Konzept über ein effektives Management des nördlichen Teils des Slovenský Raj Nationalparks

Projekt Nr. 33352/01

BAND I + Band 2

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Michael Meyer

Ökologischer Tourismus in Europa (Ö.T.E.) e.V.

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Projekt: „Konzept über ein effektives Management des nördlichen Teils des Slovenský Raj Nationalpark“

Projektleitung:

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Projektpartner:

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Štátna ochrana prírody SR	Banská Bystrica, Slowakei
Mikroregion Slovenský Raj – sever	Hrabušice, Slowakei

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Antragstitel **Konzept über ein effektives Management des nördlichen Teils des Slovenský Raj Nationalparks**

Stichworte

Laufzeit	Projektbeginn	Projektende	Projektphase(n)
8 Monate	**29.06.2017**		

Zwischenberichte

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Zielsetzung und Anlass des Vorhabens

Der slowakische Nationalpark Slovenský Raj (Slowakisches Paradies) ist bekannt für eine größere Anzahl an attraktiven Schluchten, die bis zu 300 Meter tief sind. Diese sind für Besucher häufig mit Leitern, Ketten und Brücken (Holzstege, etc.) als Querungs-, Aufstiegs- und Durchstiegshilfen ausgestattet. Auch die bei Wanderern besonders beliebte Schlucht Suchá Belá. Dort kommt es in der Hochsaison immer wieder zu langen Warteschlangen vor den jeweiligen Aufstiegshilfen, was zuweilen massive Störungen der vorhandenen Biotope zur Folge hat. Ein effizientes Besuchermanagement ist dringend notwendig für den Schutz der Natur und Erhalt der biologischen Vielfalt, aber auch die Sensibilisierung seiner Besucher und Bewusstseinsbildung durch gezielte Information und Kommunikation. In dieser vorschalteten Projektphase ging es zunächst darum, eine ganzheitliche Betrachtung des nördlichen Gebietes der Nationalparks unter Einbeziehung aller dort befindlichen Schluchten und deren Zugangspunkten vorzunehmen. Hierzu wurden aktuelle Informationen über Tourismusentwicklung und Naturschutz zu diesem Gebiet gezielt gesammelt und ausgewertet, verschiedene Entwicklungsszenarien erstellt und schließlich unter Beteiligung der lokalen Akteure eine Konzeption und Umsetzungsphase für das Projekt ausgearbeitet.

Darstellung der Arbeitsschritte und der angewandten Methoden

- Anzahl der Besucher in den Schluchten, deren meist frequentierten Orte und Zugangspunkte, Verweildauer in der Region etc.,
- Aktuelle, naturschutzrelevante Informationen über die nördlichen Schluchten, welche derzeit oder potenziell zukünftig von touristischen Aktivitäten beeinflusst werden,
- Zusammenstellung der Studien über die natürlichen Gegebenheiten in jeder Schlucht und der dort dokumentierten Einflüsse,
- Geplante Aktivitäten im Bereich Naturschutz, Infrastruktur und andere relevante Maßnahmen für die betreffenden Schluchten durch die Nationalparkverwaltung,
- Geplante Aktivitäten zur Infrastruktur und weitere Maßnahmen durch die angrenzenden Kommunen,
- Aktuelle Situation Werbung und Marketing durch Nationalpark und Kommunen,
- Identifizierung von vergleichbaren Fällen in Deutschland und deren Lösungen,
- SWOT-Analysen der zu untersuchenden Schluchten inkl. einer Zusammenfassung aller,
- Erstellung von Szenarien über die weitere Entwicklung sowie Auswahl des für die Region und die Schluchten günstigsten Szenarios in einem Workshop,
- Identifizierung von potenziellen Finanzierungsmechanismen für Phase 2 (Umsetzung) des Projektes.

Ergebnisse und Diskussion

Alle für diese Projektphase geplanten Ziele wurden erreicht. Auf Beschluss der Projektpartner wurden allerdings nur zwei, statt drei Entwicklungsszenarien erstellt.
Erst nach der Fertigstellung der Stärken-Schwäche Analyse wurde klar, dass zwei Probleme noch näher hätten beleuchtet werden müssen: die Auswirkungen des Klimawandels und die Abholzungen auf privaten Waldflächen. Dies muss aus Zeitgründen nun in der 2. Phase nachgeholt werden.

Auch wenn die Kooperation zwischen der Nationalparkverwaltung und den Gemeinden als vorbildlich im Vergleich zu anderen Schutzgebieten angesehen wird, waren dennoch Defizite zu verzeichnen. So war es zum Teil schwierig, an Informationen von den Kommunen (Kosten zu Erhaltungsmaßnahmen) oder Tourismusakteuren (Übernachtungsstatistiken) zu gelangen. Die Kommunikation zwischen den Partnern, insbesondere der Gemeindevertreter fand per Telefon (bi-lateral), auf zufälligen Treffen im Projektgebiet und seltener per E-mail statt. Es erwies sich oft als schwierig, alle notwendigen Partner zugleich an einen Tisch zu bekommen. Dies hat jedoch das Konsultationsverfahren insgesamt nicht wesentlich behindert, da diese Form der Zusammenarbeit von den Beteiligten offenbar nicht als hinderlich oder problematisch angesehen wurde.

Öffentlichkeitsarbeit und Präsentation

Der Band 2 (englische Fassung) des Abschlussberichtes wird allen Projektpartnern in digitaler Form zur Verfügung gestellt. Der Ö.T.E., die Stiftung Ekopolis und die Nationalparkverwaltung werden dieses Konzept auf ihren Internetseiten veröffentlichen (sobald die Deutsche Bundesstiftung Umwelt und die Heidehof Stiftung ihre Zustimmung erteilt haben).
Alle am Projekt beteiligten Partner in der Slowakei haben einen direkten Nutzen von den gewonnenen Erkenntnissen und werden diese in ihren weiteren Arbeiten verwenden. Dies gilt auch für den erweiterten Kreis von relevanten zukünftigen Nutzern, wie z.B. die OOCR Slovenský Raj & Spis (regionaler Tourismusverband), Provinzverwaltung Košice und einzelnen Tourismusakteuren vor Ort.
Eine externe Ko-finanzierung des Vorhabens für die folgende 2. Phase wird von den Projektpartnern als dringend erforderlich angesehen. Daneben sind alle Partner bemüht, kurz- und mittelfristig geplante Maßnahmen aus dem vorgeschlagenen Paket des ausgewählten Szenarios auch mit begrenztem Budget, umzusetzen, bzw. zu beginnen.

Fazit

Ursprünglich planten die slowakischen Projektpartner, die Umsetzung von konkreten Maßnahmen in der Schlucht Suchá Belá bei der DBU zu beantragen. Nach erfolgten Abstimmungen zwischen DBU und Ö.T.E. wurde stattdessen zunächst eine vorgeschaltete umfassendere Analyse aller Schluchten in dem Projektgebiet empfohlen. Anfänglich von den slowakischen Projektpartnern als nicht sinnvoll erachtet, entwickelte sich jedoch im Verlauf eine breite Zustimmung. Alle Partner sind nun sehr zufrieden, einen Überblick über die gesamte Problematik zu haben, sodass entsprechende Maßnahmen nicht nur für Suchá Belá, sondern für das ganze Projektgebiet vorgeschlagen werden konnten.
Diese 1. Phase des Projektes wirkte sich zudem insoweit positiv aus, als sich das vorhandene „Kirchturmdenken“ innerhalb und zwischen den Gemeinden sowie in Richtung der Nationalparkverwaltung im Verlauf der Arbeit mehr und mehr abschwächte. Ein wichtiges Ziel der 2. Phase wird sein, die Art und Weise des Ko-Managements weiter zu fördern.
Dank der fundierten Erfahrungen des Partners Ekopolis und des Direktors des Nationalparks Slovenský Raj haben sich die geplante Vorgehensweise und angewandten Methoden als richtig erwiesen und sollten in der 2. Phase entsprechend weiter fortgeführt werden. Schließlich hat sich auch die Hinzuziehung von externen Experten zur Evaluierung der gewonnenen Informationen und Erkenntnisse als äußerst wertvoll erwiesen. Hierüber konnten zum Teil bisher existierende Vermutungen bestätigt, aber auch völlig neue Lösungsansätze geschaffen werden.

Inhaltsverzeichnis

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Abkürzungen

a. D.	außer Dienst
FFH	Flora-Fauna-Habitat
Ö.T.E.	Ökologischer Tourismus in Europa e.V.
OOCR	Oblastná organizácia cestovného ruchu (regionaler Tourismusverband für die Region Slovensky Raj & Spis
SWOT	Strenghts-Weakness-Opportunities-Threats

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Zusammenfassung

Die Schluchten im Nationalpark Slovenský Raj (Slowakisches Paradies) sind einer der wichtigsten Anziehungspunkte für Gäste aus dem In- und Ausland, werden dadurch aber saisonal bedingt einem hohen Besucherdruck ausgesetzt. Dies hat negative Auswirkungen auf die vorhandenen wertvollen Habitate, aber auch für die Sicherheit der Besucher, wenn sie abseits der Wege gehen.

Das Projekt, gedacht als Vorphase für ein Umsetzungsvorhaben, hat zum Ziel, zunächst fundierte Daten über Besucherströme, den Zustand der Habitate sowie technischen Einrichtungen auf den Wegen in und um die Schluchten zu sammeln und zu bewerten. Auf dieser Grundlage wurden dann Szenarien über die zukünftige Entwicklung des Gebietes entwickelt, mit den Projektpartnern diskutiert und im Konsensverfahren Maßnahmen zur Behebung der derzeitigen Mängel beschlossen.

Alle für das Projekt geplanten Schritte wurden erfolgreich umgesetzt, sodass die Partner nun einen Überblick über die Situation in allen einbezogenen Schluchten haben und entsprechende Maßnahmen ergreifen können. Hierzu zählen u.a. die Verbesserung der touristischen Infrastruktur, Frühwarnsysteme für Besucherstaus und hohe Wasserstände in den Schluchten, digitale Systeme zur Verbreitung von zeitnahen Informationen und ein Interpretationssystem, welche heutigen Anforderungen gerecht werden.

Ein verbessertes Ko-management zwischen den zuständigen Gemeinden, der Nationalparkverwaltung und regionalen Tourismusagentur wird diese Maßnahmen unterstützen, sowohl finanziell als auch in der täglichen Kooperation untereinander.

In einem nachfolgendem Projekt wird es dann darum gehen, auf der Grundlage dieser Informationen und Erkenntnisse gezielte Maßnahmen für eine wirksame Besucherinformation und -lenkung umzusetzen, um den Schutz der Fauna und Flora der Schluchten zu sichern, aber auch den Besuchern weiterhin intensive Naturerlebnisse zu ermöglichen.

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Abschlussbericht

Vorbemerkung

Dieser Band gibt eine Übersicht über die einzelnen Projektaktivitäten verbunden mit einer zusammenfasenden Beschreibung der wichtigsten Ergebnisse. Alle erarbeiteten Materialien sind im Band 2 dokumentiert, weil sie zum größten Teil in englischer, teils in slowakischer und deutscher Sprache verfasst sind. Im folgenden Text wird deshalb auf die umfangreichen Materialien und Ergebnisse zum Band 2 hingewiesen.

Anlass und Zielsetzung des Projekts

Durch das Gebiet des slowakischen Nationalparks Slovenský Raj (Slowakisches Paradies) verlaufen markierte Wanderwege mit einer Gesamtlänge von ca. 300 km, er hat die zweithöchste Besucherzahl eine Nationalparks in der Slowakei. Der Park ist bekannt für eine größere Anzahl an Schluchten, die bis zu 300 Meter tief sind. Diese sind häufig mit Leitern, Ketten und Brücken (Holzstege, etc.) als Querungs-, Aufstiegs- und Durchstiegshilfen ausgestattet. Auch die bei Wanderern besonders beliebte Schlucht Suchá Belá.

Dort kommt es in der Hochsaison immer wieder zu langen Warteschlangen vor den jeweiligen Aufstiegshilfen, was zuweilen massive Störungen der vorhandenen Biotope zur Folge hat. Ein effizientes Besuchermanagement ist dringend notwendig für den Schutz der Natur und Erhalt der biologischen Vielfalt, aber auch die Sensibilisierung seiner Besucher und Bewusstseinsbildung durch gezielte Informationen. Dies soll vor allem geschehen durch den Einsatz eines elektronischen Informationssystems und Einrichtung eines Naturinterpretationsareals für die Besucher.

In dieser vorschalteten ersten Projektphase geht es zunächst aber darum, eine ganzheitliche Betrachtung des nördlichen Gebietes der Nationalparks unter Einbeziehung aller dort befindlichen Schluchten und deren Zugangspunkten vorzunehmen, um erfolgreich den Besucherdruck in der Suchá Belá Schlucht entschärfen zu können.

Deshalb werden aktuelle Informationen über Tourismusentwicklung und Naturschutz zu diesem Gebiet gezielt gesammelt und ausgewertet, verschiedene Entwicklungsszenarien erstellt und schließlich unter Beteiligung der lokalen Akteure eine Konzeption und Umsetzungsphase für das Projekt ausgearbeitet.

Darstellung der Arbeitsschritte und der angewandten Methoden

- Ermittlung der Anzahl der Besucher in den Schluchten an den meist frequentieren Orten,
- Aktuelle, naturschutzrelevante Informationen über die nördlichen Schluchten, welche derzeit oder potenziell zukünftig von touristischen Aktivitäten beeinflusst werden (Suchá Belá, Piecky, Kysel, Prielom),
- Zusammenstellung existierender Studien über die natürlichen Gegebenheiten in jeder Schlucht und die dort dokumentierten Einflüsse,
- Neben den Besucherbewegungen in den Schluchten sollen Daten erhoben werden, wie Besucher zu den Zugangspunkten kommen sowie Informationen über die Verweildauer in der Region,

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- Beschreibung der geplanten Aktivitäten für Naturschutzmaßnahmen und Infrastruktur sowie alle anderen Maßnahmen durch die Nationalparkverwaltung für die betreffenden Schluchten,
- Beschreibung der geplanten Aktivitäten für Infrastruktur und sonstige Maßnahmen durch die angrenzenden Kommunen,
- Die derzeitige Werbung und Marketing seitens des Nationalparks und der Kommunen wird gesichtet und bewertet,
- Identifizierung von vergleichbaren Fällen in Deutschland (z.B. Sächsische Schweiz) und deren Lösungen. Hierbei mögliche Einladung von einem Experten aus entsprechendem Gebiet, der bei der Evaluierung der Schluchten unterstützt,
- Identifizierung von potenziellen Finanzierungsmechanismen für Phase 2 (Umsetzung) des Projektes,
- SWOT-Analysen von jeder der zu untersuchenden Schluchten inkl. einer Zusammenfassung aller,
- Workshop mit lokalen Interessenvertretern zur Bewertung der Ergebnisse und Auswahl des besten / günstigsten Szenarios,
- Erstellung von Szenarien über die weitere Entwicklung der Region (Schluchten und angrenzende Gemeinden) in den nächsten 10 Jahren,
- Workshop mit lokalen Interessenvertretern zur Auswahl des besten / günstigsten Szenarios.

1. Erhebung der Grundlageninformationen

1.1 Abstimmung mit den Partnern über die Inhalte der Konzeption, sowie geografische Eingrenzung des Projektgebietes

Neben der Schlucht Suchá Belá wurden neun weitere Schluchten und deren Umfeld in die Untersuchung mit einbezogen. Die neunte, Zejmarská roklina, liegt im südlichen Bereich des Nationalparks.

1. Suchá Belá	– Gemeindegebiet Hrabušice
2. Veľký Sokol	– Gemeindegebiet Hrabušice
3. Piecky	– Gemeindegebiet Hrabušice
4. Kláštorská roklina	– Gemeindegebiet Letanovce
5. Kyseľ	– Besitz NP Slovenský raj
6. Veľký Kyseľ	– Gemeindegebiet Hrabušice
7. Malý Kyseľ	– Gemeindegebiet Hrabušice
8. Sokolia dolina	– Gemeindegebiet Letanovce
9. Zejmarská roklina	– Gemeindegebiet Smižany
10. Prielom Hornádu	– Gemeindegebiet Hrabušice

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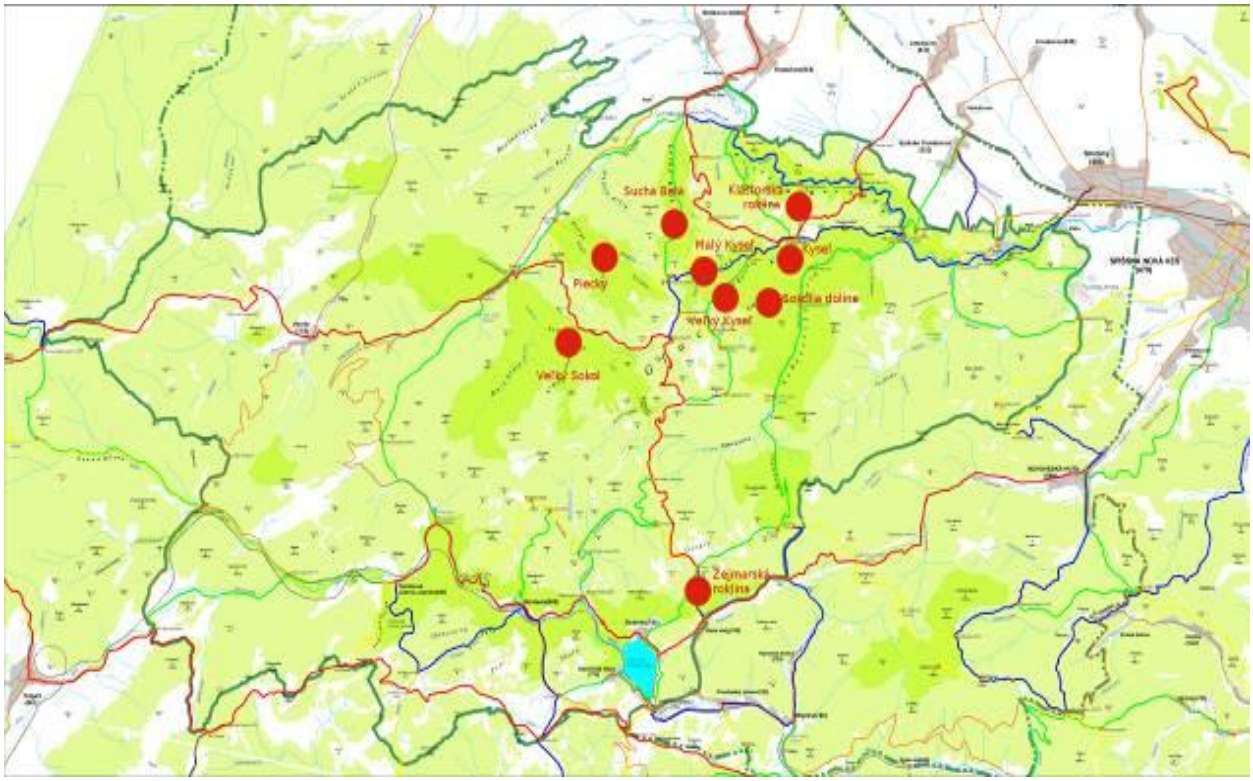

Karte: Lage der betreffenden Schluchten im Projektgebiet

1.2 Zählung der Besucher (vorzugsweise über Zähler an den meistbesuchten Orten und / oder engen Eingängen)

Ermittelt und dargestellt sind die Besucherzahlen einiger Schluchten in der Entwicklung von 2010 bis 2017, ermittelt von der Nationalparkverwaltung sowie die geschätzte Gesamtzahl der Besucher im Nationalpark.

Speziell in der Schlucht Suchá Belá wurden die Besucher im gesamten August 2017 mittels eines eingerichteten automatischen Zählers erfasst. Weitere Daten für ausgewählte Schluchten wurden für die Augusttage 2017 auf der Grundlage verkaufter Eintrittskarten ermittelt.

Im Zeitraum 2010 bis 2017 war ein Anstieg von 51% an Besuchern für die untersuchten Schluchten zu verzeichnen. Im gleichen Zeitraum ist für den gesamten Nationalpark ein Anstieg von ca. 400.000 Besuchern in 2010 hin zu 620.000 in 2017 festgestellt worden. Die genauere Erfassung der Besucherzahlen durch einen automatischen Zähler in der Suchá Belá Schlucht hat einerseits ergeben, dass die Zählungen durch Verkauf von Tickets ungenau sind, so müssen etwa 25% an Besuchern hinzugerechnet werden. Andererseits wurde bestätigt, dass es saison- und tageszeitbedingte starke Schwankungen im Besucheraufkommen in der Suchá Belá Schlucht gibt, woraus sich die in den weiteren Kapiteln beschriebenen Auswirkungen herleiten lassen.

→ *s. Band II, Kap. 1.1 ff*

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1.3 Einbezug vorhandener Studien über die natürlichen Gegebenheiten jeder Schlucht sowie dokumentierte Auswirkungen

Für die zehn relevanten Schluchten wurden vor allem durch die Ranger des Nationalparks aktuelle Daten über den Zustand der touristischen Infrastruktur, der vorhandenen Probleme durch Tourismus und Abschätzungen bezüglich der weiteren Entwicklung hierzu sowie diesbezüglich geplante Reaktionen und Maßnahmen der Nationalparkverwaltung zusammengetragen. Ebenso dokumentiert die neun wichtigsten Abstiege (z.B. zu den Wanderparkplätzen, bzw. zu zentralen Rastplätzen) aus den Schluchten. Diese Daten wurden für jede Schlucht unterfüttert mit allgemeinen Informationen über deren geografische Lage, Naturausstattung, sowie von geschützter Fauna und Flora.

Im Verlauf der Untersuchungen wurden verschiedene Problemschwerpunkte identifiziert:

- Zerstörung von Habitaten im näheren Umfeld der Wanderwege, insbesondere in den Schluchten Suchá Belá und Prielom Hornádu sowie Abstiege nach Podlesok und von Kláštorisko. Hauptursache ist die Überschreitung der Besucherkapazitäten, aber auch das Ausweichen der Besucher vom markierten Weg bei erhöhten Wasserständen in den Schluchten, eine nicht ausreichende Wegemarkierung sowie nicht zeitnah wiederhergestellte Infrastruktur (Holzstege, Holzleitern).
- Verschmutzung von Schluchten und Rastplätzen durch Müll, Fäkalien und Urin, resultierend in der punktuellen Kontamination (u.a. Kolibakterien) des Grund- bzw. Trinkwassers. Dies vor allem in sog. „Wartezonen“ vor Aufstiegshilfen (Leitern) und an Rastplätzen wiederum hauptsächlich, aber nicht nur, in und um die vorgenannten beiden Schluchten. Dies bedingt durch einerseits Überschreitung der Besucherkapazitäten, aber auch mangelndes Besuchermanagement und Umweltbewusstsein, sowie fehlende sanitäre Anlagen.

Weitere Probleme, welche im Zusammenhang mit den oben beschriebenen stehen und letztendlich eine Verstärkung dieser beiden bewirken, sind zum einen ein fehlendes koordiniertes Infrastrukturmanagement zur Behebung von Schäden in und um die Schluchten sowie nur wenige Maßnahmen zur Besucherlenkung und Bewusstseinsbildung.

→ *s. Band II, Kap. 1.2 ff sowie Anhang*

1.4 Beschreibung des Anreiseverhaltens der Besucher in die Region (womit, wo und wie lange halten sie sich dort auf, z. B. Haupteingänge / Zugangspunkte)

Die zusammengetragenen Informationen zu diesem Kapitel stützten sich weitgehend auf Expertenmeinungen sowie aus verfügbaren, aber nicht ausreichenden Statistiken. Die (Anreise-)Situation und Infrastruktur an den wichtigsten Zugängen zum Nationalpark wurde beschrieben sowie einige Daten und Fakten zu Besucherstruktur und zum Aufenthalt.

Die wichtigen Zugänge zum Nationalpark und den Schluchten sind:

- Podlesok Tourist-Zentrum in der Nähe von Hrabušice (Zugang zu Schluchten Suchá Belá, Prielom Hornádu)
- Čingov Tourist-Zentrum (Zugang zur Schlucht Prielom Hornádu),
- Dörfer Dedinky und Mlynky (Zugang Schluchten Zejmarská roklina, Geravy, Zajfy)

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Weitere kleinere, weniger stark frequentierte Zugänge sind folgende:

- Stratená - Dobšinská ľadová jaskyňa (Dobšiná Eishöhle)
- Hrabušická Píla (Zugang zu Schluchten Piecky, Veľký Sokol)
- Zugang zum Nationalpark nahe Letanovce (Zugang zu Schluchten Prielom Hornádu, Letanovský Mlyn)
- Zugang zum Nationalpark nahe Spišské Tomášovce (Zugang zu Schluchten Prielom Hornádu, Letanovský Mlyn)
- Smižany (zweiter Zugang zum Cingov Tourist-Zentrum)
- Spišská Nová Ves – Košiarny Briežok (Wanderwege, MTB-Trail).

Der am stärksten frequentierte Zugang zum Nationalpark befindet sich in Podlesok, von wo aus Besucher in die Schluchten Suchá Belá und Prielim Hornadu gehen. Dieser Zugang wird teils auch genutzt, um weiter entfernt liegende Schluchten wie Piecky, Kysel und Sokol zu erreichen. Die im Podlesok Gebiet erhobenen Daten über Frequentierung von Parkflächen sowie Gästezahlen des Campingplatzes decken sich mit dem prozentualen Anstieg der Besucherzahlen insgesamt, sowie den festgestellten saisonalen, teils starken Unterschieden im Besucheraufkommen.

Die Besucher kommen zu mehr als 80% aus der Slowakei (43%) und den Nachbarstaaten Tschechien (21%), Polen (16%) und Ungarn (6%). Durch Billigflüge von Tel Aviv nach Poprad ist zudem ein starker Anstieg von Besuchern aus Israel (5%) zu verzeichnen.

Der Großteil der Besucher verbringt nur einen Tag im Nationalpark. Schätzungen gehen von einem Anteil von mehr als 50% aus. Der Rest verbringt im Durchschnitt 2-3 Tage im weiteren Gebiet des Parks in einer der Pensionen oder der Campingplätze.

Zahlen über detaillierte Bettenkapazitäten und deren Auslastung liegen leider nicht vor, sollten aber nach unseren Informationen in Zukunft erhoben werden.

→ *s. Band II, Kap. 1.3*

1.5 Beschreibung der geplanten Aktivitäten für Naturschutzmaßnahmen und Infrastruktur sowie alle anderen Maßnahmen des Nationalparks für die Schluchten

In ständiger Abstimmung mit den angrenzenden Kommunen kommuniziert die Nationalparkverwaltung ihre Maßnahmen im Bereich Naturschutz sowie Verbesserung der Infrastruktur in solchen Gebieten, die dem Park direkt unterstehen. Hervorzuheben ist hier auch die Anfang 2018 in Kraft tretende Verordnung über das Wegesystem (Wander-, Rad, Reitwege), die Informationsgestaltung, sowie Ausweisung von Parkflächen. Die neue Verordnung berechtigt die Nationalparkverwaltung, Schluchten zur Gefahrenabwehr oder aus Gründen des Naturschutzes zeitweise zu schließen, z.B. bei zu hohem Wasserstand nach starkem Regen.

In einer Übersicht sind diejenigen Maßnahmen beschrieben, welche im Rahmen des Nationalparkbudgets liegen. Dieses wird zentral von der Regierung in Bratislava festgelegt und unterliegt leider daher ständigen Kürzungen bzw. Beschränkungen.

→ *s. Band II, Kap. 1.4*

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1.6 Beschreibung der geplanten Aktivitäten für die Infrastruktur und sonstige Maßnahmen durch die den Schluchten angrenzenden Gemeinden / Selbstverwaltung

Für das erweiterte Einzugsgebiet im nördlichen Bereich des Nationalparks existiert eine Entwicklungsstrategie für die Jahre 2015-2020, und weiter bis 2025, mit einem Schwerpunkt auf die touristische Entwicklung. Darin sind 18 Gemeinden eingeschlossen. Sie wurde verabschiedet von der regionalen Tourismusorganisation OOCR Slovenský raj & Spiš sowie der Mikroregion Slovenský raj – sever. Zu den sieben dort gestellten Entwicklungszielen wurde jeweils eine Reihe von konkreten Maßnahmen auch in Bezug auf den Nationalpark formuliert. Zusätzlich hat der Nationalpark selbst noch zwei weitere Maßnahmen in seine Planung aufgenommen.

Obwohl die Zusammenarbeit zwischen Nationalparkverwaltung und den umliegenden Gemeinden als sehr gut bezeichnet wird, gibt es überraschenderweise nur wenig Informationen über die Einnahmen der Gemeinden aus dem Verkauf von Tickets für die Schluchten (mit Ausnahme der Gemeinde Hrabušice) und Ausgaben hinsichtlich der Instandhaltung der touristischen Infrastruktur in den Schluchten. Sollte das Ko-management des Gebietes weiter ausgebaut werden, muss sich auch hier der Informationsfluss verbessern.

Tatsache ist jedoch, dass sich fast alle Gemeinden an ihre Pflicht zur Instandhaltung der Infrastruktur halten, dies ist durch die Überprüfung der Schluchten durch die Ranger belegt, hierüber wird jedoch nicht Buch geführt.

→ *s. Band II, Kap. 1.5 ff*

1.7 Beschreibung der aktuellen Marketing- und Bewerbungsaktivtäten des Schutzgebiets und der Gemeinden für die Schluchten

Die entsprechenden existierende Medien- und Informationsangebote wurden zusammengetragen und beschrieben. Bislang werden Werbemaßnahmen zwischen den einzelnen Akteuren in der Region, OOCR Slovenský raj & Spiš, Tourismusagentur der Košice Provinzverwaltung, Stadtverwaltung Spišská Nová Ves und der Nationalparkverwaltung nicht abgestimmt. Daher ergibt sich ein vielfältiges, qualitativ sehr unterschiedliches Bild des Nationalparks und der Schluchten im Internet und den Printmedien. Eine gemeinsame Marketingstrategie für das gesamte Gebiet fehlt. Hinzu kommen noch Werbemaßnahmen verschiedener Tourismusakteure, wie Übernachtungsbetriebe, Reiseveranstalter und Transportunternehmen.

→ *s. Band II, Kap. 1.6*

1.8 Benennung vergleichbarer Fälle aus Deutschland mit Beschreibung von Lösungsmöglichkeiten. Beauftragung mindestens eines Sachverständigen zur Beurteilung der jeweiligen Situation in den Schluchten

Eingehende Recherchen haben ergeben, dass in Deutschland nirgendwo eine mit den Schluchten im Nationalpark Slovenský Raj vergleichbare Situation herrscht, zu denen in der Form konkrete Korrekturen bezüglich Management und Besucherlenkung notwendig waren. Zumindest beispielhaft wurden Vorgehensweisen in der Wutachschlucht und zum Bergsport in der Sächsischen Schweiz beschrieben.

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Wichtigste Ergebnisse: Wenn auch in geringerem Umfang, haben auch die Akteure in der Wutachschlucht mit naturschutz-unverträglichem Verhalten von Besuchern zu kämpfen, wofür sie noch keine Lösung haben. Es gelingt, über den Einbezug von Verbänden beteiligter (Sport-)Nutzergruppen Einzelne zu verantwortlicherem Verhalten anzuregen. Doch gegenüber „nicht organisierten" Besuchern besteht nur eine geringe Einflussnahme und funktionierende Lösungen sind auch hier erwünscht.

→ *Information zu den Sachverständigen: s. Kapitel 2.2 unten*

→ *s. Band II, Kap. 1.7 ff*

1.9 Ermittlung möglicher Ko-finanzierungsquellen für die zweite Phase

Der Ö.T.E. steht zusammen mit den Projektpartnern Stiftung Ekopolis und der Nationalparkverwaltung in ständigem Austausch mit dem slowakischen Umweltministerium. Während der Projektlaufzeit fanden zwei Treffen mit dem Ö.T.E. im Ministerium statt sowie fortlaufende Verhandlungen und regelmäßige Kontakte zwischen Nationalparkverwaltung und dem Ministerium.

Es konnte erreicht werden, dass das Ministerium seine untergeordnete Naturschutzbehörde (ŠOP – Štatna Ochrana Prírody) angewiesen hat, der 2. Phase höchste Priorität für eine Ko-finanzierung einzuräumen und dafür bereit zu stehen.

Die Gespräche mit der staatlichen Naturschutzbehörde werden daher weiter aufrechterhalten, sodass der Entwurf für ein Folgeprojekt dort weiter diskutiert wird.

Positiv zu berichten ist, dass alle involvierten Gemeinden bereits jetzt eine Ko-finanzierung zugesagt haben und diese nicht an ihren laufenden Einnahmen aus den Ticketverkäufen festmachen werden, sondern ein gemeinsamer „Topf" geschaffen wird, woraus Maßnahmen im ganzen Projektgebiet gefördert werden können.

2. SWOT Analyse für jede involvierte Schlucht plus einer zusammenfassenden Analyse

Die SWOT Analysen wurden nicht, wie im Vorfeld geplant, nur von der Nationalparkverwaltung skizziert, sondern unter Einbindung der Gemeinden geschaffen. Dies schuf eine exzellente Grundlage für die folgenden Projektschritte, da bereits ein gemeinsamer Konsens über die identifizierten Stärken und Schwächen bestand.

Die einzelnen für jede Schlucht entwickelten Analysen sowie die zusammenfassende Analyse zeigen deutlich einen Überblick über die vorhandenen Probleme, die bereits in den vorherigen Kapiteln angeschnitten wurden: Zerstörung von Habitaten, Verschmutzung von Schluchten und Rastplätzen, fehlendes Besuchermanagement, geringes Umweltbewusstsein.

Darüber hinaus werden jedoch auch Problematiken dargestellt, die in den vorherigen Analysen wenig Beachtung fanden, wie z.B. Folgen des Klimawandels und zu starke Abholzung in den privaten Waldflächen. Diese Probleme sollten in der 2. Phase aufgegriffen werden.

→ *s. Band II, Kap. 1.8 ff*

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2.1 Bewertung der Informationen durch externe Experten

Für die Bewertung der im Anhang dargestellten Informationen wurden zwei Experten zu Rate gezogen: Vlado Vancura (Direktor a.D., Nationalpark Hohe Tatra/Slowakei) sowie Dr. Michael Vogel (Direktor a.D., Nationalpark Berchtesgaden/Deutschland). Beide sind ausgewiesene Kenner des Nationalparks Slovenský Ray und seiner Schluchten. Ihre fachliche Zuarbeit erfolgte daher direkt unter ihrem Einbezug (Sichtung und Kommentierung) im Verlauf der erarbeiteten Texte und Materialien.

2.2 1. Workshop mit lokalen Interessenvertretern zur Vorstellung der Bewertungsergebnisse

→ *Informationen zu den Workshops: s.u. Kapitel 2.2*
→ *s. Band II, Kap. 1.9*

2.3 Erstellung von Szenarien über die weitere Entwicklung der "Region" (Schluchten und angrenzenden Gemeinden) in den nächsten 10 Jahren

Ursprünglich war geplant, drei unterschiedliche Szenarien zu entwickeln. Jedoch wurde auf Vorschlag der Projektpartner gemeinsam beschlossen, sich auf ein „Nicht-Interventionsszenario“ („Zero-Scenario“) und ein Entwicklungsszenario („Development scenario“) zu konzentrieren. Zusätzlich einen „Mittelweg“ zwischen diesen beiden Szenarien zu beschreiben, wurde als nicht zielführend erachtet.

Das „Nicht-Interventionsszenario“ zeigt deutlich, inwieweit sich derzeitige negative Auswirkungen weiter durch ansteigende, unkontrollierte Besucherströme aufschaukeln. Selbst wenn die Nationalparkverwaltung mit aktiven Naturschutzmaßnahmen und die Gemeinden mit ihren Erhaltungsmaßnahmen weiter wie bisher fortfahren, wird sich die Situation in den Schluchten verschlechtern und die eigentlich durch die FFH-Richtlinie streng geschützten Pflanzenarten möglicherweise unwiederbringlich verloren gehen. Durch lange Wartezeiten an den Aufstiegshilfen, unverminderte Unfallgefahr für Besucher durch unzureichenden Information und Kommunikation und nicht mehr zeitgemäße Erhaltungsmaßnahmen, könnte das Image des Parks soweit geschädigt werden, dass langfristig Besucher ausbleiben und sich andere Urlaubsziele suchen.

Das Entwicklungsszenario zeigt jedoch klar, dass zielgerichtete Maßnahmen den Naturschutz wie die sozioökonomische Entwicklung der Region gleichermaßen positiv unterstützen würden. Eckpunkte dieses Szenarios sind die Ermittlung und Verarbeitung von derzeit nicht vorhandenen Informationen über Wasserstände in den Schluchten (Frühwarnsystem), digitale Zählung der Besucher in den meist frequentierten Schluchten, sowie visuelle Erfassung von Warteschlangen (smartes Besuchermanagement), an die Habitate optimal angepasste Infrastruktur (minimale Auswirkungen auf geschützte Flora), Rastplatzmanagement und Sensibilisierung der Besucher (Lösung des Verschmutzungsproblems), verbesserte Umweltbildung zum Naturschutzauftrag (Bewusstseinsbildung).

Die in diesem Szenario aufgeführten Maßnahmen werden von den Experten im Projekt als derzeit einmalig und innovativ für die ganze Slowakei betrachtet und hätten somit eine Signalwirkung auch auf andere Schutzgebiete.

→ *s. Band II, Kap. 1.10 ff und 1.11*

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2.4. 2. Workshop mit lokalen Stakeholdern sowie Projektpartnern für die Auswahl des besten / günstigsten Szenario

Aufgrund der engen Zusammenarbeit und regelmäßigen Kontakte und Treffen der slowakischen Projektpartner sowie Tourismusorganisationen und betroffenen Gemeinden hat der für die Durchführung vor Ort verantwortliche Projektpartner Stiftung Ekopolis entschieden, den zweiten Workshop nur in einem kleineren Rahmen durchzuführen, da bereits darüber ein hoher gemeinsamer Informations- und Erkenntnisstand erreicht wurde.

Es wurden zwei Treffen mit Stakeholdern durchgeführt, und zwar am 14. und 21. März 2018 mit jeweils 11 und 8 Teilnehmern. Die Verabschiedung des „Gezielten Maßnahmenszenario" durch die Partner stand außer Frage. Jede einzelne Maßnahme, dessen Auswirkungen sowie mögliche Finanzierung wurden auf dem Workshop intensiv diskutiert. Es herrschte breiter Konsens zwischen Nationalparkverwaltung und den Gemeinden, dass die Probleme in der derzeitigen Situation unbedingt und schnellstens behoben werden müssen.

→ s. Band II, Kap. 1.12

Ergebnisse und Diskussion

Alle für diese Projektphase geplanten Ziele wurden erreicht. Auf Beschluss der Projektpartner wurden allerdings nur zwei, statt drei Entwicklungsszenarien erstellt.

Erst nach der Fertigstellung der Stärken-Schwäche Analyse wurde klar, dass zwei Probleme noch näher hätten beleuchtet werden müssen: die Auswirkungen des Klimawandels und die Abholzungen auf privaten Waldflächen. Dies muss aus Zeitgründen nun in der 2. Phase nachgeholt werden.

Auch wenn die Kooperation zwischen der Nationalparkverwaltung und den Gemeinden als vorbildlich im Vergleich zu anderen Schutzgebieten angesehen wird, waren dennoch Defizite zu verzeichnen. So war es zum Teil schwierig, an Informationen von den Kommunen (Kosten zu Erhaltungsmaßnahmen) oder Tourismusakteuren (Übernachtungsstatistiken) zu gelangen. Die Kommunikation zwischen den Partnern, insbesondere der Gemeindevertreter fand per Telefon (bi-lateral), auf zufälligen Treffen im Projektgebiet und seltener per E-mail statt. Es erwies sich oft als schwierig, alle notwendigen Partner zugleich an einen Tisch zu bekommen. Dies hat jedoch das Konsultationsverfahren insgesamt nicht wesentlich behindert, da diese Form der Zusammenarbeit von den Beteiligten offenbar nicht als hinderlich oder problematisch angesehen wurde.

Öffentlichkeitsarbeit

Der Band 2 (englische Fassung) des Abschlussberichtes wird allen Projektpartnern in digitaler Form zur Verfügung gestellt. Der Ö.T.E., die Stiftung Ekopolis und die Nationalparkverwaltung werden dieses Konzept auf ihren Internetseiten veröffentlichen (sobald die Deutsche Bundesstiftung Umwelt und die Heidehof Stiftung ihre Zustimmung erteilt haben).

Alle am Projekt beteiligten Partner in der Slowakei haben einen direkten Nutzen von den gewonnenen Erkenntnissen und werden diese in ihren weiteren Arbeiten verwenden. Dies gilt auch für den erweiterten Kreis von relevanten zukünftigen Nutzern, wie z.B. die OOCR

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Slovenský Raj & Spis (regionaler Tourismusverband), Provinzverwaltung Košice und einzelnen Tourismusakteuren vor Ort.

Eine externe Ko-finanzierung des Vorhabens für die folgende 2. Phase wird von den Projektpartnern als dringend erforderlich angesehen. Daneben sind alle Partner bemüht, kurz- und mittelfristig geplante Maßnahmen aus dem vorgeschlagenen Paket des ausgewählten Szenarios auch mit begrenztem Budget, umzusetzen, bzw. zu beginnen.

Fazit

Ursprünglich planten die slowakischen Projektpartner, die Umsetzung von konkreten Maßnahmen in der Schlucht Suchá Belá bei der DBU zu beantragen. Nach erfolgten Abstimmungen zwischen DBU und Ö.T.E. wurde stattdessen zunächst eine vorgeschaltete umfassendere Analyse aller Schluchten in dem Projektgebiet empfohlen. Anfänglich von den slowakischen Projektpartnern als nicht sinnvoll erachtet, entwickelte sich jedoch im Verlauf eine breite Zustimmung. Alle Partner sind nun sehr zufrieden, einen Überblick über die gesamte Problematik zu haben, sodass entsprechende Maßnahmen nicht nur für Suchá Belá, sondern für das ganze Projektgebiet vorgeschlagen werden konnten.

Diese 1. Phase des Projektes wirkte sich zudem insoweit positiv aus, als sich das vorhandene „Kirchturmdenken“ innerhalb und zwischen den Gemeinden sowie in Richtung der Nationalparkverwaltung im Verlauf der Arbeit mehr und mehr abschwächte. Ein wichtiges Ziel der 2. Phase wird sein, die Art und Weise des Ko-Managements weiter zu fördern.

Dank der fundierten Erfahrungen des Partners Ekopolis und des Direktors des Nationalparks Slovensky Raj haben sich die geplante Vorgehensweise und angewandten Methoden als richtig erwiesen und sollten in der 2. Phase entsprechend weiter fortgeführt werden. Schließlich hat sich auch die Hinzuziehung von externen Experten zur Evaluierung der gewonnenen Informationen und Erkenntnisse als äußerst wertvoll erwiesen. Hierüber konnten zum Teil bisher existierende Vermutungen bestätigt, aber auch völlig neue Lösungsansätze geschaffen werden.

→ *s.a. Band II Anhang Kap. 1.11*

Anlagen/Anhang

→ *Siehe Band II*

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Konzept über ein effektives Management des nördlichen Teils des Slovenský Raj Nationalparks

Projekt Nr. 33352/01

BAND II

Projektbeginn: 29. Juni 2017
Laufzeit: 01.07.2017 – 28.02.2018 (8 Monate)

Ján Roháč, Nadácia Ekopolis

Michael Meyer, Ökologischer Tourismus in Europa (Ö.T.E.) e.V.

Banská Bystrica / Bonn, 2018

Projekt: „Konzept über ein effektives Management des nördlichen Teils des Slovenský Raj Nationalpark“

Projektleitung:

Michael Meyer, Ökologischer Tourismus in Europa (Ö.T.E.) e.V.

Projektpartner:

Nadácia Ekopolis	Banská Bystrica, Slowakei
Štátna ochrana prírody SR	Banská Bystrica, Slowakei
Mikroregion Slovenský Raj – sever	Hrabušice, Slowakei

Fotos:

Ján Roháč (Titel), Nationalpark Slovenský Raj (S.12)

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Abkürzungen

BNatSchG	Bundesnaturschutzgesetz (Federal Nature Conservation Act)
DBU	Deutsche Bundesstiftung Umwelt
EWN	European Wilderness Network
FFH	Flora-Fauna-Habitat
ITB	Internationale Tourismus-Börse (International Tourism Bourse), Berlin
KOCR	Košický kraj
LIFE	Financial Instrument for the Environment (EC)
NGO	Non governmental organisation
MoE	Ministry of Environment of the Slovak Republic
MTB	Mountainbike
NP	National Park
OOCR	Oblastná organizácia cestovného ruchu (regionaler Tourismusverband für die Region Slovensky Raj & Spis
PHSR	Plans of economic and social development
SME	Small and medium enterprises
ŠOP SR	Štatna Ochrana Prírody (Staatliche Naturschutzbehörde)
SWOT	Strenghts-Weakness-Opportunities-Threats

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1. Erhebung der Grundlageninformationen

Collection of baseline information

1.1 Zählung der Besucher (vorzugsweise über Zähler an den meistbesuchten Orten und / oder engen Eingängen)

Number of visitors in the gorges of the Slovenský raj

1.1.1 Counting by the National Park administration

The counting of visitors is organized every year by the NP administration on one day in summer and one day in winter. Table 1 shows the number of visitors obtained in these counting in 2010-2017. Detail data (incl. graphs) are provided in the file "*Visitors counting by NP 2010-2017.xlsx",* stored at the project partner Ekopolis. They show that despite small year-on-year variations, the overall number of visitors is generally rising in all gorges by 50% between 2010 and 2017. The data also shows that the most visited gorges are Prielom Hornádu and Suchá Belá.

Site/year	2010		2011		2012		2013		2014		2015		2016		2017		Average	
	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W
Prielom Hornádu	510	26	738	81	842	34	784	66	755	51	984	6	830	32	1089	26	877	40
Suchá Belá	467	34	757	32	760	19	716	24	601	43	916	11	1007	7	867	13	761	23
Piecky	125	0	196	0	102	8	157	9	150	0	223	0	165	2	167	0	161	2
Veľký Sokol	114	2	146	0	126	6	167	0	57	4	132	0	73	0	136	0	189	2
Kyseľ	70	-	84	-	87	-	64	-	45	-	91	-	35	-	168	-	81	-
(Sokolia dolina)	9	2	84	0	16	6	65	0	46	6	11	0	55	0	167	9	57	3
Zejmarská roklina	191	1	199	0	198	13	206	12	102	18	199	3	217	0	313	18	203	8
TOTAL	1486	65	2204	113	2131	86	2159	111	1756	122	2556	20	2382	41	2907	66	2329	78
			-6.8		22.0%		48.0%		-3.5%		1.3%		-18.7%		45.5%			

Table 1: One day counting by the NP administration
S – Summer counting / W – Winter counting

Notes:

- *The number of visitors in Prielom Hornádu is calculated as a sum of visitors from Tomášovský výhľad, Pod Tomášovským výhľadom and Hrdlo Hornádu. Some tourists who descended from Tomášovský výhľad continued along the green trail towards Klauzy and Sokolia dolina (up to 2015) and Kysel via ferrata (2016-17). They were counted in site Pod Tomášovským výhľadom for site Sokolia dolina;*
- *The number of visitors for Sokolia dolina is only approximate, part of the visitors might have continued to Klauzy. In addition, the opening of the Kysel via ferrata influenced the numbers in the last two years;*
- *Numbers of visitors for the Kysel 2016 via ferrata are the sum of sites Malý Kyseľ, Veľký Kyseľ and Kyseľ-alternative route. The counting in 2017 was done directly in Kysel; the number is original;*
- *Due to logistic reasons the counting time is limited; it starts before 8AM (depending on accessibility of the site) and ends at about 3PM (dtto). This period provide good data anyway, as far number of passing visitors before 8AM and after 2PM is not significant.*

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1.1.2 Counting by ticket sellers

Persons who sell tickets at the entrance to the gorges counted visitors in whole August 2017. Data of the counting are shown in the Table 2 and in details are shown in the file *"Visitors counting august 2017 by sellers.xlsx"*, stored at the project partner Ekopolis.

Site/date	1.8.	2.8.	3.8.	4.8.	5.8.	6.8.	7.8.	8.8.	9.8.	10.8.	11.8.	12.8.	13.8.	14.8.	15.8.	16.8.	17.8.	18.8.	19.8.	20.8.	21.8.	22.8.	23.8.	24.8.	25.8.	26.8.	27.8.	28.8.	29.8.	30.8.	31.8.	TOTAL
Prielom Hornádu	250	0	0	523	565	472	0	0	643	632	578	0	587	857	883	0	825	599	757	0	336	689	0	392	509	0	0	459	553	442	0	11551
Čingov	81	83	0	116	106	231	8	276	138	141	152	82	98	248	240	178	89	562	207	0	547	188	284	249	185	200	164	241	308	383	52	5837
Suchá Belá	0	887	841	840	788	0	258	1368	0	992	842	864	0	1760	1116	1063	0	845	911	0	0	850	914	0	0	545	820	0	805	0	600	17909
Piecky	190	294	281	323	294	156	30	180	206	207	194	186	134	347	338	246	303	359	488	0	72	144	159	189	115	136	165	188	313	216	201	6654
Veľký Sokol	113	154	185	139	137	56	0	255	111	92	135	93	96	159	146	159	164	144	234	0	34	77	110	0	114	227	139	78	146	143	91	3731
Zejmarská roklina	380	381	287	314	369	143	51	289	266	263	288	179	127	172	229	223	286	261	191	175	130	0	144	165	171	154	111	184	123	139	98	6293
TOTAL	1014	1799	1594	2255	2259	1058	347	2368	1364	2327	2189	1404	1042	3543	2952	1869	1667	2770	2788	175	1119	1948	1611	995	1094	1262	1399	1150	2248	1323	1042	51975

Table 2: Counting of visitors in August 2017 by ticket sellers

Notes:

- *data are very rough, we found out by personal observation and by talking to sellers that it was not possible to count visitors in a reliable manner. For example, when bigger groups came to ticketing point, the seller had to sell/check the tickets and was not able to count all persons, in addition some people (e.g. children) sneaked through the counting point several times while waiting for checking of tickets or for final small preparations of group members for hike; this drawback was eliminated in a small extent when the group's guide person held all tickets so he/she knew how many persons were in the group;*
- *as far groups are not so frequent in smaller gorges we assume that the smaller numbers are more exact;*
- *it is clear now that counting by ticket sellers as counting method is not reliable; such counting should be done by another person and at a spot where visitors are walking in line; if daily counting by sellers is to become a standard method in the future, sufficient managing/coordinating capacity needs to be provided.*

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Automatic counting in Suchá Belá

The automatic counter was installed in Suchá Belá from August 1, 2017. Numbers from the automatic counter are shown in the table 3 alongside with numbers obtained by the ticker sellers in Suchá Belá and a number obtained by the NP administration counting at August 16, 2017.

Locality/Date	1.8.	2.8.	3.8.	4.8.	5.8.	6.8.	7.8.	8.8.	9.8.	10.8.	11.8.	12.8.	13.8.	14.8.	15.8.	16.8.	17.8.	18.8.	19.8.	20.8.	21.8.	22.8.	23.8.	24.8.	25.8.	26.8.	27.8.	28.8.	29.8.	30.8.	31.8.	TOTAL
Ticket seller	0	887	841	840	788	0	258	1368	0	992	842	864	0	1760	1116	1063	0	845	911	0	0	850	914	0	0	545	820	0	805	0	600	17909
Auto counter	1209	1054	965	1052	1067	877	385	1527	1320	1120	1037	1054	1074	1771	1516	1197	1138	1101	1091	182	1064	1194	1074	1061	729	1124	940	879	988	965	738	32493
		1054	965	1052	1067		385	1527		1120	1037	1054		1771	1516	1197		1101	1091			1194	1074			1124	940		988		738	21995
NP administration																904																

Table 3: Suchá Belá counting by automatic counter and by ticket seller

Notes:

- *a comparison of data shows that the automatic counter is the most accurate method mainly due to two factors: inaccuracy of counting by ticket sellers (see above) and counting time limited by working hours (they are different in each gorge, generally they are about from 8 AM to 14-15 PM);*
- *despite different absolute numbers they mutually correlate, it means that the overall error is systematic, not random;*
- *4-hours calibration manual counting (7-11AM. August 1, 2017) showed the 95% accuracy of the automatic counter.*

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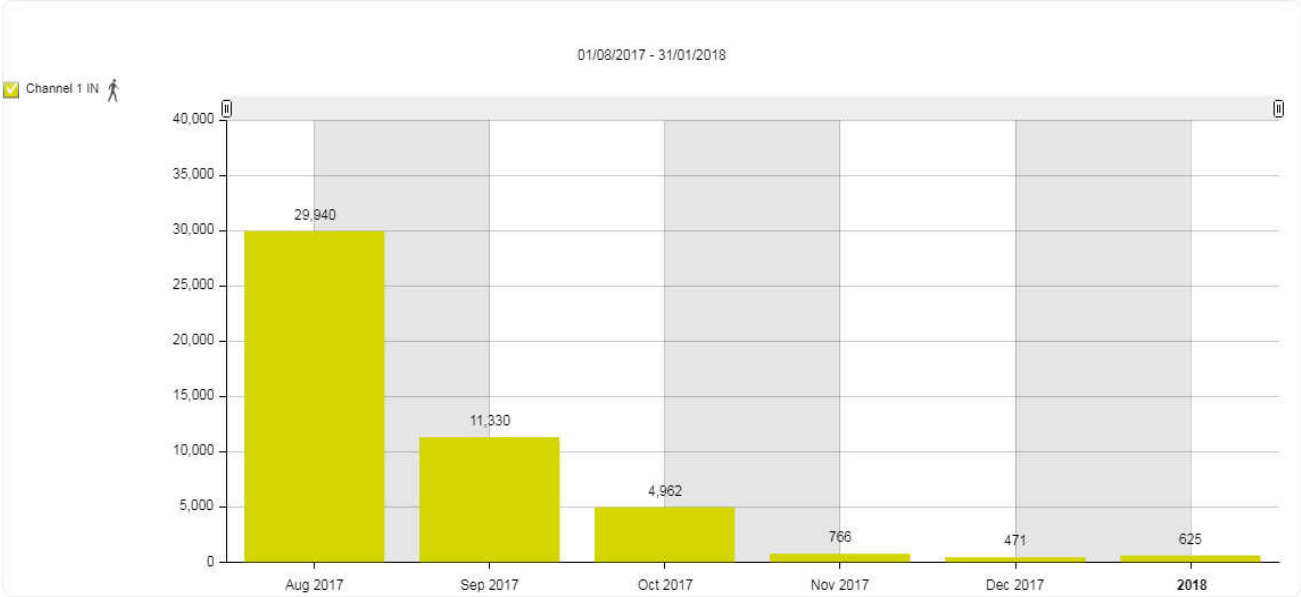

Table 4: Number of visitors in the Suchá Belá gorge from August '17 to January '18
The data collected by the automatic counter show very noticeable seasonality.

1.1.3 Estimation of number of visitors of whole National Park

The number of visitors of the gorges in the project area, counted by the NP administration and described above, is extracted from widely organized counting. They are organized not only in the gorges but also on other places of the NP, including the Dobšinská Ľadová Jaskyňa cave (total 12 locations), and are focused on the estimation of the total number of visitors in the national park (not only in the gorges).

As far countings are organized from 8 AM to 16 PM (somewhere even shorter) due logistic reasons, 5% is added to eliminate the shorter daily counting.

	2010		2011		2012		2013		2014		2015		2016		2017	
	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W
Total 1(real counting in a field)	2952	123	3199	217	3536	125	3498	202	2849*	186	3965	53	3826*	104	4656	131
Total 2 (correction +5% due shorter counting time).	3100	129	3359	228	3713	131	3673	212	2991*	195	4163	56	4017*	109	4889	138

Table 5: Overall counting in the national park
* - bad weather

The NP administration developed the formula for estimation of yearly overall number of visitors in the NP: 62 days x summer daily number of visitors (by countings) +152 days of 40% summer daily number of visitors (by countings) + 151 days of winter daily number of visitors (by countings)

	2010	2011	2012	2013	2014	2015	2016	2017
Yearly number of visitors in whole NP	400133	446884	475751	483059	396 840*	519650	509814*	621115

Table 6: Estimated yearly number of visitors in whole NP

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1.2 Einbezug vorhandener Studien über die natürlichen Gegebenheiten jeder Schlucht sowie dokumentierte Auswirkungen

Gorges of Slovenský raj National Park

1.2.1 General description valid for all gorges

Gorges are the most typical and most attractive phenomena of Slovenský raj. Their genesis was determined by relatively soft limestone underground (originally the sea bed in the Mesozoic). This limestone layers were slowly elevated (pushed up) in the Tertiary thus streams and rivers eroded in the bedrock. Two main rivers Hornád and Hnilec created two canyons – Prielom Hornádu (Hornád Gorge) and Stratenský kaňon (Stratená Gorge). Their tributaries created smaller attractive gorges with waterfalls.

1.2.2 Touristic aspects

The gorges were „discovered“ as tourist attractions at the end of the 19th century and beginning of the 20th century.

Wooden ladders were used first to visit the gorges, then various metal and wooden aids were added – ladders, boardwalks, footboards, small bridges... Wooden parts are the most frequent; however they require much more maintenance. The lifespan of a wooden part is 7-10 years (depending on kind of wood used and on location in gorge), so they require continuous maintenance – repairing or replacing. The wooden parts are also the most dangerous because they are slippery (particularly when wet). According to the informal information from the Mountain Rescue Service slip on wet wood is the most common reason of rescue actions in Slovenský raj. On the other hand wooden parts (mostly ladders and footsteps) are the most typical and authentic in Slovenský raj.

The iron parts are much more sustainable but also more expensive. The best ones are stainless steel parts (mostly ladders) but they are also by far the most expensive.

Iron and stainless steel parts usually do not suffer shabbiness, more frequent is damage by fallen rocks or damage of its fastening.

There are 10 publicly accessible gorges in Slovenský raj today:

1. Suchá Belá, 2. Veľký Sokol, 3. Piecky, 4. Kláštorská roklina, 5. Kyseľ, 6. Veľký Kyseľ, 7. Malý Kyseľ, 8. Sokolia dolina, 9. Zejmarská roklina, 10. Prielom Hornádu.

All accessible gorges are located in the northwest part of Slovenský raj, except the Zejmarská roklina which is located in the South.

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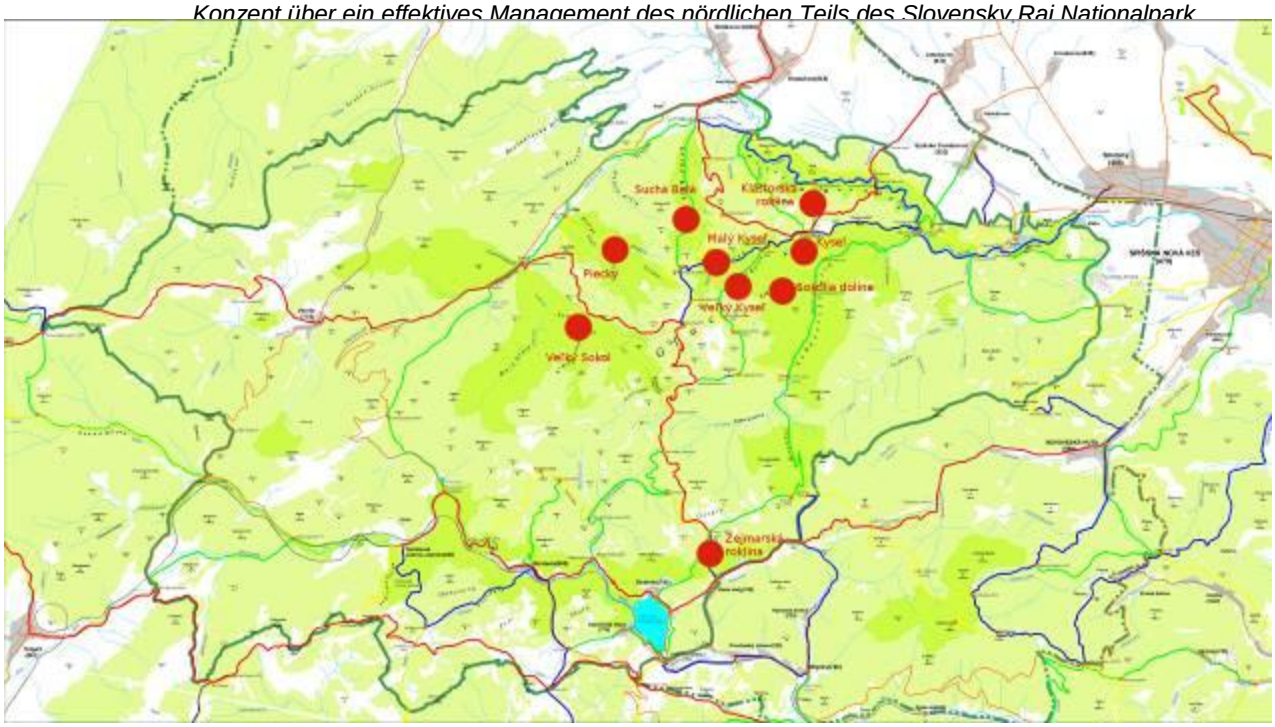

Map of location of gorges in Slovenský raj

Specific rules of hiking are valid in the gorges according to the actual Visitors rules (Návštevný poriadok):

1. Only upstream direction of hike is allowed in gorges with technical aids;
2. Gorges may be temporarily closed for public in specific cases, e.g. storm, rainfalls, natural disasters, endangering of ecosystems, damaging of technical aids, too high attendance, etc. In such cases visitors are informed about the gorge's closure by informational panel at the beginning of the gorge, installed by the national park administration in agreement with the Horská služba (Mountain Rescue Service) and relevant village administration;

   All gorges except Veľký Kyseľ Via Ferrata are open throughout year. The Veľký Kyseľ Via Ferrata is open from June 15th to October 31st;

   Ice-climbing on waterfalls is allowed in Suchá Belá, Sokolia dolina, Kláštorská roklina a Zejmarská roklina. Ice-climbing of the Great Waterfall (Veľký vodopád) in the Piecky Gorge is proposed to be allowed in new Návštevný poriadok, which is under preparation.

The ownership of technical aids changed in 1992 and 1993 from the state to the villages in cadastres of which gorges are located (except Veľký Kyseľ Via Ferrata which is owned by the national park administration):

1. Suchá Belá – Obec Hrabušice
2. Veľký Sokol – Obec Hrabušice
3. Piecky – Obec Hrabušice
4. Kláštorská roklina – Obec Letanovce
5. Kyseľ – Správa NP Slovenský raj (built in 2016 in cooperation with the Mountain Rescue Service)

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6. Veľký Kyseľ- Obec Hrabušice
7. Malý Kyseľ – Obec Hrabušice
8. Sokolia dolina – Obec Letanovce
9. Zejmarská roklina – Obec Smižany
10. Prielom Hornádu – Obec Hrabušice

1.2.3 Ecological aspects

All gorges of Slovenský raj are located in the A-zone of the national park (no intervention zone) with the 5th highest class of protection.

A typical phenomenon in gorges is thermal inversion and thus reversed vegetation zones. It means that gorges' bottoms are cooler than gorges' cliffs/slopes thanks microclimatic conditions determined by relief. That is why cryophilic and alpine plant species are present at the bottom, e.g.: Primula auricula (bear's ear), Bellidiastrum michelii, Leontopodium alpinum (edelweiss), Cortusa matthioli. On the contrary, thermophilic species are present in higher positions, like Pulsatilla slavica (Slovak pasqueflower), Allium ochroleucum (garlic), and Carduus glaucinus (greyish thistle).

Obr.2 Cortusa matthioli

Obr.3 Pulsatilla slavica

Objects of protection in gorges:

Biotopes of European importance and biotopes of the national importance (Regulation of MoE 24/2003)

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1.2.4 Object of protection in gorges

a. Biotopes of European and national importance which are the objects of protection in gorges:

Code of biotope	Name of biotope	Code of biotope NATURA 2000
Pi5	Rupicolous calcareous or basophilic grasslands of the Alysso-Sedion albi	6110*
Br6	Bank cover of butterburs	6430
Tr5	Dry and dealpine grass-herbal covers	6190
Pr3	Petrifying springs with tufa formation	7220*
Sk1	Calcareous rocky slopes with chasmophytic (slot) vegetation	8210
Sk6	Medio-European calcareous scree of hill and mountain levels	8160*
Sk8	Caves not open to the public	8310
Ls4	Tilio-Acerion (linden-acer) forests of slopes, screes and ravines	9180*
Ls5.1	Beech- and beech-fir flowery forests (Asperulo-Fagetum beech forests)	9130
Ls5.3	Medio-European subalpine beech woods with Acer and Rumex arifolius	9140
Ls5.4	Limestone beech forests	9150
Ls6.1	Western Carpathian calcicolous Pinus sylvestris forests	91Q0

Note:

1. *Biotopes Pr3 Petrifying springs with tufa formation are identified only in the Veľký Sokol and Suchá Belá gorges, however they may also be present in other gorges.*
2. *Biotopes Ls5.3 Medio-European subalpine beech woods with Acer and Rumex arifolius are identified only in the Veľký Sokol gorge.*

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b. Plants of European and national importance, which are object of protection in gorges of the Slovenský raj National Park

Scientific taxon name	Slovak taxon name	Category of importance		Red book category
***Musci* – mosses**				
Buxbaumia viridis	kyjanôčka zelená	EV		EN
Vascular plants				
Adenophora liliifolia	zvonovec ľaliolistý	EV		VU
Cypripedium calceolus	črievičník papučkový	EV		NT
Pulsatilla slavica	poniklec slovenský	EV, P		NT
Pulsatilla subslavica	poniklec prostredný	EV, P		NT
Taxus baccata	tis obyčajný	NV		

c. Animals of European and national importance, which are object of protection in gorges of the Slovenský raj National Park

Scientific taxon name	Slovak taxon name	Category of importance	Red book category
Carabus variolosus	bystruška potočná	E II	LR: cd
Cucujus cinnaberinus	plocháč červený	E II	LR: nt
Pseudogaurotina excellens	fúzač karpatský	E II	LR: nt
Cottus gobio	hlaváč európsky	E II	-
Bombina variegata	kunka žltobruchá	E II, IV	LR: cd
Salamandra salamandra	salamandra škvrnitá	NV	LR: nt
Triturus montandoni	mlok karpatský	E II	VU
Anguis fragilis	slepúch lámavý	NV	LR: nt
Lacerta vivipara	jašterica živorodá	NV	-

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Natrix natrix	užovka obojková	NV	LR: lc
Vipera berus	vretenica severná	NV	VU
Aegolius funereus	pôtik kapcavý	BD1	EN
Dendrocopos leucotos	ďateľ bielochrbtý	BD1	LR: nt
Ficedula albicollis	muchárik bielokrký	BD1	
Phoenicurus phoenicurus	žltochvost lesný	NV	LR: nt
Scolopax rusticola	sluka lesná	NV	-
Barbastella barbastellus	netopier čierny / uchaňa čierna	E II, IV	LR: nt
Canis lupus	vlk dravý	EV, P	LR: nt
Eptesicus nilssonii	netopier severský / večernica severská	E IV	LR: lc
Eptesicus serotinus	netopier pozdný / večernica pozdná	E IV	LR: lc
Felis sylvestris	mačka divá	E IV	VU
Lutra lutra	vydra riečna	E II	VU
Lynx lynx	rys ostrovid	E II, IV	EN
Myotis bechsteini	netopier veľkouchý	E II, IV	VU
Myotis blythi	netopier východný / netopier ostrouchý	E II, IV	LR: nt
Myotis brandti	netopier Brandtov	E IV	LR: lc
Myotis dasycneme	netopier pobrežný	E II, IV	LR: nt
Myotis daubentoni	netopier vodný	E IV	LR: lc
Myotis emarginatus	netopier brvitý	E II, IV	LR: lc
Myotis myotis	netopier obyčajný	E II, IV	LR: lc
Myotis mystacinus	netopier fúzatý	E IV	LR:lc
Myotis nattereri	netopier riasnatý	E IV	LR: lc

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Neomys anomalus	dulovnica menšia	NV	LR: nt
Nyctalus noctula	netopier hrdzavý / raniak hrdzavý	E IV	LR: lc
Plecotus auritus	ucháč svetlý	E IV	LR: lc
Plecotus austriacus	ucháč sivý	E IV	LR: lc
Rhinolophus ferrumequinum	podkovár štíhlokrídly / podkovár veľký	E II, IV	LR: nt
Rhinolophus hipposideros	podkovár krpatý / podkovár malý	E II, IV	LR: nt
Sicista betulina	myšovka horská	E IV	VU
Sorex alpinus	piskor vrchovský	NV	VU
Spermophilus citellus	syseľ pasienkový	E II, IV	EN
Ursus arctos	medveď hnedý	EV, P	LR: cd
Vespertilio murinus	netopier pestrý / večernica pestrá	E IV	LR: lc

Notes
EV – species of the European importance
P – Priority European important species (by II. Habitat Directive)
E II – European important species from II. Habitat Directive
E IV – European important species listed only in Annex IV of the Habitat Directive
E V – European important species listed only in Annex V of the Habitat Directive
NV – species of the national importance
BD1 – species listed in the Annex 1 of the Bird Directive
BD2 – species listed in the Annex 2 of the Bird Directive
BD3 – species listed in the Annex 3 of the Bird Directive

Red Book categories
CR – Critically Endangered – kriticky ohrozený
EN – Endangered – ohrozený
VU – Vulnerable – zraniteľný
LR – Lower Risk – menej ohrozený
cd – Conservation Dependent – závislý na ochrane
nt – Near Threatened – takmer ohrozený
lc – Least Concern – najmenej hodnotený
DD – Data Deficient – nehodnotený

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1.2.5 Information about individual gorges

1.2.5.1 Suchá Belá

a) Geographical information – location in the project area, length, depth and other information

The gorge is located in the North-West part of the project area close to the resort Podlesok, between the massifs of Vtáčí Hrb and Rumanová. The creek, which runs in the gorge, springs in the locality Žliabky at the North edge of the Glac plateau and empties into the Veľká Biela Voda (Great White Water) stream near the parking lots at Podlesok.

The lowest point (the creek mouth to the Veľká Biela Voda): 550 m n. m.

The highest point: 959 m n. m.

Elevation: 409 m

Length: 3.8 km

Important waterfalls (name, height) *(vodopád = waterfall)*

- Misové vodopády: 29.5 m
- Okienkový vodopád: 12.5 m
- Bočný vodopád: 8 m
- Korytový vodopád: 8.5 m

In 1900 a group led by M. Roth started exploring of the gorge. They got up to the Misové vodopády. Then they adjusted and marked the trail to the Misové vodopády in 1908. The first passage of whole gorge was booked in winter (March) 1910 by a group of A. Mervay. The gorge got completely accessible for tourist in 1957 thanks to members of the Mountain Rescue Service.

b) Level and object of protection

The gorge is located in A-zone of the national park, 5th level of protection. For object of protection see general description of gorges.

c) Tourism: character of hike, number and types of technical aids, number of visitors and position among other gorges from the attendance point of view:

- the most visited gorge in Slovenský raj, with a daily average of about 1000 persons in tourist season, several times more than other gorges;
- the reason of a high attendance are attractiveness, easy accessibility (the trailhead is very close to the Podlesok with its parking lots) and close proximity of well-developed Podlesok tourism centre;
- medium-difficult hike with opportunity to continue somewhere else (most often to Kláštorisko);
- the best equipped gorge with the highest number of technical aids – iron, stainless ladders and wooden, iron footbridges, iron footsteps, chains ... ;
- the banks of the creek are reinforced by wooden logs with rock filling in some sections (LIFE project in 2005), however these adjustments are vastly

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damaged/abandoned and visitors walk on the creek bed; reinforced banks are used only at a high water level;

- the gorge is visited also in winter;
- ice-climbing is legal on waterfalls;
- there is the shelter at the end of the gorge hike (2015, Swiss project, good status, the map panel damaged).

d) Known present impacts of tourism

- the most critical spot is narrowing below Misové waterfalls – this place is however solved already (2014, Swiss project) using 3 iron boardwalks (total 21 meters);
- the whole section from the trailhead to the Misové waterwals is critical, as far „sneaker“ tourists walk out of creek try to avoid soaking so they damage vegetation cover;
- there is a water spring at the end of the gorge – analysis shows that water is regularly not drinkable, as it is polluted by faecal bacteria from visitors that do their needs just around after hike.

e) Anticipated impacts of tourism in close future

1. the gorge will remain the most visited one so impacts mentioned above would continue or even increase if not managed;
2. even more technical aids will be installed in the gorge;
3. further development at Podlesok is anticipated as well as at the end at Žliabky.

f) Typical most frequent ascent and descent routes a zostupové trasy

Ascent:

The most frequent starting point is Podlesok (thanks its good infrastructure, parking, services...).

The hike takes usually about 2 hours, however may be longer in the summer season due to cues at ladders.

Descent:

The shortest and the straightest descent route is from Žliabky („Suchá Belá- Záver” on the map) along the yellow trail to „Pod Vtáčim hrbom” and then along the red trail down to Podlesok. The red trail is very damaged by erosion.

However, very often tourist do not descend from „Pod Vtáčim hrbom“ to Podlesok, but rather they go on the opposite direction to Kláštorisko, as there is a restaurant and an attractive archaeological site of old monastery at the Kláštorisko. Then, after Kláštorisko, they either continue down to the Prielom Hornádu along the yellow trail (difficult descent) or they go to Podlesok along the green or yellow trail.

Another very popular option is to rent the MTB at the top of the Suchá Belá at Žliabky and descend comfortably down to Podlesok following the forest road.

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g) Brief description of plans of the NP administration in area of nature protection and visitors management in the gorge

- to keep the status of the most visited gorge, including improving of the technical aids in the gorge and finalizing of tourist infrastructure at Podlesok;
- to install suitable WC at Žliabky (the upper end of the Suchá Bela gorge);
- to establish visitors management system which would consists of:
  - real-time counting of visitors at the trailhead at Podlesok which would warn visitors (at Podlesok and online) when waiting times at ladders are long;
  - online image transfer from the Misové waterfalls to Podlesok, which would allow visitors to make proper decision about postponing the entrance to the gorge;
  - automatic device at Podlesok based on a water level measurement which would close the gorge for visitors when water level is too high (today the gorge is closed upon to human decision which is not enough, as often it is not possible to close the gorge early enough after rain);
  - making of new descent trail from Chvalabohu to Podlesok – it will make the hike shorter but still allowing visitors to walk the attractive part of the gorge; then visitors will not continue to Žliabky and to the central part of the NP but will return quickly back to Podlesok;
  - finalizing of infrastructure in Podlesok (WC, services, interpretative area – geopark, interpretation trail, parking;
  - not allowing new accommodation at Podlesok, only services.

1.2.5.2 Veľký Sokol

a) Geographical information – location in the project area, length, depth and other information

The gorge is located in the North-west part of Slovenský raj. The creek, which runs in the gorge, springs at the Glac plateau and empties into the Veľká Biela Voda (Great White Water) stream. The gorge is the longest and deepest one - it is 6 km long and cliffs are 300 meter tall.

The lowest point (the creek mouth to the the Veľká Biela Voda): 610 m n. m.

The highest point: 899 m n. m.

Elevation: 289 m

Length: 6 km

Important waterfalls (name, height) *(vodopád = waterfall)*

- Malý vodopád: 8.5 m
- Veľký vodopád: 7 m

The first complete passage of the gorge was made by M. Róth, Dr. N. Filarszky and M. Karolíny at August 20, 1898. A month later the same group plus photographer V. Forberger passed the gorge again. Pictures made by V. Forberger were the first ever pictures of gorges of Slovenský raj.

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The first metal ladders were installed by the Mountain Rescue Service in 1956. The wildest part of the gorge, the Roth's flume, is named after M. Róth, pioneering climber and hiker who participated in all important exploring tours in the area. The memorial plaque is installed at the beginning of the flume.

The Malý Sokol gorge, which diverges from the Velký Sokol gorge in its lower part, was also accessible in the past. Unfortunately, the logging company Lichtenstein & Wilček blew up all rocky steps in the gorge in 1927-1928 to allow logging. It was, however, substantial impulse for naturalists and tourists to strongly request prohibition of any logging in the gorges of Slovenský raj. The closure is still kept and respected. Similarly, initiatives by naturalists and tourists saved the alpine edelweiss (*Leontopodium alpinum*), which was at that time present only in this gorge, against extermination. It was massively collected during the economic crisis by poor people (using ladders and hooks) who sold it as a souvenir.

b) Level and object of protection

The gorge is located in A-zone of the national park, 5th level of protection. For object of protection see general description of gorges.

c) Tourism: character of hike, number and types of technical aids, number of visitors and position among other gorges from the attendance point of view:

the hike through the gorge is time demanding as far it is long and there is no parking at the trailhead – so both ascent and descent are long;

- the hike in the gorge itself is about 2.5 hours;
- the first section to the diverge to the Malý Sokol gorge leads along an old road (which then turns right to the Malý Sokol) so it is pretty comfortable; then the gorge is not demanding from the elevation point of view but still it is technically demanding;
- there is much less technical aids than in the more visited gorges;
- the status of technical aids is not good, however the most critical spot, the ladder at the Malý vodopád, was replaced for a new one (stainless, 2014, Swiss project); the ladder at the Veľký waterfall was replaced in 2017; most of older ladders are abandoned and damaged, some of them are missing;
- it is the least visited gorge, about 100-200 persons daily in the summer season and there are winter weeks without a single person in the gorge.

d) Known present impacts of tourism

Tourists bypass damaged or missing technical aids off trail what damages vegetation cover along trail. Such sections are mostly at the beginning and at the end of the gorge.

e) Anticipated impacts of tourism in close future

Neither new significant impacts nor strengthening of existing ones are anticipated, status quo is expected.

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f) Typical most frequent ascent and descent routes a zostupové trasy;

Ascent:

The most common starting point of the hike is the Hrabučiská Píla hamlet, where the parking lots are. Podlesok is also used as the starting point, but it is much further. A small number of visitors are coming from the Vernár village as the gorge is the closest one from the village.

The hike in the gorge itself is about 2.5 hours. The first section leads along an old forest road which then turns to the right to the Malý Sokol valley. The trail then crosses the creek a few times (footbridges are missing on some crossing what causes problems in case of high water level), then it passes attractive narrow and deep sections of the gorge. The famous attractive Roth's flume is close to the end of the gorge. The final section of the ascent leads along comfortable trail in the forest to Glacka cesta ("Glac road").

Descent:

The most frequent descent route leads back to the Hrabušická Píla hamlet. It goes from Glacká cesta along the red trail to „Malá Poľana – rázc." and then still along the red trail on the ridge above the Veľký Sokol gorge down to Hrabušická Píla hamlet (using the yellow trail on last hundreds of meters). There are several sections damaged by erosion in steeper parts of the final leg of the route.

The same route from Malá Poľana – rázc is also usually used as the descent one from the Piecky gorge.

g) Brief description of plans of the NP administration in area of nature protection and visitors management in the gorge

- to keep current wilderness character of the gorge with small number of visitors (much less than in Suchá Belá, Zejmarská, Kláštorská etc.);
- thus no significant increase of amount of technical aids is planned in the gorge – it is not less appealing for casual tourists but it also provides better touch of nature;
- to repair and improving of current technical aids, mostly wooden ladders; this should be done in 2018, using a helicopter to transport of wood for repairs from out of the gorge;
- to build several creek crossings in first section of the gorge;
- to keep a ban on ice-climbing (though there is interest of climbers) in order to keep animals in the gorge undisturbed (as there are almost no visitors in winter);
- no intention to build any parking lots on the trailhead.

1.2.5.3 Piecky

a) Geographical information – location in the project area, length, depth and other information

The gorge is located in the North-west part of Slovenský raj. The creek, which runs in the gorge, springs at the Glac plateau and empties into the Veľká Biela Voda (Great White Water) stream in the Hrabušická Píla hamlet. The gorge is the most calm and silent one in Slovenský raj.

The lowest point: 581 m n. m.

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The highest point: 959 m n. m.

Elevation: 378 m

Length: 4 km

Important waterfalls (name, height) *(vodopád = waterfall)*

- Veľký vodopád: 13 m
- Terasový vodopád: 8 m

It is parallel gorge to the Veľký Sokol one.

The lower section of the gorge is also called Biela dolina (White Valley).

The first passage through the gorge is booked by A. Mervay and his friends in 1911.

b) Level and object of protection

The gorge is located in A-zone of the national park, 5th level of protection. For object of protection see general description of gorges.

c) Tourism: character of hike, number and types of technical aids, number of visitors and position among other gorges from the attendance point of view:

- medium difficulty hike about 2-2.5 hours in gorge itself;
- the most frequent starting point is Hrabušická Píla with parking lots;
- though it is the parallel gorge to the Veľký Sokol gorge, it is quite visited thanks to the parking lots at the trailhead; however, it is still much less visited than Suchá Belá gorge;
- high number of wooden ladders that are repaired and/or replaced continuously;
- new chains along wooden ladders above Veľký vodopád were installed in 2017 (Swiss project);
- the parking lots at Hrabušicka Píla begins to be insufficient, cars were parking at the water source facility below the hamlet.

d) Known present impacts of tourism

- no significant impacts, just smaller damages of plant habitats on rock formations in first section of the gorge (Biela dolina) caused by bypassing of the creek bed at high water level; impacts are much smaller than in Suchá Belá.

e) Anticipated impacts of tourism in close future

Neither new significant impacts nor strengthening of existing ones are anticipated, status quo is expected.

f) Typical most frequent ascent and descent routes at zostupové trasy

Ascent:

The most frequent starting point is the Hrabušická Píla hamlet (parking lots, restaurant, accommodation). Hikers use also Podlesok sometime, but it is pretty far.

First sections are not very demanding. The most demanding section is in the middle part with high elevation. The hike ascent on Glacká cesta at Glac - Malá Poľana.

Descent:

The most frequent descent route leads along the ridge between the Veľký Sokol gorge and the Piecky gorge. It is necessary to follow blue trail from Clac - Malá Poľana and to „Malá Poľana – rázc." and then along the red trail on the ridge above the Veľký Sokol gorge down to Hrabušická Píla hamlet (using the yellow trail on last hundreds of meters). There are several sections damaged by erosion in steeper parts of the final leg of the route.

The same route from Malá Poľana – rázc. is also usually used as the descent one from the Veľký Sokol gorge.

g) Brief description of plans of the NP administration in area of nature protection and visitor's management in the gorge

- to keep amount of technical aids between Suchá Belá (many aids) and Veľký Sokol (less aids);
- regular replacing of technical aids, mostly wooden ladders, needed wood transported from out of the gorge by a helicopter;
- some maintenance will be done still in 2017;
- solving problem sections of the gorge in its first part where people bypass the creek at high water level, fix it by suitable wooden aids;
- to permit ice-climbing only on Veľký waterfall – as it causes no problem from the nature protection point of view; access to climbing in other waterfalls in the gorge causes damaging of wooden aids by crampons;
- allowing building of new parking lots in Hrabušická Píla if necessary.

1.2.5.4 Kláštorská roklina

a) Geographical information – location in the project area, length, depth and other information

The gorge was created by the creek which rises below Kláštorisko and empties directly to the Hornád river in the Prielom Hornádu. It is a relatively short, but pretty steep gorge. It was made accessible for tourists only in 1960. The very first step of making the gorge accessible was building of the Rope Bridge at the Kláštorská roklina mouth, which is also organic part of the trail through the Prielom Hornádu.

The lowest point:	520 m n. m.
The highest point:	744 m n. m.
Elevation:	224 m
Lenght:	1.5 km

Important waterfalls (name, height) *(vodopád = waterfall)*

- Vodopád objaviteľov: 11,5 m
- Vodopád Antona Straku: 13 m
- Dúhový vodopád: 8,5 m
- Kaskády G. Nedobrého: 3 m
- Malý vodopád: 3 m

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- Machový vodopád: 6 m
- Kartuziánsky vodopád: 4 m

b) Level and object of protection

The gorge is located in A-zone of the national park, 5th level of protection. For object of protection see general description of gorges.

c) Tourism: character of hike, number and types of technical aids, number of visitors and position among other gorges from the attendance point of view:

the gorge is relatively less difficult than others, however the access to the gorge is not easy;

- it begins in Prielom Hornádu where tourists may come only via Prielom Hornádu or by a steep trail down from Kláštorisko;
- the number of visitors is not known as no counting was done in the gorge; however, the estimated number is much less than in Suchá Belá and little bit more than in e.g. Veľký Sokol;
- technical aids are not in bad shape;
- the advantage of the gorge is that there are no problems at high water level so it can serve as alternative route in some cases of heavy rains and higher water levels in other gorges;
- ice-climbing is allowed and popular as long as it is oriented towards North so ice sustain longer period;
- there is the cave Biela jaskyňa (the White Cave) in the gorge, accessible for public;
- it is a big issue that the village Letanovce, which cadaster the gorge is located in, does not collect any entrance fee and so almost does not maintain technical aids so they permanently deteriorate.

d) Known present impacts of tourism

- there are sections damaged by erosion in the gorge:
  - at the intersection with the trail via Prielom Hornádu;
  - in the first parts of the gorge;
  - in places where technical aids are damaged;
  - in final sections below Kláštorisko.

e) *Anticipated impacts of tourism in close future*

Worsening of negative impacts is expected due low-to-no maintenance of technical aids so tourists will bypass damaged aids via rock parts damaging vegetation cover and eroding soil.

f) Typical most frequent ascent and descent routes at zostupové trasy

Ascent

The trailhead is located in the Prielom Hornádu valley so first it is necessary to hike through half of Prielom Hornádu, what is real hike itself. Traditional access to the trailhead was from Podlesok (so called Hrdlo Hornádu, „the Throat of the Hornád River“) for decades. However, a few years ago the Roma settlement was removed from the Letanovce cadaster, so parking

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in the Letanovce area is safe now and it is free of charge (the Letnavce administration is not collecting any fee). For this reason, more and more visitors are parking their cars in the Letanovce area, where there are however no parking slots and any other infrastructure.

The first part of the gorge is steeper and the trail climbs along several waterfalls, then at the final stage of the gorge the inclination is lower and valley is wider. The hike ends at Kláštorisko – the restaurant, the archaeological park and symbolic cemetery of victims of Slovenský raj.

Descent:

There are more descent routes. The most logical one is the yellow trail from Kláštorisko down to Prielom Hornádu. It is steep rocky switchback trail, pretty dangerous when wet. It is damaged by erosion (due to high number of tourists and its steepness. There are also many other trails from Kláštorisko which may be used after climbing the Kláštorná gorge so it is not possible to state explicitly which one is the most frequent as the descent trail of the gorge.

g) Brief description of plans of the NP administration in area of nature protection and visitor's management in the gorge

- it is necessary to be prepared for an increase of importance of attendance in upcoming years as far the Roma settlement close to Letanovce was removed so access from that direction will be used more often as visitors learn about this option;
- the gorge will be used as an alternative destination in case of high water level in other gorges;
- it is necessary to invest in fixing and improving technical aids in the gorge which are among the worst in Slovenský raj, due lack of real ownership and thus lack of care and money;
- the character of Kláštorisko as destination is to be kept, however the quality of services has to be improved as it is one of the worst in Slovenský raj.

1.2.5.5 Kyseľ

a) Geographical information – location in the project area, length, depth and other information

The gorge is part of system of 3 „Kyse gorges – Kysel" (via ferrata), Veľký Kyseľ and Malý Kyseľ. It is the lowest and the most Eastern one of them. It means after passing of the Kyseľ gorge (via ferrata) you are coming to an intersection where Malý and Veľký Kyseľ's begin and you can continue to one of them (or you can use the blue trail to come to Kláštorisko).

The gorges of Veľký and Malý Kyseľ are two individual gorges and they are described in an individual chapter. This chapter describes only the Kyseľ gorge (also known as Via Ferrata).

The Kyseľ gorge begins at its mouth to the Biela Voda stream and end at the trail intersection Kyseľ-rázc.

The lowest point:	565 m n. m.
The highest point:	750 m n. m.
Elevation:	259 m
Length:	2.2 km

The most important waterfalls (in order of hike):

- Barikádový, Kaplnkový
- Roklina, vodopád v Temnici
- Obrovský vodopád
- Karolínyho vodopád.

Though the Kyseľ gorge is one of the nearest ones to Spišská Nová Ves, the main centre of the region, its exploration was slow. The first booked exploring tour was the 27th of June 1900, however the first complete passage of the gorge was successful only at 25.8.1907 by Kazimír Kozlovský and his friends. First technical aids, metal ladders and footbridges, were installed in 1925 (by workers of the locomotive depot in Spišská Nová Ves). The Mountain Rescue Service installed necessary aids above Obrovský vodopád (the Giant Waterfall), which was bypassed by hikers before.

Originally, the Kyseľ gorge was a standard gorge accessible by technical aids. However, large fire destroyed more than 30 ha of forest in 1976 and the trail became dangerous due to falling trees and rocks and unstable terrain. For this reason, the gorge was closed to the public (except a short section at the very end) and all technical aids were removed. It was also very supportive for nature protection as far habitats in the gorge became undisturbed.

The closing period of 40 years contributed to the renewing of nature substantially. Burnt slopes are stabilized and new habitats appeared, mostly European larch on cliffs and small-leaved lime with great maple on scree slopes. Significant volume of debris fallen down to the gorge which decreased a height of waterfalls and contributed to creating of habitats of a butterbur which is intensively trampled in other gorges which are accessible in the classic way.

The gorge was opened again only in 2016 (40 years after the fire). It is not a typical gorge hike with technical aids, but it is a via ferrata (from the trailhead to Obrovský vodopád) – easy bouldering/climbing trail with use of light mountaineering equipment (see below)

b) Level and object of protection

The gorge is located in A-zone of the national park, 5th level of protection. For object of protection see general description of gorges.

c) Tourism: character of hike, number and types of technical aids, number of visitors and position among other gorges from the attendance point of view:

- The „hike“ in the Kyseľ gorge is very specific. The gorge was closed for 40 years so natural processes created real wilderness there: fallen trees, screes and undisturbed habitats create spectacular scene for visitors who are not walking on the bottom of the gorge but traversing its walls using the via ferrata line. It was also one of two goals of opening of the gorge in form of via ferrata – to show visitors wild nature of the gorge. The second goal was to protect habitats – the via ferrata leads visitors off sensitive areas and habitats so they do not trample and damage them.
- There is specific tourist regime in the gorge which is defined in Operation rules (Prevádzkový poriadok), elaborated and adopted in wide cooperation of participating institutions. Via ferrata equipment is obligatory (sit harness, helmet) as well as good hiking boots. Visitors may rent equipment at several places in Slovenský raj and its

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wide vicinity (e.g. hotels, restaurants, sport shops...) and new rental places are developing.

- The via ferrata equipment is not obligatory in the short upper section (from Obrovský vodopád to Nad Kyseľom intersection) which is bidirectional and it is not via ferrata. Another specific section is from Karolínyho vodopád to Kyseľ rázc, which is one-directional and keeps via ferrata character but the equipment is not obligatory.
- The whole trail in the Kysel gorge is interpretational trail.
- The ferrata is of category C (in 5-grades of Schalle scale), there 510 footsteps, 420 m of safety iron rope and 180 consoles.
- The entrance fee is 5 Euro, it is income of the ŠOP SR. Tickets are sold in the gateway tourist centres. There is no permanent check point but rangers may check visitors in the gorges randomly. The informational leaflet is included in the entrance fee.
- The via ferrata in Kysel is an extraordinarily successful project. Nobody expected such high interest in visit of the gorge and so much positive feedback.

d) Known present impacts of tourism

The Kysel gorge was opened for only two seasons, which is not enough time for demonstration of impacts. In any case, some problems rose after opening in 2016 in the lower part where visitors deviated from the trail at higher water level and trampled vegetation. For this reason, additional footsteps and rope were installed so people use them when water is higher.

Another impact rose on descending yellow trail from Kláštorisko to the via ferrata trailhead which got eroded a lot. That is why the NP administration installed technical aids (footsteps, chains, wooden railings) also in this trail in 2017.

e) Anticipated impacts of tourism in close future

Increasing of interest in via ferrata is anticipated what could be potentially dangerous for habitats. However, the NP administration is watching the gorge thoroughly and is prepared to react on any indications by flexible maintenance of via ferrata components, small adjustments of terrain, etc. So no significant impacts should come in close future.

f) Typical most frequent ascent and descent routes at zostupové trasy;

Access to the trailhead:

The most frequently used access route is blue then green trails Čingov – Biely Potok – Kysel ústie. Also direction from Podlesok by various trails to Kláštorisko and then along the yellow trail to Kysel ustie is used, though it is more demanding. Use of direction from Letanovce along yellow trail to Letanovský mlyn then the blue trail to Biely Potok and the green one to Kysel-ustie raises after removing of the Roma settlement from Letanovce. Anyway, mentioned routes are not the only one, the Kysel gorge is located in the central part of Slovenský raj so there are more access routes from different directions.

Descent:

Thanks to the central location of the end of the Kysel gorge and also its continuation in Velký and Malý Kysel there is no main descent route. More hikers use probably the blue trail

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Kláštorisko – Čertova sihoť – prielom Hornádu and the red trail Kláštorisko – Letanovský mlyn, but they are far not the only ones used.

g) Brief description of plans of the NP administration in area of nature protection and visitor's management in the gorge

The NP administration plans to continue operate this product in upcoming years without significant changes as far it is proven as very successful. The emphasis will be put in elimination of any negative impacts so the NP administration will continue monitoring impacts and manage them immediately. No change in opening season is planned, as the gorge is open only in season from June 15th to October 30th.

1.2.5.6 Veľký Kyseľ

a) Geographical information – location in the project area, length, depth and other information

The gorge is located in central part of the project area. It is part of the 3 Kysels gorges (see part a. in description of Kysel above) and it is one of two continuations of the Kyseľ gorge (via ferrata).

The lowest point:	735 m n. m.
The highest point:	1004 m n. m.
Elevation:	269 m
length:	1.75 km

Important waterfalls (name, height) *(vodopád = waterfall)*

- Pawlasov vodopád: 5.5 m
- Vodopád ochrancov prírody: 10 m
- Bariérový vodopád: 10 m
- Bočný bariérový vodopád: 17 m

It is the most recently accessed gorge (by classic way), only in 1995. The NP administration deliberated closing of this gorge after opening of the Kyseľ via ferrata but after all it will remain accessible.

b) Level and object of protection

The gorge is located in A-zone of the national park, 5th level of protection. For object of protection see general description of gorges.

c) Tourism: character of hike, number and types of technical aids, number of visitors and position among other gorges from the attendance point of view:

The hike in the gorge is rather easy in comparison with other gorges. Only the access is difficult because it is long. There are several waterfalls in the gorge; the number of technical aids is average. No counting was done in the gorge, however due its remoteness and low attractiveness it is one of the least visited gorges.

The hike is about 1h 15mins, in the gorge itself. The hike is usually incorporated in longer tours and from 2016 it is often continuation of the Kyseľ via ferrata.

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d) Known present impacts of tourism

Thanks to very low number of visitors there are no significant impacts of tourism. Occasionally some trampling appeared when tourist bypassed fallen tree.

e) Anticipated impacts of tourism in close future

No significant impacts are anticipated.

f) Typical most frequent ascent and descent routes at zostupové trasy

There are no typical routes for access and departure as far it is centrally located gorge with more access and departure routes. Usually a hike in the gorge is incorporated in longer hikes in the area. It is supposed that most visitors are coming from Kláštorisko and leaving to Podlesok. Some part of visitors are coming from the Kyseľ via ferrata.

g) Brief description of plans of the NP administration in area of nature protection and visitors management in the gorge

No plans of the NP are connected with this gorge and after some deliberation of closing it remains open for public. The NP will monitor impacts of tourism. It is expected the gorge will not be much visited in future.

1.2.5.7 Malý Kyseľ

a) Geographical information – location in the project area, length, depth and other information

The gorge is located in central part of the project area. The creek which flows through the gorge rises under Žliabky (the top of the Suchá Belá gorge from other side of the ridge).

The lowest point:	735 m n. m.
The highest point:	959 m n. m.
Elevation:	224 m
length:	1.75 km

Important waterfalls (name, height) *(vodopád = waterfall)*

- Malý vodopád: 7 m
- Machový vodopád: 8 m

b) Level and object of protection

The gorge is located in A-zone of the national park, 5th level of protection. For object of protection see general description of gorges.

c) Tourism: character of hike, number and types of technical aids, number of visitors and position among other gorges from the attendance point of view:

It is a marvellous gorge, one of the most distinctive in Slovenský raj. Machovy vodopár (Moss waterfall) is considered as the nicest in Slovenský raj. The gorge still keeps a „typical “character as all the technical aids are wooden.

The hike in the gorge is not difficult in comparison with other gorges. Only the access is difficult because it is long. The number of technical aids is average. No counting was done in

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the gorge, however due its remoteness it is one of the least visited gorges, though more than neighbouring the Veľký Kyseľ gorge as far the return is easier from Žliabky where it ends, than form end of the Veľký Kyseľ gorge.

The hike is about 1h 15mins, in the gorge itself. The hike is usually incorporated in longer tours and from 2016 it is often continuation of the Kyseľ via ferrata.

d) Known present impacts of tourism

Thank to low attendance no significant impacts are observed. Trampling is not present except occasional cases of bypassing of fallen trees.

e) Anticipated impacts of tourism in close future

No significant impacts are anticipated.

f) Typical most frequent ascent and descent routes at zostupové trasy

There are no typical routes for access and departure as far as it is a centrally located gorge with more access and departure routes. Usually a hike in the gorge is incorporated in longer hikes in the area. It is supposed that most visitors are coming from Kláštorisko and coming back to Kláštorisko or leave. Some visitors are coming from the Kyseľ via ferrata.

g) Brief description of plans of the NP administration in area of nature protection and visitors' management in the gorge

No plans of the NP are connected with this gorge. The NP will monitor impacts of tourism. It is expected the gorge will not be much visited in future.

1.2.5.8 Sokolia dolina

a) Geographical information – location in the project area, length, depth and other information

The Sokolia dolina gorge is one of the wildest in Slovenský raj. It is located on Eastern edge of the Glac Plateau.

The lowest point:	572 m n. m.
The highest point:	1002 m n. m.
Elevation	430 m
length:	2.4 km

Important waterfalls (name, height) *(vodopád = waterfall)*

- Bočný vodopád: 8 m
- Skalný vodopád: 3,5 m
- Závojový vodopád: 75 m (the highest one in Slovenský raj)
- Vyšný vodopád: 15,5 m

The Sokolia dolina gorge was one of the last ones explored. The first passage (in both directions) was done only in 1910, L.Rokfalussy's groups did it from the bottom up and A. Mervay's group in up down direction. The first winter passage was in 1912. It was marked as

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the tourist trail in 1913. The trail was completely changed in 1979-1981, when trail was straightened directly along waterfalls (it bypassed waterfalls in exposed traversed before).

b) Level and object of protection

The gorge is located in A-zone of the national park, 5th level of protection. For object of protection see general description of gorges.

c) Tourism: character of hike, number and types of technical aids, number of visitors and position among other gorges from the attendance point of view:

- it is one of the most difficult hikes in Slovenský raj thanks combination of more aspects: it is very remote, the elevation and steepness is high, there is the highest waterfall in Slovenský raj which is accessed by technical aids in elevation 80 m (!) with no belay ...;
- the gorge is very attractive and scenic but it is not visited very much, definitively many time less than neighbouring Kyseľ via ferrata ... ;
- technical aids are not in good shape as the gorge is located in the Letanovce cadaster which does not collect any fees so it does not invest in maintenance; technical aids are not utterly dangerous, but safety may be an issue at some spots.

d) Known present impacts of tourism

Thanks to low attendance there are no significant impacts observed in the gorge. Some spots are eroded and signs of vegetation trampling are present due bypassing of fallen trees.

e) Anticipated impacts of tourism in close future

Thanks to low attendance no increase of impacts is anticipated.

f) Typical most frequent ascent and descent routes a zostupové trasy

There are no typical routes for access and departure as far as it is a centrally located gorge with more access and departure routes. Usually a hike in the gorge is incorporated in longer hikes in the area.

The shortest and most comfortable access is from Čingov (6 km, 2 hours), but visitors are coming also from South of Slovenský raj through Geravy and Klauzy (though it is much longer and much more difficult).

Descent route is usual from the end of the gorge to Bykárka and then to Klauzy and then to Čingov or Geravy. All variants are pretty long.

Ice-climbing is allowed, the icefalls are the most difficult in Slovenský raj.

g) Brief description of plans of the NP administration in area of nature protection and visitors management in the gorge

The NP administration intends to keep the gorge open for public despite low maintenance. However, the gorge definitively needs improvements in management. Due to a lack of real ownership, technical aids are not maintained. This may bring problems in close future.

No exactly defined plans how to solve it, but solution is necessary.

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1.2.5.9 Zejmarská roklina

a) Geographical information – location in the project area, length, depth and other information

The Zejmarská gorge is the only one in the South part of Slovenský raj. The creek which goes through it rises at the very strong karst spring Zejmarská studňa (Zejmar Well) at Geravy plateau and empties into Hnilec at the Mlynky village. The gorge is short but nice; there is a system of several waterfalls.

The gorge was accessed for public by the Mountain Rescue Service in 1963.

There is a specific geographical aspect: the gorge is located in the cadaster of the village Smižany (12 km by air, 35 km by car) which is collecting fees, though it is only about 400 meters from village Mlynky's part Biele Vody.

The highest point:	1032 m n. m.
Elevation:	228 m
Length:	1 km

Important waterfalls (name, height) *(vodopád = waterfall)*

-- Vodopády kpt. Nálepku: 22.5 m

b) Level and object of protection

The gorge is located in A-zone of the national park, 5th level of protection. For object of protection see general description of gorges.

c) Tourism: character of hike, number and types of technical aids, number of visitors and position among other gorges from the attendance point of view:

It is the only gorge in south part of Slovenský raj, so it is a popular trip destination despite it is the shortest gorge. Daily visit number is above 200 visitors in summer season. The hike is steep but not difficult, as it is short. There is only one longer section of technical aids, and large part of them is not in good shape. The hike ends on Geravy (restaurant) from which hikers either continue in Slovenský raj or return to Geravy.

The situation of the gorge may change if the chair lift from Dedinky to Geravy will be re-opened (what seems to be probable in a couple of years), what will attract more people in the gorge as far hike will become even less difficult (thanks avoiding rocky steep descending trail from Geravy to Dedinky).

d) Known present impacts of tourism

Due to the poor shape of technical aids and some fallen trees there is some erosion on bypasses of problematic places. There are a couple of dead end diversions from the main trail to get closer to the waterfalls (to photograph them or so) which causes erosion.

The impacts are visible on descend green trail from Geravy to Dedinky, which is hardly eroded on some spots and may be dangerous for weaker or tired tourists.

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e) Anticipated impacts of tourism in close future

If the chair lift is opened, present impacts on both ascent and descent trails may be strengthened, mostly erosion of soil. If the chair lift is not opened, present impacts are about to stay on the same level (and should be managed).

f) Typical most frequent ascent and descent routes at zostupové trasy

The gorge begins in settlement Biele Vody (part of the Mlynky municipality), accessible by car, parking lots are in the settlement. However, many hikers park their car in nearby Dedinky, which is the destination of the green descent trail, then walk from Dedinky to Biele Vody along the red trail (1,5 km).

Most common descent trail is the green one from Geravy to Dedinky. In some parts it is steep and rocky, slippery when wet. It is eroded on many spots.

The chair lift might be re-opened in a couple of years which will completely change the behaviour of tourist as far as it will make descent easy and fast.

g) Brief description of plans of the NP administration in area of nature protection and visitors' management in the gorge

- the gorge will remain the only one open to public in south part of Slovenský raj, no more gorges will be open;
- it is urgent to fix/replace damaged technical aids in the gorge, thus it is necessary to negotiate with the owner – the Smižany village;
- ski-climbing will be allowed in new Návštevný poriadok (today special permit is necessary);
- rock-climbing will not be allowed at all, though there is interest of clubs;
- if the chair lift Geravy-Dedinky will be re-open (what is probable as far the governmental subsidy is approved) it will be necessary to assess whole area again.

1.2.5.10 Prielom Hornádu

a) Geographical information – location in the project area, length, depth and other information

The Prielom Hornádu gorge is not a typical gorge as it is much wider than the other gorges, the river is much bigger than creeks in other gorges and the elevation difference is insignificant, it is more or less flat. The cliffs are also much higher, up to 300 m at some sections.

It begins at the confluence of the Hornád river and Veľká Biela voda stream on the north-west corner of Slovenský raj and ends at Smižianska Maša on its northern edge close to the Smižany village.

The lowest point:	488 m n. m.
The highest point:	546 m n. m.
Elevation:	58 m
Length:	16 km

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The first passage of Prielom Hornádu was done in 1906 on frozen river. The first rafting is booked in also in 1906. However, the gorge was not passable for a long time. The first section of trail along the river bank was launched in 1960 but trail along the whole gorge was completed only in 1974.

b) Level and object of protection

The gorge is located in A-zone of the national park, 5th level of protection. For object of protection see general description of gorges.

c) Tourism: character of hike, number and types of technical aids, number of visitors and position among other gorges from the attendance point of view:

- it is probably the most visited tourist trail in Slovenský raj, more than 1000 visitors daily in the summer season;
- it is easily accessible and very attractive; there are several trail entrances, two main are at Hrdlo Hornádu on the west and Čingov on the east end of the gorge, however it is accessible also on more points either from North (from Spiš region) or from South (from Slovenský raj);
- it is a long hike of 12 km, more than 4 hours, in the gorge itself; usually it is combined with other transportation (car, bus, train);
- thanks to more access trails many hikers do just a part of the gorge trail (or combine it with the hike in inner Slovenský raj);
- though there is no elevation difference, it is not an easy hike as there are many technical aids and the trail is rocky and rooty, rolling up and down, slippery when wet;
- there are 7 iron footbridges, 320 m of chains in exposed rocky cliffs, 140 footsteps and about 70 m of wooden boardwalks;
- some measures against trampling of vegetation were implemented in 2005 (Life project), many of the adjustments are destroyed (as they were made of wood mostly), but they accomplished their purpose as they redirected hikers for many years and damaged habitats are fixed and functional now;
- from 2016 it is possible to canoe the river (only from 1.5. to 31.10., only if water is from 70 to 110 cm (about 50% of a summer season) and maximally 70 boats a day);
- it is allowed to walk, ski and skate the frozen river (it get frozen only once in several years);
- technical aids are owned by 4 villages – Hrabušice, Letanovce, Smižany and Spišské Tomášovce; through Letanovce own technical aids in middle part of the gorge, it does not collect any fee thus does not invest in maintenance of aids which are in bad shape;
- there are two sites for rock-climbing – Tomášovský výhľad and Letanovský mlyn;
- there is one site for ice-climbing: Letanovský mlyn;
- As a result of its easy accessibility, removing of the Roma settlement from Letanovce and increasing popularity of hiking raise of number of visitors is expected in upcoming years.

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d) Known present impacts of tourism

Due to high number of visitors the load of the trail is high. The most common impacts is erosion of the trail and trampling of vegetation on many spots. There are many places which need anti-erosion measures.

e) Anticipated impacts of tourism in close future

The impacts will strengthen in upcoming years probably thus they should be managed.

Most of technical aids need repair or even replacement; most of them are original ones from 30-40 years ago.

Canoeing on the river causes insignificant impacts, which are anyway thoroughly monitored and activity is strictly regulated.

f) Typical most frequent points of enters and departures

The most frequent entrance/leaving points are Hrdlo Hornádu (walking distance from Podlesok) and Čingov, both with good infrastructure and well accessible.

Another common enter/departure point is Letanovský place, its importance is increasing after removing of Roma settlement near parking place, so parking is safe now and number of visitors who use this entrance is raising.

Tomášovský výhľad is also often used as far it is close to parking place in Spišské Tomášovce, however there is big elevation difference so it is not easy trail (about 100 m elevation loss on ca 350 meter of trail).

There are more access points so separated sections of Prielom Hornádu are often combined with another hikes and it is also route to another gorges, e.g. Kláštorská gorge, Sokolia gorge, Ferrata Kyseľ.

g) Brief description of plans of the NP administration in area of nature protection and visitors management in the gorge

Canoeing: keep current status; cut and/or remove fallen trees regularly in inevitable scale; transform existing building at the starting point to a base for canoeing (with office, changing room, WC); removing barrier in the river at Smižianska Maša to lengthen of rafting to Smižianska Maša.

1. Rock-climbing: keep two sites – Tomášovský výhľad and Letanovský mlyn.
2. Ice-climbing: keep Letanovsky mlyn as the only site.
3. Hiking:
   - complex reconstruction of sections of trail (technical aids);
   - implement quality anti-erosion measures on damaged and heavy-loaded sections of the trail;
   - build quality cycle path „Ukrajina“ (north from the gorge, in Spiš region) to allow multisport activities and thus decrease load of the gorge itself;
   - improve informing of interested public about winter hikes (XC skiing, skating) on the river;
   - build good trailhead in Letanovský mlyn including good parking slots but no accommodation.

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1.2.6 Field assessment of existing tourism infrastructure

The assessment of the gorges was done from October 12 to November 15, 2017 by the rangers of the NP Slovenský raj administration Vladimír Mucha and Luboš Cibuľa. They hiked each gorge and all relevant descent trails, recording present issues, their reasons and possible solutions. Outputs were made for each trail:

- map with marked problem spots (see Annex);
- list of problem spots, for each spot: description of problem and its solution, (see Annex, in Slovak).

Some level of damage was identified in each gorge and descent trail. The most common impacts are trampling of plant habitats and a soil erosion/removal. Generally, the impacts are caused by walking off trail, due several reasons - missing/damaged technical aid or its components, trying to avoid high water, trying to shorten switchbacks, widening of trails due some obstacles on the trail (i.e. a fallen tree), indefinite trail.

The most impacted areas are Prielom Hornádu, lower part of Suchá Belá and descent trails from Kláštorisko to Prielom Hornádu and to Podlesok. It corresponds with the fact that they are far the most visited and loaded areas. Other areas are also impacted but the need of fixing is relatively lower as far they are not visited as much as area between Prielom Hornádu and Suchá Belá.

In total 19 trails (58.5 km) were assessed:

Ascent gorges (total: 39 km):

1. Kláštorská roklina https://en.mapy.cz/s/2gF2u
2. Malý Kyseľ https://en.mapy.cz/s/2gF3Z
3. Piecky https://en.mapy.cz/s/2gF5k
4. Prielom Hornádu https://en.mapy.cz/s/2gEYz
5. Sokolia dolina https://en.mapy.cz/s/2gF2Y
6. Suchá Belá https://en.mapy.cz/s/2gFh4
7. V Kyseli – Kyseľ, rázcestie https://en.mapy.cz/s/2gEVa
8. Veľký Kyseľ https://en.mapy.cz/s/2gFgd
9. Veľký Sokol https://en.mapy.cz/s/2gF9F
10. Zejmarská roklina https://en.mapy.cz/s/2gF1L

Descent (total: 19.5 km)**:**

1. Kláštorisko – Biely potok, rázc. https://en.mapy.cz/s/2gEZP
2. Kláštorisko – Kláštorská roklina, ústie https://en.mapy.cz/s/2gF7c
3. Kláštorisko – Letanovský mlyn https://en.mapy.cz/s/2gF0M
4. Palc, rázcestie – Píla, Piecky https://en.mapy.cz/s/2gF6i
5. Palc, rázcestie – Sokol, horáreň https://en.mapy.cz/s/2gF5S

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6. Pod Bykárkou – Klauzy https://en.mapy.cz/s/2gEVR
7. Pod Kláštoriskom – Hrdlo Hornádu https://en.mapy.cz/s/2gF85
8. Pod Vtáčim Hrbom – Podlesok https://en.mapy.cz/s/2gF95
9. Tomášovský výhľad – Pod Tomášovským výhľadom https://en.mapy.cz/s/2gF0k

1.3 Beschreibung des Anreiseverhaltens der Besucher in die Region (womit, wo und wie lange halten sie sich dort auf, z. B. Haupteingänge / Zugangspunkte); zusätzlich zur Erfassung der Besucherströme

Access of visitors

This chapter is to a large extent based on expert opinion which is coming from personal knowledge of tourist circumstances and from available statistics which are, however, insufficient. That is why (mostly quantitative) information stated below may show some deviations and the structure of provided information is not systematic.

Available statistics of the Slovenský Raj National Park administration show that number of visitors in the area raises. Estimated number of visitors in 2017 is about 620.000 visitors, the largest part of them in the summer season. The winter attendance is about 1-6 % of the summer one (speaking only about hikers/walkers in gorges, not taking in account visitors of ski resorts, hotels and restaurants who are not visiting gorges).

The most important gateways to the area of the national park are stated below, ordered according to estimated number of visitors. We use the term „gateway“ as a place on the edge of the project area where people are coming by cars, public transportation, bicycles or walking and enter into the project area. The main functions might be parking, meals providing, information providing and renting of equipment, while accommodation is just secondary and not intensive function.

1. **Podlesok tourist centre** (https://en.mapy.cz/s/2gdzc) at the Hrabušice village, direct access point mainly to the Suchá Belá gorge and the Prielom Hornádu gorge (via Hrdlo Hornádu), to wide spectrum of hiking trails and important cycling trail to inner parts of the project area.

   It is a pretty well developed centre with some accommodation in category of pension and camping & cabins), restaurants and buffets, 2 parking lots with high capacity, two information centres, grocery shop, sport infrastructure, bicycle rental, resting places, short interpretation trail).

   The number of visitors of Podlesok during the summer season 2017 was 136,813 persons. The largest part of them was visitors from Slovakia and Czech Republic, then from Poland, Hungary, Germany, Netherland and Israel. The average length of stay was 3-4 days, visitors from Netherland, Belgium and Germany use to stay longer.

   Important aspect of Podlesok is close proximity (3km, what is a walking distance) of the Hrabušice village with high number of accommodation (about 1200 beds).

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The numbers of guests in the Podlesok Autocamping and of cars at the Podlesok parking lots make some picture about numbers of visitors of Podlesok and about attendance course (see table at the end of this chapter).

2. **Čingov tourist centre** (https://en.mapy.cz/s/2gdzl, the cadaster of Spišské Tomášovce), direct access point to the Prielom Hornádu gorge, to wide spectrum of the hiking trails to inner parts of the project area and visited MTB trail. There are parking lots of sufficient capacity, restaurants and buffets, two information centres, sport equipment rental, accommodations in category of hotel and pensions.
3. **Villages Dedinky and Mlynky (incl. Stratenská Píla),** https://en.mapy.cz/s/2gdzt, access point to the Zejmarská roklina gorge, Geravy, Zajfy, etc.), trails to inner part of the project area and a few cycling trails.

   There are insufficient parking lots, many restaurants, accommodation in categories hotel, pension and camping & cabins, sport equipment rental, ski slope, etc.

Other gateways of lower importance:

- **Stratená - Dobšinská ľadová jaskyňa (Dobšiná Ice Cave),** https://en.mapy.cz/s/2gdzA, access to some southern parts of the project area; it is itself important highly visited place with the main attraction the ice cave, UNESCO World Heritage site, with parking lots high capacity, tourist information centre, restaurant, accommodation (in category of pension) nearby;
- **Hrabušická Píla** https://en.mapy.cz/s/2gdzN – entrance to the Piecky and Veľký Sokol gorges and to trails to inner part of the project area; there are parking lots, restaurant, accommodation (category pension); the number of cars at the Píla parking lots makes a picture about numbers of visitors to Piecky and Veľký Sokol and about attendance course (see tables at the end of this chapter);
- **entry to the national park close to Letanovce** https://en.mapy.cz/s/2gdzT – entrance to Prielom Hornádu, Letanovský Mlyn, trails to inner part of the project area and dead-end cycling trail; unofficial parking place;
- **entry to the national park close to Spišské Tomášovce -** https://en.mapy.cz/s/2gdA9 access to the Tomášovský výhľad viewpoint and access to the Prielom Hornádu gorge and trails to inner part of the project area; unofficial parking place;
- **Smižany – Maša** https://en.mapy.cz/s/2gdAg – secondary access to the Čingov centre; unofficial parking place;
- **Spišská Nová Ves – Košiarny Briežok** https://en.mapy.cz/s/2gdAw – a few trails to eastern and inner parts of the project area, the MTB trail.

The number of guests of accommodation facilities in individual municipalities is the highest in Spišská Nová Ves, followed by Hrabušice and Smižany. These are three main accommodation places; all other villages show much lower numbers. They are e.g. Čingov, Stratená, Dedinky&Mlynky, Vernár, etc. More than 60% of guests are Slovak, however specifically in villages Hrabušice and Stratená about 70% of guests were from abroad (data from 2012, newer are not available).

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Slovenský raj is in general visited mostly by Slovak visitors (43%), followed by visitors from Czech Republic (21%), Poland (16%), Hungary (6%), Israel (5%), Germany (2,5%) and other countries (data from the NP administration). An increase of visitors from Israel is significant in last years, caused by direct charter air connection from Tel Aviv to Poprad (4.353 passengers in 2017). They usually stay in pensions less in hotels. Data about occupancy of individual accommodation facilities are not available.

Information about the structure of visitors (age, sex, social status) of Slovenský raj is not available. By our expert opinion the majority of tourists of the project area are people of the main productive age (25-44 years), share of kids and youngsters may increase in late spring and early summer what is season of school trips. The share of seniors is lower due to the level of difficulty of gorge hikes. A large part of visitors is families (except families with kids of very low age). We suppose the sex structure is balanced.

From the point of view of length of stay, the largest part are one-day visitors with no overnight in the area, followed by 3-4 days staying visitors (longer weekends, city breaks). The average length of stay of overnighting visitors is 2.5 night (2012), in the Vernár village it is 5 nights.

The most common motivation to come to the region is personal recommendations, followed by interesting internet information. The most common kind of tourism is holidays and relax in mountains.

The most attractive and visited sites are in order Dobšinská ľadová jaskyňa (Dobšiná Ice Cave), the Suchá Belá gorge and the Prielom Hornádu gorge. A new trendy attraction is the Kysel via ferrata which was visited by about 15.000 hikers in 2017. Canoeing of Hornád has a potential of increase, however thanks to low level of water the number of visitors was lower, estimation is 1000 persons (500 in May and some more in June-September when the water level was suitable only in several days).

Month / Year	**2015**	**2016**	**2017**
January	0	0	0
February	0	0	0
March	0	35	0
April	151	167	257
May	790	822	900
June	1610	1640	1704
July	4634	4756	5101
August	4700	4808	5184
September	1302	1298	1383
October	308	227	306
November	41	37	52
December	0	16	60
TOTAL	**13536**	**13806**	**14947**

Table 7: Number of guests of the Podlesok Autocamping

Month / Year	2015	2016	2017
January	0	0	356
February	0	0	190
March	0	304	80
April	415	558	905
May	1494	2837	2198
June	1996	2560	3300
July	4851	8293	8101
August	6796	10971	10546
September	2133	4654	3140
October	1098	1460	1401
November	141	140	140
December	0	0	31
TOTAL	**18924**	**31777**	**30388**

Table 8: Number of cars at the Podlesok parking lots

Month / Year	2015	2016	2017
January	0	0	0
February	0	0	0
March	0	51	0
April	70	90	155
May	365	406	422
June	352	400	490
July	903	1094	1049
August	1035	1355	1156
September	404	582	499
October	163	131	186
November	0	7	0
December	0	0	0
TOTAL	**3292**	**4116**	**3957**

Table 9: Number of cars at the Pila parking lots

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1.4 Beschreibung der geplanten Aktivitäten für Naturschutzmaßnahmen und Infrastruktur sowie alle anderen Maßnahmen des Nationalparks für die Schluchten

Description of planned activities for nature conservation measures and planned infrastructure by the National Park

This chapter describes measures, which are planned in short and mid-term by different actors in the region, e.g. NP administration, communities in order to reduce human induced impacts in the gorges and to limit possible dangers due to malfunction of infrastructure. The costs for implementing these measures are partially covered by state budget and entrance fees collected by the communities.

Measure	**Purpose of the measure. Description of the measure.**	**Deadline**	**Level of preparation**	**Indicative budget**
Zoning of the NP	Assuring of strict protection of relevant part of the gorge project area. The gorges are located in the Zone A or B. The Zone A is completely non-intervention evolution one, walking along marked trail is allowed. The Zone B allows interventions in order of reconstruction of forest habitats with final goals to achieve the Zone A status.	2016	realized	Approx. 50.000 € per year (compensations to non-state forest owners).
Applying of mechanism of closing of gorges to tourists	Protection of sensitive habitats of the gorges' bottoms when the water level is high so visitors are walking in slopes and damaging those habitats. The water measuring device will be installed in the Suchá Belá Gorge. It will send signal to immediate closing of 9 gorges when the water level will be extremely high.	Up to 3 years	Partially prepared	20 000 €
New technical aids in gorges	Protection of sensitive habitats and species of the gorges' bottom during general conditions. Installing of new ladders and footsteps on spots where visitors walking on the bottom of gorge are eroding soil and damaging habitats	Up to 3 years	Fully prepared	30 000 €
Fixing and continuous maintenance of existing technical aids in gorges	Protection of sensitive habitats and species of the gorges' bottom during general conditions. Replacement of wooden ladders, replacement of footsteps, replacement of iron ladders for stainless ones, maintenance and fixing of footbridges, etc.	Yearly	Prepared according to needs	Approx. . 50.000 € per year

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Fixing or re-directing of damaged trails' sections in gorges and at descent trails	Prevention of soil erosion and damaging of habitats and species along damaged trails, where visitors walk alongside trail to avoid damaged section. Fixing of the most devastated trails sections by their stabilisation, applying wooden and metal constructions, handrails and bars.	Up to 3 years	Fully prepared	75 000 €
Improving of the Information centre Podlesok and establishing of adjacent information areal	Increasing of awareness of visitors about natural values of gorges. Opportunity to try & train technical aids, instructing how to behave on a trail / in a gorge to avoid damaging of habitats and species. Creating of new modern exposition about the gorges of the national park in the information centre. Building of training trail in nearby deepened riverbed with all kinds of technical aids – wooden and metal ladders, footsteps, footbridges, via ferrata...).	Up to 3 years	Partially prepared	150 000 €
Automatic counters of hikers in 3 gorges	Counting of visitors in 3 gorges in order to get exact picture about visiting of all 10 gorges (7 gorges will be compared regularly by manual countings). Automatic counters will be located in Veľký Sokol (less visited but very important due its natural values), Kyse Via Ferrata and Prielom Hornádu (massy visited canyon). One counter is already installed in Suchá Belá, the most visited gorge.	Up to 3 years	Fully prepared	15 000 €
Finalizing and adopting of new visitors' directive.	Identifying of places and routes for tourism – hiking, cycling, horseback riding, ski (alpine and nordic), rock- and ice-climbing, camping, parking ...	2018	Fully prepared, at the moment in a process of adoption by state administration	-

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1.5 Beschreibung der geplanten Aktivitäten für die Infrastruktur und sonstige Maßnahmen durch die den Schluchten angrenzenden Gemeinden / Selbstverwaltung

Description of the planned tourism infrastructure

Some of the most important realized measures in recent years are listed below (see 1.5.3).

Planned tourism development measures are summarized in the "Strategy of development of the region Slovenský raj with emphasis on tourism development for years 2015-2020 with outlook to 2025" (hereinafter the Strategy), except two suggested by the NP administration (see 1.5.2). The Strategy was elaborated for area of 18 villages and was adopted both by the OOCR Slovenský raj & Spiš and the Mikroregiónu Slovenský raj – sever.

The Strategy perceives the region in close relationship of three aspects:

- region, where people live;
- protected region / national park;
- tourism destination.

The Strategy defines 7 development goals for 2015-2020 (2025); all of them are focused on tourism development:

1. To improve accessibility of Slovenský raj what is the precondition of development of region and tourist destination NP Slovenský raj.
2. To improve safety in the region and in tourism destination NP Slovenský raj.
3. To increase standard a quality of services by building of infrastructure and public facilities and by improving of aesthetic of settlements and tourist centres.
4. To decrease vulnerability of the region and the tourist destination NP Slovenský raj caused by climatic changes by adopting adaptation measures.
5. To increase landscape value of the NP Slovenský raj in order to provide tourists and visitors with quality experience avoiding damaging of natural environment.
6. To improve quality of tourism offer and efficiency of marketing and promotion.
7. To increase quality of services for inhabitants and visitors of Slovenský raj by education, training of service providers and regional development actors and by informing and involvement of public into activities in NP Slovenský raj.

There are 21 measures in the Strategy to achieve its goals, broken down in concrete activities, projects and project concepts. Some of them are already implemented, some of them are under preparation, and some of them are still only in phase of intention. See the Table 1 below to overview relevant measures.

Several villages in the Slovenský raj region (incl. Spišská Nová Ves, Smižany, Spišské Tomášovce, Letanovce, Hrabušice, Betlanovce, Vernár, Telgárt, Dobšiná) have incorporated policies and strategies defined in the Strategy in their Programs of economic and social development (PHSR). The PHSRs are elaborated up to year 2022 with outlook to

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2025. Each PHSR contains concrete goals and measures of development of tourism as important local industry. Measures are usually defined in areas of development of:

1. products and services;
2. infra- and substructure;
3. marketing and promotion.

The villages Mlynky, Dedinky and Stratená don't have elaborated their PHSR yet. It is necessary to say that the destination management of the south part of Slovenský raj, the north part of the Gemer region and eastern part of the Horehronie region is independent. Possible funding of measures implementation is various. They may be mainly sources of the state budget and EU programmes. Substantial funding from other sources is not anticipated.

Some small projects could be funded by grants from private sources as foundations, companies and collections. In case of suitable public-private partnership also income tax assignation might fund some small measures. Internal funds of villages are not sufficient; they serve mainly for co-funding.

1.5.1 Measures defined in the Strategy

Measure	Activities
Goal 1: To improve accessibility of Slovenský raj what is the precondition of development of region and tourist destination NP Slovenský raj.	
1.1. Improvement of mobility and regional/local transportation (bus and train) into the tourist destination Slovenský raj and within it.	1.1.1. To connect transportation system of the region Slovenský raj to Motorway D1 (intersection Levoča).
	1.1.2. To supplement bus connections to the tourist centres both in summer and winter season.
	1.1.3. To supplement train connections on the railway 173 Červená skala – Margecany (south part of Slovenský raj) during the holidays period and weekend both in summer and winter season.
	1.1.4. To equip public transportation vehicles with racks for bicycles and ski.
	1.1.5. To create unified graphic information & navigation system into the destination Slovenský raj connecting elements of primary and secondary offers and with applying of mobile application.
	1.1.6. To incorporate information about destination points in Slovenský raj in transportation time tables.
1.2. Increasing of quality of roads in the Slovenský raj region	1.2.1. To reconstruct roads of II. class according to the plans of Košice VÚC.
	1.2.2. To reconstruct roads of III. class according to the plans of Košice VÚC.
	1.2.3. To reconstruct local communications according to zoning plans and PHSR of individual villages.
	1.2.4. To reconstruct the access roads to Košiarny Briežok and Dobšinská Maša.
1.3. Finalizing of transportation infrastructure in villages and tourism centres	1.3.1. To finalize parking lots and parking areas in villages and tourism centres according to technical records and zoning plans and PHSR of villages.

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	1.3.2. To build pedestrian sidewalks in villages with emphasis on connection of villages to tourist centres according to zoning plans and PHSR of individual villages.
	1.3.3. To build bicycle communications with emphasis on connection of villages to tourist centres within the tourist destination according to zoning plans and PHSR of individual villages.
	1.3.4. Upgrade/build bus stops in common unified design in the whole area of Slovenský raj according to zoning plans and PHSR of individual villages.
	1.3.5. Build taxi stations according to zoning plans and PHSR of individual villages.
Goal 2: To improve safety in the region and in tourism destination NP Slovenský raj.	
2.1. Increasing of safety of hikers mainly in the gorges of Slovenský raj	2.1.1. To update technical records regularly always after a summer season, to incorporate also the cadastre of the Letanovce, to prepare plans of reconstructions and maintenance incl. budget, implement monitoring mechanism and its evaluation.
	2.1.2. To establish expert & financing year-round system of permanent maintenance of hiking trails and fixing of technical aids in whole area of Slovenský raj (= maintenance of hiking trails and aids) at level of villages and their associations (Microregion Slovenský raj – Sever or OOCR Slovenský raj).
	2.1.3. To implement mechanism of regulation of number of visitors in the gorges of Slovenský raj (initially in Suchá Belá and Prielom Hornádu).
	2.1.4. To implement, communicate and promote/publish the system of funding of reconstruction and maintenance of technical aids, incl. mechanism of regulation of number of visitors, and the system of the visitors & entrance fee collecting.
	2.1.5. To reconstruct and modernize technical aids using long-time experience and skills of the Mountain Rescue Service and other partners in the region: *- to fix/reconstruct wooden technical aids in the Piecky gorge (Hrabušice);* *- to fix metal technical aids (footsteps, chains) in another gorges.*
	2.1.6. To make valleys and road forest, closed by bars, accessible for rescuers.
	2.1.7. To insure visitors for actions of the Mountain Rescue Service (fee model).
	2.1.8. To ensure fast and coordinated clearing of gorges and trails from fallen trees in case of calamity (in cooperation with forest managers).
	2.1.9. To prepare and implement awareness raising campaigns and targeted promotion activities focused on visitors about rules of safe movement and safe tourism in the area.
2.2. Increasing of prevention of criminality in the tourism centres of Slovenský raj	2.2.1. To establish the system of security cameras in the tourism centre, particularly on the sites of Košiarny Briežok, Čingov, Dedinky and Dobšinská ľadová jaskyňa.
	2.2.2. To inform visitors about their own security ensuring (before a summer season, in appropriate form).

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	2.2.3. To launch more intensive regime of patrolling in the tourism centres particularly during a summer season.
	2.2.4. To focus a school education, a community education and a social work with socially inadaptable citizens (in existing as well as future community centres) also on prevention of criminality (e.g. educational projects with the Police, etc.).
	2.2.5. To communicate/publish proactively activities focused on increase of safety in Slovenský raj.
2.3. Decreasing of number of fires in the Slovenský raj area	2.3.1. Implementation of activities to raise awareness against grass burning in collaboration with schools, the NP administration and firefighter's corps.
	2.3.2. To focus a community activities and a social work with socially inadaptable citizens (in existing as well as future community centres) also on fire prevention, in collaboration with volunteer firefighter's corps in villages.
	2.3.3. Increase of repression as well as publicity.
Goal 3: To increase standard a quality of services by building of infrastructure and public facilities and by improving of aesthetic of settlements and tourist centres	
3.1. Finalizing of technical infrastructure	3.1.1. To reconstruct the water distribution system in Dedinky.
	3.1.2. To reconstruct the water distribution system in Dobšiná.
	3.1.3. To reconstruct the water distribution system in Mlynky – Havrania dolina.
	3.1.4. To build the sewerage system and sewage treatment plant in the international tourism centre Dedinky.
	3.1.5. To reconstruct non-functional sewage treatment plants in the area.
	3.1.6. To connect the sewerage systems in Dobšiná and Vernár to the sewage treatment plant.
3.2. Finalizing of the public facilities in villages and tourism centres	3.2.1. To reconstruct a cultural infrastructure in villages (mainly cultural houses, libraries, cinemas) in order to support a tourism development (events, etc.).
	3.2.2. To initiate operation of pharmacy in the south part of Slovenský raj (Dedinky, Mlynky), based on the needs assessment.
	3.2.3. To initiate operation of shops of non-groceries goods, particularly in a summer season, in the south part of Slovenský raj, based on the needs assessment.
	3.2.4. To initiate and set up ATMs in Hrabušice and Dedinky.
	3.2.5. Remove barriers at public spaces in settlements and tourism centres.
3.3. Increasing of attractiveness and beautification of villages and tourism centres	3.3.1. To reconstruct squares in villages.
	3.3.2. To elaborate and implement programmes of aestheticizing of villages based on common conception using small architectonic components in unifying design (e.g. parks, green relax spaces, flowerbeds, mascots of Slovenský raj, drinking fountains, gates to Slovenský raj, etc.
	3.3.3. To eliminate invasive plants in whole cadastres of villages.

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Goal 4: To decrease vulnerability of the region and the tourist destination NP Slovenský raj caused by climatic changes by adopting adaptation measures.	
4.1. Desensitization and increasing of adaptation capacity of the tourism destination NP Slovenský raj on the climate changes	4.1.1. To elaborate the analysis of vulnerability of the NP Slovenský raj area to the climate changes.
	4.1.2. To elaborate the adaptation strategy of the NP Slovenský raj area to impacts of the climate changes and to create mechanism of its implementation at the level of villages and owners/managers of area and tourism providers.
	4.1.3. To integrate adaptation to the climate changes into the PHSRs (Plans of economic and social development) and the zoning plans of villages and into the Management plan of the NP.
4.2. Increasing of preparedness of operators of tourist facilities and products and tourism providers to impacts of the climate changes	4.2.1. To inform general and expert public about consequences of the climate changes.
	4.2.2. To analyse the influence of increased water pumping for artificial snowmaking on consumption and reserves of water in winter resorts.
	4.2.3. If environmentally and socially appropriate, to finalize winter resorts infrastructure to ensure better artificial snow coverage.
	4.2.4. To design and establish effective system of complex information centres in main tourist centres which will provide on-line information (weather, hiking conditions, dangerous situations, services, offers, etc,) and the system of the early warning against severe weather changes.
	4.2.5. To finalize the safety system for tourists – technical and capacity consolidation of the Mountain Rescue Service centres, emergency medical services in tourist centres, avalanche prevention centre, etc.
Goal 5: To increase landscape value of the NP Slovenský raj in order to provide tourists and visitors with quality experience avoiding damaging of natural environment.	
5.1. Better use of non-production functions of forest and appreciation of the forest potential to benefit of tourism in Slovenský raj	5.1.1. To build interesting and valuable interpretation trails in a landscape.
	5.1.2. To maintain hiking trails.
	5.1.3. To coordinate and speed-up cleaning of gorges and hiking trails after windstorms.
	5.1.4. To apply gentle logging approaches, selective logging and logging on small spots.
	5.1.5. To apply „permanent presence of forest“ approach in forest management – to keep interesting, aesthetically valuable and old trees or group of trees along the hiking trails
	5.1.6. To realize forest works in way which doesn't damage forest roads and doesn't makes them muddy, particularly if the hiking trails lead along them.
	5.1.7. To reduce logging to the minimal level (to process only calamites), particularly during the main summer season june-september.
	5.1.8. To inform visitors/hikers in suitable way about reasons and ways of forest management.

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5.2. Maintenance and renewal of meadows, pasture lands and permanent grass stands particularly in South and West part of Slovenský raj (Vernár and the Hnilec valley)	5.2.1. Removing of volunteer trees from meadows and pasture lands.
	5.2.2 To use meadows, pasture lands and permanent grass stands for farming – to mow and graze them in collaboration with farms.
	5.2.3. To prepare and implement projects of meadows and pasture lands renewal and to involve stakeholders in agro-environmental programmes within the Rural Development Programme 2014-2020.
5.3. Creating of stabile agricultural landscape, particularly in the Northern part of the Slovenský raj area (fields of the Hornád basin).	5.3.1. To implement MÚSES (Local Territorial System of Ecological Stability) in cooperation with agricultural stakeholders.
	5.3.2. To implement activities which are set in the zoning plans of villages and are focused on development of cultural agricultural landscape with impact also on the antiflood measures in landscape.
	5.3.3. To support activities, focused on development and protecting of landscape, particularly of subjects which develops agritourism (not only accommodation and boarding but also mowing, grazing, cattle breeding, etc.).
Goal 6: To improve quality of tourism offer and efficiency of marketing and promotion.	
6.1. To make the offer of the NP Slovenský raj destination more visible	6.1.1. To unify the promotion system: *- uniformity of webpages;* *- uniformity of navigation point marking;* *- to use unified promotion slogans.*
	6.1.2. To innovate promotion via internet pages: *- to modify the webpage for mobile devices;* *- to establish profiles on the social networks and to define identification signs;* *- to develop a system for active content making by users – visitors;* *- to develop a system for direct mailing of newsletters;* *- to incorporate the destination in promotion via global tourist portals.*
	6.1.3. To improve classic and outdoor promotion: *- to create components of permanent outdoor promotion;* *- to carry modern promotion campaigns.*
	6.1.4. To implement PR programmes: *- to create programs focused on volunteers and tourists;* *- to create campaign „Let's improve Slovenský raj".* *- to create programs of support of local food and products.*
6.2. Improving of the destination offer	6.2.1. To enlarge offer of activities and free time enjoying: *- to launch hedonic programs for selected market segments;* *- to launch general hedonic programs;* *- to launch new cultural, social and sport events;* *- to enlarge the offer by new segments according to the segmentation in the SACR strategy 2014-2020.*
	6.2.2. To improve quality of present offer: *- to incorporate product and service providers into the destination quality system;* *- to improve informing and awareness of product and service providers in the destination;* *- to establish Wi-Fi spots;* *- to innovate products and services by modern technologies.*

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6.3. Improving of opportunities for purchasing of products and services in the destination	6.3.1. To develop complex destination reservation system: *- to improve flexibility of the reservation system;* *- to add online itinerary maker for individuals;* *- to enlarge methods of payments.*
	6.3.2. To launch electronic tourist cards: *- to create system based on the tourist cards and product packages;* *- to enlarge a functionality of cards.*
Goal 7: To increase quality of services for inhabitants and visitors of Slovenský raj by education, training of service providers and regional development actors and by informing and involvement of public into activities in NP Slovenský raj	
7.1. Raising of awareness of public and visitors of the NP Slovenský raj about its values and about ways of management and preservation and about conditions of use of the NP area.	1.1.1. To build interpretation trails in the NP Slovenský raj.
	1.1.2. To inform visitors and tourists about forms of the forest management and its justifications in the area, about management of calamities etc.
	1.1.3. To establish effective system of information centres in main tourist resorts providing on-line information (weather, hiking conditions, dangerous situations, services, offers, etc.,) and the system of the early warning against severe weather changes.
	1.1.4. To inform public about the threat of climate changes' impacts in the Slovenský raj area.
	1.1.5. To implement, communicate and promote/publish the system of funding of reconstruction and maintenance of technical aids, incl. the system of the visitors & entrance fee collecting.
	1.1.6. To prepare and implement awareness raising campaigns and targeted promotion activities focused on visitors about rules of safe movement and safe tourism in the area.
	1.1.7. To focus a school education, a community education and a social work with socially inadaptable citizens (in existing as well as future community centres) also on prevention of criminality (e.g. educational projects with the Police, etc.).
	1.1.8. To communicate/publish proactively activities focused on increase of safety in Slovenský raj.
	1.1.9. To implement education and awareness raising about fire prevention (particularly a grass burning) with cooperation of schools, community centres, social workers, the NP administration, volunteer firefighter's corps and fire prevention authorities.
7.2. Increasing of awareness of local population about values of the NP Slovenský raj and about benefits of the protected area for regional development and improving of a quality of life	7.2.1. To prepare and implement educational programmes about Slovenský raj for pupils of elementary schools in a frame of biological subjects.
	7.2.2. To prepare and implement information programmes about Slovenský raj (its potential, values, number of visitors, problems) for wide local population.
7.3. Improving of knowledge and skills of elected/appointed community authorities in area of regional and destination management	7.3.1. To assess needs and to elaborate the plan of education of elected/appointed community authorities.
	7.3.2. To prepare and implement educational programme focused on strengthening of competencies (knowledge, skills) of elected/appointed community authorities, in cooperation with educational bodies (e.g. RVC...).

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7.4. Improving of knowledge and skills of tourism managers and staff of members of the OOCR Slovenský raj	To assess needs and to elaborate the plan of education of tourism managers and staff of members of the OOCR Slovenský raj.
	To prepare and implement educational programme focused on strengthening of competencies (knowledge, skills) of tourism managers and staff of members of the OOCR Slovenský raj, in cooperation with OOCR Slovenský raj, KOCR Košický kraj and educational bodies.

1.5.2 Measures planned by the NP administration

Measure	**Purpose.** **Description.**	**Deadline**	**Amount**	**Possible funding**
Improving of visitors' experience in the Suchá Belá gorge.	Eliminating of long lines and waiting times in summer peak season, thus eliminating of negative impacts of crowds in some spots. Installing of camera at the Misový vodopád waterfall with transmission to displays at the Podlesok tourism centre, the NP information centre at Podlesok and to the web. Developing of "traffic light" at the trailhead.	Up to 3 years	35000 €	DBU
Electronic information system about the trails' accessibility	Improving of informing of visitors about accessibility of trails and thus better decision where to go and avoid disappointment. Large information panels located in at least three centers (Podlesok, Čingov and Dobšinská ľadová jaskyňa) displaying information about gorges accessibility.	Up to 3 years	TBD	DBU

1.5.3 Selection of the most important measures realized in recent years

Measure	**Description**	**Year**	**Implementing body**
Improving of trails infrastructure	Replacing of all signposts, building of 20 new shelters, 5 safe fireplaces, new waste bins in unifying design.	2015	Stratená and microregion, Swiss project
Building of new information centre Ľadová	Newly built complex information centre at Dobšinská ľadová jaskyňa with full spectrum of services.	2015	Stratená and microregion, Swiss project

Continuous maintenance of trail marking and signposting	Regular monitoring and renewing of painted marks and direction signposts.	Continuously	KST (Slovak hikers' club), communities.
Launching of two new tourist products Hornád canoeing and Ferrata Kyseľ	The first two tourist products managed directly by the NP administration. They are of high demand. Operation is regulated in order to not to damage environment.	2016	ŠOP SR - NP administration
Mix if measures of the OOCR	Organizing of one days' events, maintenance of nordic ski tracks, tourist card, marketing activities and awareness raising.	from 2016	OOCR Slovenský raj & Spiš

The gateway communities invested just small funds to ad-hoc fixing of technical aids in recent years, not comparable with funding of above mentioned measures.

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1.6 Beschreibung der aktuellen Marketing- und Bewerbungsaktivtäten des Schutzgebiets und der Gemeinden für die Schluchten

Assessment of current marketing of the national park and gorges

The main marketing concepts of the Slovenský raj&Spiš destination are:

- **Marketing strategy of the Slovenský raj destination**
  (Marketingová stratégia destinácie Slovenský raj, 2014) defines marketing activities untill 2020.
- **Development strategy of the Slovenský raj region with emphasis on tourism development for period 2015-2020 with outlook to 2025**
  (Stratégia rozvoja územia Slovenský raj s dôrazom na rozvoj cestovného ruchu na obdobie rokov 2015 – 2020 výhľadovo 2025) which respects and further develops the Marketing strategy of the Slovenský raj destination.
- **Plan of development of destinations in area of the OOCR Slovenský raj & Spiš 2016 – 2018 (2020)**
  (Plán rozvoja destinácií v pôsobnosti OOCR Slovenský raj & Spiš 2016 – 2018 (2020) - adopted in December 2015 as the action plan at the level of one of the tourism stakeholders OOCR Slovenský raj & Spiš.

The destination marketing of the NP Slovenský raj and its gorges is implemented by several actors, mainly by the OOCR Slovenský raj & Spiš, KOCR Košice Region Tourism, ŠOP SR – NP Slovenský raj administration, the city of Spišská Nová Ves and also communities and businesses along the NP area. In addition, the NP Slovenský raj as attractive destination is also promoted by many independent travel portals, web pages, NGOs and clubs (e.g. KST Klub slovenských turistov, SCK Slovenský cykloklub, etc.), incoming travel agencies, etc.

Selected marketing activities and tools of promotion of the Slovenský raj region

Promotion of the gorges:

- Booklet and leaflet about Via Ferrata in the Kyseľ gorge, information panel at the enter to the gorge, online information on the NP webpage and other pages (+ press releases and many mentions in printed and broadcasted media.);
- The book Kyseľ in Slovak Paradise (Kyseľ v Slovenskom raji) by author Ján Petrík, Tomáš Dražil, Gita Jančová, Vladimír Olejník, Marián Soják a Peter Olekšák, published in 2016 on occasion of re-opening of the gorge.

Online marketing *(selection)*

- www.slovakia.travel – the national travel portal of Slovakia;
- www.mapaslovenskyraj.sk with interactive tourist map and information about the NP, accommodation and other services, picture gallery, SK and EN;
- www.slovenskyraj.sk – detail information about the NP and its offer, 7 languages (partial translations);

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- www.vraji.sk and www.spis-region.sk internet pages of the OOCR Slovenský raj & Spiš;
- www.slovenskyraj.eu (the City of Spišská Nová Ves), info and promotion of Slovenský raj;
- www.npslovenskyraj.sk – page of the NP Slovenský raj administration with special sections of Via Ferrata, Hornád rafting and the visitors order;
- **Facebook page of the OOCR** Slovenský raj & Spiš with the tile „Spolu v Raji" („Together in Paradise");
- **Banner** OOCR at the Google Search a mark at the Google Maps.

Events

Various events for families and kids, sport events and competition (running, MTB, quadrothlon), tourist events (openings of the season or trails, guided walks and hikes in national park), social events (Advent events)

(More comprehensive list are available in Slovak language)

Promotion materials

- **Diagram of connections to Slovenský raj** (Grafikon spojov do Slovenského raja), booklet, 2017;
- Poster and tables in buses about bus connections to Slovenský raj, free travel cards for visitors;
- Printed cycle tourism guide ***Cykloregión Južný Spiš*** (incl. area of Slovenský raj), 2. issue in 2017, versions in SK, EN, D and H;
- **Winter in Southern Spiš** (Zima na Južnom Spiši) , winter map (incl. area of Slovenský raj), 2016 (SK/EN);
- **Cycling events in Spiš in 2017** (Cyklistické podujatia na Spiši v roku 2017), incl. event in Slovenský raj , booklet 2017, under brand „Cykloregión Spiš" , common publication by all Spiš OCRs;
- **Cycling region Spiš – Southern part** (***Cykloregión Spiš – južná časť),*** (incl. area of Slovenský raj), cycling map, (SK/EN), 3rd issue, (2016);
- Set of materials **Know region full of treasures, Event calendar, Trip recommendations in Košice region** (Spoznaj kraj plný pokladov, Kalendár podujatí, Tipy na výlety v Košickom kraji), (incl. area of Slovenský raj);
- Promotion leaflets on occasion of „nostalgic" trains to Slovenský raj (summer 2017).

Fairs, exhibitions and other presentation events

- **Bikefest Kálnica** (May 2017, Western Slovakia) – presentation of cycle tourism in the Spiš region (incl. area of Slovenský raj);
- ***Slovak days in Miskolc*** *(Hungary, May 2015)* **–** presentation of Spišská Nová Ves and Slovenský raj in Hungary;

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- **Annual participation in the tourist fairs** Regiontour Brno CZ, Holiday World Prague CZ, Utazas Budapest H, ITF Bratislava, Menjünk Világgaá Miskolc H, GLOBalnie Katowice PL, ITB Berlin D, Infotoura cykloturistika – Hradec Králové CZ, Slovak Days in Prague CZ, usually they are joined presentations of the City of Spišská Nová Ves , OOCR, Hrabušice, Košice Region Tourism;
- presentations at international sport events (the European Championship in Figure Ice Skating the World Championship of juniors in Ice Hockey ...).

***Mass media** (selection)*

- ***printed media*** –contributions in national wide media SME and various regional and local media, the on-board magazine of the Regiojet Trains Žlutý, promotion in guidebook and maps, etc.;
- ***press releases –*** regularly issued on occasion of all important events in region and distributed to wide regional and nation-wide media list;
- ***fam-trips*** organized regularly for domestic and foreign journalists, bloggers and tour-operators;
- repeated projecting of promotional movie about the Spiš region and Slovenský raj in the ***TV Praha*** (May 2017).

***Multimedia** (selection)*

- **mobile application** containing maps of trails, accommodation and attractions of Slovenský raj (available at www.vraji.sk);
- **promotional movie** of the destination Slovenský raj & Spiš (2017);
- **promotional movie** Marvellous Slovak Paradise (Zázračný Slovenský raj, Košice Region Tourism, 2017);

Other:

- developed **logo** of the destination Slovenský raj and destination Spiš;
- **frequent use of mascots of OOCR Slovenský raj & Spiš** – gnome and fairy;
- **discount Card to Paradise (**Karta do Raja , 2015);
- **visitors card RajSpisCard** (under preparation).

The gorges as such are not objects of particular autonomous marketing but they are incorporated in wider marketing of the NP Slovenský raj and its complex primary and secondary tourism offer.

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1.7 Benennung vergleichbarer Fälle aus Deutschland mit Beschreibung von Lösungsmöglichkeiten

Identification of similar cases from Germany and description of solutions

Vorbemerkung zur Praxis von Besucherlenkung in Schluchten Deutschlands

Eine umfangreiche Internetrecherche im August 2017 hat ergeben, dass bezüglich vergleichbarer Schluchten Probleme hinsichtlich der Begehungssituation, des Besucherdruckes und zu ergreifender notwendiger lenkender Maßnahmen in Deutschland in dieser Form nicht existieren. Auch gezielte Nachfragen daraufhin bei den Nationalparkverwaltungen Berchtesgaden und Sächsische Schweiz erbrachten keine weiteren Erkenntnisse. Gründe dafür können u.a. die hohen Sicherheitsstandards in Deutschland sein mit Vorgaben an gut ausgebauten und gesicherten Wegen und - wo notwendig - der Einrichtung von Holz- oder Stahltreppen in ausreichender Breite als Aufstiegs- und Durchstiegshilfen.

Beispielhaft wird mit der Wutachschlucht im Folgenden eine Region vorgestellt, in der schon sehr früh Maßnahmen getroffen wurden, aus denen das Vorgehen für eine gewisse einfache Lenkung und Beschränkung in einer Schlucht ersichtlich wird. Als Ergänzung dazu wird die Bergsportkonzeption der Sächsischen Schweiz beschrieben. Bei diesen Maßnahmen zur Aktivität Klettern handelt es sich um ein aufwendigeres, naturschutzrechtlich abgesichertes höherwertiges Lenkungskonzept, aus denen ebf. gewisse Erkenntnisse übertragen werden können.

1.7.1 Ferienregion Wutachschlucht

Die Wutachschlucht liegt im Naturpark Südschwarzwald in der Nähe der Orte Bonndorf und Donaueschingen. Es handelt sich um ein Naturschutzgebiet und Natura 2000-Gebiet nach der Europäischen Vogelschutzrichtlinie. Die Schlucht ist 30 km lang und bis zu 170 Meter tief. Sie ist eine ursprüngliche Wildflusslandschaft und Rückzugsgebiet für seltenen Pflanzen und Tiere. Anderseits eine beliebtes und attraktives Ausflugsziel für Wanderer. Ein Zugang ist an mehreren Stellen entlang der Schlucht möglich. 2013 wurden ca. 60.000 Besucher gezählt, es gab auch schon Zeiten mit ca. 80.000 Besuchern. Damit hat sie eine wichtige Bedeutung für Tourismus und Erholung und wurde in den vergangenen Jahren sogar intensiver touristisch beworben. Der Schwarzwaldverein unterhält hier die Wege, die Finanzierung erfolgt über die betreffenden Kommunen.

Bereits in den frühen 1990er Jahren wurde ein Gesamtkonzept für die Wutachschlucht entwickelt, das Ansprüche und Nutzungen mit dem Schutzgebietsgedanken in Einklang bringen soll. Dies Konzept wurde am - bis heute existierenden - runden Tisch mit beteiligten und betroffenen Institutionen (Naturschutzbehörde, Landkreise, Gemeinden, Forstverwaltung, Schwarzwaldverein etc.) ausgearbeitet. Darüber wurde auch ein Konsens mit allen Beteiligten erreicht, bestimmte Wege zu präferieren, dafür bei andern die Beschilderungen zurückzunehmen, bzw. die Wegenutzung einzuschränken.

Zu diesem Konzept gehört der Einsatz eines speziellen Ranger, der für die Beaufsichtigung, Pflege, Kontrolle zuständig ist und auch als Ansprechpartner für die Besucher, aber auch für alle beteiligten Nutzergruppen, zur Verfügung steht. Darüber hinaus ist er auch vernetzt zum

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Tourismus und in allen regionalen touristischen Gremien zwecks Informationsaustausch vertreten.

Aktuell ist dies Martin Schwenninger, er ist Forstbeamter, betreut ein Forstrevier und ist zu 50% seiner Arbeitszeit als Ranger für die Schlucht abgestellt. Zusätzlich wurde aber in den letzten Jahren ein Netz ehrenamtlicher Naturschutzwarte („Scouts“) aufgebaut. Sie erhalten eine fachliche Schulung sowie entsprechende Kleidung. Dafür müssen sie sich verpflichten, 5-10 Mal pro Jahr gegen Entgelt Streifendienst in der Schlucht zu verrichten.

Auch werden gezielt geführte Wanderungen u.a. vom Ranger, dem Schwarzwaldverein und von Wanderführern über die regionalen Tourismusverbänden angeboten, worüber auch der Naturschutzgedanke und die Vermittlung von Wissen über Naturzusammenhänge gegenüber den Besuchern gut zu kommunizieren ist.

Ein Info-Faltblatt und Informationstafeln in der Schlucht ergänzen das Angebot. Auch per Internet über www.wutachschlucht.de sind die Informationen ständig aktualisiert und aktuelle Tipps zur Begehbarkeit der Schlucht erhältlich. Zudem können sich auch die Gäste über Facebook und Twitter in die Kommunikation einschalten.

Schwerpunkt der Aktivitäten ist die „Lenkung“ durch Kontrollen vor Ort mit Bildung und Information: mit den Besuchern reden und ihnen Zusammenhänge des Naturschutzes erklären. Verwarngelder und „Überwachung“ der Besucher soll vermieden werden.

1.7.1.1 Akzeptanz und Wirkung der Maßnahmen

Das Verhalten der Besucher hat sich in den letzten Jahren geändert, vor allem an Feiertagen ist das Besucheraufkommen in der Schlucht hoch. Störungen von Fauna und Flora sind zu verzeichnen. Zum Beispiel werden die Fluchtdistanzen der Wasseramsel oder vom Gänsesäger durch Besucher oft - ungewollt - unterlaufen.

Es gibt Probleme von Verunreinigungen durch Besucher, durch Trampelpfade und Lagern abseits der Wege.

Als Maßnahme werden hier die Besucher direkt angesprochen durch den Ranger oder die ehrenamtlichen Naturschutzwarte, jedoch kann eine Kontrolle aus diversen Gründen nicht ganztägig erfolgen. Eine tiefgreifende Änderung im Verhalten der Besucher ist aber nicht zu verzeichnen und nach einer Problemlösung werde noch gesucht.

Ebenso problematisch sind Wege, die im Internet auf öffentlichen Plattformen von Besuchern / Nutzern als „Geheimtipps“ eingestellt, bzw. auf Karten markiert werden. Dadurch wird das mit beteiligten Nutzergruppen und Institutionen vereinbarte Konzept der Wegelenkung unterlaufen. Auch hier gibt es - noch - keine Lösung des Problems.

Wie auch Erfahrungen aus anderen Regionen zeigen, gibt es aber eher mit der einheimischen Bevölkerung die größeren Probleme aufgrund einer geringen Akzeptanz der Regeln zum Naturschutz aus überholtem und falsch verstandenem „Gewohnheitsrecht“ etc. heraus.

Aktuell wird ein neuer Managementplan mit dem Regierungspräsidium erstellt. Es gibt auch neue Forderungen der Gemeinden nach Erweiterung der touristischen Kapazitäten, aber das wird sich wohl nicht durchsetzen.

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Kontakt: Martin Schwenninger Forstbeamter (Forstamt Bonndorf) und Ranger für die Wutachschlucht, Bonndorf.

1.7.2 Bergsportkonzeption in der Sächsischen Schweiz

Die Sächsische Schweiz ist Hauptvorkommgebiet basenarmer Silikatfelsen (Elbsandstein) in Sachsen. Die Felsen sind Habitate gefährdeter Arten (u. a. felsbrütender Vogelarten) und ihrer Lebensgemeinschaften. Offene Felsbildungen sind nach § 30 BNatSchG gesetzlich geschützte „Biotope und Silikatfelsen mit Felsspaltenvegetation“ unterliegen auf europäischer Ebene als Lebensraumtyp einem besonderen Schutz (LRT 8220 nach FFH-Richtlinie).

In Verbindung mit dem räumlich darin eingeschlossenen Nationalpark (NLP) ist das Landschaftsschutzgebiet (LSG) Sächsische Schweiz das mit Abstand bedeutendste Klettergebiet in Sachsen und weist eine 150-jährige Tradition bei dieser Sportart auf.

Im Landschaftsschutzgebiet stehen insgesamt 340 erschlossene und eingerichtete Klettergipfel. Davon liegen 249 in FFH-Gebieten und gehören zum EU-Netzwerk „Natura 2000“.

Im Nationalpark Sächsische Schweiz ist das Klettern nur an den von der Nationalparkverwaltung bestätigten Kletterfelsen und Kletterrouten zugelassen. In Landschaftsschutzgebieten (LSG) und in Naturschutzgebieten (NSG) ist das Klettern nur an den von den zuständigen Naturschutzbehörden bestätigten Kletterfelsen gestattet.

Dies wurde geregelt in den zwei **Bergsportkonzeptionen** des Sächsischen Staatsministeriums für Umwelt und Landwirtschaft (SMUL). Ziele der beiden in der Nationalparkregion miteinander korrespondierenden Bergsportkonzeptionen als Teil der Pflege- und Entwicklungsplanung sind einerseits differenzierte Lösungen zur räumlichen und zeitlichen Entflechtung von Bergsport und Naturschutz, vor allem in stärker frequentierten und in besonders störanfälligen Bereichen sowie der nachhaltige Schutz von Lebensräumen der für die Sächsische Schweiz charakteristischen Tier- und Pflanzenarten und andererseits notwendige Beschränkungen mit Augenmaß vorzunehmen.

Bereits 1996 wurde hierzu die Arbeitsgruppe „Bergsportkonzeption für den Nationalpark Sächsische Schweiz gebildet. Sie besteht aus Mitarbeitern der Nationalparkverwaltung Sächsische Schweiz und aus Mitgliedern der Bergsportverbände, vertreten durch den Sächsischen Bergsteigerbund e.V. Untersucht werden sollte, ob und in welchem Umfang unter den Bedingungen der Naturschutzgesetze, der Verordnung über die Nationalparkregion und der neuen Naturschutzbestimmungen (EU-Richtlinien) von den Bergsteigern auch künftig im Nationalpark gelegene Felsen als Kletterziele genutzt werden können. 2004 war eine entsprechende Bergsportkonzeption fertig, die im Amtsblatt 38/2004 des SMUL zur Pflege- und Entwicklungsplanung des Nationalparks im Abschnitt Bergsport veröffentlicht wurde. Dies umfasst den Nationalpark mit ca. 9.300ha Fläche.

Seit 2007 wurde dann an der „Bergsportkonzeption des LSG Sächsische Schweiz“ wiederum mit Vertretern der Nationalparkverwaltung, des sächsischen Bergsteigerbundes mit seinen vor Ort aktiven Bergsportverbänden gearbeitet. Diese trat 2015 mit der Verkündung im Amtsblatt in Kraft. Das Landschaftsschutzgebiet umfasst eine Fläche von ca. 29.000ha, worin der Nationalpark räumlich mit eingeschlossen ist. Der Anhang enthält eine detaillierte Liste der Felsen mit entsprechenden Bemerkungen bezüglich Einschränkungen. Notwendige

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ständige oder zeitweilige Kletterverbote werden von der zuständigen Naturschutzbehörde oder dem zuständigen Staatsforstamt erlassen, durch Veröffentlichung bekannt gemacht oder im Gelände gekennzeichnet.

Über die Bergsportkonzeptionen sowie über saisonal oder aus aktuellem Anlass gesperrte Klettergipfel informiert die Internetseite des Nationalparks die Besucher und Kletterer, ebenso zu aktuellen Wegeinformationen (Sperrung, Besonderheiten etc.), http://www.nationalpark-saechsische-schweiz.de/besucherinformation/klettern/.

Parallel dazu hat der Sächsischer Bergsteigerbund bereits 2009 gesondert spezielle zu beachtende **„Sächsische Kletterregeln“** für Bergsportler aufgestellt, wie z.B. zum richtigen sportlichen Verhalten am Fels, mit technischen Anweisungen sowie Hinweisen auf die Beachtung von Natur- und Landschaftsschutzbestimmungen, https://bergsteigerbund.de/2015/klettern/klettern-im-elbsandsteingebirge/. Insbesondere geht es hier um Felsklettern in biotopschonender Art und Weise. Die aktualisierten Regeln sind seit 2014 gültig. Sie wurden vom Sächsischen Bergsteigerbundes e.V. mit überregionalen und regionalen Sport- und Freizeitverbänden abgestimmt.

Nach Angaben von Herrn Andreas Knaak, Referent für Besucherlenkung, greift diese Konzeption sehr gut. Und dies, obwohl nur rund 50% der Kletterer in Vereinen/Verbänden organisiert und gut informiert seien. Regelmäßige Treffen und Austausch mit den Nutzverbänden, wie dem Sächsischen Bergsteigerbund, helfen, frühzeitig über aufkommende Probleme zu sprechen und nach Lösungen zu suchen. Auch kümmern sich Mitglieder des Bergsteigerbundes selbst und sprechen Kletterer direkt an. Daneben sei es sehr hilfreich, dass in Kletterführern und Infoblättern auf diese Konzeption und das richtige (Kletter-)Verhalten hingewiesen werde. Weitere Informationen wie bsplw. auch auf Internetseiten unterstützen diese positive Entwicklung.

Kontakt: Andreas Knaak, Referent für Besucherlenkung im Staatsbetrieb Sachsenforst - Nationalparkverwaltung Sächsische Schweiz, Bad Schandau.

1.7.3 Fazit

Aus den beiden zuvor beschriebenen Beispielen sind folgende erfolgversprechende Maßnahmen festzuhalten:

- Grundsätzlich: Beteiligung aller relevanten Nutzergruppen und Institutionen an Planungen und Maßnahmen,
- Erstellung eines Gesamtkonzeptes zur Vereinbarkeit von Naturschutz und Besucherinteressen,
- Gemeinsame Erarbeitung eines Management- und Entwicklungsplanes,
- Aufstellung eines geordneten Wegemanagements,
- Aufstellung eines rechtlich verbindlichen Verwaltungsverfahrens mit verbindlichem Charakter,
- Einrichtung regelmäßiger „Runder Tische“ mit allen zu beteiligenden Akteuren aus Schutzgebietsverwaltung, Kommunen, Naturschutzverbänden, Tourismus, Freizeit-, Sport- und weiteren Nutzerverbänden,

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- Einsatz von Rangern, zertifizierten (ehrenamtlichen) Gästeführern sowie Mitgliedern beteiligter Nutzergruppen (Vereine und Verbände) als direkte Ansprechpartner, für die Kontrolle des Gebietes, Einhaltung verträglicher Verhaltensweisen und Vermittler von Informationen zu Naturschutz und naturverträglichem Verhalten gegenüber Besuchern,
- Einsatz von Informations- und Kommunikationsmedien für die Gäste: Faltblätter, Internet, Facebook, Twitter,
- Zur Schutzgebietsverwaltung korrespondierendes Informationsangebot zum naturverträglichen Verhalten, Schutzbestimmungen etc. auch über diverse Medien der beteiligten Nutzergruppen (Sport- und Wandervereine, Tourismusverbände).

„Schwelende" Konflikte, größtenteils noch ungelöste Probleme:

- Aufgrund personeller Kapazitäten oft nur punktuell kontrollierbares Verhalten von Besuchern und Informationen zu verträglichem Verhalten,
- Erreichbarkeit von nicht in Sport- oder Freizeitverbänden organisierten Menschen,
- Wirksame Maßnahmen zur Steigerung der Akzeptanz von Naturschutz bei der einheimischen Bevölkerung,
- Ausweisung / Bekanntmachung von gesonderten Wegen („Geheimtipps" etc.) abseits der vorgegebenen Routen durch Besucher auf öffentlichen Internetplattformen.

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1.8 SWOT Analyse für jede involvierte Schlucht plus einer zusammenfassenden Analyse

SWOT analysis for each gorge plus one compiled SWOT

1.8.1 Overall SWOT of the gorges as a destination

The SWOT is made from point if view of the project goal:

- To improve visitor's experience, comfort and safety while better protecting nature in area of gorges of the Slovenský raj NP".

The object of analysis is complete project area - the gorges areas including connecting and descend routes (incl. isolated Zejmarská gorge). The SWOT is not simple compilation of the gorges' ones.

Strenghts	**Weaknesses**
Tourist destination well recognized in Central Europe The Slovenský raj NP is one of the most important tourist destinations in Slovakia, gorges distinguish it from other destinations a lot so significant decline of visitors is not expected. **Adopted zoning** The NP (including the project area) has adopted generally respected zonation what set clear and transparent rules of tourist development and nature protection. **Well organized search&rescue service** The station of professional state Horská záchranná služba is located in the area and is well working. **Good network of hiking trails** The network of hiking trails is dense enough, it marking/signposting is renewed regularly. **Good level of tourist services** in main tourist centres (Podlesok, Čingov, Dobšinská ľadová jaskyňa).	**Logging** Present and visible logging decreases visitors experience in some location of the project area. **Crowding** The most visited gorges and sites are crowded in the peak season what both decreases visitors experience (waiting in lines in gorges, waiting times in some restaurants, etc.) and nature protection (erosion, dampling …). **Tourist, natural and social values are not interpreted** Visitors have got just a poor opportunities to understand importance and values of area they are visiting and they don't know all tourist opportunities available.
Opportunities	**Threats**
Trend of second-, third holidays and city breaks More people go for more holidays and long weekends within Central Europe what brings more visitors also to Slovenský raj.	**Increase environmental load caused by visitors** Higher number of visitors may cause significant damage of tourist experience as well as natural environment if not managed properly.

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Trend towards experiencing nature and the longing for "intact nature" It is good opportunity to explain and interpret a natural heritage and increase the environmental awareness of visitors. **New technologies for visitors management and informing** High level od penetration of mobile IT devices allows to spread information and manage visitor flows efficiently. **Gateway communities realizes feel importance of gorges** The villages close to gorges realizes importance of tourism for their economy so they are interested in it responsible development (maintenance and development of gorges, better access to trailheads, better tranport access to the region, etc.). **Prospective accessing of the national park to the European Wilderness Network** Joining of the EWN will increase attractiveness of the national park for visitors as well as it improve management of the park towards better protected natural environment. **Improving marketing** The tourist branch in the destination plans to improve the marketing of the region significantly, how it is defined in relevant strategies.	**Partial lack of ownership** A few places siffer from lack of ownership/stewardship (mainly those belonging to the Letanovce community) what causes decline of technical aids. **Climate changes** More often splash rains make problem with accessibility of gorge what decrease visitor experience - visitors are learn about unaccessibility (or even closing) of particular gorge only after coming to the place. **Logging over limit** Though logging is not significant issue in the area, it harms image and reputation of the destination - looging trucks drive through the Podlesok tourism centre, logs deposits are located along tourist trails, etc.

1.8.2 SWOTs of gorges

The rangers of the National Park have undertaken an in-depth inspection in each single gorge. The results of the inspection have been documented in a map for each gorge indicating locations of damaged infrastructure as well as single patches, which are impacted by tourist' activities. The maps are supported by a description (in Slovak) about the damages and possible solutions divided by immediate, short-term and mid-term required actions. The maps and description can be found in the Annex.

As a result of the inspections a larger team has then concluded on a SWOT for each gorge. These SWOTs are considered as an important tool for the further discussion on how to overcome the most urgent impacts in the gorges and to decide on the future management.

The SWOTs are made from point oif view of the project goal:

- To improve visitor's experience, comfort and safety while better protecting nature in area of gorges of the Slovenský raj NP".

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To be said it is not easy to make such SWOTs, as far "improving of visitor's experience" is to a large entend reverse to a "better protecting of nature".

The SWOTs are not comparable, it means they don't analyze gorges against each other, just against the project goal.

1.8.2.1 Suchá Belá

Strengthts	Weaknesses
Very good accessibility The trailhead located directly in the tourist centre Podlesok with many facilities and services, parking, walking distance to Hrabušice accessible by a public transportation. **Attractivity** There are all typical gorges phenomena (waterfalls, narrow ravines, karst shapes, ladders, boardwalks, etc.) in the gorge, well balanced. **Very good equipment** The best equipped gorge with the highest number of technical aids – iron, stainless ladders and wooden, iron footbridges, iron footsteps, chains .. **Many options of continuation** It is easy to incorporate the gorge in longer hike as far there are many trails to other attractive places as well as it is possible to walk and even ride bicycle back to Podlesok.	**Several bottlenecks** There are bottleneck where people wait in lines, sometimes for really long time of 40 min, what devalues a visitors experiences and damages environment. The first one and the most hindering is the Misové vodopády waterfall. **Poor / no passability after intensive rain** A water level easy gets high after rain what force visitors to walk in the water or to boulder on rocks, both devalue a visitors experiences and damage environment. **Too difficult long descent** Taking the fact in account that large part of visitors are occasional not trained tourists, the descent routes may be too exhausting for them due their length, steepness and bad surface. It devalues a visitor's experiences.
Opportunities	**Threats**
Support of the NP administration The NP administration intend to keep the gorge as the flagship one in Slovenský raj - focus of maintenance, marketing, etc. (in order to alleviate traffic in other gorges). **Profitability** The gorge (probably) generates the highest return so the Hrabušice community is interested in good maintenance. In addition the trend of last a few years indicates increase of number of visitors in the peak season what would contribute to the local economy thus gorge managers will try to keep and improve visitors experience.	**Negative impact of visitors on environment** If environment will be continuously damaged by tourists due crowding, then NP administration might consider limit access to the gorge what would devaluate visitors experience, damage the image of the destination and make tensions among stakeholders in the region. **Damaging of the image of gorge due crowding** If crowding will not be solved then a good name of the gorge will be damaged and may detract visitors thus decrease positive impact on local economy.

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The Hrabušice village plans to invest in maintenance regularly. **Interest in smart regulation of number of visitors** Both the Hrabušice Village and the NP administration plan to implement some system of regulation of number of visitors in the gorge in order to distribute them better in the time of day.	

1.8.2.2 Piecky

Strengthts	**Weaknesses**
Good accessibility The trailhead is well accessible by car and there is also the parking lot. **Acceptable number of visitors** Though the trailhead is well accessible the number of visitors is bearable, no crowds are observed. **Good equipment** Well equipped gorge with the sufficient number of technical aids which are well maintained.	**Insufficient parking lot** The parking lot gets to be not sufficient more and more often (during the peak season). **Problematic spot after intensive rain** There are a few spots of high water level after intensive rain what force visitors to walk in the water or to boulder on rocks, both devalue a visitors experiences and damage environment.
Opportunities	**Threats**
Intention of better connection from Vernár The Vernár village plans to improve path from the village to the Valley of the Veľká Biela voda river. **Interest in regular maintenance** The Hrabušice village plans to invest in manitenance of technical aids in the gorge regularly.	**Trend of increasing of number of visitors** Raising number of visitors in last years may exceed a carrying capacity of environment.

1.8.2.3 Veľký Sokol

Strengthts	**Weaknesses**
Difference against neighboring gorges It is the longest gorge and it is different (less technical aids and lower visual impact of them, different character of the gorge).	**Creek crossings** There are several creek crossings which are difficult to cross at higher water.

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Poor access to the trailhead There are no parking opportunities at the trailhead so people have to walk from the Piecky parking lot. It keeps the gorge less visited (comparing to its neighbouring gorges) what improves visitor's experience.	
Opportunities **Intention of better connection from Vernár** The Vernár village plans to improve path from the village to the Valley of the Veľká Biela voda river **Interest in regular maintenance** The Hrabušice village plans to invest in maintenance of technical aids in the gorge regularly.	**Threats** **Ice climbing** It disturbs animals and it damages wooden technical aids (by crampons).

1.8.2.4 Sokolia

Strengthts **Remoteness, difficulty and natural character** It is one of the most difficult hikes in Slovenský raj thanks combination of more aspects: it is very remoted, the elevation and steepeness is high, technical aids are not in good shape, it all makes the gorge unique. **The highest waterfall in Slovenský raj** The Závojový vodopád waterfall is the highest one in Slovenský raj (75 m) and it is attractive climb on long ladders along. **Low number of visitors** Due its location there are just a few visitors daily in a peak season what makes the gorge unique.	**Weaknesses** **Abandoned technical aids** Technical aids are abandoned, not in good shape. **Complicated access** Longer hike is necessary to get to the gorge trailhead.
Opportunities **Good location** The gorge is located in the very central part of the Zone A which is not so accessible so negative impacts of tourism are not anticipated and the gorge should keep its wild character.	**Threats** **Low interest of the owner** If technical aids will not be improved it may cause safety issues. The land owner, the Letanovce village, doesn't invest in maintenance of the aids.

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1.8.2.5 Kysel' Via ferrata

Strengthts	**Weaknesses**
Very unique Two aspects make the gorge very unique and attractive: - it was closed for more than 40 years due recovery of nature after fire, so the character of the gorge is very wild and natural; - it is the via ferrata trail, the only in Slovenský raj. There are no typical technical aids in the gorge, only klettersteig aid. It is passable only by "semi-climbing" way what is very attractive.	**Maintenance in future** Thanks to it's via ferraty character the "iron" trail in the gorge requires regular inspections and good management.
Opportunities	**Threats**
Source of income for NP The entrance fee 5 € is collected what is an income of the NP administration (though via the central ŠOP budget). That is why the NP administration is motivated to keep the gorge equipment in good shape.	**Possible increasing number of visitors** The gorge is very attractive and its attendance is expected to raise what could bring negative impacts on environment if not managed properly.

1.8.2.6 Veľký Kysel'

Strengthts	**Weaknesses**
Low number of visitors Due its location there are just a few visitors daily in a peak season what makes the gorge unique. **Trails in good shape** Trails and technical aids are in good shape, so it is pleasant hike.	**Complicated access** Longer hike is necessary to get to the gorge trailhead.
Opportunities	**Threats**
Good location (from experience point of view) The gorge is located in the very central part of the Zone A which is not so accessible so negative impacts of tourism are not anticipated and the gorge should keep its wild character.	**Difficult access** The access to the gorge is rather difficult what makes maintenance of technical aids complicated what can lead to deterioration of technical aids.

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Good location (from a hike logistics point of view) The gorge is located between end of popular Kysel Via Ferrata gorge as the "logical" continuation to area of Suchá Bela so many hikers use it as the departure route from Ferrata.	

1.8.2.7 Malý Kyseľ'

Strengthts	**Weaknesses**
Very scenic gorge The gorge is known as the most scenic (nicest) one in the NP Slovenský raj, including very scenic the Machový vodopád waterfall.	**Complicated access** Longer hike is necessary to get to the gorge trailhead.
Opportunities	**Threats**
Good location The gorge is located in the very central part of the Zone A which is not so accessible so negative impacts of tourism are not anticipated and the gorge should keep its wild character.	**Difficult access** The access to/within the gorge is rather difficult what makes maintenance of technical aids complicated what can lead to deterioration of technical aids. **Partially in the Zone B** Not whole gorge is located in the Zone A, its source area is in the Zone B what decrease the level of nature protection.

1.8.2.8 Kláštorská

Strengthts	**Weaknesses**
Good location close to the attractive tourist place Kláštorisko (restaurant, archaeological site). **No problems after rains** The gorge is walkable also after heavy rains, storms, etc, no problem with high water level.	**Complicated access** Longer hike is necessary to get to the gorge trailhead (as well as departure). **Abandoned technical aids** Technical aids are abandoned, not in good shape. **Very difficult (one of) descend route** It is steep with many rocky sections; particularly dangerous when wet and slippery.

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Opportunities	Threats
Alternative gorge May be visited also when other gorges are closed due high water level.	**Low interest of the owner** If technical aids will not be improved it may cause safety issues. The land owner, the Letanovce village, doesn't invest in maintenance of the aids.

1.8.2.9 Zejmarská

Strengthts	Weaknesses
"Isolated" gorge It is the only gorge located in the south part of Slovenský raj, so its position in given area is unique, it may provide a "gorge" experience also to visitors who are not going to the "main" parts of Slovenský raj (west and central parts). **Short gorge** Though it is pretty steep in some sections, it is also very short, only 1 km. So it is suitable for wide spectrum of visitors. **Geravy** There is the tourist center Geravy at the end of the gorge (simple restaurant, intersection of trails).	**Bad descent route** There are several poor sections on the most frequent descent route from Geravy to Dedinky - rocky&slippery parts, dangerous mainly from less experienced visitors. **Bad shape of technical aids** There are several spots of technical aids which are loosen/time-worn and need fixing/replacing.
Opportunities	**Threats**
Re-open of chair lift The project of reconstructing of the chair-lift Dedinky-Geravy got the governmental support and will be realized in upcoming years. It will allow to hike the gorge for more visitors less exhausting from difficult descent. **No plans of opening another gorges** Though there are ore gorges in the area, the NP administration doesn't plan to open them for public what will keep the Zejmarská gorge unique in this part of the NP. **Plan of Dedinky development** The village of Dedinky plans to improve the Dedinky tourist resort significantly (infrastructure for water recreation and sport, accommodation …).	**Low interest of owner** The land-owner the Smižany village collects entrance fee but it is not very active in maintenance of technical aids what might make the gorge less safe.

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1.8.2.10 Prielom Hornádu

Strengthts	Weaknesses
Different character of gorge The character of the gorge is different from other one - it is wide and flat (no elevation gain). That is, together with its attractivity and beauty, why it is the ultimate tourist hike of the national park visitors. **Several access/departure points** There are more spots where hikers can enter/depart the gorge what provides variability of hikes in the gorge. **Easy access by PT** The access/departure points towards outside of the NP are located in walking distance from public transportation. **Canoeing and winter walking possible** The only gorge which allows floating (regulated by the NP administration) and easy winter walking, if the river if frozen.	**Difficulty** The trail is not so easy as it looks, large number of technical aids as well as rocks & roots sections make it difficult for not experienced visitors or when wet and slippery. According to the informal information from the Mountain Rescue Service it is the gorge with the highest number of injuries of tourists. **Some technical aids are damaged, loosen or time-worn** The gorge goes through four land of four communities, at least of one of them (Letanovce) doesn't pay enough attention to maintenance of technical aids. **Many spots of nature damage** Intensive use of trail causes many damages of tail - erosion, sliding, dumping, etc., in some sections are damages really intensive.
Opportunities	**Threats**
Expected raise of number of visitors Higher number of visitors will bring more profit which may be used for better maintenance of the gorge and adjacent trails.	**Expected raise of number of visitors** Higher number of visitors may cause significant damage of tourist experience as well as natural environment if not managed properly.

1.9 1. Workshop mit lokalen Interessenvertretern zur Vorstellung der Bewertungsergebnisse

1st Workshop with local stakeholder on presenting the evaluation results

→ *Pls. see chapter 1.12 below*

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1.10 Erstellung von Szenarien über die weitere Entwicklung der Region (Schluchten und angrenzenden Gemeinden) in den nächsten 10 Jahren

Development of a number of scenarios

1.10.1 Present state

The gorge area of the NP Slovenský raj faces increasing number of visitors. On the one hand it is positive aspect, as far visitors make income of apparent part of gateway communities what results in two positive impacts: **Improved livelihood of local population** and its **enhanced interest in protecting of natural and cultural heritage values** which make their livelihood. On the other hand, increasing number of visitor's damages protected nature as well as good image of the tourist destination. The problem lies not directly in the number of visitors as such, but mainly it their distribution in time and space. The most serious problems are listed below:

Nature

In gorges:

- visitors are walking directly on the riverbed what damages habitats of European importance located there;
- in period of high water level visitors tends to walk in side slopes what damages habitats of European importance located there and causes removing of soil and thus change of biological conditions in those spots;
- (specifically in Suchá Belá) persons waiting in row at the waterfall ladders are stepping and sitting off trail, e.g. on the side rocks several meters next/above the trail damaging precious habitats;
- people who enter the gorge and only then find the water level too high and/or find waiting times in lines to ladders too long return back (though it is prohibited, gorges are unidirectional), walk against tourist flow what causes side stepping out of the designated trail with consequences as above (damage of habitat, erosion of soil);

  Note on mentioned habitats: They are habitats of cryophilic alpine flora.

At descent trails:

- visitors widen trails when bypassing destroyed slippery sections what causes soil erosion, changes of biological conditions in soil layer and damage of forest;
- visitors create direct shortcuts in switchback sections of trails with the same consequences;

Broadly across the area:

- anthropogenic polluting of underground water in wider area along gorges caused by excretion of urine and faeces in excessive amounts due to concentration of people waiting in lines at ladders; the pollution is exactly proven in the Sucha Belá gorge by analysis of water from spring in the gorge, where limits of coliform bacteria (which are

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of human faeces origin) are regularly exceeded in summer season in last years and water is not drinkable; in some years also e.coli bacteria and enterococcus are present in the water;

- inappropriate scaring of fauna (mostly important birds and large carnivores) what results in change of its habits and/or escape of them from the area;
- low discipline of visitors, they don't know and/or don't realize they are in natural reserves, why the area is strictly protected and how to move and behave there; many visitors have no problem with walking off trails and off technical aids, littering, polluting, etc.

Visitor's experience

- long lines at ladders worsen visitors experience significantly, people get nervous and chagrined at waiting;
- The carrying capacity in some gorges (particularly Suchá Belá and Prielom Hornádu) exceeded over the years with continuously increasing visitor numbers, people are walking in crowd what is annoying - it hinders movement on technical aids and kills feeling of remoteness, wilderness and nice nature; people are disappointed - most of them expected something else than 2-3 hours of walking in groups of other people;
- people who are returning from inner section of gorge because they don't want to wait at ladders or they don't want to get wet in higher water annoy tourists who are moving ahead and meeting them in narrow sections of trail or at the technical aids (automatic counter shows up to 10% of returning tourists in some morning hours in the summer season); some narrow and/or technical sections get stuck;
- descent is very uncomfortable on many trails, mostly those in area of Suchá Belá and Prielom Hornádu; tourists have to walk down slowly and watch every step in long destroyed sections, what is exhausting for legs, knees and ankles;
- descending on many trails as well as walking in Prielom Hornádu is not safe, it is slippery not only when wet (due to mud and slippery limestone rocks) but also when dry (due to high proportion of small fraction, dust and gravel, in eroded soil); the Prielom Hornádu gorge is the place with the highest number of injuries and most often they are caused by slip; this aspect is even intensified due to the fact that Prielom Hornádu and Suchá Belá are very easy accessible so it is popular trip destination also for visitors in bad condition and with bad equipment;
- when some gorges are closed, visitors are very disappointed when they find it out only at the trailhead and have to look for alternative trip/ programme;

Consequences:

- negative visitor experience spreads fast and easily by mouth (much easier than a positive one) what damages reputation and image of the national park;
- all above phenomena attract negative attention of media and social media what makes negative impacts even harder;

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- higher number of injuries coming with increasing number of visitors what may detract people to come and motivate them to go to their natural destinations nearby - feet and valleys of High Tatra, Pieniny …
- current and prospective regulations in sake of a nature protection do/will damage the reputation of the national park as a tourist destination.

1.10.2 Zero scenario

The Zero scenario anticipates development of the project area if no measures would be proposed and implemented. In such case we can expect:

- **Destroying of precious habitats of European importance** by trampling and erosion both in gorges and on descent trails as well as eroded spots on descent trails caused by not-directed tourists (see reasons above). Effects on nature would be irreversible as far destroyed habitats will not recover in a short time.

- **Limitation of access to the most impacted gorges or even closing them for public**, by the national park administration. Local economy would be influenced significantly as far gateways communities make significant part of their livelihood by tourism, based on visitors coming to hike in gorges. There would be two effects on local economy- immediate loss of income due to lower number of visitors and long-time damage of reputation, area would become uncertain tourist destination.

- **Anthropogenic pollution** of underground water may cause big problems, as far image of destination dangerous for human health may destroy its reputation for long time. Up to now it is possible to manage this issue by prohibition of water drinking at affected spring, but if no measures would be implemented then there is a serious chance polluted water will appear more often in more springs what could turn into a tourist catastrophe - bad news spread quickly and far.

- **Erosion and soil removal** on heavy loaded descent trails located in area of the Suchá Belá gorge caused by tourists who bypass damaged slippery sections and/or shorten switchbacks (see above) significantly change character of given places - their visual as well as environmental character, what is particularly important taking into account that trails are located in the Zone A of the national park. If these negative phenoma will not be regulated the changes could cause a lost of the subject of protection.

- **Walking** in the gorges and along the descent trails would become **uncomfortable and unsafe** in case no improvements and/or fixing of technical aids and trails will be done. Except impacts on nature (see above) it would also influence the national park reputation as a destination which is based on nature but hiking is uncomfortable, exhausting and dangerous. We could expect more injuries in two of the most visited gorges (Suchá Belá and Prielom Hornádu) with all negative publicity in tabloids and social media, what detract people from visiting to such “dangerous” location. It would result in economic losses for the gateway communities.

- The **image** of the national park as a tourism destination **will be worsen** if informing and directing of visitors will not be implemented. New visitors order adopted in 2018

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makes closing of gorges simple (due to high water, nature protection, fallen trees, etc.), however there is no way of informing of visitors before they come to the trailhead, so they have to go away, somewhere else… It will create negative impression, visitors will blame the national park administration, the authority and understanding of nature protection will decrease.

- Thanks to **low awareness about protected area** and what does it mean visitors don't behave properly in the national park and its reserves. If they will not be educated and informed they will hardly understand measures of nature protection, regulations, activity of the national park administration, etc. and visitors will behave in wrong way everlastingly.

1.10.3 Development scenario

During the workshops and bi-lateral consultations the project partners and stakeholders identified main goals and measures in the project area: to keep current amount of visitors of the project area in order to ensure livelihood of local communities while better protecting natural environment of the gorges and trails. These goals regard for whole project area with main emphasis on the Suchá Belá gorge and Prielom Hornádu as the most visited and best accessible gorges.

The set of measures was identified by the project partners and stakeholders within the project course to accomplish given goals.

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1. Improving of technical aids in the gorges

Implementation of new technical aids (footsteps, ladders, footbridges, chains, railings …) or fixing of damaged / old ones in places where habitats are threatened by trampling, either permanently or when the water level is high. The measure also improves safety significantly.

The main emphasis is focused on the Suchá Belá and Prielom Hornád gorges and descent trails in their area as far they are the best accessible thus the most visited and the most impacted gorges.

2. Interpretation area at Podlesok

The outdoor area consisting of a) exhibition about gorges and national park, needs and ways of protection and b) areal with all technical aids used in gorges. The areal will have three goals:

- to explain visitors what is valuable in gorges, why it is necessary to protect them and how to protect (including behaviour of visitors);
- to allow visitors to try walking on technical aids and thus improve their abilities and preparedness so they will not avoid aids in gorges and will not obstacle in bottlenecks in gorges;
- to spend time of waiting for entrance to the gorge Suchá Belá (see below).

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3. Improving of the NP information centre at Podlesok

Though the information centre is very well located and highly visited, the majority of visitors' request tourist information, not nature and its protection ones. This is caused mainly by old-fashioned static exhibition which is not really attractive. This IC exhibition has to be redesigned with use of state-of-the-art technologies based on computer visualizations and 3D modelling. Then visitors will not only ask for tourist information but will be attracted to see and experience the exhibition and so learning about values of the natural park.

The measure will consist of adjustments of building, purchasing of equipment, making of 3D exhibition and programming of visualizations.

4. Information system of the Suchá Belá gorge

The measure will solve crowding and lines in the gorge. There are three components of the system:

- real-time counter of visitors installed at the entrance to the gorge;
- camera installed at the Misové waterfalls capturing area ladders and area below ladders;
- process&display subsystem at Podlesok consisting of the computer and 3 outdoor monitors.

The monitors will display two pieces of information: a picture of the Misové waterfalls to show if a cue is there or not, and recommendation to enter the gorge or wait, based on amount of persons already present in the gorge. While waiting, visitors will be advised to visit outdoor interpretation areal and the visitors centre (see above).

5. Automatic counters of hikers in selected gorges

There are three elements of the measure:

- three counters will be installed, probably in Prielom Hornádu, the Veľký Sokol gorge and the Kyseľ Via Ferrata. One counter is already installed in the Suchá Belá gorge (from 2017);
- several manual counting in selected gorges of the project area during the summer and winter season;
- processing of acquired data and programming of estimating algorithms.

The measure will allow to know not only exact number of visitors in the most visited gorges but thank to correlations with manual counting it will estimate also approximate number of visitor in other gorges. All information is crucially needed (and missing today) for the national park management.

6. Information system about accessibility of gorges

Installation and operation of at least three outdoor displays showing accessibility of gorges (e.g. "open", "high water", "closed") located at Podlesok, Čingov at Dobšinská Ľadová Jaskyňa. The same information will be also displayed on internet pages of the national park

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and destination organisation and will be also available for another websites and mobile applications.

The system is reasoned by brand new competence of the national park administration to close the gorge flexibly (adopted in 2018) due to nature protection, safety etc. caused mainly by high water level and also by fallen trees, strong wind, etc. Visitors will be able to check accessibility of gorges not only at the trailheads (too late for planning of alternative trip) but far in advance, still at the hotel or at the central parking lots.

7. Monitoring system of water level and gorge closing

The water level measuring device installed at the mouth of the Suchá Belá gorge, connected to processing unit which will inform and decide about closing of gorges due a high water level. Today there is no available capacity to check the water level every day so it happens very often that visitors are entering the gorge though it is not passable. Then they either walk in side slopes of the gorge so they widen trails and trample habitats.

The algorithm, based on the Suchá Belá water level will be programmed to estimate the water level (and need of closure) also in other gorges. A few such devices will be installed in another gorges later (not in this project course) what will increase accuracy of the system within the gorge area.

8. Set of printed materials

The set will consist of:

- folded leaflet A4 Extract of the Visitors Rules - instructions and rules for visitors, including list of trails, instructions for hiking, etc.; the leaflet would be of simple design which will allow copying, in four languages (SK, ENG, PL and H) and printed in very high number of copies; it will be distributed in hotels, travel companies, information centres, etc.;
- poster A3 - a content as above, printed in hundreds pieces, dedicated to be displayed in hotels, restaurant, travel agencies, information centers, rentals, etc.;
- folded A4 or A3 leaflet “1 or 2 days in Slovak paradise” with brief itineraries of 1- or 2-days stays in the region; a need of such leaflet is coming from a staff’s experience of the NP Visitor Centre Podlesok, where majority inquiries are about “we are here for a day, where do you recommend to go?”; the leaflet would be distributed mostly in the NP Information Centre at Podlesok;
- A3 leaflet with “painted” map of the gorge area on one side and information about the NP and gorge at another side; it will be distributed in information centres in the region as so called “instruction maps” - the information centres personnel marks requested information on the map (e.g. where is good restaurant? how to get to Kláštorisko?) and gives it to visitor to orient; He/she then will get not only instructions but also information about the national park.

9. European Wilderness Quality Standard Quick-Audit

An Initial audit is the first step of the inclusion of the NP Slovenský raj into the European Wilderness Network. There are beneficial outcomes of the audit not only for the national park itself but also for wider region: The audit provides the initial management measures

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specifically for size, zoning, boundaries, wilderness management and wilderness restoration, identification of wilderness extractive uses and disturbances, control strategies for fire, invasive species and other natural disturbances, wilderness research and monitoring and international relevance. Certificates will be issued, and membership in the European Wilderness Network as well as support to implement management measures provided.

All these sub-outcomes will help to mark the national park as the "wilderness" later, what on one hand improve nature protection and on the other hand it will give the experience of wild nature to visitors so the will appreciate the nature even more.

10. Ecological toilet in the national park

Underground water pollution by coliform bacteria and other human-origin pollutant is serious issue at one of the most visited parts of the national park, Žliabky at the end of the Suchá Bela gorge and important intersection of trails from other gorges. The place is heavy loaded by visitors, during the summer season the number of person on small spot often exceed a hundred. It is natural resting point after climbing of some gorges. However, there is no toilet so people relieve in forest around the spot. It significantly pollutes not only underground water but also water spring located 150 meters from the sport (in slightly lower altitude) which is polluted regularly every year in summer season by coliform bacteria.

That is why a modern ecological off-grid toilet is to be installed here. It has to be a technology which is able to handle a large amount of people.

11. Co-management

The most important stakeholders are joining to manage their tourism area in the national park better. The most appropriate form of collaboration is still in question; however, the basic principles of collaboration are envisaged already. It is expected that co-management structure:

- is to be focused primarily on management of natural resources, ensuring sustainable use of natural resources in sake of local communities as well as of nature protection;
- wil join public and private (both profit and non-profit) sector in one partnership;
- is not a fixed state but a process that takes place along a continuum, what either makes flexible management of natural resources possible and is open to any new emerged initiative, institution, etc. in order to create wide and efficient platform.

By implementing of suggested measures we can anticipate following **directions of development (development scenario):**

Elimination of habitats' damage

All main reasons of destroying of habitats would be solved:

- technical aids installed/repaired on the right places (Measure 1) will lead tourists beside or over habitats both in normal conditions as well as in period of high water level;
- eliminating of lines at the Misové waterfalls (Measure 4), informing about high water level (Measure 7) as well as possibility to try technical ladders already at Podlesok

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(Measure 2) will decrease amount of people returning back and meeting persons walking upstream what cause stepping off trail today.

Elimination of changing of natural and visual character of environment along the descent trails:

- barriers on descent trails prevent shortening at switchbacks (Measure 1);
- supporting technical aids installed and surfaces repaired on destroyed sections of descent trails prevent walking off trail in order to avoid uncomfortable and slippery sections. (Measure 1).

Both ways will prepare supportive conditions for slow but necessary revitalisation of damaged spots in the next years.

Termination of underground water pollution

The everyday's summer jams at Misové waterfalls will not be created so concentrated relieving of crowds of waiting tourists, polluting underground water will not be an issue. This would be possible thanks the Information system in the Suchá Belá gorge which will motivate tourists to wait in order to avoid lines (Measure 4). This solution will not decrease the number of visitors (what is important for local communities), it will just distribute their stay in the gorge in longer time, what should be sufficient measure for avoiding of crowds.

Good reputation of the national park as safe hiking area

Better, more comfortable and safer trails (Measure 1) will decrease number of injuries. It will improve the visitors experience, leading to less negative mentions in media and social media, less rumours, more positive and pleasant experience communicated. It is important for local communities in order to ensure their livelihood.

The same measure will contribute to more comfortable trails, so descending will not be so exhausting. It will contribute to the reputation of the park as well.

Well educated visitors of the national park

Visitors will be educated and they learn about the nature and needs of its protection (Measures 2 and 3). Therefore, they will behave more appropriate on a hike and they will easier understand and accept unpleasant measures like closing of a gorge, etc. This approach will prevent inappropriate behavior and negative visitors' experience, thus keeping reputation even in occasional cases of unpopular acts of the national park administration.

Improved management of the national park

Lack of information about the tourist load is one of the most serious obstacles of proper management of the national park. The park administration has developed and is implementing good system of monitoring of impacts of tourism on the natural environment as well as technical aids, however it is very demanding for personal capacity to watch all gorges and trails on a more regular basis. If the park administration would be able to correlate impacts and depreciation to number of visitors (Measure 5) it would be much more efficient to monitor trails load and plan its maintenance. Also local communities and business would appreciate and use data gained by counters and estimated by the park administration to plan their operation in more sustainable way. Though it is known that the national park and gorges

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particularly are the unique selling proposition of the area, the national park administration would be even more respected regional partner in area of tourism if it will be able prove how many tourists visit it.

Informed visitors

Beside gaining information about the national park, gorges and their protection (see above) visitors will be also well in advance informed about accessibility of gorges (Measure 6). Information about closed gorges save time, energy and petrol (CO2) as far visitors may plan their hikes accordingly. In addition, it prevents from disappointment when tourists come to a trailhead and get know only then the gorge is closed.

The information displays are also good marketing tool as far visitors will see how many gorges are "available". This is particularly important in case of the display at the ice cave Dobšinská Ľadová Jaskyňa, what is attraction highly visited by general tourists. As we found by observations, large part of visitors simply doesn't know they are at the edge of the natural area with many gorges which are worthy to visit, so display will inform them unconsciously.

1.10.4 Comparison of scenario

Zero scenario	**Development scenario**
– Destroying of precious habitats of European importance – Limitation of access to the most impacted gorges or even closing them for public – Anthropogenic pollution – Erosion and soil removal – Walking uncomfortable and unsafe – Image of the national park worsen – Low awareness about protected area – Mid- and long-term decreasing numbers of visitors due to bad image and thus loss in economic benefits to local communities	– Elimination of habitats' damage – Elimination of changing of natural and visual character of environment – Termination of underground water pollution – Good reputation of the national park as safe hiking area – Well educated visitors of the national park – Improved management of the national park – Informed visitors – Long-term economic stability to local communities thanks to good image as hiking destination

1.11 Findings and anticipated further development

The gorge area of the Slovenský raj national park is a tourism destination already for decades, so destination co-management and collaboration of stakeholders exist there for a long time. However, for decades it was focused mainly on marketing, organizing of events, etc. Villages invested some financial amounts in gorges infrastructure independently, the national park administration monitored impacts of tourism on natural environment, other

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stakeholders collaborated to some extent, in last years mainly tourism organisation OOCR and the city of Spišská Nová Ves.

The situation is improving in last years, mainly thank to activities of the national park administration which is active in collaboration with not only of the NP gateway villages but also other stakeholders, like landowners, mountain service, tourist clubs, tourism services providers, etc. This collaboration is developing also within this project framework as well as some projects a couple of years ago (mainly the "Swiss" project). We can say the main project partners the national park administration and the microregion organisation collaborate very well.

Further co-management development is anticipated in upcoming years, including 2nd phase of this project (if supported). The collaboration undergoes a change of quality what is very positive approach. While up to now stakeholders use to collaborate (as stated above) mainly on marketing and events, now they begin to coordinate and collaborate also on project activities which are not directly economy-oriented. Good example would be co-financing of the measure "Improving of technical aids in the gorges" which is proposed for the 2nd phase. Up to now each village financed maintenance of aids only in gorges which are located in their territory, thus making some income for the village. For 2nd phase of the project they would collect their finances into the common microregional budget which will cofinance fixing and installing of aids not by territorial principle but primarily by the most urgent needs. In addition, for the first time they will (co)finance not only trails and aids in gorges but also descent trails. They were without regular maintenance neglected a lot what resulted in serious environmental impacts and safety deterioration. Now there is common effort to begin to fix and renew the most damaged descent sections commonly.

The example above prefigures new co-management approach. Several stakeholders are joining to manage their tourism area in the national park better. The most appropriate form of collaboration is still in question, however the basic principles of collaboration are envisaged already.

It is expected that co-management structure:

- is to be focused primarily on management of natural resources, ensuring sustainable use of natural resources in sake of local communities as well as of nature protection;
- will join public and private (both profit and non-profit) sector in one partnership;
- is not a fixed state but a process that takes place along a continuum, what either makes flexible management of natural resources possible and is open to any new emerged initiative, institution, etc. in order to create wide and efficient platform.

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1.12 2. Workshop mit lokalen Stakeholdern sowie Projektpartnern für die Auswahl des besten / günstigsten Szenario

Workshop with local stakeholders on the selection of best scenario

The process of introducing of measures to regional stakeholders and getting of their approval was neither quick nor straight. The measures which are to be cofinanced by the national park administration or the Hrabušice community was not so problematic, just some minor clarifications were needed.

Main consultations and negotiations were about measures which should be cofinanced by municipalities in shared way and are „non-productive" measures like maintenance of descend trails. There were many bi-lateral and multi-lateral discussions and small-talks at various occasions, using fact that regional stakeholders meet very often due various reasons. So, the most of the negotiations and clarifications were done at non-documented, not-recorded occasions – meetings, sessions, etc. The project partners the national park director and the microregion's chairman did a great job in this area, they talked to many stakeholders, explained, clarified and negotiated a lot.

This approach was proven much more efficient than organizing of meetings and seminars dedicated to one topic – measures. Stakeholders are very busy (they are mostly active mayors and chairmen of various organisations) which collaborate a lot in solving of various issues, so they have not enough capacity to spend a large portion of time at dedicated meetings.

Anyway, at the end of the consultations process two meeting were organized (both in Spišská Nová Ves) in order to assure information parity and get common approval of all stakeholders.

The first meeting was organized at March 14, 2018. Its purpose was to present the draft measures to stakeholders, explain details and provide them opportunity for questions and final clarifications. The measures were presented by the national park director Tomáš Dražil who explained basis of each measure (justification, description and possible way of implementation). The participants were provided with a week of time to deliberate the measures and to approve them.

The second meeting was hold a week later at March 21, 2018. Not all stakeholders took part as far some of them approved the measures per roll am. The goal of the meeting was to get measures approved. As supposed, from the content point of view all measures were approved by stakeholders. However, long discussion was open about cofinancing and sharing of expenses. In fact, there were no significant objections to sharing of cofinancing. The basis of debate was about what would be the best form of fund-rising and cofinancing. Basically two approaches were deliberated: cofinancing via the Microregion Slovenský raj sever or via destination management organisation OOCR Slovenský raj & Spiš. As the result the director of the OOCR was appointed to summarize pros and cons of both approaches and the final decision was postponed till the DBU will decide which measures will be selected and supported. So at the end of the day stakeholders agree with cofinancing and with some sharing of expenses, though exact approach still has to be decided according to measures selected for further support.

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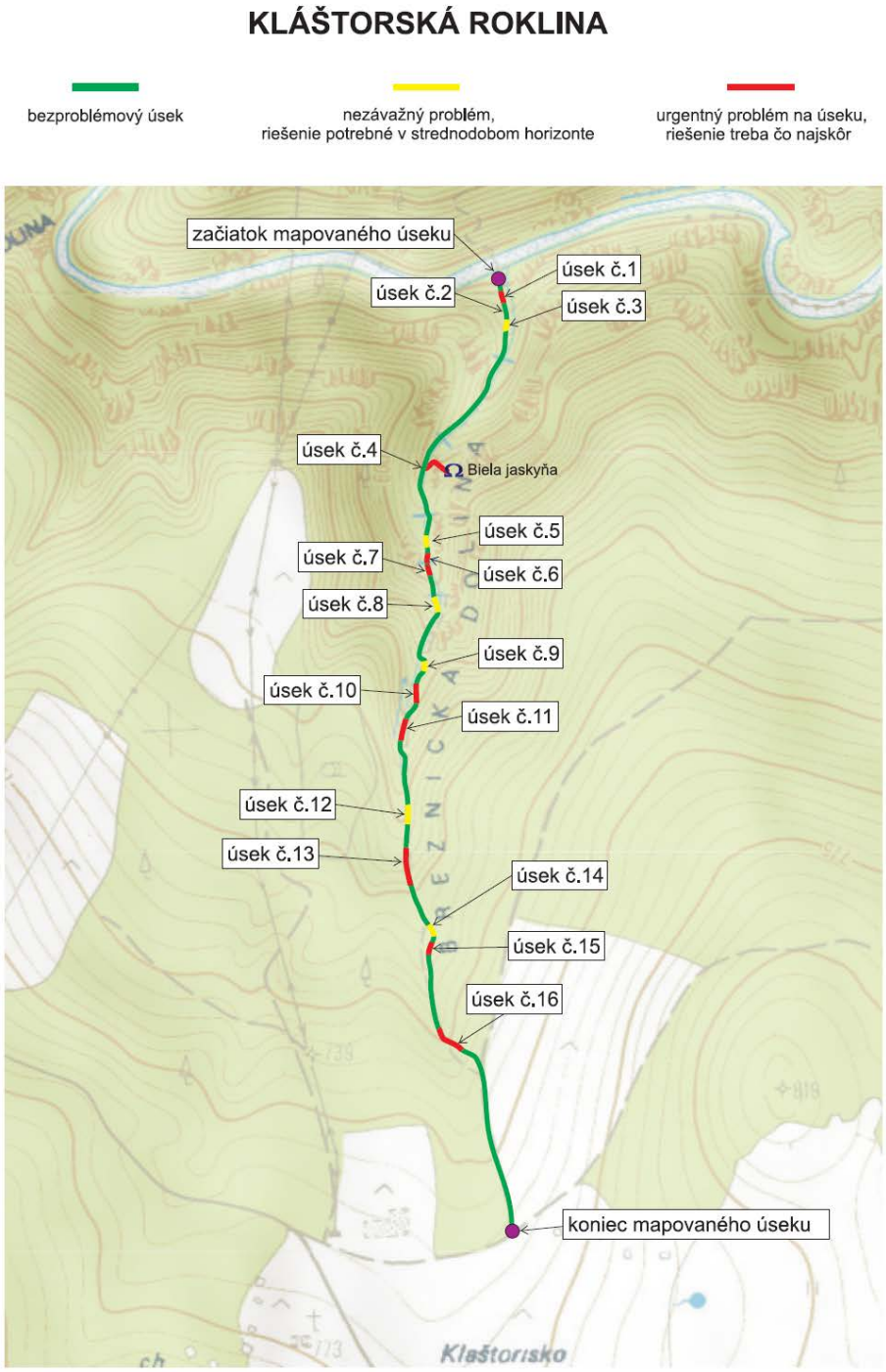
Weitere Anhänge / Further Annexes

Karten und Problembeschreibungen der einzelnen Schluchten inkl. Lösungsvorschlägen (auf slowakisch)

Field assessment of existing tourism infrastructure: problems, solutions (in Slovak)

1. KLÁŠTORSKÁ ROKLINA – zelená značená turistická trasa č. 5765



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Dĺžka trasy: 1,5 km

Prevýšenie: 250 m

Začiatok mapovania problematického úseku - 48.9529019N, 20.4230247E

Koniec mapovania problematického úseku - 48.9443761N, 20.4234753E

Dĺžka zmapovanej trasy: 1,3 km

Problematické úseky na trase

úsek č. 1 - vznik súbežných chodníkov, erózia svahu

riešenie: upraviť chodník doľava drevenou hradou v dĺžke 15 m a dosypať

úsek č. 2 - zerodovaný svah na skalnom stupni, zošľapovanie vegetácie pod skalným stupňom

riešenie: predĺžiť kovovú reťaz o 2 m a dorobiť 8 -10 kovových stupov do skaly

úsek č. 3 - starý peň na križovatke chodníkov

riešenie: odstrániť peň a doznačiť oba turistické značené chodníky

úsek č. 4 - silne zerodovaný svah k voľne prístupnej jaskyni - Biela jaskyňa

riešenie: vyznačiť tvarovou značkou odbočku (chodník) k jaskyni, dorobiť kovovú reťaz 12 m a zahádzať skracovanie

úsek č. 5 - zerodovaný úsek pri starom pni, zošľapovanie vegetácie

riešenie: odstránením pňa spriechodniť chodník

úsek č. 6 - drevený rebrík na skalnom stupni sa v zime zaľadňuje

riešenie: nahradiť drevený rebrík 4 m kovovou reťazou a 4 ks kovovými stupmi

úsek č. 7 - zerdovaný skalný stupeň, zošľapovanie vegetácie

riešenie: osadiť 4 m kovovú reťaz

úsek č. 8 - drevený rebrík v šikmom skalnom stupni nad Dúhovým vodopádom

riešenie: pre bezpečnosť nahradiť drevený rebrík 12 m kovovou reťazou a 13 ks kovovými stupmi

úsek č. 9 - náročný skalný stupeň, zošľapovanie vegetácie vedľa skalného stupňa

riešenie: dorobiť jeden kovový stup

úsek č. 10 - náročný skalný stupeň, vznik chodníka vpravo, zošľapovanie vegetácie

riešenie: predĺžiť v hornom úseku reťaz o 3 m

úsek č. 11 - obnažený široký chodník, zošľapovanie vegetácie

riešenie: zahádzať ľavú stranu chodníka

úsek č. 12 - skalný stupeň so 4 starými stúpačkami a starou reťazou

riešenie: dorobiť 3 ks kovových stupov, vymeniť a predĺžiť kovovú reťaze v dĺžke 10 m

úsek č. 13 - vznik súbežného chodníka mimo koryta do svahu, zošľapovanie vegetácie, obnažené korene stromov, poškodenie stromov, erózia pôdy

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riešenie: vyčistiť koryto, zahádzať chodník vpravo a preznačiť chodník do riečiska

úsek č. 14 - drevený rebrík v skalnom stupni nad Machovým vodopádom

riešenie: pre bezpečnosť nahradiť drevený rebrík 5 m kovovou reťazou a 7 ks kovovými stupmi

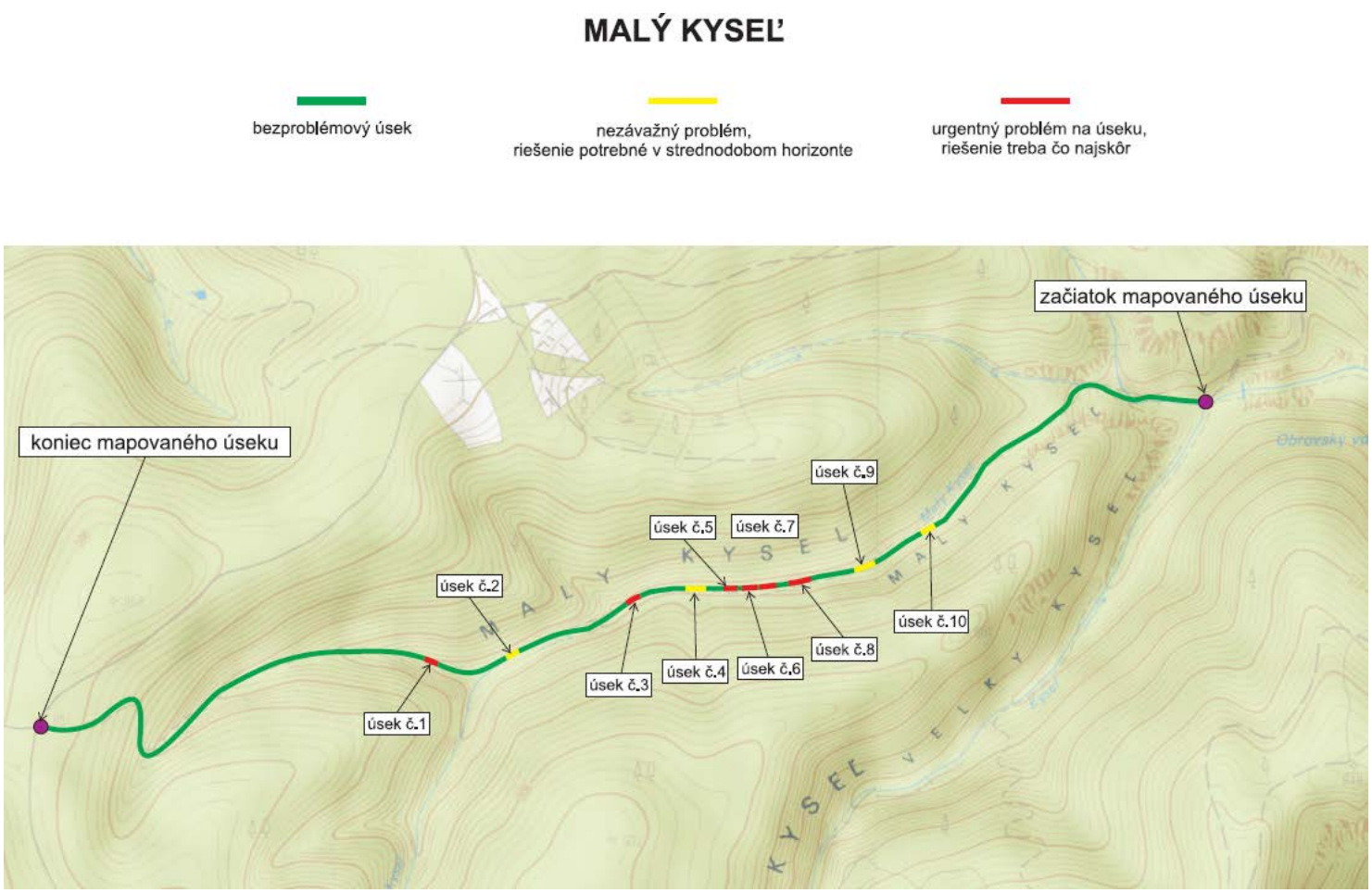
úsek č. 15 - vznik súbežného chodníka

riešenie: zahádzať chodník vpravo a preznačiť chodník

úsek č. 16 - zerodovaný svah vznikom súbežných chodníkov pri Kartuziánskom vodopáde

riešenie: zahádzať skratky chodníka v dĺžke 15 m

2. MALÝ KYSEĽ – modrá značená turistická trasa č. 5745



Dĺžka trasy: 2,1 km

Prevýšenie: 229 m

Začiatok mapovania problematického úseku - 48.9386400N, 20.4079078E

Koniec mapovania problematického úseku – 48.9340344N, 20.3832528E

Dĺžka zmapovanej trasy: 2,1 km

Problematické úseky na trase

úsek č. 1 – nejednoznačný chodník vplyvom napadaných stromov , zošľapovanie vegetácie mimo trasy

riešenie: vyčistiť chodník od napadaného dreva

úsek č. 2 – nejednoznačný chodník, chýba premostenie na pravý breh

riešenie: vyčistiť tok od napadaného dreva, nahádzať skaly do riečiska

úsek č. 3 - zerodovaný ľavý breh

riešenie: upraviť breh prepílením stromu a hradením v dĺžke 4 m

úsek č. 4 - viac súbežných chodníkov, chýba premostenie na ľavý breh, zošľapovanie vegetácie

riešenie: nahádzať skaly do riečiska

úsek č. 5 - ťažko priechodný chodník, vznik chodníka do svahu, zošľapovanie vegetácie

riešenie: upraviť ľavý breh dreveným hradením v dĺžke 4 m

úsek č. 6 - ťažko priechodný chodník v riečisku

riešenie: upraviť ľavý breh dreveným hradením v dĺžke 6 m

úsek č. 7 - ťažko priechodný v skalnom stupni

riešenie: osadiť 6 m reťaz do skaly

úsek č. 8 - ťažko priechodný chodník v skalnom stupni, vznik erózie brehu

riešenie: osadiť 3 kovové stupy a 3 m kovovej reťaze do skaly, upraviť breh dreveným hradením v dĺžke 4m

úsek č. 9 - ťažko priechodný chodník v riečisku za zvýšeného stavu vody

riešenie: upraviť koryto toku dohádzaním skál a nasmerovanie na pravý breh

úsek č. 10 - ťažko priechodný chodník vplyvom napadaných stromov, vznik bočných chodníkov

riešenie: prerezať stromy

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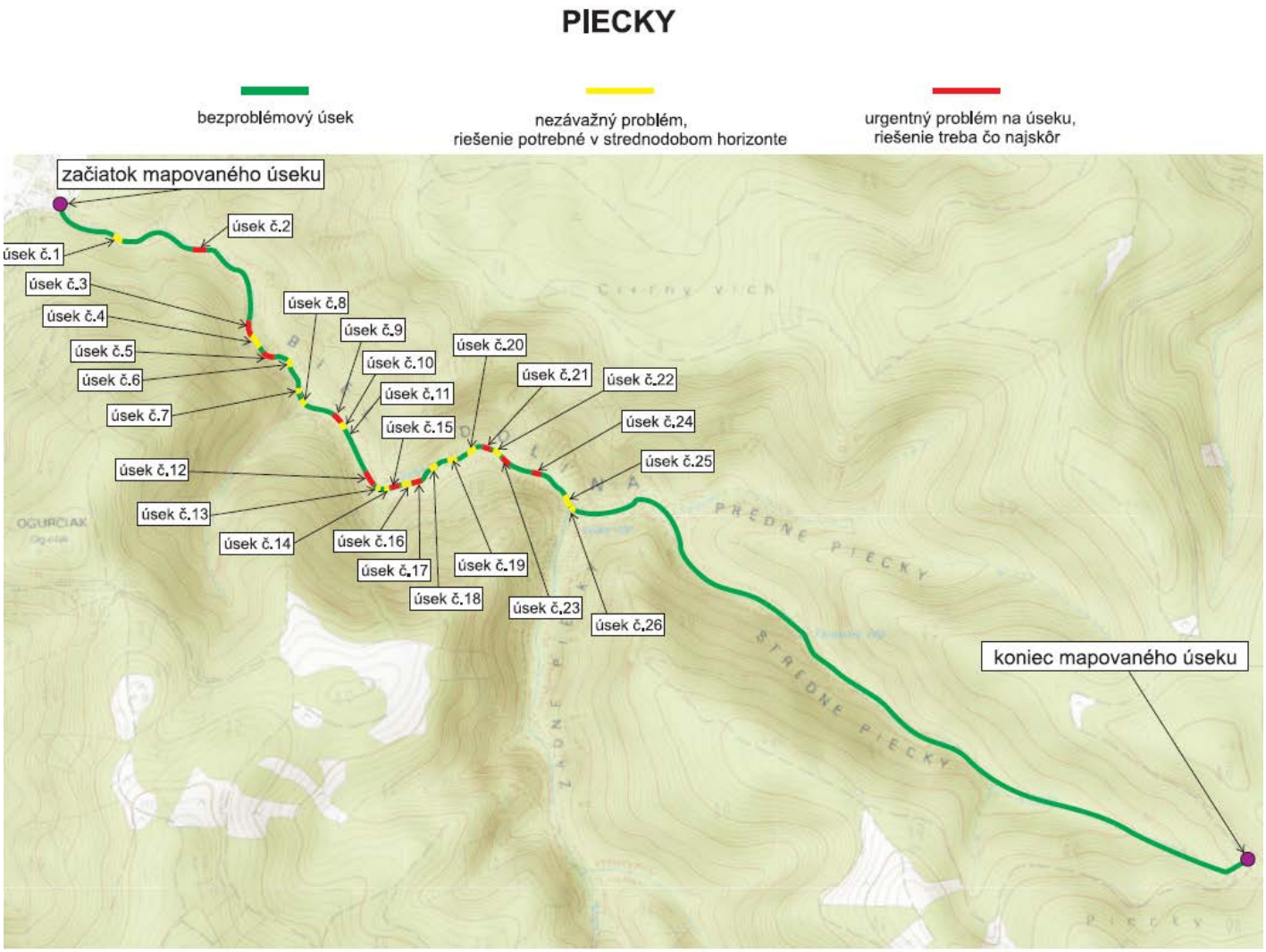
3. PIECKY – žltá značená turistická trasa č. 8890



Dĺžka trasy: 6,5 km

Prevýšenie: 334 m

Začiatok mapovania problematického úseku - 48.9433694N, 20.3469772E

Koniec mapovania problematického úseku - 48.9299225N, 20.3824683E

Dĺžka zmapovanej trasy: 4,5 km

Problematické úseky na trase

úsek č. 1 - brod cez potok bez premostenia, vznik viacerých bočných chodníkov, zošľapovanie vegetácie

riešenie: osadiť drevený rebrík 8 m

úsek č. 2 - nejednoznačný chodník, zošľapovanie vegetácie

riešenie: upraviť pravý breh osadením drevenej hrady v dĺžke 30 m , doznačkovať chodník vľavo

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úsek č. 3 - v ľavotočivej zákrute nejednoznačný chodník, zošľapovanie vegetácie vo svahu

riešenie: upraviť pravý skalnatý breh osadením 13 kovových stupov 40 m kovovej reťaze

úsek č. 4 - nejednoznačný chodník v riečisku, zošľapovanie vegetácie vo svahu

riešenie: upraviť pravý skalnatý breh osadením 10 kovových stupov a 20 m kovovej reťaze

úsek č. 5 - nejednoznačný chodník, ťažký prechod riečiskom, zošľapovanie vegetácie vo svahu

riešenie: upraviť pravý skalnatý breh osadením 20 kovových stupov a 30 m kovovej reťaze

úsek č. 6 - skalný stupeň, ťažký prechod riečiskom

riešenie: upraviť pravý skalnatý breh osadením 5 kovových stupov a 5 m kovovej reťaze

úsek č. 7 - súbežné chodníky, nejednoznačný chodník, zošľapovanie vegetácie

riešenie: ľavý chodník zahádzať, upraviť pravý chodník pri toku

úsek č. 8 - nejednoznačný chodník v riečisku

riešenie: upraviť pravý breh vybudovaním dreveného mantinelu v dĺžke 10 m

úsek č. 9 - nejednoznačný chodník v riečisku, vznik zerodovaného chodníka do svahu

riešenie: upraviť pravý breh 10 kovovými stupmi a 15 m kovovou reťazou, následne vybudovať 20 m drevený mantinel až ku drevenému rebríku

úsek č. 10 – drevený rebrík v riečisku

riešenie: zrušiť rebrík a nahradiť ho 15 m kovovou reťazou a 5 kovovými stupmi

úsek č. 11 – nejednoznačný ťažko priechodný chodník, vznik chodníkov do svahu

riešenie: vybudovať drevený mantinel v úseku 20 m

úsek č. 12 – nejednoznačný ťažko priechodný chodník, vznik chodníkov do svahu

riešenie: vybudovať v skale na pravom brehu 15 kovových stupov a 20 m reťaze

úsek č. 13 – chýbajúce premostenie pri vyššom stave vody na ľavý breh, zošľapovanie vegetácie vo svahu

riešenie: osadiť 7 m drevený rebrík

úsek č. 14 – ťažko priechodný chodník za zvýšeného stavu vody, zošľapovanie vegetácie vo svahu

riešenie: osadiť 20 ks kovových stupov + 20 m kovovej reťaze

úsek č. 15 – ťažko priechodný chodník za zvýšeného stavu vody, zošľapovanie vegetácie vo svahu

riešenie: vybudovať vpravo drevené mantinely a upraviť tok na úseku 30 m

úsek č. 16 – ťažko priechodný chodník vpravo v skale, zošľapovanie vegetácie vo svahu

riešenie: osadiť 7 m kovovú reťaz

úsek č. 17 – ťažko priechodný chodník, zošľapovanie vegetácie vo svahu

riešenie: vybudovať vpravo drevené mantinely v úseku 40 m, upraviť tok

úsek č. 18 – rozšírené riečisko, viac chodníkov , zerodované bočné svahy

riešenie: upraviť chodník vpravo k brehu

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úsek č. 19 – ťažko priechodný chodník vpravo v skale, zošľapovanie vegetácie vo svahu

riešenie: osadiť 7 m kovovú reťaz

úsek č. 20 – ťažko priechodný chodník za zvýšeného stavu vody , zošľapovanie vegetácie vo svahu

riešenie: vybudovať vpravo k brehu drevené mantinely a upraviť tok na úseku 20 m

úsek č. 21 – ťažko priechodný chodník za zvýšeného stavu vody v úžine, zošľapovanie vegetácie vo svahu

riešenie: nahádzať veľké skaly do 4 prechodoch cez tok

úsek č. 22 – nejednoznačný chodník, zošľapovanie vegetácie vo svahu

riešenie: nahádzať veľké skaly do prechodu cez tok naľavo

úsek č. 23 – ťažko priechodný chodník za zvýšeného stavu vody, zošľapovanie vegetácie vo svahu

riešenie: vybudovať vľavo drevené mantinely a upraviť tok na úseku 50 m

úsek č. 24 – ťažko priechodný chodník za zvýšeného stavu vody, zošľapovanie vegetácie vo svahu

riešenie: vybudovať premostenie dreveným rebríkom vpravo 7 m

úsek č. 25 – ťažko priechodný chodník za zvýšeného stavu vody, zošľapovanie vegetácie vo svahu

riešenie: vybudovať vpravo drevené mantinely a upraviť tok na úseku 40 m až k sútoku

úsek č. 26 - sútok

riešenie: nahádzať veľké skaly cez bočný tok na prechod vľavo

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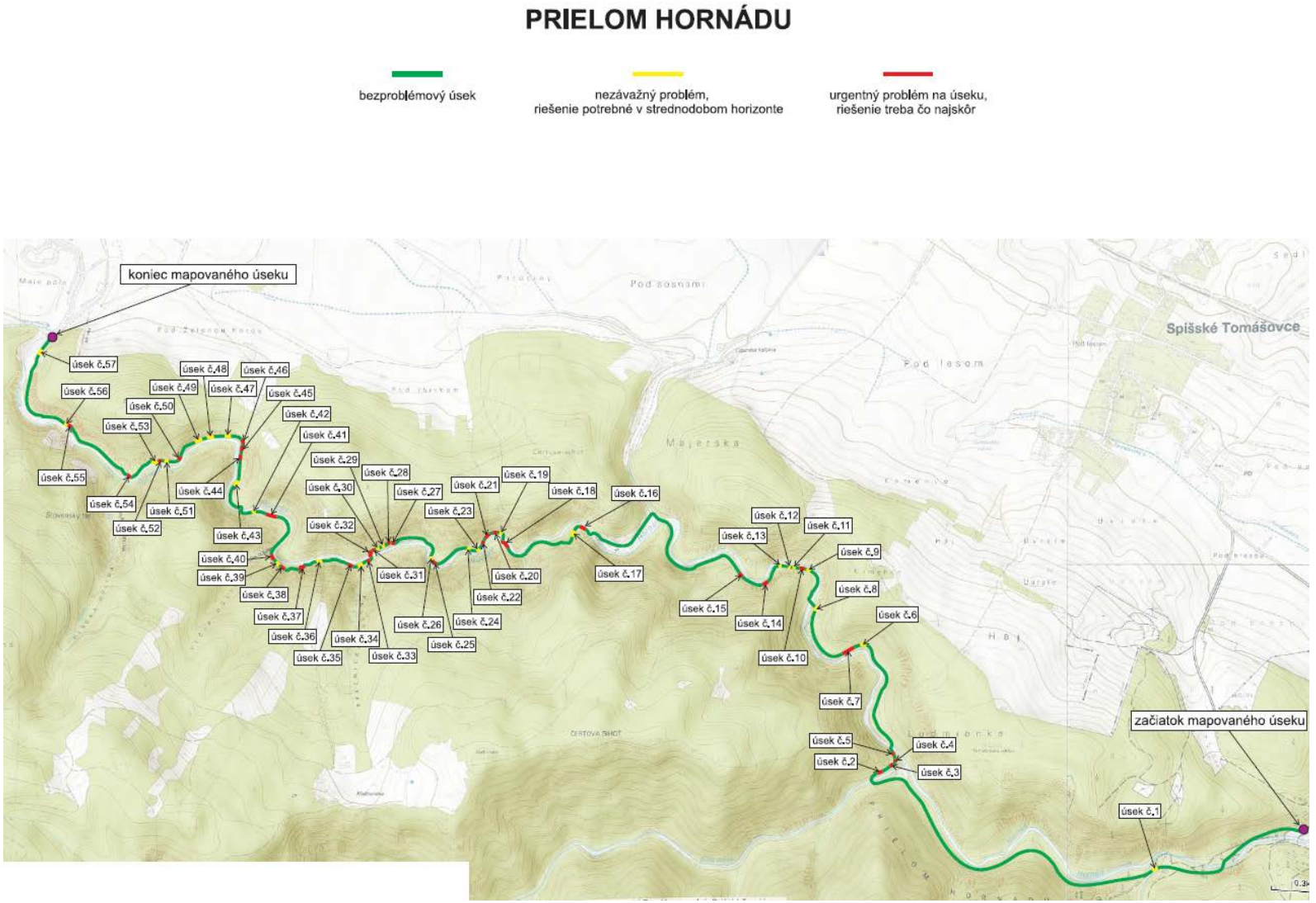
4. PRIELOM HORNÁDU – časť modrá značená trasa č. 2829, časť zelená značená trasa č.5723, časť modrá značená turistická trasa č. 2819



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Dĺžka trasy: 12,6 km

Prevýšenie: 34 m

Začiatok mapovania problematického úseku - 48.9619675N, 20.4031978E

Koniec mapovania problematického úseku - 48.9417892N, 20.4821622E

Dĺžka zmapovanej trasy: 12,6 km

Problematické úseky na trase

úsek č. 1 – zosunutý breh s chodníkom pri mostíku ponad tok Lesnica, erózia

riešenie: spevniť breh 3 m drevenou hradou

úsek č. 2 – zosuv chodníka v svahu, erózia svahu

riešenie: spevniť chodník 6 m drevenou hradou

úsek č. 3 - súbežné chodníky, nejednoznačnosť priebehu dvoch trás

riešenie: zahádzať stredný neznačený chodník vo svahu, doznačkovať úsek

úsek č. 4 - bočný chodník vpravo, zošľapovanie vegetácie

riešenie: zahádzať bočný chodník

úsek č. 5 – bočný spätný chodník vpravo

riešenie: 5 m zábradlím zamedziť prechod, doznačiť chodník v opačnom smere

úsek č. 6 - zosunutý zerodovaný chodník vo svahu

riešenie: 4 m drevenou hradou spevniť chodník

úsek č. 7 - súbežné zerodované chodníky v dĺžke 40 m, zošľapovanie vegetácie na širokej ploche

riešenie: zahádzať vrchný chodník z oboch strán

úsek č. 8 - zosunutý zerodovaný chodník vo svahu

riešenie: 2 m drevenou hradou spevniť chodník

úsek č. 9 - náročný úsek vytvárajúci eróziu

riešenie: nainštalovať 4 m reťaz

úsek č. 10 – náročný úsek na skalnom stupni vytvárajúci eróziu brehu

riešenie: nainštalovať k reťazi 4 kovové stupy

úsek č. 11 - náročný prechod dreveným rebríkom

riešenie: nainštalovať k rebríku zábradlie alebo vymeniť rebrík za 8 kovových stupov do skaly

úsek č. 12 - náročný prechod so stúpačkami na skalnom stupni

riešenie: dodať jeden kovový stup do skaly

úsek č. 13 - súbežný chodník vľavo, zošľapovanie vegetácie

riešenie: zahádzať chodník vľavo, doznačkovať

úsek č.14 - erózia svahu na nejednoznačnom chodníku do svahu

riešenie: spevniť chodník vľavo, zahádzať pravú stranu k rieke a z opačnej strany dať zábradlie 4 m

úsek č. 15 - zosunutý zerodovaný chodník

riešenie: 5 m drevenou hradou spevniť chodník

úsek č. 16 - súbežne vzniknutý chodník, zošľapovanie vegetácie

riešenie: zamedziť zahádzaním ľavú stranu

úsek č. 17 - súbežne vzniknutý chodník na skalnom prahu vedľa rebríka, erózia pôdy

riešenie: dorobiť na drevených rebríkoch zábradlie, prípadne zrušiť rebrík a trasu nasmerovať pomocou 8 m kovovej reťaze na skalné rebro

úsek č. 18 - súbežne vzniknuté chodníky k mostíku nad Zelenou dolinu, zošľapovanie vegetácie

riešenie: zahádzať vrchný a spodný chodník, ponechať strednú cestu

úsek č. 19 - vzniknutý chodník od mostíku nad Zelenou dolinu k rieke, zošľapovanie svahu

riešenie: zahádzať spodný chodník

úsek č. 20 - silne zerodovaný úsek na skale

riešenie: nainštalovať 6 kovových stupov a 6 m kovovú reťaz

úsek č. 21 - silne zerodovaný úsek na zamokrenom mieste na chodníku, zošľapovanie vegetácie

riešenie: nainštalovať 7 m kovovú reťaz pri skale vo vrchnej časti

úsek č. 22 - súbežne vzniknutý spodný zerodovaný chodník, zošľapovanie vegetácie

riešenie: zahádzať vzniknutý chodník

úsek č. 23 - súbežne vzniknutý spodný zerodovaný chodník, zošľapovanie vegetácie

riešenie: zahádzať vzniknutý chodník

úsek č. 24 - náročný prechod cez drevené hradenie

riešenie: dorobiť kovovú reťaz 7 m

úsek č. 25 - súbežne vzniknutý spodný zerodovaný chodník, zošľapovanie vegetácie

riešenie: zahádzať vzniknutý chodník

úsek č. 26 - súbežne vzniknutý spodný zerodovaný chodník pred stúpačkami v Záreze, zošľapovanie vegetácie

riešenie: zahádzať vzniknutý chodník

úsek č. 27 - silne zerodovaný úsek na veľkej ploche

riešenie: smerovať trasu chodníka dobudovaním kovových traverzujúcich 7 kovových stupov a 8 stúpajúcich kovových stupov, dorobiť kovovú reťaz 20 m, zastabilizovať chodník v hornej časti, spodný zerodovaný chodník zahádzať

úsek č. 28 – súbežné chodníky pod reťazou, erózia svahu

riešenie: dorobiť kovovú reťaz 7 m, zahádzať spodnú časť

úsek č. 29 - súbežný chodník vedľa rebríka vľavo, zošľapovanie vegetácie

riešenie: dorobiť zábradlie k rebríku

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úsek č. 30 - zbytočná reťaz

riešenie: odstrániť

úsek č. 31 - zerodovaný svah na skalnom prahu

riešenie: dorobiť 5 m kovovú reťaz

úsek č. 32 - zerodovaný zostup svahom k Lanovej lávke

riešenie: na 45 m stabilizovať drevenými mantinelmi serpentíny, dať 45 m zábradlia a zahádzať skracovanie

úsek č. 33 - zerodovaný svah na chodníku

riešenie: presunúť 8 kovových stupov na spodnú časť chodníka a dorobiť 15 m reťaz

úsek č. 34 - skalnatý úsek s reťazou

riešenie: vysekať 4 pomocné kovové stupy do skaly

úsek č. 35 - zosunutý svah za novou kovovou lávkou

riešenie: dorobiť 2 kovové stupy

úsek č. 36 - súbežné chodníky

riešenie: horný chodník zahádzať a dolný spevniť dreveným hradením na 14 m

úsek č. 37 - súbežné chodníky vedľa drevenej sústavy rebríkov Tobogan, erózia svahu

riešenie: dorobiť zábradlia k rebríkom, zahádzať bočné skratky

úsek č. 38 - zerodovaný svah na chodníku

riešenie: zrušiť hornú reťaz, zahádzať vrchný chodník, chodník presunúť dole pomocou 10 m reťaze

úsek č. 39 - súbežné chodníky vo svahu, zošľapovanie vegetácie

riešenie: zahádzať vrchný chodník, spevniť spodný chodník 6 m dreveným hradením

úsek č. 40 - silne zerodovaný svah na zostupe k Vlčej doline

riešenie: zahádzať skratky, za zábradlím dorobiť 5 m kovovej reťaze a chodník nasmerovať popri rieke značením

úsek č. 41 - silne zerodovaný úsek chodníka

riešenie: zahádzať bočné chodníky, smerovať chodník stredom pomocou 20 m dreveného hradenia

úsek č. 42 - súbežný chodník, zošľapovanie vegetácie

riešenie: zahádzať ľavý chodník

úsek č. 43 - súbežný chodník, zošľapovanie vegetácie

riešenie: zahádzať pravý chodník

úsek č. 44 - zošľapovaný svah pod chodníkom

riešenie: zamedziť dolnému chodníku osadením 7 m zábradlia, zahádzať

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úsek č. 45 - zošľapovaný svah pod chodníkom

riešenie: dolný chodník zahádzať a vpravo dohora osadiť 6 kovových stupov a 6 m reťaze, z opačnej strany dopojiť 8 m kovovej reťaze, spevniť svah dreveným hradením na 6 m

úsek č. 46 - zošľapovaný svah na chodníku

riešenie: spevniť svah dreveným hradením na 5 m

úsek č. 47 - náročný skalnatý úsek

riešenie: dorobiť 4 kovové stupy a napnúť reťaz

úsek č. 48 - ťažký skalnatý úsek s eróziou

riešenie: dorobiť 5 m kovovú reťaz, zahádzať spodnú časť

úsek č. 49 - ťažký skalnatý úsek s eróziou

riešenie: dorobiť 10 m kovovú reťaz

úsek č. 50 - dva súbežné chodníky, zošľapovanie vegetácie

riešenie: pôvodné kotvenie reťaze preložiť na spodný chodník

úsek č. 51- zerodovaný chodník

riešenie: spevniť dreveným hradením 3 m úsek a 4 m úsek

úsek č. 52- zerodovaný chodník

riešenie: doplniť k úseku 4 kovové stupy , 10 kovovej reťaze, spadnutý drevený rebrík odstrániť

úsek č. 53 - zle umiestnené reťaze

riešenie: vymeniť reťaze za nové a uložiť ich vyššie

úsek č. 54 - súbežné chodníky vedľa drevenej sústavy rebríkov, erózia svahu

riešenie: dorobiť zábradlia k rebríkom, zahádzať bočné skratky

úsek č. 55 - zerodovaný svah

riešenie: dorobiť 7 m kovovú reťaz

úsek č. 56 - nespevnený chodník

riešenie: dorobiť 8 m drevenú hradu

úsek č. 57 - nespevnený chodník padajúci do rieky, v zime zaľadnený

riešenie: dorobiť 10 m železný rošt, prípadne 12 m kovovú reťaz

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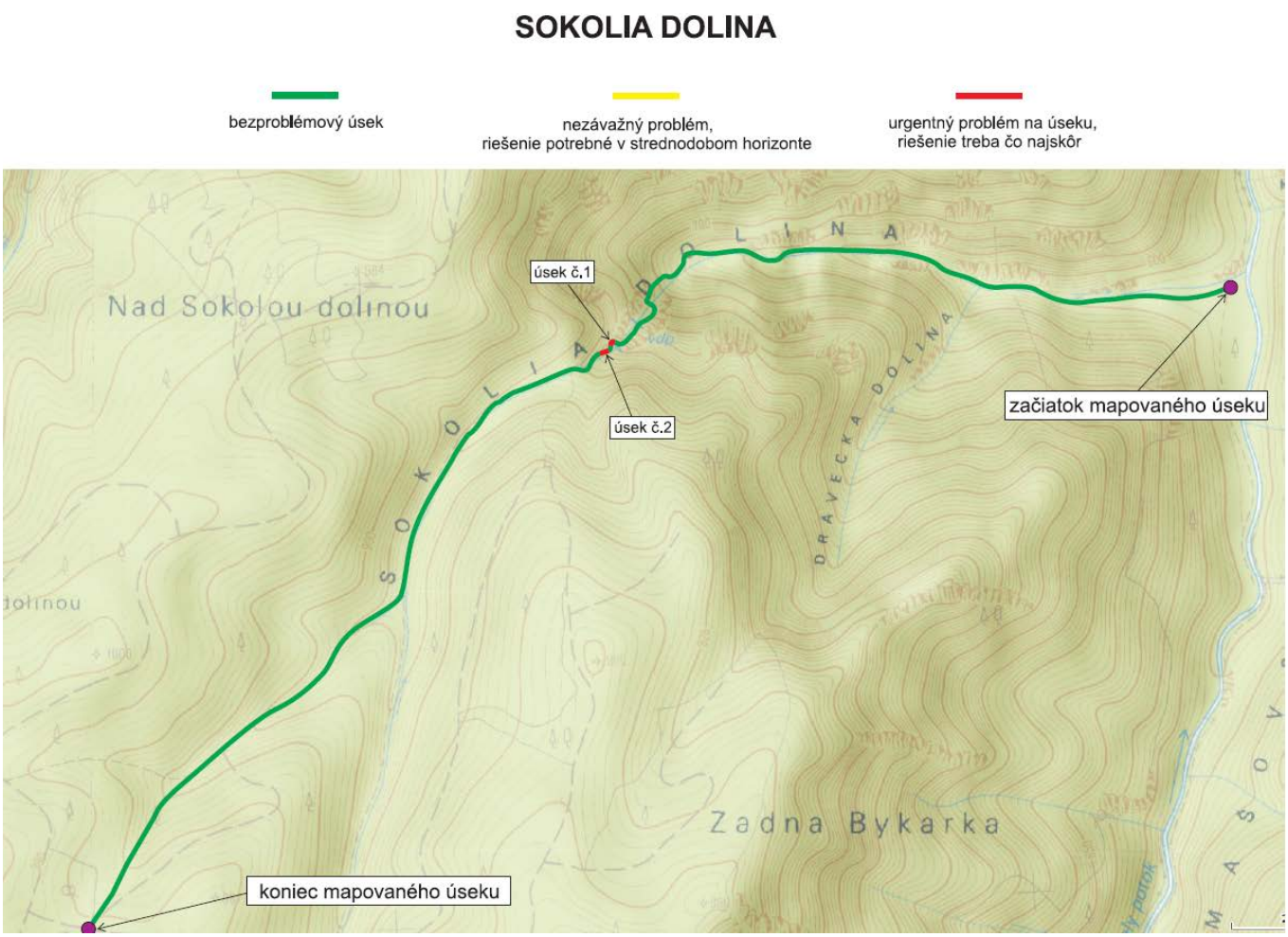
5. SOKOLIA DOLINA – žltá značená turistická trasa č. 8741



Dĺžka trasy: 2,5 km

Prevýšenie: 433 m

Začiatok mapovania problematického úseku - 48.9305775N, 20.4254347E

Koniec mapovania problematického úseku - 48.9214136N, 20.4005439E

Dĺžka zmapovanej trasy: 2,5 km

Problematické úseky na trase

úsek č. 1 - obtiažny zostup z mostíka a prestup k stúpačkam

riešenie: dorobiť 1 kovový stup na zostup z mostíka, dorobiť 2 kovové stupy a 2 m kovoú reťaz k stúpačkam

úsek č. 2 - obtiažny zostup zo starej stúpačky do riečiska

riešenie: dorobiť 1 kovový stup do skaly potom upraviť breh v riečisku hradením

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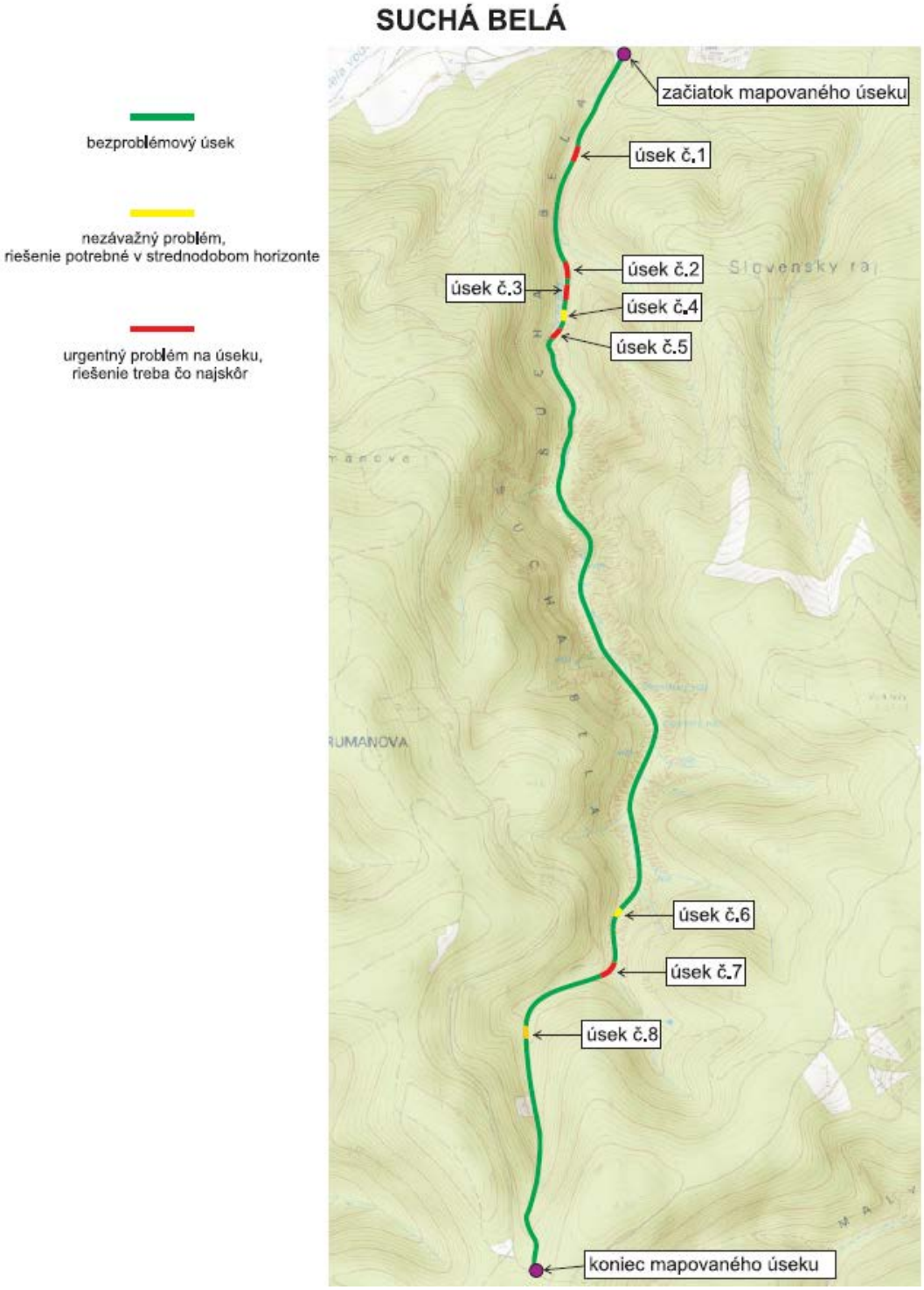
6. SUCHÁ BELÁ – zelená značená turistická trasa č. 5725



Dĺžka trasy: 4,0 km

Prevýšenie: 414 m

Začiatok mapovania problematického úseku - 48.9623286N, 20.3847428E

Koniec mapovania problematického úseku - 48.9344122N, 20.3814061E

Dĺžka zmapovanej trasy: 3,9 km

Problematické úseky na trase

úsek č. 1 – vznik bočného zerodovaného chodníka do svahu , zošľapovanie vegetácie

riešenie: osadiť na skalnom stupni v riečisku 6 m kovovú reťaz

úsek č. 2 – vznik bočných chodníkov do svahu mimo riečiska, zošľapovanie vegetácie

riešenie : osadiť 8 m drevený rebrík cez riečisko na ľavú stranu, následne vľavo nainštalovať 40 kovových stupov a 20 m kovovej reťaze

úsek č. 3 - ťažko priechodný úsek chodníka za zvýšeného stavu vody, zošľapovanie vo svahu

riešenie: osadiť po pravej strane 30 kovových stupov a 15 m kovovej reťaze

úsek č. 4 – ťažko priechodný úsek za zvýšeného stavu vody, obnažený svah na ľavej časti vzniknutý zošľapovaním

riešenie: osadiť na skalnom stupni vpravo 10 kovových stupov a 5 m kovovej reťaze

úsek č. 5 – úzka časť trasy, ťažko priechodná za zvýšeného stavu vody, zošľapovanie svahu vľavo vytvorením bočného chodníka

riešenie: osadiť 6 drevených 5 metrových rebríkov na konzolách v skale

úsek č. 6 – ťažko priechodný úsek na skalnom stupni, erózia svahu

riešenie: osadiť 2 kovové stupy do skaly pred staršími kovovými stupmi

úsek č. 7 - obnažené korene stromov, poškodenie stromov, erózia pôdy

riešenie: nainštalovať 5 drevených 6 metrových rebríkov ponad korene

úsek č. 8 – poškodený svah eróziou pôdy po zošľapovaní bočným chodníkom vpravo

riešenie: zahádzať bočný chodník

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7. V KYSELI – KYSEĽ, RÁZCESTIE – časť náučného chodníka

Dĺžka trasy: 0,3 km

Prevýšenie: 5 m

Začiatok mapovania problematického úseku - 48.93925N, 20.41040E

Koniec mapovania problematického úseku – 48.93860N, 20.40778E

Dĺžka zmapovanej trasy: 0,3 km

Problematické úseky na trase

úsek č. 1 – vznik súbežného zerodovaného chodníka, zošľapovanie vegetácie

riešenie: zahádzať súbežný chodník vpravo, doznačiť trasu vľavo

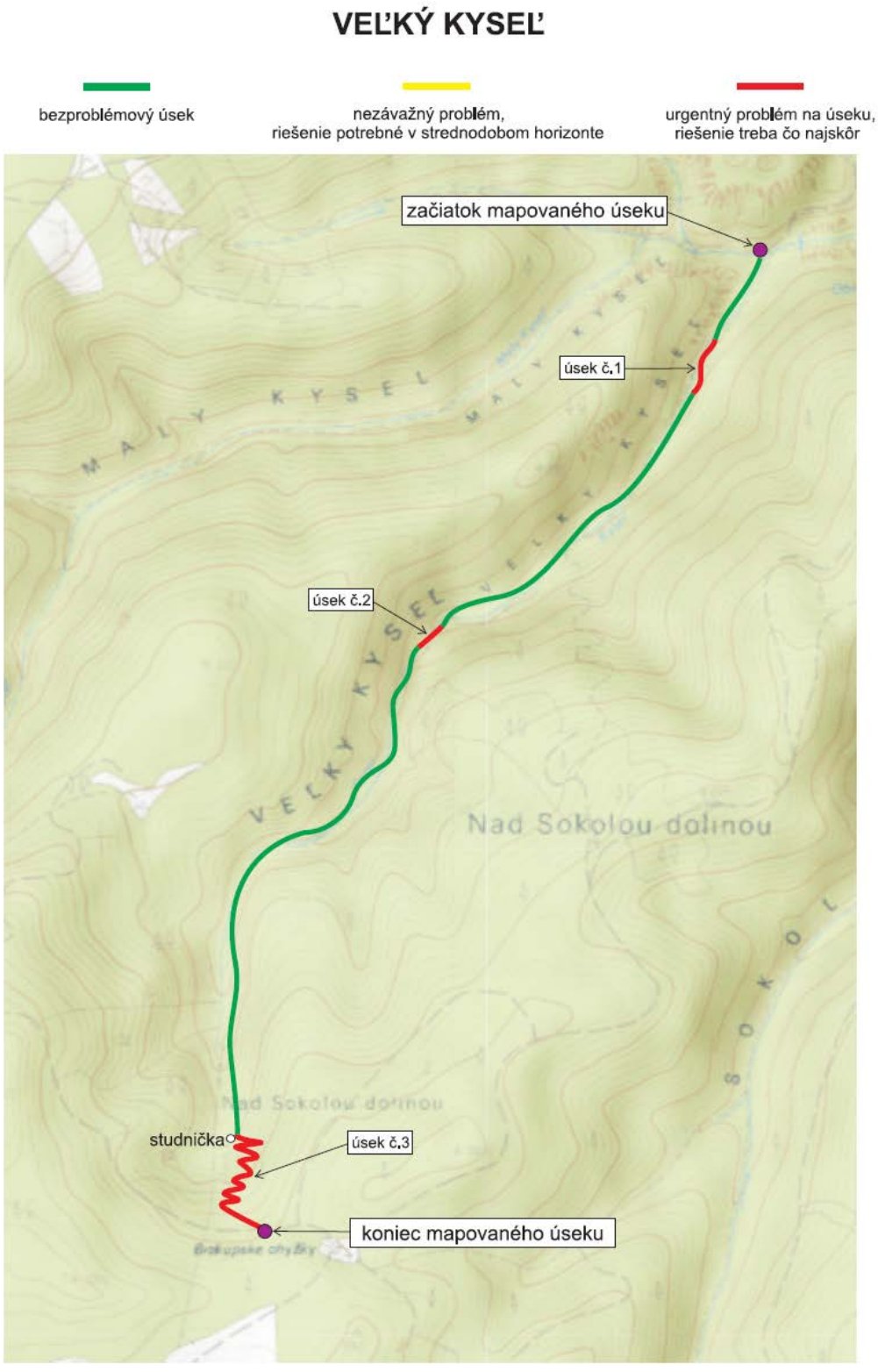
úsek č. 2 – ťažko zostupný chodník svahom k riečisku, zerodovaný svah

riešenie: vybudovať 4 schody, prerezať strom

úsek č. 3 – ťažko priechodný chodník na kovových stupoch

riešenie: prerezať stromy

8. VEĽKÝ KYSEĽ – zelená značená turistická trasa č. 5745



Dĺžka trasy: 2,3

Prevýšenie: 274 m

Začiatok mapovania problematického úseku - 48.9386400N, 20.4079078E

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Koniec mapovania problematického úseku - 48.9240639N, 20.3961061E

Dĺžka zmapovanej trasy: 2,3 km

Problematické úseky na trase

úsek č. 1 – úsek s popadanými stromami, dochádza k obchádzaniu chodníka, zošľapovanie vegetácie

riešenie: odstrániť stromy

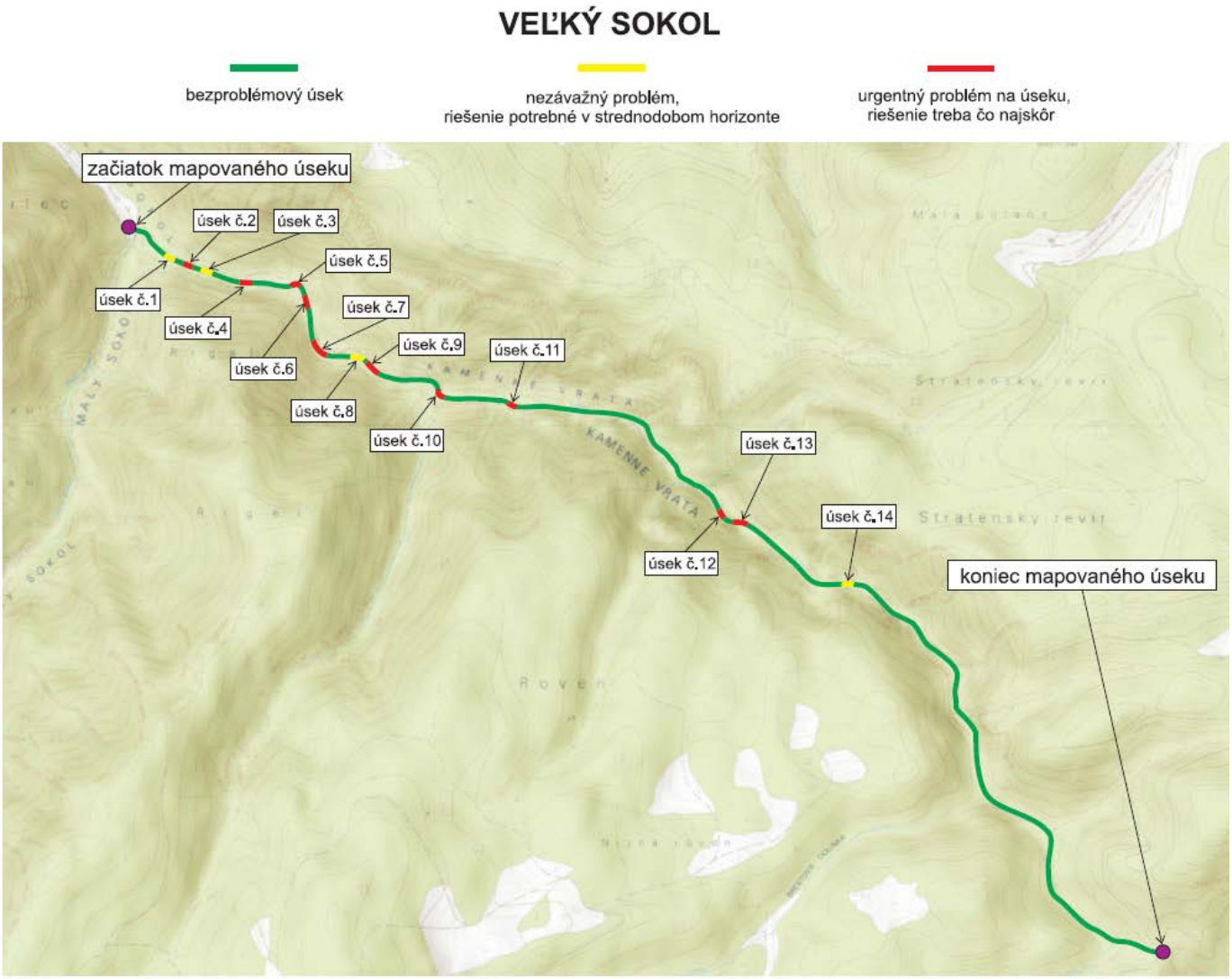
úsek č. 2 – zerodovaný svah nad vodopádom Ochrancov prírody

riešenie: posledný drevený rebrík v riečisku vymeniť za 3 m kovovú reťaz a spevniť svah

úsek č. 3 - zerodovaný svah na veľkej ploche nad studničkou kvôli skracovaniu chodníka na 10 zákrutách, zošľapovanie vegetácie

riešenie: zahádzať skracovanie chodníka na 4 plochách cca 100 m2

9. VEĽKÝ SOKOL – žltá značená turistická trasa č. 8772



Dĺžka trasy: 6,0 km

Prevýšenie: 289 m

Začiatok mapovania problematického úseku - 48.9237608N, 20.3424189E

Koniec mapovania problematického úseku - 48.9042086N, 20.3831564E

Dĺžka zmapovanej trasy: 4,2 km

Problematické úseky na trase

úsek č. 1 - bočný zerodovaný chodník do svahu vľavo

riešenie : zahádzať chodník

úsek č. 2 – zerodovaný breh toku cez ktorý trasa chodníka prechádza

riešenie: vybudovať 3 schody v brehu

úsek č. 3 - široké riečisko, ťažko priechodný chodník za zvýšeného stavu vody

riešenie: vybudovať cez tok premostenie 5 m dreveným rebríkom

úsek č. 4 – široké riečisko, ťažko priechodný úsek za zvýšeného stavu vody

riešenie: vybudovať cez tok premostenie 8 m dreveným rebríkom

úsek č. 5 – zerodovaný breh toku zošľapovaním, nejednoznačný chodník

riešenie: vybudovať premostenie z brehu 4 m dreveným rebríkom cez tok doprava

úsek č. 6 – ťažko priechodný úsek, vznik zerodovaného bočného chodníka vľavo do svahu

riešenie: vybudovať drevené hradenie pri pravom brehu o dĺžke 8 m alebo 2 ks 4 m drevené rebríky na konzolách

úsek č. 7 - ťažko priechodný úsek, nevyužitý utopený rebrík, zerodovaný svah za rebríkom

riešenie: premiestniť rebrík v riečisku

úsek č. 8 – ťažko priechodný úsek, vznik bočného chodníka vpravo, zošľapovanie vegetácie

riešenie: vybudovať cez tok 4 m drevený rebrík

úsek č. 9– ťažko priechodný úsek, vznik bočného chodníka vľavo do svahu

riešenie: vybudovať cez tok 5 m drevený rebrík

úsek č. 10 – ťažko priechodný úsek, vznik bočného chodníka vľavo do svahu, zošľapovanie vegtácie

riešenie: vybudovať cez tok 5 m drevený rebrík

úsek č. 11 - ťažko priechodný úsek na skalnom stupni s nefunkčným dreveným rebríkom, obchádzanie a zošľapovanie svahu

riešenie: osadiť 4 kovové stupy a 4m reťaz

úsek č. 12 - zerodovaný svah, nejednoznačný chodník, súbežné chodníky

riešenie: zahádzať bočné chodníky, doznačkovať smer trasy

úsek č. 13 - ťažko priechodný úsek, napadané stromy v riečisku

riešenie: prerezať stromy, dohádzať skaly na prechod doprava

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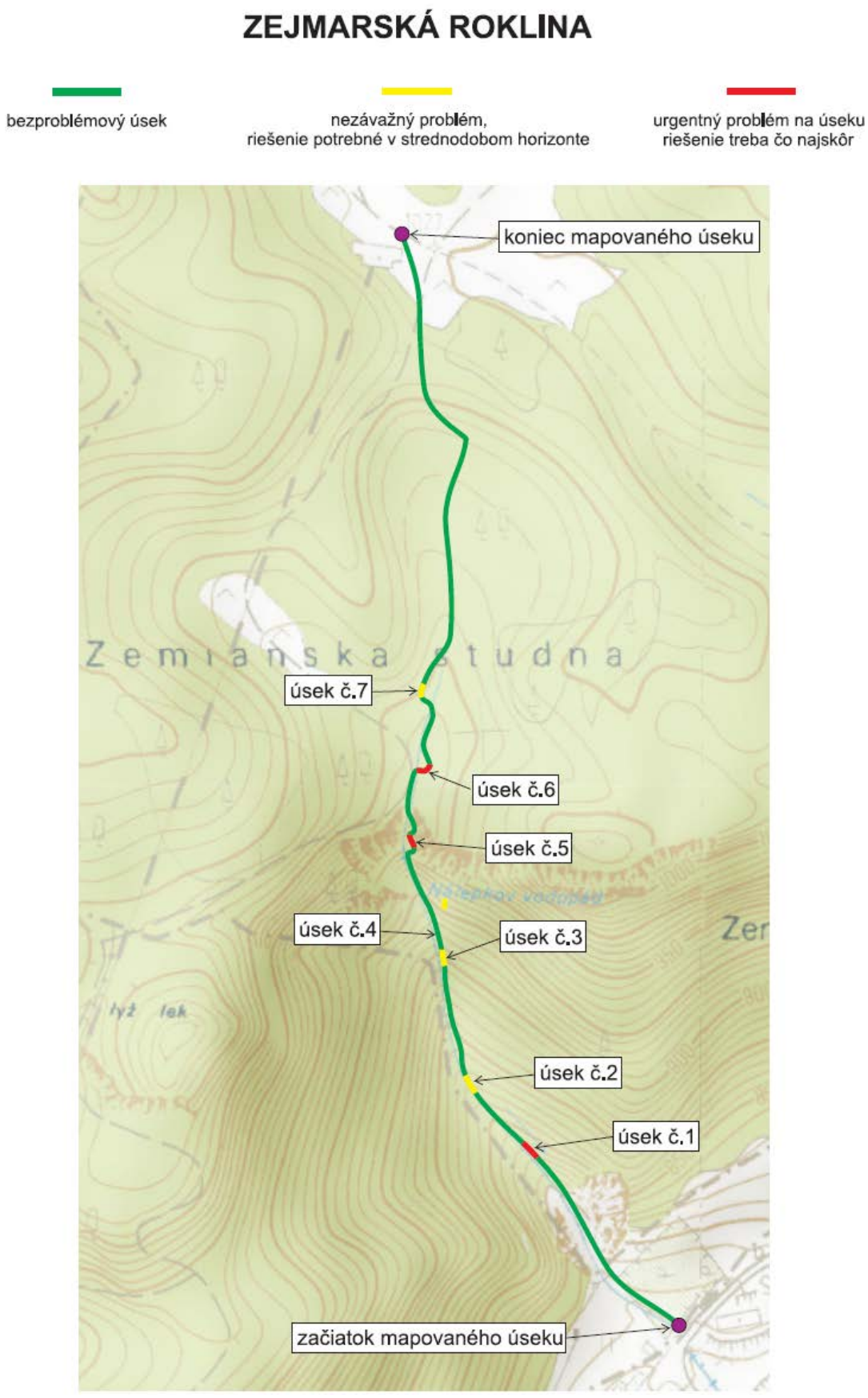
10. ZEJMARSKÁ ROKLINA – modrá značená turistická trasa č. 2861



Dĺžka trasy: 1,0 km

Prevýšenie: 239 m

Začiatok mapovania problematického úseku - 48.8709253N, 20.4003828E

Koniec mapovania problematického úseku - 48.8802114N, 20.3966064E

Dĺžka zmapovanej trasy: 1,0 km

Problematické úseky na trase

úsek č. 1 - náročný skalný stupeň so stúpačkou, vznik bočného chodníka vľavo, zošľapovanie vegetácie

riešenie: dorobiť k stúpačke 6 m kovovú reťaz na skalnom stupni

úsek č. 2 - náročný skalný stupeň so starou reťazou

riešenie: predĺžiť a dať novú 8 m kovovú reťaz

úsek č. 3 - náročný skalný stupeň za kovovým rebríkom

riešenie: dať za rebríkom novú 4 m kovovú reťaz

úsek č. 4 - náročný skalný stupeň so starou reťazou, erózia svahu, zošľapovanie vegetácie

riešenie: urobiť do skaly novú 8 m kovovú reťaz a 6 kovových stupov

úsek č. 5 - náročný skalný stupeň s nebezpečne trčiacim starým kotvením(konzolou)

riešenie: urobiť do skaly 4 kovové stupy

úsek č. 6 - zerodovaný svah na veľkej ploche pri drevenom rebríku za stúpačkami, za ním bočné chodníky do svahu k vyhliadkam

riešenie: presmerovať chodník riečiskom vybudovaním 25 ks kovových stupov a 20 m kovovej reťaze do skaly po pravej strane, odstrániť rebrík bez zábradlia

úsek č. 7 - súbežný chodník, zošľapovanie vegetácie

riešenie: zahádzať súbežný chodník vľavo

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11. Biely potok, rázcestie - Kláštorisko - modrá značená turistická trasa č. 5723

Dĺžka trasy: 2,9 km

Prevýšenie: 271 m

Začiatok mapovania problematického úseku - 48.9442111N, 20.4566717E

Koniec mapovania problematického úseku - 48.9426044N, 20.4279183E

Dĺžka zmapovanej trasy: 2,4 km

Problematické úseky na trase

úsek č. 1 - úsek so serpentínami (7 zákrut) - silno zerodovaný svah na veľkej ploche vzniknutý skracovaním serpentín

riešenie: zahádzať skracovanie a osadiť zábradlia:

medzi 1-4 zákrutou zábradlie o dĺžke 70 m - foto - 9013, 9014
medzi 4-5 zákrutou zábradlie o dĺžke 30 m - foto 9015
medzi 5-6 zákrutou zábradlie o dĺžke 20 m - foto 9016

úsek č. 2 – úsek nad zákrutou 7 - zerodovaný skalný úsek, zošľapovanie vegetácie na svahu

riešenie: zahádzať bok

úsek č. 3 - skracovanie chodníka, zošľapovanie vegetácie na svahu

riešenie: zahádzať skratku a urobiť 7 m drevené zábradlie

úsek č. 4 - široký chodník s nespevneným okrajom, erózia svahu

riešenie: spevniť okraj drevenou hradou a zahádzať bok

úsek č. 5 - úsek so serpentínami (8 zákrut) - silno zerodovaný svah na veľkej ploche vzniknutý skracovaním serpentín

riešenie: zahádzať skracovanie osadiť zábradlia reťaze:

medzi 1-2 zákrutou - osadiť zábradlie, spevniť chodník drevenou hradou o dĺžke 30 m - foto 9022
medzi 2-3 zákrutou - osadiť zábradlie 8 m - foto 9024
medzi 3-4 zákrutou - osadiť zábradlie o dĺžke 12 m a hranu chodníka spevniť drevenou hradou - foto 9025
medzi 4-5 zákrutou osadiť 10 m kovovú reťaz a spevniť drevenou hradou chodník -foto 9026
medzi 5-6 zákrutou osadiť 10 m nové zábradlie a spevniť drevenou hradou chodník - foto 9027
nad starou reťazou vľavo zahádzať chodník a hranu chodníka spevniť 8 m drevenou hradou - foto 9028
ďalšiu starú reťaz napnúť a doplniť jeden stĺpik reťaze - foto 9029, foto 9030
pred ďalšou reťazou spevniť chodník drevenou hradou 8 m - foto 9031
medzi 7 - 8 zákrutou - dorobiť zábradlie o dĺžke 15 m - foto 9032
nad 8 zákrutou - zahádzať skracovanie a urobiť drevenú hradu + zábradlie 10 m-foto 9033
povyše spevniť okraj chodníka a pravú stranu zahádzať - foto 9034
usmerniť trasu 5 m zábradlím vpravo - foto 9035

úsek č. 6 - široký chodník so súbežnými chodníkmi, zošľapovanie vegetácie na svahu

riešenie: zahádzať bočné chodníky v úseku 6 m

úsek č. 7 - bočný chodník široký chodník, zošľapovanie vegetácie na svahu

riešenie: zahádzať ľavý chodník v úseku 8 m

úsek č. 8 - bočný chodník, zošľapovanie vegetácie na svahu

riešenie: zahádzať ľavý chodník v úseku 10 m

úsek č. 9 - plošné skracovanie, eróziou svahu

riešenie: zamedziť skracovaniu v dĺžke 40 m zahádzaním ľavej časti , doznačením, inštaláciou zábradlia 2 x 4 m, hradenie chodníka v dĺžke 10 m

úsek č. 10 - vznik súbežného chodníka, zošľapovanie vegetácie

riešenie: zamedziť zahádzaním prechod vľavo

úsek č. 11 - vznik súbežného chodníka vľavo, zošľapovanie vegetácie

riešenie: zamedziť zahádzaním prechod vľavo, dorobiť drevené hradenie v dĺžke 4 m

úsek č. 12 - vznik súbežných chodníkov, zošľapovanie vegetácie

riešenie: zamedziť bočné chodníky zahádzaním

úsek č. 13 - vznik bočného chodníka k zarastenej vyhliadke, zošľapovanie vegetácie

riešenie: zamedziť bočný chodník zahádzaním

úsek č. 14 - vznik plošnej erózie v svahu nejednoznačnosťou chodníka v dĺžke 25 m

riešenie: vytýčiť smer inštalovaním zábradlia v úseku 20 m, doznačiť smer trasy

úsek č. 15 - vznik plošnej erózie v svahu nejednoznačnosťou chodníka v dĺžke 20 m

riešenie: vytýčiť smer inštalovaním dreveného zábradlia v úseku 20 m, doznačiť smer trasy stredom svahu

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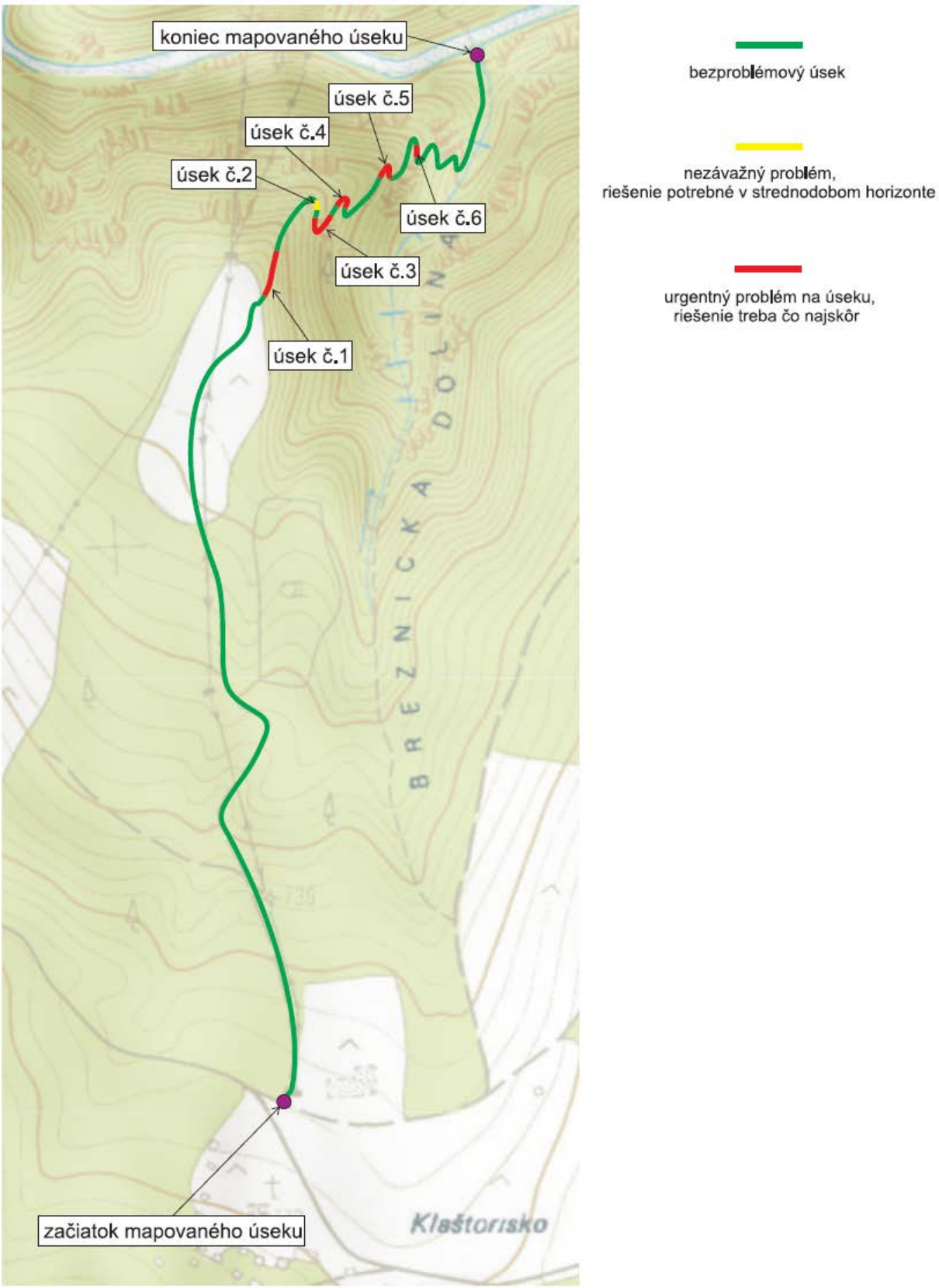
12. KLÁŠTORISKO – KLÁŠTORSKÁ ROKLINA, ústie – žltá značená trasa č. 8740

KLÁŠTORISKO - KLÁŠTORNÁ ROKLINA, ÚSTIE



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Dĺžka trasy: 1,3 km

Prevýšenie: 250 m

Začiatok mapovania problematického úseku - 48.9442997N, 20.4206631E

Koniec mapovania problematického úseku - 48.9442997N, 20.4206631E

Dĺžka zmapovanej trasy: 1,1 km

Problematické úseky na trase

úsek č. 1 – súbežné zerodované bočné zostupové chodníky na skalnatom svahu v dĺžke 30 m, erózia svahu zošľapovaním

riešenie: stabilizovať svah hradením sprava, upraviť úsek 4 schodmi, opraviť kovovú reťaz a zahádzať vrchnú časť

úsek č. 2 – reťaz pod zábradlím previsnutá

riešenie: doplniť jeden stĺpik na kovovú reťaz

úsek č. 3 - skracovanie chodníka, zošľapovaný svah, poškodzovanie vegetácie

riešenie: zahádzať skratku a na 3 m spevniť okraj chodníka

úsek č. 4 - zošľapovaný svah v pravotočivej zákrute chodníka

riešenie: dorobiť jeden kovový stup + 5 m kovovej reťaze

úsek č. 5 - zošľapovaný svah v serpentíne chodníka

riešenie: zamedziť skracovaniu, spevniť chodník drevenou hradou, osadiť 6 m kovovej reťaze a 4 m dreveného zábradlia vpravo

úsek č. 6 - zošľapovaný svah v ľavotočivej zákrute chodníka pod vyhliadkou

riešenie: osadiť 4 m kovovú reťaz a zahádzať bočný chodník

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13. KLÁŠTORISKO - LETANOVSKÝ MLYN – červená značená trasa č. 0911

Dĺžka trasy: 2,5 km

Prevýšenie: 257 m

Začiatok mapovania problematického úseku - 48.9490908N, 20.4364131E

Koniec mapovania problematického úseku - 48.9541514N, 20.4423783E

Dĺžka zmapovanej trasy: 1,0 km

Problematické úseky na trase

úsek č. 1 – na serpentínovom zostupovom úseku červenej TZT vzniká skracovaním trasy na 3 úsekoch v dĺžke 200 m erózia svahu, zošľapovanie vegetácie

riešenie: zamedziť skracovaniu trasy zahádzaním 3 skratiek, v prvom úseku osadiť zábradlie v dĺžke 20 m

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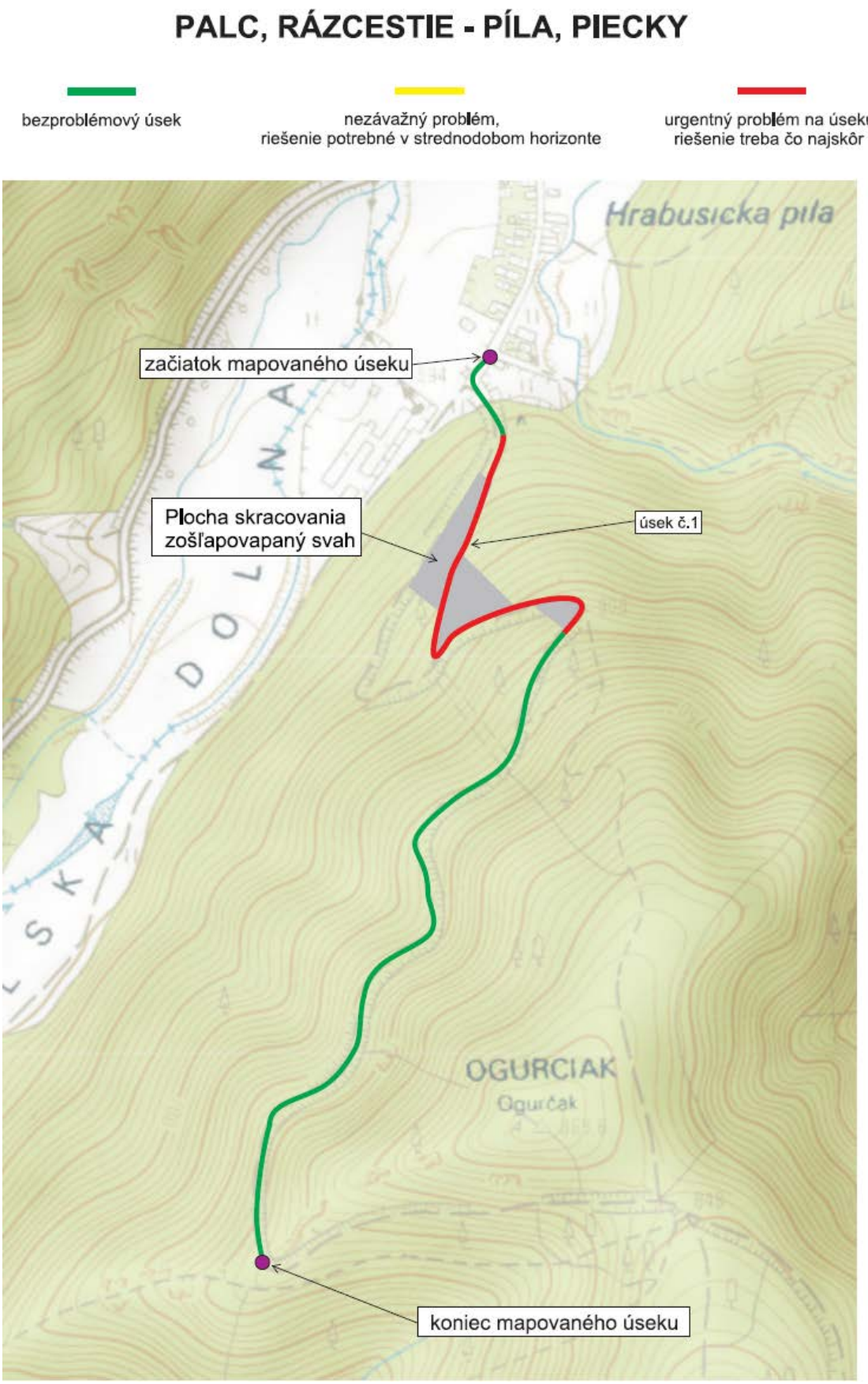
14. PALC, RÁZCESTIE - PÍLA, PIECKY – žltá značená trasa č. 8889



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Dĺžka trasy: 1,5 km

Prevýšenie: 287 m

Začiatok mapovania problematického úseku - 48.9347275N, 20.3433939E

Koniec mapovania problematického úseku - 48.9433328N, 20.3465939E

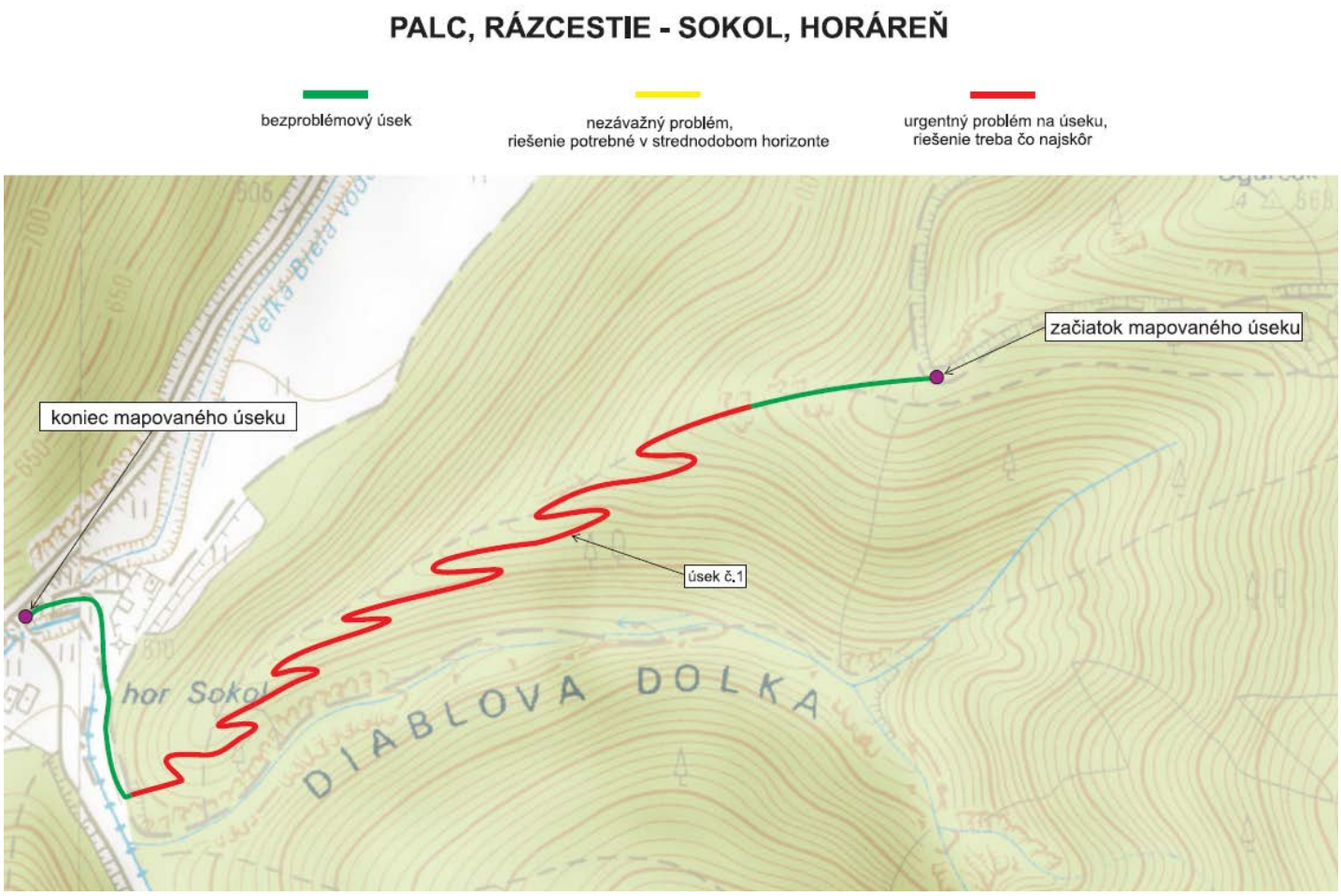
Dĺžka zmapovanej trasy: 1,5 km

Problematické úseky na trase

úsek č. 1 – na spodnom prudkom zostupovom úseku žltej trasy vzniká skracovaním trasy na 9 úsekoch v dĺžke 400 m erózia svahu a zošľapovanie vegetácie

riešenie: zamedziť skracovaniu trasy zahádzaním 10 skratiek

15. PALC, RÁZCESTIE – SOKOL, HORÁREŇ – červená značená trasa č. 0910



Dĺžka trasy: 2,0 km

Prevýšenie: 258 m

Začiatok mapovania problematického úseku - 48.9347275N, 20.3433939E

Koniec mapovania problematického úseku - 48.9333181N, 20.3335475E

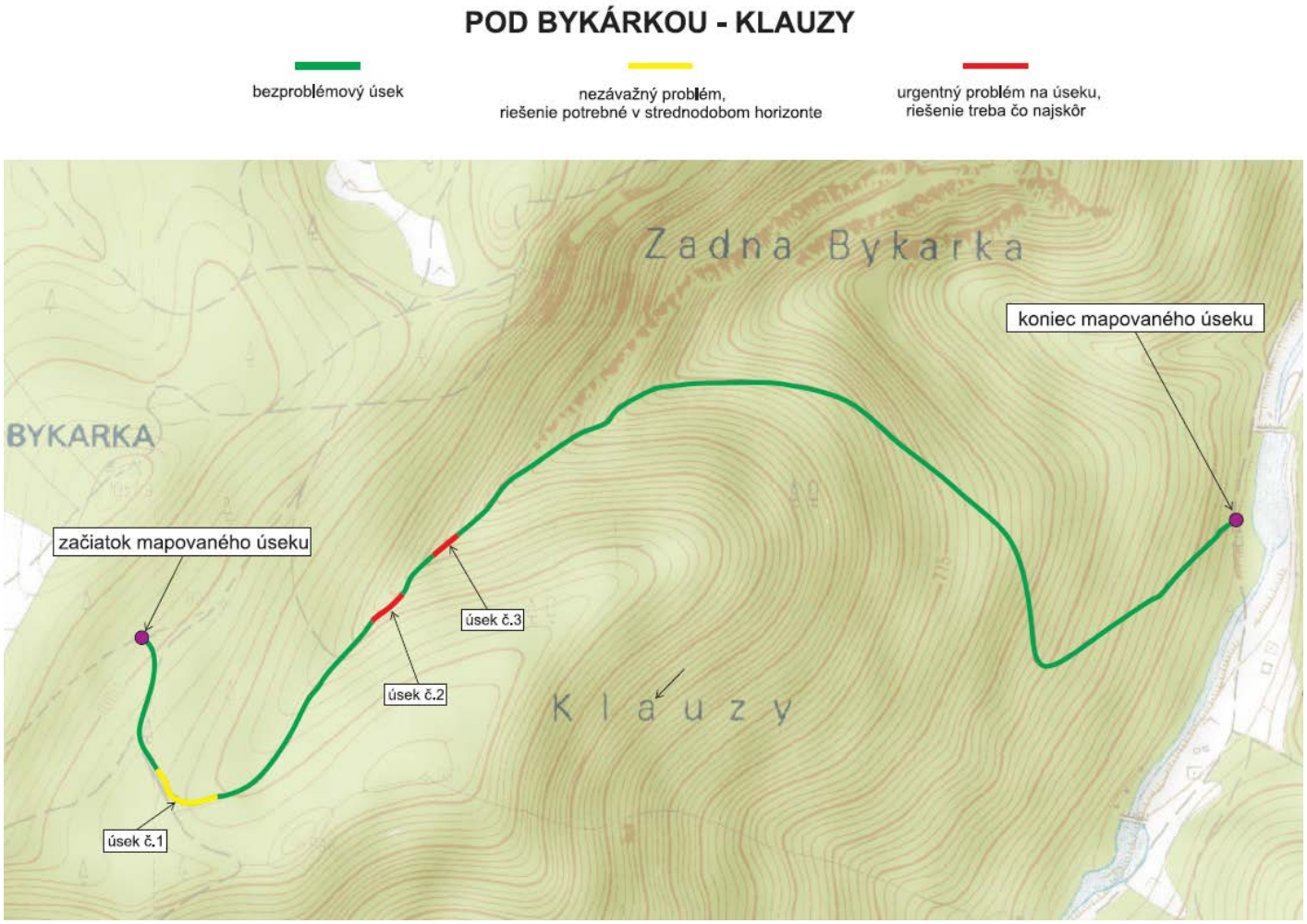
Dĺžka zmapovanej trasy: 2,0 km

Problematické úseky na trase

úsek č. 1 – na celom zostupovom úseku trasy sa nachádza 14 serpentín (zákrut) medzi ktorými vzniká skracovanie trasy , erózia svahu skracovaním a zošľapovanie vegetácie

riešenie: zahádzať skracovanie trasy zahádzaním 14 skratiek na ploche cca 220 m2, v spodnom úseku na poslednej serpentíne dorobiť 20 m drevené zábradlie

16. POD BYKÁRKOU - KLAUZY– žltá značená turistická trasa č. 8742



Dĺžka trasy: 2,0 km

Prevýšenie: 478 m

Začiatok mapovania problematického úseku - 48.91153N, 20.40055E

Koniec mapovania problematického úseku – 48.91276N, 20.41797E

Dĺžka zmapovanej trasy: 2,0 km

Problematické úseky na trase

úsek č. 1 – vznik súbežného zerodovaného chodníka, zošľapovanie vegetácie

riešenie: zahádzať súbežný chodník vľavo, doznačiť trasu vpravo

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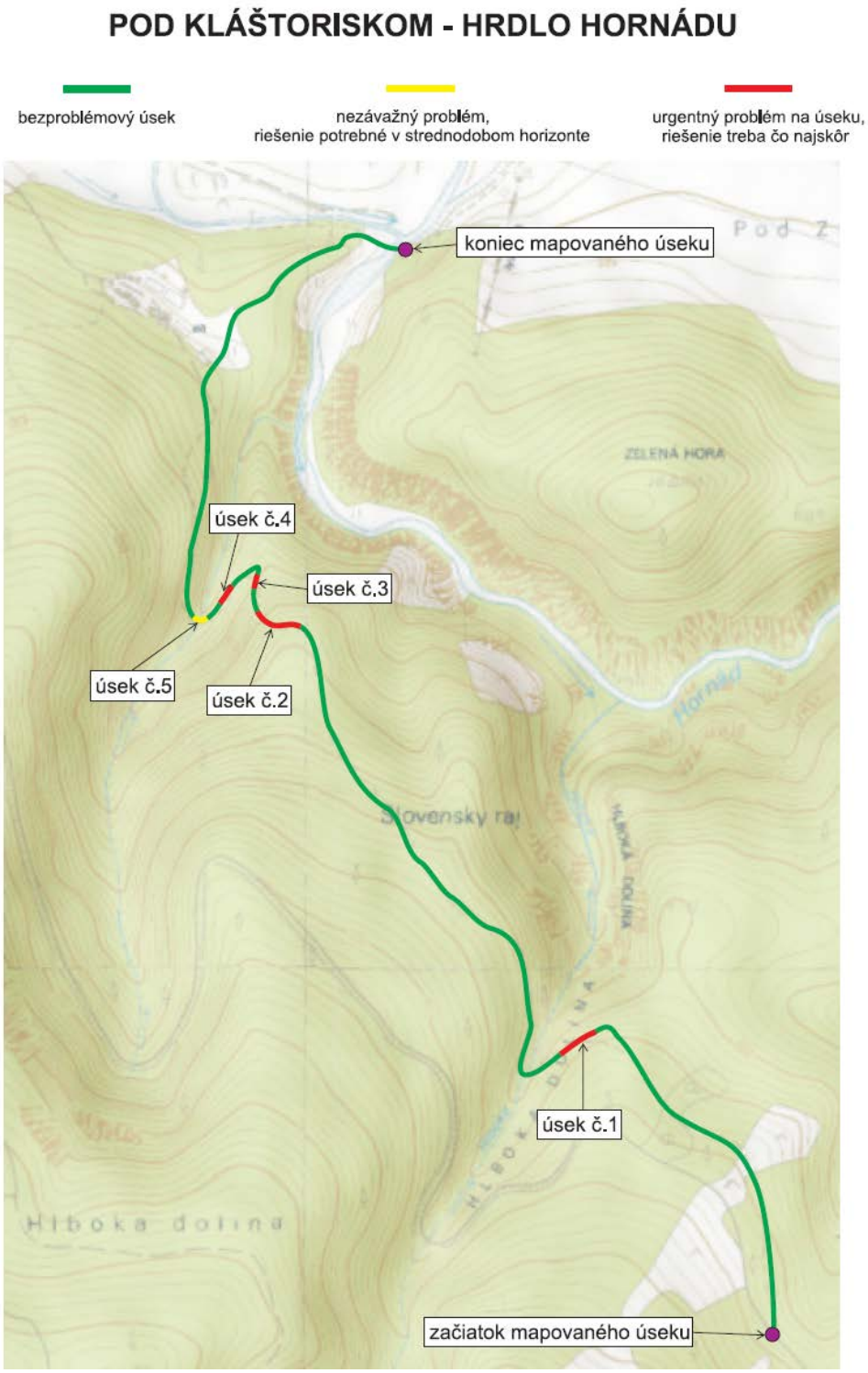
úsek č. 2 - vznik súbežného zerodovaného chodníka, zošľapovanie vegetácie

riešenie: prerezať strom na pravom chodníku, ľavý chodník zahádzať

úsek č. 3 – ťažko priechodný chodník v údolí, zošľapovanie vegetácie obchádzkami do svahu

riešenie: prerezať stromy

17. POD KLÁŠTORISKOM – HRDLO HORNÁDU – zelená značkovaná trasa č. 5726



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Dĺžka trasy: 2,3 km

Prevýšenie: 197 m

Začiatok mapovania problematického úseku - 48.9490392N, 20.4098364E

Koniec mapovania problematického úseku - 48.9621572N, 20.4030342E

Dĺžka zmapovanej trasy: 2,3 km

Problematické úseky na trase

úsek č. 1 – široko vyšľapávaný chodník na dvoch skalných prahoch chodníka

riešenie: na horný prah osadiť 4 m kovovú reťaz, na dolný 6 m kovovú reťaz a zahádzať zošľapované bočné chodníky

úsek č. 2 – zošľapovaný bočný chodník vytvárajúci skracovanie chodníka, erózia svahu

riešenie: zahádzať skratku chodníka

úsek č. 3 - zošľapovaný svah vpravo od chodníka so skracovaním vytvára silnú eróziu svahu

riešenie: napravo nainštalovať 30 m drevené zábradlie, zo spodnej strany 40 m drevené zábradlie

úsek č. 4 - zerodovaný skalný stupeň chodníka

riešenie: dorobiť 2 kovové stupy a nainštalovať 3 m kovovú reťaz

úsek č. 5 - šmykľavé zerodované dno doliny

riešenie: vykopať a upraviť 4 schody vo svahu

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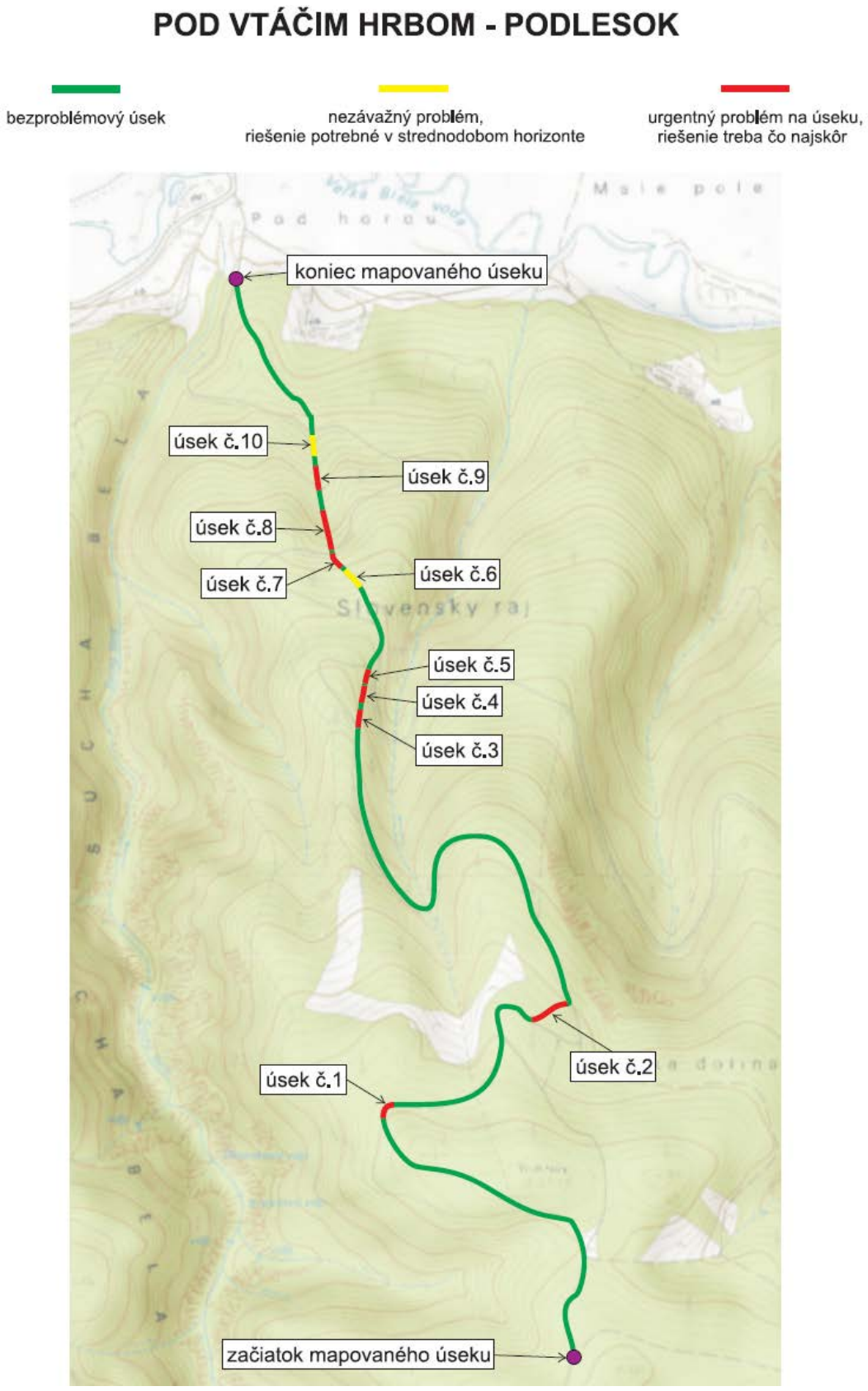
18. POD VTÁČIM HRBOM – PODLESOK – červená značená turistická trasa č. 0911



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Dĺžka trasy: 4,2 km

Prevýšenie: 370 m

Začiatok mapovania problematického úseku - 48.9445786N, 20.3950950E

Koniec mapovania problematického úseku - 48.9641714N, 20.3851708E

Dĺžka zmapovanej trasy: 4,1 km

Problematické úseky na trase

úsek č. 1 - vyšľapávaný bočný chodník vľavo k zarastenej vyhliadke

riešenie: zahádzať chodník

úsek č. 2 – vyšľapávané bočné chodníky na 3 miestach vytvárajúce eróziu svahu

riešenie: zahádzať chodníky v úseku 50 m

úsek č. 3 - spodný zerodovaný chodník

riešenie: zahádzať chodník, preznačiť trasu značkami vľavo

úsek č. 4 - vznik bočného chodníka vpravo mimo trasy, zošľapovanie vegetácie

riešenie: zahádzať chodník

úsek č. 5 - vznik bočného chodníka vpravo, zošľapovanie vegetácie

riešenie: zahádzať chodník, dorobiť 20 m drevené zábradlie

úsek č. 6 - vznik súbežných zerodovaných chodníkov, zošľapovanie vegetácie

riešenie: zahádzať pravú stranu v dĺžke 50 m

úsek č. 7 - vznik súbežného chodníka vpravo, zošľapovanie vegetácie

riešenie: zahádzať pravú stranu , vľavo do skaly osadiť 5 m kovovú reťaz

úsek č. 8 - zerodovaný svah na obrovskej ploche v okolí chodníka aj vplyvom stekajúcej vody

riešenie: nasmerovať chodník vpravo od žľabu so stekajúcou vodou + 50 m

zábradlie + urobiť 20 schodov

úsek č.9 - vznik súbežného chodníka 50 m nad cestou, zošľapovanie vegetácie

riešenie: zahádzať ľavú stranu o dĺžke 10 m

úsek č. 10 - vznik ľavého súbežného chodníka nad cestou , zošľapovanie vegetácie

riešenie: zahádzať ľavú stranu a preznačiť vpravo

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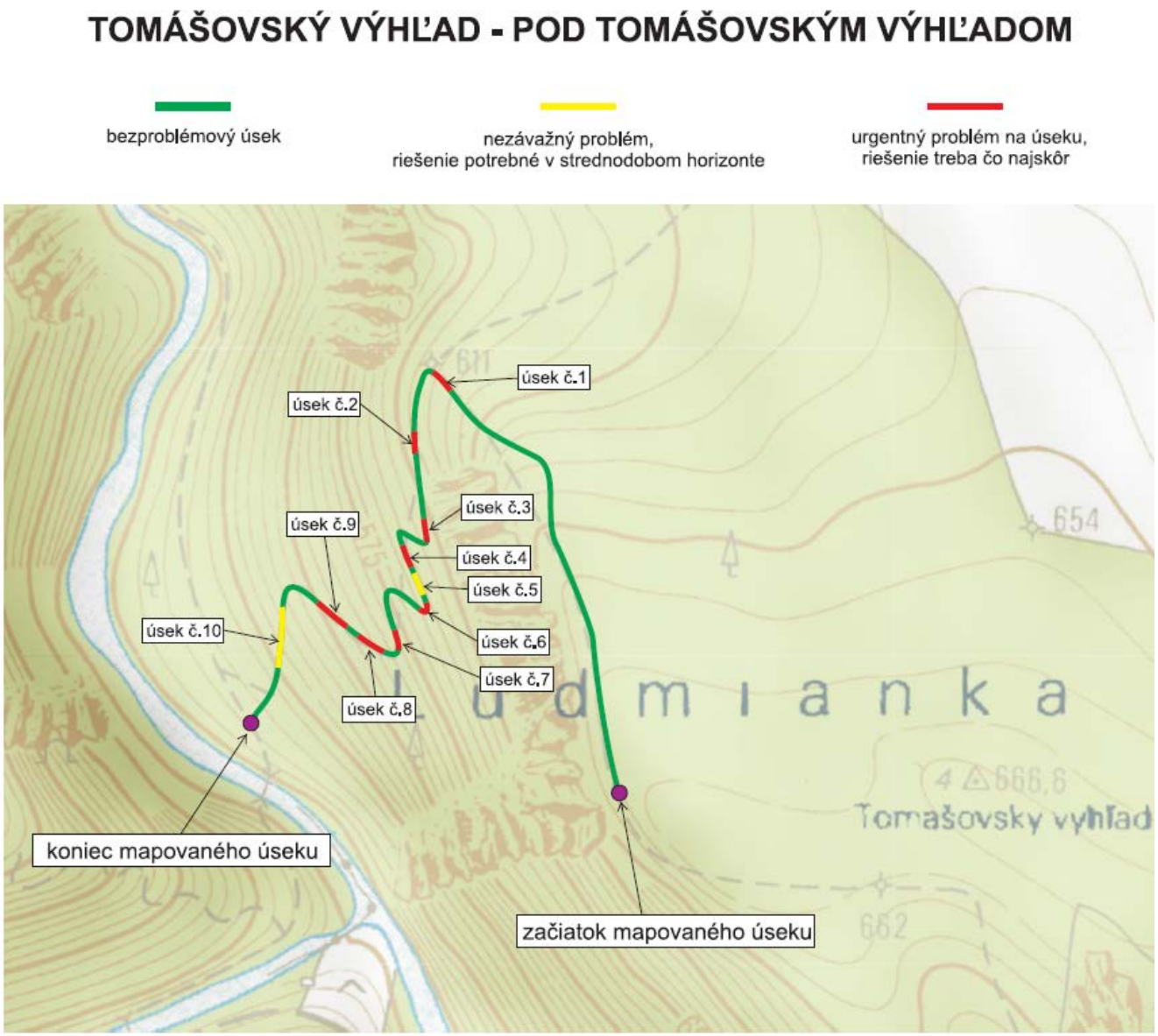
19. TOMÁŠOVSKÝ VÝHĽAD - POD TOMÁŠOVSKÝM VÝHĽADOM

– zelená značená turistická trasa č. 5723



Dĺžka trasy: 0,7 km

Prevýšenie: 169 m

Začiatok mapovania problematického úseku - 48.9477108N, 20.4581014E

Koniec mapovania problematického úseku - 48.9443761N, 20.4234753E

Dĺžka zmapovanej trasy: 0,7 km

Problematické úseky na trase

úsek č. 1 - zeerodovaný svah pri skalnom stupni chodníka na veľkej ploche

riešenie: zahádzať bočné strany chodníka

úsek č. 2 - zerodovaný chodník, zošľapovaný svah

riešenie: zahádzať pravú stranu chodníka

úsek č. 3 - zerodovaný chodník, zošľapovaný svah

riešenie: zahádzať pravú stranu chodníka

úsek č. 4 - zerodovaný chodník na širokom úseku

riešenie: zahádzať pravú stranu chodníka, urobiť drevené hradenie a 2 m kovovú reťaz

úsek č. 5 - zeerodovaný chodník, zošľapovanie vegetácie

riešenie: zahádzať pravú stranu chodníka

úsek č. 6 - zerodovaný svah na vytvorenej skratke pod zábradlím, zošľapovanie vegetácie

riešenie: zahádzať skracovanie

úsek č. 7 - zeerodovaný svah pod chodníkom vpravo vytvárajúci plošnú eróziu

riešenie: zahádzať skracovanie

úsek č. 8 - zničené zábradlie zabraňujúce skracovaniu vľavo, erózia svahu

riešenie: urobiť 40 m nové drevené zábradlie a upraviť chodník 6 drevenými schodmi

úsek č. 9 - skracovanie chodníka vľavo, zerodovaný svah

riešenie: na úseku 40 m zahádzať skratky chodníka

úsek č. 10 - široký zerodovaný chodník, zošľapovanie vegetácie

riešenie: na 30 m zahádzať rozšírenie chodníka

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