The Tobol-Turgai and the Ishim basin

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The Tobol-Turgai and the Ishym River Basin in Northern Kazakhstan
Description (1)

**Tobol-Turgai:**
- Formed by the rivers Tobol, Torgai and Irgiz
- Size: 121,000 km² out of 426,000km² (28% of total in Kazakhstan)
- Population: 1,05 million
- Is a typical steppe river mostly fed during snowmelt
- 15% of water resources stored in groundwater, rest: surface
- 2,9 km³ – Kazakhstan’s poorest in terms of water resources
- Largest tributary to Irtysh
Ishim:

- Size: 34,000 km$^2$ out of a total 176,000 km$^2$ (81% in Kazakhstan)
- Population: 1.9 million, mostly rural > 57%
- Annual flow: 5.34 km$^3$
- Almost 95% surface water, very little stored on groundwater
- Very instable water flow
socio economics

**Tobol:**

- 23 reservoirs with storage capacities of 5 to 10 million m³; and 166 reservoirs with a storage capacity below 5 million m³.
- In addition to hydropower production, these reservoirs provide drinking water and regulate

**Ishim:**

- 5 water reservoirs on Kazakhstani side mostly for regulatory purposes
Biodiversity values – Important Bird Areas
biodiversity facts

• 28 IBAs (out of 219) located in the two river basins covering 1.5 million hectares
• Predominantly wetlands
• Most of global importance for IUCN Red List species such as Lesser white-fronted Goose and Red-breasted Goose
• Represent Biome „Eurasian Steppe“ with characteristic composition of species
• Important stop over sites during migration (>20,000 waterbirds) – „Ramar criteria“
pressure factors

• Mineral-rich bedrock that causes high natural background pollution with heavy metals (even under natural conditions)
• Natural salt lakes produce additional salt pollution (problem for drinking water quality)
• Anthropogenic pollution sources are municipal wastewaters, wastewater from ore mining and processing, residual pollution from closed-down chemical plants in Kostanai, accidental water pollution with mercury from gold mining (tributaries of Tobol)
• Overuse of water resources for irrigation
• inconsistent water level
transboundary management

- Agreement on Shared use Protection of transboundary waterbodies signed between Russia and Kazakhstan in Orenburg in 1992
- Joint Kazakh and Russian commissions established
- Renewed in September 2010 (in Oskemen): „Agreement between the governments of the Republic of Kazakhstan and Russian on the joint use and protection of transboundary water bodies“
- Disagreements on water use of irrigation and also maintenance of infrastructure on Kazakhstani side