

CONTENTS

THE INSTITUTE, SCIENTIFIC COUNCIL	5
INSTITUTE STAFF AND FIELD OF WORK	6
1 INTRODUCTION	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 2011	14
2 PROF. JAROSLAV HRBÁČEK (1921–2010), A PERSONAL REMINISCENCE	15
3 RESERVOIRS	17
3.1 Regular monitoring of the reservoirs Slapy and Římov: dissolved and dispersed substances in 2011	17
3.2 Regular monitoring of the reservoirs Slapy and Římov: microbial characteristics, chlorophyll and zooplankton biomass in 2011	18
3.3 Regular monitoring: Fish stock composition in the Římov Reservoir in 2011	19
3.4 Genetic structure of Daphnia parasites in Czech reservoirs	20
3.5 Predator avoidance strategies in early life stages of percid fishes	20
3.6 Zooplankton seasonal changes in Slapy Reservoir in 2011	22

4 LAKES	24
4.1 Photochemical release of sulphate from dissolved organic matter in surface waters.	24
4.2 Changes in soil chemistry after bark beetle infestation and forest dieback	24
4.3 Anthropogenic nitrogen emissions during the Holocene and their possible effects on remote ecosystems	26
4.4 Constrains and limits of biological recovery from acid stress: What is the future of headwater ecosystems in the Bohemian Forest?	27
5 SPECIAL INVESTIGATIONS	30
5.1 Seasonal variation of photochemically induced changes in nitrogen speciation in stream water	30
5.2 Every Cloud Has a Silver Lining: Invasion by <i>Limnohabitans planktonicus</i> Promotes the Maintenance of Species Diversity in Bacterial Communities	31
5.3 Estimate of fish stock losses caused by flocks of overwintering great cormorant (<i>Phalacrocorax carbo</i>) on the Vltava River	32
5.4 Time-dependent feeding activity on Fluorescently Labelled Bacteria in the oxic/anoxic boundary of stratified lakes	33
5.5 Algal-derived substrates select for distinct betaproteobacterial lineages and contribute to niche separation in <i>Limnohabitans</i> strains	34
6 PUBLICATIONS	35