

Natur-Park Südgelände: Linking Conservation and Recreation in an Abandoned Railyard in Berlin

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Introduction

The particular political situation in Berlin between 1945 and 1989 had significant effects on the development of nature in the inner city. In the western part of Berlin, urban development ran in slow motion for four decades. In contrast to other parts of war-torn Europe, here large, formerly built-up areas that had been destroyed in the war remained free of renewed development; these areas were set aside as reserves to allow for future planning with Berlin as the capital city. In four decades, natural colonization processes on numerous, often heavily fragmented areas led from herbaceous and shrub stages to wild urban woodlands. The same occurred on many railyards in West Berlin because the rights for all Berlin railyards had been given by the Allies to the Reichsbahn, whose seat was in East Berlin. This organization, controlled by East Germany, reduced train service to a minimum in West Berlin, allowing natural succession to begin on many old railyards.

The special political situation of West Berlin also made possible here, earlier than in other places, the development of specific urban-industrial ecosystems which we identify today as a particular type of nature, as “nature of the fourth kind” (see Kowarik 2005); these ecosystems have long been studied systematically by Berlin’s urban ecologists (see overview in Sukopp 1990). The plans of the Berlin administration provided for the integration of many of these areas into the urban open-space system because, in the walled-in western part of the city, the availability of green spaces and opportunities for experiencing nature were seen as particularly important.

After reunification in 1989, construction began on many new wilderness areas. This reversal was a symptom of a joyful change, but meant a risk

that the social and ecological functions of inner city abandoned areas would be lost. In addition to recreation functions and ecosystem services (e.g. climate regulation, hydrologic cycling), cultural-historical functions would be affected as well. The abandoned areas, with their characteristic mosaic of the remnants of former uses and natural recolonization stages, call to mind the history of the sites, especially of the historical events that first made such new natural development possible.

The Schöneberger Südgelände, which we present in this chapter, is an exception, as its condition has been secured. Originally a desolate freight railyard, then for over four decades an almost untouched new wilderness, today it is one of the first official conservation areas in Germany in which urban-industrial nature is protected and made accessible to the public. We wish to show, with the example of the “Natur-Park Südgelände,” how different goals have been united and how the conceptual and design principles have opened up access to the new wilderness.

From freight railyard to “new wilderness”

The Südgelände, approximately 18 ha, lies on the southern border of the inner city of Berlin in the district of Schöneberg-Tempelhof. It is a component of a much larger freight railyard (“Rangierbahnhof bei Tempelhof”) that was built between 1880–1890. Old photographs show a desolate railyard on which trains have been shunted on a multitude of parallel tracks. Tracks for the long-distance trains as well as for the inner-city express train define the area to the east and west. From the north and the south, heavily trafficked streets adjoin the site, with the result that the Südgelände has an island-like character despite its urban location.

After train service was discontinued in 1952, the Südgelände was mostly, but not entirely, abandoned. A large hall was still used for repairing the train cars, so access had to remain open. Trains were still shunted on a few tracks for a few years. On the majority of the site, however, natural development began to take place, which, by 1981, had led to a richly structured mosaic of dry grasslands, tall herbs, shrub vegetation and individual woodlands. Table 1 illustrates that between 1981 and 1991, the proportions of herbaceous vegetation and vegetation dominated by woody species had reversed. In only 10 years, the area of woodlands had doubled from 37 to 70%. Pioneer species predominate, especially the native *Betula pendula* and the North American *Robinia pseudoacacia*.

A study of the vegetation types showed that both the herbaceous and the woody vegetation are richly structured (Asmus 1981; Kowarik and Langer

1994) and provide habitats for a multitude of plant and animal species (Table 2). Rare and threatened species are found primarily in the dry grasslands and only rarely in the woody vegetation. A large proportion of the vegetation is typical of cities and differs greatly from the species composition in the rural surroundings. Among the woodlands, there are substantial differences between stands of native and non-native species. In the birch and poplar stands, a convergent development to forest communities that approach the original, widely distributed oak–pine forests is becoming apparent. In the black locust stands, on the contrary, a divergent development can be noted that can be traced back to a combination of properties of black locust that the native trees don't have at their disposal. Nitrogen fixation promotes the establishment of more demanding species (*Acer platanoides*, *A. pseudoplatanus*), and clonal growth allows black locust to regenerate within its own stands, so that it is unlikely to be entirely driven out by other trees (Kowarik 1992, 1996a, b). At least in these stands it is foreseeable that the new wilderness will be very clearly differentiated over the long term from the original communities that occurred in the Berlin area.

Table 1. Decline in herbaceous vegetation and increase in woody vegetation over a ten-year period on Berlin's Südgelände (after Kowarik and Langer 1994, data from Asmus 1981 and Kowarik et al. 1992)

	1981	1991
Area of research (ha)	22.4	20.0
Investigated vegetation cover (ha) (= 100%)	21.6	19.1
Herbaceous vegetation (%)	63.5	30.9
Woody vegetation (%)	36.5	69.1
Dominated by:		
<i>Robinia pseudoacacia</i> (%)	11.2	21.3
<i>Betula pendula</i> (%)	13.7	23.8
<i>Betula pendula</i> & <i>Populus tremula</i> (%)	?	5.3
<i>Populus tremula</i> (%)	1.3	2.3
<i>Acer platanoides</i> , <i>A. pseudoplatanus</i> (%)	0.2	1.4
Others	10.1	15.0

From new wilderness to nature park

The development of new wilderness took place at the Südgelände nearly unnoticed for a long time due to the inaccessibility of the site. Plans to

completely clear the vegetation in order to erect a new freight train station led, at the beginning of the 1980s, to strong protests and to the founding of an NGO which has worked since then to preserve the Südgelände as a nature area. As a result of these efforts, a number of studies were undertaken that demonstrated the high species richness and the presence of rare species at the Südgelände (Table 2). At the end of a very changeful planning process (details in Mohrmann 2002), it was determined that the Südgelände would be set aside and developed as a nature park as a compensatory measure for new railyards in the inner city area. After a preliminary study (Kowarik et al. 1992), the Grün Berlin Park und Garten GmbH, a semi-public corporation for the development of prominent green-space projects in Berlin, commissioned the planning group ÖkoCon & Planland with the design of the nature park. After an implementation period, which was financed with funds from the government of Berlin as well as the Allianz Umweltstiftung (Allianz Foundation for Sustainability), the nature park was opened to the public in May 2000. The area has been legally set aside as the Schöneberger Südgelände landscape and nature conservation area.

Table 2. Species richness of the Schöneberger Südgelände (sources: Kowarik et al. 1992, Prasse and Ristow 1995, Saure 2001, Dahlmann pers. comm.)

	<i>n</i>
Vascular plants	366
Breeding birds	28
Macrofungi	49
Grasshoppers and crickets	14
Spiders	57
Wild bees and wasps	208

Challenges and approaches of the master plan

The master plan for the Natur Park Südgelände had to find planning solutions for two classic conflicts that likely arise frequently in the development of urban woodlands.

The “conservation versus recreation” conflict

The species diversity of the Südgelände (Table 2) has, in principle, developed without human intervention. The dry grasslands, in which most of the rare species are found, have emerged on nutrient-poor anthropogenic soils

and are not suited to being trampled. If the small clearings of the grasslands are made accessible to visitors, eutrophication and trampling will foreseeably lead to a decline of most of the rare species. Excluding visitors, however, contradicts the goal of urban nature conservation, which is, above all, to promote natural experiences for urban residents (Auhagen and Sukopp 1983). Keeping in mind the general lack of public acceptance for nature conservation in Germany (Körner 2005), there is all the more need in urban nature conservation to combine social functions with species conservation functions.

The “wilderness versus biodiversity” conflict

In general, species diversity is greater in the earlier and middle stages of succession than in later woodland stages. This is true for the Südgelände as well with one small exception. The 40- to 50-year-old black locust stands have shown themselves to be astoundingly rich in plants, ground beetles, and spiders (Kowarik 1992; Platen and Kowarik 1995). Rare and threatened species of plants as well as hymenoptera, however, are predominantly found in the dry grasslands (Prasse and Ristow 1995; Saure 2001). A substantial increase in woodlands would emphasize the wilderness character of the Südgelände, but would also lead to a decline in the characteristic species and communities of the open landscapes.

Thus, the master plan for the Natur-Park Südgelände had to address two challenges: first, how to open the site to the public without endangering the rich local flora and fauna, and second, how to respond to the natural vegetation dynamics that would, in a short time, lead to a complete dominance of woodlands.

The model of culture and wilderness

The approach of the master plan was based on the model of simultaneity of culture and wilderness, of distance and nearness of the visitor. To implement this, a concept of zoned spaces was created in which natural and social processes were partially controlled and partially left to their own dynamics. With this approach, different goals could be combined with one another.

- In some areas, uncontrolled development of the new wilderness is allowed, without influence on the species composition. In this way, the

important role of non-native species in the vegetation of the Südgelände and as a characteristic of urban vegetation was expressly accepted.

- In other areas, the open landscapes are maintained, within which succession is to be controlled through maintenance. The goal is to maintain habitats for the characteristic, and often rare species of the grasslands and other non-woody vegetation communities. In these areas, remnants of the earlier railway uses should remain at least partly recognizable. The open areas allow the underlying cultural layer of the old railyard to be easily perceived, which contrasts distinctly with the naturally derived wilderness character of the woodlands.
- In a large part of the park, the visitor may move about completely freely. A newly created path system should open the site to visitors who otherwise would have no access to the urban wilderness of an abandoned railyard.

Implementation of the model

Figure 1 shows the Natur Park Südgelände today, after significant implementation of the master plan. A few new elements were added to our planning during the implementation phase, including additional paths and the integration of works of art in the nature park.

Access concept

Starting from the park's main entrance at the S-Bahn station Priesterweg, a path system was developed that is based, fundamentally, on the linear structure of the earlier railyard. Here train tracks were made into paths (Fig. 2). Existing ramps and underpasses that once served for crossing the tracks were used to establish the path system on three different levels. Through this inclusion of the third dimension, quite different views of the area result. Because the vegetation was maintained between paths that are very near to each other, the area is perceived as larger than it actually is. A few new connections make circular routes possible.

The nature conservation area in the middle of the Südgelände is accessed by a path as well, this one, however, runs as a raised walkway 50 cm above the vegetation while following the old tracks for the most part (Fig. 3). Its design was the result of the work of the artists' group Odious. Through this new path typology it is clear to the visitor that the nature conservation area, in contrast to the rest of the Südgelände, should not be accessed off of the paths.

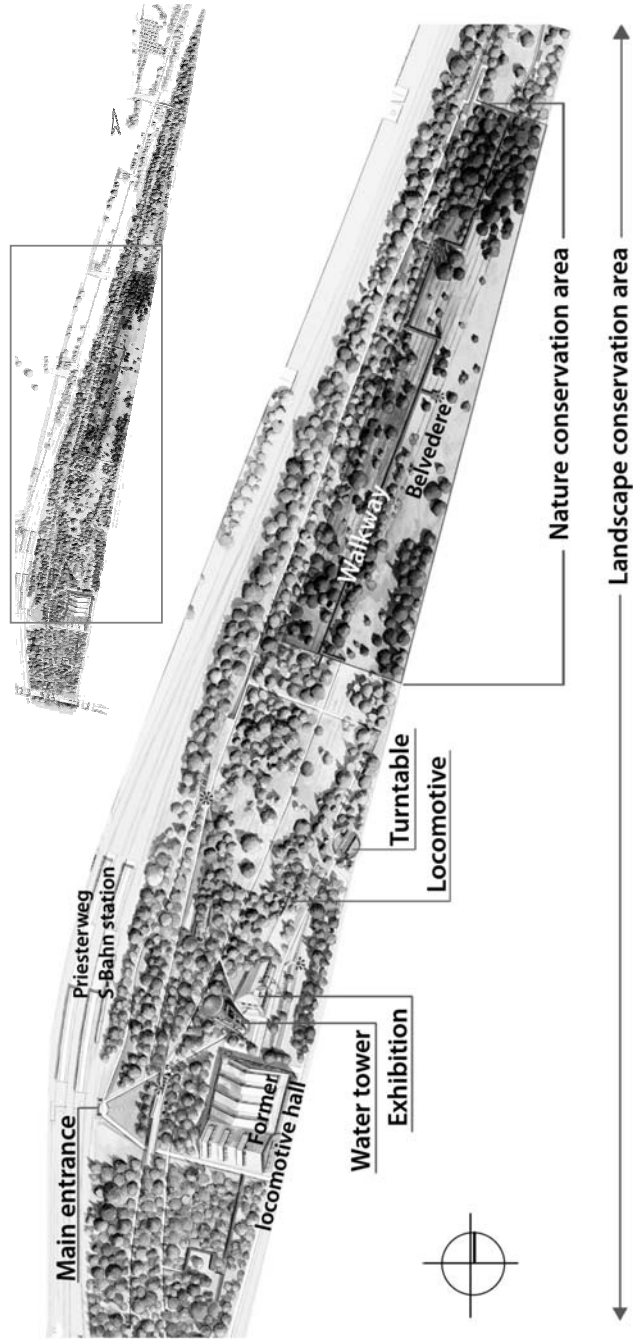


Fig. 1. Plan of the Natur-Park Südgelände (above); enlarged central section (below). During the implementation of ÖkoCon & Planland's master plan further elements were added, mainly works of art of the Odious group (Illustration: M. Ley and K. Zwingmann, Berlin, on behalf of the Senate Department of Urban Development Berlin)



Fig. 2–4. Existing train tracks are used for the path system in the Natur Park Südgelände (above). The nature conservation area in the center of the Südgelände is accessed by a raised walkway (center, below) from which the dry grasslands and the uncontrolled wilderness of the urban woodlands (below) can be perceived without leaving the path. The lower picture shows a stand of the non-native *Robinia pseudoacacia*, which has been entirely left to the natural processes of the forest dynamics.



Fig. 5–10. Creative tension between the natural dynamics of the Südgelände and the relics of the railway industry as well as the new artistic elements. The reforestation of the clearings (middle right) and the groves (below left) is prevented with maintenance measures. The picture below right, shows an art installation of the Odious group.

Definition of a room typology

In order to make clear, in accordance with the general model, the transformation from railyard to urban wilderness over time, the natural dynamics of some areas are arrested. In this way, three types of spaces or “rooms” were defined: “clearings” are to be kept free of shrubs over the long term. Stands that are light and open are to be maintained as “groves,”

while in the “wild woods” the natural dynamics can proceed fully unfettered.

The spatial determination of the three types was carried out according to nature conservation and landscape aesthetic criteria. In addition to the presence of rare species and communities, lines of sight within and outside of the site were considered as well as relics of the old rail industry and particularly attractive vegetation and individual trees. Before the opening of the nature park, plants were removed from overgrown areas that were once clearings or groves in order to create the predefined room structure. The open character of these rooms is ensured through long-term maintenance (mowing, removal of trees) by the Berlin nature conservation authority. The spread of the “wild woods” into the other spaces is prevented through maintenance measures. In the interior of the woodlands, natural processes proceed undisturbed (Fig. 4).

Nature conservation and recreation

Most of the Natur Park Südgelände is protected; the core area has been designated as a nature reserve (3.2 ha) and the rest as a landscape conservation area (12.9 ha). In the nature reserve, species conservation takes priority. The targeted species are, above all, insects of open habitats and plants of the dry grasslands, such as several rare hawkweed (*Hieracium*) species. The clearings, which may not be entered by the public, are cared for in such a way as to give the characteristic species of the open landscape a chance to survive. The landscape conservation area is to be fully accessible. Dangerous areas that aren't visible (e.g. shafts) were secured before the park was opened. The defined rooms are stabilized through maintenance measures. In the landscape conservation area, an attractive landscape image is more the goal than species conservation.

Since its opening in May 2000, the Natur Park Südgelände has proved to be very attractive to visitors. Estimates start at 50,000 visitors per year. A long-term exhibition on the history and nature of the Südgelände in one of the old train buildings had approximately 6,000 visitors in 2003.

Two cultural layers

To maintain the visibility of the remnants of the railway history in the face of the powerful natural dynamics, selected railway relics such as the signals and the old turntable were restored. The many paths set in the old tracks are a permanent reminder of the cultural foundation of the nature development of the Südgelände. A new cultural layer has been established

through the art works of the Odious group, which present a creative tension with the developing wilderness as well as with the relics of the railway (Fig. 10). The water tower was secured as a landmark of the Südgelände (Fig. 5), old buildings were surrendered to a controlled decay or are used for the exhibition or as studios for the artists.

Conclusion

Is the Natur-Park Südgelände a good example of a successful integration of urban wilderness into the open-space system of a metropolis? What speaks in its favor is the simple fact that this kind of nature development has indeed been successfully safeguarded despite substantial competition for use in the reunited German capital. The contrast between dynamic nature and the remnants of the railway industry heritage is fascinating to all visitors. Unfettered wilderness development is always taking place in parts of the Südgelände. Through the spatially differentiated maintenance plan, the earlier and middle stages of nature development are maintained and thereby the diversified vegetation complexes are maintained in the long term. The species targeted for nature conservation profit as well from the maintenance measures. The public acceptance of the nature park is extremely high.

The original railway wilderness has, however, clearly been affected by design interventions in the form of the new path system, the maintenance and the art objects. Has this destroyed the original uniqueness, the “wilderness” of the Südgelände? Certainly the character of the site has changed. The few who earlier had discovered the Südgelände on their own recognize the contrast very clearly. To wake Sleeping Beauty, however, also means to open the urban wilderness to a multitude of visitors who did not have an inherent sympathy for the nature of urban abandoned areas. That such access, even designed access, satisfies a need for wilderness has been shown in studies such as the one by Bauer (2005).

The wild urban woodlands of the Industriewald Ruhrgebiet (the Industrial Forest of the Ruhr) have been made accessible very successfully through landscape architectural means and through works of art (Dettmar 2005). The Südgelände, however, is much smaller than most of the abandoned areas of the Ruhr, so the proportion of designed elements is greater here and perhaps sometimes competes with the natural processes that are characteristic of the area. Arrangements should therefore continue to be fine-tuned (Kowarik et al. 2004). Taken together, however, there is a great deal of evidence that the Natur Park Südgelände has been successful in

bringing humans living in urban neighborhoods a step closer to biodiversity in its characteristic urban expression.

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