

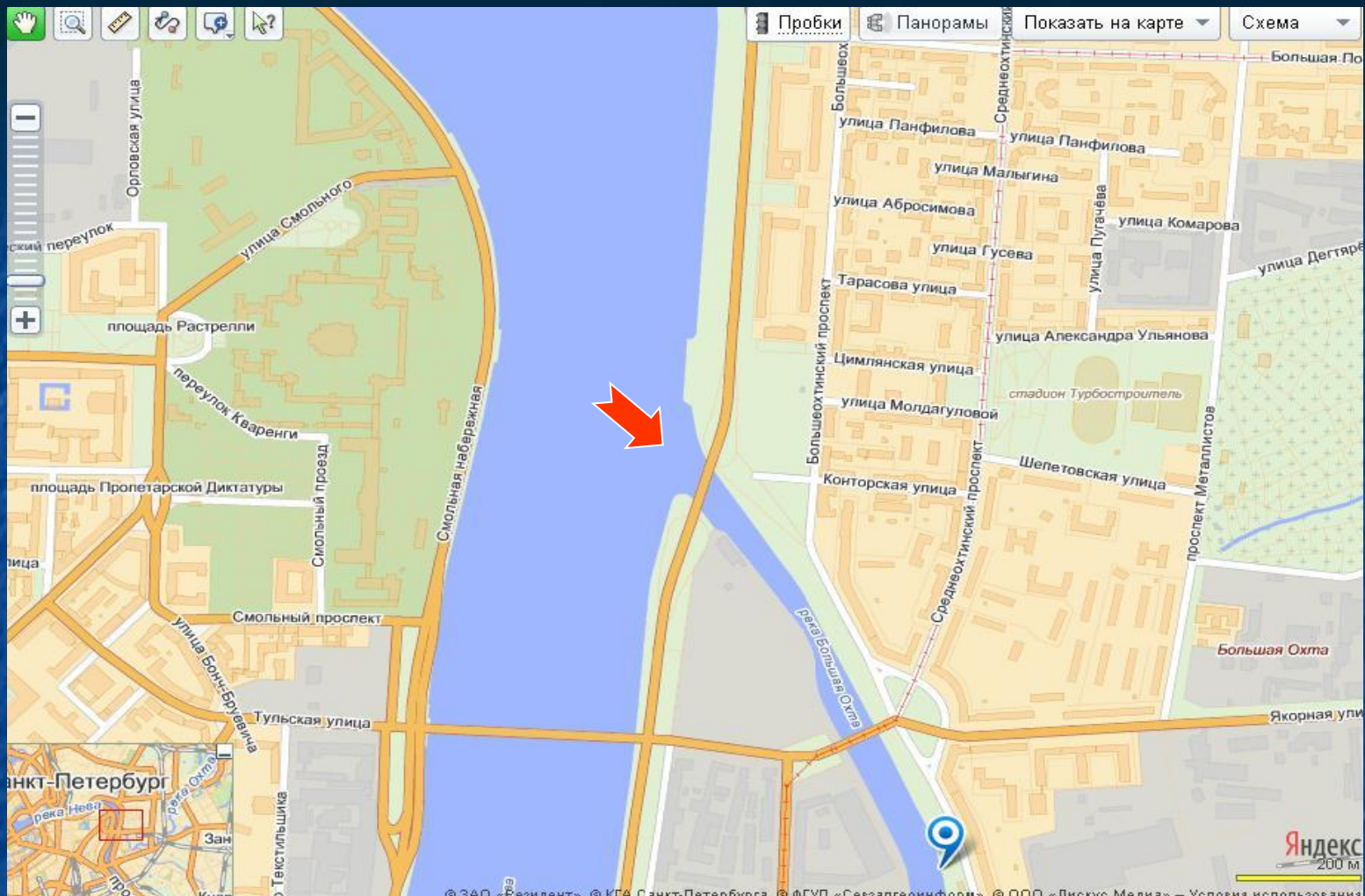
Upstream and downstream the Okhta river in St Petersburg The start of an environmental history investigation

Lyceum 179, St-Petersburg, Russia

Petrova I.V.

Research made by Goncharuk B., Gevorgyan B.

Start



The Okhta river is one of the main tributaries of the Neva river. . That is why the history of St Petersburg has always been closely connected to the history of the Okhta banks.





Okhtinsky plant

We started to examine the quality of the water in the Okhta river and the smaller Okkervil river in June 2000, using water samples for biotesting with algae, plants and molluscs.





The algae was Daphnia magna which is easily cultivated and highly sensitive to polluting factors of different origins.

The results of our investigation were very clear. The toxicological data showed us that the river is heavily polluted. In the lower parts of the river, the results from the biotests and bioindications showed a high degree of toxic substances. The samples taken upstream, in the upper part of the river Okhta, contained many more living algae than in the samples taken downstream of the factories.



Conclusion

Our conclusions were that the waters of both the Okhta and Okkervil rivers are highly polluted by organic and toxic elements. The factories along the river banks contribute to this pollution. However the banks of the river Okhta have a long industrial history so we started our research with this.



Ohta area is one of the first industrial zone in St. Petersburg.

In the 17th century, the Swedish fortress and city of Nyenshans was situated on the south side of the river Okhta along with its brick works. The Okhta river was then called Svarta - the Black river. During the Nordic war at the beginning of the 18th century, the fortress was besieged and captured by tsar Peter I. The city of St Petersburg was subsequently founded on the other side of the Neva river in 1703 and Nyenshans became a garden planted with trees. However the Okhta river became a centre for the Russian navy. Lumber-mills, shipyards and factories were built. The Okhta area became one of the first industrialized zones in St Petersburg.



Production of powder and synthetic materials on the shores of Ohta.

One of the oldest factories was the gunpowder mill - Porokhoviye. Production was constantly threatened by frequent explosions and spring floods that destroyed the dams of the mill. Nevertheless gunpowder production continued and by the end of the 19th century, it had become one of the largest factories in St Petersburg. In 1894 the factory started to produce smokeless gunpowder and work was hard and dangerous. The heaviest explosions occurred one after another over a very short period between December 17th 1912 and January 3rd 1913. At the beginning of the Soviet era, production was changed and the factory was converted into a chemical plant, producing celluloid and bakelite for the electrical industry. In the 1930s, synthetic materials and plastics were produced. Today the factory is called Plaspolimer.



Plastpolimer



Shipyards and factories on the banks of Ohta

Among other important industrial plants were the shipyards founded in 1721 for the Russian navy. They were developed into mechanical workshops in the late 1800s, producing small motor-boats and tug-boats. It was here that the first tug-boat in Soviet times was built in the 1930s. Today it is named Petrozavod and builds ships and makes equipment and machinery for ships.

The Komarovs cotton plant, paper mills and a factory manufacturing cheap roof-covering materials were also located here.



Petrozavod



Conclusion

We found that industrialization along the Okhta river had a long history. We will now proceed with our investigation and examine the production of the industries and factories that have been built during the last decades. It is possible that we will be able to find out the reasons for the concentration of pollution in the downstream areas of the industrialized zone.



Bibliography

1. Hutchinson T. Project English. Oxford University Press, 2000
2. Widdowson H. Teaching language as Communication 1999
3. Ur, Penny "A course in Language Teaching. Practice and Theory." Cambridge University Press 2001
4. <http://s-pb.in/reki/reka-ochta-v-peterburge>
5. <http://maps.yandex.ru/>
6. <http://images.yandex.ru/yandsearch?text=%>
7. http://images.yandex.ru/yandsearch?rpt=simage&ed=1&text=Daphnia%20magna%20&p=0&img_url=www.rybnehobby.zafriko.pl%2Fpics%2FDaphnia magna 2.jpg
8. http://images.yandex.ru/yandsearch?rpt=simage&img_url=img04.urban3p.ru%2Fup%2Fo%2F7362%2Fphoto.jpg&ed=1&text=%D0%BF%D0%BB%D0%B0%D1%81%D1%82%D0%BF%D0%BE%D0%BB%D0%B8%D0%BC%D0%B5%D1%80&p=75
9. http://images.yandex.ru/yandsearch?p=12&text=%D0%BF%D0%BB%D0%B5%D1%82%D1%80%D0%BE%D0%B7%D0%B0%D0%B2%D0%BE%D0%B4&rpt=image&img_url=img04.urban3p.ru%2Fup%2Fo%2F7362%2Fphoto.jpg&ed=1
10. [http://ru.wikipedia.org/wiki/Охта_\(приток_Невы\)](http://ru.wikipedia.org/wiki/Охта_(приток_Невы))

Thanks for your attention!

The presentation was prepared by: A. Timofeev

