

Applied Research Project | MINT 2025–2027



VILLE DE
GENÈVE

BIODIVERSITY VS. BUREAUCRACY

UNPACKING LEGISLATIVE BARRIERS IN GENEVA

Maëlle Moine
Karika Okamoto
Juliane Tomin Rusa
Yingxue Zhang

Supervisor: Professor Denis Ruysschaert
Geneva Graduate Institute
Geneva Botanical Garden

Acknowledgements

We would like to express our gratitude to Mr. Denis Ruyschaert, Faculty Lead Environment and Sustainability Centre for International Environmental Studies at the Geneva Graduate Institute, for his valuable supervision and continuous support throughout this project. We further thank Mr. Paul Deshusses, PHD researcher in international history and politics at the Geneva Graduate Institute, for his valuable inputs.

We are especially thankful to our partner organization, the Biodiversity Task Force of the city of Geneva, and in particular to Mr. Benjamin Guinaudeau, for his exceptional availability, proactive engagement and guidance. His commitment was instrumental to the advancement of our work.

We also extend our thanks to the collaborators from the city of Geneva for their support in clarifying the legal framework and subsidy mechanisms. Their guidance was essential in navigating the specificities of the Geneva context. We are equally grateful to the collaborators from the canton of Geneva for their very clear and helpful explanations.

Finally, we would like to thank all interviewees from the cities of Berlin, Curitiba, Kobe, and Zurich who generously shared their time and provided valuable insights. We also acknowledge the independent experts and NGO representatives who contributed with their perspectives, enriching our understanding of the respective urban approaches to biodiversity.

Executive Summary

Biodiversity loss represents a critical environmental challenge at both the global and national levels, with major implications for cities. Indeed, the diversity of urban ecosystems represents a significant potential for hosting a wide variety of habitats and species (Gentili et al. 2023). The presence of nature in cities offers numerous benefits: urban biodiversity contributes, among other things, to the well-being of populations (Kowarik et al. 2020) and enables cities to become more resilient in the face of increasingly frequent hazards (Ville de Genève 2025k). Despite this, cities continue to exert considerable pressure on ecosystems, thereby threatening local biodiversity. In response, the Swiss Federal Act on the Protection of Nature and Cultural Heritage mandates ecological compensation in urban environments (Swiss Confederation 1996) and the Swiss biodiversity strategy identifies the promotion of biodiversity within settlement areas as a strategic objective (FOEN 2012). Municipalities are central to implementing these goals by using their financial and legal instruments to promote biodiversity (FOEN 2023). In Geneva, this is reflected in the city's biodiversity strategy. In particular, Measure 15, Axis D, calls for the establishment of a legal framework that supports biodiversity while eliminating harmful incentives (Ville de Genève 2025l).

This Applied Research Project (ARP) is part of the implementation of the biodiversity strategy. It was conducted in collaboration between a group of four students of the Geneva Graduate Institute and the city of Geneva between September 2025 and May 2026. It adopts a qualitative research approach combining document analysis and expert interviews. The study examines the legal framework of the city of Geneva, with a particular focus on public policies and subsidies, to identify their positive or negative biodiversity impacts and incentives. In addition, it analyzes biodiversity governance across four key dimensions (natural habitats, ecological corridors, canopy development and soil) in four other cities – Berlin (Germany), Curitiba (Brazil), Kobe (Japan) and Zurich (Switzerland) – and compares them with Geneva's biodiversity governance.

With the adoption of its biodiversity strategy and its climate plan, accompanied by the establishment of dedicated governance structures, such as the Biodiversity Task Force and the Climate Task Force, the city of Geneva has already taken significant steps to enhance urban biodiversity. These measures, supported by cantonal legislation and policy instruments, provide a strong foundation for further developing and aligning the legal and financial framework with biodiversity objectives.

However, the findings of this study highlight three main limitations in the city's current approach to improving biodiversity outcomes.

1. Firstly, there is an absence of sufficiently binding obligations to promote biodiversity for both municipal and private actors. While the municipal biodiversity strategy and related guidelines can exert pressure on stakeholders, they remain largely non-binding.

2. Secondly, the city also relies primarily on the cantonal incentive program for ecological enhancements and lacks a dedicated municipal program of its own. Other targeted programs also remain limited.
3. Thirdly, biodiversity criteria are only weakly integrated into broader municipal public policies and subsidy schemes.

By contrast, other cities pursue biodiversity objectives through binding obligations for both municipal and private actors, a wider range of incentive programs, and more targeted initiatives aimed at enhancing urban biodiversity.

Based on these findings, the study formulates nine recommendations on transferable and necessary policies with the aim of improving Geneva's biodiversity governance.

1. Revise the *Règlement relatif aux plans d'utilisation du sol de la Ville de Genève* to make biodiversity requirements legally binding for private and municipal actors.
2. Adopt an internal municipal directive setting biodiversity standards for public construction projects.
3. Revise the *Règlement des espaces verts, préaux et places de jeux de la Ville de Genève* to require biodiversity-friendly maintenance across all municipal green spaces.
4. Strengthen biodiversity requirements in localized neighbourhood plans (PLQs).
5. Establish a municipal incentive program to fund ecological enhancements, maintenance, and conservation, supported by active outreach.
6. Promote biodiversity awareness through training for planners and architects and the introduction of a *permis de végétaliser*.
7. Mainstream biodiversity across most municipal public policies.
8. Condition municipal subsidies on avoiding negative impacts on biodiversity.
9. Work with the canton to align cantonal laws with municipal biodiversity objectives.

Résumé Exécutif

La perte de biodiversité constitue un défi environnemental majeur, tant au niveau mondial que national, avec des implications importantes pour les villes. En effet, la diversité des écosystèmes urbains représente un potentiel d'accueil important pour une variété d'habitats et d'espèces (Gentili et al. 2023). Il existe de nombreux avantages à la présence de la nature en ville : la biodiversité urbaine participe entre autres au bien-être des populations (Kowarik et al. 2020) et permet à la ville d'être plus résiliente face aux aléas de plus en plus récurrents (Ville de Genève 2025k). Malgré cela, les villes continuent d'exercer une pression considérable sur les écosystèmes, menaçant ainsi la biodiversité locale. En réponse, la loi fédérale sur la protection de la nature et du paysage impose une compensation écologique en milieu urbain (Confédération suisse 1996) et la stratégie suisse pour la biodiversité identifie la promotion de la biodiversité dans les zones bâties comme un objectif stratégique (OFEV 2012). Les communes jouent un rôle central dans la mise en œuvre de ces objectifs, en mobilisant leurs instruments financiers et juridiques pour promouvoir la biodiversité (OFEV 2023). À Genève, cela se reflète dans la Stratégie Biodiversité de la Ville. En particulier, sa mesure 15, axe D prévoit l'établissement d'un cadre juridique favorable à la biodiversité, tout en supprimant les incitations nuisibles (Ville de Genève 2025l).

Ce projet de recherche appliquée (Applied Research Project, ARP) s'inscrit dans la mise en œuvre de la Stratégie Biodiversité. Il a été mené entre septembre 2025 et mai 2026 par un groupe de quatre étudiantes de master de l'Institut de hautes études internationales et du développement (IHEID), en collaboration avec la Task-Force Biodiversité chargée de la mise en œuvre de la Stratégie Biodiversité au sein de la Ville de Genève. Il adopte une approche qualitative combinant analyse documentaire et entretiens d'experts. Cette étude examine le cadre juridique de la Ville de Genève, avec un accent particulier sur les politiques publiques et les subventions, afin d'identifier leurs impacts négatifs ou positifs sur la biodiversité ainsi que les incitations qu'elles créent en faveur ou au détriment de celle-ci. En outre, elle analyse la gouvernance de la biodiversité selon quatre dimensions clés – habitats naturels, corridors écologiques, canopée et sol – dans quatre autres villes, Berlin (Allemagne), Curitiba (Brésil), Kobe (Japon) et Zurich (Suisse), puis les compare à la gouvernance genevoise.

Avec l'adoption de sa Stratégie Biodiversité et de son plan climat, accompagnée par la mise en place de structures de gouvernance dédiées, telles que les Task-Force Biodiversité et Task-Force Climat, la Ville de Genève a déjà pris des mesures importantes pour améliorer la biodiversité urbaine. Ces mesures, soutenues par des lois et instruments cantonaux, constituent une base solide sur laquelle s'appuyer pour développer et aligner davantage le cadre juridique et financier sur les objectifs en matière de biodiversité.

Cependant, les résultats de cette étude mettent en évidence trois limites principales de l'approche actuelle de la Ville pour améliorer les résultats en matière de biodiversité.

1. *Premièrement, il existe un manque d'obligations suffisamment contraignantes pour promouvoir la biodiversité, tant pour les acteurs municipaux que pour les acteurs privés. Si la Stratégie Biodiversité et les lignes directrices associées peuvent exercer une pression sur les parties prenantes, elles demeurent largement non contraignantes.*
2. *Deuxièmement, la Ville s'appuie principalement sur le programme cantonal d'incitation aux améliorations écologiques et ne dispose pas de son propre programme municipal dédié. D'autres programmes ciblés restent également limités.*
3. *Troisièmement, les critères liés à la biodiversité sont encore faiblement intégrés dans les politiques municipales plus larges et dans le régime de subventions.*

À l'inverse, les villes étudiées poursuivent des objectifs de biodiversité au moyen d'obligations contraignantes pour les acteurs municipaux et privés, d'une gamme plus large de programmes d'incitation et d'initiatives plus ciblées visant à renforcer la biodiversité urbaine.

Sur la base de ces constats, l'étude formule neuf recommandations à l'attention des autorités municipales, portant sur des politiques transférables et nécessaires, afin d'améliorer la gouvernance de la biodiversité à Genève :

1. *Réviser le Règlement relatif aux plans d'utilisation du sol de la Ville de Genève afin de rendre les exigences en matière de biodiversité juridiquement contraignantes pour les acteurs privés et municipaux.*
2. *Adopter une directive municipale interne fixant des standards en matière de biodiversité pour les projets de construction publics.*
3. *Réviser le Règlement des espaces verts, préaux et places de jeux de la Ville de Genève afin d'imposer un entretien favorable à la biodiversité dans tous les espaces verts municipaux.*
4. *Renforcer les exigences en matière de biodiversité dans les plans localisés de quartier (PLQ).*
5. *Mettre en place un programme municipal d'incitation destiné à financer les aménagements écologiques, l'entretien et la conservation, soutenu par une campagne de sensibilisation active.*
6. *Promouvoir la sensibilisation à la biodiversité par le biais de formations destinées aux urbanistes et aux architectes et par l'introduction d'un « permis de végétaliser ».*
7. *Intégrer la biodiversité dans la plupart des politiques publiques municipales.*
8. *Subordonner l'octroi des subventions municipales à la condition d'éviter tout impact négatif sur la biodiversité.*
9. *Collaborer avec le canton afin d'aligner la réglementation cantonale sur les objectifs municipaux en matière de biodiversité.*

Table of Contents

1	Introduction.....	1
2	Methodology	5
2.1	Phase 1: Assessment of the Legal Framework of the City of Geneva and its Impacts on Biodiversity	6
2.1.1	Policies.....	6
2.1.2	Subsidies.....	7
2.2	Phase 2: Assessment of Biodiversity-related Frameworks in other Cities and Comparison.....	8
2.2.1	Case Selection.....	9
2.2.2	Data Collection	9
2.2.3	Data Analysis.....	10
2.3	Phase 3: Formulation of Policy Recommendations for the City of Geneva.....	10
2.3.1	Data and Approach	10
2.4	List of Interviews Conducted	11
2.5	Limitations.....	12
3	Overview of the Biodiversity Frameworks of the Cities.....	13
3.1	Geneva	15
3.1.1	Overview of the Municipal Biodiversity Strategy and Policies	19
3.1.2	Municipal Subsidies	22
3.2	Berlin	23
3.3	Curitiba	26
3.4	Kobe.....	29
3.5	Zurich.....	32
4	Results	35
4.1	Comparison of Measures in Different Dimensions	36
4.1.1	Natural Habitats	36
4.1.2	Ecological Corridors.....	42
4.1.3	Canopy.....	44
4.1.4	Soil.....	49
4.2	Analysis of the Remaining Policies.....	51
4.3	Analysis of Subsidies.....	52
4.3.1	Assessment of Regulations related to Subsidies and Subsidy Agreements.....	52
4.3.2	Impact of Allocated Subsidies on Biodiversity	52
5	Conclusion (<i>avec version française</i>)	55
6	Recommendations (<i>avec version française</i>).....	61
7	Bibliography	82

8	Annex.....	97
8.1	Subsidies: Regulations, Directives and Documents analyzed	98
8.1.1	Regulations Analyzed.....	98
8.1.2	Subsidy Agreements Analyzed.....	98
8.2	Overview of the Interviewees per City and Rationales	99
8.2.1	Berlin	99
8.2.2	Curitiba	99
8.2.3	Kobe.....	100
8.2.4	Zurich.....	100
8.3	Interview Guides and Questions.....	101
8.4	Detailed Results of the Assessment of the Subsidies	106
8.4.1	Impact of Allocated Subsidies on Biodiversity	106
8.5	Credits and Disclosures	110
8.5.1	Image Credits.....	110
8.5.2	Acknowledgement of the Use of AI	110

List of Tables

Table 1. Negative and positive impacts on biodiversity	8
Table 2. Overview of conducted interviews and exchanges	11
Table 3. Overview of key characteristics of the cities	14
Table 4. Overview of the relevant cantonal laws and instruments	16
Table 5. Overview of the relevant municipal instruments of the city of Geneva.	20
Table 6. Amount of subsidies allocated per department.....	22
Table 7. Overview of the relevant frameworks and instruments applicable in the city of Berlin.	24
Table 8. Overview of the relevant frameworks and instruments applicable in the city of Curitiba.	27
Table 9. Overview of the relevant frameworks and instruments applicable in the city of Kobe.	30
Table 10. Overview of the relevant frameworks and instruments applicable in the city of Zurich.....	33
Table 11. Comparison of measures for natural habitats in Geneva and other cities.....	37
Table 12. Comparison of measures for ecological corridors in Geneva and other cities	42
Table 13. Comparison of measures for canopy development in Geneva and other cities	45
Table 14. Comparison of measures for soil in Geneva and other cities	49
Table 15. Impact of monetary subsidies per department	54

List of Figures

Figure 1. Benefits from land ecosystems	2
Figure 2. Threatened species in Switzerland in percentages	3
Figure 3. Sub-targets for ecologically valuable habitats in Zurich.....	38
Figure 4. Profile catalogue in Berlin.....	39
Figure 5. Call for entries for the competition on nature-friendly balconies in Treptow- Köpenick, Berlin.....	41
Figure 6. Mapping of current (left) and potential (right) ecological corridors and natural habitats in Berlin.....	43
Figure 7. Target images for ecological corridors in Zurich	43
Figure 8. Biodiversity index for trees used in the city of Zurich.....	47
Figure 9. Distribution of free saplings in Curitiba.....	48
Figure 10: Impact of monetary subsidies on biodiversity, by department, non-monetary subsidies are not included.....	53
Figure 11. Overview of recommendations.....	62

Acronyms

CBD – Convention on Biological Diversity

CJB – *Conservatoire et Jardin botaniques*

COP – Conference of the Parties

DAC – *Direction des autorisations de construire*

DU – *Département de l'urbanisme*

IPBES – Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services

LAC – *Loi sur l'administration des communes*

LaLAT – *Loi d'application de la loi fédérale sur l'aménagement du territoire*

LaLCR – *Loi d'application de la législation fédérale sur la circulation routière*

LAVMT – *Loi sur l'arborisation, la végétalisation, la mobilité douce et les transports publics dans l'aire urbaine*

LBio – *Loi sur la biodiversité*

LCI – *Loi sur les constructions et les installations diverses*

LFaune – *Loi sur la faune*

LExt – *Loi sur l'extension des voies de communication et l'aménagement des quartiers*

LPMNS – *Loi sur la protection des monuments, de la nature et des sites*

OECD – Other Effective Area-based Conservation Measure

OCAN – *Office cantonal de l'agriculture et de la nature*

PACE – *Programme d'action climat et environnement*

PDCom – *Plan Directeur Communal*

PES – Payment for Environmental Services

PLQ – *Plan Localisé de Quartier*

RCVA – *Règlement sur la conservation de la végétation arborée*

RPSFP – *Règlement relatif aux places de stationnement sur fonds privés*

RSol – *Règlement sur la protection des sols*

SBS – Swiss Biodiversity Strategy

SDG – Sustainable Development Goals

SEVE – *Service des Espaces Verts*

WWF – World Wide Fund for Nature

OECD – Organization for Economic Co-operation and Development

Definitions and Explanations

Natural habitats / ecologically valuable habitats: The city of Geneva uses a “naturalness score” (1–5) based on three criteria (anthropogenic footprint, origin of vegetation (native or not), and intensity of cultivation practices) to classify habitats. Any area scoring 3 or higher is considered a natural habitat (Ville de Genève 2025l). The term “ecologically valuable habitats” can also be used.

Ecological corridors: Ecological corridors connect biodiversity reservoirs. Together, ecological corridors and biodiversity reservoirs form the ecological infrastructure (Ville de Genève 2025l).

Canopy: Refers to tree cover (Ville de Genève 2025l).

Soil: A distinction is made between “living, functional soils” and “anthroposols” modified by human activity for infrastructure (e.g., roads, parking, utilities). Living soils perform key functions, including water infiltration, carbon storage, and nutrient cycling through soil microorganisms (Ville de Genève 2025l).



1

Introduction

1 Introduction

Biological diversity refers to genetic diversity, species diversity, and ecosystem diversity (United Nations 1992). These biological resources encompass both ecosystem goods and services. As shown in Figure 1, they can be divided into four categories: provisioning services, regulating services, cultural services and supporting services (Millennium Ecosystem Assessment 2005).

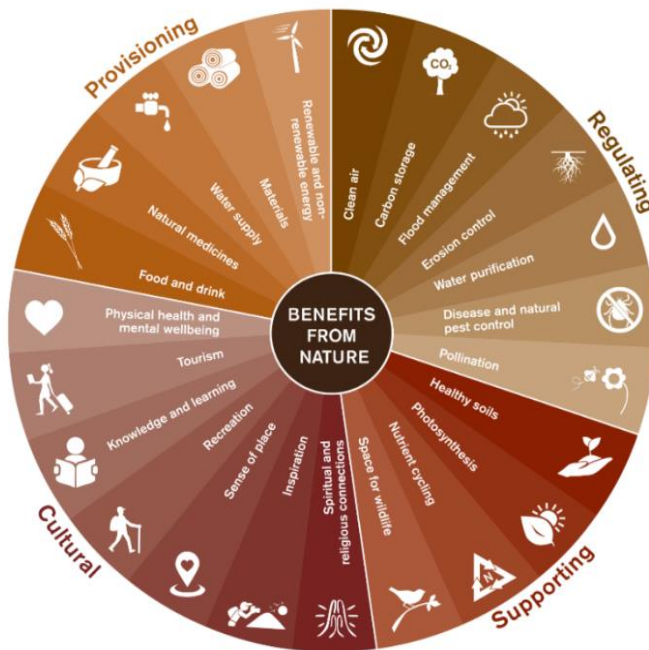


Figure 1. Benefits from land ecosystems (NatureScot: Scotland's Nature Agency 2025)

(IPBES 2019) identifies five primary direct drivers of biodiversity loss, as follows: 1) changes in land and sea use; 2) direct exploitation of organisms; 3) climate change; 4) pollution; and 5) invasive alien species. The indirect drivers identified are: 1) production and consumption patterns; 2) human population dynamics and trends; 3) trade; 4) technological innovations; and 5) governance structures and institutions.

The costs of inaction are expected to be substantial. It is currently estimated that the deterioration of certain natural processes could reduce global GDP by up to USD 2.7 trillion per year by 2030 (The World Bank Group 2021). These costs of inaction are projected to exceed the necessary investments in biodiversity protection (BloombergNEF 2023).

In response, governments have adopted a range of international agreements since the 1970s, with continued updates and new commitments in more recent years. The Convention on Biological Diversity (CBD), adopted in 1992 at the Rio Earth Summit, aims to conserve biodiversity, ensure its sustainable use, and promote fair benefit-sharing, requiring signatory

However, recent reports indicate that global biodiversity is declining at rates unprecedented in human history, and the rate of species extinction is accelerating, leading scientists to argue that humans are causing the “sixth mass extinction” in Earth's history (Boyd et al. 2020). Monitored wildlife populations worldwide have declined by 73% between 1970 and 2020 (WWF 2024). Moreover, 75% of the land surface has already been modified or is suffering impacts from human activities (IPBES 2019).

The drivers behind this decline are complex and interconnected. The Global Assessment Report on Biodiversity and Ecosystem Services

states to develop national strategies (United Nations 1992). Subsequent frameworks adopted under the Conference of the Parties (COP) of the CBD include the Strategic Plan for Biodiversity 2011–2020, adopted at COP10, which introduced the Aichi Biodiversity Targets to guide global action (CBD Secretariat 2010), and the Kunming-Montreal Global Biodiversity Framework adopted at COP15 in 2022, which seeks to transform society’s relationship with biodiversity by 2030, recognizing local communities as key actors to conserve biodiversity (CBD Secretariat 2024). Other relevant frameworks are the Convention on International Trade in Endangered Species of Wild Flora and Fauna (1973), the Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat (1971), and the Convention on the Conservation of Migratory Species of Wild Animals (1979). The Sustainable Development Goal (SDG) 15 calls for the protection and restoration of terrestrial ecosystems and the halting of biodiversity loss (UN General Assembly 2015).

Despite these institutional efforts, progress has been limited in practice, as none of the Aichi Targets were fully achieved at the global level (CBD Secretariat 2020).

Switzerland reflects these global trends, with biodiversity under pressure from soil degradation, habitat fragmentation, and pesticide use (FOEN 2024). More than 70% of reptile and amphibian species are threatened (Figure 2), and one out of every 45 species has already disappeared (OECD 2025, FOEN 2025). These figures show that biodiversity loss is not only a global concern but also a pressing national issue requiring targeted policy action.

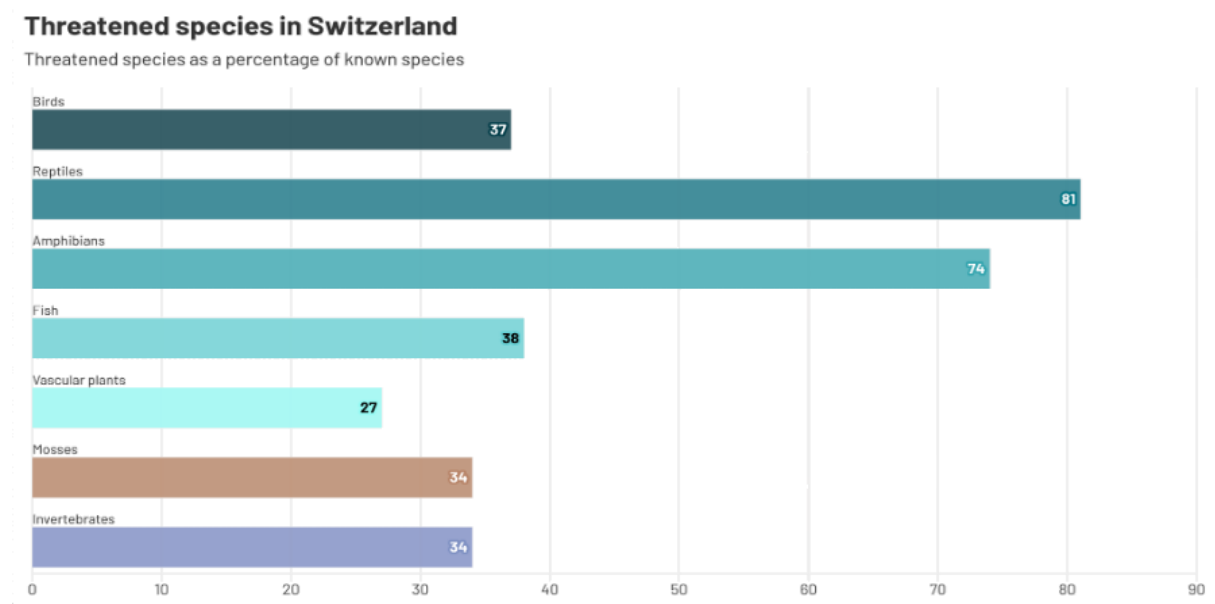


Figure 2. Threatened species in Switzerland in percentages (OECD 2025)

Switzerland has developed a broad range of legal instruments and policy frameworks aimed at protecting biodiversity. The Federal Constitution declares in Article 78 that the protection of natural heritage is the responsibility of the Cantons and that the Confederation must legislate

on the protection of fauna and flora, as well as the safeguarding of their natural habitats and diversity, defending endangered species from extinction (Swiss Confederation 1999). The Swiss Biodiversity Strategy (SBS), adopted in 2012 by the Federal Council, follows the provisions of the CBD and includes ten strategic goals focused on conserving and promoting biodiversity (FOEN 2012). The Canton of Geneva published its own biodiversity strategy in 2018 (Canton de Genève 2018).

Despite biodiversity being largely governed at the federal and cantonal levels, cities play an important role in its protection. Urban areas and their infrastructure place significant pressure on natural habitats. With the revision of the Spatial Planning Act, which promotes inward settlement development, biodiversity is placed under additional strain (FOEN 2023). However, urban biodiversity is essential for the resilience of a city's territory (Ville de Genève 2025k) and the well-being of its population (Kowarik et al. 2020). Moreover, research has shown that cities can host significant biodiversity (Gentili et al. 2023). The SBS therefore sets a strategic goal to promote biodiversity within settlement areas: these areas should contribute to habitat connectivity and support the conservation of species adapted to urban environments (FOEN 2012). Municipalities play a key role in achieving these objectives. Through their financial and legal frameworks, they can establish provisions and regulations that actively support and enhance biodiversity in settlement areas (FOEN 2023).

The city of Geneva published its biodiversity strategy in May 2025 and recognizes the importance of its legal framework for biodiversity. The strategy aims to enhance biodiversity in the city in four key areas: natural habitats, ecological corridors, soil, and tree canopy. As one of its measures (Axis D, Measure 15), it seeks to reassess the city's regulatory and financial framework in order to identify and address harmful incentives and to establish a legal framework that promotes biodiversity (Ville de Genève 2025l).

This applied research project (ARP) is part of the implementation of Measure 15 (Axis D) of the city of Geneva's biodiversity strategy. To this end, it addresses the following research questions:

1. How does the city of Geneva's legal framework, particularly its policies and subsidies, impact biodiversity?
2. What best practices can be identified in other cities' legal frameworks that promote biodiversity?
3. How can these findings inform improvements to the city of Geneva's legal framework to better support biodiversity?

These questions are especially pertinent given that the strategy has only just been adopted and that the development and implementation of the legal framework will be critical to achieving its targets.



2

Methodology

2 Methodology

The methodology is tailored to the specific phases of the project.¹ Although we describe them separately here, these phases were highly interconnected and continuously informed one another.

2.1 Phase 1: Assessment of the Legal Framework of the City of Geneva and its Impacts on Biodiversity

In Phase 1, we adopted a qualitative case study approach. We pursued two objectives: first, to analyze biodiversity governance in Geneva, including cantonal laws within this analysis; second, to assess the positive and negative impacts of municipal regulations and subsidies on biodiversity.

2.1.1 Policies

2.1.1.1 Data Collection

Firstly, we collected official municipal (legal) documents directly related to biodiversity governance. These consisted of documents setting out biodiversity-related obligations for municipal and private actors, as well as documents establishing municipal programs and initiatives relating to biodiversity. This included the city's biodiversity strategy and other strategies, regulations, and policy instruments. To account for Switzerland's federal structure, we also included cantonal and federal legislation and programs where they govern biodiversity-relevant domains outside municipal competence. In line with the municipal biodiversity strategy, we focused data collection on documents relating to natural habitats, ecological corridors, soil, and canopy.

Secondly, we identified municipal regulations that do not directly govern biodiversity but may still affect it positively or negatively. These included regulations related to land use, public space management and outdoor activities, for example.

Finally, we obtained qualitative insights through expert consultations with municipal and cantonal staff. These included ongoing exchanges with the partner organization, a jurist from the Department of Planning, Construction and Mobility (*Département de l'aménagement, des constructions et de la mobilité*, Geneva, 10.03.2026) and a representative of the Cantonal Office for Agriculture and Nature (*Office cantonal de l'agriculture et de la nature – OCAN*, Geneva, 09.04.2026).

¹ The partner organization proposed the overall methodological approach, which was subsequently refined through consultation.

2.1.1.2 Data Analysis

First, we established an overview of the legal framework relating to biodiversity promotion in the city of Geneva, including the municipal biodiversity strategy, related legal frameworks and actors.

In a second step, we analyzed all relevant municipal regulations susceptible to impacting biodiversity according to the following criteria: 1) inclusion of biodiversity or environmental aspects (no mention of biodiversity/environment, indirect mention, explicit mention); 2) direct impacts on biodiversity; 3) indirect impacts on biodiversity; 4) scale of the impact; and 5) duration of the impact. We selected these criteria because previous studies have used them to analyze the impact of policies and incentives on biodiversity (e.g. Ministero Italiano dell'Ambiente e della Tutela del Territorio e del Mare 2018; Sainteny et al. 2012; Zerzawy et al. 2021).

2.1.2 Subsidies

2.1.2.1 Data Collection

We identified regulations, directives, and other documents regarding the allocation of subsidies.² We used the 2024 accounts of the city of Geneva (Ville de Genève 2025a) to identify which organizations receive subsidies. In this context, four subsidy agreements (*conventions de subventionnement*) have been made available to us by the administration as illustrative examples.³

To obtain preliminary guidance and contextualize the findings, we conducted exchanges with staff from the city of Geneva, including a collaborator from the Department of Finance, Environment and Housing on subsidies (*Département des finances, de l'environnement et du logement*, online, 13.10.2025) and a collaborator from the Directorate of the same department on relevant regulations and directives (online, 23.10.2025). We also participated in a Coord21-workshop on the integration of sustainability criteria in subsidy agreements (Renens, 11.11.2025).⁴

2.1.2.2 Data Analysis

We examined the regulations, directives, subsidy agreements, and other documents to determine whether they establish criteria for allocating subsidies in the environmental field and, more specifically, in the field of biodiversity. Where such criteria existed, we analyzed them based on their likely impact.

² A list of the regulations, directives and documents can be found in the annex.

³ A list of the examined subsidy agreements can be found in the annex.

⁴ Coord21 is an "association of public-sector authorities and institutions in French-speaking Switzerland that are engaged in a sustainable development approach" (Coord21, n.d.)

We evaluated the influence of the awarded subsidies on biodiversity by examining the impacts generated by the beneficiaries, focusing on monetary subsidies.⁵ We based the assessment on the following criteria: (1) the presence of direct impacts on biodiversity; (2) the presence of indirect impacts; (3) the scale; and (4) the duration of these impacts. Since all human activities indirectly affect biodiversity, we only considered indirect impacts when they appeared particularly pronounced. Table 1 presents examples of direct and indirect impacts on biodiversity. Based on these criteria, we assessed impacts on a five-point scale: 1 for negative, 2 for slightly negative, 3 for neutral, 4 for slightly positive, and 5 for positive impacts.

Table 1. Negative and positive impacts on biodiversity (Task-Force Biodiversité 2025, translated by the authors)

Negative Direct Impacts	Positive Direct Impacts
Use of natural resources Soil artificialization (impermeabilization) Soil pollution Light pollution Air pollution	Improvement of ecosystem quality De-impermeabilization Improvement of soil quality Improvement of air quality Reduction of pressure on the environment
Negative Indirect Impacts	Positive Indirect Impacts
Generation of waste (physical or electronic) CO ₂ emissions, greenhouse gases Energy consumption Other production and consumption patterns Encouragement of tourism	Reduction of CO ₂ emissions, greenhouse gases Reduction of energy consumption - efficiency Raising public awareness Sustainable innovation

We assessed the impact of subsidies at the departmental level: within each department, we evaluated the impact of organizations by sector or by groupings of organizations with similar activities or characteristics.

2.2 Phase 2: Assessment of Biodiversity-related Frameworks in other Cities and Comparison

In Phase 2, we adopted a comparative qualitative research approach to identify and analyze biodiversity-related legal frameworks and policy instruments from four selected cities: Berlin (Germany), Curitiba (Brazil), Kobe (Japan), and Zurich (Switzerland). Our objective was to understand which governance mechanisms, financial incentives, and legal innovations have

⁵ As discussed with the partner organization.

proven effective in maintaining or enhancing biodiversity and to evaluate their relevance for and potential transferability to Geneva's context.

2.2.1 Case Selection

We selected the cities of Berlin, Curitiba, Kobe, and Zurich through exploratory research. We guided the selection primarily through the following criteria: (1) significant advantages in biodiversity conservation and best practices in certain areas that are of reference value to Geneva; (2) availability of official and reliable documentation; and (3) language accessibility of these materials.⁶ Each city takes a different approach and has distinct strengths, making them relevant to Geneva for different reasons.

2.2.2 Data Collection

Firstly, we collected official municipal legal documents directly related to biodiversity governance. These consisted of documents setting out biodiversity-related obligations for municipal and private actors, as well as documents establishing municipal programs and initiatives relating to biodiversity. This included, for example, the cities' biodiversity strategies and other strategies, regulations, and policy instruments. Where relevant, we also included cantonal/regional and federal legislation and programs governing biodiversity-related areas beyond municipal competence. In line with the municipal biodiversity strategy, we focused data collection on documents relating to natural habitats, ecological corridors, soil, and canopy.

Secondly, to gather data on policy implementation and impacts, we conducted 13 semi-structured interviews from January 14 to March 26, 2026, with municipal staff, such as members of municipal environmental departments, and biodiversity experts or NGO representatives (see table 2 below).⁷ We conducted at least two interviews per city, each representing a distinct standpoint: one with the person(s) responsible for biodiversity policies in the city and one with an independent expert. In some cities, we conducted additional interviews with other relevant stakeholders (public officials or experts), whose relevance emerged either during the interviews or through the analysis of the biodiversity framework. Through interviews with city authorities, we sought to obtain assessments of the cities' approaches to biodiversity and their implementation, as well as to clarify aspects that remained unclear. Through interviews with external experts, we aimed to evaluate the cities' biodiversity approaches from independent perspectives.⁸ We initially contacted individuals via email, and we conducted interviews remotely (via video call) or in person, audio-recorded, and transcribed them.

⁶ To ensure that team members could directly analyze the sources without translation barriers.

⁷ A detailed list of interviewees and the rationale for their selection can be found in the annex.

⁸ The list of interview questions and the rationale behind them can be found in the annex.

2.2.3 Data Analysis

First, we established an overview of the legal framework relating to biodiversity promotion in the four cities, including the respective biodiversity strategies, related regulations, and actors.

We used the assessments provided by city officials and experts during the interviews, drawing on their experience and general knowledge, to evaluate the different policies, instruments, and their effectiveness. We initially aimed to complement this assessment with more objective criteria, such as scientific impact assessments and cost-effectiveness, which the literature commonly highlights as key for policy evaluation (Karousakis 2018). However, accessing such information proved very difficult, if not impossible.⁹

Finally, we analyzed specific measures and interventions across the four main dimensions: preservation and creation of natural habitats, preservation and improvement of ecological corridors, soil protection and canopy conservation and development, using a cross-city comparative approach focused on the city of Geneva. We systematically compared the different approaches and measures implemented by Geneva with those of the selected cities within each dimension. We focused on obligations imposed on municipal and private actors as well as on other relevant governmental programs and initiatives aimed at improving biodiversity. This enabled us to identify gaps in Geneva's current approach and to assess how measures from other cities could inform and support the formulation of policy recommendations.

2.3 Phase 3: Formulation of Policy Recommendations for the City of Geneva

2.3.1 Data and Approach

In Phase 3, we used the findings from Phases 1 and 2 as the analytical foundation for developing evidence-based and implementable policy recommendations for the city of Geneva. We combined comparative policy analysis, stakeholder validation, and structured assessment.

We formulated the recommendations based on successful practices identified in the other cities in areas particularly relevant for the city of Geneva (natural habitats, ecological corridors, canopy, soil) and their comparison with Geneva's approach, and on findings from Phase 1. To refine the proposed recommendations, the team discussed them with a jurist from the Department of Planning, Constructions and Mobility (*Département de l'aménagement, des constructions et de la mobilité*, Geneva, 10.03.2026) and the partner organization. This enabled us to test, clarify, and prioritize the proposed actions and to ensure their legal, technical, and operational feasibility.

⁹ In some cases, strategies were too recent for impact assessments to be available, while in others, cities had not evaluated the impacts of their policies. Moreover, city representatives noted that estimating costs, and especially cost-effectiveness, was very difficult.

We annotated each recommendation with its expected timeframe for implementation, categorizing them as short-term (1–2 years), medium-term (3–5 years), or long-term (5+ years), depending on whether they represent low-regulatory or quick-win measures, initiatives requiring moderate institutional coordination, or structural or legislative reforms requiring broader approval.

2.4 List of Interviews Conducted

Table 2 provides an overview of interviews with city representatives and external experts, as well as exchanges with staff from the city and canton of Geneva.

Table 2. Overview of conducted interviews and exchanges

City	Department / Organization	Date
Geneva	Biodiversity Task Force	Ongoing
	Department of Finance, Environment and Housing	13.10.2025
	Directorate, Department of Finance, Environment and Housing	23.10.2025
	Department of Transport, Urban Planning and Mobility	10.03.2026
	Cantonal Office for Agriculture and Nature (canton)	09.04.2026
Berlin	Berlin Nature Conservation Foundation (<i>Stiftung Naturschutz Berlin</i>)	03.03.2026
	Senate Department for Mobility, Transport, Climate Protection and Environment	16.03.2026
	German Federation for the Environment and Nature Conservation (BUND), Berlin State Chapter	19.03.2026
Curitiba	Municipal Secretariat for the Environment (SMMA)	26.01.2026
	Society for Wildlife Research for Environmental Education (SPVS)	05.02.2026
	Federal University of Paraná	26.02.2026
	Institute for Urban Planning and Research (IPPUC)	05.03.2026
Kobe	Biodiversity Conservation Division, Environment Bureau of Kobe City Government & Kobe University	14.01.2026
	Shizen Kyousei (Citizen Group representative)	26.02.2026
Zurich	<i>Grün Stadt Zürich</i> (on Urban Nature Specialist Planning)	02.02.2026
	Nature protection organization in Zurich	24.02.2026
	Section for Environmentally Responsible Construction, Office for Building Construction	04.03.2026
	<i>Grün Stadt Zürich</i> (on Urban Tree Specialist Planning)	05.03.2026

2.5 Limitations

The scope of the analysis remained limited for three reasons. Firstly, the broad and multi-level nature of legal frameworks, including municipal, cantonal/regional, and national legislation, made comprehensive coverage difficult. A fully systematic review of all relevant frameworks was beyond the scope of this study. In Geneva, we focused the analysis on municipal regulations, while including cantonal and federal legislation where relevant, but we did not assess them systematically. For the other cities, biodiversity-related municipal legislation served as the basis of the analysis and was complemented by additional cantonal/regional or federal instruments identified through interviews; however, we did not conduct a comprehensive legal review.

Secondly, for the comparison of the approaches, we focused on the dimensions of natural habitats, ecological corridors, soil, and canopy. However, biodiversity encompasses additional dimensions and cannot be limited to those analyzed in this study. In the area of natural habitats, we intentionally did not analyze legal protection regimes, as these are often regulated at the national level and thus lie beyond the municipal or cantonal scope. They constitute a very broad topic that would warrant a separate study.

Thirdly, given that legal frameworks are extensive and can influence these dimensions in multiple ways, not all relevant measures within these dimensions could be discussed. Instead, we focus on the approaches that were highlighted as particularly important during the interviews and exchanges with the partner organization, and where meaningful comparisons could be established.

Our assessment of subsidies and policies in Geneva is limited by various factors. It is based on a general, qualitative overview rather than systematic or on-site analysis and does not cover all beneficiaries in the case of subsidies. Furthermore, the assessment can be subjective, and in some cases, the scale and duration of impacts were difficult to evaluate. It also focuses exclusively on environmental aspects, excluding social and economic dimensions.¹⁰

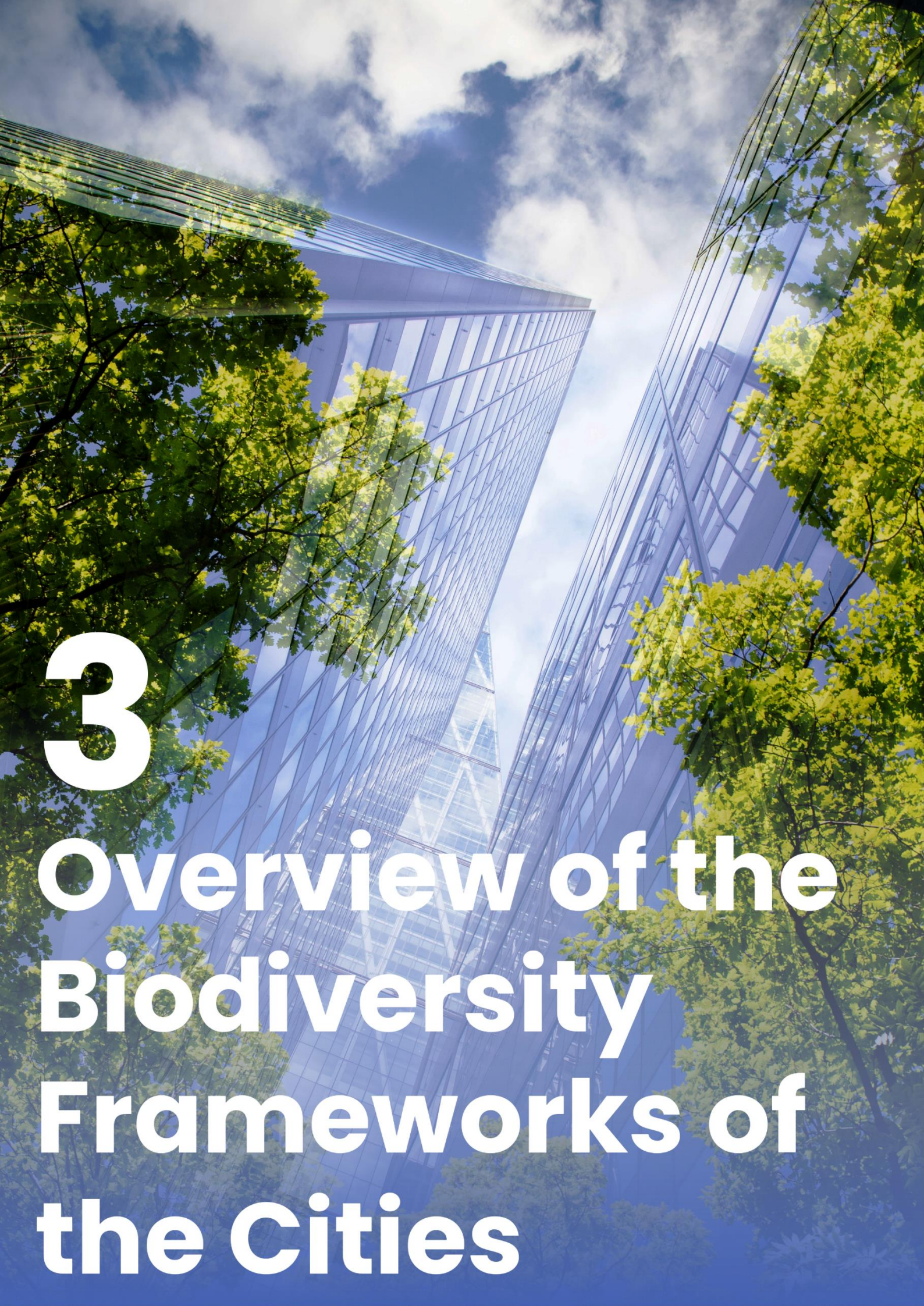
Across cities, differences in comparability¹¹, data availability¹², and persons interviewed¹³ influenced the analysis.

¹⁰ It is therefore possible that a subsidy or policy was assessed as having a negative impact on biodiversity, while potentially generating positive economic or social effects.

¹¹ While Zurich can be considered relatively similar to Geneva, this is less the case for Berlin, Curitiba and Kobe. However, these different perspectives can nonetheless be beneficial.

¹² The information obtained on the cities through documentation and in the interviews differs across cities. Some cities have extensive publicly available information, whereas in other cities this was less the case.

¹³ The information provided by the city authorities varied depending on their institutional roles, responsibilities, and the time available for the interviews. The experts interviewed had different professional backgrounds and areas of expertise, meaning that some were able to provide more detailed insights on certain topics than on others.



3

Overview of the Biodiversity Frameworks of the Cities

3 Overview of the Biodiversity Frameworks of the Cities

Before providing an overview of the legal frameworks relating to biodiversity, Table 3 outlines the key characteristics of the cities. These differ in terms of territorial area, population size and density, and other relevant factors.

Table 3. Overview of key characteristics of the cities

Cities	Geneva ¹⁴	Berlin ¹⁵	Curitiba ¹⁶	Kobe ¹⁷	Zurich ¹⁸
Territorial Area (km²)	15.89	891.1	435.28	556.93	91.9
Estimated population (2025)	210,601	3,913,644	1,830,795	1,486,033	452,421
Population density (inhab/km²)	13,150 (2025)	4,110 (2023)	4,079 (2022)	2,759 (2020)	4,920 (2025)
GDP per capita	Not available	94,239 EUR (2024) ≈ 86,006 CHF	67,691 BRL (2023) ≈ 10,249 CHF	3,050,000 yen (2022) ≈ 15,116 CHF	197,101 CHF (2025)
Budget Environment Department	299,650,721 (2025) CHF ¹⁹	2,993,489,400 EUR (2026) ≈ 2,734,477,729 CHF ²⁰	730,737,000 BRL (2026) ≈ 110,648,196 CHF	26,138,642,000 yen (2026) ≈ 156,800,000 CHF	104,254,600 CHF (2025) ²¹
Green Areas (in %)	31.3 (2024)	59.0 (2016)	13.3 (2025)	66.2 (2024)	49.0 (2024)
Green Areas (m²/inhab)	14~16 (2017)	150 (2016)	68 (2025)	17.70 (2024)	79.51 (2018)

¹⁴ (Canton de Genève 2026b; Ville de Genève 2025i, 2019)

¹⁵ (Senats-verwaltung für Finanzen 2026; Statistik Berlin Brandenburg 2025b, 2025a; Statistisches Bundesamt 2024; SeMVKU 2014)

¹⁶ (IBGE, n.d.; CitiesWithNature 2026)

¹⁷ (Kobe City 2026d, 2011, 2026b)

¹⁸ (Stadt Zürich, n.d.-b, 2026a, 2025b, 2026b; König et al. 2025)

¹⁹ Budget for the whole Department of Finance, Environment and Housing, not only dedicated to environment issues.

²⁰ For whole SeMVKU, not only dedicated to environment issues.

²¹ For *Grün Stadt Zürich*.

3.1 Geneva

Biodiversity governance in the city of Geneva is shaped by Switzerland's federal system, in which competencies are distributed across the confederation, cantons and municipalities according to the principle of subsidiarity (Swiss Confederation 1999). The autonomy of municipalities is guaranteed within the limits set by cantonal law (Article 50, Federal Constitution, Swiss Confederation 1999). In the canton of Geneva, the *Loi sur l'administration des communes* (LAC – B 6 05) defines the division of responsibilities between the canton and the communes (Canton de Genève 1984).

The federal level regulates many important aspects of nature protection. This includes the protection of certain biotopes, ecological compensation, the protection of specific flora and fauna, and forest conservation (Swiss Confederation 1991, 1996).

The canton of Geneva further specifies these federal provisions and influences biodiversity through additional laws and instruments. Notably, the canton has adopted its own biodiversity strategy (Canton de Genève 2018) and is set to publish its *Référentiel Biodiversité* in summer 2026, which will guide major development projects in integrating and promoting biodiversity considerations (“Conversation with the Cantonal Office of Agriculture and Nature,” April 9, 2026). Table 4 includes an overview of the relevant cantonal laws.

The city of Geneva influences biodiversity through instruments such as the biodiversity strategy (Ville de Genève 2025l) and other related strategies, the *Plan directeur communal* (PDCom, Ville de Genève 2025d), the *Règlement relatif aux plans d'utilisation du sol* (Ville de Genève 2007) and other regulations. The city operates under a system of separated powers between the Administrative Council (executive) and the Municipal Council (legislative). The Administrative Council is responsible for developing and implementing policies and may submit draft resolutions to the Municipal Council. The Municipal Council can submit draft resolutions, approve regulations, oversee the budget and deliberate on the objects submitted to it (Ville de Genève 2026b, 2026c).

Table 4. Overview of the relevant cantonal laws and instruments

Instrument	Relevant Objectives	Relevant Measures
Stratégie Biodiversité Genève 2030 (SBG-2030) (Canton de Genève 2018) Not binding	• Ensure long-term well-being by reconciling the development of activities on the territory with the maintenance of rich local biodiversity capable of providing essential ecosystem services to the population; • 10 specific objectives, including: ecological infrastructure development, high-quality tree heritage, built environment as a mosaic of natural sites supporting biodiversity and human contact with nature.	• Various measures for renaturation and for integrating biodiversity considerations into institutions, e.g. identifying and addressing negative incentives.
Référentiel Biodiversité (“Conversation with the Cantonal Office of Agriculture and Nature”) Not legally binding, but projects are strongly encouraged to follow and implement it	• Integration of biodiversity into large development projects across 18 thematic areas.	• Diagnostic of the project: identification of biotopes worthy of protection, priority fauna/flora sites and forest cadasters; • Project support: 18 thematic areas with defined target thresholds, aim to approach thresholds while accounting for policy constraints;
Loi sur la biodiversité (LBio) (Canton de Genève 2012b) Legally binding	• Ensure the preservation, management, and enhancement of biodiversity (ecosystems, species, and genetic heritage) for the benefit of present and future generations, guarantee its balanced distribution across the territory.	• Establishes a Cantonal Biodiversity Strategy; • Creates an information and monitoring system; • Fosters partnerships with the agricultural sector; • Establishes a Biodiversity Fund to finance projects; • Mapping and protecting ecological infrastructure, biological corridors and natural habitats (biological reservoirs); • Requires ecological compensation and promotes urban greening.
Loi sur la protection des monuments, de la nature et des sites (LPMNS) (Canton de Genève 1976) Legally binding	• Ensure the protection of nature by preserving the habitat necessary for flora and fauna and by maintaining natural environments.	• Protects natural sites and allows the creation of nature reserves; • Allows the <i>Conseil d'Etat</i> (Council of State) to issue provisions that restrict or ban cutting or destroying trees, woods, shrubs and hedges; prevent the alteration of rivers, banks, ponds, marshes and streams; ban fertilizers and pesticides that harm the biological balance; and prohibit waste dumping.
Loi sur la faune (LFaune) (Canton de Genève 1993) Legally binding	• Protect and maintain native fauna in proportions that respect natural balance and human activities; • Conserve and create the biotopes necessary for animal life.	• Prohibits the capture, killing, or abandonment of wild animals without authorization; • Regulates hunting, establishes sanctions, and creates a compensation fund; • Conservation of biotopes (hedgerows, small woodlands, wetlands, dry meadows, and riverbanks);

Instrument	Relevant Objectives	Relevant Measures
Loi sur les constructions et les installations diverses (LCI) (Canton de Genève 1988) Legally binding	Regulate all construction, demolition, and installations in the canton, ensuring safety, health, aesthetic and high energy efficiency.	- Establishes measures to maintain communication between habitats (wildlife corridors); - Creates strict protected areas, including reserves for waterfowl of international importance and ecological compensation areas. - Requires permits for construction; - Defines strict rules regarding height, distances between buildings, use of renewable energies; - Imposes fines for violations; - Soil protection and maintenance of open ground surfaces; - Requires that new projects minimize the carbon footprint of materials.
Loi d'application de la loi fédérale sur l'aménagement du territoire (LaLAT) (Canton de Genève 1987) Legally binding	Coordinate urban planning and land use in the canton of Geneva, ensuring the rational use of building areas and the preservation of the territory.	- Divides the territory into zones (ordinary, development and protected) and establishes procedures for modifying these zones and granting building permits; - Legally defines and demarcates preservation areas and conservation units, such as: forest zones, agricultural zones (with strict protection of farmland), green and recreational areas (parks, river and lake banks) and protected zones (which include nature reserves and landscapes).
Loi sur l'arborisation, la végétalisation, la mobilité douce et les transports publics dans l'aire urbaine (LAVMT) (Canton de Genève 2023a) Legally binding	Protecting the population from the impacts of climate change, preserving health, and improving quality of life through urban public space planning.	- Mandates that at least 8% of road space in cities with more than 10,000 inhabitants be converted to tree planting, green areas, public transport and mobility routes (cycle paths, pedestrian walkways); - Sets the goal of creating permeable surfaces and planting at least 25,000 trees; - Requires that the creation of cycle paths and transport routes preserve existing trees as much as possible.
Loi sur l'extension des voies de communication et l'aménagement des quartiers (LExt) (Canton de Genève 1929) Legally binding	Ensure the orderly development of communication routes and the architectural and urban planning of neighborhoods.	Establishes the Localized Neighborhood Plans (<i>Plan Localisé de Quartier</i> - PLQ), which dictate where buildings should be located, the location of roads, sewage systems and parking limits.

Instrument	Relevant Objectives	Relevant Measures
Règlement sur la conservation de la végétation arborée (RCVA) (Canton de Genève 1999a) Legally binding	• Ensure the conservation, maintenance and renewal of the vegetation that forms the major elements of the landscape (outside of dense forest areas).	• Requires obtaining prior authorization to cut down or prune trees and to clear or deforest hedges and small woods; • Every authorized tree cutting requires compensation measures (e.g., replanting of new specimens or implementation of other measures such as the installation of extensive green roofs); • If physical compensation is not possible, a fee is charged that goes to a fund intended to finance new plantings and the restoration of urban and rural vegetation.
Directive concernant la conservation des arbres: Critères de maintien et motifs d'abattage (Canton de Genève 2008a) Legally binding	• Clarify the decision-making rules regarding the conservation of tree heritage (based on RCVA); • Ensure both the protection of existing trees and the renewal of the tree heritage.	• Sets out criteria for tree retention: beauty and significance of the tree, life expectancy and other relevant circumstances; • Sets out grounds for tree removal: dangers and impacts of the tree on property and persons; type and significance of the proposed construction or development project; enhancement of other trees or maintenance of a vegetation ensemble, phytosanitary prevention; compliance with laws, easements or agreements, provided that a prejudice is demonstrated.
Directive concernant les plantations compensatoires (Canton de Genève 2020) Legally binding	• Specifies the compensation measures required in the event of tree removal.	• The permit issued is, in principle, subject to the obligation to implement compensatory measures. • In the case of tree removal due to construction work, the replacement value is calculated based on the tree species and the physical size of the individual tree. The defined value must be reinvested on the site. • In other cases, compensation is generally carried out through the replanting of new trees, based on the principle of one tree for each tree felled.
Directive concernant la plantation et l'entretien des arbres (Canton de Genève 2024a) Legally binding	• Defines best practices for carrying high-quality planting work, in order to ensure that planted trees establish successfully and guarantee their long-term survival.	• Sets requirements regarding plantable space, species selection, the planting process, and tree maintenance.
Règlement sur la protection des sols (RSol) (Canton de Genève 2008c) Legally binding	• Designates the competent authority and defines the implementation measures to prevent and remedy damage (chemical, physical or biological) caused to the soil.	• Monitor the load of pollutants in the soil; • Evaluate construction projects to prevent damage; • Order the decontamination or restriction of land use at risk; • Combat erosion and prevent persistent compaction; • Essential measures to maintain the physical support necessary for the development of flora and the integrity of any natural habitat.

3.1.1 Overview of the Municipal Biodiversity Strategy and Policies

Despite biodiversity protection being an international target and a priority in the city of Geneva's international cooperation since 2012 (Ville de Genève 2012), the city only published its own biodiversity strategy in 2025 (Ville de Genève 2025l). This adoption was prompted by Measure 62 of the Climate Strategy and several motions from the Municipal Council. Between 2021 and 2023, the Green Party (*Les Verts*) elaborated numerous motions to safeguard local biodiversity. Adopted at the municipal level with the support of the center and left parties, these motions requested the Administrative Council to take proactive measures. This included the request to set concrete and measurable objectives for 2030 within the framework of the city's climate strategy (Motion M-1643 (179e), Ruyschaert et al. 2021). Measure 62 of the Climate Strategy called for the creation of a biodiversity unit within the administration to develop a strategy based on the cantonal approach. It also included the establishment of a monitoring system with indicators for regular and systematic monitoring of biodiversity trends, as well as awareness-raising initiatives (Ville de Genève 2022c).

The biodiversity strategy is divided into 4 interdependent axes and 17 measures that involve the municipal administration, local associations and residents, but apply only to city-owned land. Axis A aims to document and monitor biodiversity through indicators, mapping and continuous observation, while Axis B operationalizes biodiversity-friendly urban planning and ecological infrastructure. Axis C focuses on communication and mobilization, especially of young people, through campaigns, support for local initiatives and environmental education. Finally, Axis D aims to ensure that the legal framework and the financial resources of the city support biodiversity. It includes the revision of the city's regulatory framework, especially regarding negative incentives, integration of biodiversity funding across all departments and the establishment of a Biodiversity Task Force to coordinate these efforts (Ville de Genève 2025l).

Several bodies are involved: the Biodiversity Hub (*Pôle Biodiversité*), which brings together the main departments involved in this issue; a Steering Committee (*Comité de Pilotage*) that oversees the Hub; and the Biodiversity Task Force, created in 2025, that coordinates the strategy's implementation and supports the various services (Ville de Genève 2025l).

Beyond the biodiversity strategy, additional instruments of the city influencing biodiversity are summarized in Table 5.

Table 5. Overview of the relevant municipal instruments of the city of Geneva.

Instrument	Relevant Objectives	Relevant Measures
Plan Directeur Communal Genève 2040²² (Ville de Genève 2025d) Not binding	• Preserve and strengthen the communal ecological infrastructure, which represents 544 hectares (34% of the city's territory); • Create a "sponge city" to restore the water cycle and maintain living soils; • Promote a new "city-nature" coexistence; • Increase the canopy to 30% (minimum of 25% by 2030).	• Green areas and corridors: create 2 hectares of new green spaces and open 25 hectares to the public; • Develop the "Black Weave" (<i>Trame noire</i>) to protect nocturnal fauna (such as bats) from light pollution; • Habitats and Flora/Fauna: encourage architecture that shelters biodiversity, integrating niches for birds and bats into facades; • Unearth watercourses and create wetlands (urban marshes) in new neighborhoods; • Soil: remove waterproofing from 10,000 m² per year in the public domain; • Require a minimum of 30% of areas in natural soil (<i>pleine terre</i>) in the <i>Plans localisés de quartier</i> (PLQ); • Tree canopy: improve the living conditions of the trees, ensure irrigation and limit pruning to favor the natural development of the canopy.
Stratégie Biodiversité (Ville de Genève 2025l) Not binding	• 30% of the territory as functional ecological infrastructure; • Conserve and strengthen a high-quality tree canopy and diversify tree species; • Guarantee zero net loss of natural habitats and functional living soils.	• Monitoring: establish continuous monitoring of flora, fauna, and fungi; • Soil protection: limit excavations and underground constructions that destroy subsurface biodiversity; • Differentiated management: maintain 30% of the park surface without maintenance or with minimal maintenance to protect spontaneous flora and fauna; end the use of pesticides and herbicides; • Natural habitats: create microstructures such as dead wood, insect shelters, and nesting boxes; • Apply a mandatory biodiversity reference framework to evaluate all urbanization projects.
Stratégie Climat (Ville de Genève 2022c) Not binding	• Achieve carbon neutrality by 2050 and use nature (Nature-Based Solutions) for mitigation; • Halt the artificialization of soils.	• Ecological infrastructure: quadruple the number of green roofs on municipal buildings (+50,000 m²) combined with solar panels (bio-solar roofs); • Green corridors: eliminate, without compensation, 50% of surface parking spaces in the city center to convert them into green areas, planting trees and creating active routes; • Transform schoolyards into "oases of freshness" with natural soil.

²²Municipal Master Plans (*Plans directeurs communaux*) are defined by the *Loi d'application de la loi fédérale sur l'aménagement du territoire* (LaLAT – L 1 30), specifically in article 10. The law defines them as a type of localized master plan whose perimeter covers the entire territory of one or more municipalities. The objective of these plans is to establish future guidelines for territorial planning at the local level and, mandatorily, to determine the perimeters of the 5th zone (residential housing zone) that may be subject to greater densification, as well as the corresponding access routes (Canton de Genève 1987).

Instrument	Relevant Objectives	Relevant Measures
Stratégie d'arborisation communale du domaine public (Ville de Genève 2024) and Plan stratégique de végétalisation 2030 (Ville de Genève 2019) Not binding	Densify the green network and focus on the "Water-Soil-Tree" triad to ensure the resilience of the territory.	- Plant 80 new trees and 20 large trees per year; - Plant in continuous pits with a "soil-stone mixture" so that the roots can expand under sidewalks without conflicting with underground networks; - Change the pruning pattern (abandon severe architectural pruning) to allow "semi-free" development; - Prioritize native and resilient species.
Règlement relatif aux plans d'utilisation du sol de la Ville de Genève – LC 21 211²³ (Ville de Genève 2007) Legally binding	Guarantee habitable space and limit the burdens on the environment that could result from an unbalanced distribution of urban space use.	- Creation of green or leisure spaces on plots of land or groups of plots exceeding 1,000 m² (minimum required green area between 35% to 40%); - For plots or groups of plots exceeding 2,000 m², at least half of the area developed as green space or leisure space must consist of <i>pleine terre</i> (open ground).
Règlement des espaces verts, préaux et places de jeux de la Ville de Genève – LC 21 331 (Ville de Genève 2016a) Legally binding	Establish rules for coexistence and maintenance for the public use of green spaces.	<i>Service des espaces verts</i> (SEVE, Green Spaces Service) has the role of managing, planning, and enhancing these areas in a sustainable way and in the public interest; - The public has free access to grassy areas, which may be restricted by especial provisions focused on protecting the fauna and flora; - Strict prohibition against causing any damage or deterioration to lawns, trees, flower beds, plantings, and water features.
Plan localisé de quartier , as formally classified by LaLAT (Canton de Genève 1987) and Loi sur l'extension des voies de communication et l'aménagement des quartiers ou localités (Canton de Genève 1929, as amended in 2025) Legally binding	- Specification of building footprint, the size and intended use of the planned buildings; open spaces, whether private or public (including squares, promenades, green spaces and children's playgrounds); land reserved for public facilities; vegetation to be preserved or created; and the number and location of parking spaces and underground garages, as well as, where applicable, the trees to be felled; - Often needed for construction in development zones (<i>zones de développement</i>); - PLQs enable the imposition of additional conditions on construction and land use that specifically support biodiversity and nature protection, conditions are based on existing legal requirements and the PDCom.	Vary from plan to plan.

²³ Land-use plans (*plans d'utilisation du sol*) and their neighborhood regulations (*règlements de quartier*), adopted by the Municipal Council, must be approved by the Council of State (*Conseil d'État*) to enter into force (Article 91, b, LAC, Canton de Genève 1984).

3.1.2 Municipal Subsidies

In the municipal context of Geneva, the notion of a subsidy (*subvention*) is formally defined by the *Règlement régissant les conditions d’octroi des subventions municipales – LC 21 195* (Ville de Genève 2012). The regulation distinguishes between two main forms of subsidies: monetary and non-monetary. Monetary subsidies (*subventions monétaires*) refer to all financial transfers, including operational grants, project-based funding, and compensatory payments. Non-monetary subsidies (*subventions non monétaires*) consist of assets, services, or infrastructure provided free of charge or at preferential rates.

Subsidies represent a major share of the city’s public spending. The combined value of monetary and non-monetary subsidies amounted to CHF 356 million in 2024, representing 25.2% of the total gross operating costs during that year (Ville de Genève 2025a, 67–68), as outlined in Table 6.

Table 6. Amount of subsidies allocated per department (million, in CHF) (source: authors, based on Ville de Genève 2025a).

Department	Monetary	Non-Monetary
Finance, Environment and Housing	15.3	3
Planning, Construction and Mobility	2.6	0.05
Culture and Digital Transition	80.6	13.6
Security and Sports	6.9	18.4
Social and Cohesion and Solidarity	193	19.4
General Secretariat	2.4	0.8
Total	300.8	55.2
	356	



3.2 Berlin

Berlin takes a cross-sectoral and highly participatory approach that fosters collaboration and creates synergies for all relevant actors, including government authorities, scientific institutions, NGOs, businesses, and civil society; biodiversity is understood as a shared societal responsibility. The Berlin Biodiversity Strategy 2030+, successor to the first strategy adopted in 2012, is a broad framework containing many highly specific measures. Among other objectives, it aims to preserve and expand public green spaces and to strengthen the city-wide biotope network. Implementation is mainly pursued through municipal projects and supported by additional strategic planning instruments. However, the strategy itself is not legally binding. For private landowners, the city primarily relies on voluntary participation and incentive-based approaches (SeMVKU 2025a). Table 7 provides an overview of Berlin's relevant instruments.

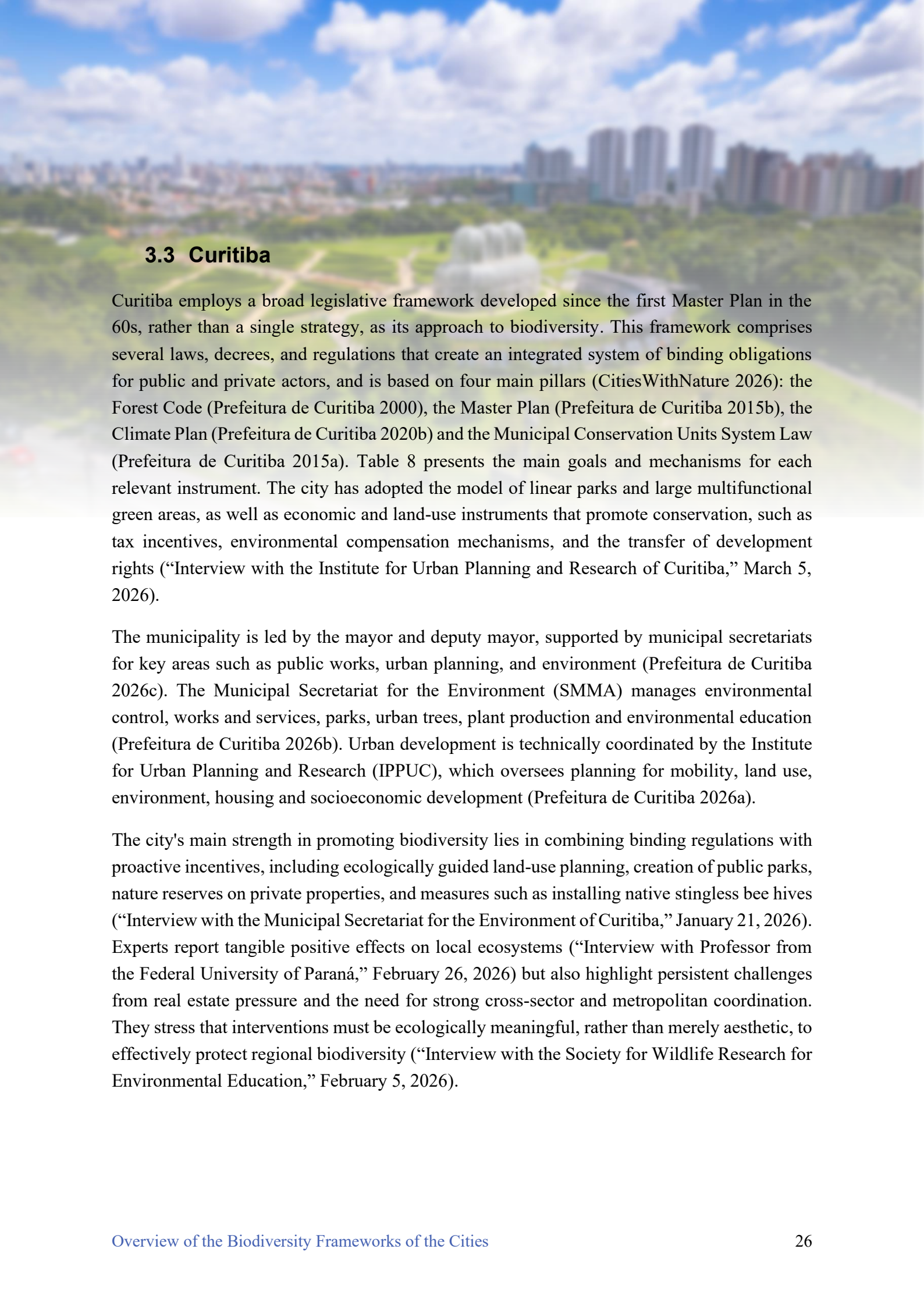
Berlin's administration consists of ten Senate Departments and their respective divisions. Each department is headed by a Senator, who is a member of the Senate of Berlin (Land Berlin 2026). Within the state administration, the Senate Department for Mobility, Transport, Climate Action and the Environment (SeMVKU) manages the city's environmental agenda, overseeing nature conservation, biodiversity, and urban nature planning (SeMVKU 2026d).

The city's overall approach elicits mixed reactions from the administration and representatives from nature protection organizations. The administration and the Nature Conservation Foundation Berlin positively evaluate the strategy, emphasizing the involvement of a broad range of actors and the preservation of large green spaces ("Interview with Senate Department for Mobility, Transport, Climate Protection and Environment, Berlin," March 16, 2026; "Interview with Berlin Nature Conservation Foundation," March 3, 2026). Conversely, the representative of the German Federation for the Environment and Nature Conservation, Berlin State Chapter considers the implementation framework a major weakness: as the strategy itself lacks legal mandates, environmental protection relies heavily on political will rather than legal enforcement. Similarly, they argue that incentives for private actors remain insufficient without binding building code obligations ("Interview with the German Federation for the Environment and Nature, Berlin State Chapter," March 19, 2026). Significant challenges arise from conflicting political and economic objectives, where rapid housing construction laws frequently override and contradict nature conservation efforts ("Interview with Senate Department for Mobility, Transport, Climate Protection and Environment, Berlin").

Table 7. Overview of the relevant frameworks and instruments applicable in the city of Berlin.

Instrument	Relevant Objectives	Relevant Measures
Berlin Biodiversity Strategy 2030+ <i>(Berliner Strategie zur Biologischen Vielfalt 2030+, SeMVKU 2025a)</i> Not binding	• By 2030, ensuring urban green space and canopy cover will not experience net loss and will continue to increase. • By 2050, convert 50% of coniferous forests to near-natural and climate-adapted mixed forests. • Ensure that all residents have access to a public green space within 500 meters and establish at least one nature experience space in each administrative district. • Combat the loss of native wildlife species and stabilize the numbers of endangered species.	• Implementing guidelines and corridors on public land: Implementing ecological enhancement and near-natural management in the maintenance of urban green spaces, water bodies, and streets; fully applying the Good Care Handbook ecological standards in daily green space maintenance. • Urban planning and habitat connectivity: Based on the needs of 34 target species, ensuring and expanding the Biotope Network and the 580 km Green Main Routes (<i>Grüne Hauptwege</i>); integrating Animal-Aided Design (AAD) and rooftop/exterior greening into new public and private buildings. • Enhancing biodiversity on private land: Incentivizing private owners, housing cooperatives, and businesses to ecologically upgrade and de-harden courtyards, buildings, and business parks through financial subsidies (such as the Green Roofs PLUS and BENE 2) and professional consultation. • Update the list of nature reserves and monitoring system: Establish a systematic city-wide biodiversity monitoring network, integrating regular habitat mapping, updates to the list of protected species, and data collection through citizen science using tools. • Information initiatives and social participation: Conduct public awareness campaign; promote environmental education in schools and kindergartens, deploy Urban Nature Rangers (<i>Stadtnatur-Ranger</i>) and nature guides to enhance public awareness of species and participation in nature conservation.
LaPro (Landscape Program) <i>(Landschaftsprogramm, SeMVKU 2025b)</i> Legally binding for authorities	• Integrate biodiversity conservation, habitat quality, and ecological city development into spatial planning; protect soil, water, air, climate, and landscape aesthetics.	• Serves as the strategic foundation for green urban development via four program plans (Natural Balance, Biotope/Species Protection, Landscape Image, Recreation) and the City-Wide Compensation Concept (<i>Gesamtstädtische Ausgleichskonzeption</i>); identifies target species for biotope networks and defines protected areas to be designated. • Enhancing biodiversity on private land. • Defines the city's green structure to balance growth with nature conservation.
FNP (Land Use Plan) <i>(Flächennutzungsplan, SeMVKU 2026c)</i> Legally binding for authorities	• Define urban development goals, fundamental land use types, and integrate competing interests (housing, trade, centers, and open spaces) for the entire city.	• Controls spatial development by designating areas for housing, commerce, and permanent green spaces. • Integrates landscape planning requirements (from LaPro) into the overall urban concept to manage land competition.

Instrument	Relevant Objectives	Relevant Measures
Charter for Berlin's Urban Green <i>(Charta Stadtgrün, SeMVKU 2020)</i> Not binding	Secure, strengthen, and develop urban green space for future generations; emphasize the simultaneity of green and building development.	- Political 10-year action program (up to 2030). - Self-commitment to preserve and develop green infrastructure. - Provides 9 guidelines for securing the green "basic structure (Grundgerüst)" and developing new natural spaces. - Aims for accessibility (green space within 500m). - Improve quality of trees in parks and street. - Emphasizes the simultaneity of green and structural development, utilizing grey infrastructure (graue Infrastruktur) for ecological functions.
Ecological Account <i>(Ökokonto, SeMVKU 2026b)</i> Compensation instrument	Bundle and pre-implement compensation measures for interventions in nature caused by construction; accelerate housing development via advanced restoration.	- City-wide compensation concept using "Eco-Points" accounting. - Financing and implementation of ecological enhancement projects.
Biotope Network <i>(Biotopverbund, SeMVKU 2017a)</i> Legally binding	Network habitats into a city-wide system to allow species migration, genetic exchange, and prevent habitat isolation; protect 34 target species.	- Target species concept. - Mapping of green/blue axes, core areas, and connecting structures - Integrated into LaPro.
Green Roofs PLUS <i>(GründachPLUS, SeMVKU 2025a)</i> Funding program	Support climate adaptation and biodiversity by greening roofs and facades; mitigate urban heat island effect and manage rainwater retention.	- Financial grant and incentive program. - Subsidies based on substrate thickness for roofs (up to 180 €/m²) and percentage of costs for facades (50-60%).
Good Care Handbook <i>(Handbuch Gute Pflege, SeMVKU 2017b)</i> Not binding	Establish uniform, high-quality, and biodiversity-friendly maintenance standards for green spaces; balance recreation with nature conservation.	- Technical manual with 11 "Golden Rules" (e.g., phased mowing, leaving deadwood). - Describes 4 maintenance classes for district administrations.
BENE 2 (Berlin Programme for Sustainable Development) <i>(Berliner Programm für Nachhaltige Entwicklung, SeMVKU 2026a)</i> Funding program	Promote climate-neutral urban development, preserve green infrastructure, and reduce environmental pollution, particularly in disadvantaged areas.	Financial funding program providing project-based grants and non-repayable subsidies for private and public organizations.



3.3 Curitiba

Curitiba employs a broad legislative framework developed since the first Master Plan in the 60s, rather than a single strategy, as its approach to biodiversity. This framework comprises several laws, decrees, and regulations that create an integrated system of binding obligations for public and private actors, and is based on four main pillars (CitiesWithNature 2026): the Forest Code (Prefeitura de Curitiba 2000), the Master Plan (Prefeitura de Curitiba 2015b), the Climate Plan (Prefeitura de Curitiba 2020b) and the Municipal Conservation Units System Law (Prefeitura de Curitiba 2015a). Table 8 presents the main goals and mechanisms for each relevant instrument. The city has adopted the model of linear parks and large multifunctional green areas, as well as economic and land-use instruments that promote conservation, such as tax incentives, environmental compensation mechanisms, and the transfer of development rights (“Interview with the Institute for Urban Planning and Research of Curitiba,” March 5, 2026).

The municipality is led by the mayor and deputy mayor, supported by municipal secretariats for key areas such as public works, urban planning, and environment (Prefeitura de Curitiba 2026c). The Municipal Secretariat for the Environment (SMMA) manages environmental control, works and services, parks, urban trees, plant production and environmental education (Prefeitura de Curitiba 2026b). Urban development is technically coordinated by the Institute for Urban Planning and Research (IPPUC), which oversees planning for mobility, land use, environment, housing and socioeconomic development (Prefeitura de Curitiba 2026a).

The city's main strength in promoting biodiversity lies in combining binding regulations with proactive incentives, including ecologically guided land-use planning, creation of public parks, nature reserves on private properties, and measures such as installing native stingless bee hives (“Interview with the Municipal Secretariat for the Environment of Curitiba,” January 21, 2026). Experts report tangible positive effects on local ecosystems (“Interview with Professor from the Federal University of Paraná,” February 26, 2026) but also highlight persistent challenges from real estate pressure and the need for strong cross-sector and metropolitan coordination. They stress that interventions must be ecologically meaningful, rather than merely aesthetic, to effectively protect regional biodiversity (“Interview with the Society for Wildlife Research for Environmental Education,” February 5, 2026).

Table 8. Overview of the relevant frameworks and instruments applicable in the city of Curitiba.

Instrument	Relevant Objectives	Relevant Measures
Forest Code – Municipal Law No. 9.806/2000 (as amended by Law No. 16.549/2025) (Prefeitura de Curitiba 2000) Legally binding	• Protect and monitor isolated trees and native vegetation (Native Forests and Relevant Native Forests – remnants of the Atlantic Forest Biome). • Preserve water, wildlife habitat, soil stability, and maintain the urban forest canopy.	• Prohibits cutting, felling, or clearing without authorization. requires restoration of degraded areas. • Requires a minimum 3 m protection strip around Relevant Native Forests in construction projects. • Mandates compensatory planting (two new trees per tree felled, or four seedlings donated in the case of Araucaria). • Imposes tree planting in new civil buildings as a condition for the Certificate of Completion.
Municipal Private Natural Heritage Reserve – RPPNM (Law No. 14.587/2015) (Prefeitura de Curitiba 2015a) Legally binding	• Conserve biodiversity on private properties via a perpetual conservation easement.	• Voluntary creation of private conservation units on properties with Relevant Native Forests (≥ 70% cover) or Permanent Preservation Areas - APP (≥ 80% of the area). • Transfer of Development Rights/ Construction Potential as an economic benefit, renewed every 15 years, conditional on proper reserve maintenance. • Mandatory Management Plan. land use restricted to research and controlled visitation (therapeutic, tourism, recreation, education).
Municipal System of Conservation Units (Law No. 15.744/2020) (Prefeitura de Curitiba 2020a) Legally binding	• Maintain biodiversity and genetic resources, protect endangered species, preserve landscapes, and restore degraded ecosystems. • Safeguard biological heritage through integrated conservation mosaics and large contiguous areas.	• Organizes areas into Integral Protection Units (Parks, Ecological Stations, Wildlife Refuges, Urban Biodiversity Conservation Forests – BCBUs with ≥ 70% Araucaria Forest) and Sustainable Use Units (APAs, RPPNMs). • Establishes buffer zones and ecological corridors to reduce human impacts. • Requires Management Plans for all integral protection units within 5 years. • Obliges large polluting enterprises to provide financial compensation earmarked for Conservation Units.
Master Plan (Law No. 14.771/2015) and Zoning Law (Law No. 15.511/2019) (Prefeitura de Curitiba 2015b) Legally binding	• Balance natural and built environments and integrate environmental, land-use and urban development. • Treat natural resources as structural elements of the city.	• Creates the Special Sector for Green Areas (SEAV) and Special Sector for Environmental Sanitation (SESA), limiting occupation over vegetation and along rivers/streams. • Establishes Environmental Protection Areas within urban zoning. • Requires Neighborhood Impact Studies (EIV) for works, with mandatory mitigating/compensatory measures (squares, parks, ecological leisure spaces).

Instrument	Relevant Objectives	Relevant Measures
Municipal Policy for Climate Change Mitigation and Adaptation (Law No. 16.645/2025) and PlanClima (Prefeitura de Curitiba 2020b) Legally binding	• Achieve carbon neutrality and urban climate resilience by 2050. • Protect/expand green areas as carbon sinks and for Ecosystem-Based Adaptation (EbA). • Protect rivers and water resources.	• Promotes Nature-Based Solutions (NbS): expansion of green areas, permeable surfaces, and flood-mitigation measures. • Implements the Future Water Reserve in the Iguaçu River basin, linking water preservation, biodiversity corridors, linear parks, and floodplain restoration. • Creates urban green corridors through large-scale planting of native trees along public roads and sidewalks. • Sets the basis for green economic instruments (biodiversity and carbon credits, Payment for Environmental Services – PES). • Supports urban agriculture and pollinator-oriented projects (urban farms, “Honey Gardens” (Jardins de Mel)/ “Pollen Paths” with native stingless bees).
Municipal Environmental Policy (Law No. 15.852/2021) and Sectoral Plan for Environmental Development and Biodiversity Conservation (2022) (Prefeitura de Curitiba 2021) Legally binding	• Maintain environmental balance and curb biodiversity loss caused by human activity. • Conserve ecosystems and local genetic heritage. • Improve water quality and renaturalize urban rivers as biodiversity corridors. • Promote animal welfare and protection.	• Applies the Urban Biodiversity Index (Singapore CBI) to monitor flora, birds, insects, and mammals and track conservation progress. • Expands the 100,000 Trees Challenge, now targeting 400,000 additional trees in public spaces and parks. • Identifies and implements Urban Biodiversity Conservation Forests (UBCFs) (97 potential areas. 8 already operational). • Provides legal tools to create green corridors between neighboring private properties. • Encourages the renaturalization of canalized rivers and mandates riparian forest restoration. • Offers tax relief and construction incentives for private green roofs, green walls, and permeability-enhancing technologies.

3.4 Kobe

Kobe city's biodiversity approach is based on strong citizen participation and collaboration between the municipality, local groups, and researchers. The Kobe city Biodiversity Plan focuses on the continuous management and sustainable use of ecosystems rather than the strict preservation of biodiversity (Kobe City 2016). This approach is partly driven by demographic change: an ageing population and youth migration to city centers have reduced traditional land management, leaving rural mixed landscapes under-maintained ("Interview with the Kobe City Biodiversity Conservation Division and Kobe University Expert," January 14, 2026). In practice, conservation relies on activities such as forest thinning, irrigation pond restoration, and others, carried out by citizen groups, with city support through subsidies and policy frameworks. Universities and independent experts contribute ecological surveys and monitoring ("Interview with the Kobe City Biodiversity Conservation Division and Kobe University Expert"). Table 9 shows an overview of Kobe's instruments.

Institutionally, the Kobe city administration is organized into 15 functional bureaus and 9 administrative districts (wards) (Kobe City 2026c). Within this structure, the Environment Bureau is primarily responsible for nature conservation and biodiversity, with the Biodiversity Conservation Division serving as the lead unit for implementing the Kobe Biodiversity Plan (Kobe City 2026a).

Kobe's strength lies in using the Kobe City Biodiversity Ordinance to require biodiversity consideration in development projects and in expanding biodiversity targets through OECM certifications, including for private spaces such as company gardens and school grounds ("Interview with the Kobe City Biodiversity Conservation Division and Kobe University Expert"). However, the promotion of biodiversity on private land relies heavily on voluntary participation because the city has limited authority to enforce biodiversity measures. Moreover, ageing land managers, weak succession in forest-farmland areas (*Satoyama*), and limited cross-departmental coordination reduce long-term implementation capacity ("Interview with Representative of Kobe Biodiversity Conservation Citizen Group," February 26, 2026; "Interview with the Kobe City Biodiversity Conservation Division and Kobe University Expert").

Table 9. Overview of the relevant frameworks and instruments applicable in the city of Kobe.

Instrument	Relevant Objectives	Relevant Measures
Kobe City Ordinance on the Conservation of Biodiversity (神戸市生物多様性の保全に関する条例, Kobe City 2017) Legally binding	- Protecting rare wild fauna and flora from extinction (Article 6). - Preventing damage to ecosystems, human life, and agriculture caused by designated invasive alien species (Article 11). - Promoting biodiversity conservation through active collaboration with citizens and organizations (Article 19).	- The Mayor designates “Rare Wild Fauna and Flora.” This prohibits capture, kill, collect, or damage of these species (Art.7). - Invasive Species Management: The Mayor designates “Specified Invasive Alien Species” (Art. 11). The ordinance prohibits releasing these species into the wild (Art. 13) and allows the city to order their capture or removal (Art. 15). - conservation groups can enter into a “Biodiversity Conservation Activity Agreement” with landowners and the city to legally manage and protect specific habitats (Art. 21). - On-site Inspections: City officials have the authority to enter private land to conduct surveys or inspect the status of protected or invasive species (Art. 24).
Kobe Biodiversity Plan (生物多様性神戸プラン, Kobe City 2016) Not legally binding	- The plan is built around 5 Core Strategic Directions: - Conservation and networking of habitats and growth spaces. - Developing individuals who “notice” the importance of biodiversity and can “take action.” - Promoting cooperation between citizens, organizations, businesses, and the administration while building supporting systems. - Promoting socio-economic activities that contribute to the sustainable use of nature’s gifts. - Accumulating data and making biodiversity visible and easy to understand.	- Leading Projects: Six priority programs focusing on invasive species control, rare species protection, Satoyama restoration, terraced field revitalization, urban biotope creation, and database development. - Utilizing the “Regional Collaborative Conservation Agreement” system to legally empower citizen groups and companies to manage specific local environments like community ponds and woodlands. - Implementing tailored conservation steps for different landscapes, such as thinning overgrown forests, preventing farmland abandonment, and improving water quality in urban streams.
Ordinance Concerning the Designation of Zones for Coexistence Between People and Nature (人と自然との共生ゾーンの指定等に関する条例, Kobe City 1996) Legally binding	- Protecting areas designated for harmony between human activity and nature (Art. 1). - Managing construction and land alteration in “Rural Use Zones” (Art. 3). - Community-led Conservation: Encouraging residents to form groups for local environmental maintenance (Art. 11).	- Anyone building, expanding, or altering land (over 500 m2) in designated zones must submit a formal “Action Notification” with detailed site maps and color photos (Art. 3, 4). - Village Development Plans: Citizen groups can submit “Village Development Plans” to the Mayor for certification to manage their local environment (Art. 11).

Instrument	Relevant Objectives	Relevant Measures
Kobe City Greenery Basic Plan (神戸市緑の基本計画, Kobe City 2011) Not legally binding	- Conservation of approx. 15,000 ha of land designated as "Green Sanctuaries". - Moving from "quantity" to "quality" by improving existing parks and forest health. - Maintaining the habitat for the 7,000+ species confirmed within the city limits.	- A branding project to create attractive urban spaces that reflect Kobe's unique natural identity. - Establishing systems to recycle pruned branches and felled wood from maintenance into local resources.
Kobe Greening Guidelines (神戸市建築物等における環境配慮の推進に関する条例に基づく緑化計画作成の手引き, Kobe City 2025) Not legally binding	30% Greenery Ratio in urban areas to create a "Greenery Bio-City". 20% Coverage of usable rooftop area for large buildings (>1,000m²). - Zero Substandard Soil: 100% adherence to Soil Safety Standards. - Conservation of 15,000 ha of "Green Sanctuaries".	- High Trees (H>3.0m): At least 1 per 10m² of green area. - Mandatory "quality" greening at building entrances using seasonal flowers and planters. - Designing rooftops as "Sky Parks" for social interaction. - Mandatory permits for infilling projects >1,000m².
Natural Environment Conservation Activity Support Project (2025年度 神戸市自然環境保全活動支援事業のご案内, Kobe City 2026e) Incentive based	Supporting the specific protection of rare species and the removal of invasive species to maintain native biodiversity.	- Providing activity grants (up to ¥100,000 for general biodiversity projects or ¥50,000 for invasive turtle control) to non-profit groups. - Focusing on three Action Pillars: - Protecting Red Data rare species (Rank C or higher) and native ecosystems. - Invasive Species Control: Specifically targeting Red-eared sliders (turtles) and Blacklist invasive plants/animals. - Waterfront Cleaning: Removing litter from rivers, irrigation ponds, and beaches.

3.5 Zurich

Zurich takes an area- and habitat-based approach that engages and sets out binding obligations for all relevant actors, including municipal departments, private landowners, and planners. The urban nature specialist planning aims to increase the share of ecologically valuable areas and improve their connectivity. This should be achieved through integration into municipal construction projects in line with the city's real estate standard for environmentally friendly and energy-efficient construction, which sets out similar requirements. In parallel, the urban trees specialist planning sets a target of 25% canopy cover in urban areas which must also be considered in municipal projects (Stadt Zürich 2021). Legally binding requirements for private landowners are set out in planning and construction law (Kanton Zürich 1975, as amended in 2025; Stadt Zürich 1991, as amended in 2024). Table 10 shows an overview of Zurich's instruments

The city of Zurich's administration consists of nine departments and their respective divisions. Each department is headed by a member of the City Council (Stadt Zürich 2026d). Within the city administration, *Grün Stadt Zürich* (lit. "Green City Zurich"), affiliated with the Department of Civil Engineering and nature planning, is responsible for nature conservation (Stadt Zürich 2026c).

Zurich's overall approach is generally perceived positively, both by the city administration and by the external expert ("Interview with Grün Stadt Zürich on the Urban Nature Specialist Planning," February 2, 2026; "Interview with a Nature Protection Organization, Zurich," February 24, 2026), although the expert expressed curiosity in how effectively the strategy will be implemented in practice ("Interview with a Nature Protection Organization, Zurich"). The cross-sectoral and binding nature of the urban nature specialist planning and the urban trees specialist planning, applicable to all relevant municipal departments, is considered a key strength ("Interview with a Nature Protection Organization, Zurich"; "Interview with Grün Stadt Zürich on the Urban Trees Specialist Planning"). However, this required, and continues to require, extensive cross-departmental coordination during development and implementation ("Interview with Grün Stadt Zürich on the Urban Nature Specialist Planning"). The legally binding obligations for private actors are also regarded as very important ("Interview with Grün Stadt Zürich on the Urban Trees Specialist Planning"), as relying solely on voluntary measures is "not sufficient" ("Interview with a Nature Protection Organization, Zurich").

Table 10. Overview of the relevant frameworks and instruments applicable in the city of Zurich.

Instrument	Relevant Objectives	Relevant Measures
Urban Nature Specialist Planning <i>(Fachplanung Stadtnatur, Stadt Zürich 2024a)</i> Binding for the municipality	• Increase the proportion of ecologically valuable habitats within the urban area to 15 percent. • Establish a network of interconnected habitats. • Basis: Target values of ecologically valuable habitats for various open space categories and target scenarios for connectivity corridors.	• Implementation of target values and connectivity corridors on city-owned land: Implementation in city-owned construction projects and through the maintenance of city-owned areas (ecological enhancements, near-natural green space management). • Implementation of target values and connectivity corridors on private land: Incentives (Urban greening funding program), incorporation into regulations. • Updating the inventory of nature conservation sites. • Information initiatives: Guidelines for the implementation of ecologically valuable habitats, raising awareness among architects and planners.
Urban Trees Specialist Planning <i>(Fachplanung Stadtbäume, Stadt Zürich 2021)</i> Binding for the municipality	• 25% canopy cover in urban areas by 2050, with specific target values for different categories of open space and residential and work environments.	• On public land: Target values must be considered in projects. trees must be protected during constructions. tree populations must be diversified and resilience increased (including the use of a biodiversity index). proper maintenance. • On private property: Incorporation into regulations. the city may issue recommendations. incentives (Urban greening funding program, identification of tree planting opportunities). • Public information and awareness-raising.
Planning and Building Act of the Canton of Zurich <i>(Planungs- und Baugesetz des Kantons Zürich, Kanton Zürich 1975, as amended in 2025)</i> Legally binding	• Climate-resilient urban development, including measures to promote biodiversity: ecologically valuable habitats, soil sealing, tree preservation, space for roots and infiltration, nature conservation sites.	• Half of the green space must be designated as an ecological compensation area. • Soil sealing must be kept to a minimum. • Existing trees must be preserved, or replacement and new plantings must be provided for. sufficient root space and space for infiltration must be ensured. • Municipal building and zoning regulations may now generally designate trees with a trunk circumference of 100 cm or more as worthy of preservation. • Building and zoning regulations may now establish rules regarding the scope and quality of green roofs.
Building and Zoning Ordinance of the city of Zurich <i>(Bau- und Zonenordnung der Stadt Zürich, Stadt Zürich 1991 as amended in 2024)</i> Legally binding	• Green space proportions. • Tree preservation. • Ecologically valuable green roofs.	• The proportion of green space is 2/3 in the residential zone, 1/2 in the neighborhood preservation zone, and 1/3 in the downtown zone of the total lot area not covered by buildings. • Tree preservation: Felling trees with a trunk circumference of 100 cm or more requires a permit. • Ecologically valuable green roofs mandatory on flat roofs.

Instrument	Relevant Objectives	Relevant Measures
Revision of the Building and Zoning Ordinance of the city of Zurich <i>(Revision der Bau- und Zonenordnung der Stadt Zürich, Stadt Zürich 2026e)</i> Not yet in force, but certain articles have retroactive effect	Incorporating measures for greening land into land-use planning (green space ratio, green roofs, ecological compensation, mandatory tree planting).	- Introduction of green space ratios in residential (30–60%), downtown (20% or 25%), and industrial and commercial zones (15%). Compared to the proportion of green spaces, this limits the footprint of above-ground structures. - Flat roofs are now required to feature “extensive” greening of ecological value. - Green spaces must be ecologically valuable overall. - Root space: At least half of tree replacements or new plantings must be on areas without substructures. on areas with substructures, there must be a tree pit that allows roots to penetrate, and this must be supplied with sufficient water. - Tree planting requirement: if new construction or renovations result in a significant change to the surroundings, target values for canopy cover must be met.
Milestones 23 <i>(Meilenschritte 23, Stadt Zürich 2023)</i> Binding for the municipality	Real estate standards for city-owned construction projects, including provisions regarding biodiversity.	- Quantifying impervious surfaces and minimizing them. - Designing buildings and their surroundings as ecologically valuable habitats. - Existing large trees should be preserved whenever possible.
Urban Greening Funding Program <i>(Förderprogramm Stadtgrün, Stadt Zürich 2024b)</i> Incentive based	Incentives for private property owners to ecologically enhance their outdoor spaces.	- Funding for the following projects: vertical greening, green roofs, ecological enhancement, de-sealing of existing areas, tree planting, and tree preservation. - One-time grants per funding measure amount to 50 percent of the total costs as stated in the final invoice, up to a maximum of CHF 1,000,000. - Free initial and feasibility consulting and support throughout the entire project.
Administrative Regulation on the Nature-Oriented Maintenance and Management of Urban Green and Open Spaces <i>(Verwaltungsverordnung über die naturnahe Pflege und Bewirtschaftung städtischer Grün- und Freiflächen, Stadt Zürich 2017)</i> Binding for the municipality	Nature-based maintenance and management of urban green spaces and open areas.	Various provisions, including those on plant protection products, the management of invasive alien species.



4

Results

4 Results

This section is structured as follows: first, the approaches of Geneva and the other cities across the four dimensions of natural habitats, ecological corridors, soil, and canopy will be compared and discussed. Second, the impact of other remaining municipal policies on biodiversity will be analyzed. Finally, the role and impact of subsidies will be discussed.

4.1 Comparison of Measures in Different Dimensions

It is important to note that in nature, the dimensions are interconnected with one another: for example, trees themselves can be natural habitats, and healthy soils can be seen as the foundation for natural habitats. Nevertheless, to ensure a clearer structure, we will discuss them separately.

4.1.1 Natural Habitats

The city of Geneva has set the goal to preserve and create natural habitats, both on small and large scales, in its biodiversity strategy. Through Measure 8, it aims to encourage natural habitats on buildings and to develop a maintenance guide. Measure 9 seeks to conserve existing areas with a high degree of naturality (*naturalité*) and to increase the average level of naturality from 1.67 to 3 city-wide (Ville de Genève 2025k).

Table 11 presents a comparative summary of the measures for natural habitats adopted in Geneva and the selected reference cities.

Table 11. Comparison of measures for natural habitats in Geneva and other cities

Topic	Geneva	Other cities
Targets	City-wide	According to sub-sectors (Zurich)
Greening and Natural Habitat Requirements	Green space ratios apply only to large plots, no ecological quality requirements	Green space ratios apply to all plot sizes and require ecological quality (Zurich)
Requirements for Municipal Construction and Renovation	No binding requirements	Required to meet target value of natural habitats (Zurich)
Maintenance of Municipal Green Spaces	Planned maintenance catalogue, biodiversity requirements only for certain spaces	Maintenance catalogue (Berlin, Zurich), biodiversity requirements for all spaces (Zurich)
OECMs	No designation of OECMs	Designation of OECMs (Kobe)
Community Gardens	Supported	Integration of community gardens into new districts (Berlin)
Wildlife-Friendly Buildings	Preservation of nesting sites, bird collision risks considered	Mandatory bird-safe glass and animal-friendly buildings in municipal construction projects (Zurich)
Green Roofs and Façades	No general requirements, but increasingly integrated into PLQs	Mandatory greening quotas (Kobe), mandatory ecologically valuable green flat roofs (Zurich)
Incentive Programs	Cantonal incentive program	Municipal incentive programs for ecological enhancements (Zurich), maintenance (Kobe) and preservation (Curitiba), proactive approach (Curitiba)
Public Programs	No broader public programs identified	Plant distribution initiative (Berlin)
Training and Information for Relevant Stakeholders	No dedicated training for planners, developers, architects	Guidelines, information sessions, and training programs for planners, developers and architects (Zurich)

In contrast to Geneva's city-wide target, Zurich not only aims for 15% of the urban settlement area to consist of ecologically valuable spaces, but also defines more specific sub-targets for different open space and urban structure categories, as shown in Figure 3 (Stadt Zürich 2024a). This approach adapts to the specific characteristics of different open spaces and urban structures, recognizing that their potential for natural habitats varies. For example, residential areas are more likely to support a higher share of ecologically valuable habitats than historic old towns.

Regarding legally binding provisions that could support these targets, Geneva sets green space ratios, but they apply only to certain plots and do not contain explicit biodiversity criteria. The *Règlement relatif aux plans d'utilisation du sol de la Ville de Genève* specifies that the rate of green or recreational space (*taux d'espace vert ou de détente*, 35% in sub-sector 2.2 and 40% in sub-sector 2.3) applies only to plots or groups of plots with a surface area exceeding 1,000 m², as well as to plots located within the perimeter of a local neighborhood plan (*Plan localisé de quartier*) where the total surface of the parcels exceeds 1,000 m². Moreover, it does not require the green spaces to be ecologically valuable (Ville de Genève 2007). In Zurich, greening ratios apply to all parcels within designated zones, regardless of size (Stadt Zürich 1991, as amended in 2024) and require overall ecological quality (Kanton Zürich 1975, as amended in 2025).

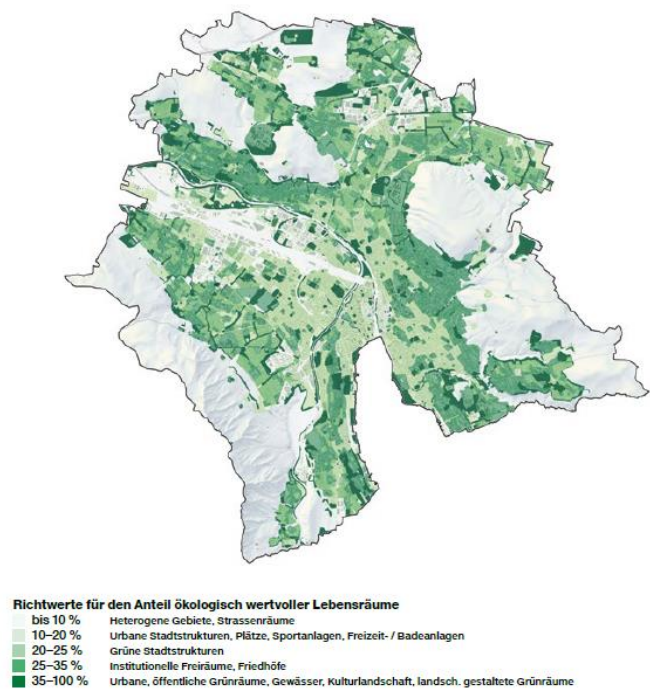


Figure 3. Sub-targets for ecologically valuable habitats in Zurich (Stadt Zürich 2024a, 52)

No binding obligations are imposed on the municipality itself to achieve the naturality target in construction projects: although the cantonal *Référentiel Biodiversité*, by establishing target values related to hemeroby (“Conversation with the Cantonal Office of Agriculture and Nature”) and the municipal biodiversity strategy can certainly exert political pressure, they remain non-binding.

By contrast, Zurich has established additional binding requirements for the creation of ecologically valuable habitats in municipal construction or renovation projects. The municipal real estate standard for environmentally sustainable and energy-efficient construction requires that building surroundings be designed as ecologically valuable habitats and green spaces should be ecologically valuable wherever usage allows (Stadt Zürich 2023). The urban nature specialist planning requires municipal projects to meet specific target values for ecologically valuable habitats and to preserve existing habitats where possible (Stadt Zürich 2024a).

These approaches can be understood as complementary: while binding target values ensure a minimum standard, the more qualitative approach allows projects to exceed these targets where feasible. Compliance with the real estate standard is assessed on a project-specific basis, and larger projects must include a biodiversity concept explaining why specific ecologically

valuable habitats were created, thereby ensuring that their selection takes into account the local context and species composition (“Interview with the Office for Building Construction of the City of Zurich,” March 4, 2026).

In this context, larger green spaces and parks are secured through the *Plan directeur cantonal* in Geneva (Canton de Genève 2024b), an approach that is highlighted as important by the other cities as well (“Interview with Senate Department for Mobility, Transport, Climate Protection and Environment, Berlin”; “Interview with the Municipal Secretariat for the Environment of Curitiba”).

In relation to the maintenance of municipally owned green spaces in Geneva, biodiversity requirements apply only to spaces under the responsibility of the *Service des espaces verts (SEVE)*. The *Règlement des espaces verts, préaux et places de jeux de la Ville de Genève* stipulates that SEVE must manage green spaces in a sustainable manner (Ville de Genève 2016a) and SEVE integrates biodiversity considerations into maintenance practices. However, there seems to be no documentation on it (“Communication with the Biodiversity Task Force,” 2026). The city also plans to establish a maintenance catalogue (Ville de Genève 2025l). Thus, these provisions are limited in scope, as they do not extend to green spaces overseen by other municipal entities.

Representatives from Berlin and Zurich have highlighted the importance of biodiversity-oriented maintenance across public green spaces. In both cities, the development of profile catalogues, detailing how different types of green spaces should be maintained according to biodiversity criteria, has proven valuable (for an example, see Figure 4, SeMVKU 2022; “Interview with Senate Department for Mobility, Transport, Climate Protection and Environment, Berlin”; “Interview with Grün Stadt Zürich on the Urban Nature Specialist Planning”). Moreover, Zurich offers training for staff and maintenance practices are required to ensure that the ecological value of open green spaces is preserved and - where possible - enhanced, and this applies to all municipal green spaces, regardless of which entity is responsible for their management (Stadt Zürich 2024a).

Currently, Geneva does not designate sites as Other Effective Area-Based Conservation Measures (OECMs), which are areas that require their own management strategy to preserve biodiversity. By contrast, Kobe actively designates sites as OECMs (“Interview with the Kobe City Biodiversity Conservation Division and Kobe University Expert”) and the representative



Figure 4. Profile catalogue in Berlin (SeMVKU 2022)

of the Berlin Nature Conservation Foundation has highlighted them as a very “powerful tool”, (“Interview with Berlin Nature Conservation Foundation”).

Although Geneva supports community gardens (Ville de Genève 2025e), the city does not seem to integrate them systematically into urban planning frameworks. Representatives from Berlin (“Interview with Senate Department for Mobility, Transport, Climate Protection and Environment, Berlin”) and the expert in Zurich (“Interview with a Nature Protection Organization, Zurich”) have highlighted them as highly valuable for biodiversity, particularly when managed without pesticides. In this respect, Berlin goes a step further by allocating space for community gardens wherever possible in the development of new urban districts (SeMVKU 2025).

In terms of integrating animals and their needs into buildings, in Geneva, and more broadly across Switzerland, nesting sites for building-dwelling species must be preserved (for an explanation of the legal bases see Müller et al. 2018). Further, while the *Référentiel Biodiversité* aims to discourage buildings from becoming traps for wildlife, it is not legally binding (“Conversation with the Cantonal Office of Agriculture and Nature”). The city’s *Direction du patrimoine bâti* is aware of the issue of bird collisions with windows and incorporates this consideration into its building practices (“Communication with the Biodiversity Task Force”). In the canton of Zurich, by contrast, legally binding requirements oblige both private and municipal actors to make glass surfaces visible to birds (Kanton Zürich 1975, as amended in 2025). Moreover, under the municipal real estate standard, municipal construction projects are required to ensure that buildings do not pose traps for animals and to create new nesting opportunities where appropriate (“Interview with the Office for Building Construction of the City of Zurich”).

There are no general legal requirements for green roofs or façades in Geneva, although such measures are increasingly incorporated into PLQs (see, for example, *Plan Localisé de Quartier* “Acacias 1”, Canton de Genève 2023b) and the PDCom plans to promote the expansion of green roofs across the city (Ville de Genève 2025d). By contrast, Kobe and Zurich have introduced generally applicable regulations: in Kobe, a certain proportion of roofs and façades must be greened (Kobe City 2025), and in Zurich, flat roofs, unless used as terraces, must be greened and designed to provide ecological value (Stadt Zürich 1991, as amended in 2024).

Regarding incentives and voluntary collaboration with private landowners, the city of Geneva largely relies on the cantonal incentive program, which provides financial support for several actions related to biodiversity (Canton de Genève 2025). The municipality itself does not operate a dedicated scheme or other related programs or initiatives. Other cities have developed their own program with different priorities. Zurich provides financial incentives for ecological enhancements and offers advisory services, but only supports measures that go beyond mandatory requirements (Stadt Zürich 2024b). This approach has been positively received and interest has grown, although authorities emphasize the need for continued outreach (“Interview

with Grün Stadt Zürich on the Urban Nature Specialist Planning”). Kobe provides annual financial support to a limited number of citizens for a broad range of biodiversity-related activities that not only include ecological enhancements but also ongoing maintenance (Kobe City 2025b).

Other cities have highlighted even more proactive measures. In Curitiba, the municipality, in collaboration with a local NGO, has mapped areas with native and biodiverse vegetation and proactively contacted landowners to offer incentives for conservation and management (“Interview with the Society for Wildlife Research for Environmental Education”). A related approach is being considered in Kobe, where the city is exploring a pilot scheme to lease private land to manage it directly as natural habitat (“Interview with the Kobe City Biodiversity Conservation Division and Kobe University Expert,” January 14, 2026).

Moreover, both Berlin and Kobe representatives emphasized targeted engagement, independently from incentives, with companies and housing cooperatives where they provide guidance and information on ecological enhancements (“Interview with Senate Department for Mobility, Transport, Climate Protection and Environment”; “Interview with Berlin Nature Conservation Foundation”; “Interview with the Kobe City Biodiversity Conservation Division and Kobe University Expert”). Finally, Berlin promotes biodiversity through competitions that reward exemplary front gardens and balconies (SeMVKU 2025), a call for entries is shown in Figure 5 (Bezirksamt Treptow-Köpenick 2026).



Figure 5. Call for entries for the competition on nature-friendly balconies in Treptow-Köpenick, Berlin (“Small spaces, big impact! The balcony competition for Treptow-Köpenick”, Bezirksamt Treptow-Köpenick 2026).

The city of Geneva currently does not offer additional programs aimed at the broader public to promote ecological enhancement. In Berlin, botanical institutions have propagated rare wild

plants and distributed them to interested residents, who then planted them in the city or on their balconies (SeMVKU 2022).

Finally, Geneva also lacks information and training programs for key stakeholder groups with strong potential to integrate biodiversity into urban environments but who require the necessary knowledge to do so effectively, such as planners, developers and architects. Zurich, by contrast, complements its legal requirements for creating ecologically valuable habitats with guidelines for implementation, information sessions and training events for project managers, real estate professionals, planners and architects (Stadt Zürich 2024a).

4.1.2 Ecological Corridors

The city of Geneva's objectives related to ecological corridors are part of the broader goal of developing ecological infrastructure within the biodiversity strategy, which seeks to restore and enhance its functionality. In concrete terms, this involves strengthening connectivity between elements of the territory (Ville de Genève 2025l). Furthermore, through its PDCom, the city plans to preserve 544 hectares of ecological infrastructure (Ville de Genève 2025d).

Table 12 presents a comparative summary of the measures for ecological corridors adopted in Geneva and the selected reference cities.

Table 12. Comparison of measures for ecological corridors in Geneva and other cities

Topic	Geneva	Other cities
Mapping	Mapping based on few species	Mapping based on many species (Berlin), indicating functionality (Zurich)
Requirements to Preserve and Improve Ecological Corridors	No framework besides PDCom-engagement and LFaune	Municipality required preserve and enhance ecological corridors in development projects (Zurich), plant trees along streets (Curitiba)
Coordinated Ad-Hoc Projects for Improvement	No such projects identified	Installation of bee hives (Curitiba), planting of trees (Kobe)
Incentive Programs	Cantonal incentive program	Municipal incentives (Curitiba)

Although Geneva has a mapping of ecological corridors, it is limited to certain species and does not indicate whether connectivity is functional ("Communication with the Biodiversity Task Force"). In contrast, other cities have established a comprehensive ecological corridor mapping that serves as a basis for measures to improve connectivity. As shown in *Figure 6*, Berlin has developed a mapping of current ecological corridors for 34 species, as well as a map outlining how these corridors should be further developed (SeMVKU 2017a). Zurich has produced a mapping of the permeability of its ecological corridors, but further highlights that each situation must be analyzed at the level of individual corridor sections (Stadt Zürich 2024a).

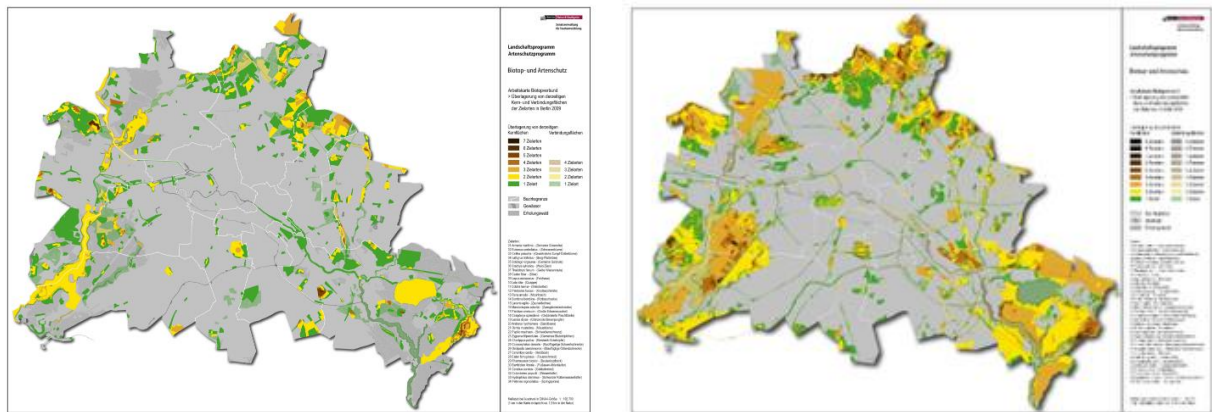


Figure 6. Mapping of current (left) and potential (right) ecological corridors and natural habitats in Berlin (SeMVKU 2017)

From a legal perspective, Geneva does not have an overarching framework specifically dedicated to the preservation and enhancement of ecological corridors, even though the cantonal *Loi sur la faune* and its *Règlement d'application* prohibit harm to animal movement (Canton de Genève 1993, 1994). None of the analyzed cities has a law establishing generally applicable obligations in this area. Notably, the city of Zurich considered but rejected such a framework, judging the regulatory intervention disproportionate to the ecological benefits and arguing that existing habitat requirements already partly support connectivity (Stadt Zürich 2026e).

Concerning obligations for the city, while Geneva commits to preserving 544 hectares of municipal ecological infrastructure, including elements relevant to ecological connectivity (Ville de Genève 2025d), the implementation mechanisms are not clearly defined, and this commitment currently lacks a more specific binding legal basis. Zurich has developed target images of desired



Figure 7. Target images for ecological corridors in Zurich (Stadt Zürich 2024a, 60, 62, 66)

ecological corridors, which serve as binding references for municipal construction projects: such projects must maintain existing corridors and enhance them where they are deficient, according to the target images (Figure 7, Stadt Zürich 2024a). In Curitiba, the municipal environmental policy mandates the municipality to create linear parks (Prefeitura de Curitiba 2021), which increase connectivity and the municipal climate law incentivizes the municipality to plant trees along streets to connect habitats (Prefeitura de Curitiba 2025a).

In contrast to other cities, Geneva does not implement coordinated ad-hoc projects to enhance ecological connectivity. Curitiba, for example, has installed bee hives for native stingless bees in public spaces to increase connectivity between green areas (Prefeitura de Curitiba 2022), while Kobe increases connectivity through tree planting (“Interview with the Kobe City Biodiversity Conservation Division and Kobe University Expert”).

Geneva likewise lacks specific incentives to support ecological connectivity corridors. While the cantonal incentive program can certainly help enhance connectivity on private land, the city does not have its own program. In comparison, Curitiba promotes the creation of urban green corridors across contiguous private properties by offering incentives (Prefeitura de Curitiba 2015b).

4.1.3 Canopy

The city of Geneva has several targets relating to canopy development. The municipal biodiversity strategy aims to conserve and strengthen a high-quality tree canopy while also diversifying tree species (Ville de Genève 2025l). In parallel, the municipal climate strategy sets a target of achieving a canopy cover of 30%, with an interim goal of at least 25% by 2030 (Ville de Genève 2022d). The cantonal *Stratégie d’arborisation de l’aire urbaine genevoise* further specifies canopy cover targets to be achieved in different sub-sectors of the city (Canton de Genève 2024c).²⁴

Table 13 presents a comparative summary of the measures for canopy development adopted in Geneva and the selected reference cities.

²⁴ Geneva’s overall targets and the cantonal sub-targets are comparable to – if not more ambitious than – those adopted in other cities. Zurich, for example, has set a canopy cover target of 25% by 2050 and defines specific objectives for different types of open spaces and urban categories (Stadt Zürich 2021). The city representative emphasized this approach as important because it adapts planting targets to neighborhood-specific physical constraints (“Interview with Grün Stadt Zürich on the Urban Trees Specialist Planning,” March 5, 2026).

Table 13. Comparison of measures for canopy in Geneva and other cities

Topic	Geneva	Other cities
Planting Requirements for New Construction and Renovation Projects	No binding requirements	Mandatory planting and preservation requirements (Kobe, Curitiba), tied to canopy targets (Zurich)
Tree Felling Authorization	Authorization required for trees >45cm circumference	Authorization required for all trees (Curitiba)
Grounds for Tree Removal	Broad criteria for authorization	Similar broad criteria (Berlin, Zurich)
Compensation for Tree Removal	1 tree for 1 removal, replacement value or compensation payment	Similar
Ecological Value of Trees in Compensation and Replacement/Planting	Not explicitly considered	Integration and consideration of ecological value of trees in compensation and planting process (Berlin, Zurich)
Standards for Compensation Planting	Requirements for planting pits and soil quality	Similar
Maintenance	General description	Extensive list of measures (Berlin)
Planting Distance	Larger required distance between trees and property lines	Smaller required distances (Zurich)
Incentive Programs	Cantonal incentives for private tree planting	Municipal incentives for tree planting (Zurich), distribution of seedlings (Curitiba)

Geneva does not have binding planting requirements for new construction and renovation projects to reach its canopy targets, although the *Référentiel Biodiversité* is intended to encourage such measures (“Conversation with the Cantonal Office of Agriculture and Nature”). By contrast, in Kobe (Kobe City 2018), Curitiba (Prefeitura de Curitiba 2000), and Zurich, legal frameworks require tree planting or preservation in connection with development projects. Zurich stands out by requiring that municipal construction and renovation projects should aim for the canopy sub-targets defined in the strategy (Grün Stadt Zürich 2021). Further, the revision to the municipal construction and zoning ordinance aims to extend minimum canopy coverage requirements (derived from the urban tree specialist planning) to private construction and renovation projects (Stadt Zürich 2026e).

Regarding tree felling, the *Règlement sur la conservation de la végétation arborée* (RCVA, Canton de Genève 1999b) generally prohibits the felling of trees with a trunk circumference exceeding 45 cm without authorization. In this regard, Geneva is already stricter than Berlin and Zurich, which apply larger circumference thresholds (Land Berlin 1982; Stadt Zürich 2025a). However, according to a Zurich representative, such thresholds may create perverse incentives to remove trees before they reach the regulated size (“Interview with the Office for

Building Construction of the City of Zurich”). Curitiba represents a more absolute approach by prohibiting the unauthorized removal of any tree, regardless of its dimensions (Prefeitura de Curitiba 2000). While this approach would protect a larger number of trees from being felled, it is likely to entail higher administrative costs due to the increased number of authorization requests.²⁵

The Canton of Geneva sets out possible grounds for authorizing tree felling (Canton de Genève 2008a)²⁶ that are similar to those in Zurich (Stadt Zürich 2025a) and Berlin (Land Berlin 1982). However, because they are formulated in broad terms and depend on implementation and interpretation, direct comparison is difficult.

In Geneva, compensation is required for tree removal, generally through one-for-one replanting or, where removal is linked to planning and construction, through a replacement value that is reinvested on-site or paid into a compensation fund if replanting is not possible (Canton de Genève 1999b). This approach aligns with Berlin, which also permits payment of a replacement value (Land Berlin 1982), and with Zurich, where not all removed trees are required to be replaced despite the absence of monetary compensation (Stadt Zürich 2025a).

When assessing compensation for felled trees or determining replacements and new plantings, the ecological value of trees is not explicitly considered in Geneva.²⁷ In construction-related felling, replacement values are based on species classification (difficulty of propagation and cultivation, growth time, and rarity), aesthetic and functional value (landscape role, health, and dendrological significance), site location (with higher value assigned in urban areas), and trunk circumference as an indicator of age and growth (Canton de Genève 2020; Secrétariat du Grand Conseil 2016). Although species rarity and dendrological characteristics may indirectly relate to biodiversity, they are framed primarily in aesthetic, cultural, and landscape terms, and biodiversity is not an explicit objective.

For replanting, the *Directive concernant la plantation et l’entretien des arbres* encourages species diversification and the use of native species in rural areas. In other zones, priority is given to dendrologically²⁸ suitable species adapted to site conditions and landscape integration, considering historical, cultural, and management constraints (Canton de Genève 2024a). The

²⁵ Similarly, maintenance pruning carried out in accordance with official directives does not require a permit; however, more extensive pruning does (Canton de Genève 1999b). This is similar to the other cities: in Curitiba, for example, the law expressly prohibits “drastic pruning” (removal of more than 50% of the crown’s green mass) of trees on public or private properties (Prefeitura de Curitiba 2000).

²⁶ The possible grounds are the following: risks and impacts of the tree on property and people; the type and scale of the proposed construction or development; enhancement of other trees or maintenance of a larger vegetation system; phytosanitary prevention; and compliance with laws, easements, or agreements, provided that harm can be demonstrated (Directive concernant la conservation des arbres: Critères de maintien et motifs d’abattage, Canton de Genève 2008a).

²⁷ Interestingly, it is indicated as a motive for tree retention (Canton de Genève 2008a).

²⁸ “Dendrology, study of the characteristics of trees, shrubs, lianas, and other woody plants. Dendrology is generally considered to be a branch of systematic botany or forestry and is primarily concerned with the taxonomy of woody species.” (Britannica 2026)

PSV 2030 further requires the city to maintain taxonomic diversity by selecting species whose frequency in the municipality is below 5% (Ville de Genève 2019).

Despite making implicit reference to biodiversity, this approach contrasts with other cities that give greater consideration to biodiversity: Berlin, for example, explicitly integrates the ecological value of trees into valuation and compensation processes (Land Berlin 1982). In Zurich, compensation plantings are intended to provide an ecological compensation effect that is as equivalent as possible, or even greater than the original, by favoring native species with high biodiversity value (Stadt Zürich, n.d.-a). For municipal tree planting, a biodiversity index serves as an “important instrument” in selecting species (“Interview with Grün Stadt Zürich on the Urban Trees Specialist Planning”). This index assesses how well a tree species supports biodiversity: the higher the index value, the more suitable the species is for providing habitat and resources for native fauna, as well as for lichens and mosses (Figure 8, Stadtökologie, Wildtierforschung, Kommunikation 2021).

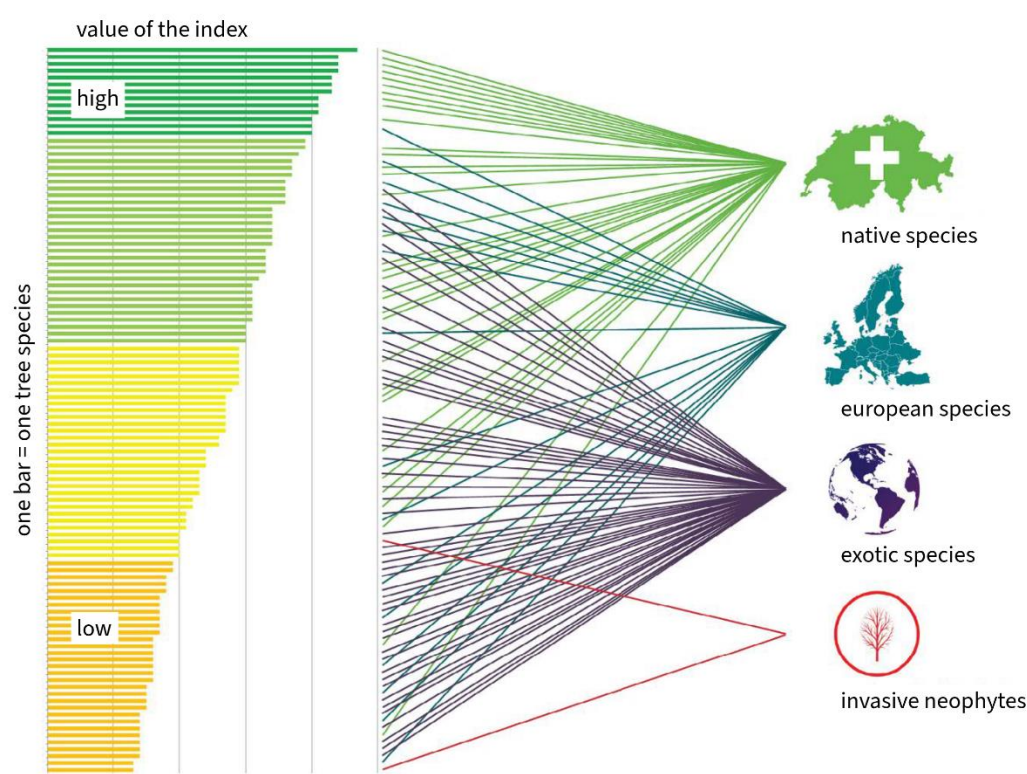


Figure 8. Biodiversity index for trees used in the city of Zurich (Stadt Zürich 2021, 95, adapted by the authors for translation)

The *Directive concernant la plantation et l'entretien des arbres* specifies the conditions for compensation plantings: it sets out requirements for planting pits and the quality of the various components and soil mixes (Canton de Genève 2024a). This is similar to other cities such as Zurich (Kanton Zürich 1975, as amended in 2025).

In Geneva, the RCVA requires that trees be preserved with the greatest care, but the description is very general (Canton de Genève 1999b). Berlin, by contrast, also prohibits damage to the tree or any part of it, but provides a more extensive list of measures concerning the protection of the root zone (Land Berlin 1982).²⁹ At first sight, the Berlin enumeration appears more comprehensive. However, it is unclear how the Geneva provisions are applied in practice, making it difficult to assess how the two approaches differ.³⁰

Although Geneva regulates planting distances to neighboring property (Canton de Genève 2012a)³¹, in Zurich, the required distances are smaller (Kanton Zürich 1911, as amended in 2026).³² This allows for greater tree planting density.

Regarding incentives, OCAN allocates subventions to private actors for tree planting (Canton de Genève 2026a). However, the city of Geneva does not have its own program. Zurich, on the other hand, directly funds the planting of trees through its incentive program (Stadt Zürich 2024b). Moreover, in a pilot project, the city identified sites with tree-planting potential on land owned by housing cooperatives, reached out to them and planted the trees with their collaboration (“Interview with Grün Stadt Zürich on the Urban Trees Specialist



Figure 9. Distribution of free saplings in Curitiba (Bem Paraná 2026)

Planning”). Curitiba provides free native saplings and professional guidance for citizens, recommending the most suitable species for each area (Figure 9, Prefeitura de Curitiba 2025b; “Interview with the Municipal Secretariat for the Environment of Curitiba”; Bem Paraná 2026).

²⁹For all protected trees, it strictly prohibits harmful everyday activities in the root zone, such as the washing of vehicles or machinery, and the storage or use of salt, acid, oil, chemicals, and wastewater; it also requires to maintain the permeability and aeration of the surface soil. When backfilling excavated pits, suitable topsoil should be used and organic matter should be added; compaction is prohibited. It further prohibits excavations, trenching, embankments, and the laying of pipes or cables in the direct vicinity of protected trees (Land Berlin 1982).

³⁰Geneva has further provisions to protect trees during construction work (Canton de Genève 2008b). This is similar to other cities such as Berlin and Zurich (Land Berlin 1999, n.d.; Stadt Zürich 2021).

³¹Within 50 cm of the property boundary, woody plants are prohibited; between 0.5 m and 2 m from the boundary, plants must not exceed 2 m in height; beyond 2 m, height limits are set at 6 m for plants between 2-5 m from the boundary and 12 m for those between 5-10 m (Canton de Genève 2012a).

³²Forest and large ornamental trees may not be planted closer than 4 m to the neighboring boundary, and field fruit trees and smaller ornamental trees not closer than 2 m, measured from the trunk center.

4.1.4 Soil

Geneva's municipal biodiversity strategy sets the goal of ensuring no net loss of living and functional soils and promotes de-impermeabilization. To achieve this, the city aims to increase the proportion of *pleine terre* – an area devoid of any construction above or below ground and unpaved³³ – from 34.2% to 40% (Measure 5) (Ville de Genève 2025k). Moreover, across its municipal framework, it established other goals such as removing at least 10,000 m² of pavement per year in public areas or similar zones to renaturalize urban soils (Ville de Genève 2025f); converting half of the surface parking spaces, and one-third of the spaces in residential areas, into public space dedicated to greening, active mobility and recreational uses (Ville de Genève 2022c); and ensuring that outdoor spaces in new PLQs include at least 30% open ground to create rich vegetated areas that support biodiversity (Ville de Genève 2025d).

Table 14 presents a comparative summary of the measures for soil adopted in Geneva and the selected reference cities.

Table 14. Comparison of measures for soil in Geneva and other cities

Topic	Geneva	Other cities
Pleine terre and permeability	Plots or groups of plots of 2,000m ² : half of green spaces should be <i>pleine terre</i>	Permeability parameters across all plot sizes (Curitiba) or minimization (Zurich)
Underground Construction	Limited at 20% in Zone 5 No mandatory restrictions for other areas	Restricted to surface of building footprint or limited at 50% to 60% depending on the zone (Curitiba)
Parking	Ground level, above ground, underground, Minimum and maximum ratios, Compensation principle	No general minimum quota (Berlin)
Incentive Programs	Cantonal program	Municipal program to encourage de-sealing through financial support (Zurich)
Ad-Hoc Projects	De-seal parking spaces and pavement removal	Requalification of sidewalks to expand permeable surfaces (Curitiba)

Geneva's current cantonal and municipal legislation reveals gaps. At the cantonal level, the *Loi sur les constructions et les installations diverses (LCI)* stipulates that a surface in *pleine terre* must be preserved on the plot subject to a building permit, but does not specify a minimum size or proportion for this open ground surface (Canton de Genève 1988). At the municipal level, the *Règlement relatif aux plans d'utilisation du sol* provides that, for plots or groups of plots with an area exceeding 2,000 m², at least half of the area developed as green space or relaxation area must consist of *pleine terre* (Ville de Genève 2008).

³³ "Art. 59 Rapport des surfaces. ^{3bis}Une surface en pleine terre, à savoir dénuée de toute construction en surface ou en sous-sol et non revêtue, de la parcelle ou du groupe de parcelles considérées par la demande d'autorisation de construire doit être préservée." (Canton de Genève 1988)

To address this, other cities apply requirements to all plot sizes, although their regulations generally focus on surface permeability rather than mandating *pleine terre*. Zurich, for example, legally requires the “minimization” of soil sealing across all developments (Kanton Zürich 1975, as amended in 2025; Stadt Zürich 2023). Curitiba, in contrast, defines construction parameters by area, with most subdivisions requiring a minimum permeability rate of 25% (Prefeitura de Curitiba 2019).

Framing objectives as “minimizing” soil sealing, rather than setting fixed percentages, has advantages and drawbacks. Zurich’s representative noted that fixed benchmarks are often treated as maximums, while open-ended requirements can encourage teams to achieve “the maximum of what is possible.” However, without clear thresholds, what counts as sufficient minimization remains discretionary and often results in compromises when competing requirements arise (“Interview with the Office for Building Construction of the City of Zurich”).

The goal of *pleine terre* also directly conflicts with the lack of provisions regarding underground construction in Geneva. The LCI limits underground structures at 20% of the parcel surface only in Zone 5 (residential villa zones), meaning that underground expansion remains unrestricted elsewhere (Canton de Genève 1988). Likewise, while some PLQ incorporate such restrictions (see, for example, *Plan Localisé de Quartier “Les Vernets”*, Canton de Genève 2017), it is not clear whether they systematically integrate them. Representatives from Zurich identified the inability to adequately restrict underground construction as a major weakness in their own framework and expressed a desire for more effective regulatory tools to limit subsoil excavation (“Interview with a Nature Protection Organization, Zurich”; “Interview with Grün Stadt Zürich on the Urban Nature Specialist Planning”; “Interview with Grün Stadt Zürich on the Urban Trees Specialist Planning”).

Curitiba successfully mitigates this by restricting all underground construction: depending on the zone, the underground footprint is tied to the surface building footprint or capped at 50% to 60% in residential areas (Prefeitura de Curitiba 2023).

Parking mandates also conflict with *pleine terre* targets. The cantonal *Règlement relatif aux places de stationnement sur fonds privés (RPSFP)* states that parking spaces may be provided at ground level, above ground or underground and sets minimum parking ratios for residential buildings and maximum for commercial buildings. Although the law permits the reduction in ratios, it is subject to specific criteria and must be obtained through a derogation request (Canton de Genève 2023c). In *zones de développement*, garages must be built underground, which allows permeable surfaces but still conflicts with the *pleine terre* objective (Canton de Genève 1978). In addition, the “compensation principle” (*principe de compensation*) provided by the *Loi d’application de la législation fédérale sur la circulation routière (LaLCR)* requires that any surface parking removed from public land must be replaced elsewhere (Canton de Genève 1987). This makes the net elimination of parking spaces on public ground very difficult.

By contrast, other cities discourage parking spaces, such as Berlin, which does not establish a general minimum quota of car parking spaces for any building, except for the provision of a sufficient number and size of parking spaces for people with mobility impairments (Land Berlin 2005).

Moreover, even though there is a cantonal incentive program, the city of Geneva lacks municipal incentives to encourage private property owners to de-seal already impermeable parcels. In contrast, Zurich addresses this through its Urban Greening funding program, which provides financial support to private owners for the de-impermeabilization of existing areas (Stadt Zürich 2024b).

Finally, while Geneva focuses on de-sealing parking spaces and removing pavement as more *ad-hoc* projects, Curitiba specifically promotes the requalification of sidewalks to expand permeable surfaces (Prefeitura de Curitiba 2025a), for example, by avoiding fully concreted pavements and maintaining strips of natural soil to absorb rainwater.

4.2 Analysis of the Remaining Policies

A detailed analysis of the relevant regulations is provided in the following link: [Analysis of relevant regulations](#).

Urban planning regulations (LC 21 212, LC 21 213, LC 21 214, LC 219.1, LC 21 252) generally make limited or no reference to biodiversity and do not sufficiently integrate it. As a result, they are unlikely to actively promote biodiversity. Within these regulations, Regulation LC 21 213 stands out as it prohibits new constructions around the lake, which is a positive measure for biodiversity protection. However, its numerous exceptions significantly weaken this effect (Ville de Genève 2016b).

Policies governing the use of public domain and municipal facilities rarely refer to environmental protection or biodiversity. One exception is the Eaux-Vives beach regulation, which identifies a renaturation zone and requires the preservation of natural elements and vegetation (Ville de Genève 2022a). In contrast, the absence of such references in other regulations may permit practices and behavior that are detrimental to biodiversity.

The analysis of the policies of the city of Geneva reveals that the protection of biodiversity is not fully integrated across all municipal spheres.

4.3 Analysis of Subsidies

4.3.1 Assessment of Regulations related to Subsidies and Subsidy Agreements

The assessed regulations and their annexes rarely contain environment- or biodiversity-related conditions. The general regulation on the allocation of subsidies (LC 21 195, Ville de Genève 2015b) does not set out conditions concerning sustainable development, the environment, or biodiversity, and its annex (Ville de Genève 2023) and corresponding directive (Ville de Genève 2015a) do not either. The more specific regulations on subsidies for different kinds and their annexes likewise generally do not contain such conditions. Only two documents make very broad references to sustainable development or biodiversity.

The regulation on subsidies in international solidarity (LC 21 591, Ville de Genève 2012) specifies that biodiversity constitutes one of Geneva's priorities in international cooperation. The annex to the regulation on subsidies for holiday camp organizations (Ville de Genève 2020a) states that organizations should engage in sustainable development. However, this is a very broad formula encompassing many different components and therefore does not make explicit reference to environmental factors.

The subsidy agreements analyzed generally include a reference to sustainable development and some environmentally-related criteria that the organizations commit to respecting. The criteria differ from case to case, which is appropriate given the different types of organizations and activities. The conditions concern sustainable energy use and sustainable transport for organizations, proper waste management and restrictions on physical alterations for event-related agreements.

There appears to be political willingness within the city to further integrate environmental criteria into subsidy allocation: The Climate and Environment Action Plan (*Programme d'action climat et environnement – PACE*) of the Department of Culture and Digital Transition (*Département de la culture et de la transition numérique*) calls for adapting subsidy conditions to include environmental transition values (Ville de Genève 2025c).

Discussions at the Coord21-workshop have highlighted that the introduction of such criteria must be accompanied by support for beneficiaries, as they need to develop the necessary capacities and have access to information on how to comply with these requirements.

4.3.2 Impact of Allocated Subsidies on Biodiversity

As shown in Figure 10 and Table 15, the results reveal substantial differences between departments and impacts (a more detailed analysis can be found in the annex). The total amount of monetary subsidies identified with slightly positive or positive impacts on biodiversity is extremely low: 5,234,740 CHF, representing roughly only 2% of the monetary subsidies.

Moreover, the share allocated to organizations specifically dedicated to biodiversity is likely to be even smaller. These subsidies are mainly allocated by the Departments of Finance, Environment and Housing, and of Planning, Construction and Mobility for species protection, sustainable mobility and urban agriculture.

Organizations such as the *Association pour la Sauvegarde du Léman*, *Pro Natura*, *Plateforme Nature et Paysage Genève*, *Zero Waste Switzerland*, *Association Genève Cultive*, *Genèv'Roule* and *ProVélo* are responsible for the positive subsidy impacts identified. The largest share is allocated to the *Subventions Plan Climat*, with 994,690 CHF, followed by the *Programme G'innove* with 440,153 CHF. The largest share of slightly positive subsidies identified concerns public transport subsidies allocated to the TPG unireso abonnement and Noctambus, totalling 2,070,282 CHF.

Figure 10. Impact of monetary subsidies on biodiversity, by department, non-monetary subsidies are not included. (source: authors)

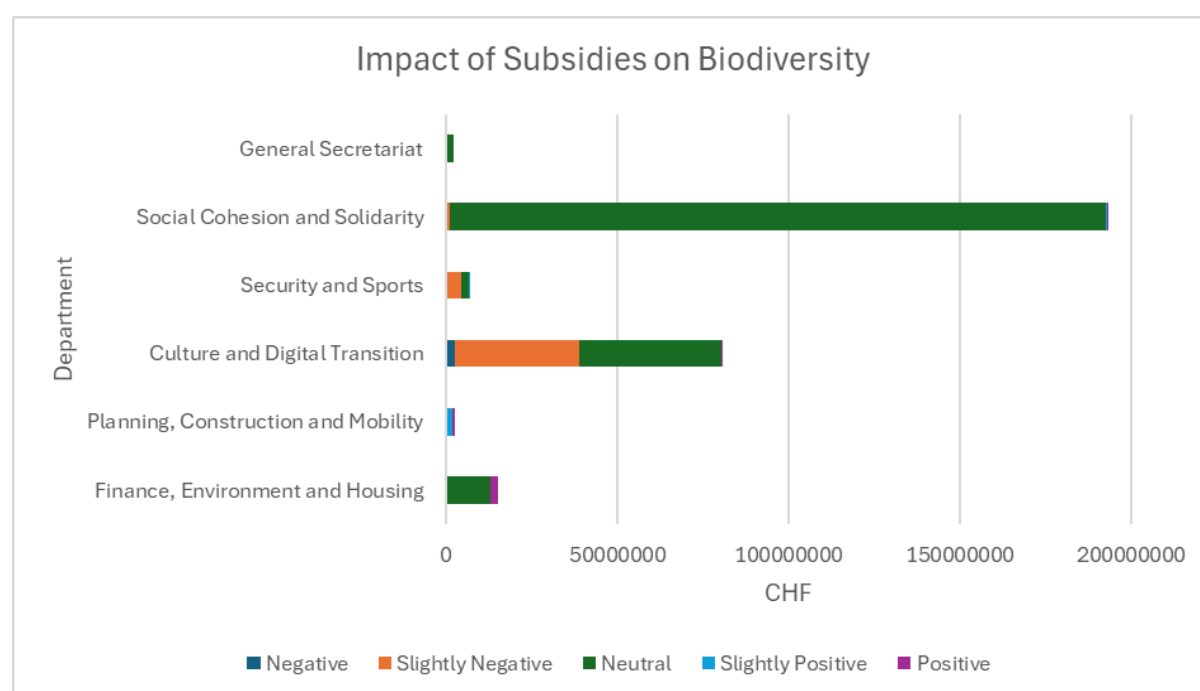


Table 15. Impact of monetary subsidies by department, expressed in CHF and as a percentage of the total amount of monetary subsidies allocated (source: authors)

Department/ Impact	Negative	Slightly Negative	Neutral	Slightly Positive	Positive	TOTAL
Finance, Environment and Housing	-	30,600	13,026,060	30,600	2,236,338	15,323,598
	-	0.01%	4.33%	0.01%	0.74%	5.09%
Planning, Construction and Mobility	107,054	-	164,540	1,872,640	458,700	2,602,934
	0.04%	-	0.05%	0.62%	0.15%	0.87%
Culture and Digital Transition	2,947,590	35,933,320	41,481,518	171,000	100,000	80,633,428
	0.98%	11.94%	13.79%	0.06%	0.03%	26.80%
Security and Sports	438,300	4,344,744	2,011,130	116,000	-	6,910,174
	0.15%	1.44%	0.67%	0.04%	-	2.30%
Social Cohesion and Solidarity	-	1,310,893	191,420,788	197,642	51,820	192,981,143
	-	0.44%	63.63%	0.07%	0.02%	64.15%
General Secretariat	-	250,000	2,147,944	-	-	2,397,944
	-	0.08%	0.71%	-	-	0.80%
TOTAL	3,492,944	41,869,557	250,251,980	2,387,882	2,846,858	300,849,221
	1.16%	13.92%	83.18%	0.79%	0.95%	100.00%

Negative impacts arise primarily from outdoor cultural events subsidized by the Department of Culture and Digital Transition and sports clubs practicing high-impact activities subsidized by the Department of Sports and Security. However, this amount remains rather small (around 3.5 million CHF) in comparison to the total amount of monetary subsidies allocated by the city.

The largest amounts allocated, particularly those of the Departments of Social Cohesion and Solidarity and of Culture and Digital Transition, tend to generate overall neutral to slightly negative impacts, mainly due to indirect pressures such as energy use, resource consumption and mobility associated with large institutions and services.

It is also important to distinguish between the impact of individual beneficiaries and the cumulative effect of all subsidized entities. Many organizations, particularly in the Departments of Culture and Digital Transition and of Social Cohesion and Solidarity, are assessed as having a neutral impact when considered individually. However, because so many organizations receive subsidies, their combined indirect pressures can nonetheless amount to a significant overall impact.



5

Conclusion

5 Conclusion

In response to ongoing environmental degradation and biodiversity loss, the city of Geneva has adopted a biodiversity strategy aimed at reversing these trends, following the example of the Canton of Geneva, which had already adopted its own strategy. This initiative demonstrates a proactive commitment to the protection and conservation of biodiversity.

However, the comparative analysis with other cities, as well as the assessment of Geneva's broader municipal framework and subsidy system, highlights several limitations in the city's current framework for improving biodiversity outcomes. These include the absence of sufficiently binding obligations for both municipal and private actors, limited incentive mechanisms and targeted programs and a weak integration of biodiversity criteria into broader municipal policies and subsidy schemes. This is particularly notable given that Geneva's municipal biodiversity strategy defines clear objectives across key dimensions, including natural habitats, ecological corridors, canopy and soil (Ville de Genève 2025k).

Across all analyzed dimensions, a recurring gap emerges when comparing Geneva's approach with that of other cities: biodiversity objectives and considerations are not consistently translated into binding requirements for either municipal or private actors. Although instruments such as the *Référentiel Biodiversité* and the municipal biodiversity strategy can certainly exert pressure on municipal actors, they are not mandatory. In contrast, the other cities highlighted that binding provisions, for the municipality itself and for private owners, are essential for improving biodiversity outcomes and that the absence of such instruments represents a major implementation challenge.

In the field of natural habitats, Geneva applies green space ratios that can support ecological objectives, but these are limited to larger parcels and do not systematically require ecological quality standards. Moreover, there are no general obligations for ecologically valuable green roofs or façade greening and the integration of animals' needs into buildings remains limited. While maintenance of public green spaces does include biodiversity criteria, this is not applied uniformly across all public green areas. By contrast, cities such as Zurich and Curitiba extend green space ratios to all plot sizes and Zurich also requires defined ecological quality standards. Other cities further integrate biodiversity into the built environment through obligations for green roofs (Kobe and Zurich), bird-safe building design (Zurich), and measures to prevent ecological traps for wildlife (Zurich).

Regarding ecological corridors, Geneva lacks a comprehensive and functional mapping of connectivity networks and does not have a strong legal framework ensuring their implementation beyond instruments such as the *Lfaune* or the *PDCOM*. As a result, ecological corridors are not systematically integrated into urban development processes. In comparison, other cities have developed more detailed mapping systems that assess ecological connectivity

and they embed binding obligations into municipal construction and planning processes to preserve and strengthen the ecological corridors.

In terms of canopy development, Geneva has developed a relatively dense strategic and regulatory framework; however, it lacks binding provisions ensuring the achievement of the 30% canopy target. Furthermore, the ecological value of trees is not systematically integrated into decision-making processes regarding tree removal and replanting. By contrast, Zurich not only establishes canopy targets for municipal actors but plans to extend such obligations to private actors, while also incorporating biodiversity criteria into species selection.

With respect to soil, Geneva includes provisions on open ground (*pleine terre*), but these remain fragmented and are applicable only to plots exceeding 1,000 m², or to plots located within localized neighbourhood plans in which the combined area of the plots exceeds 1,000 m². In addition, the absence of limitations on underground construction, combined with conflicting parking policies (minimum requirements on private land and compensation obligations on public land) creates pressures that are not fully aligned with soil protection objectives. By contrast, other cities apply soil protection rules more consistently across parcel sizes and introduce stronger restrictions on underground construction (Curitiba), as well as policies aimed at reducing parking provision (Berlin).

Geneva also lacks programs and initiatives that could promote biodiversity across the four analyzed dimensions, most importantly, an incentive scheme for private landowners. While the canton of Geneva has an incentive scheme, the city itself does not. This is especially notable given the absence of binding requirements for private owners, meaning that biodiversity enhancement on private land is neither required nor incentivized by the city. By contrast, other cities have developed targeted incentive programs for ecological enhancement, long-term maintenance and the preservation of biodiverse areas. They often proactively reach out to property owners and housing cooperatives to encourage participation. Other cities also complement their frameworks with initiatives such as the distribution of seedlings to citizens (Berlin and Curitiba) and training programs for architects and urban planners (Zurich).

The assessment of the broader municipal framework shows that biodiversity considerations remain unevenly integrated into broader municipal policies. In urban planning, the use of public space and municipal facilities, environmental objectives are only rarely addressed, which may allow for practices or behaviors that are potentially harmful to biodiversity.

Similarly, in the field of subsidies, the integration of biodiversity criteria remains weak. Only around 2% of the total amount of monetary subsidies is allocated to beneficiaries or activities that have a positive impact on biodiversity. While only around 1% of the total subsidy amount is allocated to beneficiaries with a direct negative impact on biodiversity, the remaining subsidies, given the overall volume of funding and the absence of environmental criteria, may nevertheless generate significant indirect negative impacts on biodiversity through energy and resource consumption.

Conclusion

Face à la dégradation continue de l'environnement et à la perte de biodiversité, la Ville de Genève a adopté une stratégie biodiversité visant à inverser ces tendances, à l'instar du canton de Genève qui avait déjà adopté sa propre stratégie. Cette initiative témoigne d'un engagement proactif en faveur de la protection et de la conservation de la biodiversité.

Néanmoins, l'analyse comparative avec d'autres villes, ainsi que l'évaluation du cadre municipal global et du système de subventions de la Ville de Genève, mettent en évidence trois limites principales dans le cadre actuel de la ville pour améliorer les résultats en matière de biodiversité. Premièrement, le cadre existant n'impose pas d'obligations suffisamment contraignantes aux acteurs municipaux ou privés. Deuxièmement, les mécanismes d'incitation et les programmes ciblés sont limités. Troisièmement, les considérations relatives à la biodiversité restent faiblement intégrées dans les politiques municipales générales et les dispositifs de subventions. Cela est d'autant plus notable que la Stratégie Municipale Biodiversité définit des objectifs clairs dans des domaines clés, notamment les habitats naturels, les corridors écologiques, la canopée et les sols (Ville de Genève 2025k).

Dans toutes les dimensions analysées, un écart récurrent apparaît lorsque l'on compare l'approche de Genève à celle d'autres villes : les objectifs et les considérations en matière de biodiversité ne se traduisent pas systématiquement par des exigences contraignantes, que ce soit pour les acteurs municipaux ou privés. Bien que des instruments tels que le Référentiel Biodiversité et la Stratégie Municipale Biodiversité puissent certes exercer une pression sur les acteurs municipaux, ils ne sont pas obligatoires. En revanche, les autres villes ont souligné que des dispositions contraignantes, tant pour la municipalité elle-même que pour les propriétaires privés, sont essentielles pour améliorer les résultats en matière de biodiversité et que l'absence de tels instruments représente un défi majeur pour la mise en œuvre.

Dans le domaine des habitats naturels, Genève applique des ratios d'espaces verts susceptibles de soutenir les objectifs écologiques, mais ceux-ci se limitent aux grandes parcelles et n'imposent pas systématiquement de normes de qualité écologique. De plus, il n'existe aucune obligation générale concernant les toitures végétalisées ou la végétalisation des façades présentant un intérêt écologique, et la prise en compte des contraintes sur les animaux à proximité des bâtiments reste limitée. Si l'entretien des espaces verts publics intègre bien des critères de biodiversité, ceux-ci ne sont pas appliqués de manière uniforme à l'ensemble des espaces verts publics. En revanche, des villes telles que Zurich et Curitiba étendent les ratios d'espaces verts à toutes les tailles de parcelles, et Zurich impose également des normes de qualité écologique bien définies. D'autres villes intègrent davantage la biodiversité dans l'environnement bâti par le biais d'obligations relatives aux toitures végétalisées (Kobe et Zurich), à la conception de bâtiments respectueux des oiseaux (Zurich) et à des mesures visant à prévenir les pièges écologiques pour la faune sauvage (Zurich).

En ce qui concerne les corridors écologiques, Genève ne dispose pas d'une cartographie exhaustive et fonctionnelle des réseaux de connectivité, ni d'un cadre juridique solide garantissant leur mise en œuvre au-delà d'instruments tels que la Lfaune ou le PDCOM. De ce fait, les corridors écologiques ne sont pas systématiquement intégrés dans les processus de développement urbain. En comparaison, Zurich et Berlin ont mis au point des systèmes de cartographie plus détaillés qui évaluent la connectivité écologique et intègrent des obligations contraignantes dans les processus municipaux de construction et d'aménagement afin de préserver et de renforcer les corridors écologiques.

En matière de développement de la canopée, Genève a mis en place un cadre stratégique et réglementaire relativement dense ; toutefois, il manque des dispositions contraignantes garantissant la réalisation de l'objectif de 30 % de canopée. De plus, la valeur écologique des arbres n'est pas systématiquement prise en compte dans les processus décisionnels relatifs à l'abattage et à la replantation d'arbres. À l'inverse, Zurich fixe non seulement des objectifs de canopée pour les acteurs municipaux, mais prévoit également d'étendre ces obligations aux acteurs privés, tout en intégrant des critères de biodiversité dans le choix des espèces.

En ce qui concerne les sols, Genève prévoit des dispositions relatives à la pleine terre, mais celles-ci restent fragmentées et ne s'appliquent qu'aux parcelles de plus de 1,000 m² ou à celles situées dans des plans localisés de quartier où la superficie totale des parcelles dépasse 1,000 m². De plus, l'absence de restrictions sur les constructions souterraines, combinée à des politiques de stationnement contradictoires (exigences minimales sur les terrains privés et obligations de compensation sur les terrains publics), exerce des pressions contraires aux objectifs de protection des sols. À l'inverse, d'autres villes appliquent des règles de protection des sols de manière plus cohérente, quelle que soit la taille des parcelles, et instaurent des restrictions plus strictes sur les constructions souterraines (Curitiba), ainsi que des politiques visant à réduire l'offre de stationnement (Berlin).

Genève manque également de programmes et d'initiatives susceptibles de promouvoir la biodiversité à travers les quatre dimensions analysées, notamment un dispositif d'incitation destiné aux propriétaires fonciers privés. Si le canton de Genève dispose d'un tel dispositif, la ville elle-même n'en a pas. Cela est d'autant plus notable qu'il n'existe aucune exigence contraignante pour les propriétaires privés, ce qui signifie que la valorisation de la biodiversité sur les terrains privés n'est ni exigée ni encouragée par la ville. En revanche, d'autres villes ont mis en place des programmes d'incitation ciblés pour l'amélioration écologique (Zurich), l'entretien à long terme (Kobe) et la préservation des zones riches en biodiversité (Curitiba). Elles contactent souvent de manière proactive les propriétaires fonciers et les coopératives d'habitation pour encourager leur participation. D'autres villes complètent également leurs cadres d'action par des initiatives telles que la distribution de jeunes plants aux citoyens (Berlin et Curitiba) et des programmes de formation destinés aux architectes et aux urbanistes (Zurich).

L'évaluation du cadre municipal au sens large montre que les considérations relatives à la biodiversité restent intégrées de manière inégale dans les politiques municipales générales. En matière d'urbanisme, d'utilisation de l'espace public et des équipements municipaux, les objectifs environnementaux ne sont que rarement pris en compte, ce qui peut favoriser des pratiques ou des comportements potentiellement néfastes pour la biodiversité.

De même, dans le domaine des subventions, l'intégration des critères de biodiversité reste faible. Seuls environ 2 % du montant total des subventions monétaires sont alloués à des bénéficiaires ou à des activités ayant un impact positif sur la biodiversité. Si seulement environ 1 % du montant total des subventions financières est alloué à des bénéficiaires ayant un impact négatif direct, les subventions restantes, compte tenu du volume global des financements et de l'absence de critères environnementaux, peuvent néanmoins générer des impacts négatifs indirects significatifs sur la biodiversité par le biais de la consommation d'énergie et de ressources.



6

Recommendations

6 Recommendations

Building on the previously identified gaps in the city of Geneva's legal framework and the best practices from our four case studies, we propose recommendations to strengthen the city's legal framework for biodiversity promotion in line with the biodiversity strategy goals (Figure 11).

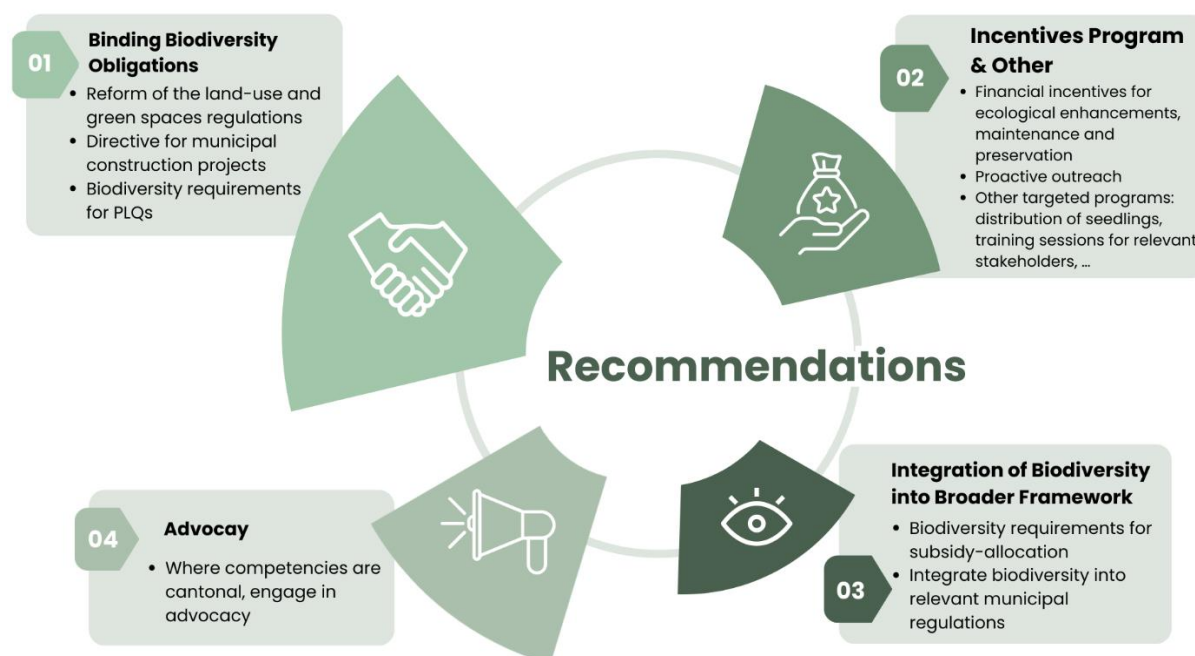


Figure 11. Overview of recommendations

These recommendations address the current absence of binding biodiversity obligations by embedding concrete, enforceable requirements into key regulatory and planning instruments. We recommend reforming relevant *règlements* to include biodiversity provisions that apply to both private actors and municipal authorities. We also propose adopting an internal directive and strengthening PLQs so that biodiversity considerations are systematically integrated into all city departments involved in construction and land-use projects. Finally, we propose the adoption of an incentive program and other initiatives, as well as integrating biodiversity considerations into the broader municipal framework, notably the allocation of subsidies. Where issues fall within the competence of the canton, the municipality should take on an advocacy role.

While some recommendations overlap, we intentionally suggest a combination of tools because they differ in scope, legal force, and ease of implementation. This approach is intended to ensure that biodiversity requirements are progressively integrated into all relevant legal and procedural spheres.

1. Reform the *Règlement relatif aux plans d'utilisation du sol de la Ville de Genève* – LC 21 211 (long-term)

Natural habitats:

It is recommended to lower the threshold in Article 12 to require a minimum rate of green space for all plot sizes. These green spaces (or parts of them) must also be ecologically valuable.

In addition, flat roofs, unless used as terraces, should be designed as ecologically valuable green roofs and, where feasible, parts of the façade should also be greened.

Canopy cover:

It is recommended to introduce a provision requiring the development and preservation of canopy cover in line with the targets set out in the cantonal arborization strategy.

Soil protection:

It is recommended that Article 13 be amended so that the requirement for *pleine terre*, which is currently limited to large plots, applies to all plots regardless of their size. Another provision should be added to limit underground construction, specifying that it is only permitted beneath the building footprint or up to a defined percentage of the parcel.³⁴

2. Reform the *Règlement des espaces verts, préaux et places de jeux de la Ville de Genève* – LC 21 331 (long-term)

It is recommended to include a provision formally requiring *SEVE* to preserve and, where possible, to enhance the ecological value of green spaces. To this end, a catalogue of profiles should be established, and staff should receive mandatory training on maintenance practices that integrate these biodiversity objectives.

In line with the biodiversity strategy and drawing inspiration from Berlin and Curitiba, it is recommended that the city introduce a provision allowing the distribution of seedlings to residents, creating a “*Permis de végétaliser*” program.

It is also recommended to reform the current regulation so that it applies to all public green spaces. Alternatively, a new city-wide regulation could be adopted to ensure biodiversity maintenance standards across all the municipal territory, regardless of the managing entity.

³⁴Because there is a legislative gap at the cantonal level regarding subsoil limits outside Zone 5, the city of Geneva has the competence to introduce supplementary provisions through a revision of the LC 21 211.

3. Create an internal directive applicable to and binding for all municipal construction and renovation projects (medium-term)

Natural habitats:

Based on Zurich's approach of setting realistic sub-targets according to open space and urban structure categories, it is recommended that Geneva further refine its targets along similar lines, differentiating between open space types and city structure categories.

It is recommended to include a provision requiring projects to meet the different naturality sub-targets and to exceed them whenever possible. Existing natural habitats should be preserved whenever possible. The assessment of whether target values can be exceeded can be carried out on a project-specific basis.

For larger projects, it is recommended to require a biodiversity concept that explains which habitats are being created and why, and how the selection of target species has informed these choices. This helps ensure that the habitats are ecologically appropriate and allows verification of the rationale behind the implementation of natural habitats.

It is also recommended to require that flat roofs be ecologically greened when not used as terraces, and that façades be greened wherever feasible.

Animals on buildings:

It is recommended to include provisions to reduce bird collisions, such as mandating bird-visible glazing standards for windows, and to minimize ecological traps for animals in buildings, ensuring that built structures do not unintentionally endanger wildlife.

Ecological corridors:

It is recommended that Geneva further develop its mapping of ecological corridors and, as soon as possible, analyzes their functionality, identifying sections where connectivity is strong as well as areas where it is weaker.

In addition, it is recommended to include a provision stating that identified corridors be preserved during all new constructions and renovations. Where gaps or deficits exist within these corridors, development projects should be required to improve ecological continuity. Taking Zurich as an example, the city could develop target images for ecological corridors to illustrate how they should be enhanced and further developed.

Canopy:

It is recommended that each construction or renovation project affecting outdoor space meet the canopy cover sub-target as laid out in the cantonal arborization strategy.

Further, biodiversity criteria should be given greater consideration when selecting species. The biodiversity index for trees used by the city of Zurich could serve as a useful tool for deciding which species to plant.

Soil:

It is recommended that all municipal projects (rather than only those on plots larger than 2,000m², as currently specified in the *Règlement relatif aux plans d'utilisation du sol de la Ville de Genève*) are required to ensure minimum proportions of *pleine terre*, which should be exceeded whenever possible.

It is also recommended to introduce restrictions on underground construction by limiting the proportion of subsoil that may be excavated, either according to the building's footprint or a maximum percentage.

The *Conseil administratif* could adopt such a directive. The Biodiversity Task Force could set the process in motion by proposing it to the *Conseil administratif*. Importantly, as highlighted by Zurich, such a proposal should be developed in collaboration with all relevant services and entities within the city administration.

4. Strengthen requirements in the *règlements* of PLQs (medium-term)

The city should strengthen the biodiversity-related requirements included in the *règlements* of PLQs. At present, greening obligations mainly concern a minimum share of green area and, in some cases, open ground. It is recommended that future PLQs:

- a. Require that the renovations and new constructions meet the naturality target (ideally: sub-targets as explained in recommendation 2) and exceed it whenever possible;
- b. Require that existing natural habitats be preserved whenever possible;
- c. Require a biodiversity concept for large-scale construction projects;
- d. Require the preservation and enhancement of identified ecological corridors;
- e. Require ecologically valuable green roofs and green façades where feasible;
- f. Require bird-visible window glazing standards, and minimization of structures that may trap animals;
- g. Require that the project meets the canopy sub-target of the cantonal arborization strategy;
- h. Require that development projects reserve part of the open space for community or shared gardens (pesticide-free, diversification of habitats). Where space is limited, the PLQ could require rooftop or terrace gardens with similar biodiversity standards;

- i. Introduce restrictions on underground construction: limit the proportion of subsoil that may be excavated (according to the footprint of the building or a maximum percentage);
- j. Align parking provisions with soil-protection goals by reducing the number of parking spaces;
- k. Require minimum proportions of open ground (*pleine terre*), which should be exceeded whenever possible;
- l. Minimize impermeabilization, encourage de-sealing and soil restoration: integrate measures such as pavement removal and sidewalk requalification.

The Biodiversity Task Force could, in the short term, develop a model PLQ biodiversity chapter to be used as a standard reference by planners and developers.

5. Establish Incentives to Encourage Private Owners to Ecologically Enhance their Property (medium-term)

Establishing a municipal incentive program would ensure that ecological measures are specifically implemented within the city's territory and would allow the city to define its own terms and conditions. This program should focus on measures not already required by the proposed reform of the *Règlement relatif aux plans d'utilisation du sol de la Ville de Genève* (LC 21 211).

This municipal program can provide financial support to private property owners and companies for the ecological enhancement, long-term maintenance and preservation of their gardens and open spaces. Following practices in Curitiba, Zurich and Kobe, incentives should cover both the initial improvement of habitats and their ongoing maintenance and the preservation of already biodiverse areas. Participating owners should be required to maintain the ecologically enhanced habitats over time, with the city of Geneva conducting occasional inspections to ensure compliance.

In this context, offering free consultation sessions and guidance would help owners, cooperatives and companies to identify suitable measures and implement them effectively.

Finally, such incentive program should be both actively promoted to ensure awareness and uptake among owners and complemented by targeted outreach to owners of particularly biodiverse or high-potential sites. Following the example of Curitiba, this could include directly contacting and engaging property owners of particularly biodiverse or high-potential sites to inform them about available incentive opportunities. In addition, Zurich has demonstrated the value of proactively engaging housing cooperatives to highlight their tree-planting potential.

Additional initiatives could include organizing a competition to reward particularly biodiverse and ecologically valuable areas.

6. Put in place several projects contributing to the promotion of biodiversity (short-term)

Beyond legal innovations, the city of Geneva can also implement projects that may not require a regulatory basis. This has the advantage of potentially facing fewer barriers to implementation.

It is recommended that the city develops education and awareness-raising programs on biodiversity in collaboration with the *Office cantonal de l'agriculture et de la nature* (OCAN). These programs should target architects, urban planners, and developers, who have substantial influence on biodiversity outcomes in construction projects. It should provide practical guidance on integrating the strategy's goals into construction and renovation. If the *Règlement relatif aux plans d'utilisation du sol de la Ville de Genève* is reformed and/or a directive is created as recommended, this would further support these stakeholders in implementation.

It is also recommended to establish a formal “*Permis de végétaliser*” program, allowed by the reform of the *Règlement des espaces verts, préaux et places de jeux de la Ville de Genève* (LC 21 331) as mentioned in Recommendation 2, to encourage participative greening projects between the city and residents. This initiative should be coordinated by the *Service des espaces verts* (SEVE) and the *Conservatoire et Jardin botaniques* (CJB). Through the program, the city can distribute seedlings of trees and flowers to residents for planting outdoors. It is important to provide clear information on where these plants should be placed, eventually support or accompany the residents in planting them and how they should be maintained afterwards.

In line with the climate strategy, the city can further promote the de-impermeabilization of surfaces such as public parking lots, sidewalks, and squares.

7. Reform the *Règlement régissant les conditions d'octroi des subventions municipales* – LC 21 195 (long-term)

This regulation does not contain any direct reference or explicit requirement concerning respect for biodiversity or environmental protection as conditions for granting subsidies.

It is recommended to include following provisions: a. requiring the project to demonstrate that it has no negative impacts on biodiversity and the environment in general; b. clarifying that Article 8, which allows the *Conseil administratif* to define specific conditions governing the use of subsidies, requires that such specific conditions include compliance with safeguards and guidelines for biodiversity protection; c. revocation and reimbursement of the subsidy if it is established that the activity is causing proven damage to biodiversity or the environment.

In line with what was discussed at the Coord21-workshop, the city will need to support beneficiaries in meeting such conditions. This could be done through initiatives such as information and awareness campaigns, as well as other appropriate measures.

8. Reform of several Municipal Regulations (long-term)

- a. Règlement relatif à la mise en œuvre de l'IN-3 «Sauvons nos parcs au bord du lac!» – LC 21 213 (Ville de Genève 2016b):*

This regulation prohibits new constructions in designated areas along the lake. To strengthen its contribution to biodiversity conservation, it is recommended that: a. a clear obligation be introduced to improve the quality of biodiversity in existing green spaces within the designated areas; b. underground constructions and infrastructure be explicitly prohibited in these zones, rather than excluded in the context of Article 3(1), to protect soil structure, groundwater, and root systems; c. temporary buildings or facilities be authorized only subject to a prior environmental and biodiversity impact assessment demonstrating that they will not harm biodiversity or the environment more broadly (soil, water, canopy and natural habitats), with reference to the approval procedures for resolutions under Article 4(3); d. Article 6 should either be removed or amended to clearly state that any construction of public facilities or infrastructure in the designated areas must ensure the protection, restoration and, where possible, enhancement of biodiversity.

- b. Règlement de la plage des Eaux-Vives – LC 21 316.4 (Ville de Genève 2022a):*

This regulation identifies an ecological corridor closed to the public to preserve nature in *Eaux-Vives* beach. It is recommended that: a. a requirement be added for the installation of physical buffer zones or natural barriers (e.g. hedges, low fencing, vegetated strips) around the reed bed and the biological corridor to minimize human disturbance; b. seasonal restrictions on access and activities be introduced or strengthened when monitoring shows disturbance to wildlife; c. obligations be included to improve the quality of biodiversity in existing green spaces within and around the beach.

- c. Thérèse de Francia Fund – LC 21 333 (Ville de Genève 2018b):*

This fund is dedicated to flower, vegetation and tree planting in public spaces. It is recommended that: a. a defined portion of the fund be allocated specifically to biodiversity-oriented planting projects (e.g. native species, pollinator corridors) rather than ornamental greening alone; b. project selection criteria explicitly prioritize ecological value and habitat connectivity, in addition to aesthetic considerations.

- d. Plantamour Fund – LC 21 333.1 (Ville de Genève 2018a):*

This fund is dedicated to park maintenance. It is recommended that: a. the regulation explicitly require maintenance practices to incorporate ecological management principles; b.

performance indicators and guidelines be established to ensure that maintenance activities support biodiversity, soil health and water conservation, and not solely the aesthetic appearance of parks.

e. Règlement concernant les fêtes foraines – LC 21 311 (Ville de Genève 1981):

This regulation ensures the orderly organization of operations for the funfairs. It currently lacks adequate restrictions against soil compaction, damage to vegetation, overcrowding in sensitive areas, noise and light pollution. It is recommended that: a. specific management requirements be introduced to prevent and mitigate soil compaction, vegetation damage, soil and water pollution, applicable to both individual vendors and event organizers; b. clear rules be adopted on maximum noise levels, curfew hours and light intensity/orientation, particularly near biodiversity-sensitive sites (parks, waterfronts, ecological corridors); c. mandatory restoration measures be required after events including decompaction of soils, re-seeding or re-planting.

f. Règlement relatif à l'activité des musicien-ne-s ambulant-e-s et artistes de rue – LC 21 313 (Ville de Genève 2022b):

This regulation stipulates the conditions under which street artists may perform. To reduce pressure on biodiversity, it is recommended that: a. areas, streets and time periods that are particularly sensitive for biodiversity (e.g., adjacent to parks, natural habitats, nesting areas and ecological corridors) be clearly identified and mapped; b. restrictions be imposed on street performances in these sensitive areas and periods, including possible exclusion zones and time limits to prevent overcrowding and noise disturbance; c. maximum noise levels and, where appropriate, limits on amplified sound be introduced near biodiversity-sensitive sites.

g. Règlement du «Fonds municipal Post Tenebras Lux» – LC 21 252 (Ville de Genève 2018a):

The Christmas Lighting Fund promotes large-scale artificial lighting, which can cause light pollution. It is recommended that: a. a binding standard be established whereby the fund supports only projects that employ biodiversity-friendly lighting (e.g., reduced intensity, warm color temperatures, downward-directed luminaires, limited operating hours) and explicitly take ecological considerations into account; b. eligibility criteria require an assessment of potential impacts on fauna, particularly nocturnal species and migratory birds, and favor projects that minimize or mitigate these impacts.

The *Conseil administratif* or *Conseil municipal* can hold the initiative to reform the relevant *règlements*, which will be voted on by the *Conseil municipal* and submitted to cantonal approval by the *Conseil d'État*. The Biodiversity Task Force could set the process in motion by proposing regulatory changes to the *Conseil administratif*.

9. Advocacy with the Canton of Geneva

Some of the identified issues are regulated at the cantonal level and fall outside the direct competence of the city of Geneva. In such cases, the *Conseil Administratif* could formally address the *Conseil d'État* through an official report or letter to submit proposals or requests.

This could include the following points:

- A discussion should be initiated on the usefulness of designating areas as OECMs.
- Considering Curitiba's "absolute" protection of trees against felling, a discussion should be initiated on whether introducing a similar strict protection regime would be more effective for tree conservation than the current circumference threshold of 45 cm (cf. *Règlement sur la conservation de la végétation arborée*).
- Despite the inherent difficulty in comparing grounds for tree felling, a discussion should be initiated on the permissiveness of current authorization practices, and whether stricter criteria or procedures could be implemented (cf. *Directive concernant la conservation des arbres: Critères de maintien et motifs d'abattage*).
- A proposal should be made to better integrate ecological value into the assessment of trees designated for felling (cf. *Directive concernant les plantations compensatoires*) and to better incorporate biodiversity criteria in species selection for mandatory replanting (cf. *Directive concernant la plantation et l'entretien des arbres*).
- A clarification of the provision concerning the obligation to preserve trees with greatest care should be requested (cf. *Règlement sur la conservation de la végétation arborée*).
- Given that planting distances to neighboring properties are lower in Zurich than in Geneva, a proposal should be made to further reduce these distances to allow for more tree planting (cf. *Loi d'application du code civil Suisse et d'autres lois fédérales en matière civile*).
- In light of the negative impacts on biodiversity associated with minimum parking requirements (cf. *Règlement relative aux places de stationnement sur fonds privés*) and the compensation principle on public ground (cf. *Loi d'application de la législation fédérale sur la circulation routière*), a proposal should be made to eliminate minimum parking ratios altogether (drawing on examples such as Berlin) and the compensation requirement.

Overall, the recommendations call on Geneva to establish legally binding obligations for both the city and private actors to promote biodiversity, launch incentive programs and other initiatives, and systematically integrate biodiversity into municipal processes, including subsidy allocation. Nevertheless, these measures must be accompanied by effective

enforcement and implementation, as highlighted by many cities. Since environmental impacts cross political and territorial boundaries and recommendations are often cross-sectoral, continuous institutional dialogue and collaboration – both within city departments and across the metropolitan region – are essential to strengthen biodiversity protection. Cities also stress the importance of raising public awareness of biodiversity issues alongside legal and policy changes.

Recommandations

En nous appuyant sur les lacunes précédemment identifiées dans le cadre juridique de la Ville de Genève et sur les bonnes pratiques issues de nos quatre études de cas, nous proposons à la Ville de Genève des recommandations visant à renforcer son cadre juridique en faveur de la promotion de la biodiversité, conformément aux objectifs de la stratégie biodiversité (Figure 11).

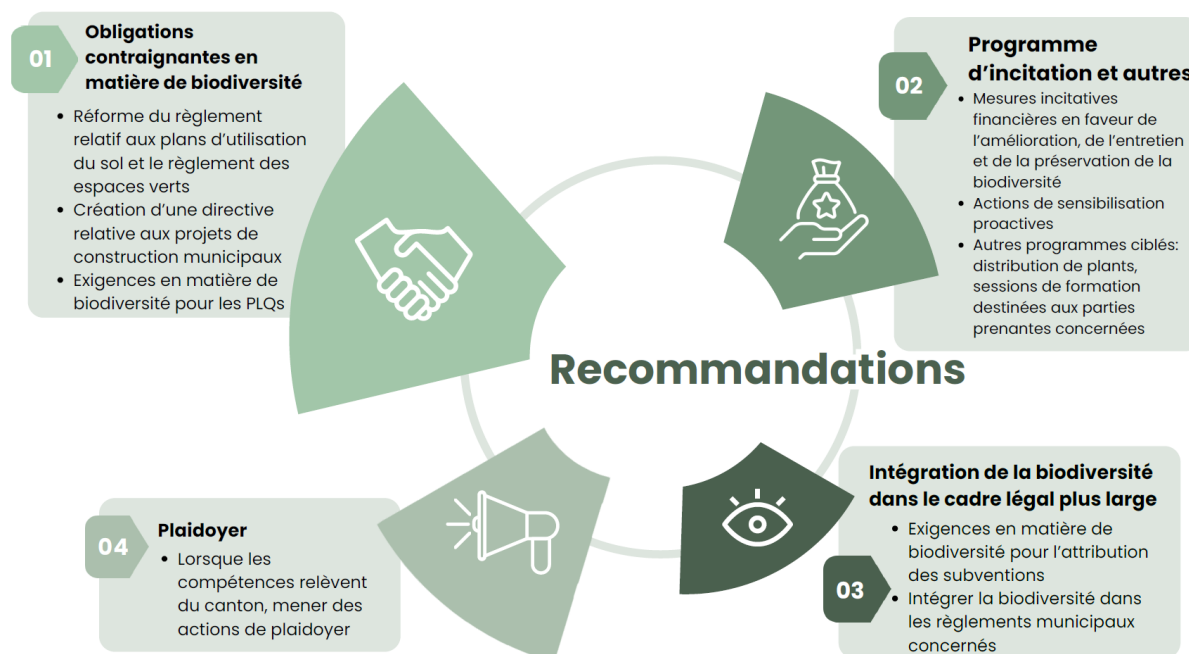


Figure 11. Vue d'ensemble des recommandations

Ces recommandations visent à pallier l'absence actuelle d'obligations contraignantes en matière de biodiversité en intégrant des exigences concrètes et exécutoires dans les principaux instruments réglementaires et d'aménagement. Nous recommandons de réformer les règlements concernés afin d'y inclure des dispositions relatives à la biodiversité s'appliquant tant aux acteurs privés qu'aux autorités municipales. Nous proposons également l'adoption d'une directive interne et le renforcement des PLQ afin que les considérations en matière de biodiversité soient systématiquement intégrées dans tous les services municipaux impliqués dans les projets de construction et d'aménagement du territoire.

Enfin, nous proposons l'adoption d'un programme d'incitation et d'autres initiatives, ainsi que l'intégration des considérations en matière de biodiversité dans le cadre légal municipal plus large, notamment l'allocation des subventions. Lorsque les questions relèvent de la compétence du canton, la municipalité devrait jouer un rôle de plaidoyer.

Bien que certaines recommandations se recoupent, nous suggérons intentionnellement une combinaison d'outils car ils se complètent en termes de portée, de force juridique et de facilité

de mise en œuvre. Cette approche vise à garantir que les exigences en matière de biodiversité soient progressivement intégrées dans tous les domaines juridiques et procéduraux concernés.

1. Réformer le Règlement relatif aux plans d'utilisation du sol de la Ville de Genève – LC 21 211 (à long terme)

Habitats naturels :

Il est recommandé d'abaisser le seuil prévu à l'article 12 afin d'exiger un taux minimal d'espaces verts pour toutes les tailles de parcelles. Ces espaces verts (ou certaines parties de ceux-ci) doivent également présenter une valeur écologique.

En outre, les toits plats, à moins qu'ils ne soient utilisés comme terrasses, devraient être conçus comme des toits verts présentant une valeur écologique et, lorsque cela est possible, certaines parties de la façade devraient également être végétalisées.

Canopée :

Il est recommandé d'introduire une disposition exigeant le développement et la préservation de la canopée conformément aux objectifs fixés dans la Stratégie d'arborisation de l'aire urbaine genevoise.

Protection des sols :

Il est recommandé de modifier l'article 13 afin que l'exigence de surface en pleine terre, actuellement limitée aux grandes parcelles, s'applique à l'ensemble des parcelles, quelle que soit leur taille. Une autre disposition devrait être ajoutée pour limiter les constructions souterraines, en précisant qu'elles ne sont autorisées que sous l'empreinte du bâtiment ou jusqu'à un pourcentage défini de la parcelle.³⁵

2. Réformer le Règlement des espaces verts, préaux et places de jeux de la Ville de Genève – LC 21 331 (à long terme)

Il est recommandé d'inclure une disposition exigeant formellement que le SEVE préserve et, dans la mesure du possible, renforce la valeur écologique des espaces verts. À cette fin, un catalogue de profils devrait être établi et le personnel devrait suivre une formation obligatoire sur les pratiques d'entretien intégrant ces objectifs de biodiversité.

Conformément à la stratégie biodiversité et en s'inspirant de Berlin et de Curitiba, il est recommandé que la ville introduise une disposition permettant la distribution de plants aux habitants, en créant un programme « Permis de végétaliser ».

³⁵En raison d'un vide juridique au niveau cantonal concernant les limites du sous-sol en dehors de la zone 5, la ville de Genève est habilitée à introduire des dispositions supplémentaires par le biais d'une révision de la LC 21 211.

Il est également recommandé de réformer la réglementation actuelle afin qu'elle s'applique à tous les espaces verts publics. Une autre solution consisterait à adopter une nouvelle réglementation à l'échelle de la ville afin de garantir le respect des normes de préservation de la biodiversité sur l'ensemble du territoire municipal, quel que soit l'organisme gestionnaire.

3. Créer une directive interne applicable et contraignante pour tous les projets municipaux de construction et de rénovation (à moyen terme)

Habitats naturels :

Sur la base de l'approche de Zurich consistant à fixer des sous-objectifs réalistes d'habitats naturels en fonction des catégories d'espaces ouverts et de structure urbaine, il est recommandé que Genève affine ses objectifs dans le même esprit, en distinguant les types d'espaces ouverts et les catégories de structure urbaine.

Il est recommandé d'inclure une disposition exigeant que les projets respectent les différents sous-objectifs de naturalité et les dépassent dans la mesure du possible. Les habitats naturels existants devraient être préservés dans la mesure du possible. L'évaluation de la possibilité de dépasser les valeurs cibles peut être effectuée au cas par cas pour chaque projet.

Pour les projets de plus grande envergure, il est recommandé d'exiger un concept de biodiversité expliquant quels habitats sont créés et pourquoi, ainsi que la manière dont la sélection des espèces cibles a guidé ces choix. Cela permet de s'assurer que les habitats sont écologiquement appropriés et de vérifier le raisonnement sous-jacent de la mise en place d'habitats naturels.

Il est également recommandé d'exiger que les toits plats soient végétalisés de manière écologique lorsqu'ils ne sont pas utilisés comme terrasses, et que les façades soient végétalisées dans la mesure du possible.

Animaux sur les bâtiments :

Il est recommandé d'inclure des dispositions visant à réduire les collisions d'oiseaux, par exemple en imposant des normes de vitrage rendant les fenêtres visibles pour les oiseaux, et à minimiser les pièges écologiques pour les animaux dans les bâtiments, en veillant à ce que les structures construites ne mettent pas involontairement en danger la faune sauvage.

Corridors écologiques :

Il est recommandé que Genève poursuive la cartographie de ses corridors écologiques et, dès que possible, analyse leur fonctionnalité, en identifiant les sections où la connectivité est forte ainsi que les zones où elle est plus faible.

En outre, il est recommandé d'inclure une disposition stipulant que les corridors identifiés soient préservés lors de toutes les nouvelles constructions et rénovations. En cas de lacunes ou

de déficits au sein de ces corridors, les projets de développement devraient être tenus d'améliorer la continuité écologique. En prenant Zurich comme exemple, la ville pourrait élaborer des images cibles pour les corridors écologiques afin d'illustrer comment ceux-ci devraient être améliorés et développés davantage.

Canopée :

Il est recommandé que chaque projet de construction ou de rénovation affectant l'espace extérieur respecte l'objectif de couverture de la canopée tel que défini dans la stratégie cantonale d'arborisation de l'aire urbaine genevoise.

En outre, les critères de biodiversité devraient être davantage pris en compte lors du choix des espèces. L'indice de biodiversité des arbres utilisé par la ville de Zurich pourrait servir d'outil utile pour décider quelles espèces planter.

Sol :

Il est recommandé que tous les projets municipaux (et non pas uniquement ceux portant sur des parcelles de plus de 2,000 m², comme le prévoit actuellement le Règlement relatif aux plans d'utilisation du sol de la Ville de Genève) soient tenus de garantir des proportions minimales de pleine terre, qui devraient être dépassées dans la mesure du possible.

Il est également recommandé d'introduire des restrictions sur les travaux souterrains en limitant la proportion de sous-sol pouvant être excavée, soit en fonction de l'empreinte du bâtiment, soit selon un pourcentage maximal.

Le Conseil administratif pourrait adopter une telle directive. La Task-Force Biodiversité pourrait lancer le processus en la proposant au Conseil administratif. Il est important de noter, comme l'a souligné Zurich, qu'une telle proposition devrait être élaborée en collaboration avec tous les services et entités concernés au sein de l'administration municipale.

4. Renforcer les exigences dans les règlements des PLQ (à moyen terme)

La ville devrait renforcer les exigences en matière de biodiversité incluses dans les règlements des PLQ. À l'heure actuelle, les obligations concernent principalement une part minimale d'espaces verts et, dans certains cas, de pleine terre. Il est recommandé que les futurs PLQ :

- a. Exigent que les rénovations et les nouvelles constructions respectent l'objectif de naturalité (idéalement : les sous-objectifs tels qu'expliqués dans la recommandation 2) et le dépassent dans la mesure du possible ;*
- b. Exigent que les habitats naturels existants soient préservés dans la mesure du possible ;*
- c. Exigent un concept de biodiversité pour les projets de construction à grande échelle ;*
- d. Exigent la préservation et l'amélioration de la continuité des corridors écologiques identifiés ;*

- e. *Exigent la mise en place de toitures et de façades végétalisées à valeur écologique lorsque cela est faisable ;*
- f. *Exigent des normes de vitrage permettant aux oiseaux de reconnaître les fenêtres, et la réduction au minimum des structures susceptibles de piéger les animaux ;*
- g. *Exigent que le projet respecte le sous-objectif de couverture arborée de la stratégie cantonale d'arborisation de l'aire urbaine genevoise ;*
- h. *Exigent que les projets d'aménagement réservent une partie de l'espace ouvert à des jardins communautaires ou partagés (sans pesticides, diversification des habitats). Lorsque l'espace est limité, le PLQ pourrait exiger des jardins sur les toits ou les terrasses répondant à des normes de biodiversité similaires ;*
- i. *Introduisent des restrictions sur les travaux souterrains : limiter la proportion de sous-sol pouvant être excavée (en fonction de l'empreinte du bâtiment ou d'un pourcentage maximal) ;*
- j. *Alignent les dispositions relatives au stationnement sur les objectifs de protection des sols en réduisant le nombre de places de stationnement ;*
- k. *Exigent des proportions minimales de pleine terre, qui devraient être dépassées dans la mesure du possible ;*
- l. *Réduisent au minimum l'imperméabilisation, encouragent la désimperméabilisation et la restauration des sols : intégrer des mesures telles que le retrait des revêtements et la requalification des trottoirs.*

La Task-Force Biodiversité pourrait, à court terme, élaborer un chapitre type sur la biodiversité pour le PLQ, destiné à servir de référence standard aux urbanistes et aux promoteurs.

5. Mettre en place des mesures incitatives pour encourager les propriétaires privés à améliorer la qualité écologique de leur propriété (à moyen terme)

La mise en place d'un programme municipal d'incitation garantirait la mise en œuvre de mesures écologiques spécifiquement sur le territoire de la ville et permettrait à celle-ci de définir ses propres conditions. Ce programme devrait se concentrer sur des mesures qui ne sont pas déjà requises par la réforme proposée du Règlement relatif aux plans d'utilisation du sol de la Ville de Genève (LC 21 211).

Ce programme municipal peut apporter un soutien financier aux propriétaires privés, aux coopératives et aux entreprises pour la valorisation écologique, l'entretien à long terme et la préservation de leurs jardins et espaces verts. À l'instar des pratiques en vigueur à Curitiba, Zurich et Kobe, les mesures incitatives devraient couvrir à la fois l'amélioration initiale des habitats, leur entretien continu et la préservation des zones déjà riches en biodiversité. Les propriétaires participants devraient être tenus d'entretenir les habitats valorisés sur le plan écologique au fil du temps, la ville de Genève procédant à des inspections ponctuelles pour s'assurer du respect des engagements.

Dans ce contexte, proposer des séances de consultation et des conseils gratuits aiderait les propriétaires, les coopératives et les entreprises à identifier les mesures appropriées et à les mettre en œuvre efficacement.

Enfin, un tel programme d'incitation devrait être à la fois activement promu pour garantir la sensibilisation et l'adhésion des propriétaires, et complété par une action de sensibilisation et de communication ciblée auprès des propriétaires de sites particulièrement riches en biodiversité ou à fort potentiel. À l'instar de Curitiba, cela pourrait inclure de contacter directement et d'impliquer les propriétaires de sites particulièrement riches en biodiversité ou à fort potentiel afin de les informer des possibilités d'incitation disponibles. De plus, Zurich a démontré l'intérêt d'impliquer de manière proactive les coopératives d'habitation afin de mettre en avant leur potentiel en matière de plantation d'arbres.

D'autres initiatives pourraient consister à organiser un concours visant à récompenser les zones particulièrement riches en biodiversité et présentant un intérêt écologique.

6. Mettre en place plusieurs projets contribuant à la promotion de la biodiversité (à court terme)

Au-delà des innovations juridiques, la ville de Genève peut également mettre en œuvre des projets qui ne nécessitent pas nécessairement de base réglementaire. Cela présente l'avantage de rencontrer potentiellement moins d'obstacles à la mise en œuvre.

Il est recommandé que la ville développe des programmes d'éducation et de sensibilisation à la biodiversité en collaboration avec l'Office cantonal de l'agriculture et de la nature (OCAN). Ces programmes devraient cibler les architectes, les urbanistes et les promoteurs immobiliers, qui exercent une influence considérable sur les résultats en matière de biodiversité dans les projets de construction. Ces programmes devraient fournir des conseils pratiques sur l'intégration des objectifs de la stratégie dans la construction et la rénovation. Si le Règlement relatif aux plans d'utilisation du sol de la Ville de Genève est réformé et/ou si une directive est créée comme recommandé, cela aiderait davantage ces parties prenantes dans la mise en œuvre.

Il est également recommandé de mettre en place un programme officiel de « Permis de végétaliser », rendu possible par la réforme du Règlement des espaces verts, préaux et places de jeux de la Ville de Genève (LC 21 331) comme mentionné dans la recommandation 2, afin d'encourager les projets de végétalisation participatifs entre la ville et les habitants. Cette initiative devrait être coordonnée par le Service des espaces verts (SEVE) et le Conservatoire et Jardin botaniques (CJB). Dans le cadre de ce programme, la ville peut distribuer des plants d'arbres et de fleurs aux habitants pour qu'ils les plantent à l'extérieur. Il est important de fournir des informations claires sur l'emplacement de ces plantes, d'éventuellement aider ou accompagner les habitants dans leur plantation et de leur indiquer comment les entretenir par la suite.

Conformément à la stratégie climatique, la ville peut promouvoir davantage la désimperméabilisation des surfaces telles que les parkings publics, les trottoirs et les places.

7. Réformer le Règlement régissant les conditions d'octroi des subventions municipales – LC 21 195 (à long terme)

Ce règlement ne contient aucune référence directe ni aucune exigence explicite concernant le respect de la biodiversité ou la protection de l'environnement comme conditions d'octroi des subventions.

Il est recommandé d'inclure les dispositions suivantes : a. exiger que le projet démontre qu'il n'a pas d'impacts négatifs sur la biodiversité et l'environnement en général ; b. préciser que l'article 8, qui permet au Conseil administratif de définir des conditions spécifiques régissant l'utilisation des subventions, exige que ces conditions spécifiques incluent le respect des mesures de protection et des lignes directrices en matière de protection de la biodiversité ; c. la révocation et le remboursement de la subvention s'il est établi que l'activité cause des dommages avérés à la biodiversité ou à l'environnement.

Conformément à ce qui a été discuté lors de l'atelier Coord21, la ville devra aider les bénéficiaires à remplir ces conditions. Cela pourrait se faire par le biais d'initiatives telles que des campagnes d'information et de sensibilisation, ainsi que d'autres mesures appropriées.

8. Réforme de plusieurs règlements municipaux (à long terme)

- a. Règlement relatif à la mise en œuvre de l'IN-3 « Sauvons nos parcs au bord du lac ! » – LC 21 213 (Ville de Genève 2016b) ;*

Ce règlement interdit toute nouvelle construction dans les zones désignées le long du lac. Afin de renforcer sa contribution à la préservation de la biodiversité, il est recommandé : a. d'introduire une obligation claire d'améliorer la qualité de la biodiversité dans les espaces verts existants au sein des zones désignées ; b. d'interdire explicitement les constructions et infrastructures souterraines dans ces zones, plutôt que de les exclure au titre de l'article 3, paragraphe 1, afin de protéger la structure des sols, les eaux souterraines et les systèmes racinaires ; c. que les bâtiments ou installations temporaires ne soient autorisés qu'à condition qu'une évaluation préalable de l'impact sur l'environnement et la biodiversité démontre qu'ils ne nuiront pas à la biodiversité ni à l'environnement au sens large (sol, eau, canopée et habitats naturels), en référence aux procédures d'approbation des résolutions prévues à l'article 4, paragraphe 3 ; d. que l'article 6 soit supprimé ou modifié afin d'indiquer clairement que toute construction d'équipements publics ou d'infrastructures dans les zones désignées doit garantir la protection, la restauration et, si possible, l'amélioration de la biodiversité.

- b. Règlement de la plage des Eaux-Vives – LC 21 316.4 (Ville de Genève 2022a) :*

Ce règlement identifie un corridor écologique fermé au public afin de préserver la nature sur la plage des Eaux-Vives. Il est recommandé : a. d'ajouter une exigence relative à la mise en

place de zones tampons physiques ou de barrières naturelles (par exemple, haies, clôtures basses, bandes végétalisées) autour de la roselière et du corridor biologique afin de minimiser les perturbations humaines ; b. d'introduire ou de renforcer les restrictions saisonnières d'accès et d'activités lorsque la surveillance révèle des perturbations de la faune et de la flore ; c. d'inclure des obligations visant à améliorer la qualité de la biodiversité dans les espaces verts existants à l'intérieur et autour de la plage.

c. Fonds Thérèse de Francia – LC 21 333 (Ville de Genève 2018b) :

Ce fonds est dédié à la plantation de fleurs, de végétation et d'arbres dans les espaces publics. Il est recommandé que : a. une partie définie du fonds soit allouée spécifiquement à des projets de plantation axés sur la biodiversité (par exemple, espèces indigènes, corridors pour pollinisateurs) plutôt qu'à la seule végétalisation ornementale ; b. les critères de sélection des projets accordent explicitement la priorité à la valeur écologique et à la connectivité des habitats, en plus des considérations esthétiques.

d. Fonds Plantamour – LC 21 333.1 (Ville de Genève 2018a) :

Ce fonds est dédié à l'entretien des parcs. Il est recommandé que : a. le règlement exige explicitement que les pratiques d'entretien intègrent des principes de gestion écologique ; b. des indicateurs de performance et des lignes directrices soient établis pour garantir que les activités d'entretien favorisent la biodiversité, la santé des sols et la conservation de l'eau, et non pas uniquement l'aspect esthétique des parcs.

e. Règlement concernant les fêtes foraines – LC 21 311 (Ville de Genève 1981) :

Ce règlement garantit l'organisation ordonnée des opérations liées aux fêtes foraines. Il manque actuellement de restrictions adéquates contre le compactage du sol, les dommages causés à la végétation, la surfréquentation des zones sensibles, ainsi que la pollution sonore et lumineuse. Il est recommandé : a. d'introduire des exigences de gestion spécifiques visant à prévenir et à atténuer le compactage des sols, les dommages causés à la végétation et la pollution des sols et de l'eau, applicables tant aux forains individuels qu'aux organisateurs d'événements ; b. d'adopter des règles claires concernant les niveaux sonores maximaux, les heures de couvre-feu et l'intensité/l'orientation de l'éclairage, en particulier à proximité des sites sensibles en matière de biodiversité (parcs, fronts de mer, corridors écologiques) ; c. des mesures de restauration obligatoires soient exigées après les événements, notamment le décompactage des sols, le réensemencement ou la replantation.

f. Règlement relatif à l'activité des musicien-ne-s ambulant-e-s et artistes de rue – LC 21 313 (Ville de Genève 2022b) :

Ce règlement définit les conditions dans lesquelles les artistes de rue peuvent se produire. Afin de réduire la pression sur la biodiversité, il est recommandé : a. d'identifier clairement et de cartographier les zones, les rues et les périodes particulièrement sensibles pour la biodiversité

(par exemple, à proximité des parcs, des habitats naturels, des zones de nidification et des corridors écologiques) ; b. d'imposer des restrictions aux spectacles de rue dans ces zones et périodes sensibles, y compris d'éventuelles zones d'exclusion et des limites horaires afin d'éviter la surfréquentation et les nuisances sonores ; c. des niveaux sonores maximaux et, le cas échéant, des limites sur le son amplifié soient introduits à proximité des sites sensibles pour la biodiversité.

g. *Règlement du « Fonds municipal Post Tenebras Lux » – LC 21 252 (Ville de Genève 2018a) :*

Le Fonds d'illumination de Noël encourage l'éclairage artificiel à grande échelle, susceptible de causer de la pollution lumineuse. Il est recommandé : a. d'établir une norme contraignante selon laquelle le fonds ne soutienne que les projets utilisant un éclairage respectueux de la biodiversité (par exemple, intensité réduite, températures de couleur chaudes, luminaires orientés vers le bas, heures de fonctionnement limitées) et tenant explicitement compte des considérations écologiques ; b. que les critères d'éligibilité exigent une évaluation des impacts potentiels sur la faune, en particulier les espèces nocturnes et les oiseaux migrants, et favorisent les projets qui minimisent ou atténuent ces impacts.

Le Conseil administratif ou le Conseil municipal peut prendre l'initiative de réformer les règlements concernés, qui seront votés par le Conseil municipal et soumis à l'approbation cantonale par le Conseil d'État. La Task-Force Biodiversité pourrait lancer le processus en proposant des modifications réglementaires au Conseil administratif.

9. Plaidoyer auprès du canton de Genève

Certaines des questions identifiées relèvent de la réglementation cantonale et ne relèvent pas de la compétence directe de la Ville de Genève. Dans de tels cas, le Conseil administratif pourrait s'adresser formellement au Conseil d'État par le biais d'un rapport officiel ou d'une lettre afin de soumettre des propositions ou des demandes.

Cela pourrait inclure les points suivants :

- *Une discussion devrait être engagée sur l'utilité de désigner des zones en tant que OECM.*
- *Compte tenu de la protection « absolue » dont bénéficient les arbres à Curitiba contre l'abattage, il conviendrait d'engager une réflexion sur la question de savoir si l'introduction d'un régime de protection aussi strict serait plus efficace pour la conservation des arbres que le seuil actuel de 45 cm de circonférence (cf. Règlement sur la conservation de la végétation arborée).*
- *Malgré la difficulté inhérente à la comparaison des motifs d'abattage d'arbres, il convient d'engager une réflexion sur le caractère permissif des pratiques actuelles en*

matière d'autorisation et sur la possibilité de mettre en œuvre des critères ou des procédures plus stricts (cf. Directive concernant la conservation des arbres : Critères de maintien et motifs d'abattage).

- *Une proposition devrait être formulée afin de mieux intégrer la valeur écologique dans l'évaluation des arbres destinés à l'abattage (cf. Directive concernant les plantations compensatoires) et de mieux prendre en compte les critères de biodiversité dans le choix des espèces pour la replantation obligatoire (cf. Directive concernant la plantation et l'entretien des arbres).*
- *Une clarification de la disposition concernant l'obligation de préserver les arbres avec le plus grand soin devrait être demandée (cf. Règlement sur la conservation de la végétation arborée).*
- *Étant donné que les distances de plantation par rapport aux propriétés voisines sont plus basses à Zurich qu'à Genève, il convient de proposer de réduire encore ces distances afin de permettre la plantation d'un plus grand nombre d'arbres (cf. Loi d'application du code civil suisse et d'autres lois fédérales en matière civile).*
- *Compte tenu des impacts négatifs sur la biodiversité liés aux exigences minimales en matière de stationnement (cf. Règlement relatif aux places de stationnement sur fonds privés) et au principe de compensation sur le domaine public (cf. Loi d'application de la législation fédérale sur la circulation routière), il convient de proposer la suppression totale des ratios minimaux de stationnement (en s'inspirant d'exemples tels que Berlin) et de l'obligation de compensation.*

Dans l'ensemble, les recommandations invitent Genève à établir des obligations juridiquement contraignantes tant pour la ville que pour les acteurs privés afin de promouvoir la biodiversité, à lancer des programmes d'incitation et d'autres initiatives, et à intégrer systématiquement la biodiversité dans les processus municipaux, y compris l'attribution des subventions. Néanmoins, ces mesures doivent s'accompagner d'une mise en œuvre et d'une application efficaces, comme le soulignent de nombreuses villes. Étant donné que les impacts environnementaux dépassent les frontières politiques et territoriales et que les recommandations sont souvent intersectorielles, un dialogue et une collaboration institutionnels continus – tant au sein des services municipaux qu'à l'échelle de la région métropolitaine – sont essentiels pour renforcer la protection de la biodiversité. Les villes soulignent également l'importance de sensibiliser le public aux questions de biodiversité parallèlement aux changements juridiques et politiques.



7

Bibliography

7 Bibliography

- Bem Paraná. 2026. “Curitiba Tem Distribuição de Mudas de Árvores a Partir Desta Quarta; Veja Onde Conseguir Uma.” April 7. <https://www.bemparana.com.br/noticias/parana/curitiba-tem-distribuicao-de-mudas-de-arvores-a-partir-desta-quarta-veja-onde-conseguir-uma/amp/>.
- Bezirksamt Treptow-Köpenick. 2026. “Kleine Flächen, Große Wirkung - Der Balkonwettbewerb Für Treptow-Köpenick.” <https://www.berlin.de/ba-treptow-koepenick/politik-und-verwaltung/aemter/umwelt-und-naturschutzamt/naturschutz/artikel.1634545.php>.
- BirdLife Suisse. 2025. “Objectifs Internationaux En Matière de Biodiversité: 15 Ans d’immobilisme En Suisse.” October 28. <https://www.birdlife.ch/fr/content/objectifs-internationaux-en-matiere-de-biodiversite-15-ans-dimmobilisme-en-suisse>.
- BloombergNEF (BloombergNEF). 2023. “\$1 Trillion to Protect Biodiversity Is Cheaper Than the Cost of Inaction.” April 5. https://about.bnef.com/insights/finance/1-trillion-to-protect-biodiversity-is-cheaper-than-the-cost-of-inaction/#:~:text=The%20anticipated%20economic%20cost%20of%20biodiversity%20loss,%20Denial%20of%20permits%20*%20Reputational%20harm.
- Bø, S. M., R. A. Bohne, and J. Lohne. 2024. “Environmental Impacts of Artificial Turf: A Scoping Review.” *International Journal of Environmental Science and Technology* 21 (16): 10205–16. <https://doi.org/10.1007/s13762-024-05689-3>.
- Boyd, David Richard, UN. Human Rights Council. Special Rapporteur on the Human Right to a Clean, Healthy and Sustainable Environment, and UN. Secretary-General, eds. 2020. *Human Rights Obligations Relating to the Enjoyment of a Safe, Clean, Healthy and Sustainable Environment: Note*. UN. <https://digitallibrary.un.org/record/3878846>.
- Britannica. 2026. “Dendrology | Definition & Description.” May 22. <https://www.britannica.com/science/dendrology>.
- Canton de Genève. 1929. “Loi sur l’extension des voies de communication et l’aménagement des quartiers ou localités (LExt).” L 1 40. Dernières modifications au 1er juin 2025. September 3. https://silgeneve.ch/legis/data/rsg/rsg_l1_40.htm.
- Canton de Genève. 1976. “Loi Sur La Protection Des Monuments, de La Nature et Des Sites (LPMNS).” L 4 05. Dernières modifications au 1er juin 2025. <https://silgeneve.ch/legis/index.aspx>.
- Canton de Genève. 1978. “Annexe au règlement d’application de la loi générale sur les zones de développement (RGZD2).” L 1 35.04. https://silgeneve.ch/legis/data/rsg/rsg_l1_35p04.htm.
- Canton de Genève. 1984. “Loi sur l’administration des communes (LAC).” B 6 05. April 13. https://silgeneve.ch/legis/data/rsg/rsg_b6_05.htm.
- Canton de Genève. 1987. “Loi d’application de la loi fédérale sur l’aménagement du territoire (LaLAT).” L 1 30. Dernières modifications au 1er juin 2025. April 6. https://silgeneve.ch/legis/data/rsg/rsg_l1_30.htm.

- Canton de Genève. 1988. "Loi sur les constructions et les installations diverses (LCI)." L 5 05. Dernières modifications au 22 octobre 2025. April 14.
https://silgeneve.ch/legis/data/RSG/rsg_l5_05.htm?myVer=1774717907170.
- Canton de Genève. 1993. "Loi sur la faune (LFaune)." M 5 05. Dernières modifications au 23 mars 2024. July 10. https://silgeneve.ch/legis/data/rsg/rsg_m5_05.htm.
- Canton de Genève. 1994. "Règlement d'application de La Loi Sur La Faune (RFaune)." M 5 05.01, Dernières modifications au 1er janvier 2024.
<https://silgeneve.ch/legis/index.aspx>.
- Canton de Genève. 1999a. "Règlement sur la conservation de la végétation arborée (RCVA)." L 4 05.04. Dernières modifications au 1er avril 2024. October 27.
https://silgeneve.ch/legis/data/rsg/rsg_l4_05p04.htm.
- Canton de Genève. 1999b. "Règlement Sur La Conservation de La Végétation Arborée (RCVA) (Texte En Vigueur - Dernières Modifications Au 1er Avril 2024)." <https://silgeneve.ch/legis/index.aspx>.
- Canton de Genève. 2008a. "Directive Concernant La Conservation Des Arbres: Critères de Maintien et Motifs d'abattage." <https://www.ge.ch/document/14125/telecharger>.
- Canton de Genève. 2008b. "Directive Concernant Les Mesures à Prendre Lors de Travaux à Proximité Des Arbres." <https://www.ge.ch/document/14122/telecharger>.
- Canton de Genève. 2008c. "Règlement sur la protection des sols (RSol)." K 1 70.13. Dernières modifications au 11 décembre 2024. January 16.
https://silgeneve.ch/legis/data/rsg/rsg_k1_70p13.htm.
- Canton de Genève. 2012a. "Loi d'application Du Code Civil Suisse et d'autres Lois Fédérales En Matière Civile (LaCC)." <https://ge.ch/grandconseil/data/loisvotee/L10958.pdf>.
- Canton de Genève. 2012b. "Loi sur la biodiversité (LBio)." M 5 15. September 14.
https://silgeneve.ch/legis/data/rsg/rsg_m5_15.htm.
- Canton de Genève. 2017. "Plan Localisé de Quartier N° 29'989 - 276 PLQ PAV Les Vernets." June 9. <https://ge.ch/sitg/RDPPF/RDPPF-AMENAGEMENT/PLQ/29989REGLEMENT.pdf>.
- Canton de Genève. 2018. "Stratégie Biodiversité Genève - 2030 (SBG-2030)." <https://www.ge.ch/document/strategie-biodiversite-geneve-2030-plan-action>.
- Canton de Genève. 2020. "Directive Concernant Les Plantations Compensatoires." <https://www.ge.ch/document/10907/telecharger>.
- Canton de Genève. 2023a. "Loi sur l'arborisation, la végétalisation, la mobilité douce et les transports publics dans l'aire urbaine." (Contreprojet à l'IN 182) (13348). September 21. <https://ge.ch/grandconseil/data/loisvotee/L13348.pdf>.
- Canton de Genève. 2023b. "Plan Localisé de Quartier N° 30052A - Ville de Genève, Praille Acacias Vernets: 'Acacias 1.'" <https://ge.ch/sitg/RDPPF/RDPPF-AMENAGEMENT/PLQ/30052AREGLEMENT.pdf>.

- Canton de Genève. 2023c. "Règlement Relatif Aux Places de Stationnement Sur Fonds Privés (RPSFP) Du 17 Mai 2023." <https://www.ge.ch/document/29076/telecharger>.
- Canton de Genève. 2024a. "Directive Concernant La Plantation et l'entretien Des Arbres." <https://www.ge.ch/document/directive-concernant-plantation-entretien-arbres>.
- Canton de Genève. 2024b. "Plan Directeur Cantonal 2030 Mis à Jour." <https://www.ge.ch/document/plan-directeur-cantonal-2030-mis-jour>.
- Canton de Genève. 2024c. "Stratégie d'arborisation de l'aire Urbaine Genevoise - Ambition Canopée 2070." <https://www.ge.ch/document/strategie-arborisation-aire-urbaine-genevoise-essentiel-bref-feuille-route>.
- Canton de Genève. 2025. "Directive: Financement de Projets et Mesures Favorables à La Nature En Ville." <https://www.ge.ch/document/directive-financer-action-faveur-nature-ville>.
- Canton de Genève. 2026a. "Arbre." <https://www.ge.ch/document/arbre>.
- Canton de Genève. 2026b. "Statistiques Cantonales - Genève Ville." <https://statistique.ge.ch/communes/aperçu.asp?commune=21>.
- CBD Secretariat. 2010. "COP Decision." Secretariat of the Convention on Biological Diversity, October 29. <https://www.cbd.int/decision/cop/default.shtml?id=12268>.
- CBD Secretariat. 2020. "Strategic Plan for Biodiversity 2011-2020, Including Aichi Biodiversity Targets." Secretariat of the Convention on Biological Diversity, January 21. <https://www.cbd.int/sp>.
- CBD Secretariat. 2024. "Kunming-Montreal Global Biodiversity Framework." Secretariat of the Convention on Biological Diversity, October 1. <https://www.cbd.int/gbf>.
- CITES Secretariat. 1973. "Convention on International Trade in Endangered Species of Wild Fauna and Flora." <https://cites.org/eng/disc/text.php>.
- CitiesWithNature. 2026. *About Municipality of Curitiba*. March 14. <https://citieswithnature.org/city-profiles/Municipality%20of%20Curitiba?section=commitments>.
- Coord21 (Coord21 - Collectivités Pour Un Développement Durable). n.d. "Qui Sommes-Nous ?" Accessed November 29, 2025. <https://www.coord21.ch/>.
- Depository: German Federal Foreign Office. 1979. "Convention on the Conservation of Migratory Species of Wild Animals." <https://www.cms.int/convention-text>.
- Direction générale de la création artistique du ministère de la Culture. 2025. *Les Émissions de Gaz à Effet de Serre Du Secteur de La Création Artistique En France*. France. <https://www.culture.gouv.fr/thematiques/transition-ecologique/la-premiere-etude-sur-le-bilan-carbone-de-la-creation-artistique>.
- FOEN. 2023. *Biodiversité et Qualité Paysagère En Zone Bâtie: Recommandations de Disposition de Référence à l'intention Des Cantons et Des Communes*. Bern. <https://www.bafu.admin.ch/de/publication?id=JaAOArKkL9-f>.

- FOEN, Federal Office for the Environment. 2012. "Swiss Biodiversity Strategy."
<https://www.bafu.admin.ch/bafu/en/home/themen/thema-biodiversitaet/biodiversitaet--publikationen/publikationen-biodiversitaet/strategie-biodiversitaet-schweiz.html>.
- FOEN, Federal Office for the Environment. 2024. "Biodiversity: In Brief." May 2.
<https://www.bafu.admin.ch/bafu/en/home/themen/thema-biodiversitaet/biodiversitaet--das-wichtigste-in-kuerze.html>.
- FOEN, Federal Office for the Environment. 2025. "Indicator Biodiversity." July 3.
<https://www.bafu.admin.ch/bafu/en/home/themen/thema-biodiversitaet/biodiversitaet--daten--indikatoren-und-karten/biodiversitaet--indikatoren/indikator-biodiversitaet.html>.
- Gentili, Rodolfo, Lara A. Quaglini, Gabriele Galasso, et al. 2023. "Urban Refugia Sheltering Biodiversity across World Cities." *Urban Ecosystems*.
- Gubler, Lena, Sascha A. Ismail, and Irmi Seidl. 2020. *Biodiversitätsschädigende Subventionen in Der Schweiz*. Eidg. Forschungsanstalt für Wald, Schnee und Landschaft WSL.
<https://www.dora.lib4ri.ch/wsl/islandora/object/wsl:26594/datastream/PDF/Gubler-2020-Biodiversit%C3%A4tssch%C3%A4digende-Subventionen-in-der-Schweiz>.
- IBGE. n.d. "Curitiba Panorama." Accessed May 10, 2026.
<https://cidades.ibge.gov.br/brasil/pr/curitiba/panorama>.
- IPBES. 2019. "Summary for Policymakers of the Global Assessment Report on Biodiversity and Ecosystem Services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services." IPBES secretariat.
https://files.ipbes.net/ipbes-web-prod-public-files/2020-02/ipbes_global_assessment_report_summary_for_policymakers_en.pdf.
- Kanton Zürich. 1911. "Einführungsgesetz Zum Schweizerischen Zivilgesetzbuch (EG ZGB), Version Des 01.01.2026."
[https://www.notes.zh.ch/appl/zhlex_r.nsf/WebView/C64D85C6752FE75EC1258D27002A8F17/\\$File/230_2.4.11_131.pdf](https://www.notes.zh.ch/appl/zhlex_r.nsf/WebView/C64D85C6752FE75EC1258D27002A8F17/$File/230_2.4.11_131.pdf).
- Kanton Zürich. 1975. "Planungs- Und Baugesetz (PBG)." https://www.zh.ch/de/politik-staat/gesetze-beschluesse/gesetzessammlung/zhlex-ls/erlass-700_1-1975_09_07-1976_04_01-131.html.
- Karousakis, Katia. 2018. *Evaluating the Effectiveness of Policy Instruments for Biodiversity: Impact Evaluation, Cost-Effectiveness Analysis and Other Approaches*, OECD Environment Working Papers No. 141. OECD.
https://www.oecd.org/content/dam/oecd/en/publications/reports/2018/12/evaluating-the-effectiveness-of-policy-instruments-for-biodiversity_4d8052d6/ff87fd8d-en.pdf.
- Kobe City. 1996. "Ordinance Concerning the Designation of Zones for Coexistence Between People and Nature." April 15.
- Kobe City. 2011. "Kobe City Green Base Main Plan Green Kobe 2 1 Plan."
- Kobe City. 2016. "Kobe Biodiversity Plan." March.
- Kobe City. 2017. "Kobe Biodiversity Convservation Ordinance." October 10.

- Kobe City. 2018. "Preservation of Trees, Preservation of Topsoil.Pdf."
https://www.city.kobe.lg.jp/documents/4340/1-1jyumokuhozongaiyou_1.pdf.
- Kobe City. 2025. "Guidelines for Creating Greening Plans."
<https://www.city.kobe.lg.jp/documents/7691/kaiseitebiki.pdf>.
- Kobe City. 2026a. "Environment Bureau." May 1.
<https://www.city.kobe.lg.jp/a36643/shise/about/construction/soshiki/1900/index.html>.
- Kobe City. 2026b. "Explanation of the FY2026 Budget."
- Kobe City. 2026c. "Kobe City Organization." April 1.
<https://www.city.kobe.lg.jp/a41203/shise/about/construction/soshiki/index.html>.
- Kobe City. 2026d. "Kobe City Statistical Yearbook."
- Kobe City. 2026e. "Natural Environment Conservation Activity Support Project." April 21.
<https://www.city.kobe.lg.jp/a66324/kurashi/recycle/biodiversity/hojokin.html>.
- König, Olaf, Dominik Balmer, and Sebastian Broschinski. 2025. "Abhilfe Gegen Die Sommerhitze: So Grün Ist Ihre Stadt Im Vergleich." *Tagesanzeiger*.
<https://www.tagesanzeiger.ch/satellitenbildanalyse-zeigt-so-gruen-sind-die-schweizer-staedte-933567826191>.
- Kowarik, Ingo, Leonie K. Fischer, and Dave Kendal. 2020. "Biodiversity Conservation and Sustainable Urban Development." *Sustainability* 12 (12).
<https://doi.org/https://doi.org/10.3390/su12124964>.
- Land Berlin. 1982. "Verordnung Zum Schutze Des Baumbestandes in Berlin."
<https://gesetze.berlin.de/bsbe/document/jlr-BaumSchVBErahmen>.
- Land Berlin. 1999. "Berliner Strassengesetz." <https://gesetze.berlin.de/bsbe/document/jlr-StrGBEV13IVZ>.
- Land Berlin. 2005. "Bauordnung Für Berlin." <https://gesetze.berlin.de/bsbe/document/jlr-BauOBE2005pG10>.
- Land Berlin. 2026. "Berlin's Political Structure - Berlin.De."
<https://www.berlin.de/rbmskzl/en/the-senate/political-structure/>.
- Land Berlin (Land Berlin). n.d. "Schutz von Bäumen Im Strassenland." Accessed May 1, 2026. <https://www.berlin.de/sen/uvk/natur-und-gruen/stadtgruen/stadtbaeume/baumschutz-im-strassenland/>.
- Millennium Ecosystem Assessment. 2005. "Ecosystems and Human Well-Being: Synthesis." Island Press.
<https://www.millenniumassessment.org/documents/document.356.aspx.pdf>.
- Ministerio Italiano dell'Ambiente e della Tutela del Territorio e del Mare. 2018. *Catalogo Dei Sussidi Ambientalmente Dannosi e Dei Sussidi Ambientalmente Favorevoli 2018*.
https://www.mase.gov.it/portale/documents/d/guest/csa_terza_edizione_2018_dicembre_2019_1-pdf.
- Müller, Werner, Raffael Ayé, and Martin Schuck. 2018. "Geschützte Brutstätten." *Ornis* 4: 19–21.

- OECD (OECD). 2025. "OECD Dataexplorer: Threatened Species." [https://data-explorer.oecd.org/vis?pg=0&snb=4&vw=tb&df\[ds\]=dsDisseminateFinalDMZ&df\[id\]=DSD_WILD_LIFE%40DF_WILD_LIFE&df\[ag\]=OECD.ENV.EPI&df\[vs\]=1.0&dq=.THREAT_PERCENT.PT_SPC_KN.VASCULAR_PLANT%2BINVERTEB%2BMOSS%2BFISH_TOT%2BREPTILE%2BAMPHIBIAN%2BBIRD%2BMAMMAL&to\[TIME\]=false&ly\[cl\]=SPECIES&ly\[rw\]=REF_AREA&lc=en](https://data-explorer.oecd.org/vis?pg=0&snb=4&vw=tb&df[ds]=dsDisseminateFinalDMZ&df[id]=DSD_WILD_LIFE%40DF_WILD_LIFE&df[ag]=OECD.ENV.EPI&df[vs]=1.0&dq=.THREAT_PERCENT.PT_SPC_KN.VASCULAR_PLANT%2BINVERTEB%2BMOSS%2BFISH_TOT%2BREPTILE%2BAMPHIBIAN%2BBIRD%2BMAMMAL&to[TIME]=false&ly[cl]=SPECIES&ly[rw]=REF_AREA&lc=en).
- OpenAI. 2026. "ChatGPT: GPT-4." <https://chatgpt.com/>.
- Prefeitura de Curitiba. 2000. "Lei N° 9.806, de 03 de Janeiro de 2000." Institui o Código Florestal do Município de Curitiba, revoga as Leis nº 8353/93 8436/94 e dá outras providências. January 3. <https://legisladoexterno.curitiba.pr.gov.br/VisualizarHTML.aspx?id=27451>.
- Prefeitura de Curitiba. 2015a. "Lei nº 14.587, de 19 de fevereiro de 2015." Reestrutura o Programa das Reservas Particulares do Patrimônio Natural Municipal– RPPNM no Município de Curitiba, revoga as Leis nºs 12.080, de 19 de dezembro de 2006, e 13.899, de 9 de dezembro de 2011, e dá outras providências. Curitiba, January 19. <https://mid.curitiba.pr.gov.br/2018/00227518.pdf>.
- Prefeitura de Curitiba. 2015b. "Lei nº 14.771, de 17 de dezembro de 2015." Dispõe sobre a revisão do Plano Diretor de Curitiba de acordo com o disposto no art. 40, § 3º, do Estatuto da Cidade, para orientação e controle do desenvolvimento integrado do Município. December 17. https://ippuc.org.br/storage/uploads/583ed487-6cc6-4ab8-8bd6-8151ef4d7b27/revisao_do_plano_diretor.pdf.
- Prefeitura de Curitiba. 2020a. "Lei nº 15.744, de 27 de outubro de 2020." Dispõe sobre a revisão do Sistema Municipal de Unidades de Conservação de Curitiba e estabelece critérios e procedimentos para implantação e gestão das unidades de conservação. October 27. <https://mid.curitiba.pr.gov.br/2021/00328238.pdf>.
- Prefeitura de Curitiba. 2020b. "PlanClima." December. <https://meioambiente.curitiba.pr.gov.br/conteudo/planclima/1701>.
- Prefeitura de Curitiba. 2021. "Lei nº 15.852, de 01 de julho de 2021." Dispõe sobre a política municipal de proteção, conservação e recuperação do meio ambiente e dá outras providências. July 1. <https://mid.curitiba.pr.gov.br/2021/00317865.pdf>.
- Prefeitura de Curitiba. 2022. "Planos Setoriais." Desenvolvimento Ambiental e de Conservação da Biodiversidade. <https://ippuc.org.br/storage/uploads/68477a5b-24c7-4a84-a849-24c6bf917aba/PS-DESENV-AMBIENTAL.pdf>.
- Prefeitura de Curitiba. 2023. "Decreto nº 2397, de 19 de dezembro de 2023." Dispõe sobre a Regulamentação das Edificações no Município de Curitiba. December 19. <https://mid.curitiba.pr.gov.br/2024/00427509.pdf>.
- Prefeitura de Curitiba. 2025a. "Lei nº 16.645, de 18 de dezembro de 2025." Dispõe sobre a Política Municipal de Mitigação e Adaptação às Mudanças Climáticas de Curitiba. December 18. <https://legisladoexterno.curitiba.pr.gov.br/VisualizarHTML.aspx?id=461395>.
- Prefeitura de Curitiba. 2025b. "Plano Municipal de Arborização Urbana 2025." <https://mid.curitiba.pr.gov.br/2025/00462435.pdf>.

- Prefeitura de Curitiba. 2026a. "IPPUC." March 14.
<https://planejamentourbano.curitiba.pr.gov.br/>.
- Prefeitura de Curitiba. 2026b. "Secretaria Municipal Do Meio Ambiente - Estrutura." March 14. <https://meioambiente.curitiba.pr.gov.br/conteudo/estrutura/237>.
- Prefeitura de Curitiba. 2026c. "Secretarias e Entidades do Município." March 14.
<https://www.curitiba.pr.gov.br/secretarias/>.
- Ruysschaert, Denis, Léonore Baehler, Philippe de Rougemont, et al. 2021. "Motion M-1643 (179e) | Ville de Genève - Site Officiel." October 6. <https://www.geneve.ch/autorites-administration/conseil-municipal/documents/M-1643-179>.
- Sainteny, Guillaume, Jean-Michel Salles, Peggy Duboucher, et al. 2012. *Les Aides Publiques Dommageables à La Biodiversité*. Centre d'analyse stratégique.
<https://www.cbd.int/doc/nbsap/public-incentives-harmful-fr.pdf>.
- Secrétariat du Grand Conseil. 2016. "Réponse Du Conseil d'Etat à La Question Écrite de Mme Simone de Montmolin : Comment La Valeur de Remplacement Des Arbres Est-Elle Calculée et Quelles Sont Les Pratiques Pour Le Choix Des Mesures de Compensation ?" <https://ge.ch/grandconseil/data/texte/Q03771A.pdf>.
- SeMVKU. 2014. "Strategie Stadtlandschaft Berlin."
https://www.berlin.de/sen/uvk/_assets/natur-gruen/landschaftsplanung/strategie-stadtlandschaft/strategie-stadtlandschaft-berlin.pdf?ts=1774439668.
- SeMVKU (Senatsverwaltung Für Mobilität, Verkehr, Klimaschutz Und Umwelt). 2017a. "Biotopverbundsystem."
- SeMVKU. 2017b. "Handbuch Gute Pflege (HGP) – Pflegestandards Für Die Berliner Grün- Und Freiflächen." <https://www.berlin.de/sen/uvk/natur-und-gruen/stadtgruen/pflegen-und-unterhalten/handbuch-gute-pflege/>.
- SeMVKU. 2020. "Charta Für Das Berliner Stadtgrün." <https://www.berlin.de/sen/uvk/natur-und-gruen/charta-stadtgruen/>.
- SeMVKU. 2022. "Berliner Strategie Zur Biologischen Vielfalt: Gute Beispiele Und Der Blick Nach Vorne." <https://www.berlin.de/sen/uvk/natur-und-gruen/biologische-vielfalt/publikationen/>.
- SeMVKU. 2025a. "Berliner Strategie Zur Biologischen Vielfalt 2030+."
<https://www.berlin.de/sen/uvk/natur-und-gruen/biologische-vielfalt/berliner-strategie-zur-biologischen-vielfalt-2030/>.
- SeMVKU. 2025b. "GründachPLUS – Jetzt Förderung Beantragen Und Berlin Grüner Machen - Berlin.De." <https://www.berlin.de/sen/uvk/natur-und-gruen/stadtgruen/gebaeudegruen/gruendachplus/>.
- SeMVKU. 2025c. "Landschaftsprogramm (LaPro)." July 16.
<https://www.berlin.de/sen/uvk/natur-und-gruen/landschaftsplanung/landschaftsprogramm/>.
- SeMVKU. 2026a. "BENE 2: Förderperiode 2021–2027 - Berlin.de --- BENE 2: Förderperiode 2021–2027 - Berlin.De."

- <https://www.berlin.de/sen/uvk/umwelt/foerderprogramme/bene/foerderperiode-2021-2027/>.
- SeMVKU. 2026b. "Berliner Ökokonto (Bauleitplanerisches Ökokonto Des Landes Berlin)." <https://www.berlin.de/sen/uvk/natur-und-gruen/landschaftsplanung/kompensation-von-eingriffen/berliner-oekokonto/>.
- SeMVKU. 2026c. "Flachennutzungsplan (FNP)." <https://www.berlin.de/sen/stadtentwicklung/planung/flaechennutzungsplanung/flaechennutzungsplan-fnp/>.
- SeMVKU. 2026d. "Senatsverwaltung für Mobilität, Verkehr, Klimaschutz und Umwelt." May 12. <https://www.berlin.de/sen/uvk/>.
- Senats-verwaltung für Finanzen. 2026. "Haushaltsplan 2026/2027." April 29. <https://www.berlin.de/sen/finanzen/haushalt/downloads/haushaltsplan-2026-27/artikel.1644823.php>.
- Stadt Zürich. 1991. "Bauordnung Der Stadt Zürich: Bau Und Zonenordnung (BZO 2016)." <https://www.stadt-zuerich.ch/de/politik-und-verwaltung/politik-und-recht/amtliche-sammlung/7/700/100.html>.
- Stadt Zürich. 2017. "Verwaltungsverordnung Über Die Naturnahe Pflege Und Bewirtschaftung Städtischer Grün- Und Freiflächen." https://www.stadt-zuerich.ch/dam/web/de/politik-verwaltung/politik-recht/stadtratsbeschluesse/2017/Mai/Beilage%20STRB%20Nr.%20330_2017.pdf.
- Stadt Zürich. 2021. *Fachplanung Stadtbäume: Planungsgrundlage Für Die Nachhaltige Entwicklung Des Baumbestandes Im Siedlungsgebiet*. <https://www.stadt-zuerich.ch/de/umwelt-und-energie/natur/stadtbaeume/fachplanung-stadtbaeume.html>.
- Stadt Zürich (Stadt Zürich). 2023. "Meilenschritte 23." <https://www.stadt-zuerich.ch/de/planen-und-bauen/projekte-und-ausschreibungen/hochbauvorhaben/meilenschritte.html>.
- Stadt Zürich. 2024a. *Fachplanung Stadtnatur: Planungsgrundlage Für Das Netzwerk Ökologisch Wertvoller Lebensräume*. Zürich. <https://www.stadt-zuerich.ch/fachplanung-stadtnatur>.
- Stadt Zürich (Stadt Zürich). 2024b. "Förderprogramm Stadtgrün: Begrünen Sie Mit Uns Die Stadt." <https://www.stadt-zuerich.ch/de/planen-und-bauen/stadtplanung/strategien-und-konzepte/programm-stadtgruen/foerderprogramm-stadtgruen.html>.
- Stadt Zürich. 2025a. "Stadtratsbeschluss BZO-Teilrevision Baumerhalt (Nr. 0676/2025)." March 12. <https://www.stadt-zuerich.ch/de/planen-und-bauen/bauberatung-und-dienstleistungen/bauberatung/gruenraeume-freiraeume/baumschutz-baumerhalt.html>.
- Stadt Zürich (Stadt Zürich). 2025b. "Wertschöpfung." December 19. https://www.stadt-zuerich.ch/de/politik-und-verwaltung/statistik-und-daten/daten/wirtschaft/konjunktur-und-wertschoepfung/wertschoepfung.html#daten_herunterladen.

- Stadt Zürich. 2026a. "Bevölkerungsdichte." <https://www.stadt-zuerich.ch/de/politik-und-verwaltung/statistik-und-daten/daten/bevoelkerung/bestand-und-entwicklung/bevoelkerungsdichte.html#definitionen>.
- Stadt Zürich. 2026b. "Budget 2026." <https://www.stadt-zuerich.ch/content/dam/web/de/aktuell/publikationen/2025/budget/budget-2026-beschluss-gemeinderat.pdf>.
- Stadt Zürich (Stadt Zürich). 2026c. "Grün Stadt Zürich." <https://www.stadt-zuerich.ch/de/politik-und-verwaltung/stadtverwaltung/ted/gsz.html>.
- Stadt Zürich (Stadt Zürich). 2026d. "Organigramm Der Stadt Zürich." January 1. <https://www.stadt-zuerich.ch/de/politik-und-verwaltung/stadtverwaltung/organigramm.html>.
- Stadt Zürich. 2026e. *Revision Bau- Und Zonenordnung: Erläuterungsbreicht Nach Art. 47 RPV - Fassung Zur Öffentlichen Auflage*. Zürich. <https://www.stadt-zuerich.ch/de/planen-und-bauen/projekte-und-ausschreibungen/oeffentliche-ausschreibungen-auflage/mitwirkungs-rekursauflage-planungsprojekte/bzo-auflage.html>.
- Stadt Zürich. n.d.-a. "Leitfaden Baumerhalt." Accessed May 2, 2026. <https://www.stadt-zuerich.ch/de/planen-und-bauen/bauberatung-und-dienstleistungen/bauberatung/gruenraeume-freiraeume/baumschutz-baumerhalt/leitfaden-baumerhalt.html>.
- Stadt Zürich. n.d.-b. "Zürich in Zahlen." Accessed May 6, 2026. <https://www.stadt-zuerich.ch/de/bildung/volksschule/unterrichtsmaterial/gang-dur-zueri/zuerich-in-zahlen.html>.
- Stadtökologie, Wildtierforschung, Kommunikation. 2021. "Biodiversitätsindex 2021 Für Stadtbäume Im Klimawandel." <https://www.stadt-zuerich.ch/content/dam/web/de/umwelt-energie/natur/dokumente/stadtbaeume/biodiversitaetsindex-2021-fuer-stadtbaeume-im-klimawandel.pdf>.
- Statistik Berlin Brandenburg. 2025a. "Einwohnerbestand in Berlin – Grunddaten." <https://www.statistik-berlin-brandenburg.de/a-i-5-hj>.
- Statistik Berlin Brandenburg. 2025b. "Volkswirtschaftliche Gesamtrechnungen." <https://www.statistik-berlin-brandenburg.de/wirtschaft/volkswirtschaft/volkswirtschaftliche-gesamtrechnungen>.
- Statistisches Bundesamt. 2024. "Zensus 2022: Bevölkerung Am Ort Der Hauptwohnung (Berlin)." <https://ergebnisse.zensus2022.de/datenbank/online/statistic/1000A/table/1000A-0000/table-toolbar/search/s/QmVybGluZXIIIMjBCZXYIQzMIQjZsa2VydW5n#filter=JTdCJTlyaGlkZUVtcHR5Q29scyUyMiUzQWZhbHNIJTJDJTlyaGlkZUVtcHR5Um93cyUyMiUzQWZhbHNIJTJDJTlyY2FwdGlvbiUyMiUzQSU1QiU3QiUyMnZhcmlhYmxlSWQIMjIIM0EIMjIxMDAwQSUYMiUyQyUyMmlkJTlyJTJNBjIyZmlsdGVyLjAlMjIIMkMIMjJ2YWx1ZXNJZHMIMjIIM0EINUIIMjIxMDAwQSUYMiU1RCUYQyUyMmNoaWxkcmVuJTlyJTJNBjTVCTJVEJTDJlY2hvd0FzSW50ZXJsaW5lJTlyJTJNBjZmFsc2UIMkMIMjJpc0hpZGRlbiUyMiUzQWZhbHNIJTJDJTlyYmxvY2tDb2RlJTlyJTJNBjIyczEIMjIIMkMIMjJwb3NzaWJsZVBsYWNIcyUyMiUzQSU1QiU1RCU3RCU1RCUYQyUyMnJvd0hYWRlciUyMiU>

zQSU1QiU3QiUyMnZhcmIhYmxlSWQIMjIIM0EIMjJHRU9ETDEIMjIIMkMIMjJpZCUyMiUzQSUyMnJvd1RpdGxILjAImjIIMkMIMjJ2YWx1ZXNJZHMIMjIIM0EINUIMjJERYyUyMiU1RCUyQyUyMmNoaWxkcmVuJTlyJTNBJTVcJTdCJTlydmFyaWFibGVJZCUyMiUzQSUyMIBSUzAwMSUyMiUyQyUyMmlkJTlyJTNBJTlycm93VG10bGUuMC4wJTlyJTDJTDJlydmFsdWVzSWRzJTlyJTNBJTVcJTlyUU1VJTlyJTVETJTDJTDJlyY2hpbGRyZW4IMjIIM0EINUIMjIIM0EIMjIIMkMIMjJzaG93QXNJbnRlcmxpbmUIMjIIM0FmYWxzZSUyQyUyMmlzSGlkZGVuJTlyJTNBZmFsc2UIMkMIMjJibG9ja0NvZGUIMjIIM0EIMjJjMSUyMiUyQyUyMnBvc3NpYmxlUGxhY2VzJTlyJTNBJTVcJTdCJTlycHJldBhcmVudCUyMiUzQSU3QiUyMmJsb2NrQ29kZSUyMiUzQSUyMnYyJTlyJTDJTDJlyYWQIMjIIM0EIMjJyb3dUaXRzZS4wJTlyJTdEJTJTDJTDJlyZWxlbWVudEFib3ZlJTlyJTNBbnVsbCUyQyUyMmVsZW1lbnRCZWxvdyUyMiUzQSU3QiUyMmJsb2NrQ29kZSUyMiUzQSUyMnYyJTlyJTDJTDJlyYWQIMjIIM0EIMjJyb3dUaXRzZS4wJTlyJTdEJTJTDJTDJlybmV3U2libGluZ0luZGV4JTlyJTNBMCUyQyUyMmhhc1RyYW5zcG9zZVBhcnQIMjIIM0FmYWxzZSU3RCU1RCU3RCU1RCUyQyUyMnNob3dBc0ludGVybGluZSUyMiUzQWZhbHNIJTJTDJTDJlyc2hvd1ZhcmIhYmxlJTlyJTNBZmFsc2UIMkMIMjJzaG93VmFyaWFibGVWYXN1ZSUyMiUzQSU1QiUyMkIEJTlyJTDJTDJlyTEFCRUwIMjIIM0EIMjIIMkMIMjJzb3J0JTlyJTNBJTlyQ29kZUFzYyUyMiUyQyUyMmlzSGlkZGVuJTlyJTNBZmFsc2UIMkMIMjJibG9ja0NvZGUIMjIIM0EIMjJ2MiUyMiUyQyUyMnBvc3NpYmxlUGxhY2VzJTlyJTNBJTVcJTdCJTlybmV3UGFyZW50JTlyJTNBJTdCJTlyYmxvY2tDb2RIJTlyJTNBJTlyYzEIMjIIMkMIMjJpZCUyMiUzQSUyMnJvd1RpdGxILjAuMCUyMiU3RCUyQyUyMmVsZW1lbnRBYm92ZSUyMiUzQSU3QiUyMmJsb2NrQ29kZSUyMiUzQSUyMmMxJTlyJTDJTDJlyYWQIMjIIM0EIMjJyb3dUaXRzZS4wLjAImjIIM0EIMjJibG9ja0NvZGUIMjIIM0EIMjJ2MyUyMiUyQyUyMmlkJTlyJTNBJTlycm93VG10bGUuMMSUyMiU3RCUyQyUyMm5ld1NpYmxpbmdJbmRleCUyMiUzQTAImkMIMjJoYXN1cmFuc3Bvc2VQYXN1ZSUyMiUzQWZhbHNIJTJTDJTDJlyJTNBJTlyR0VPR000JTlyJTDJTDJlyYWQIMjIIM0EIMjJyb3dUaXRzZS4wJTlyJTDJTDJlydmFsdWVzSWRzJTlyJTNBJTVcJTlyMTEwMDAwMDAwMDAwJTlyJTVETJTDJTDJlyY2hpbGRyZW4IMjIIM0EINUIMjIIM0EIMjJ2YXJpYWJsZUlkJTlyJTNBJTlyUFJTMDE4JTlyJTDJTDJlyYWQIMjIIM0EIMjJyb3dUaXRzZS4wLjAImjIIMkMIMjJ2YWx1ZXNJZHMIMjIIM0EINUIMjJRTVUIMjIIM0EIMjJjaGlzZHIJbiUyMiUzQSU1QiU1RCUyQyUyMnNob3dBc0ludGVybGluZSUyMiUzQWZhbHNIJTJTDJTDJlyXNlaWRkZW4IMjIIM0FmYWxzZSUyQyUyMmJsb2NrQ29kZSUyMiUzQSUyMmMyJTlyJTDJTDJlycG9zc2libGVQbGFjZXMIMjIIM0EINUIMjIIM0EIMjJwcmV2UGFyZW50JTlyJTNBJTdCJTlyYmxvY2tDb2RIJTlyJTNBJTlydjMIMjIIMkMIMjJpZCUyMiUzQSUyMnJvd1RpdGxILjEIMjIIM0EIMjJibG9ja0NvZGUIMjIIM0EIMjJjMSUyMiUyQyUyMmlkJTlyJTNBJTlycm93VG10bGUuMC4wJTlyJTdEJTJTDJTDJlyZWxlbWVudEJibG93JTlyJTNBJTdCJTlyYmxvY2tDb2RIJTlyJTNBJTlydjMIMjIIMkMIMjJpZCUyMiUzQSUyMnJvd1RpdGxILjEIMjIIM0EIMjJuzXdaWJsaW5nSW5kZXglMjIIM0ExJTJTDJTDJlyGFzVHJhbnNwb3NIUGFydCUyMiUzQWZhbHNIJTdEJTVEJTdEJTVEJTJTDJTDJlyc2hvd0FzSW50ZXJsaW5lJTlyJTNBZmFsc2UIMkMIMjJzaG93VmFyaWFibGUIMjIIM0FmYWxzZSUyQyUyMnNob3dWYXJpYWJsZVZhbHVlJTlyJTNBJTVcJTlySUQIMjIIMkMIMjJMQUJFTCUyMiU1RCUyQyUyMmlzSGlkZGVuJTlyJTNBZmFsc2UIMkMIMjJibG9ja0NvZGUIMjIIM0EIMjJ2MyUyMiUyQyUyMnBvc3NpYmxlUGxhY2VzJTlyJTNBJTVcJTdCJTlybmV3UGFyZW50JTlyJTNBJTdCJTlyYmxvY2tDb2RIJTlyJTNBJTlyYzIIMjIIMkMIMjJpZCUyMiUzQSUyMnJvd1RpdGxILjEuMCUyMiU3RCUyQyUyMmVsZW1lbnRBYm92ZSUyMiUzQSU3QiUyMmJsb2NrQ29kZSUyMiUzQSUyMmMyJTlyJTDJTDJlyYWQIMjIIM0EIMjJyb3dUaXRzZS4wLjAImjIIM0EIMjJibG9ja0NvZGUIMjIIM0FudWxsJTJTDJTDJlybmV3U2libGluZ0luZGV4JTlyJTNBMCUyQyUyMmhhc1RyYW5zcG9zZVBhcnQIMjIIM0FmYWxzZSU3RCU1RCU3RCU1RCUyQyUyMmNvbHVtbkhlYWRLciUyMiUzQSU1QiU3QiUyMnZhcmIhYmxlSWQIMjIIM0EIMjJTVETJTDJTDJTDJlyJTDJTDJlyYWQIMjIIM0EIMjJib2xUaXRzZS4wJTlyJTDJTDJlydmFsdWVzSWRzJTlyJTNBJTVcJTlyMjAyMi0wNS0xNSUyMiU1RCUyQyUyMmNoaWxkcmVuJTlyJTNBJTVcJTVEJTJTDJTDJlyc2hvd0FzSW50ZXJsaW5lJTlyJTNBZmFsc2UIMkMIMjJzaG93VmFyaWFibGUIMjIIM0FmYWxzZSUyQyUyMnNob3dWYXJpYWJsZVZhbHVlJTlyJTNBJTVcJTlyTEFCRUwIMjIIM0EIMjIIMkMIMjJpc0hpZGRlbiUyMiUzQWZhbHNIJTJTDJTDJlyYmxvY2tDb2RIJTlyJTNBJTl

ydjEIMjIIMkMIMjJwb3NzaWJsZVBsYWNlcyUyMiUzQSU1QiU1RCU3RCU1RCUyQy
UyMmZpeEZpcnN0Q29sdW1ucyUyMiUzQWZhbHNIJTdE&sortByValue=default.

Superhuman Platform Inc. 2026. "Grammarly." <https://www.grammarly.com/>.

Swiss Confederation. 1991. "Federal Act on Forest, Status as of 1 August 2025."
https://www.fedlex.admin.ch/eli/cc/1992/2521_2521_2521/en.

Swiss Confederation. 1996. "Federal Act on the Protection of Nature and Cultural Heritage,
Status as of 1 August 2025."
https://www.fedlex.admin.ch/eli/cc/1966/1637_1694_1679/en.

Swiss Confederation. 1999. "Constitution Fédérale de La Confédération Suisse." April 18.
<https://www.fedlex.admin.ch/eli/cc/1999/404>.

Task-Force Biodiversité. 2025. "Stratégie Municipale Biodiversité de La Ville de Genève -
Axe D: Se Donner Les Moyens." received from the Task-Force Biodiversité via email.

The World Bank Group. 2021. *Unlocking Nature-Smart Development: An Approach Paper
on Biodiversity and Ecosystem Services*. The World Bank Group.
[https://documents1.worldbank.org/curated/en/927121625066013258/pdf/Unlocking-
Nature-Smart-Development-An-Approach-Paper-on-Biodiversity-and-Ecosystem-
Services.pdf](https://documents1.worldbank.org/curated/en/927121625066013258/pdf/Unlocking-Nature-Smart-Development-An-Approach-Paper-on-Biodiversity-and-Ecosystem-Services.pdf).

UN General Assembly. 2015. "A/RES/70/1 Transforming Our World: The 2030 Agenda for
Sustainable Development." October 21. <https://sdgs.un.org/2030agenda>.

UNESCO. 1971. "Convention on Wetlands of International Importance Especially as
Waterfowl Habitat." [https://www.unesco.org/en/legal-affairs/convention-wetlands-
international-importance-especially-waterfowl-habitat](https://www.unesco.org/en/legal-affairs/convention-wetlands-international-importance-especially-waterfowl-habitat).

United Nations. 1992. "Convention on Biological Diversity."
<https://www.cbd.int/doc/legal/cbd-en.pdf>.

Ville de Genève. 1981. "Règlement Concernant Les Fêtes Foraines (LC 311)."
[https://www.geneve.ch/administration-municipale/reglements-municipaux/lc21311-
reglement-concernant-fetes-foraines](https://www.geneve.ch/administration-municipale/reglements-municipaux/lc21311-reglement-concernant-fetes-foraines).

Ville de Genève. 2007. "Règlement Relatif Aux Plans d'utilisation Du Sol de La Ville de
Genève (LC 21 211), Avec Les Dernières Modifications Intervenues Au 29 Janvier
2013." [https://ge.ch/sitg/RDPPF/RDPPF-
AMENAGEMENT/PUS/PUS_VDG_REGLEMENT.pdf](https://ge.ch/sitg/RDPPF/RDPPF-AMENAGEMENT/PUS/PUS_VDG_REGLEMENT.pdf).

Ville de Genève. 2008. "Règlement relatif aux plans d'utilisation du sol de la Ville de Genève
(LC 21 211)." March 18. [https://ge.ch/sitg/RDPPF/RDPPF-
AMENAGEMENT/PUS/PUS_VDG_REGLEMENT.pdf](https://ge.ch/sitg/RDPPF/RDPPF-AMENAGEMENT/PUS/PUS_VDG_REGLEMENT.pdf).

Ville de Genève. 2012. "Règlement d'application Du Dispositif Relatif Aux Subventions
Dédiées à La Solidarité Internationale." May 23.
[https://www.geneve.ch/administration-municipale/reglements-municipaux/lc21591-
reglement-application-dispositif-relatif-subventions-dediees-solidarite-internationale](https://www.geneve.ch/administration-municipale/reglements-municipaux/lc21591-reglement-application-dispositif-relatif-subventions-dediees-solidarite-internationale).

Ville de Genève. 2015a. "Directive Générale Relative Aux Subventions Monétaires."

- Ville de Genève. 2015b. "Règlement Régissant Les Conditions d'octroi Des Subventions Municipales Aux Centres de Loisirs et de Rencontres – Maisons de Quartier (LC 21 542)." January 1. <https://www.geneve.ch/en/media/251791>.
- Ville de Genève. 2015c. "Règlement régissant les conditions d'octroi des subventions municipales (LC 21 195)." January 1. <https://www.geneve.ch/administration-municipale/reglements-municipaux/lc21195-reglement-regissant-conditions-octroi-subventions-municipales>.
- Ville de Genève. 2016a. "Règlement des espaces verts, préaux et places de jeux de la Ville de Genève (LC 21 331)." January 6. https://www.geneve.ch/sites/default/files/2021-05/LC21331-reglement-des-espaces-verts-preaux-places-jeux-ville-geneve_0.pdf.
- Ville de Genève. 2016b. "Règlement Relatif à La Mise En Œuvre de l'IN-3 'Sauvons Nos Parcs Au Bord Du Lac !' (LC 21 213)." <https://www.geneve.ch/administration-municipale/reglements-municipaux/lc21213-reglement-relatif-mise-uvre-3-sauvons-parcs-bord>.
- Ville de Genève. 2016c. "Règlement Relatif Aux Conditions de Subventionnement Des Associations de Ludothèques de La Ville de Genève (LC 21 522)." January 1. <https://www.geneve.ch/en/media/251486>.
- Ville de Genève. 2018a. "Règlement Du 'Fonds Municipal Post Tenebras Lux' (LC 21 252), État Le 1er Juin 2020." <https://www.geneve.ch/administration-municipale/reglements-municipaux/lc21252-reglement-fonds-municipal-post-tenebras>.
- Ville de Genève. 2018b. "Règlement du Fonds Plantamour de la Ville de Genève (LC 21 333.1)." December 19. <https://www.geneve.ch/es/media/252041>.
- Ville de Genève. 2018c. "Règlement du Fonds Thérèse de Francia de la Ville de Genève (LC 21 333)." December 19. <https://www.geneve.ch/hi/media/252066>.
- Ville de Genève. 2019. "Plan stratégique de végétalisation 2030." October 4. <https://www.geneve.ch/document/plan-strategique-vegetalisation-2030>.
- Ville de Genève. 2020a. "Annexe 1 Au Règlement Régissant Les Conditions d'octroi Des Subventions Municipales Aux Organismes de Camps de Vacances et Centres-Aérés (LC 21 562.A01)." <https://www.geneve.ch/administration-municipale/reglements-municipaux/lc21562-annexe-engagements-camps-qualite>.
- Ville de Genève. 2020b. "Règlement Relatif à l'accueil Préscolaire En Ville de Genève et Aux Conditions d'octroi Des Subventions Aux Structures d'accueil (LC 21 551)." June 1. https://www.geneve.ch/sites/default/files/2021-05/LC21551-reglement-relatif-accueil-prescolaire-ville-geneve-aux-conditions-octroi-des-subventions-aux-structures-accueil_0.pdf.
- Ville de Genève. 2022a. "Règlement de la plage des Eaux-Vives (LC 21 316.4)." January 11. <https://www.geneve.ch/administration-municipale/reglements-municipaux/lc21316-reglement-plage-eaux-vives>.
- Ville de Genève. 2022b. "Règlement Relatif à l'activité Des Musicien-Ne-s Ambulant-e-s et Artistes de Rue (LC 21 313)." <https://www.geneve.ch/administration-municipale/reglements-municipaux/lc21313-reglement-relatif-activite-musicien-ambulant-artistes>.

- Ville de Genève. 2022c. "Stratégie Climat de la Ville de Genève." February.
<https://www.geneve.ch/document/strategie-climat-brochure-ville-geneve>.
- Ville de Genève. 2022d. "Stratégie Climat de La Ville de Genève - Liste de Mesures."
<https://www.geneve.ch/document/strategie-climat-liste-mesures-ville-geneve>.
- Ville de Genève. 2023. "Annexe 1 Du Règlement Régissant Les Conditions d'octroi Des Subventions Municipales." <https://www.geneve.ch/administration-municipale/reglements-municipaux/lc21195-annexe-reglement-regissant-conditions-octroi-subventions>.
- Ville de Genève. 2024. "Stratégie d'arborisation communale du domaine public."
<https://www.geneve.ch/document/strategie-arborisation-domaine-public-2024-ville-geneve>.
- Ville de Genève. 2025a. *Comptes 2024 et Rapport de Gestion Du Conseil Administratif*.
 Ville de Genève. <https://www.geneve.ch/document/comptes-2024-ville-geneve>.
- Ville de Genève (Ville de Genève). 2025b. "Faire Une Demande de Subvention Ponctuelle En Lien Avec La Stratégie Climat." June 5. <https://www.geneve.ch/demarches/faire-demande-subvention-ponctuelle-lien-strategie-climat>.
- Ville de Genève (Ville de Genève). 2025c. "PACE - Programme d'action Climat et Environnement Du Département de La Culture et de La Transition Numérique." May 30. <https://www.geneve.ch/autorites-administration/administration-municipale/departement-culture-transition-numerique/retrospectives/retrospective-2020-2025/urgence-climat>.
- Ville de Genève. 2025d. "Plan Directeur Communal Genève 2040." Concept Directeur. November 6. <https://vdgbox.ville-geneve.ch/index.php/s/gACQFkM84tnsB9q?dir=undefined&openfile=15404203>.
- Ville de Genève (Ville de Genève). 2025e. "Potagers Urbains à Genève."
<https://www.geneve.ch/themes/durabilite/programme-nourrir-ville/developper-agriculture-urbaine/potagers-urbains>.
- Ville de Genève. 2025f. "Programme de Mise en Œuvre." Plan Directeur Communal Genève 2040. November 6. <https://vdgbox.ville-geneve.ch/index.php/s/gACQFkM84tnsB9q?dir=undefined&openfile=15404204>.
- Ville de Genève. 2025g. "Règlement Régissant Les Conditions d'octroi Des Subventions Municipales Aux Organismes de Camps de Vacances et Centres Aérés (LC 21 562)." July 1. <https://www.geneve.ch/administration-municipale/reglements-municipaux/lc21562-reglement-regissant-conditions-octroi-subventions-municipales-organismes-camps-vacances-centres-aeres>.
- Ville de Genève. 2025h. "Règlement Relatif à La Prestation de Restauration Scolaire En Ville de Genève et Aux Conditions de Subventionnement Des Associations de Cuisines et Restaurants Scolaires (LC 21 561)." July 1.
<https://www.geneve.ch/administration-municipale/reglements-municipaux/lc21561-reglement-relatif-prestation-restauration-scolaire-ville-geneve-conditions-subventionnement-associations-cuisines-restaurants-scolaires>.
- Ville de Genève. 2025i. "Service Des Espaces Verts." <https://www.geneve.ch/autorites-administration/administration-municipale/departement-finances-environnement->

logement/services-municipaux/service-espaces-verts#:~:text=Gen%C3%A8ve%20m%C3%A9rite%20bien%20son%20surnom,310%20hectares%20d%27espaces%20verts.&text=Tout%20ce%20patrimoine%20est%20g%C3%A9r%C3%A9,annonce%20l%27arriv%C3%A9e%20du%20printemps.

Ville de Genève (Ville de Genève). 2025j. "Soutien Financier Aux Organisations Qui Souhaitent Réduire Leur Empreinte Carbone." October 29. <https://www.geneve.ch/actualites/soutien-financier-organisations-souhaitent-reduire-empreinte-carbone>.

Ville de Genève. 2025k. *Stratégie Biodiversité - Renaturons La Ville: Le Contexte et Les Enjeux*. Ville de Genève. <https://www.geneve.ch/document/strategie-biodiversite-contexte-enjeux>.

Ville de Genève. 2025l. *Stratégie Municipale Biodiversité de La Ville de Genève - Renaturons La Ville: Les 17 Mesures*. Geneva. <https://www.geneve.ch/document/strategie-biodiversite-17-mesures-2>.

Ville de Genève. 2026a. "Autorités et Administration | Ville de Genève - Site Officiel." <https://www.geneve.ch/autorites-administration>.

Ville de Genève. 2026b. "Conseil municipal de la Ville de Genève | Ville de Genève - Site officiel." <https://www.geneve.ch/autorites-administration/conseil-municipal>.

Ville de Genève. 2026c. "Le Conseil Administratif 2025-2030 | Ville de Genève - Site Officiel." <https://www.geneve.ch/autorites-administration/conseil-administratif>.

Ville de Genève. 2026d. "Secrétariat Général | Ville de Genève - Site Officiel." <https://www.geneve.ch/autorites-administration/administration-municipale/secretariat-general>.

Ville de Genève. n.d. "Annexe 1 Du Règlement Relatif Aux Conditions de Subventionnement Des Associations de Ludothèques de La Ville de Genève." Accessed November 15, 2025. <https://www.geneve.ch/es/media/251821>.

WWF. 2024. "Living Planet Report 2024 - A System in Peril." WWF, Gland, Switzerland.

Zerzawy, Florian, Ann-Cathrin Beermann, Swantje Fiedler, and Matthias Runkel. 2021. *Environmentally Harmful Subsidies in Germany: Focus on Biodiversity: How Harmful Incentives Endanger Biological Diversity*. Forum Ökologisch-Soziale Marktwirtschaft (FÖS) and Deutscher Naturschutzring (DNR). https://foes.de/publikationen/2021/2021-05-11_FOES-Subsidies_Biodiversity_EN.pdf.



8

Annex

8 Annex

8.1 Subsidies: Regulations, Directives and Documents analyzed

8.1.1 Regulations Analyzed

The following regulations have been analyzed

- The regulation for the “general” allocation of subsidies: *Règlement régissant les conditions d’octroi des subventions municipales* (LC 21 195, Ville de Genève 2015c), Annexe 1 (Ville de Genève 2023) and the corresponding directive (Ville de Genève 2015a);
- The regulations establishing the allocation of subsidies in specific areas and their annex:
 - *Règlement régissant les conditions d’octroi des subventions municipales aux Centres de loisirs et de rencontres – Maisons de quartier* (LC 21 542, Ville de Genève 2015b);
 - *Règlement relatif à l’accueil préscolaire en Ville de Genève et aux conditions d’octroi des subventions aux structures d’accueil* (LC 21 551, Ville de Genève 2020b);
 - *Règlement relatif à la prestation de restauration scolaire en Ville de Genève et aux conditions de subventionnement des associations de cuisines et restaurants scolaires* (LC 21 561, Ville de Genève 2025h);
 - *Règlement d’application du dispositif relatif aux subventions dédiées à la solidarité internationale* (Ville de Genève 2012)
 - *Règlement relatif aux conditions de subventionnement des associations de ludothèques de la Ville de Genève* (LC 21 522, Ville de Genève 2016c) and its annex (Ville de Genève, n.d.);
 - *Règlement régissant les conditions d’octroi des subventions municipales aux organismes de camps de vacances et centres aérés* (LC 21 562, Ville de Genève 2025g).
- *PACE - Programme d’action climat et environnement du Département de la culture et de la transition numérique* (Ville de Genève 2025c)

8.1.2 Subsidy Agreements Analyzed

Following subsidy agreements have been analyzed:

- *Convention portant sur l’organisation de la Course de l’Escalade durant les années 2024 à 2027 entre La Ville de Genève et l’Association Course de l’Escalade* (05.12.2024)
- *Convention de Partenariat entre La Ville de Genève et L’Association cantonale genevoise de badminton* (14.04.2025)

- *Convention de Subventionnement pour les années 2025-2028 entre La Ville de Genève et la Fédération genevoise de coopération* (05.12.2024)
- *Convention de subventionnement entre La Ville de Genève et la Fédération Genevoise des Associations LGBT* (21.02.2025)

8.2 Overview of the Interviewees per City and Rationales

8.2.1 Berlin

- 03.03.2026, online: Head of the Nature Conservation & Biodiversity Department, from the Berlin Nature Conservation Foundation (*Stiftung Naturschutz Berlin*)
Rationale: As a key state-affiliated organization involved in 12 of the 19 areas of action from Berlin Biodiversity Strategy 2030+, this interviewee provides an essential perspective on the practical implementation and cross-sectoral coordination of the Strategy.
- 16.03.2026, online: Officer from the Senate Department for Mobility, Transport, Climate Protection and Environment (*Senatsverwaltung für Mobilität, Verkehr, Klimaschutz und Umwelt*)
Rationale: This interview offers direct insights from the core administrative authority responsible for the overall coordination and drafting of the Berlin Strategy, clarifying the internal prioritization of measures and the strategic integration of biodiversity into Berlin's broader urban planning framework.
- 19.03.2026, online: Officer of Department of Nature Conservation, from the German Federation for the Environment and Nature Conservation, Berlin State Chapter (*Der Bund für Umwelt und Naturschutz Deutschland, Landesverband Berlin*)
Rationale: The interviewee provides a critical external perspective on the Berlin biodiversity strategy and its implementation.

8.2.2 Curitiba

- 26.01.2026, online: Two collaborators from the Municipal Secretariat for the Environment (SMMA)
Rationale: The Secretariat is responsible for preserving Curitiba's ecosystem, managing parks, controlling wildlife and implementing sustainability policies
- 05.02.2026, online: Collaborator from the Society for Wildlife Research for Environmental Education (SPVS)
Rationale: The interviewee has extensive expertise in biodiversity. As a collaborator from an independent organization, they bring a critical, external perspective on the city's approach to biodiversity.
- 26.02.2026, online: Professor from the Federal University of Paraná
Rationale: As an expert in forest engineering, the collaborator contributed with an academic, critical and external perspective on green areas and urban arborization.

- 05.03.2026, online: Collaborator from the Institute for Urban Planning and Research (IPPUC)
Rationale: As an architect, the interviewee brought a technical perspective on urban planning aspects that affect biodiversity.

8.2.3 Kobe

- 14.01.2026, Kobe: Representative Head and two Assistant Directors from the Biodiversity Conservation Division, Environment Bureau of the Kobe City Government, together with a Professor from Kobe University specializing in biodiversity

Rationale: The Biodiversity Conservation Division is responsible for implementing Kobe's biodiversity strategy and policies, including the promotion of urban ecological networks and alignment with national environmental frameworks. The inclusion of both senior staff and an academic expert provides a comprehensive perspective, combining policy implementation with scientific expertise on biodiversity in Kobe.

- 26.02.2026, online: Kobe: Representative of Shizen Kyousei
Rationale: Shizen Kyousei is a citizen-based organization actively engaged in promoting coexistence between humans and nature in Kobe. The interviewee offers an independent and critical perspective on local biodiversity initiatives, including grassroots activities and critical reflections on municipal policies.

8.2.4 Zurich

- 02.02.2026, Zurich: Two collaborators responsible for the Urban Nature Specialist Planning (*Fachplanung Stadtnatur*), *Grün Stadt Zürich*

Rationale: The Urban Nature Specialist Planning is the city of Zurich's biodiversity strategy and regroups several relevant instruments and refers to relevant regulations and laws at the municipal and cantonal level. The persons interviewed have a very comprehensive understanding of the city of Zurich's approach to biodiversity.

- 24.02.2026, online: Collaborator from a nature protection organization in Zurich
Rationale: The interviewee has extensive expertise in the legal frameworks governing biodiversity at both the municipal level in the city of Zurich and the cantonal level in the canton of Zurich. As a collaborator of an independent nature protection organization, they have a critical and external perspective on the city's approach to biodiversity.

- 04.03.2026, online: Collaborator in the Section for Environmentally Responsible Construction (*Fachstelle Umweltgerechtes Bauen*), Office for Building Construction (*Amt für Hochbauten*)

Rationale: The Office for Building Construction is one of the authorities required to implement the Urban Nature Specialist Planning in its projects. In addition, it applies

its own building standards, which include provisions on the connectivity of urban nature, tree preservation, and surface sealing. Compliance with these sustainability criteria is monitored by the Section for Environmentally Responsible Construction (*Fachstelle für Umweltgerechtes Bauen*). The interviewee has extensive knowledge of the relevant legal frameworks on biodiversity as well as their implementation.

- 05.03.2026, online: Collaborator responsible for the Urban Trees Specialist Planning, *Grün Stadt Zürich*
Rationale: The interviewee has extensive knowledge of the approach and the legal framework governing urban trees.

8.3 Interview Guides and Questions

Questions for the Representatives of the City

1. Key Measures Behind Recognition as a Biodiversity Role Model and other legal Frameworks with a positive Impact on Biodiversity

“[Name of the city] was awarded [name of the award] in [year]/is considered a role-model in biodiversity protection and development. **Which specific biodiversity-related measures do you believe contributed most significantly to this?**”

Rationale of the question:

The aim is to identify biodiversity-related best practices, including practices that possibly go beyond what is formally documented in the biodiversity strategy. Some cities already acted as role models in biodiversity before adopting a dedicated strategy (ex. Zurich was awarded the Grünstadt-Label in 2021, but published its Biodiversity Strategy only in 2024). The question focuses explicitly on Biodiversity, since some cities (such as Curitiba) have received broader sustainability awards which may encompass areas beyond biodiversity. It is thus important to frame the question tied to biodiversity.

2. “Which other existing or past legal frameworks or planning instruments (at the municipal, cantonal, or national level) beyond the measures already mentioned and the biodiversity strategy have, in your view, had a particularly positive impact on biodiversity in [name of the city], especially in the areas of canopy development, soil protection, ecological infrastructure and natural habitats, and why?”

Rationale of the question:

To identify legal frameworks beyond the biodiversity strategy that have positively influenced biodiversity in [name of the city]. Since the biodiversity strategies are often recent, it is equally important to find out what other legal frameworks can support biodiversity or have supported biodiversity. The second question is similar to the first one, but lets the interviewee develop

further. This provides insights for Geneva on how laws or regulations could be adapted or created to effectively support biodiversity.

3. Strengths of the Biodiversity Strategy/Approach

“[Name of the city] published its biodiversity strategy in [year]. Where do you see the main strengths of the city’s biodiversity strategy/approach, whether in planning, implementation, governance, or other areas?”

Rationale of the question:

The question aims to identify best practices within the current biodiversity strategy while leaving it open to the interviewee to highlight multiple areas they consider particularly successful or effective.

4. Challenges encountered in the implementation of the Biodiversity Strategy/Approach

“What are the weaknesses of the strategy? What are the key challenges [name of the] currently faces in implementing its biodiversity strategy, whether technical, organizational, or societal?”

Rationale of the question:

This question aims to identify the main implementation barriers encountered by the cities in translating their biodiversity strategy into practice. Understanding these technical, organizational, or societal challenges helps anticipate similar constraints in Geneva and informs recommendations.

5. Legal Frameworks with a Negative Impact on Biodiversity

“Are there current or past legal frameworks (at the municipal, cantonal, or national level) that tend to hinder the promotion of biodiversity or create goal conflicts, especially in the areas of canopy development, soil protection, ecological infrastructure and natural habitats? Are there any considerations or initiatives underway to adapt or revise these frameworks?”

Rationale of the question:

To identify legal frameworks that may hinder biodiversity or create goal conflicts. This helps provide recommendations to Geneva on which legal frameworks might need adaptation and explores, with city representatives, how such frameworks could be revised. It directly informs the analysis of policies in Phase I.

6. Measurable Impacts of the Strategy/Approach

“To what extent have the measures defined in the biodiversity strategy for [Name of the city] been implemented? Is it already possible to assess whether the state of biodiversity in [Name of the city] has developed in line with the strategy since the last monitoring exercise? Where are positive trends evident, and where does further action remain necessary? Which measures have contributed to these outcomes, and are there some that have been particularly effective compared with others?”

Rationale of the question:

To assess the tangible impacts of the biodiversity strategy, focusing on evidence-based positive trends and areas needing further action. Unlike the “strengths” question, this emphasizes measurable outcomes. Of course, for recently published strategies, such impact data may still be limited.

7. Cost-Efficiency of the Strategy

“What additional financial and human resources are required in the context of the biodiversity strategy? Is it possible to comment on the cost efficiency of the measures planned under the biodiversity strategy (e.g. maintenance costs, monitoring costs, restoration costs)?”

Rationale of the question:

To understand the resource implications of implementing the biodiversity strategy, both in terms of finances and personnel. It also seeks insights into the cost efficiency of specific measures, which can inform recommendations for Geneva on budgeting, prioritization, and the allocation of resources for effective biodiversity management.

8. Future Development

“What are the main priorities for improving biodiversity governance in [Name of the City] over the next 5-10 years? Are there plans to strengthen existing instruments or introduce new ones?”

Rationale of the question:

This question aims to identify possible future measures for improving biodiversity governance that are not yet described in existing strategies or legal frameworks.

9. Transferability

"Which elements of the city's approach do you consider most transferable to other cities internationally? What contextual factors (legal, financial, cultural) are crucial for successfully replicating these instruments elsewhere? If another city wanted to adopt

similar measures, what would you advise them to focus on first? Is there anything you would have done differently in hindsight?”

Rationale of the question:

This question aims to examine whether specific contextual factors were necessary for the adoption of the measures and to identify potential challenges in implementing the city's measures in Geneva.

Questions for Experts

1. Key Measures Behind Recognition as a Biodiversity Role Model and other legal Frameworks with a positive Impact on Biodiversity

“[Name of the City] was awarded [name of the award] in [year]/is considered a role-model in biodiversity protection and development. Which specific biodiversity-related measures do you believe contributed most significantly to this?”

Rationale of the question:

The aim is to identify biodiversity-related best practices, including practices that possibly go beyond what is formally documented in the biodiversity strategy. Some cities already acted as role models in biodiversity before adopting a dedicated strategy (ex. Zurich was awarded the Grünstadt-Label in 2021, but published its Biodiversity Strategy only in 2024). The question focuses explicitly on Biodiversity, since some cities (such as Curitiba) have received broader sustainability awards which may encompass areas beyond biodiversity. It is thus important to frame the question tied to biodiversity.

2. “Which other existing or past legal frameworks or planning instruments (at the municipal, cantonal, or national level) beyond the biodiversity strategy have, in your view, had a particularly positive impact on biodiversity in [name of the city], especially in the areas of canopy development, soil protection, ecological infrastructure and natural habitats, and why?”

Rationale of the question:

To identify legal frameworks beyond the biodiversity strategy that have positively influenced biodiversity in [name of the city]. Since the biodiversity strategies are often recent, it is equally important to find out what other legal frameworks can support biodiversity or have supported biodiversity. The second question is similar to the first one, but lets the interviewee develop further. This provides insights for Geneva on how laws or regulations could be adapted or created to effectively support biodiversity.

3. Strengths of the Biodiversity Strategy

“[Name of the City] published its biodiversity strategy in [year]. Where do you see the main strengths of the city’s biodiversity strategy, whether in planning, implementation, governance, or other areas?”

Rationale of the question:

The question aims to identify best practices within the current biodiversity strategy while leaving it open to the interviewee to highlight multiple areas they consider particularly successful or effective.

4. Weaknesses in the Biodiversity Strategy and Its Implementation

“What are the key weaknesses in [name of the city]’s biodiversity strategy and in its implementation, including technical, organizational, and societal aspects?”

Follow-up: “Are there any biodiversity-issues that do not receive enough attention?”

Rationale of the question:

This question aims to identify both substantive weaknesses in the design of [name of the city] biodiversity strategy and shortcomings in its implementation. Understanding these weaknesses facilitates anticipation of similar challenges in Geneva and supports the formulation of more robust and actionable recommendations.

5. Legal Frameworks with a Negative Impact on Biodiversity and their Adaptions

“Conversely, are there current or past legal frameworks (at the municipal, cantonal, or national level) that tend to hinder the promotion of biodiversity or create goal conflicts? How could they be adapted?”

Rationale of the question:

To identify legal frameworks that may hinder biodiversity or create goal conflicts. This helps provide recommendations to Geneva on which laws might need adaptation and explores how such frameworks could be revised. It directly informs the analysis of policies in Phase 1.

6. Transferability

“Which elements of the city's approach do you consider most transferable to other cities internationally? What contextual factors (legal, financial, cultural) are crucial for successfully replicating these instruments elsewhere? If another city wanted to adopt similar measures, what would you advise them to focus on first?”

Rationale of the question:

This question aims to examine whether specific contextual factors were necessary for the adoption of the measures and to identify potential challenges in implementing the city's measures in Geneva.

7. Actors and collaboration

“How would you assess the city's openness to collaboration with civil society and environmental NGOs? Where do you see the greatest added value of NGO involvement and where are institutional barriers still present?”

Rationale of the question:

Explore the potential role NGOs could play in biodiversity conservation in collaboration with the city.

8.4 Detailed Results of the Assessment of the Subsidies

8.4.1 Impact of Allocated Subsidies on Biodiversity

A detailed table presenting the ratings of subsidies by department can be accessed via the following link: [Subsidies assessment.xlsx](#). This table provides a comprehensive breakdown of each department's subsidies and their respective impacts on biodiversity.³⁶

Department 1 - Finance, Environment and Housing

In 2024, the Department of Finance, Environment and Housing allocated a total amount of CHF 15,323,599 in monetary subsidies to organisations active in 12 sectors. The highest amount (85%) which sums CHF 13,026,060 was directed to organizations dealing with social assistance in many different fields such as LGBT protection, prevention of racism, sexism and torture, international solidarity, learning support for students, preservation of archives, and support for unemployment assistance and social security. Impacts related to their activities are mostly neutral, except for regular indirect impacts related to consumption.

Subsidies allocated for species and landscape protection as well as for environmental pollution control amount to CHF 2,185,338 (14.26%). These subsidies are either directed to organizations working directly toward these objectives or distributed through the *Subventions Plan Climat* fund or the *Organisations et Urgence Climatique* fund. These funds support projects linked to the climate strategy (Ville de Genève 2025b) or organizations seeking to reduce their carbon footprint (Ville de Genève 2025j). These subsidies have a positive impact on biodiversity, but they represent only a relatively small share of the total amount of subsidies allocated.

³⁶ The ratings, as well as the amounts calculated on their basis, should be interpreted with caution: they provide a general overview rather than a case-by-case assessment.

Other organizations such as the Association *Genève Cultive* (CHF 51,000), which supports the development of urban agriculture through the integration of green projects in urban areas, and *Sustainable Finance Geneva* (CHF 30,600), that promotes sustainable finance in the Swiss market, are also relevant and can have a positive impact on biodiversity.

The non-monetary subsidies, represented by municipal property ceded to organizations, amount to CHF 2,982,658. The impacts on biodiversity are mostly neutral, except for regular indirect impacts with energy consumption, for example. From this amount, CHF 231,000 are directed to road traffic, specifically, Palais Wilson parking and exercise a negative impact on biodiversity.

Department 2 - Planning, Construction and Mobility

In 2024, the Department of Planning, Construction and Mobility allocated the least amount of money out of the other five, with a total of CHF 2,602,934 directed to organisations active in 9 sectors. The sector to which was granted the highest share (71.94%), CHF 1,872,640, corresponds to public transports subscriptions for seniors and youth, as well as evening urban lines. These subsidies have a slightly positive impact on biodiversity because they encourage the utilization of public transportation, reducing the number of cars on the streets and, consequently, greenhouse gas emissions. However, a well-priced public transport system can create incentives for long commuting and leisure trips, which in turn promotes urban sprawl (Gubler et al. 2020).

Other organizations have positive impacts, such as *GenèV'Roule* and *ProVélo*, since they encourage the use of sustainable transport alternatives like bicycles, for example. They receive a total of CHF 458,700 (17.6% of the total amount).

The remaining sectors within the department have mostly neutral impacts related to consumption for maintenance of the organization's activities that range from conservation of cultural heritage to promotion of architecture expositions.

The non-monetary subsidies amount to CHF 53,759 and consist of subsidies granted to users of the cyclestation at Cornavin Station. These subsidies have a positive impact, as they promote sustainable mobility.

Department 3 - Culture and Digital Transition

In 2024, the Department of Culture and Digital Transition awarded a total of CHF 80,633,428 in monetary subsidies. There is substantial heterogeneity among beneficiaries. They differ with respect to their type (institutions, groups, individuals), the nature of their activities (exhibitions, concerts, theatrical performances), the frequency of their events (year-round events versus once-a-year festivals), and their scale (ranging from the *Grand Théâtre de Genève* to individual artists).

A very small amount within the department has identifiable positive effects on biodiversity. CHF 100,000 went to the “Projects and Acquisitions” fund of the botanical garden and CHF 171,000 went to organizations committed to responsible digital practices, which can also include resource-efficient use of digital technologies.

Negative impacts (Rating 1) could arise primarily when cultural activities take place outdoors, as this likely leads to noise, light pollution and waste. Three entities on the list of monetary subsidies were identified as outdoor events or as organizing major outdoor events. The subsidies allocated to these amounts to CHF 2,947,590 and represent a very small amount of the total subsidies (roughly 3.7%). Their impact is negative because the disturbances they generate, especially when concentrated in time and space, may significantly affect local biodiversity. Most other cultural activities occur indoors; however, associated light, noise and waste, particularly when visitors arrive or leave, may still disturb biodiversity. These effects depend strongly on event frequency and visitor numbers.

Less pronounced negative impacts (Rating 2), e.g. indirect impacts, in the cultural sector can occur through energy consumption, visitor mobility, and other resource use. The cultural sector in France, for example, is responsible for 1.3% of France’s CO₂ emissions (Direction générale de la création artistique du ministère de la Culture 2025). Compared to other sectors, it is relatively low, but also not negligible. While a detailed, case-by-case assessment would be required to evaluate each beneficiary and its activities, it can be assumed that bigger organizations have a higher impact. The *Grand Théâtre de Genève*, the *Orchestre de Suisse Romande* and the *Fondation d'art dramatique (La Comédie, Le Poche)* represent such major organisations and receive over CHF 35 million in total. Their impact can be assessed as slightly negative.

The department also awarded CHF 13,575,919 in non-monetary subsidies. The conclusions regarding their impact on biodiversity are largely similar to those drawn for monetary subsidies.

Considering the indirect impacts associated with the activities of the subsidized organizations, the overall effect of the subsidies awarded by the Department of Culture and Digital Transition on biodiversity can be assessed as neutral to slightly negative.

Department 4 - Security and Sports

The Department of Security and Sports allocated monetary subsidies totaling CHF 6,910,174 in 2024. A variety of sectors received subsidies, including funding for outdoor recreation, general sports clubs, and development and sustainability-focused organizations. A number of organizations with a variety of effects on biodiversity are included in the allocation.

It is estimated that 6% of the funding, covering activities such as water skiing and winter sports, negatively affect biodiversity (Rating 1; direct negative impact, larger scale). These sports

cause direct, observable disturbance to natural habitats, such as habitat degradation, soil erosion in natural regions, or fuel emissions that directly affect aquatic ecosystems, and are thus evaluated as having a negative impact (Hudek et al. 2020). Over 60% of the total amount allocated is rated as having a slightly negative impact on biodiversity, mainly through its indirect negative impact on a larger scale. It supports sports that rely on resource-intensive infrastructure like swimming pools and ice rinks.

Around 30% of the allocated funds are classified as having a neutral impact (Rating 3), encompassing indoor sports such as table tennis. On the other hand, 1.7% of the total amount allocated has a slightly positive impact (Rating 4, indirect positive impact) through Sustainable Development Support Funds.

In terms of non-monetary subsidies, the overall impact on biodiversity is assessed as slightly negative. The negative impact stems primarily from the city absorbing the high resource consumption and land-use demands of various sports. By offering free use of facilities like swimming pools, the city directly subsidizes the substantial energy and water costs required for heating and maintenance. Furthermore, the provision of rent-free premises and playing surfaces to numerous football and other clubs directly supports the existence of dedicated, built-up sporting infrastructure, which is a major contributor to land sealing and land-use pressure (Bø et al. 2024).

Department 5 - Social Cohesion and Solidarity

In 2024, the Department of Social Cohesion and Solidarity allocated a total of CHF 192,981,143 in monetary subsidies to organizations across 19 sectors. The highest amount was directed to 'Family and Youth' (*Famille et jeunesse*), with the sub-sector of 'Nurseries, daycare centers, kindergartens, and related activities' (*Crèches, garderies, jardins d'enfants et activités liées*) alone accounting for CHF 134 million.

The vast majority of subsidies within this department are considered environmentally neutral, as their connection to biodiversity is largely indirect and assessed as not particularly pronounced. Allocations in the Sports and Leisure (*Sports et loisirs*) sector supporting numerous outdoor camps and amounting to approximately CHF 1.3 million may disrupt natural habitats through noise, waste generation, and soil disturbance.

Furthermore, three projects received positive evaluations:

- *FAPEO-Pédibus* encourages students to walk to school, effectively reducing carbon emissions and other traffic-related environmental impacts;
- The *Centre Ornithologique de réadaptation* performs bird rescue operations, providing a direct positive impact on Geneva's biodiversity;

- *Noctambus* is recognized for reducing nighttime traffic, thereby decreasing noise pollution, light pollution, and the probability of wildlife-vehicle collisions.

However, the combined total of these three positive initiatives accounts for only CHF 249,462 (0.13% of all monetary subsidies in the Department of Social Cohesion and Solidarity).

Non-monetary subsidies, which primarily consist of the provision of municipal property free of charge, total CHF 19,406,733. The vast majority of this value supports indoor facilities for social, educational, and health services. The biodiversity impact of these allocations is assessed as overwhelmingly neutral. There is, however, one allocation with direct negative biodiversity impacts as it funds 5 parking facilities (CHF 12,938).

General Secretariat

In 2024, the General Secretariat allocated a total of CHF 2,397,944 in monetary subsidies. Aside from CHF 250,000 allocated to the *Compagnie générale de navigation sur le lac Léman*, which likely has a slightly negative impact on biodiversity as it may disturb ecosystems but at the same time encourages public transport, those subsidies are estimated to have a neutral effect on biodiversity.

It also allocated a total of CHF 772,179 in non-monetary subsidies. The biodiversity impact of these allocations is assessed as overwhelmingly neutral.

8.5 Credits and Disclosures

8.5.1 Image Credits

Front Cover: Photograph by the author.

3.2 Berlin background: Image sourced from *Senatsverwaltung für Mobilität, Verkehr, Klimaschutz und Umwelt* (<https://www.berlin.de/sen/uvk/natur-und-gruen/biologische-vielfalt/>).

3.5 Zurich background: Image sourced from *ETH Zürich Welcome Center* (<https://ethz.ch/de/die-eth-zuerich/arbeiten-lehren-forschen/welcome-center/leben-in-zuerich.html>).

General Assets: All other icons, decorative backgrounds, and graphic elements are sourced from Adobe Express and Canva under their standard license.

8.5.2 Acknowledgement of the Use of AI

This text was supported by AI language tools, including ChatGPT (OpenAI 2026) and Grammarly (Superhuman Platform Inc. 2026), for language flow improvement, grammatical

correction and translation assistance. The authors have reviewed and modified all AI-assisted content to ensure accuracy and alignment with the intended objectives.