



## ARTICLE

# Claim Discipline for Informal Urban Green Spaces: Term-Level Evidence on Ecological Retention, Direct Contact, and Service Interaction

Richard Clarke\*

Senior Advisor in Environmental Planning and Conservation Global Landscape Policy Institute United Kingdom

\* Correspondence: richardclk@landscapeinstitute.org/

## Abstract

In recent years, informal urban green spaces have come to be seen as assets for ecology and society alike amid dense, stratified and climatically vulnerable cityscapes. Ecological and social planning rationales behind informal urban green space may involve habitat conservation, cooling, stormwater management, recreation, aesthetics, and production; however, these rationales are differently well founded depending on the specific nature of the space, which includes brownfields, vacant land or lots, wastelands, urban wildness, spontaneous vegetation, and even the label of informal green space itself. This paper investigates whether the ecological services associated with each category rest on empirical support for the interactions among them. An existing inventory of 112 academic publications addressing informal green-space ecosystem services was parsed out in terms of service load, ecological-retention share, direct-contact share, multi-service treatment, intervention exposure, interaction-audit coverage, and potential-use liability. It turns out that vacant land and lots carry the greatest potential-use liability in the amount of 50.6 due to their future-oriented focus coupled with just 4.2% interaction-audit coverage. Multi-service treatment among brownfields is relatively defensible at 75.8%, as much as the interaction-audit coverage is at 24.0%, yet the vast majority of the brownfield papers do not consider service interaction. Informal green spaces are least exposed to liability due to its descriptive nature rather than being a physically changing target. Wastelands exhibit the largest share of ecological retention in 77.9%, and neither urban wildness nor spontaneous vegetation papers contain any data on interaction audit coverage.

**Keywords:** informal green space; vacant land; brownfield; spontaneous vegetation; urban wasteland; ecosystem services; urban greening; trade-offs; cultural services; planning evidence

## 1. Introduction

The policy context of urban greening today requires planners to do more with limited land. High-density environments need to be cooled down, biodiverse, performative in stormwater management, and equitable in their distribution of vegetation access. But because many neighbourhoods are crowded with other built structures, such areas are increasingly unable to contain additional parks within conventional definitions. Informal urban green spaces have emerged as one response to this challenge: residual lands, post-industrial areas, overgrown plots,

disordered roadside and railway corridors, spontaneous vegetation assemblages, and other vegetated sites that fall beyond traditional park designations. As administrative categories, such sites are seen as temporary, marginal, or vacant. Yet ecologically and socially, they might contribute in unique ways to habitat creation, shading capacity, water infiltration, everyday contact with plants, and an experience of urban nature that contrasts with manicured park settings [13, 23–25].

Yet this situation raises the question of what each term describes. Brownfields refer to an industrial past and its implications for contamination, redevelopment pressures, and transformations of large sites. Vacant lots tend to imply demolition, interrupted development, neighborhood vacancy, property uncertainties, and the reclamation of small parcels. Wastelands tend to suggest neglect and abandonment, even if ecological processes remain active. Urban wildness and spontaneous vegetation highlight concepts like ecological self-organization and ruderal plants. The term informal green spaces represents a much broader and more inclusive definition; yet this inclusion makes decision-making harder to specify. All of these terms frame the services that might be expected of the sites described by them, along with the beneficiaries of such services and the possible interventions.

Ecological services can help compare the sites discussed here, but they risk overstating their potential. Habitat provision, climate regulation, water retention, cultural value, food production, education, and aesthetics can all occur simultaneously. Co-presence does not mean that all services will increase with any given management action. Making a site more accessible could enhance cultural value while disrupting habitat formation. Mowing could foster clarity and maintenance but reduce plant structure and invertebrates. Community gardening would help with food production but replace spontaneous vegetation. Tree planting could lead to better shading conditions but shift open habitats and future land uses. Urban ecosystem service research has demonstrated repeatedly the interdependencies that vary according to land-management choices, distribution among locations, and conflicts among stakeholders [2, 5, 22, 27].

This paper therefore explores the fit between claims made in urban greening policy documents and actual interaction evidence. The central issue becomes whether term-based evidence of ecosystem services allows claims about interventions, access rights, and ecological retention without presuming all sites of informality are equally well tested. What the discussion does not intend is ranking these types of sites relative to each other. A lack of information about intervention does not mean the sites lack value; rather, it indicates that the land is sensitive to disturbance. What needs to be evaluated is whether the plan makes claims exceeding those substantiated by the evidence.

The present study thus introduces Evidence–Claim Congruence Analysis to answer that issue. The technique involves taking term-level data extracted from the literature inventory and creating indicators to differentiate between ecological retention services versus direct-contact services, intervention impacts versus current-condition observations, and multi-service treatments versus testing for trade-offs. The resultant analysis allows for determining where strong claims should be made, where moderation is needed, and where on-the-ground assessment is required prior to physical intervention.

Unlike a straightforward ranking of informal sites, this paper analyzes brownfields, vacant lots, wastelands, urban wildness, spontaneous vegetation, and informal green spaces individually and as distinct bodies of evidence. What follows is an exploration of how term-specific evidence can enable distinct kinds of planning statements: negotiated transformation, parcel-level experimentation, administrative recognition, ecological continuation, and access control.

Photographic evidence in Figure 1 explains the reason for this analysis treating terminology as evidence, rather than a mere wording choice. Brownfield, vacant land/lot, informal green space, urban wildness, and wasteland are visually distinguishable urban land uses, and the distinction matters in service claim analysis. The figure shows that, depending on the context, informal vegetation can denote post-industrial surface, small residential parcel, accessible but partly ungoverned greenery, thick spontaneous growth, and open disturbed land use. Visual evidence justifies the analytical decision to examine term groups before planning conclusions.



Figure 1. Evidence landscape.

## 2. Background and rationale

## 2.1. Urban ecosystem services and planning claims

Scholars studying urban ecosystem services have demonstrated how ecological processes in cities positively affect people. Among these services are air filtering, microclimate regulation, stormwater filtration, noise mitigation, recreation, and aesthetics [3]. Further analysis of ecosystem services pointed to the necessity to take scale, spatial distribution, social relevance, and policies into account when conducting assessments [4, 5]. Research on green infrastructure highlighted the significance of multifunctionality, landscape connectivity, and combining of ecological, social, and productive services in urban planning practices [12, 16].

However, the presence of informal green spaces poses challenges for traditional planning because their service provision involves aspects that are often excluded by design efforts. Unmaintained, spontaneous, undefined, and under-programmed spaces allow for greater diversity of habitats and unique cultural experiences. Still, these aspects may cause problems like uncertainty, perceived disorder, lack of security, and pressure for redevelopment. To plan effectively, one needs to make clear distinctions between provision of a service, claiming that the provision will be beneficial as a policy, and testing the claim against alternative services.

## 2.2. Informal green-space terminology

The terminology of informal urban green space refers to vegetated areas that are not designed as parks, gardens, woods, or farmland. Rupprecht and Byrne defined such spaces by their informality, previous anthropogenic impact, and spontaneous non-remnant vegetation while proving their variability among cities [23, 24]. The review of informal green spaces provided by Luo and Patuano revealed their importance for biodiversity and urban populations while highlighting the fragmentation of the field along linguistic, geographic, and disciplinary lines [13, 25].

A separate group of brownfield research emphasized redeveloping brownfield sites, addressing their contamination, satisfying stakeholders' needs, and measuring environmental performances [14, 29]. Meanwhile, the discussion about vacant lots focused on their potential contributions to urban ecosystems and urban communities [1, 10, 15, 18]. Given the different emphases, the evidence for brownfields and vacant lots should be considered separately. Both groups include abandoned industrial sites and thus cannot be combined under one category of urban land abandonment.

In addition, urban wildness and spontaneous vegetation provide a useful conceptual ground for further examination. As their values depend on managed aspects, rough appearance, and perception of the city as a natural setting, scholars discussed the conservation significance of novel urban ecosystems and urban wildness [8, 9]. Jorgensen and Tylecote analyzed ambivalent character of urban interstitial landscapes due to their potential for both attraction and revulsion [6]. Wasteland is related to these studies, but carries more negative connotations. Studies on wild bees and spontaneous vegetation proved that such places still play a crucial role in biodiversity [21, 28].

## 2.3. Service interaction and evidence discipline

The problem of claim discipline arises due to the existence of interacting ecosystem services. While providing benefits, ecosystem services are often related to each other; the gain in one area is likely to result in losses elsewhere [2, 22]. The interactions in an urban environment depend on many factors including access design, maintenance frequency, past land use, vegetation type, hydrology, and attitude toward urban nature [5, 27]. Besides, cultural services are more complex compared to other services because they are not limited to recreational activities [17, 19]. Apart from identity formation, aesthetic experience, learning, exploration, and place attachment, cultural services involve fear, alienation, discomfort, and perceived neglect.

In turn, the informality of urban spaces creates challenges. An informal area can be home to pollinating insects and spontaneous plants while being seen as hazardous for pedestrians. Informal brownfields provide good habitat for wildlife while waiting to be redeveloped. Informal vacant lots store stormwater but may become subjects for gardeners. Therefore, making multiple claims about informal land uses requires checking their service interactions. The present analysis examines service interactions using the distinction between multiple and single service treatment.

### 3. Materials and analytical procedure

#### 3.1. Evidence base and term groups

For the analysis of evidence, the data were derived from the literature review on multiple ecosystem services of informal green spaces completed by Luo and Patuano [13]. Five categories of land use terms included in the study are brownfield, vacant land/vacant lot, informal green space, urban wildness/spontaneous vegetation, and wasteland. Each term group is associated with its values of occurrence, percentages of habitat, climate regulation, cultural services, food supply, and other services; numbers of single-service and multi-service treatment; potential and current services counts; and studies dealing with interaction between services.

The analysis employs evidence-structure values and not the measures for particular parcels. Habitat percentage does not indicate that all parcels in the same group provide the same service volume. Instead, it reflects attention to habitat provided by the studies under consideration. Such difference is essential for the research question, which is evaluating claims of ecosystem services among the publications rather than measuring performance at individual sites.

#### 3.2. Indicator construction

Let  $H_i$ ,  $C_i$ ,  $U_i$ ,  $F_i$ , and  $O_i$  denote the habitat, climate-regulation, cultural-service, food-supply, and other-service values for term group  $i$ . The total service load was calculated as

$$S_i = H_i + C_i + U_i + F_i + O_i. \quad (1)$$

Service load describes the breadth of attention attached to a term. A higher value means that a term is associated with a larger combined service signal in the retained literature. It does not imply greater ecological quality at every site, but it indicates a wider basis for service-related claims.

Ecological-retention share was calculated as

$$R_i = \frac{H_i + C_i}{S_i} \times 100. \quad (2)$$

This value groups habitat and climate regulation because both are strongly tied to vegetation structure, soil condition, hydrology, and ecological continuity. A high value suggests that the term supports claims about retention, protection, or ecological performance more strongly than claims about intensive human use.

Direct-contact share was calculated as

$$D_i = \frac{U_i + F_i}{S_i} \times 100. \quad (3)$$

Cultural services and food supply were grouped because both usually involve direct or socially mediated human contact with a site. The value does not assume that cultural experience and food production are identical. It identifies the part of the service profile most likely to be altered by access, visibility, programming, or user presence.

Multi-service treatment was calculated as

$$M_i = \frac{m_i}{s_i + m_i} \times 100, \quad (4)$$

where  $m_i$  is the number of multi-service studies and  $s_i$  is the number of single-service studies. This indicator shows how often a term is studied through more than one service. It remains separate from trade-off testing because a study may list several services without examining their interaction.

Intervention exposure was calculated as

$$P_i = \frac{p_i}{p_i + c_i} \times 100, \quad (5)$$

where  $p_i$  represents potential-service treatment and  $c_i$  represents current-service treatment. This value shows whether a term is mainly discussed as a future-use object or as an existing condition.

Interaction-audit coverage was calculated as

$$A_i = \frac{t_i}{m_i} \times 100, \tag{6}$$

where  $t_i$  is the number of trade-off studies. Audit coverage indicates the share of multi-service evidence that explicitly examines service conflict, trade-off, or synergy. It is the most direct indicator of whether multifunctional claims have been stress-tested within the literature.

Potential-use liability was calculated as

$$L_i = P_i \left( 1 - \frac{A_i}{100} \right). \tag{7}$$

The score of this indicator will rise if a term is often talked about in connection with its use as an area for future intervention, but interaction-audit coverage is poor. High score here does not imply ignoring this type of site. Instead, any changes to physical conditions at such sites should be conservative and easily undone after local ecological and social assessments.

### 3.3. Interpretive rules

Three interpretative rules applied to reading the indicators. First, service load did not imply high site quality. It was seen as the range of service attention attributed to the term. Second, multi-service treatment was not used as a criterion of compatibility between the services. Third, high potential-use liability indicated excessive claims. These would be more evident when there are frequent future use-related expressions in combination with low trade-off testing.

Application of these interpretive rules helps avoid distorting the meaning of the data provided. For example, brownfield, vacant land, informal green space, urban wildness, spontaneous vegetation, and wasteland do not rank the types of sites from bad to good. Rather, it depends on what kinds of planning claims can be based on the terms under study. Informal land deserves special attention since disturbance-sensitive sites may require particular care where there is limited intervention evidence.

## 4. Results

### 4.1. Term-specific service profiles

The difference between the frequency of the use and service composition of the five term groups was striking. Vacant land/lots had 43 uses, brownfields — 33, urban wildness/spontaneous vegetation — 17, wasteland — 11, informal green space — 9. Thus, one can see that much of the existing literature was produced using land condition terms, and not using the more general term informal green space.

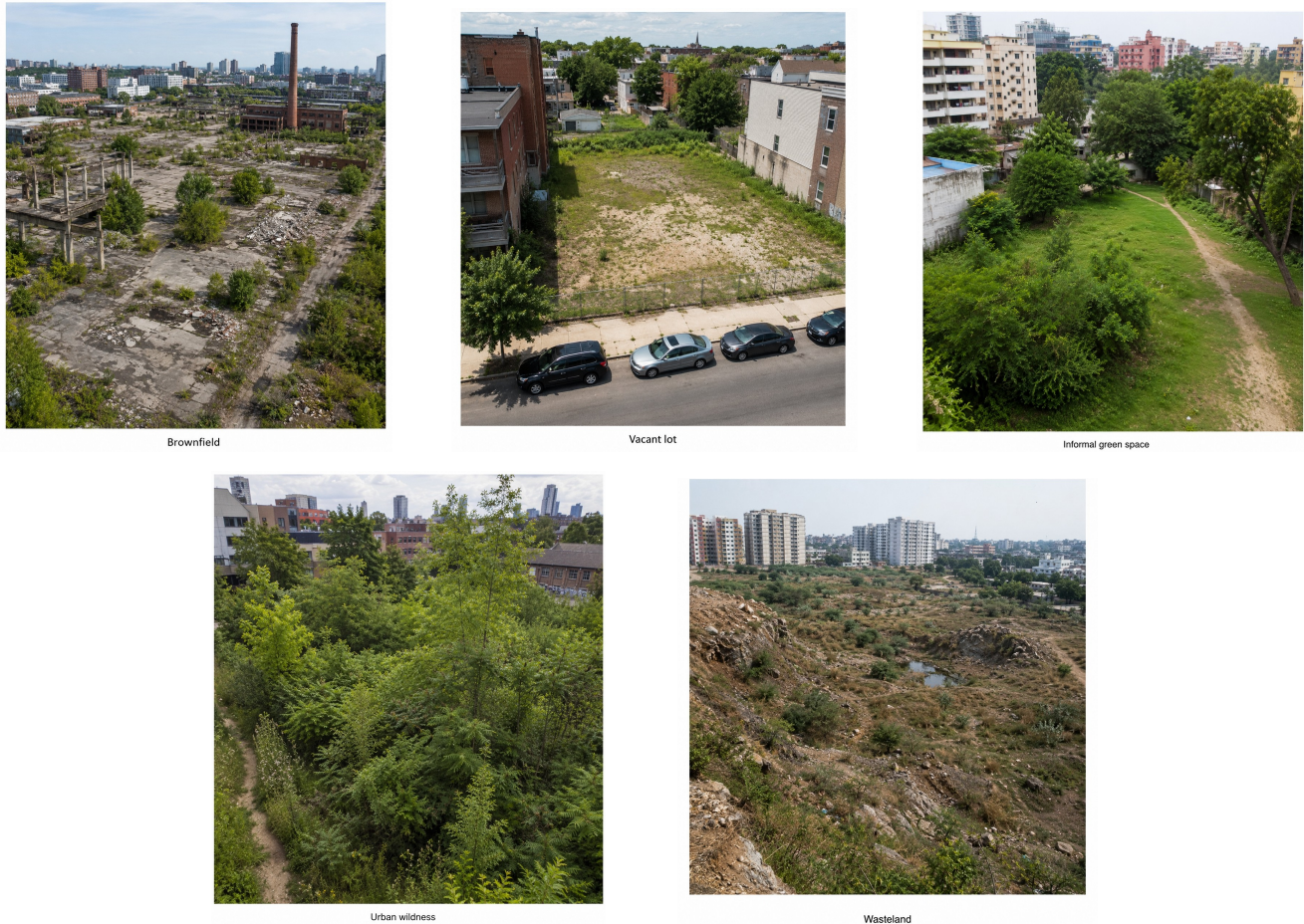
**Table 1.** Term-service values.

Term group	Occ.	Habitat	Climate	Cultural	Food	Other	Single	Multi	Potential	Current	Trade-off
Brownfield	33	27	42	39	0	33	8	25	20	19	6
Vacant land/lot	43	51	23	17	17	21	19	24	19	17	1
Informal green space	9	33	44	44	11	11	4	5	1	7	1
Urban wildness/spontaneous vegetation	17	47	12	35	0	18	9	8	7	12	0
Wasteland	11	82	45	27	0	9	2	16	2	9	0

Values shown in Table 1 suggest that there is no correlation between the frequency and service profile of the types listed. In terms of the frequency, vacant land/lots are the most frequent type, whereas wasteland demonstrates the highest service profile due to habitat and climate values. The brownfield shows a diverse service profile, including

regulation of climate, cultural services, other services, and habitat, but does not include food supply. Informal green space represents the least-frequent type but also shows a diverse range of services, including habitat, climate regulation, and cultural services. Urban wildness/spontaneous vegetation is dominated by habitat and cultural services. Wasteland shows high habitat and climate values.

For different language, brownfields should be discussed in terms of their negotiable transformation and not automatic park conversion, whereas vacant lots should encourage consideration of ecological and neighborhood functions, although claims about interventions need further local validation. Informal green space should receive validation as a valid urban category, whereas urban wildness or spontaneous vegetation encourages ecological continuity and proper access management. Wasteland receives support for habitat and climate retention more than for public use.



**Figure 2.** Term profiles.

The panel set in Figure 2 gives the numerical term-service table a site-level visual reference. The brownfield panel emphasizes residual industrial structure and spontaneous colonization, while the vacant-lot panel shows a smaller parcel embedded in residential fabric. Informal green space appears as an accessible vegetated area, urban wildness as dense unmanaged vegetation within the city, and wasteland as sparsely vegetated disturbed ground. These contrasts help explain why the term groups support different planning claims even when several services are present in more than one group.

#### 4.2. Service orientation and potential-use liability

The derived indicators sharpen the differences among term groups. Wasteland has the highest service load at 163 and the highest ecological-retention share at 77.9%. Informal green space has a service load of 143 and the strongest direct-contact share at 38.5%. Brownfield has the highest interaction-audit coverage among the larger categories, at 24.0%. Vacant land/lots have the highest intervention exposure at 52.8% but very low audit coverage at 4.2%.

**Table 2.** Indicator values.

Term group	Load	Retention	Contact	Other share	Multi-service	Exposure	Audit	Liability
Brownfield	141	48.9	27.7	23.4	75.8	51.3	24.0	39.0
Vacant land/lot	129	57.4	26.4	16.3	55.8	52.8	4.2	50.6
Informal green space	143	53.8	38.5	7.7	55.6	12.5	20.0	10.0
Urban wildness/spontaneous vegetation	112	52.7	31.2	16.1	47.1	36.8	0.0	36.8
Wasteland	163	77.9	16.6	5.5	88.9	18.2	0.0	18.2

According to the findings in Table 2, the most exposed term group is vacant land/lots. This is due to a high value of its potential-use liability at 50.6. There are many cases of unsupported intervention claims in the literature concerning vacant lots, which are commonly regarded as potential future use sites. However, only one trade-off study is mentioned against 24 multi-service studies. The problem here is not the absence of service in vacant lots. These services include habitat services, regulating services, cultural services, food production services, among others. The problem lies in the lack of studies concerning the change of such services if the parcel is developed, planted, mown, gardenized, opened, and made accessible.

Even though there is a stronger audit coverage, brownfields still have high liability value, 39.0. The problem lies in audit coverage, which is rather high in brownfields compared to vacant land/lots. Nonetheless, 24.0% audit coverage means that most multi-services research concerning brownfields is not explicitly oriented toward testing service interactions. This means that planning in the context of brownfields can move further to negotiate future transformations but not assume agreement between cooling services, accessibility, biodiversity, remediation, and redevelopment goals. Informal green spaces are the safest planning category regarding unsupported intervention claims. Their liability value equals 10.0. The reason for that is that the retained value of informality is not considered a future intervention object. Instead, the term represents the current situation. Planning related to informal spaces concerns recognition, as it is necessary to document such spaces before losing them through excessive management practices.

### 4.3. Intervention exposure and interaction audit

There is a clear distinction between terms based on the ratio of intervention exposure and interaction audit coverage. For example, brownfield and vacant lot have similar intervention exposure but different interaction audit coverage. Informal green space represents moderate audit coverage and relatively low future-use orientation. Terms such as urban wildness, spontaneous vegetation, and wasteland do not feature any interaction audit coverage.

The exposure-audit panel for vacant land/lots in Figure 3 represents the most clearly identifiable form of planning pressure before testing through interaction. Their exposure value is high due to the common perception of vacant lots as sites of future uses in the literature, while the audit value is low since the actual assessment of trade-offs is rarely considered. This dual value is useful in real-life situations because vacant lots are small, close to people's homes, and subject to change through various interventions such as mowing, planting, gardening, walking paths, fence installation, or seating.

For brownfields, the stronger position on audit indicates that they justify bolder statements on planning than in the case of vacant land/lots. However, Figure 3 suggests that there are still many things to test about brownfields. A better position should be interpreted as an encouragement to proceed with negotiating their further development rather than a statement of complete formalization. Finally, informal green space emerges as an example of a recognition category: it has a certain level of audit coverage, but a small future-use exposure. The zero-audit values of urban wildness, spontaneous vegetation, and wasteland point to the need for caution regarding claims about simultaneously expanding public use and improving ecology.

### 4.4. Ecological retention and direct contact

The second visual comparison aims to see if one of the two clusters prevails in terms of weight for each term group: ecological retention or direct contact. The former includes habitat creation and climate regulation, while



Figure 3. Exposure and audit.

the latter consists of cultural services and food supply. This comparison is meant to identify what kind of service predominates in the case of each category.

In the paired insets in Figure 4, it becomes evident that all terms have a higher share of ecological-retention value compared to direct contact value. It is true especially when looking at the wasteland term, which has a retention of 77.9% against a mere 16.6% in direct contact value. In that way, the negativity of the wasteland term is disproved since wasteland does not represent blankness, but rather a habitat- and climate-specific term. Access claims need to start by taking into account vegetation, pollinators, soil, and disturbances.

Of all the terms in Figure 4, informal green space stands out with the highest direct contact value because cultural and food services constitute a larger portion of the service load. It also helps to understand the reason why it is used as a term for everyday vegetation and social contact with nature. Brownfield and vacant land/lot terms have the same degree of direct contact value. However, brownfields have broader coverage in audits. The concept of urban wildness and spontaneous vegetation lies somewhere between ecological retention and culture experience. It is clear that wildness is both ecological and experiential, but it can be harmed through over-designing.

The five site contexts in Figure 5 summarize why potential-use liability should be read through local material conditions rather than as an abstract score. Vacant land/lots and brownfields are often physically open to intervention, but their spatial settings differ sharply in scale, surrounding uses, and visible disturbance. Urban wildness and informal green space show stronger vegetation continuity, while wasteland carries a sparse but ecologically relevant retention signal. The liability interpretation therefore concerns the relation between evidence and claim strength, not a judgement that one visible landscape type is inherently better than another.

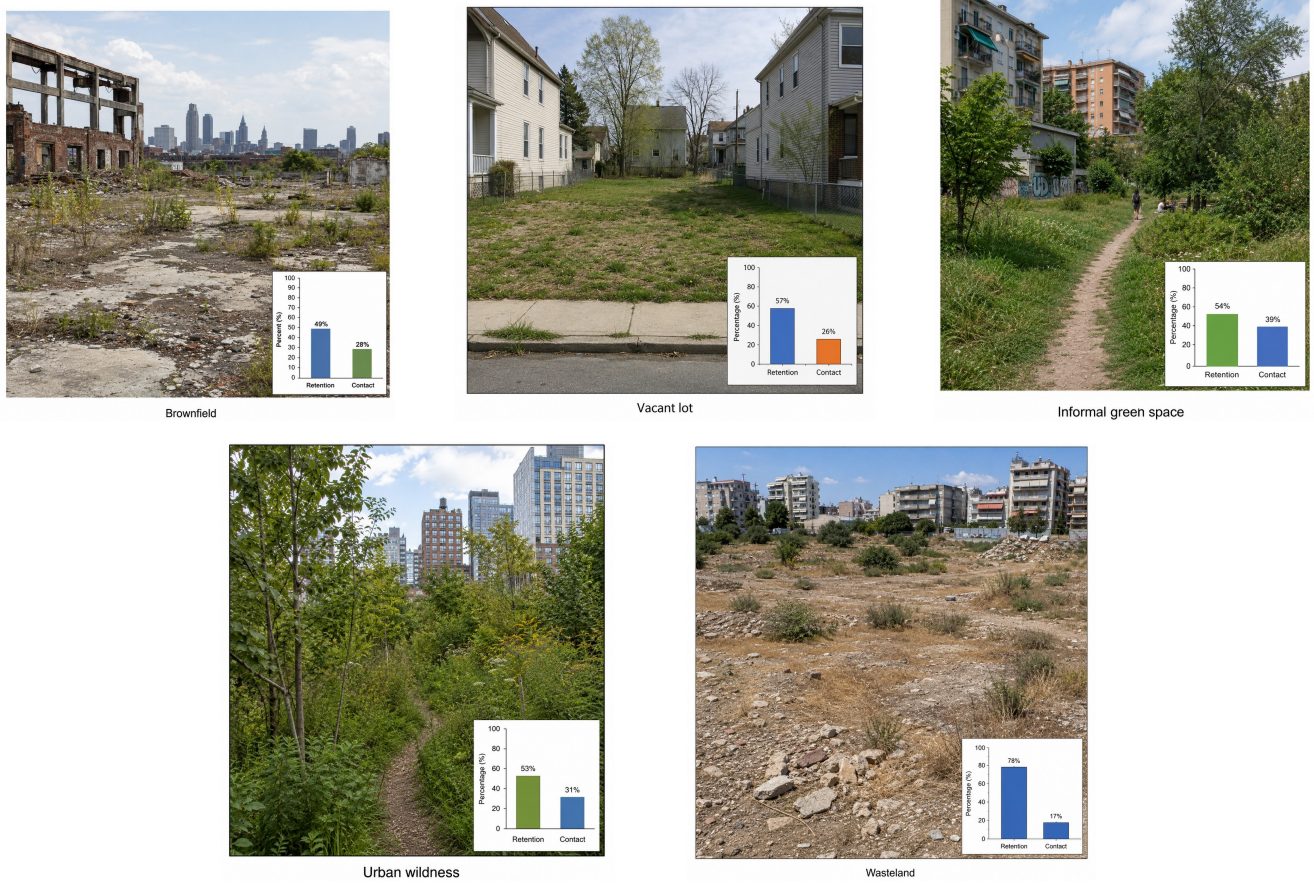


Figure 4. Retention and contact.



Figure 5. Liability context.

#### 4.5. Planning interpretation by term group

The numerical results can be translated into term-specific planning controls. These controls are not universal prescriptions. They state which claim is most defensible for each term, which claim needs caution, and what local

information should be collected before physical change.

**Table 3.** Planning claim controls.

Term group	Defensible claim	Claim requiring caution	Local evidence needed before change
Brownfield	Negotiated transformation can combine cooling, access, remediation, and habitat retention.	Complete conversion into a conventional park may erase spontaneous ecological value.	Soil condition, contamination status, cooling performance, access demand, habitat sensitivity, and redevelopment pressure.
Vacant land/lot	Small parcels can contribute to habitat, stormwater, food, and local contact with vegetation.	Permanent conversion should not assume that all services improve together.	Vegetation surveys, infiltration tests, maintenance effects, safety perception, food-use demand, and pollinator response.
Informal green space	Administrative recognition can prevent accidental loss of existing ecological and cultural value.	Broad use of the term can hide differences in ownership, access, vegetation, and risk.	Inventory records, user observation, vegetation condition, access routes, ownership, and nearby formal green-space supply.
Urban wildness/spontaneous vegetation	Ecological novelty and experiential wildness can be protected as urban assets.	Combined recreation and habitat-enhancement claims are not interaction-tested in the retained values.	Disturbance monitoring, edge perception, species sensitivity, visitor routes, and maintenance thresholds.
Wasteland	Habitat and climate-retention claims are strongly supported by the service orientation.	Public-use claims should not override the ecological signal.	Initial surveys of vegetation, pollinators, soil, contamination, and acceptable access limits.



Brownfield



Vacant lot



Informal green space



Urban wildness



Wasteland

**Figure 6.** Planning positions.

The synthesis in Table 3 gives the numerical findings a planning form without treating them as a fixed recipe. Brownfield planning should focus on negotiation among competing functions. Vacant-lot planning should proceed through small, reversible interventions and careful recording of service changes. Informal green space should first be recognized in urban inventories so that it is not erased by maintenance or redevelopment. Urban wildness and spontaneous vegetation should be protected through ecological continuity and careful edge management. Wasteland should be approached through habitat-protective access thresholds rather than deficit language.

This interpretation answers the practical planning problem raised by the results. The same intervention language should not be applied to every informal space. Some term groups can support stronger intervention claims because the literature has examined service interaction. Others require restraint because their main value is ecological or because the evidence does not test what will happen when access, maintenance, or design intensity increases.

In other words, the planning positions in Figure 6 visualize the claims extracted from table columns above. Brownfield transformation is illustrated by industrial structures, plants, and restricted access. Vacant-lot transformation is illustrated by a small residential parcel, where minor interventions are enough to change vegetation and the type of use. Informal green space is represented by recognized and valued everyday landscapes, while urban wildness is represented by dense and spontaneous vegetation, where restraint is required. Finally, wasteland is an open area that may become accessible after assessing its ecological quality.

## 5. Discussion

### 5.1. From multifunctional promise to claim discipline

The first result suggests that informal green-space planning should evolve from the idea of a multifunctional promise to one of claim discipline. The literature emphasizes the importance of informal spaces, but each term group comes with its own set of relationships between service load, retention share, contact share, future-use orientation, and interaction-audit coverage. Such distinctions imply different levels of confidence in the claim that an intervention improves multiple services at once.

The most significant finding concerns vacant land/lots. Term frequency and future-use orientation make this term group highly appealing. At the same time, its interaction-audit coverage is relatively low. Thus, vacant lots carry the greatest potential-use liability, which should be taken into consideration. They can indeed host community gardens, pocket parks, pollinator strips, rain gardens, and temporary seats. Still, these proposals require careful monitoring. According to the available evidence, vacant lands support ecological and social values. Nonetheless, success depends on land-cover characteristics, mowing practices, soil condition, and local uses [1, 10, 15, 20].

Brownfields have better planning prospects because their multi-service treatment and interaction-audit coverage are higher. It is natural for such sites, given that their size and redevelopment prospects attract the attention to climate regulation, culture, habitat, stakeholders, and economy [7, 11, 14, 29]. However, there are also negative examples of brownfields, which show that excessive formalization can reduce spontaneous vegetation and habitat quality. In the context of claim discipline, brownfield transformation should be spatially separated and phased.

### 5.2. Recognition, wildness, and ecological restraint

The second result shows that informal green space is different from brownfield or vacant lot. It has lower potential-use liability due to low intervention exposure, not because of robust claims in every management direction. The term itself is beneficial, as it allows recognizing places that would otherwise go unnoticed. In neighborhoods where green space access is limited, informal vegetation adds to daily contact with nature [26]. The problem is that mere recognition should not go further than a proper site classification by vegetation, access, property conditions, risks, population density, and vulnerability to development.

The third result concerns urban wildness/spontaneous vegetation, which require even more restraint. Their value depends on processes that can be easily interrupted by any intervention. Both cultural and ecological services are available at such sites, but the interaction-audit coverage is still zero. Cultural services in this case include only an opportunity to appreciate the wilderness, which cannot be replaced by more recreational capacity. Too many paths, too much artificial light, mowing, signage, and visitors can disrupt the site's character and value. Therefore, ecological continuity must be maintained, while improved legibility should be optional.

Finally, the fourth result concerns wasteland as a particularly dangerous term. The word evokes abandonment and uselessness, but its service profile is quite different. Habitat and climate regulation make up close to four-fifths of

the service load. Such an interpretation is also confirmed by the research on wild bees and spontaneous vegetation, which suggests that less managed sites support species that do not thrive in highly maintained landscapes [21, 28]. In the meantime, public access can be possible, but it must be preceded by ecological evaluation and assessment of disturbance risks.

### 5.3. Cultural services and beneficiary specificity

The fifth and final result concerns cultural service claims. As noted earlier, informal sites offer opportunities for walking, exploring, playing informally, foraging, appreciating aesthetics, finding privacy, and experiencing less managed vegetation. The same sites can, however, be associated with safety problems, inaccessibility, neglect, and lack of amenities. Thus, cultural service claims for such sites should not be made without specifying beneficiaries, access conditions, and qualities of a location that are valuable for certain people.

It is particularly true for urban wildness and wasteland terms, whose value might consist in partial inaccessibility, self-organization, and difference compared to parklands. Increased access may improve some visitors' experience, while reducing the value for others. Beneficiary-relevant indicators come in handy, as they require a connection between ecological conditions and social outcomes [19]. However, in informal spaces, such a connection requires additional proof through observation, interviews, spatial analysis, and disturbance monitoring.

### 5.4. Limitations and future work

The current results are based on term-level evidence and, therefore, do not include field measurements of individual sites. Consequently, vegetation surveys, soil testing, hydrological assessments, temperature and infiltration tests, user research, and other types of data gathering are not replaced here. Service percentage values are only descriptive and refer to the attention scholars pay to different aspects of urban spaces. Terms with the highest habitat percentage are not equivalent to urban habitats in every city, just like low direct-contact share cannot be associated with lack of interest in particular spaces.



**Figure 7.** Claim synthesis.

In addition, the calculation assumes explicit naming of service trade-offs. Not every paper explicitly discusses conflicting issues, which may reduce the effectiveness of calculated liability values. For instance, they should be considered conservative warnings regarding untested interactions, not ultimate judgements of site value. In this

case, future research could try combining term-level and mapped approaches, as well as adding heat measurements, infiltration tests, vegetation sampling, pollinator studies, access observations, and user perception studies. Smaller interventions would be useful for vacant lots, where potential-use liability is high.

As a result, the claim synthesis panels in Figure 7 confirm the main finding of this paper: visual informality does not call for the same planning language. A single city may contain open vacant lands, industrial remnants, wild vegetation, informal green spaces, and wastelands. Each of these types should be managed according to its characteristics, especially in cases of future-use language dominance.

## 6. Conclusion

This paper showed that term-specific service information could help making reliable planning claims without resorting to multifunctional promises. The answer turned out to be simple: claims must take into consideration the relation between future-use language, intervention exposure, and interaction-audit coverage. In other words, informal spaces should be recognized, but they do not have to lead to uniform claims.

There are five distinct implications from the available evidence. Firstly, brownfields can be transformed in a manner of negotiation due to their broad attention, multi-service treatment, and top interaction-audit coverage. Secondly, vacant lands should not be claimed for immediate transformations due to the high potential-use liability, caused by low interaction-audit coverage. Thirdly, informal green space should be recognized as a site that deserves preservation. Fourthly, spontaneous urban vegetation should be managed with restraint in order to maintain its unique qualities. Finally, wastelands must be prioritized by habitat and climate retention.

In the end, urban greening policy must rely on informal spaces in terms of discipline, not broad promise. Any claim for informal site transformation should be limited to one service at once, indicating the target of improvement, its beneficiaries, other services potentially affected, and ways of testing an interaction at a local level.

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