

THE IMPACT OF THE CREATION OF A RECREATIONAL AREA BY RECLAMATION OF A SURFACE MINE ON PROPERTY VALUE

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Abstract

The new lake Most with a water surface of 309 ha is an example that in some cases the damage to the landscape by human activity is not irreversible. A successful reclamation was a prerequisite for the preparation of a plan while mining was still under way in 1968. Since October 2008, the original mining pit has been filled with industrial water from the Nechanice dam. The surroundings of the future lake were also reclaimed, creating conditions for recreational use, not only beaches and facilities, but also sports equipment, playgrounds and piers to facilitate access to the lake.

The article examines the effect of the newly created recreational area on the price of residential property in the vicinity. Price data from the period before the lake filling and from 2020 to 2022 are used as a basis for the analysis of the current state of the residential real estate market.

The paper concludes by stating to what extent, and with what time lag, positive environmental change will take place in the formerly devastated area.

Key words: reclamation, lake, recreation area, residential property

Introduction

The town of Most is characterised by the devastation of the landscape and the disruption of the development of the urban area, which is typified by the relocation of the 16th century Gothic Church of the Assumption of the Virgin Mary. The end of mining and the construction of connecting roads will make it possible to reconnect the residential development with the recreational area and make the site more attractive. A specific feature of this area is the relatively insignificant development of detached houses and a large number of apartment blocks. The spatial planning documentation (Fig. 1) allocates a large area for the development of single-family homes in the vicinity of Lake Most.

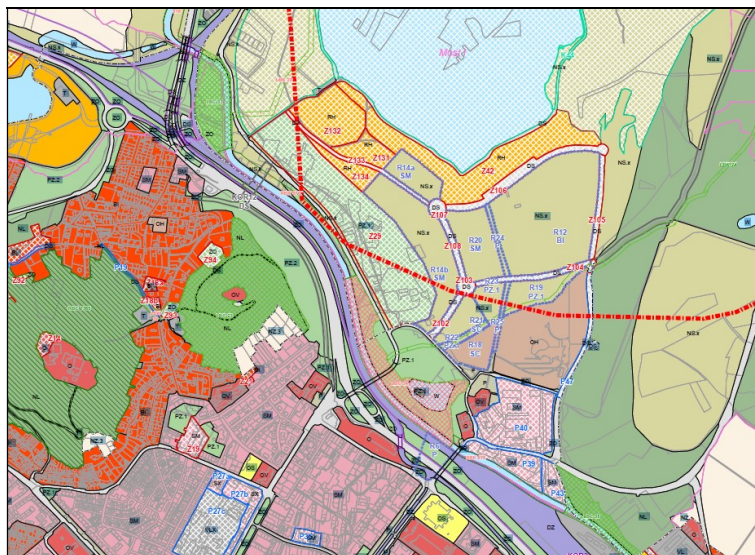


Fig. 1: Excerpt from the land use plan of the city of Most from 2020

However, it should be noted that an investment of CZK 3 billion was necessary, provided by the Ministry of Finance of the Czech Republic out of the CZK 15 billion earmarked for mitigating the consequences of mining activities throughout the Czech Republic.

Material and methods

Lake Most, with an area of 309 hectares, was created by flooding of the Ležáky lignite mine. Coal mining ceased in 1999, and reclamation and preparation of the lake bed by sealing it with a fill was

started. In the more permeable areas, up to 60 cm of sealing clay is layered on top, protected from drying out by another layer of soil, so that it does not crumble and crack before the lake is filled. Since 2008, the filling with water has started. The lake is 2.5 kilometres long. After filling, the water level is 199.6 metres above sea level. The maximum depth is then 75 metres, more than in the Orlické Dam. Visibility is up to nine metres. The reclaimed area is 1 300 ha and the total volume of water is 70 500 000 m³. The area of the lake is in four cadastral areas: Most I, Přídla, Kopisty, Konobrž. Ownership relations to the flooded land and the land around the reservoir will have to be resolved by the end of 2023. This means the cancellation of the right to dispose of the property of the state and the Statutory City of Most, which was granted to the state enterprise Diamo. Despite extensive state investment and environmental improvements, the landscape and the city of Most are still not attractive for housing.

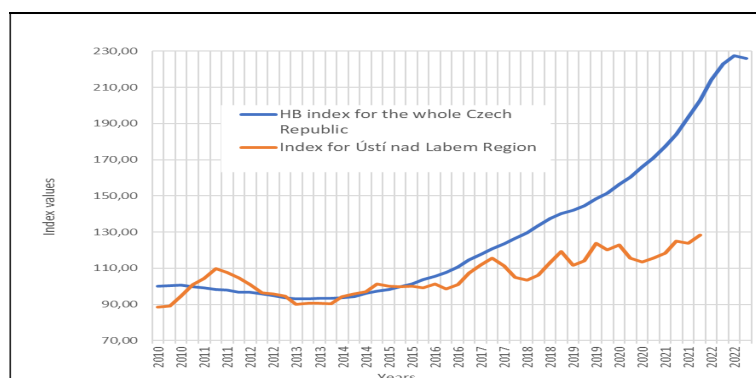


Fig. 2: Comparison of house price indices in the Czech Republic and Ústí nad Labem Region

Despite the expected improvement, housing prices in the Ústí nad Labem region have been almost stagnant since 2016, as can be seen in Fig. 2.

For the purposes of the research, all deposits into the Cadastre of Real Estate (hereinafter KN) cadastral area (hereinafter k.ú.) Most II are summarized from 2014 to 2022.

Year	Total number of deposits	Residential units total	Up to 45 m ²	Up to 60 m ²	Up to 80 m ²	Above 80 m ²
2014	862	648	160	263	190	35
2015	1 098	878	248	312	264	54
2016	1 397	1 095	344	383	319	49
2017	1 373	1 122	322	427	330	43
2018	1 302	1 230	376	412	386	56
2019	1 313	1 113	313	408	341	51
2020	1 236	1 052	289	432	293	38
2021	1 365	1 332	366	543	368	52
2022	1 103	968	273	402	256	37

Fig. 3: Number of sales in the cadastral area of Most II

These include 11,049 deposits, of which 9,438 are transfers of residential units (Fig. 3). Throughout the period under study, the most numerous sales are of flats with a floor area between 45 m² and 60 m², corresponding to a 2+1 layout.

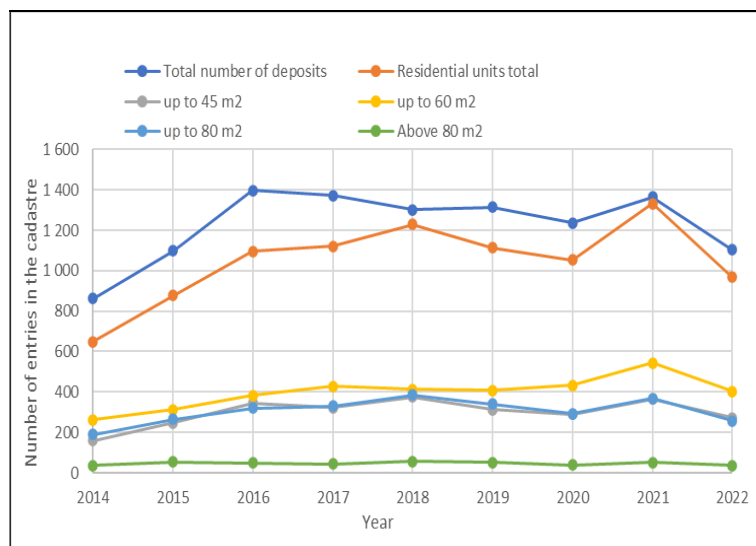


Fig. 4: Frequency of apartment sales in the k.ú.Most II from 2014 to 2022

On the website of the Czech Statistical Office, it can be seen that between 2019 and 2021, the largest number of flats with a floor area of 55 m² were transferred. For this type of dwellings, the effect of the newly created water area is further examined, including the supply price during 2022 (Fig. 5).

Results

The basic features for the possible development of recreation and improvement of the quality of life of the residents are fulfilled in the studied locality. A new water area with good water quality has been created, access from the public road is provided, the installed jetties make it comfortable to enter the water and other important tourist destinations have been connected, see Fig. 7, thus increasing the attractiveness of the area.

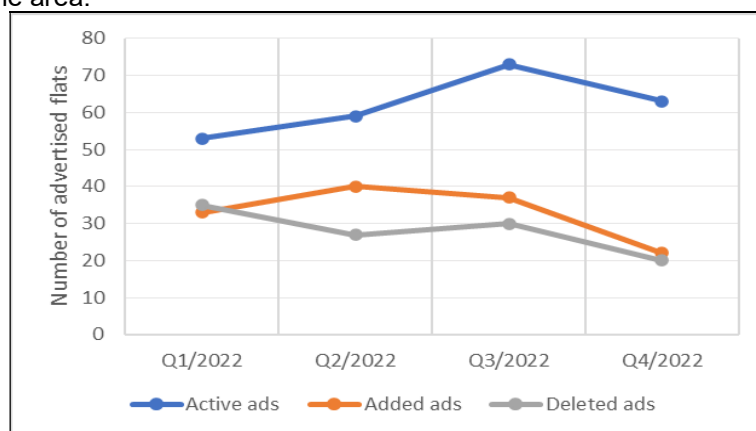


Fig. 5: Development of the number of offered properties within a radius of 5 km for flats of 46 to 68 m², in private ownership, in average condition

By examining residential property prices in the vicinity of the lake, no constant increase or decrease has been found; fluctuations in 2019, 2020 and 2022 are probably due to external macroeconomic influences, this is confirmed by the ownership relationships found by consulting the land registry; the owners of the flats reside in other cities and countries.

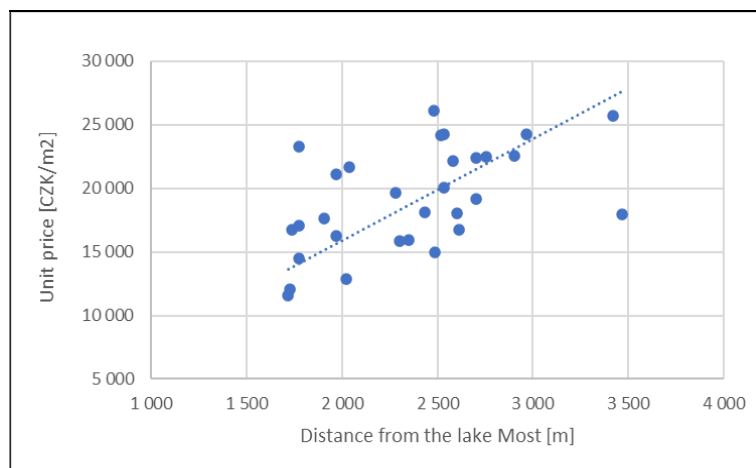


Fig. 6: Dependence of unit price on distance from the lake

Relatively specific are the continuities in the locality, the part with apartment houses is separated from the lake by a railway corridor and a busy road. The houses closer to the lake are also closer to the road and it is therefore questionable whether the negatively perceived impact of the traffic corridor will be offset by the positively perceived recreational area. Currently this is not the case (fig. 6). The closer the surveyed dwellings are to the lake, and also to the road, the lower the offer prices.

Nevertheless, depending on the ongoing reclamation and according to the master plan see fig. 1, it can be concluded that the site has a great development potential in the future.

Discussion

Detached houses were not investigated due to their low frequency and the fact that most of them allow relaxation in their own garden.

The most limiting factor to the increase in popularity of the site is the dangerously close mining boundary (Fig. 1) and the continuing concern about the possible expansion of the surrounding mining areas.

The problem of the lack of lake inflow and the small amount of rainwater that does not compensate for the high evaporation is so far solved by the Nechranice industrial water supply. The use of water from the Bílina mine or the Koh-i-Noor mine is being considered for the future.

The possibility of bank erosion is eliminated by appropriate bank hardening and the exclusion of motorised water sports.

Conclusion

Given the long period of lake filling, it could have been assumed that property prices would rise before 2022, but this assumption has not been proven and more long-term research is needed.



Fig. 7: Lake Most with other recreational and tourist destinations

The popularity of the location is increasing with the possibility of attractive recreation without the need to travel. And paradoxically, it may also be reflected in a reduction in the number of sales, as the needs of residents are met and the site functioning as a hostel becomes a full-fledged housing.

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Souhrn

Zdevastovaná krajina statutárního města Most a narušený vývoj městského prostoru po ukončení těžby získává novou možnost dalšího rozvoje. Jezero Most, o rozloze 309 hektarů, vzniklo zatopením hnědouhelného dolu Ležáky. Uhlí se přestalo těžit v roce 1999, byla zahájena rekultivace a příprava jezerního dna utěsněním výsypkou. V propustnějších místech je navrstveno až 60 cm těsnicího jílu, chráněného před vyschnutím další vrstvou zeminy, tak aby neproschl a nepopraskal před napuštěním jezera v roce 2008. Jezero má délku 2,5 kilometru. Po napuštění je vodní hladina 199,6 m nad mořem. Maximální hloubka je pak 75 metrů. Rekultivované plochy je 1 300 ha a celkový objem vody je 70 500 000 m³. Plocha jezera je na čtyřech katastrálních územích: Most I, Přidla, Kopisty, Konobrž. Zatraktivnění lokality vznikem nové vodní plochy jezera Most je podmíněno vybudováním spojovacích komunikací, které umožní opětovné propojení rezidenční zástavby s novou rekreační oblastí. Územně plánovací dokumentace vyčleňuje v okolí jezera Most rozlehlou plochu pro zástavbu rodinných domů, kterých je ve srovnání s počtem bytových domů minimum.

Pro zaházení následků důlní činnosti byla nutná investice ve výši 3 miliardy Kč poskytnutá Ministerstvem financí ČR. Přes rozsáhlé investice státu a zlepšení životního prostředí krajina a město Most není stále lákavé pro bydlení, ceny bytů v Ústeckém kraji od roku 2016 téměř stagnují, což je zjevné z Fig. 2.

Pro potřeby výzkumu jsou shrnuty všechny vklady do katastru nemovitostí pro katastrální území (dále k.ú.) Most II, a to od roku 2014 do roku 2022. Jedná se o 11 049 vkladů, z nichž je 9 438 převodů bytových jednotek (Fig. 2). Po celé sledované období jsou nejpočetnější prodeje bytů s podlahovou plochou od 45 m² do 60 m². Na stránkách Českého statistického úřadu je dohledatelné, že v letech 2019 až 2021 bylo převedeno nejvíce bytů o podlahové ploše 55 m².

Zkoumáním cen rezidenčních nemovitostí v blízkém okolí jezera, nebyl zjištěn konstantní nárůst ani pokles, výkyvy v letech 2019, 2020 a 2022 jsou pravděpodobně způsobeny vnějšími makroekonomickými vlivy.

Poměrně specifické jsou návaznosti v lokalitě, část s bytovými domy je od jezera oddělena dopravním koridorem. Domy bližší jezeru jsou také blíže koridoru a je tedy otázkou, zda bude tento negativně vnímaný vliv kompenzován pozitivně vnímanou rekreační zónou. V současné době tomu tak není (fig. 6). Čím jsou zkoumané byty blíže jezeru, a zároveň i koridoru, tím jsou nabídkové ceny nižší.

Vzhledem k dlouhé době napuštění jezera, se dalo předpokládat, že ceny nemovitostí porostou ještě před rokem 2022, nicméně tento předpoklad nebyl prokázán a je potřeba dlouhodobějšího zkoumání.

Oblíbenost lokality stoupá s možností atraktivní rekreace bez nutnosti cestování. A paradoxně se může projevit i snížením počtů prodejů, protože potřeby rezidentů jsou naplněny a z lokality fungující jako ubytovna se stává plnohodnotné bydlení.

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