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WHITHER FOR WATER?

One of the most effective means of convalescing and of recuperating human working capacity is recreation at water areas. In larger cities and residential towns of large concentration, for longer as well as shorter recreation, the resort has to secure water next door, either directly in the town area, or in its immediate vicinity. The basic prerequisites of such recreational centers are that their capacity should correspond to the size of settlement of the local unit (with the possibility of future expansion); that they should have convenient bathing outlets; that they should be hygienic, easily accessible by transportation, and located in a quiet and scenically satisfactory environment.

Until lately the Vltava with its several tributaries and adjacent bathing places answered these qualifications. In recent years, however, the recreational conditions markedly deteriorated:-- the water became colder, and strongly contaminated. It is comparatively the cleanest under the SITOVSKY dam at the place where the SLAVIE laminate bathing establishment is anchored. The worst sectors are over the ZEMTY baths below the mouth of the KUNRATICKY creek, below the mouth of the BOMIC and MOTOLSKY creeks, and in the whole run below STVANICE up to SEDLEC where for hygienic reasons it finally became necessary to forbid bathing.

The loss of warm water in the Vltava was caused by the operation of large reservoirs above Prague. In the summer months, from these reservoirs water of merely 6°C - 13.5°C temperature is flowing. Before the construction of the Vltava cascade, in July and August the average water temperature was above 20°C. After the construction it reaches only 17°C during the same period. The construction of the dam at MEDRAN could have been a definite improvement. In its comparatively shallow reservoirs, with reduced flow velocities, the water would warm up by 1-2°C in the summer. To the unfavorable conditions of water recreation in Prague we must add also the inferior contemporary status of all facilities, and their insufficient capacity. In riverside bathing establishments on the Vltava, in roofless open basins and bathing ponds on the ponds, there is place for about 38,000 visitors, that is, for only 1/10 of the total population. In the summer season the concentration of visitors exceeds the maximum capacity 2 to 3 1/2 times. Thus, we cannot speak of a recreation in sanit-

ary and peaceful environment. Moreover, the facilities have a rather temporary character, and almost half of them are in need of general repair.

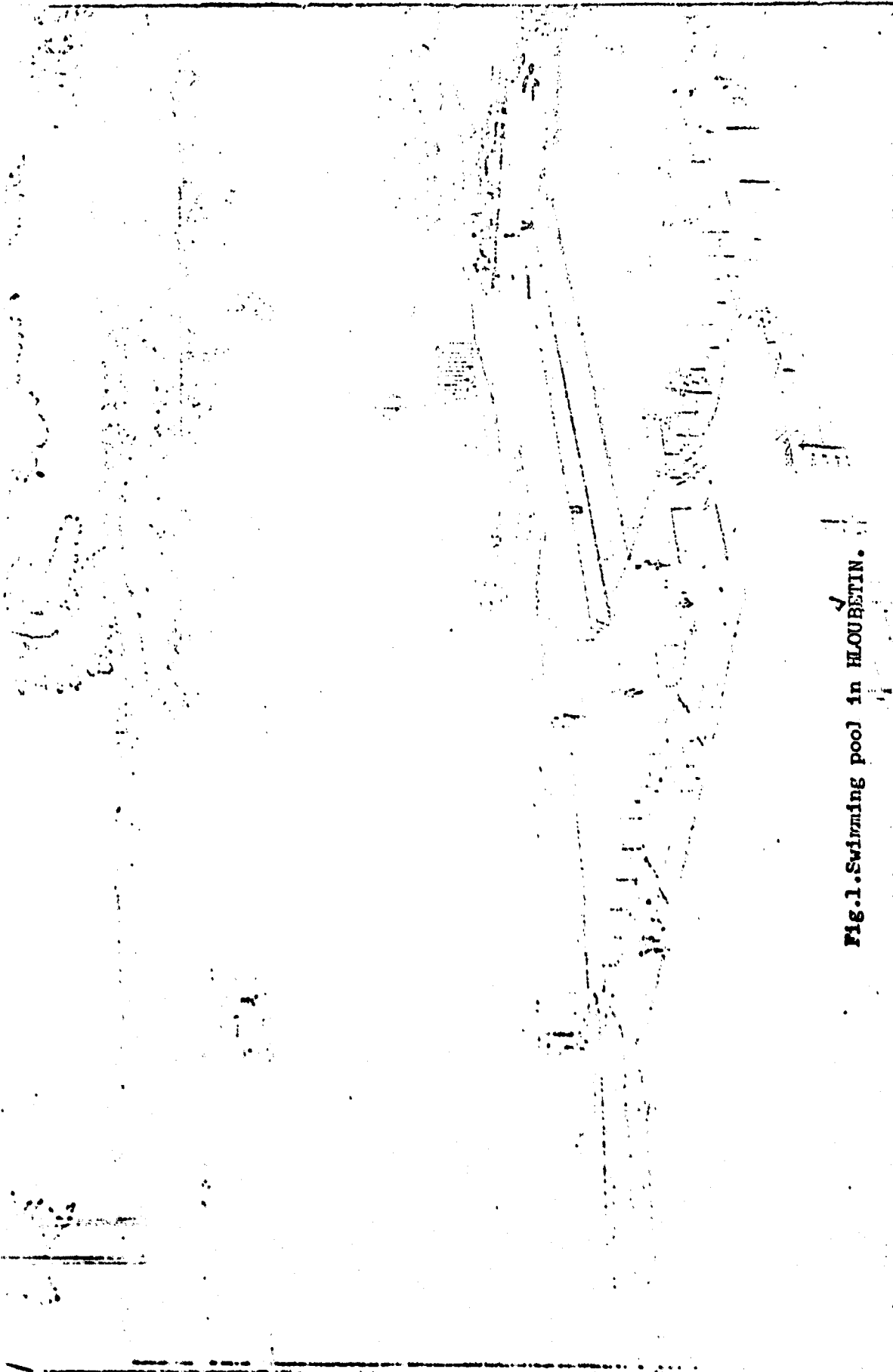
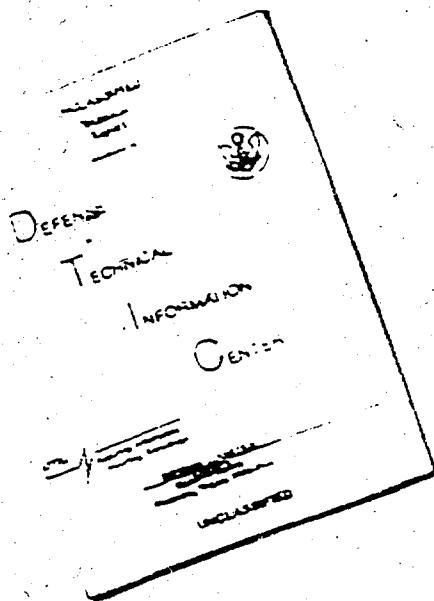


Fig.1. Swimming pool in HLOBETIN.

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For water recreation in the Prague area substantial contributions are the reservoirs in MOTOL, HLOUBETIN, and H. STIVAR, which are certainly without complex bathing equipment at the present time.

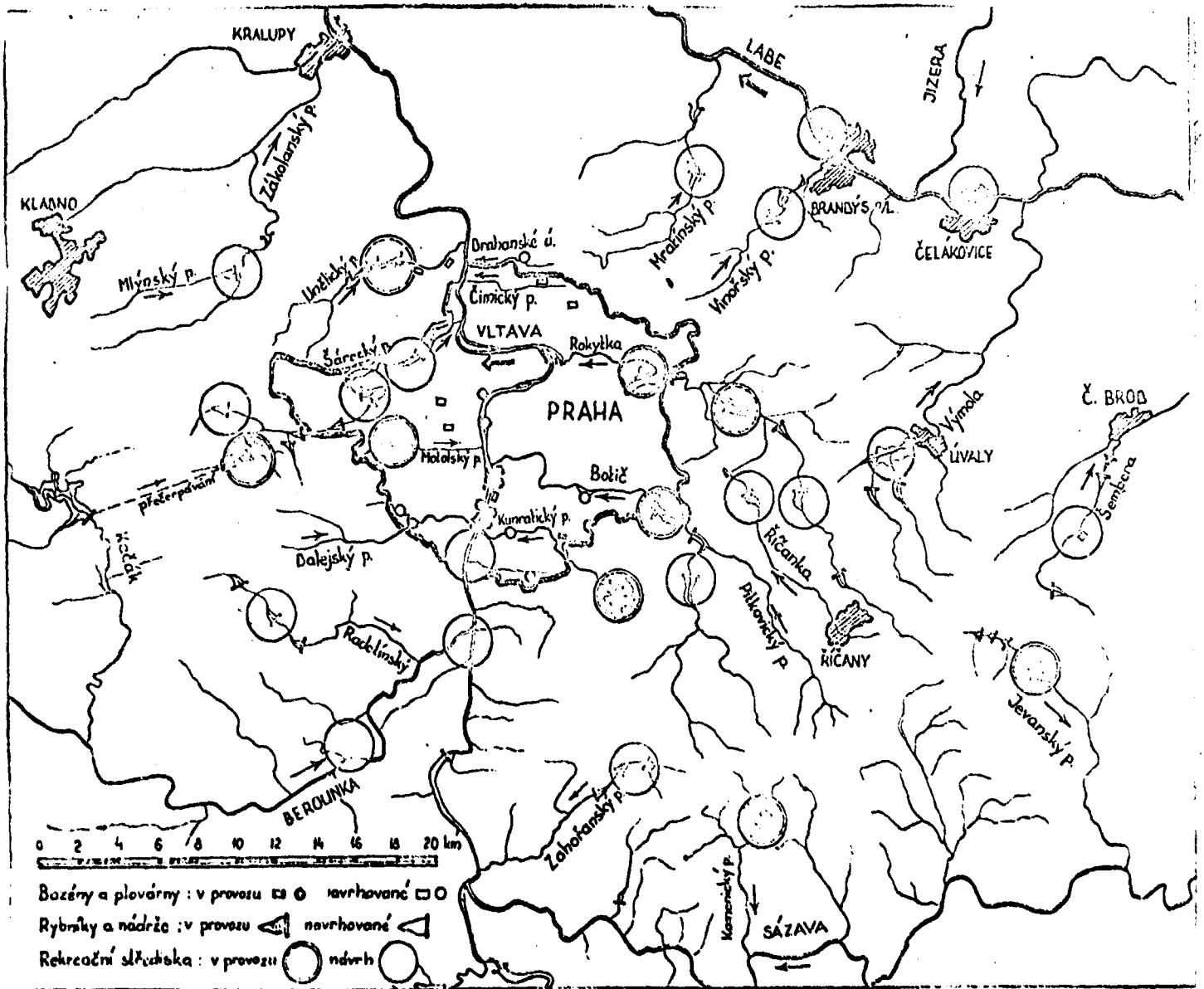


Fig.2. Recreation centers in the Prague area.

(On map: p = creek
 přecerpavani = transmission by pumping)

LEGEND (in left lower corner):

- | | | | | |
|----------------------------|--------------|-----|-----------|-----|
| Basins and swimming pools: | in operation | ■ ● | projected | □ ○ |
| Ponds and reservoirs: | in operation | ◡ ◡ | projected | ◡ ◡ |
| Recreation centers: | " " | ⊙ ⊙ | " " | ○ ○ |

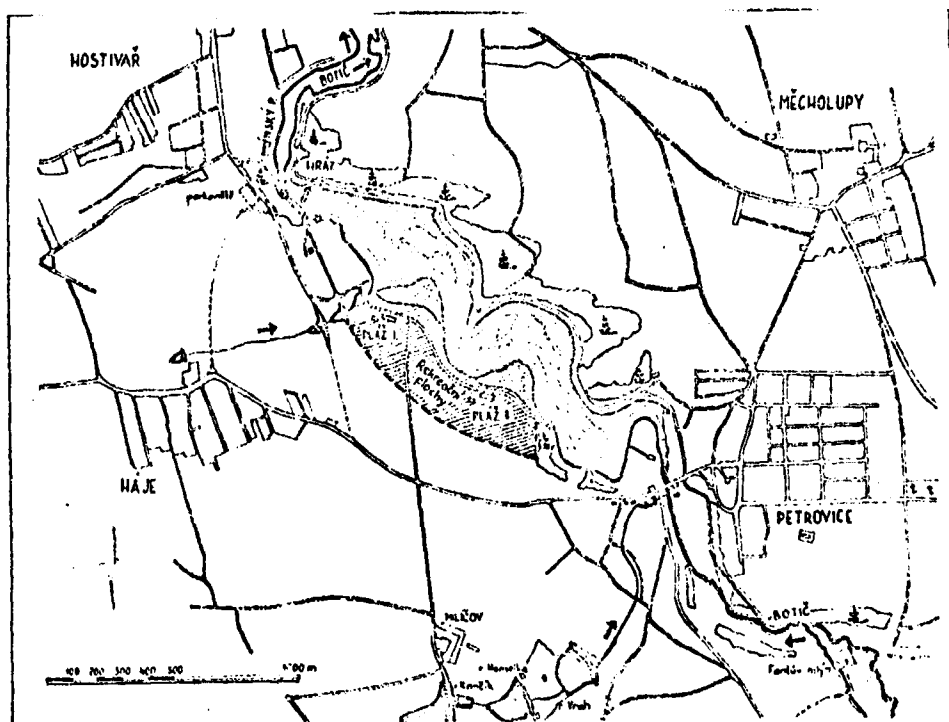


Fig.3. The HOSTIVAR recreation reservoir.

LEGEND: hraz = dam; parkoviste = parking site; hahe = groves; plazi and II = beaches; rekreacni plochy = recreation area; mlyn = mill

The HOSTIVAR bathing pool, established in the years 1960-1962 (volume 1,334,000 m³) forms an earth dam 13 m high, 110 m at the crest. To prevent leakage of water into the substructure of the dam, an impermeable sealing curtain had to be installed to the depth of 35 m (its expenses were 23% of the total sum spent for the dam construction and its accessories, i.e., overflow and base outlets). This must be taken into consideration at the erection of other recreation reservoirs, e.g., in the SARECKY valley, on the BOTIC, on the KUNRATICKY creek, where geological conditions may be perhaps similar, while the requirement to prevent water loss by leakage will be more urgent in regard to the small yield of the river flows. The HISTOVAR bathing pool is an example of a canal reservoir situated directly on the river. The BOTIC canals are comparatively large. The reservoir has a large volume, and thereby it also has a self-purifying capacity:—here a hazard of a more serious contamination of water does not threaten. This is however rather an exception; for the most part, in such type of reservoir, they reckon with a system of a second reservoir—a biological one in which water will be purified, warmed up, and simultaneously it can be used for fish breeding.

The novelties at the Hostivar bathing place are two artificial beaches of 40,000 m² each. At the time when it began to fill (in 1963), the most necessary recreational outfits were however missing. Later in the season, however, each beach had at least temporary dressing rooms and lavatories; supply of drinking water was also established, sliding chutes, floating wooden platforms (rafts), boats, and pedalling wheels were installed. The transportation for the visitors from the dam to the second beach was provided by the sight-seeing boat ZELVA (=Turtle). They plan a definitive construction of a center which will serve 20,000 visitors, including scheduled communications, for the summer of 1966-67, and this is the topic of numerous studies. They are also engaged in spacing the individual bathing facilities. The dispersed arrangement will be probably more advantageous for operational reasons. A part of the equipment can be also used for winter sports.

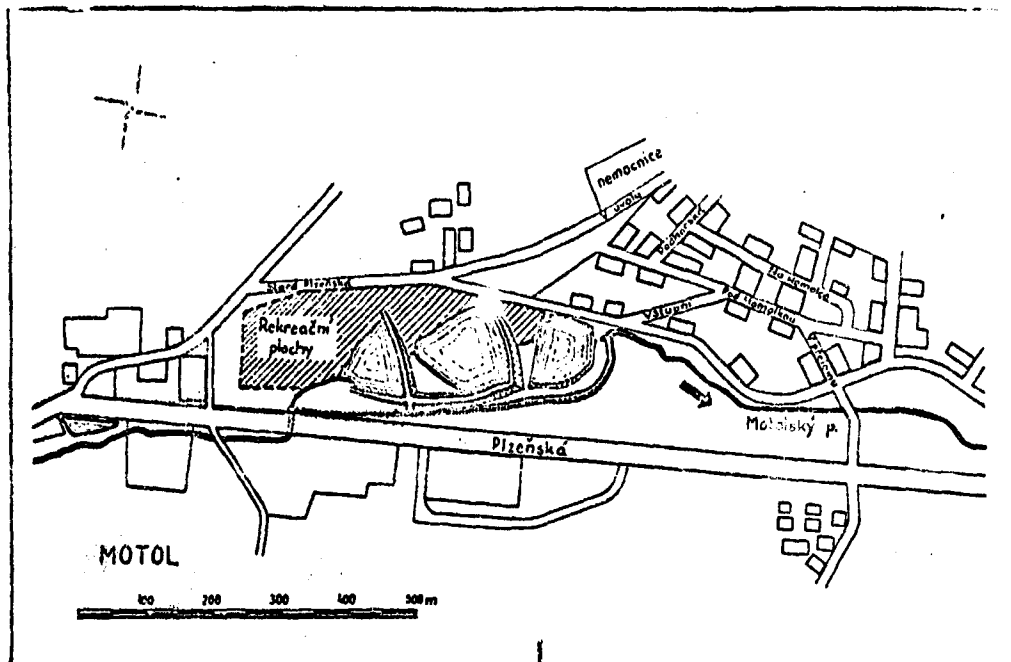


Fig.4. Bathing pool in MOTOL. nemocnice=hospital
p...creek; plochy= areas

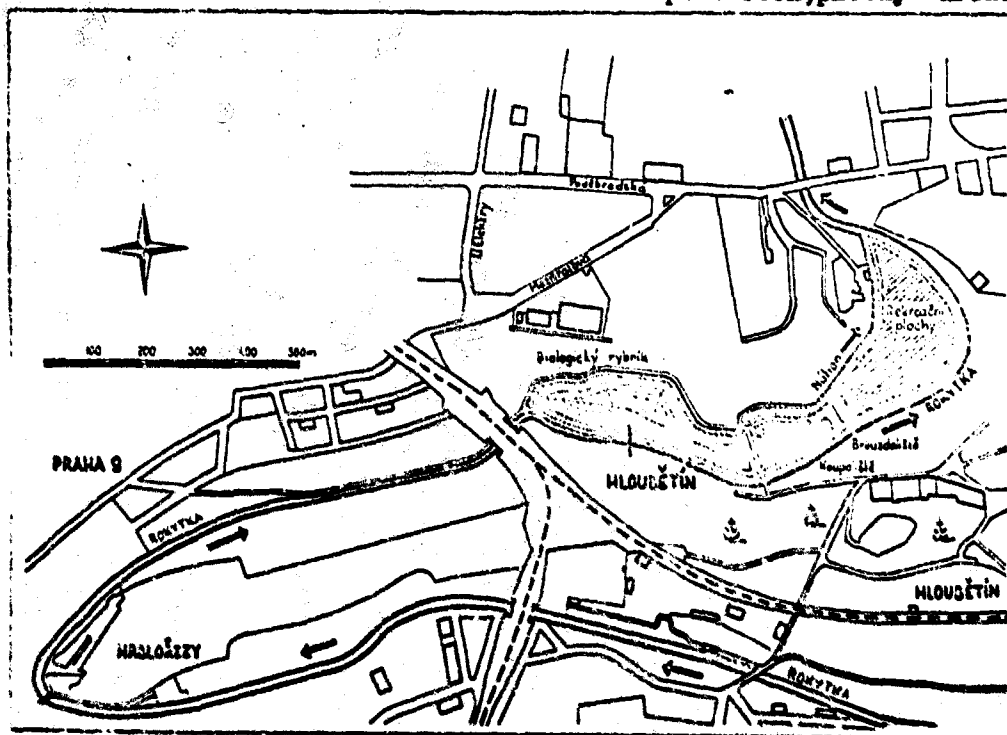


Fig.5. Recreation center in HLOUBETIN.
LEGEND: biologický rybník; rekreční plochy
koupaliště= bathing place náhon= dike

The bathing pools in MOTOL and HLOUBETIN are a type of riverside reservoirs located along the side of the riverbed. In MOTOL three reservoirs were constructed. The first serves as a cleaner and heater; the next is the bathing pool. In the future this center has to have a construction for 4000 persons. At present, during the seasonal visitations, 1000 - 1500 persons are in want of any kind of equipment. In HLOUBETIN two riverside reservoirs exist. The first is a biological reservoir, and the second is for recreation. The construction counts with 600 visitors for the present. Later on, the capacity has to be enlarged perhaps for 4000 persons. The hitherto gathered operating experiences indicated that even on very dirty creeks such as the MOTOLSKY and the ROKYTKA, the self-purifying capacity of biological reservoirs is large. The arrangement of reservoirs on the side of the river bed proper makes possible to partially influence both water purity and water temperature in bathing pools. It seems that for this property the riverside reservoirs will be

the most acceptable type of bathing pools.

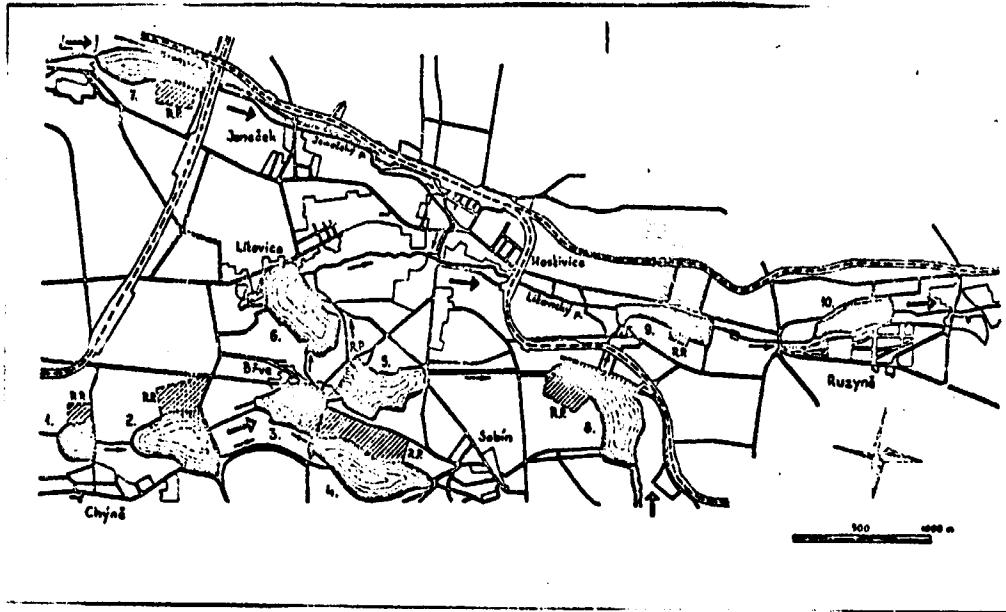


Fig.6. Recreation reservoirs in the upper river basin of the LITOVIC-SARECE creek.

LEGEND: 1...Basta pond, reconstruction; 2...STRAHOVSKY reservoir, reconstruction; 3...BRVE pond, in operation; 4...NEKEJCOVE pond, projected; 5...KALA pond, in operation; 6...LITOVICE fishpond, in operation; 7...JENECSKY reservoir, projected; 8...ZLIGIN reservoir, projected; 9...STRNAD pond, placed here; 10...RUZYNE reservoir, planned.

In addition to the riverside bathing pools, the Prague population is using a few centers in the near vicinity of Prague---on the LITOVICKY river in BRVE, the bathing pool in the SARECKY valley, the ponds in the UNETICE valley, the bathing pool in LHOTKA, the KYJE and POCERNICE ponds on the ROKYTKA, the PODLESAK on the RIGANKA, the SEBERAK on the KUNRATICE creek, the STIRIN ponds and bathing pool in JEVANI. The total capacity is perhaps for 60,000 visitors. Mostly, even the most primitive recreational outfittings are generally missing.

At the consideration of further construction of bathing places, the specialists, various institutions and projecting organizations started out from this gloomy picture. Projects were made for the gradual development of existing centers and for the erection of new centers. According to these projects, from 1970 on, water recreation for short time will be assured for 10.3% of the Prague population. Long-range studies up to 1980 showed the probable increase of capacity up to 23%.

From the viewpoint of natural conditions, the character of rivers on which new recreational centers could be set up, or water reservoirs and bathing places could be reconstructed, is relatively unfavorable from a hydrological aspect. The minimum flow is from 1.5 to 50 liters per second. Moreover, the majority of rivers flow through thickly settled districts, so that they are considerably contaminated. To assure sufficient amount of high-quality water would require therefore expensive measures, such as assanation of the river basin and regulation of the industrial (waste) water, furthermore perfect measures against water loss by leakage both into the body of the dam and at its base foundations. If to this we also add the need of construction and development of these centers, the service and the mass transportation of visitors, it is evident that the realization of long-range plans has more than enough obstacles.

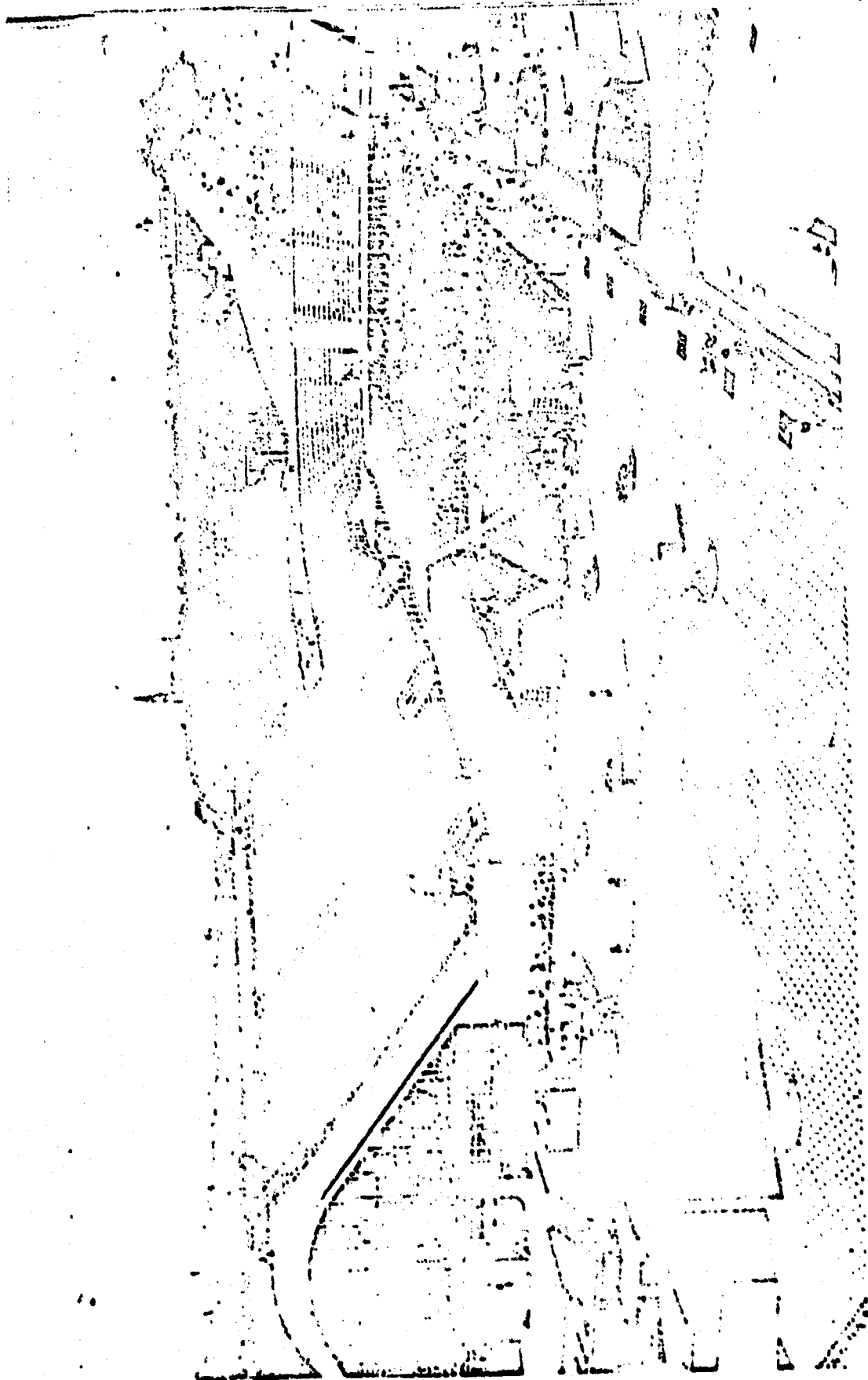


Fig. 7. The PODOLI swimming stadium.

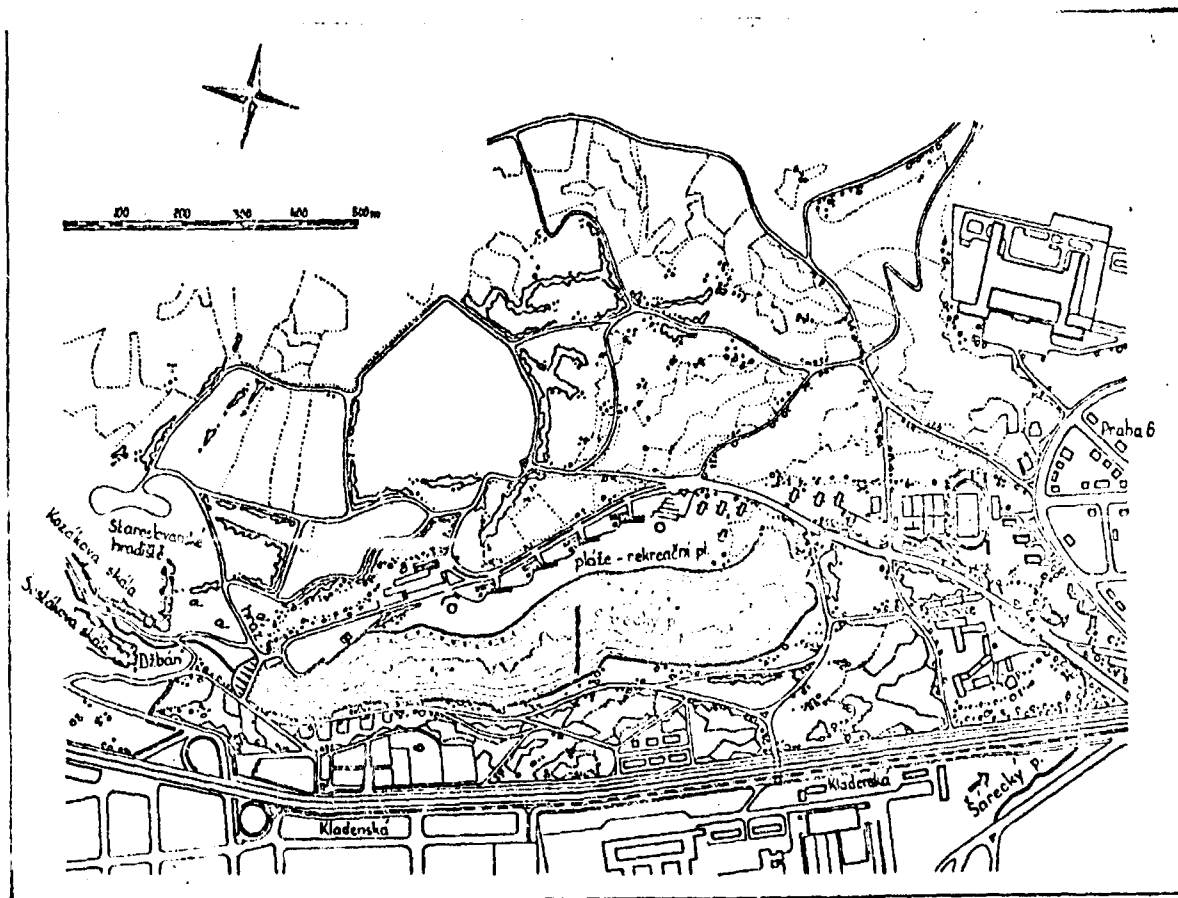


Fig. 8. Project of the DZBAN bathing pool in SARCE.

LEGEND: pláž= beach -recreation area; skála= rock.

For the next time, the utilization of the recreation reservoir on the SARCE creek in DZBAN comes in consideration. The construction started in November 1965, and it has to be completed in 1968. Although this place has exceptionally favorable conditions from a scenic point of view, the securing of sufficient amount of high-quality water will cause difficulties again. Several solutions were proposed: —for instance, to increase the accumulation space in the upper basin of the LITOVICE-SARCE river by additional reservoirs, and to utilize them alternately for bathing pools in DZBAN. The demands should be indeed respected that regulations should not curb the further development of a recreational center in the BRVE region. A similar project for a recreational center is prepared for STUDENA on the KUN-RATICE creek in BRANIK— a riverside basin with a biological reservoir.

Lately, work progresses on the study of a large recreation center which is to be built gradually in the tract along the right bank of the Vltava from VYSEHRAD up to HODKOVICEK, and, as a long-range term, then to MODRANY as far as KOJALOV. The project eliminates bathing in the river. It counts with a system of basins for swimmers and non-swimmers which are supplied with regulated Vltava water from a reservoir in MODRANY, properly drawn from riverside wells. The first stage of construction occupies the area of the DVOREC field (from ZLUTY baths up to STALINGRAD bath), with a capacity for 15,000 visitors. Here, two independent units develop each of which has its own entrance and equipment (restaurants, dressing rooms, water closets). In the second stage of construction up to 1980, a further section of the baths has to be realized on the MLYNKA up to HODKOVICEK. Three independent units with a capacity of 22,800 visitors will be included. The virtue of the project is the experience that in the future the Vltava valley remains the backbone of the Prague district recreational centers. Thus, recreation along the river joins the old tradition which developed over a decade in conformity with the interests of the Prague population in Nature.

In the area of future centers the new swimming stadium in PODOLI can be also included which started to function in June 1st year. It has two open basins, and a covered one whose roofing forms the platform (grand stand) for 5000 spectators. In summer activity, it counts with a capacity for 2000 visitors, and in the winter with a capacity for 700. The water is regulated, and heated to 22-24°C. This is one of the first centers of the swimming sport in our country which has a year-long operation, and a complex construction. Moreover, in the summer season facilities are furnished for short-time recreation. The construction of the bathing pool and

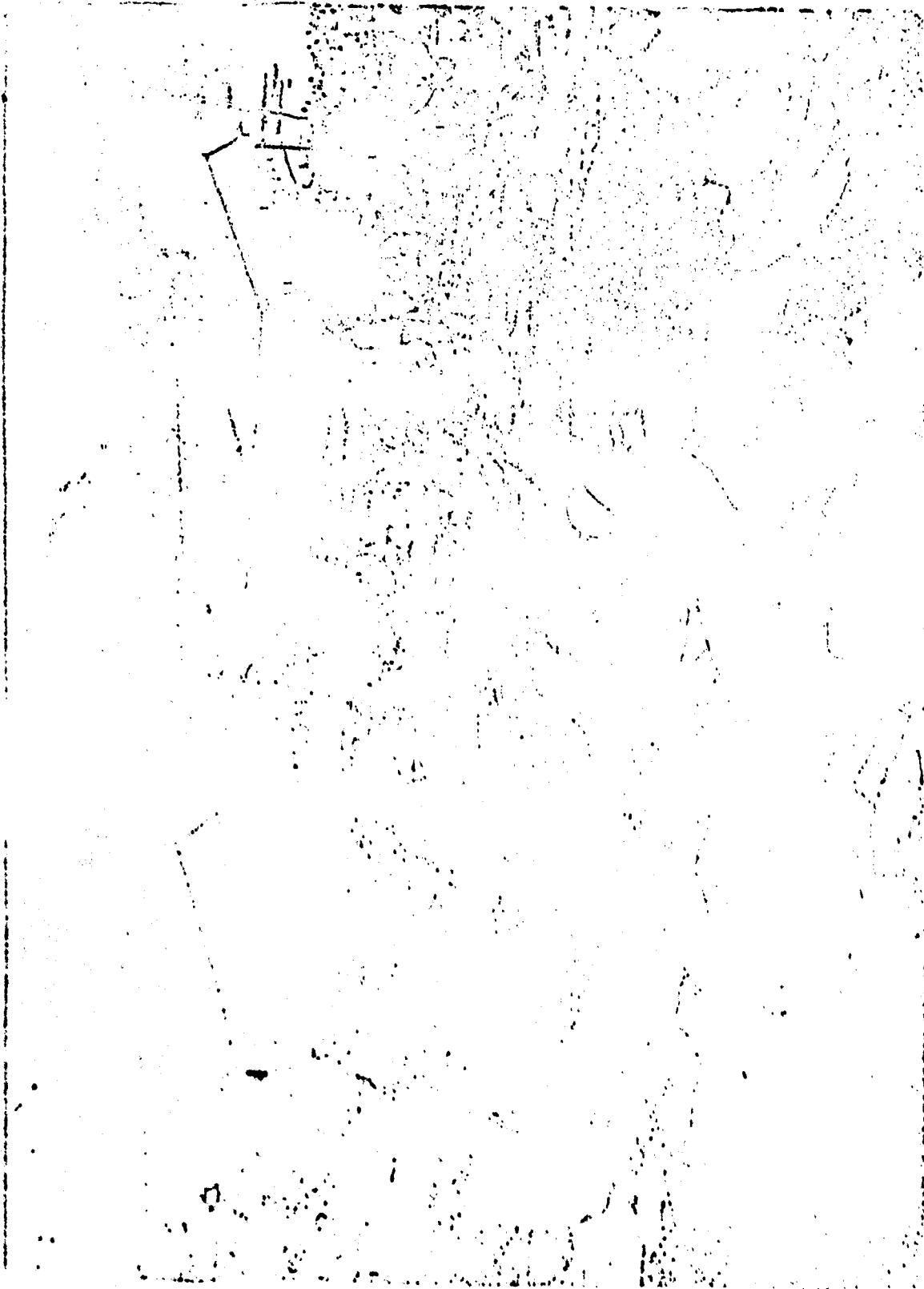


Fig.9. Heavy swarm of visitors on the HOSTIVAR beach.

of the recreation centers is very urgent for the entire territory of our country. While in world-wide relation recreation is assured for 10% of the population of large towns, in our country the capacity does not reach even half as much and the bathing engineering is still very backward. The plan of construction of recreation centers is not excessive. On the contrary, if it will be carried out to fulfilment, we shall just approach the level which other European states have reached long ago.

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