

Table of contents

PREFACE	4
INTRODUCTION	6
1. ŠUMAVA, MOUNTAINS OF WATERS AND WETLANDS	8
1.1. Diversity of wetlands and mires in the SCI Šumava	9
1.2. Human impacts on wetlands and regional hydrology	19
1.3. Spatial protection of wetlands in the Šumava region	30
1.4. History of restoration in the Šumava region	31
1.5. Specifics of restoration in mountain and hilly areas	38
2. MAIN APPROACH AND OBJECTIVES OF RESTORATION	40
2.1. Objectives of hydrological restoration in the Šumava region	40
2.2. Main approach and concepts	45
3. PREPARATION OF RESTORATION PROJECTS	48
4. OVERVIEW OF WETLAND RESTORATION MEASURES	56
4.1. Elimination of drainage channels	57
4.1.1. Cross-blocking with wooden dams	57
4.1.2. Blocking by dams of compacted soil or peat	68
4.1.3. Filling drainage ditches	68
4.1.4. Removal of piped drainage systems	72
4.2. Restoring natural water movement in the wetland	74
4.3. Restoration of mined peat bogs	76
4.3.1. Surface treatment	76
4.3.2. Damming of drainage ditches	78
4.3.3. Re-establishment of peatforming vegetation.....	78
4.4. Removal of severely degraded top peat layers	80
5. RESTORATION OF SMALL WATERCOURSES	90
5.1. Restoration of the original stream beds	92
5.1.1. Returning the watercourse into its preserved historical stream bed	92
5.1.2. Creation of a new stream cunette in the original route	93
5.1.3. Initiation of spontaneous bed formation by free release of water into the natural drainage route	95
5.1.4. Reshaping of the modified stream bed into a natural form	96
5.1.5. Stream and artificial channel crossing	101
5.2. Supporting natural sediments and sediment regime	103
5.3. The role of dead wood	104

6. OTHER ADDITIONAL MEASURES	108	11. EXAMPLES OF SITES RESTORED WITHIN THE LIFE FOR MIRES PROJECT	140
6.1. Making sites accessable for restoration	108	Malý Bor	142
6.2. Increasing the bearing capacity of the soil surface	110	Pod Skelnou	146
7. GENERAL RULES FOR THE CONSIDERATE IMPLEMENTATION OF MEASURES	112	Vchynice-Tetov	151
8. SPECIES PROTECTION DURING OF RESTORATION MEASURES	116	U Tremlů	154
9. USE OF RENATURATION PROCESSES	120	Gerlova Hut'	157
9.1. Examples of spontaneous renaturation in the Sumava region	120	Dobrovodské louky	160
9.2. Interaction with the European Beaver in the region	122	Rovina	164
10. MONITORING METHODS TO EVALUATE THE SUCCESS OF RESTORATION	124	Nové údolí	167
10.1. Assessment of technical success	127	Střelecký průsmyk	170
10.2. Monitoring the ecological response of the ecosystem to restoration	127	Rokytecké slatě	172
10.2.1. Water table	128	Jezerní slat'	175
10.2.2. Soil moisture	130	Vlčí jámy	178
10.2.3. Water quality	132		
10.2.4. Runoff conditions	133		
10.2.5. Microclimate	134		
10.2.6. Vegetation	135		
10.2.7. Soil properties and microbial activities	136		
10.2.8. Land cover temperatures	138		
12. EXAMPLES OF SITES RESTORED IN PERIOD 1999–2018	182		
Schachtenfilz	185		
Černohorský močál I a II	188		
Hučina	192		
13. SUMMARY OF IMPORTANT PRINCIPLES AND INSIGHTS FOR RESTORATION IN SLOPING TERRAINS	196		
14. SYSTEMIC RECOMMENDATIONS AND POLICIES	200		
15. LIST OF USED AND RECOMMENDED LITERATURE	202		
Acknowledgements	204		
Impressum	204		