterall.

After having been used as a cemetery the famous architect Hans Döllgast restored it and made it a landscape park in the city. The cemetery hosts the graves of many personalities of Munich from the 17th and 18th century and some spectacular graves can be seen there - Architects Leo von Klenze and Friedrich von Gärtner, opera singer Klara Vespermann...

Nowadays in contrast to the nord cemetery, the *Alter Südfriedhof* is an important art, cultural and historical memorial. You can retrace the history of the cemetery through the exhibitions in the Lapidarium, where sculptures are exposed.



Alter Nordfriedhof - green oasis in the Maxvorstadt district (accessed 10.08.2023)

Farther south, apart from the old town, in the district of Sendling, you can visit the **Waldfriedhof**. As the biggest cemetery in Munich, it is also one of its kind. The graveyards are laid in an existing forest and its plain buildings contrast with the old cemeteries of the city center. The forest atmosphere and nature are put in foreground.

Natural elements such as the pond, wild meadows, the narrow paths or the biotope areas underline the natural character of the cemetery and make it ideal for a walk. Just

as other forests, the *Waldfriedhof* is home for important wildlife. Foxes and their cubs particularly like to dig their burrows under old stone graves, and boars are regularly seen in the forests. The presence of these animals in the city is interesting and shows the resilience of nature in unusual contexts.

However, cohabitation sometimes lead to conflicts, as reported by the *Süddeutsche Zeitung*: Foxes are responsible for damage to the grave plots due to their digging activity,

while wild boars tend to disrupt forest and meadow areas. Martens, on the other hand, pose a threat to vehicles and utility lines. Wild ducks, geese, and seagulls soil the waters and lawn areas in cemeteries with their droppings.

<https://www.sueddeutsche.de/muenchen/muenchen-waldfriedhof-wildtiere-1.5966963>

Nature art Biennale



Explore the *Südpark*, just next to the Waldfriedhof and enjoy the **SüdpART, Munich's nature art Biennale**, happening during summer (in 2023, art pieces are exhibited from May to October).

"SüdpART is nature art with the forest and for the forest - a land art project in the heart of the city. All artworks are created solely from materials found in nature and gradually return to it after the project's completion. Thus, SüdpART is 100% sustainable art.

SüdpART connects people with the forest, with nature, and ultimately with themselves. It provides touching and unusual perspectives on nature, allowing for a fresh and profound exploration of the forest. SüdpART serves as inspiration for the senses and is soothing for both humans and nature, simultaneously uniting the enjoyment of nature and art."

<https://www.suedpart.de/>

Source & Links

<https://stadt.muenchen.de/service/info/waldfriedhof/10320886/> (Accessed 05.08.2023)
 THOMAS E. HAUCK & WOLFGANG W. WEISSER (2015) AAD - Animal-Aided-Design. Available at: <https://bln-berlin.de/wp-content/uploads/2016/04/Animal-Aided-Design-Broschuere.pdf> (Accessed 10.08.2023)
<https://stadt.muenchen.de/service/info/alter-suedlicher-friedhof/10321277/> (Accessed 10.08.2023)
<https://stadt.muenchen.de/service/info/alter-noerdlicher-friedhof/10309498/> (Accessed 10.08.2023)
<https://stadt.muenchen.de/service/info/waldfriedhof/10320886/> (Accessed 10.08.2023)
<https://www.br.de/br-fernsehen/sendungen/natur-exklusiv/stadt-tiere-muenchen-natur-100.html> (Accessed 10.08.2023)

NYMPHENBURGER PARK

In each district of Munich you will find several parks of different sizes and kinds. They all are important for the quality of life of the city and host several species.

The **Nymphenburger Park** - historical landmark of the city and birthplace of the "Märchenkönig Ludwig II"- , in the eastern district of *Nymphenburg*, and its gardens are very appreciated by citizens and visitors.

You can admire its landscapes in every season. During spring and summer you will enjoy the flowers and observe squirrels playing around, whereas during winter you will enjoy the iced canals and eventually put on your skates. Thus, wild animals such as deers, kingfishers and other bird species found their home in the castle grounds.

After a tour of the castle grounds, especially during winter, the greenhouses of the **Botanical Garden** are a good place to enjoy a warmer moment and learn about plants of the world.

The **Museum Mensch und Natur**, which will be combined with the **Biotopia Lab** in the next few years, as an experimental and educational space about nature, also represents a good opportunity to learn more about nature in general. The project of the **Biotopia Museum** is even more interesting, as the concept aims to create a more inclusive space, for example implementing the method of the *Animal Aided Design* in the architecture.

Brochure *Animal Aided Design*



<https://www.lbv-muenchen.de/natur-erleben/stadtnatour/vogelsafari-im-park/>

*Biotope at the former Railway station
(photo Dr.Silke Sorge LBV München / accessed 10.08.2023)*

STADTNATOUR - BIRD SAFARI

The StadtNaTour also offer a very interesting tour in the Castle grounds, specially with children or bird lovers, you will be able to take a "Bird safari" in the park and discover many birds, such as the swans, which were the favourite birds of King Ludwig II. Observing birds needs calm and patience, so take your time, open you eyes and your ears, and enjoy!

<https://www.lbv-muenchen.de/natur-erleben/stadtnatour/ueberblick/>

From there you can take a bigger tour to the **Kapuzinenhözl** which is just next to the botanical garden.

If you are interested in the castles of the city you can reach the **Schloss Blutenburg**, by crossing the *Nymphenburger Park* until its western extremity and continuing farther east until the Würm.

The **Würm** is another river in the city of Munich, which is very appreciated for long walks and bike tours. Farther outside of Munich you can even have a canoe

experience on the Würm, as it is a calmer river than the Isar.

The **Pasinger Stadtpark** is one of the main accesses to the river from Munich, and it is just by the important Trainstation of Pasing, in the east outskirts of the city.

However, if you prefer to stay close to the city center, you can follow the **Nymphenburg Biedersteiner Kanal** through the VillenKolonie to see Munich townhouses. Continuing further, you will reach the olympic park.



Schloss Blumenburg

TOUR : WÜRM VALLEY

Discover the **Würm valley** in the south of Munich and take a long bike tour until the **Starnberger See**. Even if they are not in the city of Munich, the large lakes of the alpine upland are so beautiful and appreciated.

FLOWER POWER

The **Flower Power Festival**, a collaborative effort by Biotopia, the Botanical Garden, the Kunsthalle, and the Gasteig, seamlessly merges culture, art, and nature in a diverse range of exhibitions, tours, and workshops throughout Munich during the summer.

Nature has perpetually served as a source of inspiration for artists spanning various eras; and art itself has the transformative power to reshape our perception of the natural world, igniting fresh emotions in the process.

<https://flowerpowermuc.de/festival/>

Source & Links

<https://www.schloss-nymphenburg.de/deutsch/park/index.htm>
(Accessed 04.08.2023)

<https://animal-aided-design.de/en/portfolio-items/biotopia/>
(Accessed 04.08.2023)

<https://www.bayern.de/mnchner-museum-mensch-und-natur-bleibt-bis-ende-2022-geffnet-biotopia-lab-ldt-zum-entdecken-der-zukunft-ein/>
(Accessed 04.08.2023)

<https://www.olympiapark.de/en>
(Accessed 04.08.2023)

OLYMPIAPARK



Olympiasee and Olympiaberg

The **Olympiapark** is iconic for the city Munich today. Indeed, it was created as the main location for the Olympic games of Munich in 1972. It aimed to host the main sports events of the games as well as the Olympic village. The city took advantage of the organization of the event back then, to develop itself as an important city in central Europe. Through the organization of the games, the city also developed the first 2 lines of the underground such as the pedestrian zones of the center to underline the unique cultural heritage of the Bavarian capital.

The Olympic park is until now still used for many events such as festivals, sports or concerts during summer. You can enjoy the view over the city from the Olympia Berg, or have a pick-nick and listen to the concerts happening in the stadium.

On the lake you can see different kinds of birds: swans, wild and gray geese and ducks. The small island offers them an ideal habitat to nest.

The trees of the park hosts other birds such as crows and even the support structure of the Stadium hosts a community of jackdaws.

UNEXPECTED NATURE

Nature can be found in cities in unexpected places, which seems at first glance not propice for natural development, such as abandoned industries. Even if Munich doesn't have many of these areas, some interesting ruderal nature can be found at some places.

Next to the olympic park, the old railway of the **former S-bahn station** seems to be reconquered by nature.

Since the station and the railway were shut down, after the olympic games of 1972, natural processes can be witnessed, and the place is marked by a ruderal vegetation.

Plants grow mainly in the gravel, loose stones and rock fragments of the railway, but also between

the concrete plates of the train platform.

Species commonly found throughout Bavaria, such as the Florentine hawkweed from the sunflower family, are present.

The pink-flowering common thyme is also frequently found both in Bavaria and on train platforms, as is the common yarrow. The common spring cress and the common bittercress are also widespread.

Ruderal vegetation is defined as "vegetation found on human-disturbed sites, with no apparent recent historical natural analogs, and whose current composition and structure is not a function of continuous cultivation by humans and includes a broadly distinctive characteristic species combination, whether tree, shrub or herb dominated. The vegetation is often composed of invasive species, whether exotic or native, that have expanded in extent and abundance due to the human disturbances"

Faber-Langendoen, D., T. Keeler-Wolf, D. Meidinger, D. Tart, B. Hoagland, C. Josse, G. Navarro, S. Ponomarenko, J.-P. Saucier, A. Weakley, P. Comer. 2014. EcoVeg: A new approach to vegetation description and classification. Ecological Monographs 84:533-561



*Biotope at the former Railway station
(photo Süddeutsche Zeitung / accessed 10.08.2023)*

Plants like wild carrot and field scabious, as well as the yellow-flowering spotted hawkweed, are primarily native to sandy and gravelly soils north of the Danube River, which allowed them to establish on Munich's railway platforms. Another plant unique to Munich is the marsh cinquefoil, which is not widely distributed elsewhere in Bavaria. Rare plants in Bavaria such as hyssop, true lavender, and creeping cotoneaster can be found at the station.



*View of the former railway
(photo Murat Kaydirma for wunderland media GmbH. / accessed 10.08.2023)*

Some plants likely originated from balcony plantings on the surrounding high-rise buildings and are found in the "wild" context of the area.

So the special conditions of the place created by human influences enabled the development of

a singular ecosystem, where different kinds of species cohabit. The area of the former S-Bahn-station is quite appreciated for its ruine-like character, specially for street artists and photographers, as such "abandoned" spaces are rare to find in Munich.



Old concrete element from the railways, an ideal habitats for lizards and insects

The unused railway area in the district of Berg-am-Laim in the east of Munich, was turned into a natural area, the **Ecological conservation area Baumkirchen Mitte**

Big birches with their distinctive white bark create a comfortable shade during summer, several plants or animals thriving in sunny environments can be found in the area. Lizards enjoy the rocky environment and use the concrete footbridges to sunbathe!

If it wasn't for the trains passing just next to the area, you would only hear the buzzing of the insects, and the wind in the trees.

The park design is based on a succession of small foot bridges in

order to disturb as little as possible the natural processes on the raw ground, larger areas to allow the visitors to observe nature, and informative boards give insights on nature conservation and on the unique habitats emerging from former railway areas.

The peaceful area shows perfectly how nature can re-conquer some areas in the heart of our city, and offer a singular habitat to non-human animals and plants in urban context.

Source & Links

<https://stadt.muenchen.de/infos/quartier-baumkirchen-mitte.html> (Accessed 06.08.2023)

https://de.wikipedia.org/wiki/Bahnhof_M%C3%BCnchen_Olympiastadion (Accessed 06.08.2023)



Information boards



Concrete footbridges and Lizard



Footbridges through the birch forest

URBAN GARDENING

If you are fond of urban gardening, Munich has also a lot to offer, with different types of gardens and several associations and communities around the topic of urban gardening.



Krautgarten - Berg am Laim

Urban gardens offer numerous advantages to our cities, yielding a lot of benefits.

As a small-scale agricultural form, they serve as a habitat for urban biodiversity, nourishing a variety of organisms such as plants, insects, mammals, and microorganisms. Animals find rich habitats in our gardens, allowing important natural processes to occur just right at your door. By fostering ecological interactions and processes, they play a role in regulating local microclimates while providing an array of vital ecosystem services.

Furthermore, urban gardens extend their influence to social realms, contributing to community cohesion, bolstering health—both mental and physical—and bearing a significant educational aspect that promotes the exchange of knowledge within society.

Urban gardening and farming in cities also raise awareness about food production and consumption. Thus, it is important to combine gardening as a social and healthy activity, but also as a real food production method.

The *Krautgärten* allows you to rent a piece of land for one season (May to October). They are ideal for seasonal gardeners wanting to take advantage of the sunny days to grow their own veggies in the summer. They are not located directly in the center, so that nice riding tours can be combined with the gardening activity.

As an alternative to a real garden, the *Kleingärten* can be really interesting.

Often located next to parks, or as independent green areas, they can be rented for unlimited time. Being part of the network of Kleingarten, each one has its own association, with its own conditions and values, so that many options are offered in the city to please almost everyone.

Moreover there are several *community gardens* in the city which combine gardening and social interaction, as you always will meet someone there. They offer a valuable community feeling, exchanges and sharing possibilities. Often located next to housing areas, they foster lively neighborhoods and cohesion.



Community Garden - Parkstadt Schwabing

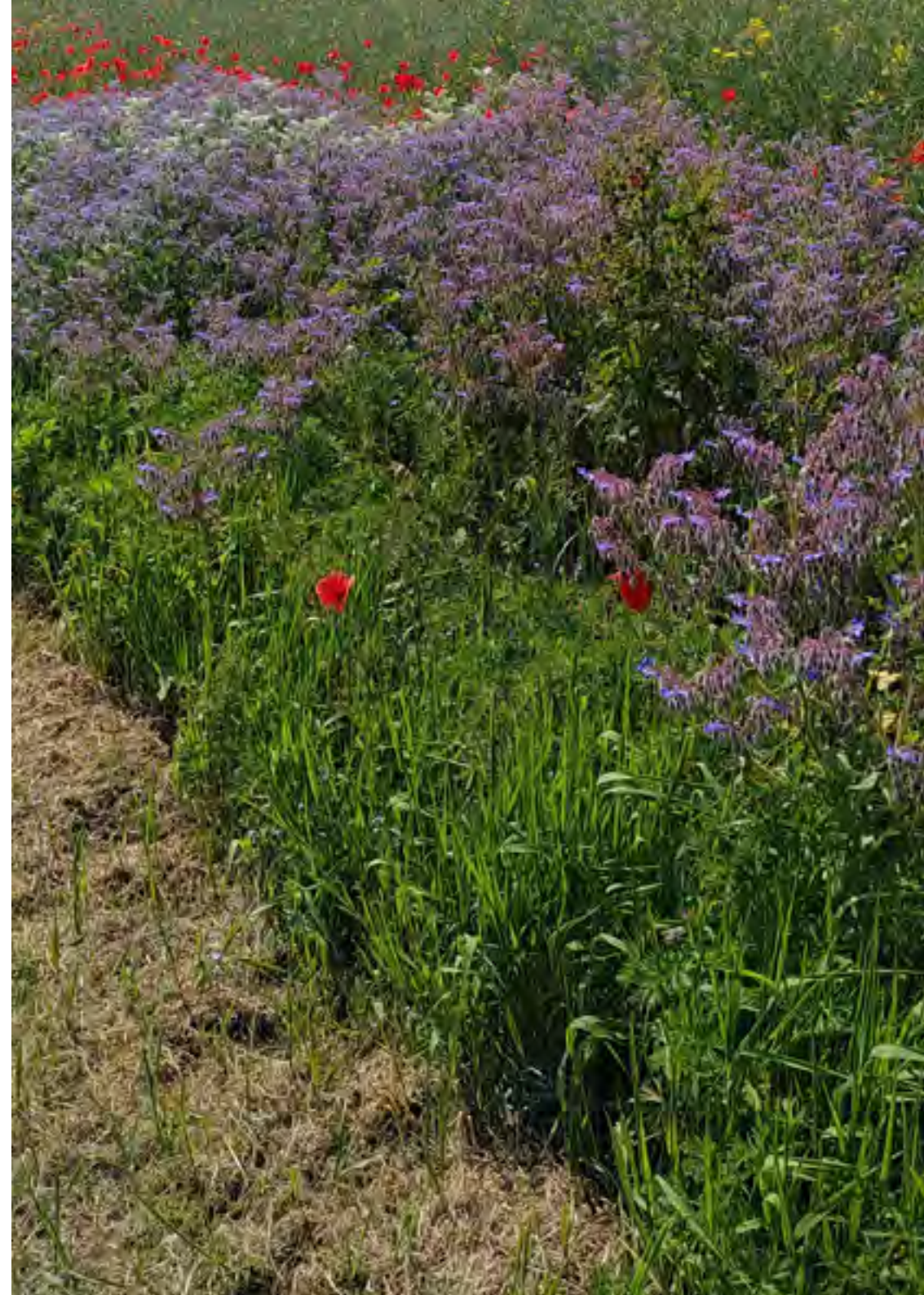
CROPS !!! CROPS !!! CROPS !!!

To open the gardening season, the **Ökologisches Bildungszentrum** (ÖBZ) organizes each year, mostly during the last weekend of february a big festival to buy crops and support crops diversity in the city: the **Saatgut Festival**.

<https://saatgutvielfalt.oebz.de/index.php/saatgut-festival/>

The **Stadtbibliothek** started the project of the **Saatgutbibliothek** to continue the work of the ÖBZ throughout the year and strengthen the community of urban gardeners in Munich. There you can borrow seeds, to enrich your garden with more diverse crops. They are also the right place to meet other gardeners and exchange with them about their crops and their practices. It is a great opportunity to learn from your community and also to share what you know about urban gardening.

<https://www.muenchner-stadtbibliothek.de/veranstaltungen/details/die-saatgutbibliothek-19683>



Source & Links

<https://urbane-gaerten-muenchen.de/>

(Accessed 06.08.2023)

<https://www.gruenundgloria.de/urban-gardening-muenchen/>

(Accessed 06.08.2023)

Engerer M. (2021) Urban Agriculture - Powerpoint presentation of the lecture TUM. Stadt Summer 20/21

MICRO GREEN SPACES

There are a lot more spaces in the city which support biodiversity and natural processes, and not only big areas play an important role. That's why more and more micro green areas emerge in the city, just as in Haidhausen or in Senling with small green oases where you can have a break and enjoy your afternoon with friends ...

Trees and green beds in the street are just as important as the big parks, as they bring shade in the hot summer and contribute to a good air quality in our city centers. The initiative Green city eV supports tree planting and more greenery in the city.



Wanderbaumallee in action in Munich (accessed 10.08.2023)

The **Wanderbaumallee** aims to plant more trees in our streets at a long term scale. Mobile trees are placed in the street by the participants, in order to accelerate the planting projects of the city.

<https://www.greencity.de/projekt/wanderbaumallee/>



Citizens taking care of the green area around a tree (accessed 10.08.2023)

<https://www.greencity.de/projekt/gruenpaten/>

Through the **Grünpate initiative**, citizens can be responsible for a more or less small piece of green next to their home - for instance around a tree along the street - and take care of this small green area. The initiative promotes citizen participation and diversity in the micro green spaces of Munich. The participants also get some information about gardening, species growing in Munich, workshops are also organized to allow the participants to learn about how to successfully plan and take care of a micro green space in the city.

<https://www.greencity.de/projekt/gruenpaten/>



The **Blühende Bänder** is a project in collaboration with the Zentrum für Stadtnatur of the Technical university, to analyze the benefits of wildflowers and meadow-like green bands along streets and highways.

Meadows offer food and habitat for insects providing vital ecosystem services.

<https://www.bluehende-baender.de/>

Information board about the project - green band along the street

Moreover, urban areas offer new and unique habitats for plants and non-human animals on their roofs. Many recent architectural projects include designing the roofs to retain rainwater, produce energy or host plants and animals. The roofs add a new dimension to our cityscape and offer many possibilities to foster multi-species interaction in the city.



Sheep on the roof of the WERK3 (accessed 10.08.2023)

<https://werksviertel-mitte.de/2019/03/05/schafe-im-werksviertel-mitte-die-haeufigst-gestellten-fragen/>

The Werksviertel offers a new concept on the roof of the WERK3, next to the Ostbahnhof. A typical farm environment at the microscale of the roof, with bees, sheep, ants, and chickens. With the implementation of a circular economy almost everything is reused and transformed on the roof, creating a singular ecosystem: **the Stadtalm.**

Through the **"Almschule"**, workshops and visits are organized for the youth to experiment and learn more about multi-species urban development, or sustainable agriculture, for instance by creating habitat for insects or building raised-beds for urban gardening.

<https://werksviertel-mitte.de/2019/03/05/schafe-im-werksviertel-mitte-die-haeufigst-gestellten-fragen/>

<http://www.almschule.de/>

The **Stadtnatur Architektenhaus** offer a new way of living in the city, allying with community, gardening, and animal aided design. The house was built by the community in the south of the Riemer Park using sustainable materials and following the path of a passive construction, to reduce footprint and consumption and emissions. Moreover, they included the animal-aided-design concept to the house, to create multi-species synergies in the community. All inhabitants are committed to the community and manage the common areas together.

<https://www.stadtnatur.net/wir/>



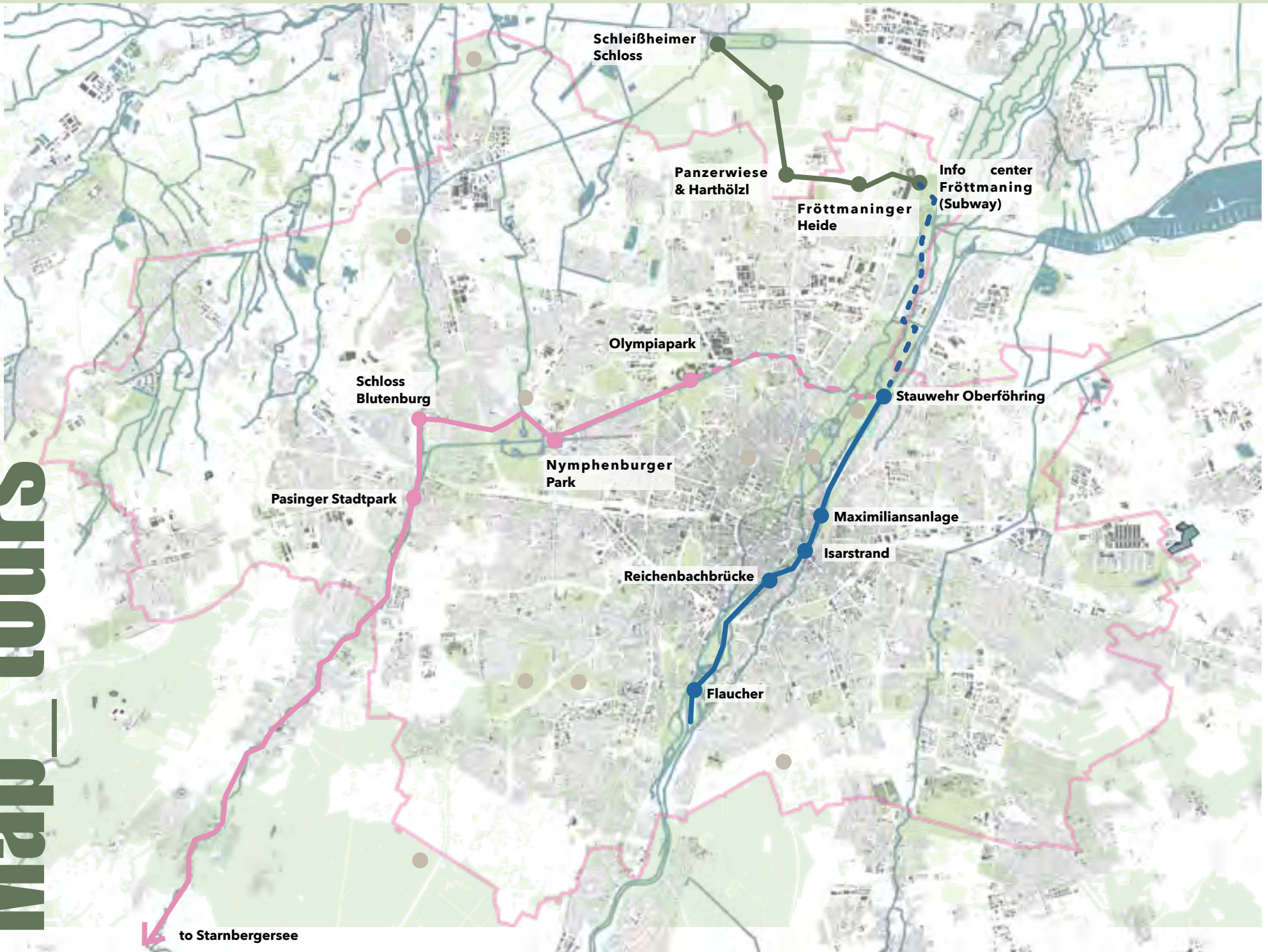
Innovative design of the facade of the building to provide house spawors with nesting alcoves (accessed 10.08.2023)

Roofs also offer new spaces for citizens, opening new perspectives and special views upon the city. The **KulturDachgarten** combines culture, greenery and a bar on one changing spot. After being on the roof of a multi-storey car park in the historical center of Munich, it opened the roof of the well-known cultural center Gasteig.

<https://isarblog.de/dachgarten-gasteig-roof-top-bar-muenchen/>

Some projects foster the human nature cohesion in the city. Similarly to the Biotopia Museum, the GEWOFAG developed a housing project with the Animal-Aided-Design team, to foster a multi-species urban development. The project of the **Brandstrasse** offers new housing to the citizens and at the same time include habitats for insects, animals and plants. You can have a virtual tour on: <https://storymaps.arcgis.com/stories/>

Map_tours





This handbook presents my final project for the Environmental certificate program at the RCC. All maps are oriented to the north and are represented without scale. If not notified by a provenance link, the photographs are made by myself.

URBAN NATURE MUNICH_ a guide
Redaction & Design :Alix Gelabert
Supervised by Gesa Lütdecke
Rachel Carson Center
Summer 2023

