

## TECHNOLOGY FOR IMPROVING WATER QUALITY AT LARGE CASCADE RESERVOIRS BY HYDROPOWER STATION RELEASES

### Areas of Application

The technology is to be used for improving the oxygen regime of water reservoirs, preventing asphyxiation of fish and other aquatic organisms, and ensuring water quality that meets the applicable water supply and consumption standards. The scope of application covers water economy, fishery, municipal water supply, environment protection, recreation, and power engineering

### Specification

The technology (mathematical model) makes it possible to calculate the required regimes and HPS release volumes

### Means of Regulating the Oxygen Regime of Cascade Reservoirs by HPS Releases

Type of reservoir	In summertime	In wintertime
River	Increasing volumes of upper HPS releases Increasing irregularity of upper HPS releases	Increasing length of water opening in the barrage area
Pond	Intensifying water exchange in shallow areas Intensifying water dynamics	Asynchronous operation of upper and lower HPS

### Advantages

The proposed technology for regulating the ecological regime of HPS operation is feasible and does not require additional material costs

### Stage of Development. Suggestions for Commercialization

IRL5, TRL5  
The calculations of ecological regime and HPS release volume are provided upon request

### IPR Protection

IPR1, IPR2

### Contact Information

*Oleksandr Ye. Usov*, Institute of Hydrobiology of the NAS of Ukraine;  
+38 044 419 39 81, e-mail: [post\\_mail@hydrobio.kiev.ua](mailto:post_mail@hydrobio.kiev.ua)