

# **Development of decision support system for granting bank and shore no-construction zone reduction permits**

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## **Executive summary**

According to the Nature Conservation Act of Estonia, it is forbidden to build near banks and shores in no-construction zones. No-construction zones work similarly to green corridors or ecological networks, because they gird all the water bodies as a corridor of 25-200 m width and like this forms a network. However, the Environmental Board has the right to reduce this no-construction zone, if it is in accordance with bank or shore protection rules. The main bank or shore protection rules are:

- To conserve nature succession
- To limit harmful impact from people on shore or bank and water body
- To direct settlement according to each shore's or bank's peculiarity
- To enable the general public to reach shores and banks

When reducing the no-construction zone, the Environmental Board has to be sure that in that place biodiversity and water bodies would not get harmed by constructions and that the banks and shores stay accessible to the public. In some places there is no significant biodiversity, so it is more acceptable to build there. But it is important to assure that areas with high biodiversity potential will remain as they are, and are not destroyed or fragmented by construction.

People have become more aware of the possibility to request the exception from no-construction zones at the Environmental Board and also more courageous to turn to court in case the exception is not granted. Therefore, the Environmental Board has to motivate well each decision, as otherwise it will lose in court and as a consequence the environment will suffer. In 2012 there were two court-cases regarding decisions of the Environmental Board, and two objections. This means that in 2012, 8% of all decisions were contested.

The goal of this project has been to reduce the biodiversity loss caused by habitat/landscape fragmentation along banks and shores and through the water pollution associated with shore infrastructure. For that there were 3 objectives:

- Information on past reductions of no-construction zones is easily accessible to Environmental Board staff in GIS format
- Decision making on future no-construction zone decrements by the Environmental Board is based on an objective, transparent decision support system which includes biodiversity related criteria
- Recommendations to change the Nature Protection Act regarding no-construction zone if necessary

In order to generate a GIS layer of past no-construction zone reduction permits, an existing excel table with the information about past permits in years 1999-2012 has been arranged and every decision line received spatial information (location) at the settlement unit's level. Also a new layer has been created where since 2013 after each decision the requested area will be drawn manually. This way it is possible to see exact places of reduced noconstruction zones, and as a result to make wiser decisions in the future.

To make usable and correct decision support system that helps to decide whether it is possible to accept no-construction zone reductions, it is necessary to know why the zone is important, why it is necessary to keep it construction-free. For this purpose, the importance of different aspects in banks and shores were researched (e.g. the importance of forests, floods etc). As a result guidelines that specify in which cases the Estonian Environmental Board can accept to decrease the no-construction zone, and in which cases it should refuse, were elaborated.

During the project one proposal to change the Nature Protection Act of Estonia was also worked out – to allow building small constructions for public purposes inside no-construction zones without the necessity to ask for reduction of no-construction zone. This proposal will be sent on to the Ministry of Environment.