

## The Canal System of Bolshoy Solovetsky Island

Ekaterina Kalemeneva

### Summary

With the foundation of the most northerly Orthodox monastery in 1436, monks and settlers began to create an extensive canal system on Solovetsky Island between the island's more than five hundred lakes, thus transforming and adapting the environment to accommodate the needs of human settlers.

The Solovetsky archipelago is located in the middle of the White Sea, 164 kilometers south of the Arctic Circle. In 1436, one of the most northerly Orthodox monasteries was founded here, situated between Svyatoe Lake and the bay.



View of Solovetsky Monastery (1780)

Painting by Jean-Balthasar de la Traverse (1780)

Click [here](#) to view Wikimedia source.

 This work is licensed under a [Creative Commons Public Domain Mark 1.0 License](#).

From that moment, the process began of adapting the northern environment to accommodate the needs of the new settlers. The most significant development was the creation of canal systems on Solovetsky island. There are

no rivers on the island, but there are more than five hundred lakes. The first human-made canals were built in the fifteenth century, in order to ensure an adequate supply of fresh water. The canals, running between the lakes, served to transport drinking water to the monastery and other installations, and supplemented the lakes' water resources. The canal system around Svyatoye Lake emerged as one of the most important, created in the mid-sixteenth century in direct proximity to the monastery. The constant flow of water into Svyatoye Lake via the supplementary canal, and from the lake to the sea, allowed for the construction of a water mill; the mechanism was propelled by water pressure from the canal.



An orthodox monk on one of the Solovetsky canals

2012 Dmitry Porechnyy

Click [here](#) to view Flickr source.



This work is licensed under a [Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License](#) .

In order to facilitate the drainage of water into Svyatoye, differences in elevation were taken into account in the choice of lakes. Fifty-two lakes in all were connected by canals to make a single system, so that the water ran into Svyatoye Lake and from there through underground canals to the water mill. Having done its work for the monastery, the water then flowed further along the canals and into the sea.

Moreover, the canals had a positive effect on the landscape of the archipelago. The increased flow of water to the lakes made them less marshy and improved their water cycle. Aquatic plant life became richer, the forage reserve for fish improved, and new types of fish appeared and multiplied. On the banks of the lakes, the bird population grew more numerous and diverse.

In the early twentieth century, a new canal system was built for navigation (1907–1918). The shipping canals, with their walls reinforced with boulders, connected 10 lakes in all.

---

### Arcadia Collection:

[Water Histories](#)

### Further readings:

- "*Istoriia Pervoklassnogo Stavropigial'nogo Solovetskogo Monastyria.*" [The History of the Holy Transfiguration Solovki Men's Monastery]. Moscow, 2001.
- Boguslavskii, Gustav. *Ostrova Solovetskie.* Arkhangel'sk: Severo-zapadnoe knizhnoe izd-vo, 1978.
- Skopin, Vladimir. *Na Solovetskikh ostrovakh.* Moscow: Izd. Iskusstvo, 1990.

### Related links:

- UNESCO World Heritage Site: Cultural and Historic Ensemble of the Solovetsky Islands  
<http://whc.unesco.org/en/list/632>

### How to cite:

Kalemeneva, Ekaterina. "The Canal System of Bolshoy Solovetsky Island." Environment & Society Portal, *Arcadia* (2014), no. 11. Rachel Carson Center for Environment and Society. <https://doi.org/10.5282/rcc/5313>.

 This work is licensed under a [Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License](#).

2014 Ekaterina Kalemeneva

*This refers only to the text and does not include any image rights.*

*Please click on the images to view their individual rights status.*

ISSN 2199-3408

Environment & Society Portal, Arcadia

### Websites linked in image captions:

- [http://en.wikipedia.org/wiki/File:Solovki\\_1780s.jpg](http://en.wikipedia.org/wiki/File:Solovki_1780s.jpg)
- <http://www.flickr.com/photos/monufsol/7887229128/in/photostream/>

### About the author:

**Ekaterina Kalemeneva**

To be submitted...