Iron Gates state of play of fish migration in Romania

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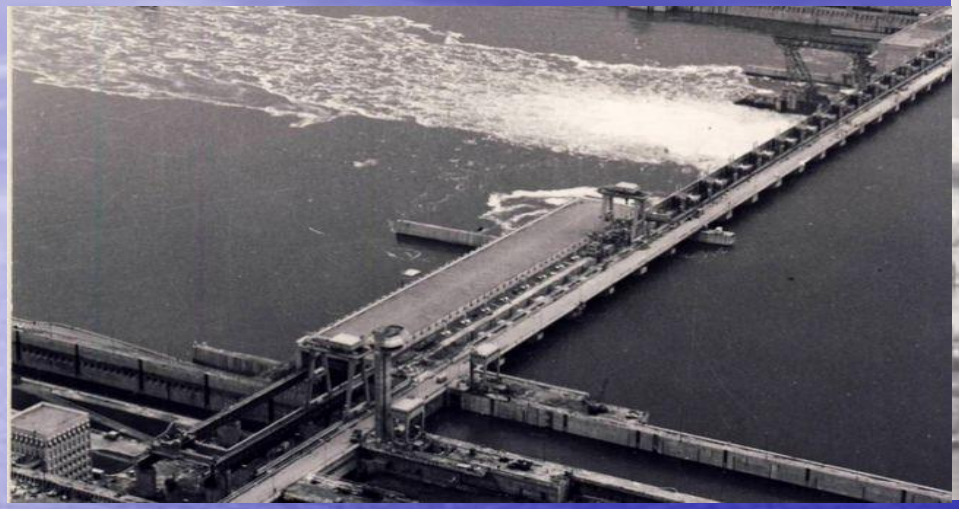
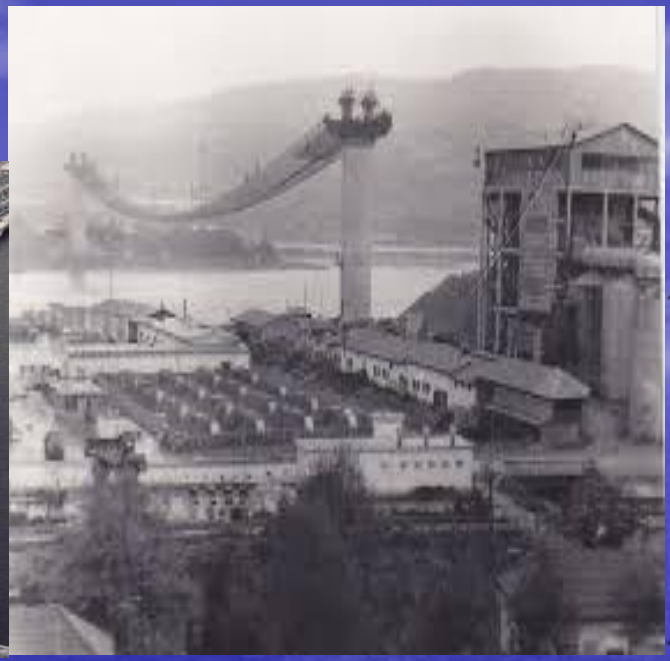
From Iron Gates to Gabčikovo Water Structure
Transfer of knowledge on fish migration
Bratislava, 16 May 2024

History





(Sursa foto: Comunismul în România)

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Iron Gates Hydropower Plant

ROMANIA - SERBIA

- Iron Gate I, 1080 MW installed power, start in the '60 and finished in 1972

- Iron Gate II, 250 MW installed power, start in the '80 and finished in 1985

History

-1963 Agreement between the Romanian People's Republic and the Socialist Federal Republic of Yugoslavia on the construction and operation of the Iron Gates hydropower and navigation system on the Danube River (Belgrade);

-1976 Agreement between the Socialist Republic of Romania and the Socialist Federal Republic of Yugoslavia on amending and supplementing the Agreement between the Romanian People's Republic and the Socialist Federal Republic of Yugoslavia on the construction and operation of the "Iron Gates" hydropower and navigation system on the Danube River,

-1977 Agreement between the Government of the Socialist Republic of Romania and the Government of the Federal Socialist Republic of Yugoslavia on the conditions for extending the collaboration for the use of the Danube hydropower potential, signed in Bucharest on February 19, 1977

-1987 Agreement between the Government of the Socialist Republic of Romania and the Federal Executive Council of the Assembly of the Federal Socialist Republic of Yugoslavia on the further extension of cooperation for the use of the Danube hydropower potential of 22.05.1987

Lakes Iron Gates I and II

- The largest hydropower dam and reservoir system along the entire Danube is located at the 117 -km -long Djerdap (Iron Gate) Gorge. This peak operation system consists of two dams, jointly operated by Romania and Serbia. The average flow rate of the Danube here is 5,500 m ^{3}/sec, and the river drops a total of over 34 metres.
- The reservoirs have a total volume of 3.2 billion m ^{3}, and a total length of 270 km.

Lakes Iron Gates I and II

- The Iron Gate Dams I and II, both located where the Danube forms the border between Romania and Serbia, impound the Danube as far upstream as Belgrade (from the confluence with the Tisza River until km 863 (IG II); on the Romanian territory from km 1075 up to km 943 (IG I) and up to km 863.
- Main uses: hydropower generation, navigation.
- Other uses: the flow regulation on the Danube River, industrial water supply, fishery and leisure.


SLOVAK REPUBLIC
UKRAINE
AUSTRIA
HUNGARY
SLOVENIA
ROMANIA
CROATIA
Iron Gates
BOSNIA
HERCEGOVINA
SERBIA
Danube River
BULGARIA

Lake Iron Gates I

- A gorge between the Carpathian and Balkan mountains on the Danube River
- Border between Romania and Republic of Serbia
- Upstream of Drobeta Turnu Severin town
- IG I – one of Europe's largest hydroelectric power dams.
- Dam – built by Romania and the former Yugoslavia (finished 1972)
- Total area of lake: 260 km 2
- Total volume: 2 100 mill. m 3
- Relatively shallow(mean depth–25 m,deepest point -40m)

Lake Iron Gates II

- Downstream of Drobeta Turnu Severin town (Ostrovu Mare – Gogosu)
- In operation from 1986
- Total area of lake: 78 km 2
- Total volume: 800 mill. m3 (1/3 of IG I)
- Mean depth – 10 m, the deepest point – 25 m

Operation of the Iron Gates I and II

- Convention between the Government of Romania and the Federal Government of the Federal Republic of Yugoslavia on the operation and maintenance of hydropower and navigation systems Iron Gates I and Iron Gates II, signed in Drobeta-Turnu Severin on 16 May 1998.

  -To extend the defense systems of the Romanian and Serbian riparian lands against the Danube oar at elevations over 69.50 mdMA at the mouth of the Nera

  -To build and operate two additional power plants at the "Iron Gates II" hydropower and navigation system

  -Establish Regime of permanent operation of the "Iron Gates I" System with Danube levels at elevations above 69.50 mdMA at the mouth of the Nera River

Romanian-Serbian Joint Commission for Iron Gates (1)

Members

- Ministry of Energy –Chair of the Romanian Party
- Ministry of Environment, Water and Forest
- Ministry of Foreign Affairs
- Ministry of Public Finance
- Ministry of Transports

Romanian-Serbian Joint Commission for Iron Gates (2)

- Ensure the cooperation for the implementation of the Convention
- Monitorize the equitable share of the water resource (energy production)
- Approve the necessary works and budget
- Ensure the settlement of the disputes

Joint Bodies of the Joint Commission

- Joint coordination body
- Joint Energy Dispatcher Service
- Joint Navigation Dispatcher Service
- Dispute settlement commission
- Commission for monitoring dams and reservoirs
- Legal section
- Joint Secretariat

Actions taken for sturgeons protection in Romania

- Fishing ban
- Ex situ conservation and rehabilitation measures
- Sturgeon monitoring
- Participation in projects
- Solutions for fish migration at Iron Gates I and II

MEASURES Project

- Developed a catchment-wide approach to securing fish migration corridors (through conservation or rehabilitation)
- Developed a Strategy on securing these migration corridors
- Contributes to the implementation of the Strategy regarding sturgeons in the Danube basin

Fish Pass at Iron Gates

- Started to be assess and discussed by FAO project
- Continued with a pre-fesability study in WePass
- Possible technical solutions and feasibility studies in WePass 2

Issues on fish pass solutions

- Impact on the energy production –energy loss
- Ensuring the financing for necessary migration works
- Need to have the hydropower opinion/agreement on the proposed solutions

Next steps

- Assessment of the proposed solutions within the Iron Gate Joint Romanian-Serbian Commission
- Discussion on the possible financing sources for the chosen solution implementation
- Design and implementation of the necessary infrastructure

Barajul Porțile de Fier I, Sursa: Adevărul


Thank you for your attention!