## CONTENTS

THE INSTITUTE, SCIENTIFIC COUNCIL				
INSTITUTE STAFF AND FIELD OF WORK				
1	INT	RODUCTION	9	
	1.1	Director's preface	9	
	1.2	Projects	10	
	1.3	Consultancies	11	
	1.4	Report on finances	12	
	1.5	Students' theses finished in 2010	14	
2	JAF	ROSLAV HRBÁČEK (1921 – 2010)	15	
3	RES	SERVOIRS	17	
	3.1	Regular monitoring of the reservoirs Slapy and Římov: dissolved and dispersed substances in 2010	17	
	3.2	Regular monitoring of the reservoirs Slapy and Římov: microbial characteristics, chlorophyll and zooplankton biomass in 2010	18	
	3.3	Regular monitoring: fish stock composition in the Římov Reservoir in 2010	19	
	3.4	The effect of river water circulation on the distribution and functioning of reservoir microbial communities as determined by a relative distance approach	20	
	3.5	Horizontal acoustic surveys and fish behaviour in the open water	23	
	3.6	Pelagic occurrence of non-native tubenose goby <i>Proterorhinus semilunaris</i> (Heckel) in a central European reservoir	24	
	3.7	Deep spawning of perch <i>Perca fluviatilis</i> in the newly created opencast mine lake	25	
	3.8	The stabilizing effect of resting egg banks of the <i>Daphnia longispina</i> species complex for longitudinal taxon heterogeneity in long and narrow reservoirs	25	
	3.9	Spatial heterogeneity and seasonal succession of phytoplankton along the longitudinal gradient in the Římov Reservoir	26	
	3.1	D Bacterial single-cell activities along the nutrient availability gradient in a canyon-shaped reservoir: a seasonal study	27	

4 LAKES			29
	4.1	Microbial loop components in the oxic/anoxic boundary in stratified lakes	29
5	SPE	CIAL INVESTIGATIONS	31
	5.1	Effect of low temperature on offspring size and filtering screens morphology in <i>Daphnia</i>	31
	5.2	Sinusoidal swimming: a searching checkmate of fishes to the transparent zooplankton	33
	5.3	Anthropogenic nitrogen emissions during the Holocene and their possible effects on remote ecosystems	34
	5.4	Canopy leaching of nutrients and metals in a mountain spruce forest	35
	5.5	Importance of dissolved organic carbon for phytoplankton nutrition in a eutrophic reservoir	36

## **6 PUBLICATIONS**

38