

Management of the Water Resources of the Piave River amid Conflict and Planning

by

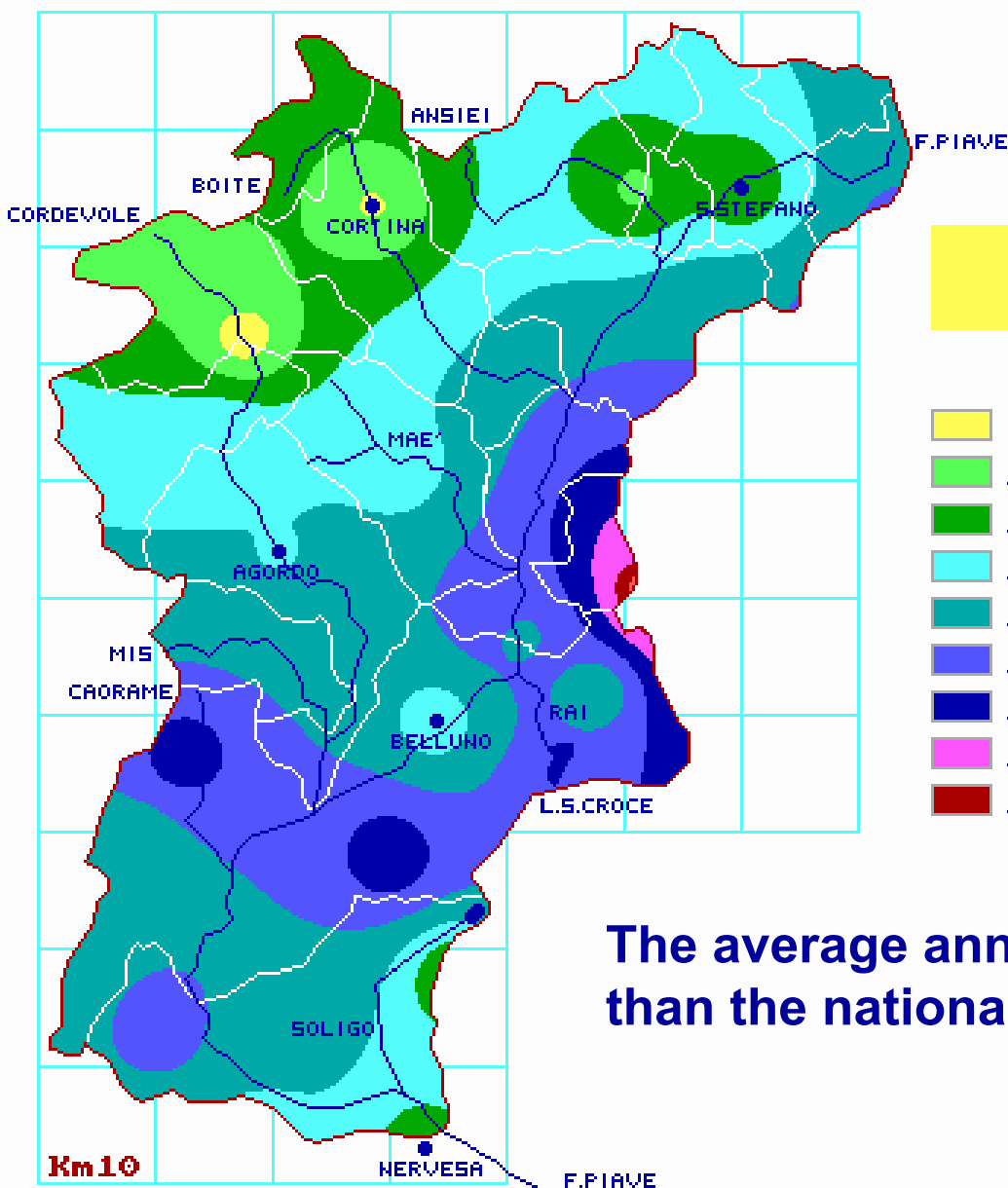
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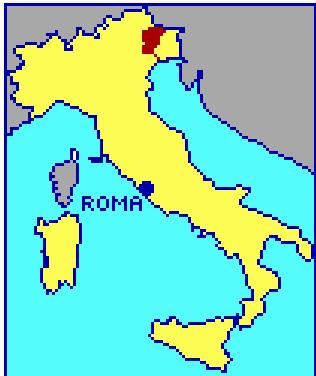
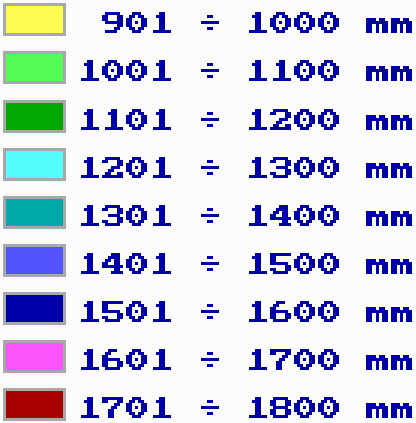
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- River-Basin Management Authority
- National Hydrographic and Oceanographic Service

CATCHMENT BASIN OF THE PIAVE RIVER



ANNUAL AVERAGE PRECIPITATION 1970 - 2000



The average annual rainfall is 1310 mm, higher than the national average of 1000 mm

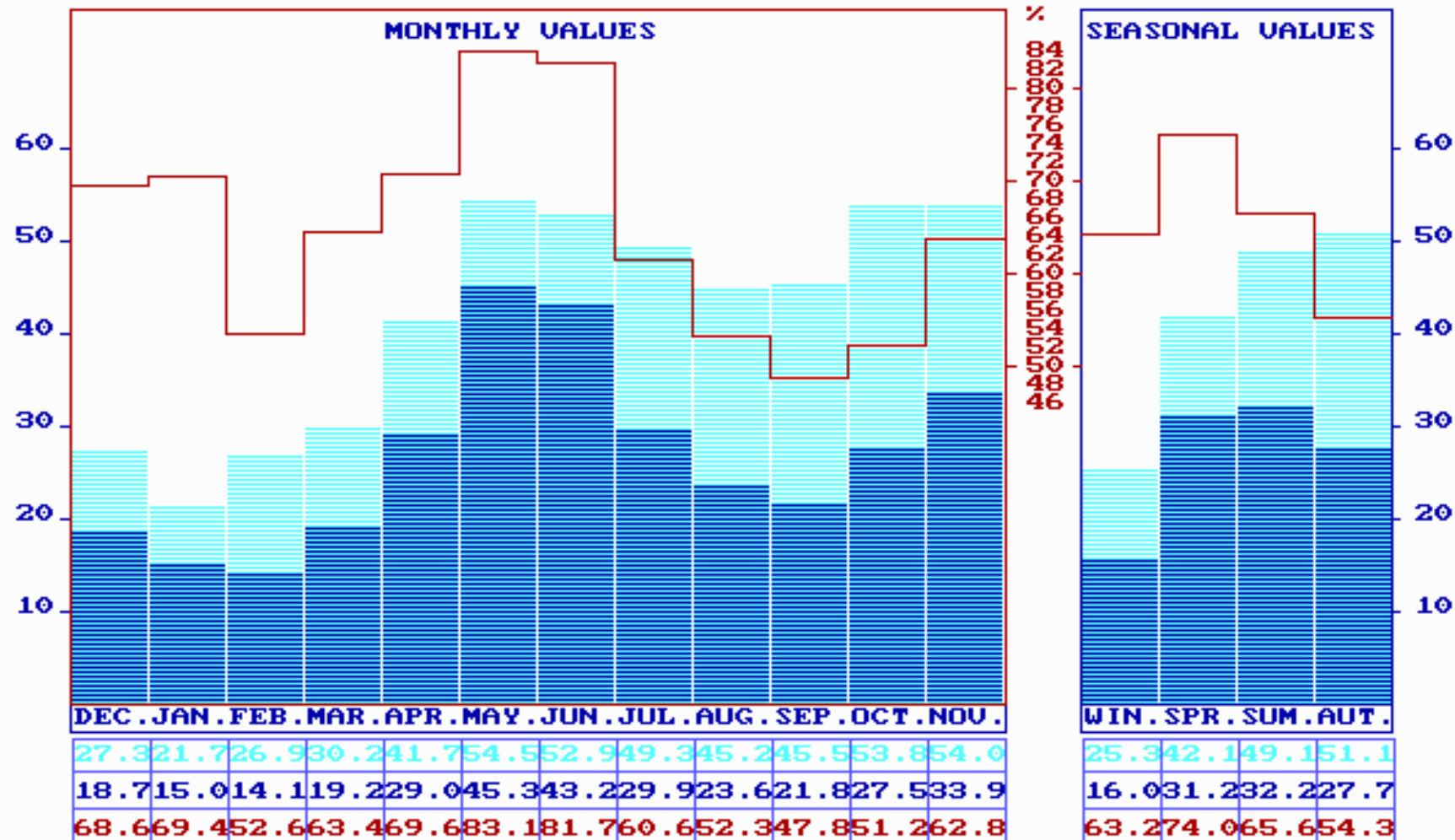
PIAUE RIVER

Segusino gauge station
(sq.Km 3.333)

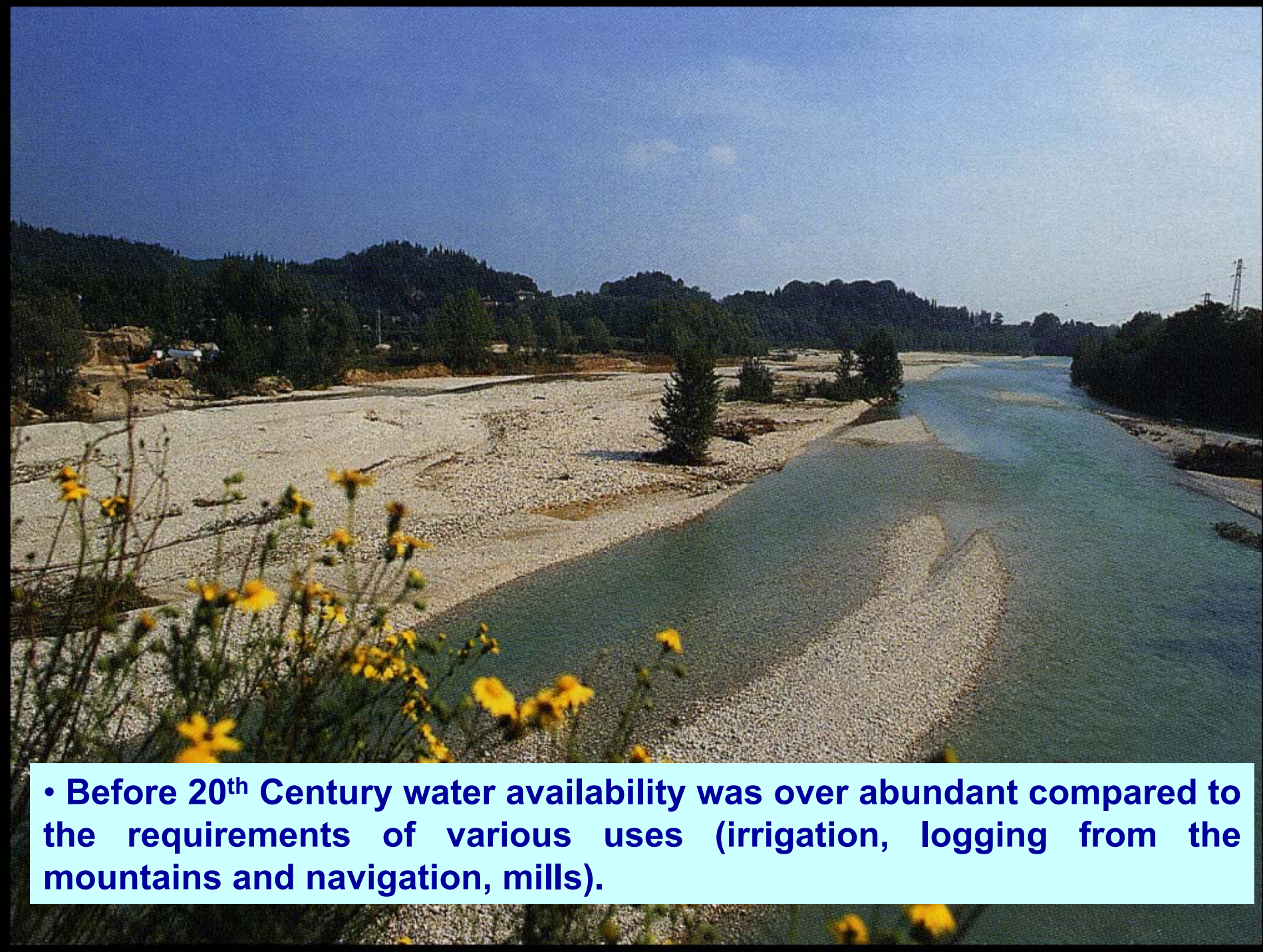
Rainfall lt/s x sq.km

Runoff lt/s x sq.km

Runoff coefficient %



(Average values relative 1928 - 1953)



• Before 20th Century water availability was over abundant compared to the requirements of various uses (irrigation, logging from the mountains and navigation, mills).

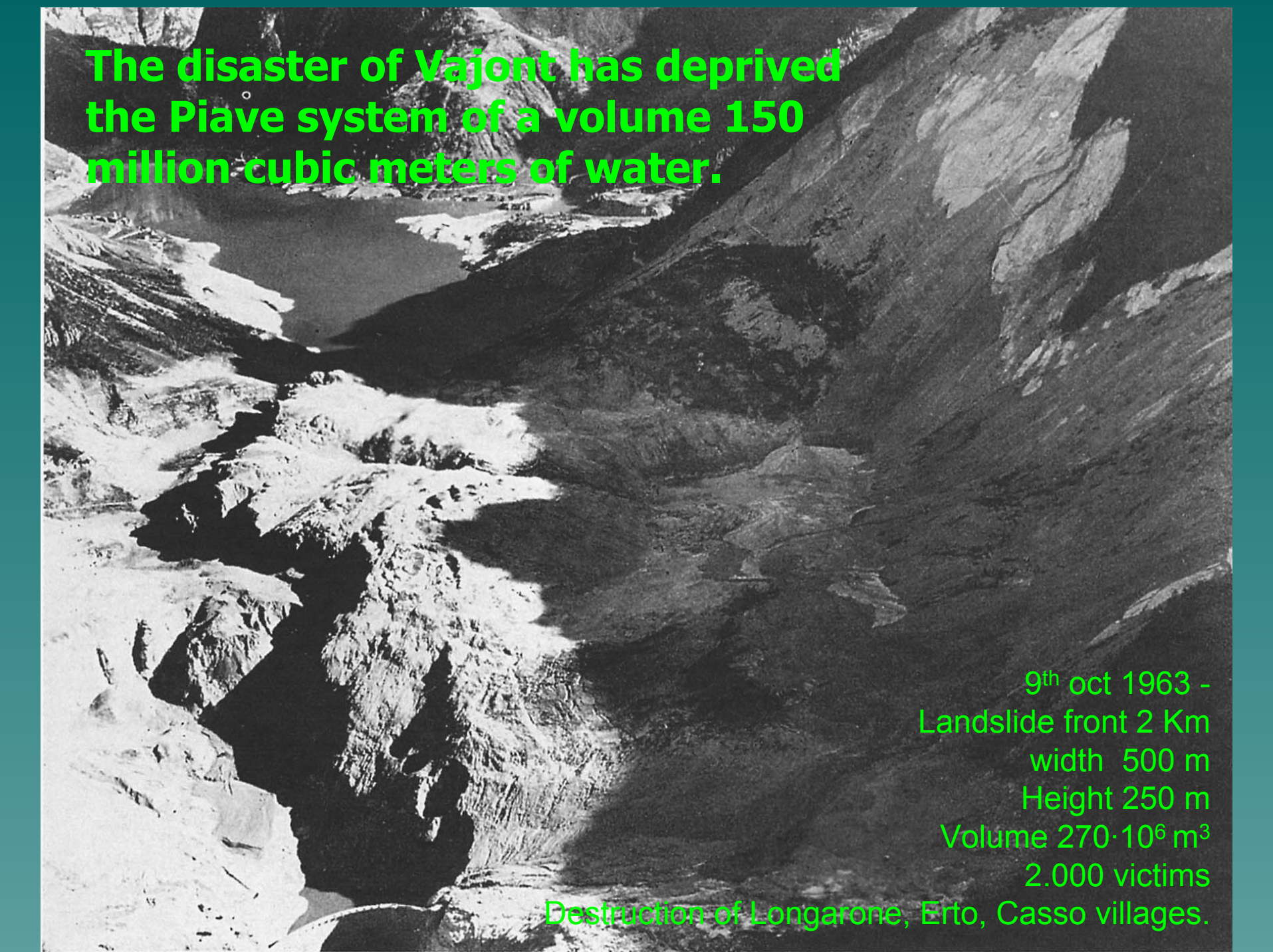


•During 20th century an artificial system of water resources exploitation was created.

•A notably increased water demand is derived from hydroelectric power and intensive agriculture development.



During the 2nd half '900s the transformation and economic growth of the mountain area with the defence of environmental aspects have shown new water demands (tourism, industries, recreation, fish and wildlife) . The increasing demand has brought a decreasing in water availability and reserves.

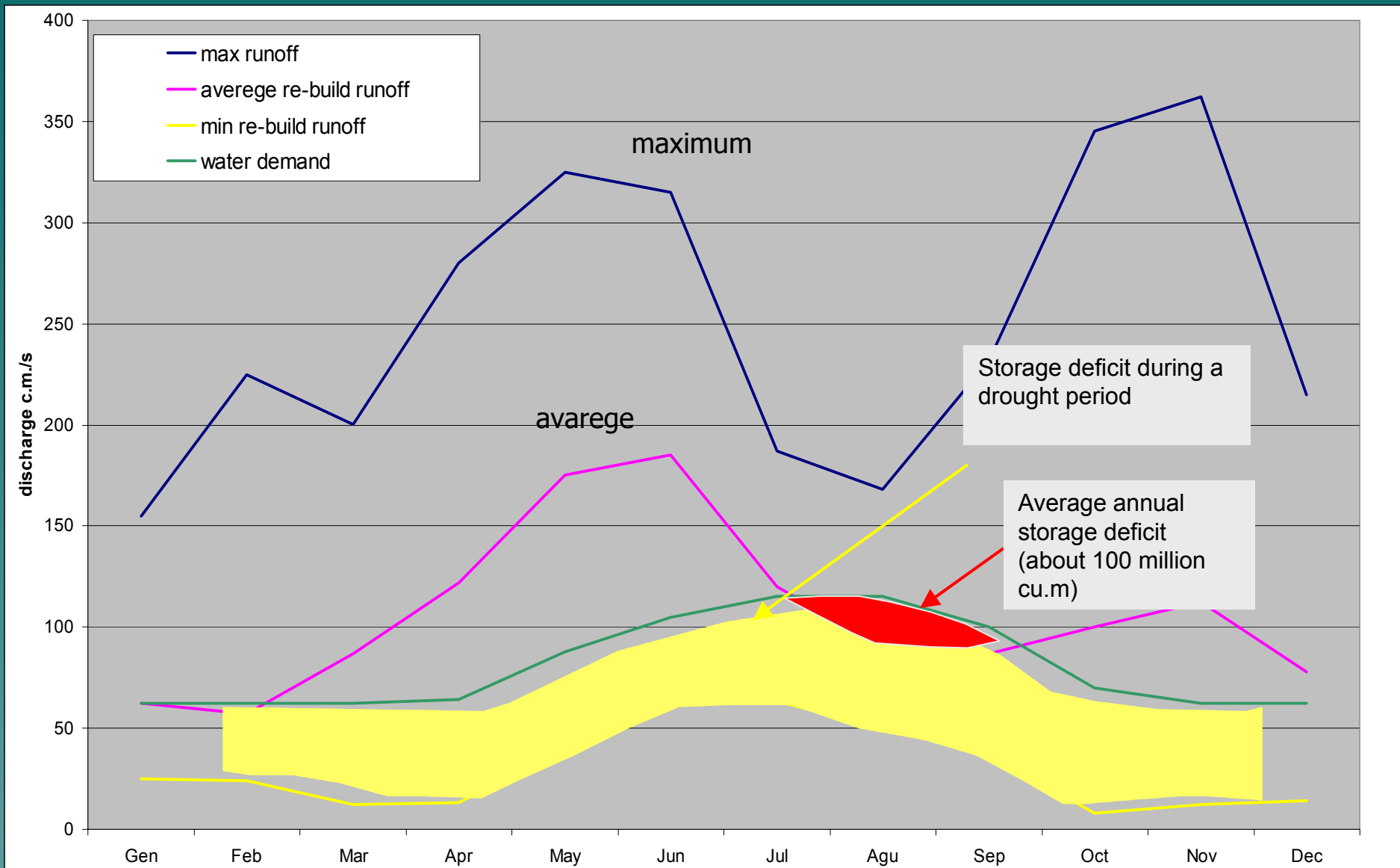


**The disaster of Vajont has deprived
the Piave system of a volume 150
million cubic meters of water.**

9th oct 1963 -
Landslide front 2 Km
width 500 m
Height 250 m
Volume $270 \cdot 10^6 \text{ m}^3$
2.000 victims
Destruction of Longarone, Erto, Casso villages.

Nervesa della Battaglia outlet section

Comparison between availability and water demand in Piave basin



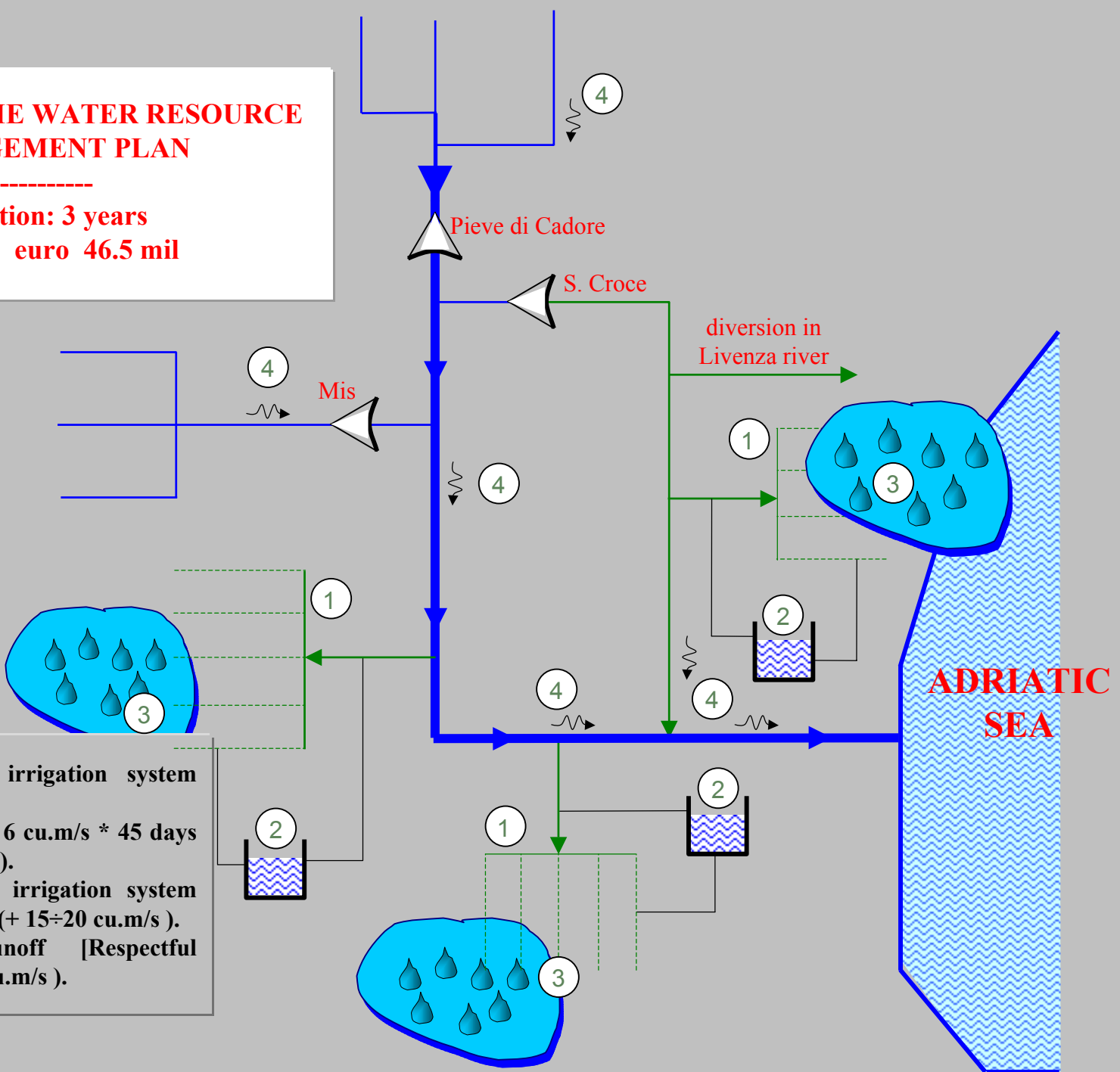
SITUATION IN CERTAIN SUMMER PERIODS HIGHLY CONFLICTUAL AND EXPLOSIVE

**RIVER-BASIN MANAGEMENT AUTHORITY HAS
TAKEN PART WITH A CATCHMENT BASIN-PLAN
FOR THE MANAGEMENT OF WATER RESOURCE OF
PIAVE RIVER**

2001

OUTLINE OF THE WATER RESOURCE MANAGEMENT PLAN

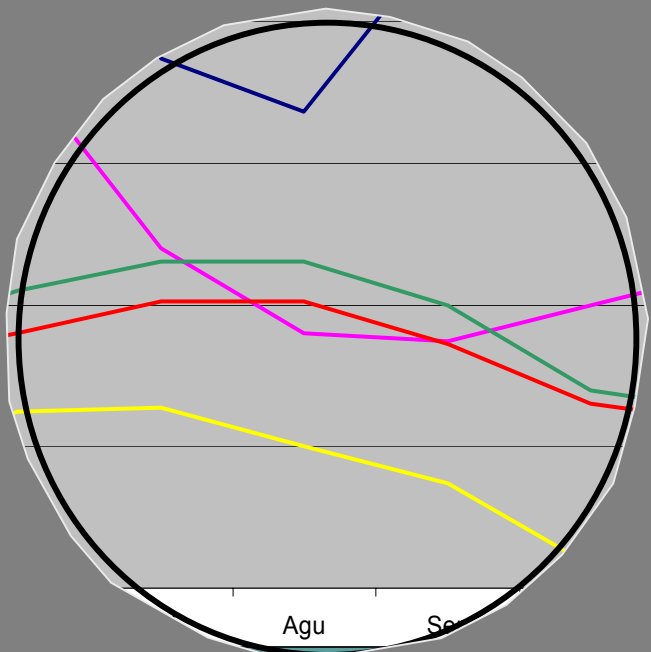
Duration: 3 years
Budget: euro 46.5 mil



- 1 Maintenance of irrigation system (+ 6 cu.m/s)
- 2 Gravel quarry (+ 6 cu.m/s * 45 days = 23.328.000 cu.m).
- 3 Re-conversion of irrigation system from flow to rain (+ 15÷20 cu.m/s).
- 4 Min. vital runoff [Respectful discharge] (- 11 cu.m/s).

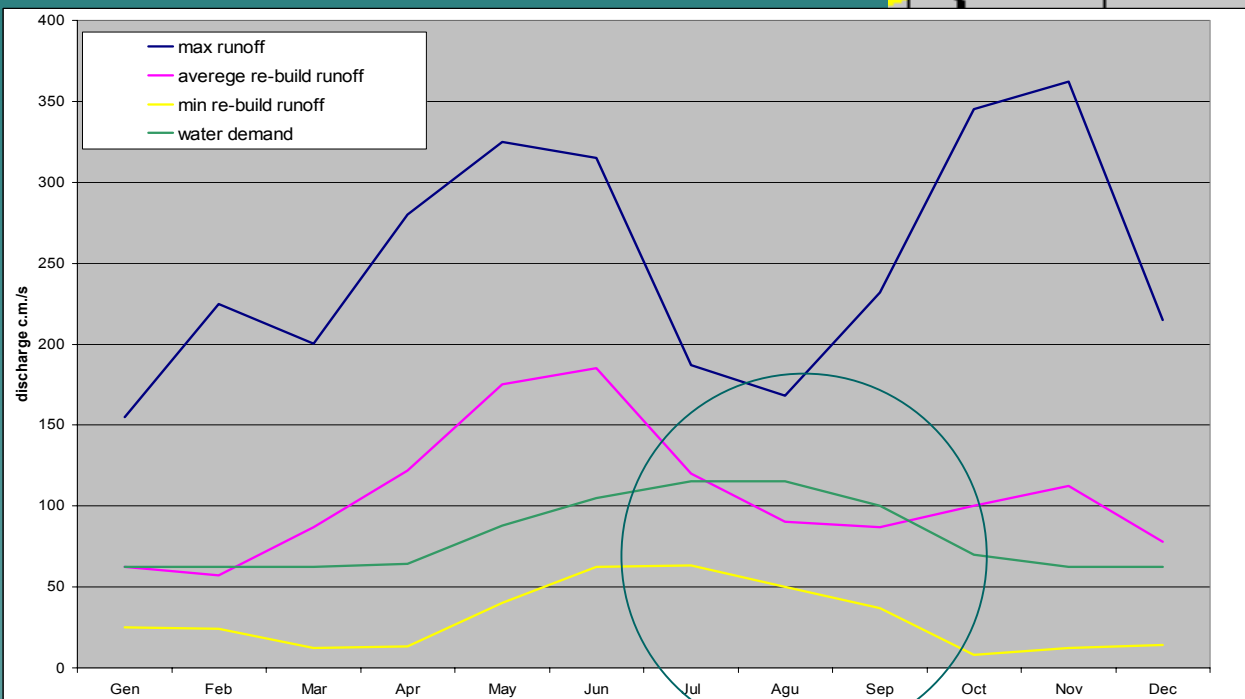
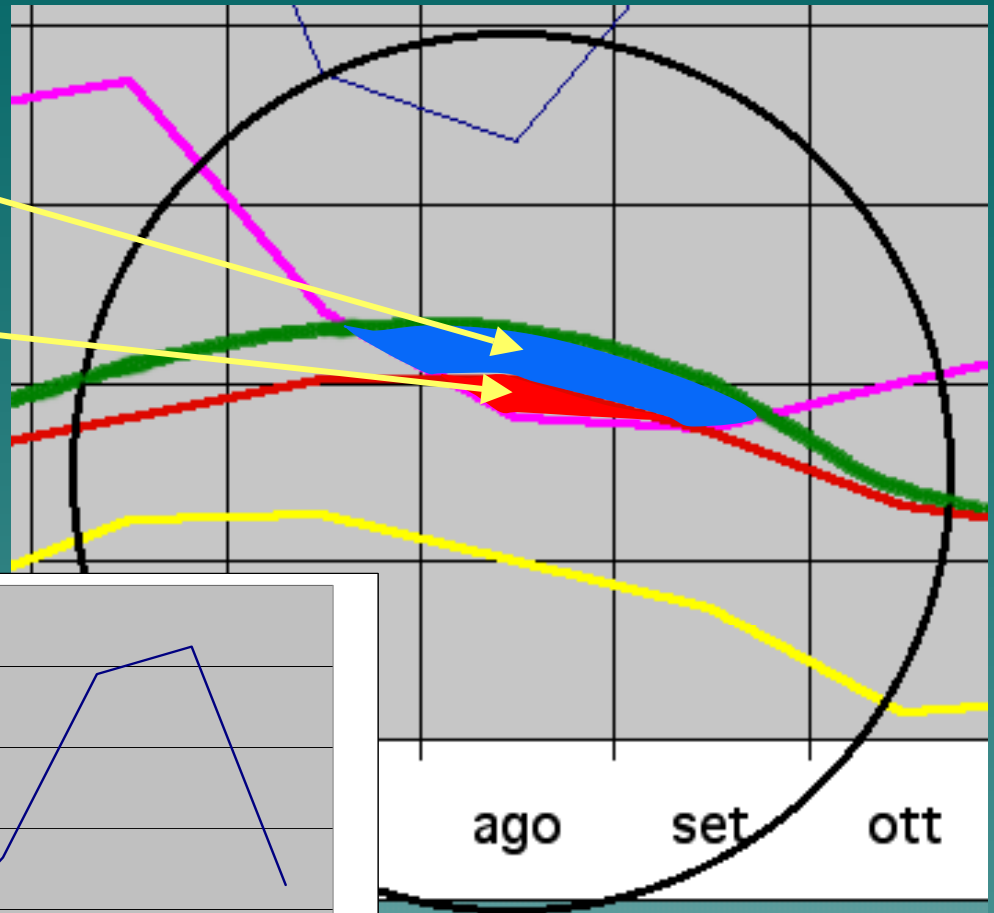
Nervesa della Battaglia outlet section

Comparison between availability and water demand in Piave basin



Minor storage through maintenance of irrigation system and re-conversion

Available storage through gravel quarry



Water balance re-conversion through the interventions of basin plan



300

500

20

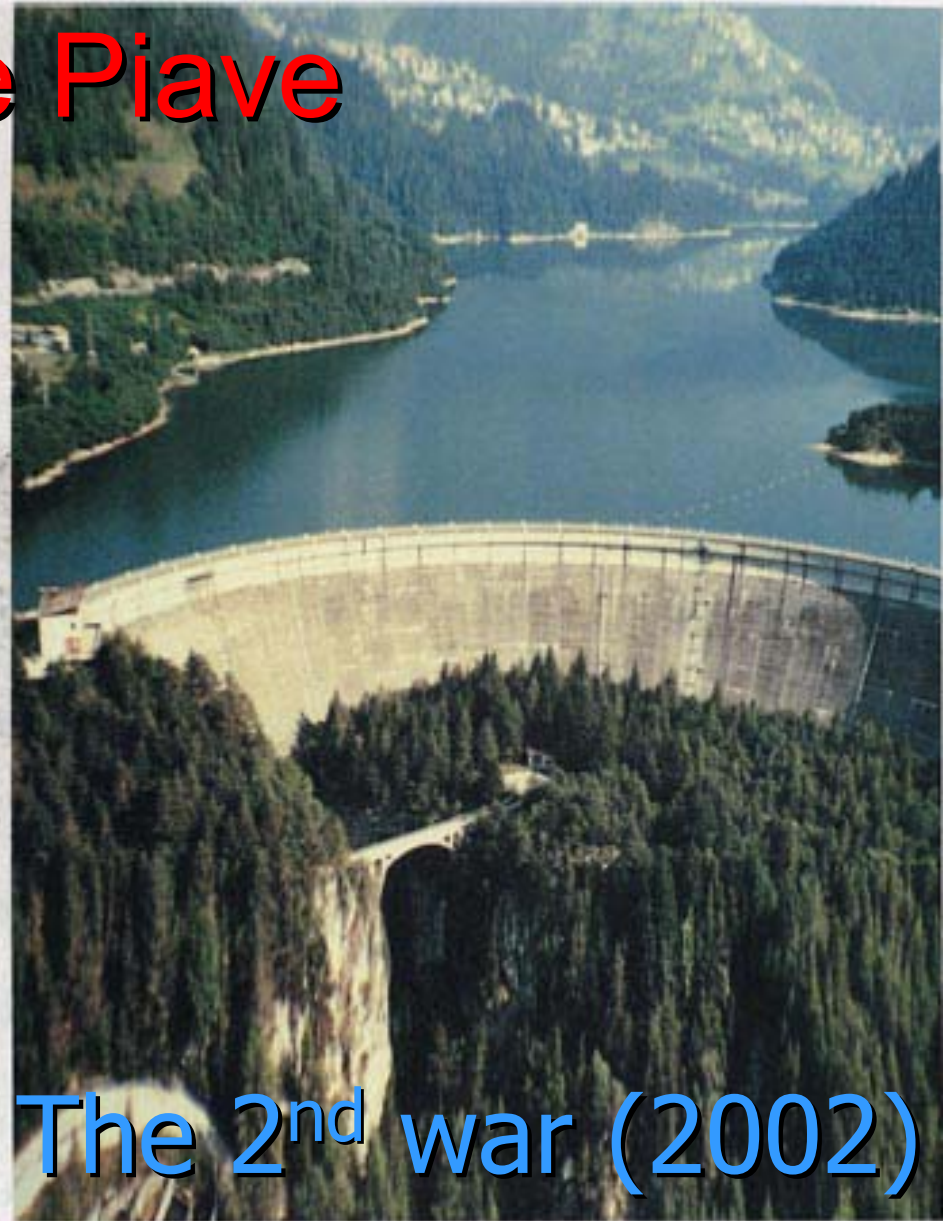
Gravel quarry - Montebelluna (TV)

Removed gravel	3.000.000 m ³
Total extraction allowed	9.000.000 m ³

The war of the Piave



The 1st war (1918)



The 2nd war (2002)

CONCLUSIONS



It is not a matter of
drinking water



It is an economic
problem

**The basin plan replies the
existing conflict**