

# KAZAKHSTAN - Borovoje

## Borovoje National Park



Regierungsbaumeister  
**SCHLEGEL**



### Client

Department of Presidential  
Affairs of the Republik of  
Kazakhstan

### Period

since 2008

### Project Cost

### Abstract

The government of the Republic of Kazakhstan has developed a program for restoration and sanitation of the lakes Schtschutsche, Borovoje and Karasu, which are located in the National Park Borovoje, in the northern part of Kazakhstan. The water quality of all these lakes is poor as a result of human impacts. The main reasons for eutrophication of the mentioned water bodies are discharge of wastewater into the lakes, water supply through water abstraction of the lakes and the growing tourism in this area. In line with the project, an analysis of the existing condition through local survey, water and sludge monitoring and using actual satellite data is required. Analysis of the satellite data is necessary in order to specify the chlorophyll content in the water. With the help of additional local measurements, the chlorophyll content can precisely be adjusted, so that monitoring of the water quality through satellite application can be made possible in future. The second part of the project is preparation of the tender documents and supervision for the purpose of lake restoration, including removal of the contaminated sludge from the river bed.

### Scope of Service

preparation of tender documents, site  
supervision

analysis of satellite data  
rehabilitation concept

### Technical Data

Catchment area	725 km <sup>2</sup>
Inhabitants (incl. tourism)	500,000 PE
Capacity of lake Borovoje	29 million m <sup>3</sup>
Capacity of lake Schtschutsche	255 million m <sup>3</sup>