STRATEGIES FOR DAY-USE RECREATION
MANAGEMENT IN WEST GERMANY'S
URBAN FORESTS

by

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A change in the emphasis of outdoor recreation activities toward more 'self-mobile' sports has created new needs and hence greater challenges for urban forest recreation resource planners in the United States. German city planners and forest managers, facing these same problems, have successfully developed a system to provide urban forest recreation for the vast population of Germany despite the relatively limited space. German planning strategies include the underlying themes of 'multiple use' and 'people management' in the peripheral city forests and the theme of multiple recreational outlets within the inner-city areas. These strategies may provide an attractive model for American recreation planners who also have as their goals creating cities not only ecologically sound, but which radiate a character of 'livibility' in urban life.
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LEGENDS

Figure 1. The Green Web Design in urban forest planning is illustrated by this map of the city of Cologne. The darkened areas represent the urban forest, ranging from small greenspaces, parks and playgrounds including an inner-city greenbelt, to the peripheral urban forest making up the surrounding greenbelt. Greenspaces within the city are strategically located to produce radial spokes connecting the outer- and inner-city greenbelts. For the sake of clarity not all greenspaces have been represented on this map, and the shaded segments may include some small developed areas.

Figure 2. A pedestrian zone in Munich, with its incorporation of greenspaces and its absence of motorized traffic, displays the festive atmosphere so typical of contemporary German city centers (Photograph: H. Schabel).

Figure 3. Munich's English Garden can be called the 'eye of the hurricane' where, in the midst of a fast-paced urban metropolis, the city's inhabitants can relax from the hectic pace of daily living and enjoy the simpler pleasures in life, as these three visitors are doing (Photograph: F. Hollander, and R. Soumer, courtesy of Stern Magazine).

Figure 4. Plan depicting zonal development for forest recreation within a section of the city forest of Frankfurt. The four encircled playparks are situated along the boundary of the forest. The accessibility of the forest is indicated by the dots, dashes, and solid dark lines representing feature trails (i.e. fitness, historic, and nature trails), and the secondary forest trails. The trail system has ready access to residential areas as well as to forest parking lots (P). This figure is a slight alteration of a Frankfurt City Forest map.

Figure 5. This unique fountain adds life to a water-play area in one of the playparks in Frankfurt's city forest, intriguing children to climb and play in its refreshing spray (Photograph: H. Schabel).
Figure 6. Plan depicting a plan for linear development for forest recreation in a section of the city forest of Stuttgart. The circled areas denote four major focal points, i.e. clustered recreational innovations, accessible by benchline trails (outlined with dark lines) from the city boundary in the NE and E or from the forest parking lots (P) located along highways through the forest. This map does not show secondary feature trails (Figure altered from Oechssler 1973).

Figure 7. The regional recreation plan of the Ruhr corridor integrates five district parks (DP) into the area's most densely populated sector. These parks work together with large indoor recreation centers (RC), and suburban leisure facilities (SLF), to provide a wide variety of recreational opportunities in strategic focal areas to facilitate the greatest number and diversity of people (Figure adopted from Wynne 1977).
INTRODUCTION

Progressive urbanization, rising transportation costs and increases in leisure time have recently contributed to a shift in the emphasis of outdoor recreation activities in the USA. While this country is still a vastly motorized nation, the general trend seems to be away from mechanized dependence and towards the adoption of more self-mobile physical recreation (Halstenrud, 1980). This trend is evidenced in many cities by the present surge in wellness programs and by the growing popularity of jogging and biking. These mounting interests in outdoor recreation and physical fitness are likely to result in new pressures on urban forests in the USA.

In the Federal Republic of Germany (FRG), a country where 62 million inhabitants share a space the size of Oregon, a state with only about 2 million people, German recreation planners have had to face this very challenge for many years. Recreation planners there seem to have found a successful recipe for achieving a high degree of 'urban livability' (Barnett et al., 1980), by reconciling traditional patterns of urban development with the provision of numerous recreational opportunities in and close to cities. By identifying some of the planning strategies used for day-use recreation (Naherholung) in Germany's urban forests, we may gain stimulating perspectives for the increasingly sought-after services of urban forest recreation resource planners and managers in the USA.
RECREATION IN GERMANY'S URBAN FORESTS

In general, urban forests in Germany can be looked at as being composed of two parts, a peripheral city forest proper surrounding the city, and the inner-city greenspaces as described by Schabel (1980, 1982). The primary aim within German cities is to provide multiple recreational greenspace in and around the city easily accessible to all city inhabitants. The arrangement of the various elements of the urban forest, the inner-city greenspaces, and the peripheral city forest therefore are developed with this objective in mind. The planner's long range aim is to link the multitude of inner-city green areas to create a web of green traffic-free veins and ultimately to connect the inner-city with the peripheral city forest. This linking of the inner- and peripheral city greenspaces produces the radial green scheme as visible in Figure 1. These green veins provide a pathway for leisure travel, act as noise pollution buffers, recreation, wildlife niches, social pockets, a ventilation pathway for fresh air, neighborhood vitality, and contribute to the ambience of the city.

Major city forests in the FRG may host visits by up to 1000 people/ha/year, with more than two-thirds of all forest visits originating from within a 15 km distance (Zundel, 1978). Typically these visits are of short duration and occur at frequent intervals (Kettler, 1970).

In the city forest proper, the three most frequently listed motives for outdoor recreation are "quiet", "fresh air", and "walking", all of which have health factors as their common denominator (Zundel, 1978).
Other recreational uses of the city forest include various sports, nature observation, the collecting of mushrooms, berries etc., and relaxation. Rustic cafes and restaurants are typical attractions that may be found nestled in the larger peripheral city forests. The ever-growing attraction of water resources as 'magnets' of leisure time locales, along with the country's relative scarcity of natural lakes, has created a demand for man-made facilities within the cities peripheral forests for fishing, boating, swimming, adjacent picnicking, and other water recreation activities.

Hunting within the city forest is largely limited to professional hunters, i.e. foresters, but may, at the discretion of these professionals, also involve a few carefully selected hunting guests. Hunting in the FRG altogether is practised by less than 1% of the population with strict licensing procedures maintaining the status quo.

The inner-city greenspaces, ranging from single trees downtown to pedestrian malls and riverside promenades, soften the harshness of concrete and traffic which envelop city life. In many residential areas cars are forced to move at a pedestrian's pace in order to coexist with children, cyclists, elderly people, and others. The incorporation of vegetated pedestrian malls into the center city precincts is now the rule rather than the exception in Germany, where more than 500 pedestrian zones (Fig. 2) in over 300 cities contribute to the typical festive atmosphere found there (Barnett et al., 1980). These greenspaces are accented by decorative fountains adding life to the city just as a stream does to a forest (Schabel, 1980). Although all the
greenspaces serve to enhance the livability of the city, the main recreational focal points are the parks and playgrounds. As in the USA and elsewhere, children can run and shout there with greater freedom, adolescents have more options for "courtship rituals", and adults can unbutton from the constraints of their everyday social relations. Indeed, in Germany some visitors literally do now "unbutton" constraints and enjoy sunbathing in the nude, such as in Munich's English Garden (Fig. 3), a 372 ha city park which, on a sunny weekend is visited by about one-seventh of the city's population (Spindler, 1981).

The goal of urban forest recreation resource management in Germany focuses on providing for the varied recreation needs of the country's vast population despite the relatively limited space available for it. The two main strategies used to achieve this goal in the city forest proper, include an insistence on multiple use and a system of people management. The main underlying theme used in the inner-city is to provide multiple recreation outlets to serve the greatest number and diversity of people within easy reach of home.

THE PERIPHERAL CITY FOREST: STRATEGIES FOR RECREATION PLANNING

Multiple Use

The limited forest area in Germany (0.12 ha/person), which is one tenth that of the United States, has led to an adherence to the multiple use concept for all forest lands, including city forests. City forests of the FRG are managed to serve product, environmental and recreational
functions simultaneously. For instance, an area may be managed for the production of timber while at the same time serving a recreation function and working to protect the environment. This strategy works impressively in avoiding conflicts among diverse individual uses, because the management practices employed for each individual function reflect careful consideration of all other uses of the forest. Function maps of city forests show which use holds priority in each area of the forest, i.e. recreation, timber production, climate control, etc. This is not to imply that this is the sole function of that particular area, rather that this use is of primary concern in developing management strategies. For instance, where recreation is the priority, (usually these areas comprise not more than 20% of the forest area), timber management is subject to recreation considerations. Felling times are set following careful consideration of seasons and times of day when there are the fewest amount of visitors, in order not to disrupt the forest recreation experience. Some trees which are of little or no commercial value are left standing for their service to wildlife and their aesthetic contribution to the recreation forest for the visitor. If water retention is also a management objective, this concern will determine the type of cut being made and the species being promoted.

Not only has this multiple use concept proved successful and valuable in forest management as a whole, but the concept is also employed in strategies for recreation planning within certain areas of the forest. "All-weather" trails are paved so that even in adverse weather conditions they can accommodate cyclists and people wearing "city shoes", who comprise the majority of the city visitors (Kettler,
1970). The forest playground becomes a family playground when the equipment is created with both young and old in mind. There are also facilities geared toward each specific age group ranging from paddle pools and small sandboxes (where benches for supervision are common), to boccia, chess, and mini-golf.

People Management

The variety of motives for forest visits together with daily, weekly, and seasonal visitation preferences are factors which create peaks in the amount of use a recreation area receives. 'People management' describes strategies employed in city forest planning for recreation which aim at dissolving conflicts during these peak periods of use. Two effective strategies in people management are time zoning and recreation area stratification.

Time zoning is a means of segregating activities on a particular site to allow incompatible pursuits to share the same facility without conflict. For example on West Berlin's Lake Tegeler, time zoning is enforced to accommodate sailing, waterskiing, fishing, and swimming without conflict. From early until mid-morning fishing may be allowed on the lake, at midday swimming is scheduled, during the early afternoon hours sailing, and from late afternoon until sunset, waterskiing may be accommodated. The acceptance of this arrangement by the public in Berlin has made time zoning a successful tool in avoiding peak use conflicts on Lake Tegeler.

Recreation area stratification is a planning strategy to reduce user conflicts through access schemes and site arrangement plans. As
motorized vehicles create a major conflict with pedestrian activities, a main planning concern is in separating the two. Forest parking lots and public transportation stops are located on the outskirts of the city forest. The use of motorized vehicles beyond this point is prohibited, a measure endorsed by about 90% of the forest's visitors (Zundel, 1978). Effectiveness in automobile management is achieved through the use of pedestrian buffer zones between parking lots and recreational focal points such as playgrounds, meadows, wildlife enclosures, scenic view-points, lakes, nature protection areas, etc. (Snyder, 1975). Parking lots are the transition zones from motorized to people-powered activities, providing easy and well-marked access to fitness-, nature-, riding-, foot-, and cycle trails. These trails form loops connecting these and other forest attractions.

The separation of conflicting activities such as horseback riding and cycling is achieved through the provision of trails, segregated by type and intensity of recreational use. Elaborate trail systems allow for varying degrees of participation, the paths becoming less developed as they branch further away from the main trails. The lesser developed trails offer more of a nature appreciation or tranquility setting, serving the quiet recreation function. Separate trails provided for horseback riders or nature wanderers and joggers allow for "traffic-free" participation for everyone. Horseback riding trails occasionally parallel or intersect a main footpath so that everyone may enjoy watching the sport. Just as trails are segregated for various users, different zones within a recreation area may also be divided. This is the case along West Berlin's Grunewald Lake, where one beach
area is reserved for families with children and other visitors, one for nude bathers, and one for some of the city's 100,000 dogs (Vesilind, 1982). The majority of forest visitors, who prefer the proximity of and interaction with others, are directed by two main strategies of 'interception', i.e. a zonal and a linear site arrangement plan.

According to the zonal approach, the positioning of facilities supporting "gregarious" recreational activities along the forest's periphery 'catches' the crowd near the forest's edge, while providing more tranquil areas with less intensive recreational development further inside the forest, thus meeting the needs of both groups of recreationists. This concept is best represented by the Frankfurt City Forest (Fig. 4). Here a wealth of recreation opportunities is available for the visitor along the edge of the forest, including a sports stadium, a sports park, and six forest playparks as well as the well-known and very popular "Monte Scherbelino" mountain playground complex, once a garbage heap.

The forest playparks offer visitors of all ages (5-90 years) a wide range of recreational activities, including rollerskating, minigolf (with attractive wooden forest animals as figurines), badminton, soccer, handball, an under-cover ping-pong arcade, boccia, and intermittent fields facilitating impromptu sports. Water play areas are a favorite attraction in these playparks where creatively designed fountains invite visitors to refresh themselves in the huge sprays of water, and intrigue children to climb and slide in the fountain-pools (Fig. 5). In 1976 the six playparks accommodated more than 700,000 people of all ages.
(Anonymous, 1979). Frankfurt's 4000 ha city forest has a 450 km trail network, which connects these recreational focal points and filters further into the inner-forest areas. It is within these interior areas that land-use conflicts can be compensated for and timber management practices can be carried out without causing or suffering public disturbance. Self-guiding forest education trails present tables with information ranging from the identification of tree species, to site-specific cultural history. Nature trails are marked by plaques pointing out facts varying from aspects of forest management to the geological background of the area. Shelter huts at 2 km distances dot the forest trails and provide visitors with protection from bad weather.

In contrast, the linear arrangement is exemplified by the Stuttgart City Forest (Fig. 6). In this design, "benchlines", or pathways dotted with benches and bench groups, branch from the main skeletal frame of the trail network (Oechssler, 1973). These benchlines are tarred for all-weather use, yet designed to blend into the surroundings, and are positioned so that the noise level from one will not be in earshot of the others. The benchlines, which coincide periodically with looping nature trails, connect the parking lots, bus and tram stops, and access points to residential areas with the main recreational focal points within the forest, such as lookout towers, restaurants, playgrounds, lakes, meadows, and historical monuments. The theory involved is that by activating these forest focal points, easily reached by benchlines, other forest areas may be preserved in a more 'natural' state. Centers of interest are provided in the form of paved areas with bench groups around fountains and plantings, each having a separate identity and
intimate character, thus avoiding any feeling of overcrowding in spite of the many groups using them. The scale of each is adjusted so that the separate groups can enjoy a sense of seclusion without any firm enclosure. In Stuttgart these all-weather paths usually begin at a distance of over 200 m from the actual parking lots or forest edge to encourage a hasty traverse of the traffic influence zone. Away from the benchlines no recreation facilities are to be found; rather, lesser intensities of paths meander off to "oases of tranquility" (Oechssler, 1973).

THE INNER-CITY GREENSPACES

Multiple Outlets

As mentioned before, the main underlying theme in recreation planning in the inner-city areas is the provision of multiple recreation outlets to serve the greatest number and diversity of people within easy reach of their homes. Certainly the most notable scheme in providing leisure areas to suit a vast urban population density is that of Germany's Ruhr district, a cluster of 12 large cities stretching from Duisburg through Essen to Aix-la-Chapelle. As the country's most industrialized region, this area houses 9% of the population on 2% of the land (Schonfeld, 1974). That statistic translates to 140 square yards of woodland for every inhabitant of the Ruhr area, while in the country as a whole, there is over ten times as much. In 1920 the Ruhr Regional Planning Authority was founded. Its achievements in environmental protection and in planned restoration of despoiled
countryside during the past 50 years have attained world-wide recognition, with over one-half of the area today existing as greenspace (Klausch, 1978). It is here that the first landscape plan in the FRG was conceived to enhance the character of the area during a mining crisis in the 60's as a means of preventing the loss of its population.

The core of the Ruhr's recreation scheme is a team of five district parks planned for, and built in the central area of heaviest industrial congestion (Wynne, 1977). These are approximately 25-50 ha sports and playground parks which serve both quiet and active forms of recreation. These parks, planned with access as a major strategy, provide relief from the most densely populated sector of the Ruhr area by offering a range of activities to suit all age groups. They facilitate 25,000 to 50,000 inhabitants within a 15 minute walking distance, and 800,000 to 1,000,000 inhabitants within a 20 minute drive. This regional plan of the Ruhr (Fig. 7) integrates these district parks with large indoor recreation centers and suburban leisure facilities to provide a wide variety of recreational opportunities in certain focal areas to facilitate the greatest number of people (Wynne, 1977).

CONCLUSION

The post-war resurrection of the Federal Republic of Germany was guided by an awareness of the importance of the urban forest for producing timber, protecting the environment, and providing for recreational opportunities. Because of rising populations and the
increase in leisure time, moreover, the role of the urban forest for recreation has become increasingly important in providing for the various needs of Germany's dense population in a relatively limited area.

Germany has met the challenge of these modern demands through the development of such innovative strategies as the multiple use concept, 'people management', and the theme of providing multiple outlets. These strategies have resulted in attractive and innovative recreation opportunities for all ages within easy access from anywhere within even the largest cities. Not the least of the contributions of German recreation planning projects has been the realization that the recreational greenspaces, apart from contributing to the ecological soundness of the surroundings, also play a vital role in enhancing the charming character and livability of the city.

Such programs may well serve as models for U.S. forest recreation resource planners and managers challenged by similar exigencies. The same patterns of urban growth and development coupled with an increase in longevity and leisure time would be served advantageously by the innovative strategies employed so successfully in the FRG. This investigation was designed to promulgate such a collaboration between recreation resource planners and managers of Germany and the United States.


The Ruhr Recreation Scheme

dp district park
rc recreation center
slf suburban leisure facility

0——————40km

Fig. 7