

4th International Conference
on Reservoir Limnology and Water Quality

EXTENDED ABSTRACTS

ResLim 2002

České Budějovice
Czech Republic

August 12-16, 2002

Organised by:

Institute of Hydrobiology, Academy of Sciences
of the Czech Republic

Faculty of Biological Sciences, University of South Bohemia

Anna Čížková
2002

**LAND USE, WATER LEVEL FLUCTUATION
AND WATER QUALITY PARAMETERS
IN TWO RESERVOIRS SUBJECTED TO A SEMI-ARID CLIMATE
(TRÁS-OS-MONTES – PORTUGAL)**

Ana M. Geraldes

Escola Superior Agrária, Instituto Politécnico de Bragança, Portugal
(geraldes@ipb.pt)

Maria-José Boavida

Centro de Biologia Ambiental, Universidade de Lisboa, Portugal
(zboavida@fc.ul.pt)

Serra Serrada and Azibo reservoirs are located in River Douro watershed. The climate is continental, with warm, dry summers and long, cold winters. Precipitation occurs mainly in Autumn and Winter, although in a very irregular regime, with wet winters followed by drought ones. Serra Serrada reservoir is located at an altitude 1300 m a.s.l.. Human influence on the impoundment is considered negligible. This reservoir was filled for the first time in 1995 and it was built in order to supply water for urban purposes and to generate hydroelectrical power. As a result, accentuated water level fluctuations occur. Conversely, in the surroundings of the Azibo reservoir, which was filled for the first time in 1982 and it is located at an altitude 500 m a.s.l., there are several villages and farming and extensive cattle grazing are activities taking place all year around. Furthermore, during the summer when the reservoir and surroundings are used for recreation - fishing, swimming, camping and boating. Other uses are water supply and irrigation, yet these activities are not significant. Therefore water level fluctuations are not very accentuated. Reservoirs were sampled monthly in Winter and biweekly in Summer from January 2000 to December 2001 for the following water quality parameters: Total phosphorus, orthophosphate, nitrate, ammonia, chlorophyll *a*, water colour. Physical factors such as temperature, dissolved oxygen, conductivity and transparency were also measured. Trophic state of both reservoirs was assessed by computation of Carlson's Trophic State Index. Correlations and multivariate analyses were carried out in order to relate temporal variations observed in determined/measured parameters with land use and with the amount of precipitation. Potential input loads of phosphorus and nitrogen due to human occupation and activities and were also calculated for Azibo reservoir.

Organising Committee of the
**4th International Conference
on Reservoir Limnology and Water Quality**
České Budějovice, Czech Republic
August 12-16, 2002

Dear author(s)

Geraldes A.M.
(Geraldes A.M., Boavida M.J.)

Thank you very much for your proposal of a paper titled:

**Land Use, Water Level Fluctuation and Water Quality Parameters in Two Reservoirs
Subjected to a Semi-Arid Climate (Trás-os-Montes - Portugal) (No.148)**

It was accepted by the Organising Committee according to your wish as **an oral lecture**.

Your paper is expected to be presented in the **Section 6 - Water Quality Management**.

Possible comments of the reviewer: ---

We are looking forward to seeing you at the 4th International Conference on Reservoir Limnology and Water Quality.

Yours sincerely,

Jakub Borovec
Conference Secretary

České Budějovice, April 10, 2002