Evaluation report of complaint raised by Stakeholders (SHs) against Hrvatske šume (SA-FM/COC-001212) in *Report on Deforestation in the Republic of Croatia, October 2020* sent to SA CERT on May 2021

Evaluation conducted 19-23 July 2021.

SA Cert. CASE NUMBER : 0004508

Introduction: Soil Association Certification Ltd, (SA Cert) as a certification body accredited for carrying FSC audits of forest management worldwide audits Hrvatske šume (HŠ) annually for verifying their conformity with FSC standards. Prior to each audit visit, an extensive consultation with stakeholders is done, and the process continues through the audit. Outcome of each audit is a report with stating strong and/or soft spots, compliances and/or non-compliances with the audited standard.
In 2021 a complaint was received entitled *Report on Deforestation in the Republic of Croatia*, by a Stakeholder, document dated October 2020. A large team participated in the annual surveillance audit of Hrvatske šume including evaluation of the complaint.

Methodology: SA Cert analysed the complaint and focused the audit team on the issues and areas indicated in the SH report. Verification of the evidence of the complaint was carried both on documents and on sites, and summary of findings together with evidence taken during the visit is given below. At the same time, evaluation of compliance with the FSC standard was done (an independent FSC FM audit report of 2021 contains more details),

Time of audit: 19th to 23rd July 2010, team of 6 people, 30 person-days on site.

Issue 01: *The primary document issued by the Ministry of Agriculture, which approved the General Forestry Holding Management Plan expired on 31 December 2017 and has not been renewed. Since then, Hrvatske šume d.o.o. are involved in illegal activities.*
Hrvatske šume d.o.o. have been forging for years the data on their business operations, which they are obliged to submit to our relevant institutions, but also to the EU institutions. Although the experts of the Green Squad have not yet completed their analyses, we have a reason to believe that in the past decade they have been concealing their losses 17 mil m3 which are likely to amount to one billion euros.

Evidence found during investigation by SA Cert, 2021*:* Forest management plans were checked for all visited FMUs, and focusing on the legal validity of each FM plan.
E.g. FM plan for unit/ GJ " Posavske šume – Dubica" *Načrt Programa gospodarenja GJ " Posavske šume – Dubica" s planom upravljanja područjem ekološke mreže*, was approved by Ministry of Environment Protection and Energy of Croatian Republic on 9/8/2020, and by Ministry of Agriculture on 6/7/2020.
GM plan for GJ " Posavske šume – Sunja" was approved by Ministry of Environment Protection and Energy of Croatian Republic on 28/7/2020, and by Ministry of Agriculture on 7/9/2020
GM plan for GJ " Lonja" was approved by Ministry of Environment Protection and Energy of Croatian Republic on 5/2/2019, and by Ministry of Agriculture on 5/4/2019, by Hrvatske vode on 25/2/2019, by Lonjsko polje (Nature park Lonjsko polje) 21/5/2018.
Regarding public consultation prior to elaboration FM plans, this was checked e.g. for GL Lonja. Meeting of 45 people from University, HŠ, JUPP Lonjsko polje.
Approval of GM plan, issued by Ministry of Agriculture, issued on 27.11.2017, for Šumarskogospodarska osnova područja Republike Hrvatske, valid till 2025, and changer to the approval in response to the changes for private forest owners), dated 22.01.2018.
In process of approval of 10 year Forest Management Plans, delays occur and these are also covered by law stating "Until the approval of the renewed or revised forest management plan, forest cultivation and protection works are performed in accordance with the needs, and felling in the amount not exceeding the ten-year average and in sections planned for felling in the I / 2 half of the previous forest management plan." (Policy of forest management Official gazette NN 97/18, 101/18, 31/20, Art. 89, line 4, XI. REVISION AND RENEWAL, Article 89.).

SH´s claim that 17 million m3 were lost was evaluated through comparing forest management plans and forest management operational data of harvested volumes, and the actual state of stands. The evidence showed that actual planned harvesting is in accordance with the FM plans, however current impact of ash dieback on many sites lead to the legal obligation of shifting harvesting activities to incidental cuts. Also forest inventory has a permitted deviation in volume, caused by the measurement and volume charts used at the inventory stage. There are thus cases where volumes harvested

in some stands are lower or higher than the volumes prescribed in the current FM plan, none the less the total volume of harvest has not been overdrawn beyond legal limits.
Evidence from e.g. UŠP Sisak, G.J. Šamarica 1, G.J. Lonja, and all visited UŠPs. Over 200 compartments were checked in detail both in documents and on site, details e.g. on FMUs visited, with details below under other articles.

Issue 01 Conclusion of SA Cert:

No evidence of illegal operations of HŠ was found. Visited FMUs showed high level of transparency in planned and harvested volumes. Differences between planned volumes and harvested volumes were found. These were found to be caused by several factors including relatively high level of incidental cut of dead trees, especially ash, due to dieback, changes in the methodology in forest inventory, and also the variation caused by the statistic methods used in measuring the inventory data and calculating stock in forests. FM plans do not plan these harvests however, the volumes of incidental harvest are calculated into total 10 year harvest within each FMU and thus total harvested volume is limited by the FMOP and internal and external monitoring.

Issue 02 *Hrvatske šume d.o.o. have been ravaging. Over the several past years, the forests have been increasingly and dramatically devastated, This year Hrvatske šume d.o.o. plan to fell more than forests' increment!*

Evidence found during investigation by SA Cert, 2021: Several FMUs as well as details on level of compartments were checked, examples here below.
The annual increment ranges between 6 and 10m3/ha/year, although in special circumstances (combination of site and species) can reach beyond 15 m3/m3/year.
As described above, the volumes of incidental harvest are calculated into total 10 year harvest within each FMU and thus total harvested volume is limited by the FMOP and internal and external monitoring.

GJ Jastrebarski lugovi, FMP 2014-2023 mostly oak dominant, with Fraxinus, Alnus, Carpinus (age as on beginning of the FM plan)
- comp. 17a, 45 years old, 34,53 ha, 5984 m3 stock, over the plan period total harvest 130 m3 (2015 incidental cut)
- comp. 21b, 65 years, 19,28 ha, 6191 m3 stock, over the plan period total harvest 30 m3 (2017 incidental cut)
- comp. 25a, 55 years, 9,81 ha, 2635 m3 stock, over the plan period total harvest 300 m3 (2014-16 incidental cut)
- comp. 25b, 55 years, 24,09 ha, 4704 m3 stock, over the plan period total harvest 306 m3 (2014 thinning)
- comp. 30e, 30 years, 12,73 ha, 1402 m3 stock, no intervention
- comp. 29a, 55 years, 30,07 ha, 9520 m3 stock, over the plan period total harvest 1177 m3 (2014 thinning)

- comp. 33a, 30 years, 35,30 ha, 5212 m3 stock, 2014 thinning
- comp. 34e, 40 years, 16,37 ha, 2016 m3 stock, over the plan period total harvest 587 m3 (incidental cut)
- comp. 37a, 40 years, 31,29 ha, 4739 m3 stock, 23 m3 (2016 incidental cut)
- comp. 38c, 50 years, 15,71 ha, 2225 m3 stock, 161 m3 (2019 incidental cut)

- comp. 46b, 15 years, 34,90 ha, no intervention
- comp. 50b, 64 years, 2,03 ha, 1091 m3 stock, planned thinning 100 m3
- comp. 51a, 110 years, 37,40 ha, 2225 m3 stock, 161 m3 (2015 incidental cut, 2020 final cut, 20+adult trees kept as ecosystem/biotope trees, abundant natural regeneration

- comp. 57a, 155 years, 30,70 ha, 13238 m3 stock, 7000 m3 in 2017/18 as fist opening cut to support natural regeneration

- comp. 58a, 5 years, 25,65 ha, groups of adult trees kept as ecosystem/biotope trees

- comp. 55a, 145 years, 32,97 ha, 12735 m3 stock, 3803 m3 (2019 incidental cut)
- comp. 13d, 80 years, 24,47 ha, 140m3 incidental cut in 2017+2018
- comp. 13e, 75 years, 17,89 ha, 6414 m3 stock, 1863 m3 incidental cut in 2013, no intervention since
- comp. 14a, 70 years, 25,60 ha, 8386 m3 stock, 2018 thinning 1097 m3
- comp. 16a, 60 years, 26,66 ha, 6431 m3 stock, thinning 800 m3 planned for 2023
- comp. 15a, 160 years, 35,18 ha, protected site – part of **ornithology preserve Crna Mlaka**, no intervention

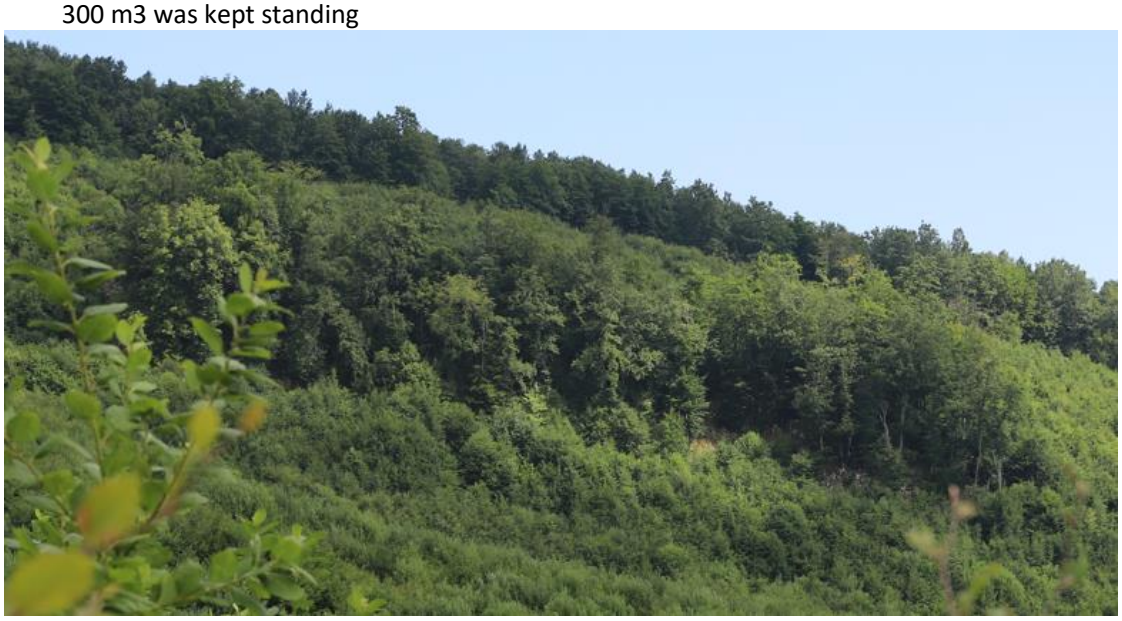
Photos from the site – see below under “Crna Mlaka”

GJ Blaževa gora, FMP 2014-2023 mostly beech dominant

- comp. 10e, 100 years, 7,16 ha, 1663 m3 stock, final cut 2017-2019, actually harvested 1800 and adult ecosystem/biotope trees are over the site

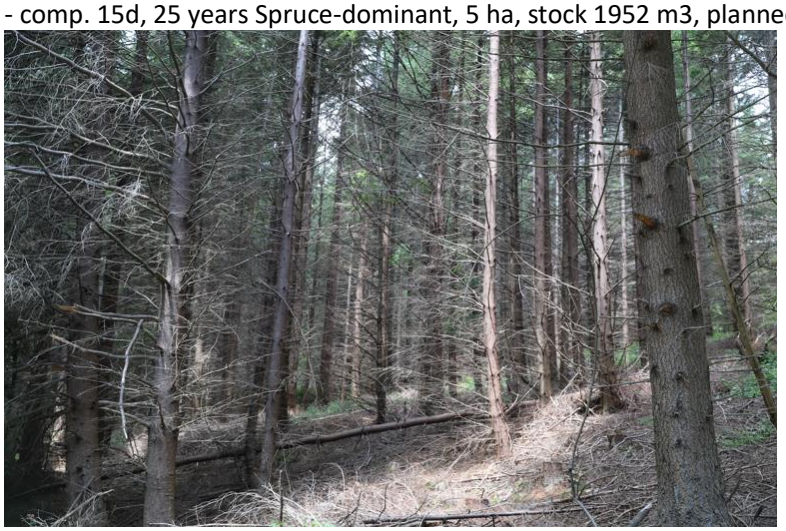
- comp. 2a, 85 years, 8,40 ha, 2783 m3 stock, no intervention
- comp. 2b, 95 years, 6,83 ha, stock 3154 m3, since 2013 to 2020 final cut in stages, total 3300 m3, some ecosystem/biotope trees were kept standing, fully naturally regenerated

- comp. 2c, 5 years, 8,50 ha, 2016 tending
- comp. 3a, 5 years, 3,56 ha, 2016 tending
- comp. 3b, 5 years, 18,08 ha, 2016 tending
- comp. 3c, 100 years, 15,86 ha, 1872 m3 stock, 2014+2015 final cut 2250, adult ecosystem/biotope trees approx. 1 ha i.e. 300 m3 was kept standing



- comp. 3d, 80 years, 16,08 ha, stock 5494 m3, since 2013 to 2020 incidental cut in stages, total 450 m3

GJ Kupčina Žumberak, mostly beech dominant
- comp. 59c, 80 years, 6,27 ha, 946 m3 stock, no intervention
- comp. 59d, 15 years, 17,19 ha, tending is planned
- comp. 58a, 5 years, 35,28 ha, appx. 100m3 ecosystem/biotope trees were kept standing, 2019 tending
- comp. 58d, 15 years, 10,85 ha, appx.100m3 ecosystem/biotope trees were kept standing
- comp. 57c, 15 years, 28,68 ha, appx. 100m3 ecosystem/biotope trees were kept standing, 2019 tending
- comp. 58c, 25 years, 9,77 ha, thinning is planned)
- comp. 15c, 90 years, 14,56 ha, stock 5284 m3, planned main harvest 1+2
- comp. 12b, 10 years, 13,47 ha, stock 2221 m3, planned tending, and main harvest 2, biotope trees planned to be retained.
- comp. 15d, 25 years Spruce-dominant, 5 ha, stock 1952 m3, planned thinning 620 m3



- comp. 15c, 90 years, 14,56 ha, stock 5284 m3, planned main harvest 1+2
- comp. 11a, 5 years, 9,43 ha, 2016 tending
- comp. 11b, 90 years, 9,03 ha, stock 1880 m3, no harvest is planned
- comp. 12d, 85 years, 26,92 ha, stock 6652 m3, 2015 incidental harvest 21 m3
- comp. 9a, 40 years, 44,96 ha, stock 7445 m3, planned main harvest 1+2 5220 m3
- comp. 10a, 15 years, 35,54 ha, stock 5284 m3, 2016 tending, per parts altogether 284 man days

Issue 02 Conclusion of SA Cert:

A) Stock of visited forests is generally very high, so much that a lot of trees are suppressed and possibly dying through competition (density), resulting in incidental harvest, as prescribed by the law. Harvested volumes are normally lower than prescribed number (observation issued)

B) Visited FMUs showed differences between planned and harvested volumes within compartments, e.g.
- **relatively high level of incidental cut of dead trees, especially ash**
- **however, the volumes of incidental harvest are calculated into total 10 year harvest within each FMU and thus total harvested volume is limited by the FMOP and internal and external monitoring.**

Issue 03

*The area of Mt. **Bilogora** has centuries long tradition of biodiversity. As per order of the Ministry of Environmental Protection, Hrvatske šume d.o.o. committed deforestation of vast forest plateaus and ruthlessly removed linden, acacia, birch, wild cherry and many other fine sorts of trees as if they were plain weeds, leaving behind only commercially valuable wood, such as oak, beech and hornbeam.*
(http://natura2000.eea.europa.eu/Natura2000/SDF.aspx?site=HR1000008)
(The tragic consequences are already visible among bees. The rate of sickness and death among them is growing and spreading rapidly. Apart from beekeeping, Bilogora has been known for centuries as a habitat of beavers. The devastation of forests also caused great damage to watercourses. As a result, beavers have been completely exterminated in that area.)

Evidence found during investigation by SA Cert, 2021

Site Bilogora i Kalničko gorje was visited to compartments are various stages of the established silvicultural systems used in both beech and hornbeam dominated stands in GJ Kalnik-Kolacka (i. e. 73, 74, 76, 69, 73, 80, 86 etc.). Of the visited compartments, just 4 had undergone harvesting, below is the table representing each compartment with total area and m3 of forest removed (see Table below). Empty cells shall stay for compartments where no felling / thinning was performed.

N of the compartment	SH complaint	area	year of last activity (felling, thinning)	m3/ha removed
77a		22,27 ha		
78b		19,37 ha		
73f	Area within the complaint	2,24 ha	2021.	31.61
79a	Area within the complaint	18,03 ha		
79f		5,05 ha	2021.	35.85
48c		18,24 ha		
46b		8,39 ha (active)	2021.	35.83
47 b		24,01 ha		
71b	Area within the complaint	8,28 ha		
82a		17,57 ha	2021.	113.01
81b	Area within the complaint	6,15 ha		
82c	Area within the complaint	2,59 ha		
80a	Area within the complaint	19,72 ha		
80b		16,61 ha		

Within these stands, the company is following the commonly used silvicultural practices prescribed by the law, with the various stages of the forest management cycle and recent interventions detailed in the forest management plan, in the compartments seen shelterwood management practice for beech and hornbeam natural regeneration.
Skidding tracks are compliant and put in place in order to protect trees around the track and regeneration areas using pegs with orange painted tops. In order to check how the company performs harvesting, what measures are in place and if these measures represent sustainable forestry practices, the visit of an active harvesting site was included in the field verification – 46b compartment. Tractor followed the prescribed route, workers have clear instructions; the active logging site is compliant to the law and certification requirements.

79f Extraction route in forest

80a Mixed oak and Hornbeam regeneration before age of thinning (wild boar run)

82c Stand after regenerative cut, oak.

71b an early phase in the forest management cycle – the final cut was performed less than 30 years ago, and regeneration has since been tended and cleaned, with the first thinning 5-10 years away.

46b compartment – active logging site

46b and skidding track

Border between compartments 80b (mature forest with good regeneration & 80a (young under 30 years old forest with cleaning and tending performed)

80b mature forest with good regeneration

Beavers

Since the reintroduction of beavers, their mortality has been monitored, with analysis published in the journal Sumarski List (Volume 139, Issue 3, page 137-143). Of the 147 recorded deaths of beavers in Croatia and Serbia between 1997-2014, a single beaver was found dead under a tree. On further assessment of the position of the body in relation to the fallen tree, it is thought than this tree either fell by wind, or by a fellow beaver. or quite possible by the same beaver who took a wrong escape route.

https://www.researchgate.net/publication/278328658_Analysis_of_beaver_Castor_fiber_L_mortality_in_Croatia_and_Serbia

Evidence of beavers were seen on several sites

Bees

Beekepeers frequently put their beehives into the forests.

Issues of bee diseases (“bee decline”) is widely experienced and discussed in beekeeping magazines and in numerous research papers worldwide, and as such the blame cannot be validly put on Croatian forestry.

Issue 03 Conclusion of SA Cert:

- **No deforestation has been confirmed on the visited sites**
- **There is evidence from site visits and from research papers that beavers were successfully reintroduced, and forest management is not threatening them**
- **Decline of bees is widespread and not specific to Croatia**

Issue 04

SPECIAL ORNITHOLOGICAL RESERVE CRNA MLAKA Natura 2000

Forest Management Unit: *Karlovac*

Forest Offices: *Jastrebarsko, Pisarovina, Draganić, Karlovac*

Management Units: Jastrebarski Lugovi, Pisarovinski Lugovi, Draganićki Lugovi, Rečićki Lugovi

A review of the terrain, satellite images and recorded video material clearly shows non-compliance with the Nature 2000 Directives, i.e. a significant increase in the area of systematic deforestation from 2013 until today.

Evidence found during investigation by SA Cert, 2021

protected site – part of **ornithology preserve Crna Mlaka**, no intervention

Photos from the site





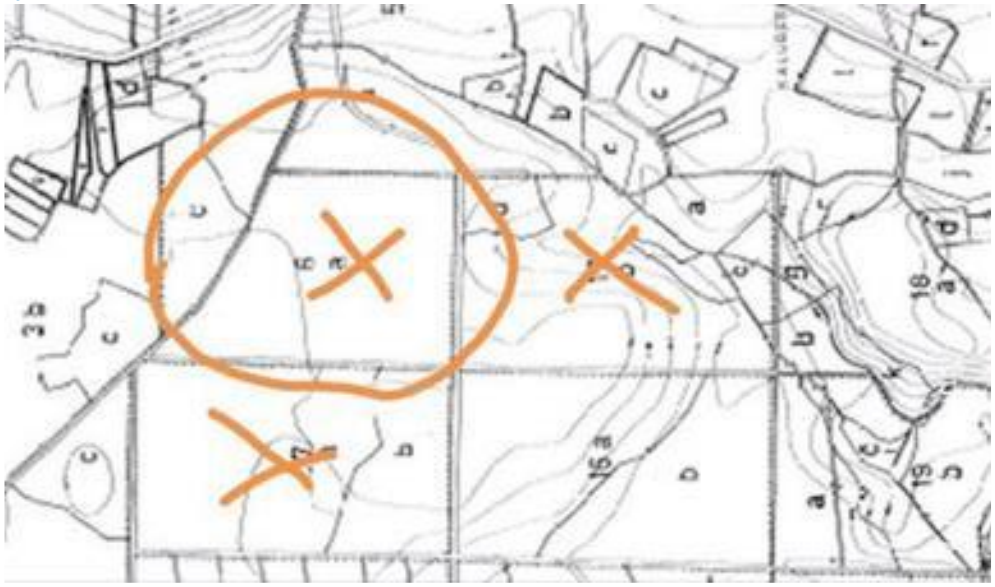



Issue 04 Conclusion of SA Cert:

- **In the area of the ornithological preserve, no harvesting was done in recent years, and there were no visible traces of forest management younger than some 25 or 30 year**

Issue 05

SPECIAL ZOOLOGICAL RESERVE VAROŠKI LUG Natura 2000
Forest Management Office: *Bjelovar,* ***Forest Offices:*** *Vrbovec ,* ***Management Unit:*** *Vroški Lug*
Devastated areas of the Varoški Lug Special Zoological Reserve
According to information from the field, the final felling of section 6a is currently underway, which is marked in olive on the map as a thinning zone. According to the expert assessment of our activist, forester by profession, if the felling continues at the same pace, the entire section of 26 ha will be completely bare and without seedlings in just a few weeks by the end of October 2020!



Evidence found during investigation by SA Cert, 2021
The operations referred to within compartment 6a is the final felling in the regeneration phase of the stand (as per Map 1 (reference 6a highlighted in red), and Figures 1 and 3).
Felling was completed by December 2020. This an important intervention as part of the regeneration phase of the long established sivilcultural system (a uniform shelterwood system) used to regenerate oak stands within the FMU. Following this method of regeneration, final felling is only commenced when sufficient natural regeneration of the desired species (*Quercus robur*) is observed. This indicates that the final overstorey trees can be removed to release the seedlings to grow to the next stage of re-establishment of the forest stand.
Thus, the regeneration in these compartments has 3 years and 1 year of additional growth, and is ahead of the growth of regeneration now seen in cpt 6a. This use of this silvicultural system is widespread within the FMU, with many stands at various stages of the forest management cycle. As adjacent examples, cpt 7b (see Figures 4) was at the stage of final cut in 2018 and the final cut within cpt 17b (see Figure 5) was completed by 2020. Cpt 2c (Figure 7) had the final cut of the previous regeneration phase 22 years ago, with various tending and cleaning of the young crop undertaken since then. Cpts 5a, 5d and 8b (Figures 8, 9 and 10 respectively) had the final cut in the previous regeneration phases in the 1980s, with various tending, cleaning and thinning of the young crops undertaken since then. Cpt 13e (Figure 11) is soon to enter its next regeneration phase, having undergone regular thinning since its final cut in the previous regeneration phase 137 years ago.
The area is the known Natura 2000 reserve “Varoški Lug“ of 866.49Ha and is referenced on the large interpretation board at the site entrance (see Figure 6). These compartments are included in the Natura 2000 designation as ‘oak or oak-hornbeam forests of the Carpinion betuli‘ (see eunis.eea.europa.eu/habitats/10190), with the use of uniform shelterwood silvicultural systems deemed appropriate for such designated sites. The only species referred to in the Natura 2000 designation is the dragonfly *Leucorrihinia pectoratlis*, and this species is supported on other designated habitats (alluvial *Alnus* and *Fraxinus* dominated woodlands) on the site. In addition to the site’s designated three habitats and single species, additional protected species are mentioned on the site interpretation board.

Map 1 – the working map of the Forest Management Plan showing the planned silvicultural intervention of final felling cuts in the regeneration phase within cpts 6a, 7b and 17b.

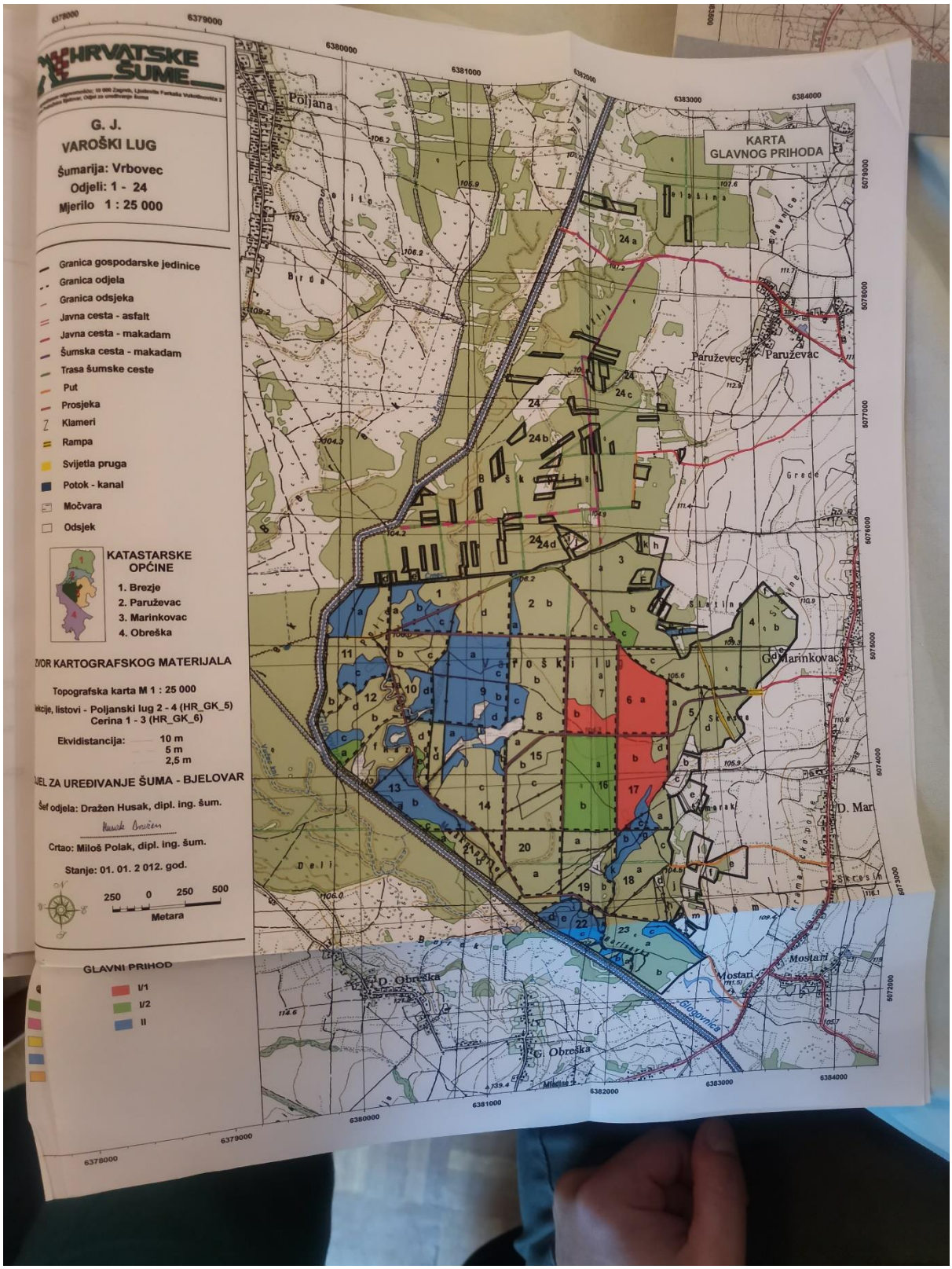


Figure 1 – an example of the density and height regeneration representative across the area of 6a, following its final cut of the regeneration phase completed in December 2020.

Figure 2. Visited and recorded location in cpt. 6

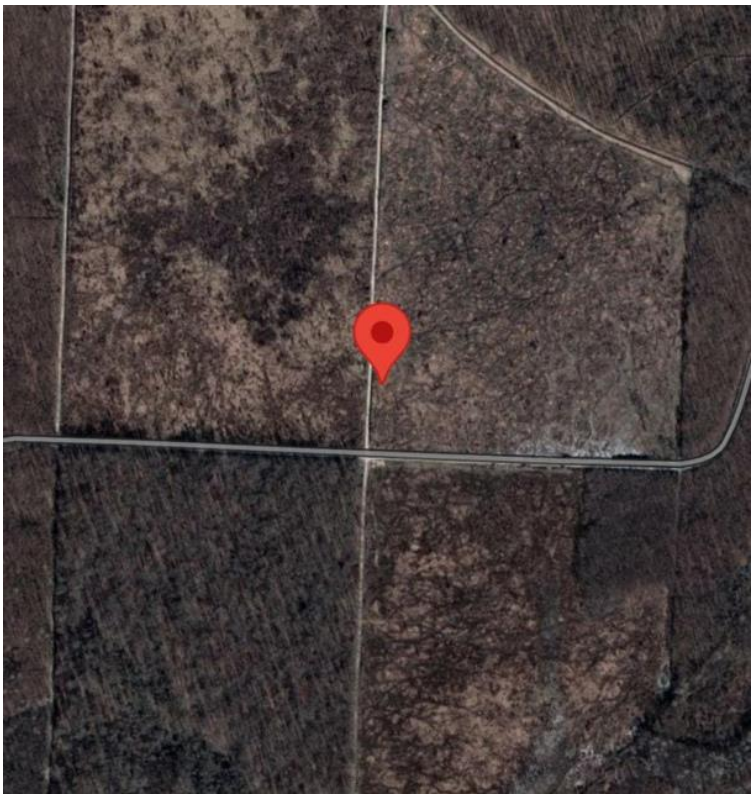


Figure 3 – the density and height regeneration representative across the area of 6a, following its final cut of the regeneration phase completed in December 2020.

Figure 4 – the density and height regeneration representative across the area of 7b, following its final cut of the regeneration phase in 2018.

Figure 5 - the density and height regeneration representative across the area of 17b, following its final cut of the regeneration phase in 2020.

Figure 6. Interpretation board

7. Cpt 2c final cut was 22 years ago

Figure 8. 5a compartment, final cut was performed in 1988

Figure 9. Cpt 5d, the final cut in the previous regeneration phase was completed in 1988.

Figure 10. Cpt 8b, the final cut in the previous regeneration phase was performed in 1981

Figure 11. Cpt 13e Adult forest beforethe first regeneration cut

Issue 5 Conclusion of SA Cert:

- **In the area area of concern, Varoški Lug the stands are undergoing their usual management cycle as they were in the history, without adverse effects upon the protected features.**

Issue 06

NATURE PARK LONJSKO POLJE, DONJA POSAVINA Natura 2000

Lonjsko Polje is the largest protected wetland in both Croatia and the entire Danube basin. It covers an area of 505.6 square kilometres (195.2 sq mi), extending along the river Sava from the areas east of Sisak, the lower course of the river Lonja for which it is named, to the areas west of Nova Gradiška, along the course of the river Veliki Strug.

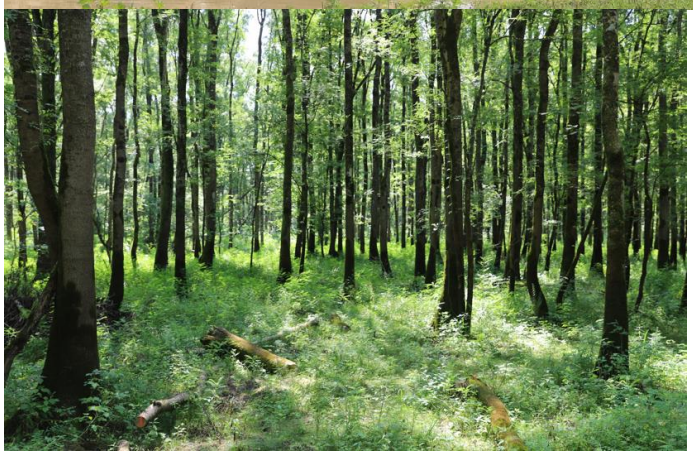
Lonjsko polje Nature Park, as a wetland area, is one of the most endangered habitats in the world. It is one of the largest protected wetlands not only in Croatia but in the entire Danube basin. It is included in the so-called Ramsar list of wetlands of international importance, especially as a habitat for wetland birds. According to the criteria of the European Union Birds Directive, this area belongs to Important Bird Areas (IBA). It consists mainly of three fields: Lonjsko, Mokro and Poganovo polje.

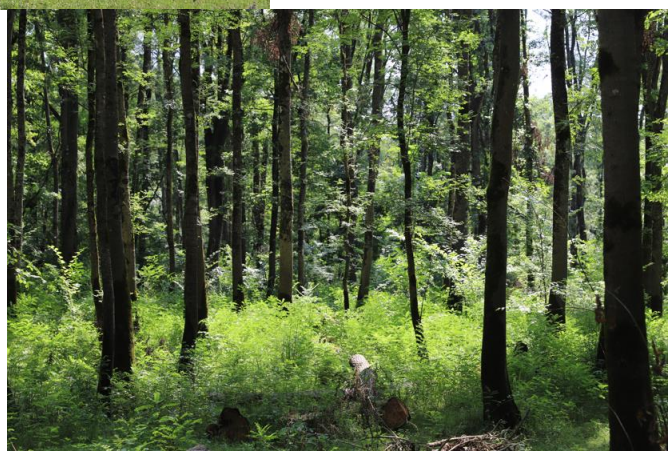
The Nature Park was declared on March 6, 1990.

The total observed area of deforestation of the Lonjsko Polje Nature Park within the Natura 2000 protection area from 2009 to 2020 is 6759 Ha.

Evidence found during investigation by SA Cert, 2021

GJ Lonja, FMP 2018-2027, ash and oak dominant lowland flood forests, whole FMU is in **Natura 200 Lonjsko polje**

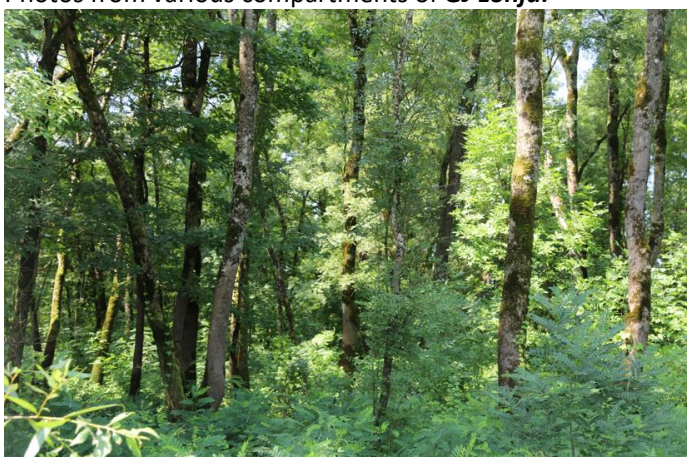




- comp. 50c, 70 years, 2,16 ha, 761 m3 stock, planned thinning 70 m3
- comp. 51d, 64 years, 4,67ha, 1671 m3 stock, planned thinning 160 m3
- comp. 53d, 26 years, 9,03 ha, 1509 m3 stock, planned thinning 230 m3
- comp. 46a, meadow overgrown by patches of Amorpha, 10,65 ha, no intervention is planned
- comp. 37b, 85 years, 14,83 ha, 5564 m3 stock, planned thinning 500 m3
- comp. 38b, 50 years, 5,37 ha, 1696 m3 stock, planned thinning 200 m3
- comp. 39d, 10,85 ha, 3366 m3 stock, planned thinning 400 m3, ash incidental cut 641 m3 in 2019
- comp. 40a, 7,53 ha, 34 years, 1639 m3 stock, planned thinning 300 m3, ash incidental cut 189 m3 in 2018
- comp. 42d, 2,74 ha, 139 years, 1237 m3 stock oak-dominant, final cut 2018+2020, remained adult biotope trees 200+ m3
- comp. 42e, 35 years, 6,03 ha, 1439 m3 stock, planned thinning 250 m3
- comp. 46d, 13 years, 5,33 ha, planned tending
- comp. 49c, 12 years, 10,27 ha, planned tending
- comp. 54a, dying ash stand, 12,87 ha, 5291 m3 stock, planned thinning 450 m3
- comp. 59d, 104 years, 5,27 ha, 2670 m3 stock, planned thinning 245 m3
- comp. 59c, 139 years, 10,27 ha, 3877 m3 stock, no intervention is planned
- comp. 59d, 104 years, 5,27 ha, 2670 m3 stock, planned thinning 245 m3
- comp. 61a, 20 years, 8,34 ha, planned tending

- comp. 54c, 95 years, 3,84 ha, 2369 m3 stock, planned thinning 200 m3
- comp. 64a, 119 years, 14,37 ha, 5870 m3 stock, planned thinning 490 m3
- comp. 66a, 119 years, 12,44 ha, 5469 m3 stock, planned thinning 460 m3
- comp. 68a, 105 years, 8,20 ha, ash-dominant, 3924 m3 stock, planned thinning 320 m3
- comp. 71b, 105 years, 13,77 ha, 6697 m3 stock, planned thinning 580 m3
- comp. 68b, 27 years, 10,12 ha, 1078 m3 stock, thinning 135 m3
- comp. 71a, 51 years, 13,03 ha, ash-dominant, planned thinning 450 m3
- comp. 68d, meadow overgrown by patches of Baldingera and Amorpha, no intervention is planned

Photos from various compartments of ***GJ Lonja:***





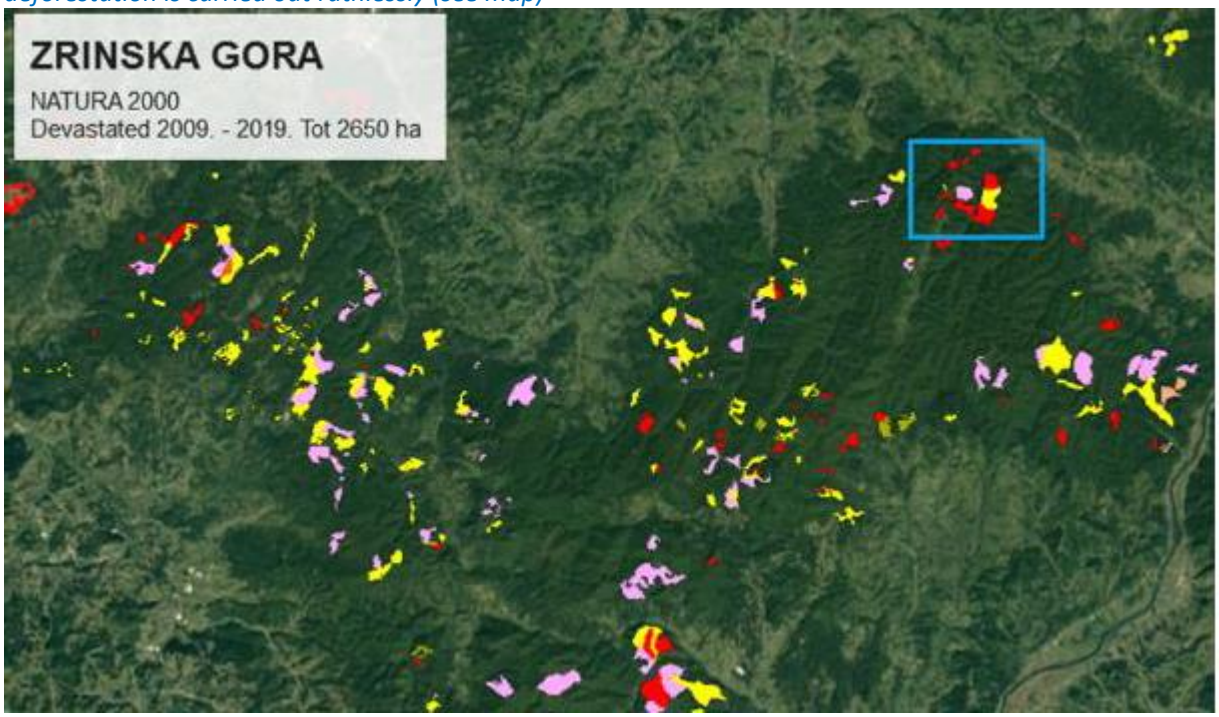

Issue 06 Conclusion of SA Cert:

Forest management in the forest area of Lonjsko polje shows very environmentally-friendly management with keeping nesting trees and other nesting and feeding habitats, wetlands grassland and shrubs. No deforestation was found there during the site visits.

Issue 07 SH complaint

Mt. Zrinska Gora Natura 2000

deforestation is carried out ruthlessly (see map)



Evidence found during investigation by SA Cert, 2021

Šumarija hrvatska Kostajnica
GJ Šamarica 1
Location: Mt. Zrinska Gora
The SH Report described this as the location of 'devastation' – 9 separate areas with a total area of 230 ha (see Figure 1). These areas are in fact in the Forest Management Unit 'Šamarica 1', and 34 separate sub-compartments were visited on 21st July 2021.

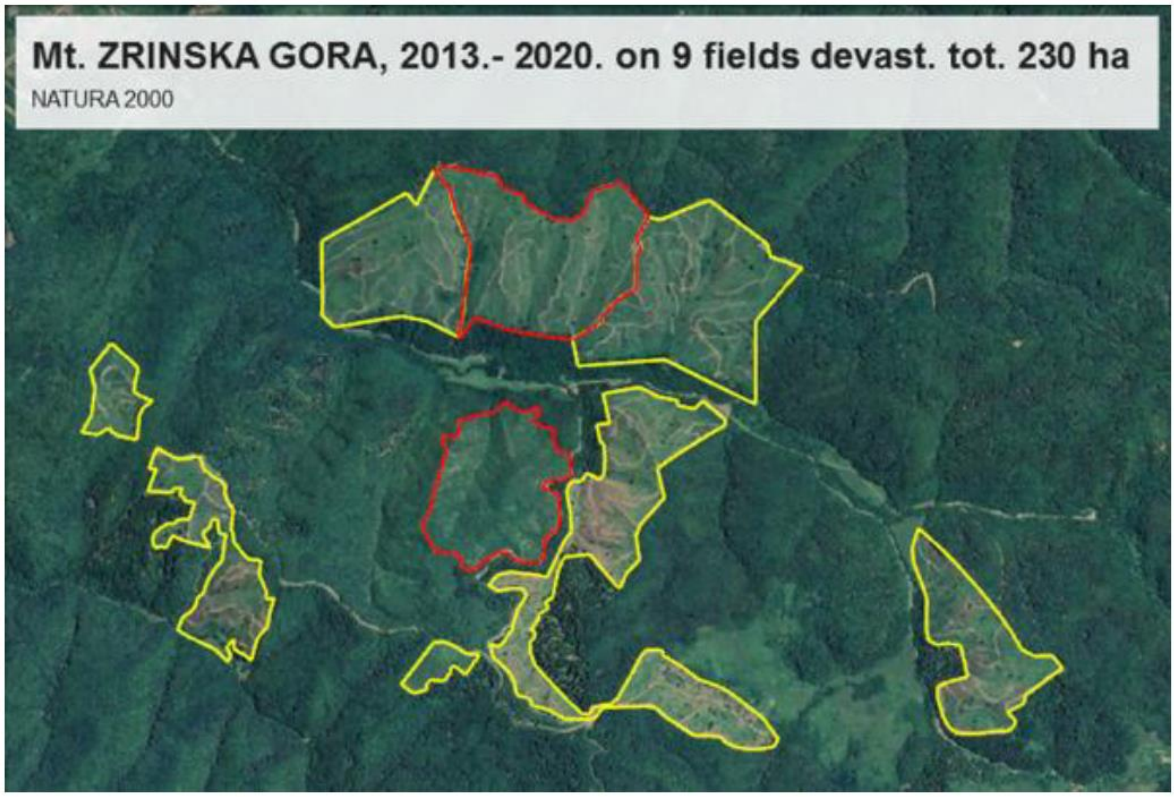


Figure 1. satellite view from SH´s Report

During the field visit, it was clear that the areas highlighted are sub-compartments currently within the regeneration phase of the "uniform shelterwood" silvicultural system described previously. Specifically, there were several felling interventions in the regenerative phase of the forest management cycle – preparatory and seeding cuts to recruit the sufficient density of the desired species mix before the final cut is performed, the stage which is observed here.
In Compartments 35, 36a and 37a, the final cuts were carried out between 2018 and 2020. These compartments have been fully regenerated, with a species mix dominated by pedunculate and hornbeam (see Figures 2 and 3). It is estimated that 80% of the area has naturally regenerated from the stand's (now removed) seed trees, with the remaining 20% of the area planted by Hrvatske Sume using 20,000 beech seedlings. All of the listed activities, management methods and forms of felling are prescribed by the management plan, with the forest management cycle described in detail and various phases of this established cycle seen throughout the Forest Management Unit.

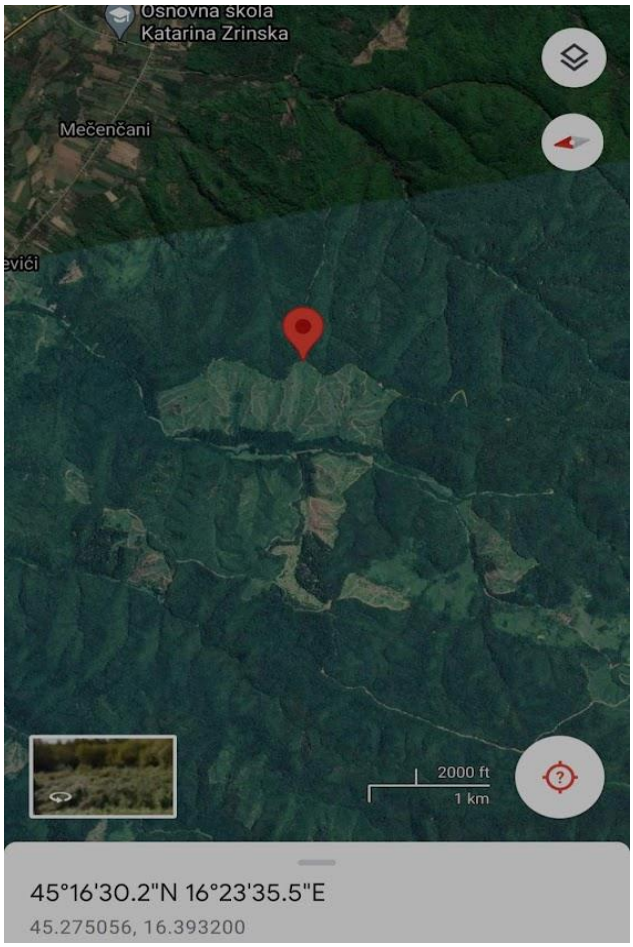


Figure 2. Location of the photograph of compartments 35 and 36, with photograph showing a representative species mix and density of regeneration following from final felling.

Figure 3. Location of sub-compartment 37a, an examination of the young plants with which the whole is covered sub-compartment.

Within sub-compartment 13a (Figure 4), the final felling was completed in 2019. The sub-compartment is regenerated with young beech and hornbeam trees. Cultivation works to encourage the growth of the favoured beech and hornbeam will take place until the trees form a closed canopy.

Figure 4. Location of sub-compartment 13a, a representative example the density and species mix of the young plants across the sub-compartment.

Sub-compartment 12a shows an example of the conversion from a non-indigenous species in this area (Figure 5). Norway spruce has been felled and the area planted with alder (*Alnus glutinosa*) which is better suited to this landscape and soil conditions. The seedlings are establishing well, protected from browsing mammals (note the tree tubes in Figure xx below) and their growth monitored every year until canopy closure. If necessary to fill in gaps from saplings which may die, additional planting can be undertaken.

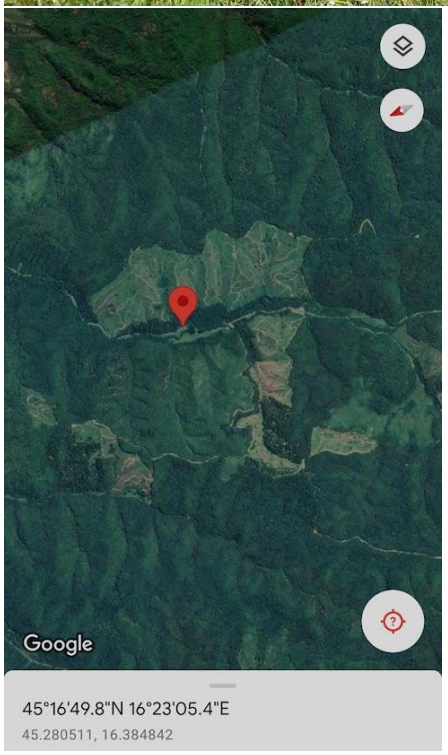


Figure 5. Photograph and location of what alder restocking on a previous Norway spruce stand.

Within sub-compartments 19a (Figure 6), the final felling of the last regenerative phase was undertaken with 2012. Prior to final felling, this was a mixed stand with sweet chestnut, beech and hornbeam – this previous species mix is reflected in the regeneration now seen. Many chestnut stumps are showing new growth shoots as coppice regrowth, and examples of the pathogenic fungus *Cryphonectria parasitica* (known as chestnut cancer or chestnut blight) can be found affecting this regrowth. This fungus was also present within the stand prior to the final felling.

Figure 6. Location and photo of sub-compartment 19a with representatively abundant and established regeneration.
Sub compartments 40c, 41a, 41b (see Figure 7), 42b, 42a, 42c were within the regular thinning and sanitation (removal of dead and diseased trees) period of the forest management cycle. The trees within these stands originate from the final cut of the previous forest management cycle between 80-100 years ago. The trees of the highest timber quality will be retained at each thinning and sanitation intervention, with these trees potentially supplying the seed to form the next regeneration phase.

Figure 7. Compartment 41b in its regular thinning phase of the forest management cycle

Within sub-compartment 42 and 44a the preparatory and seeding fellings of the stands' regenerative phase had been completed (Figure 8). The highest quality beech trees have been favoured by the silvicultural practices throughout the forest management cycle. The seeding felling has been undertaken in Cpt 44a, with the only trees those which have been selected to grow until their rotation length, and those which will produce the seed for the next generation of trees within these stands in the next few years. Monitoring will determine how much of the area is covered with young trees, when it is estimated that 70% of the area is covered with young trees will begin the final felling. Areas that do not be show sufficient density of those young trees will be planted by species such as oak, beech and hornbeam, and some fruit trees with the aim of increasing biodiversity and grow of the forest.

Figure 8. The image shows two stands at two different stages in the regenerative phase of the forest management cycle: compartment 42 on the left has had its preparatory cut, the more open stand in cpt 44a on the right has had its seeding cut and is prepared for the final cut when sufficient natural regeneration has been recruited.

Issue 7 Conclusion of SA Cert:

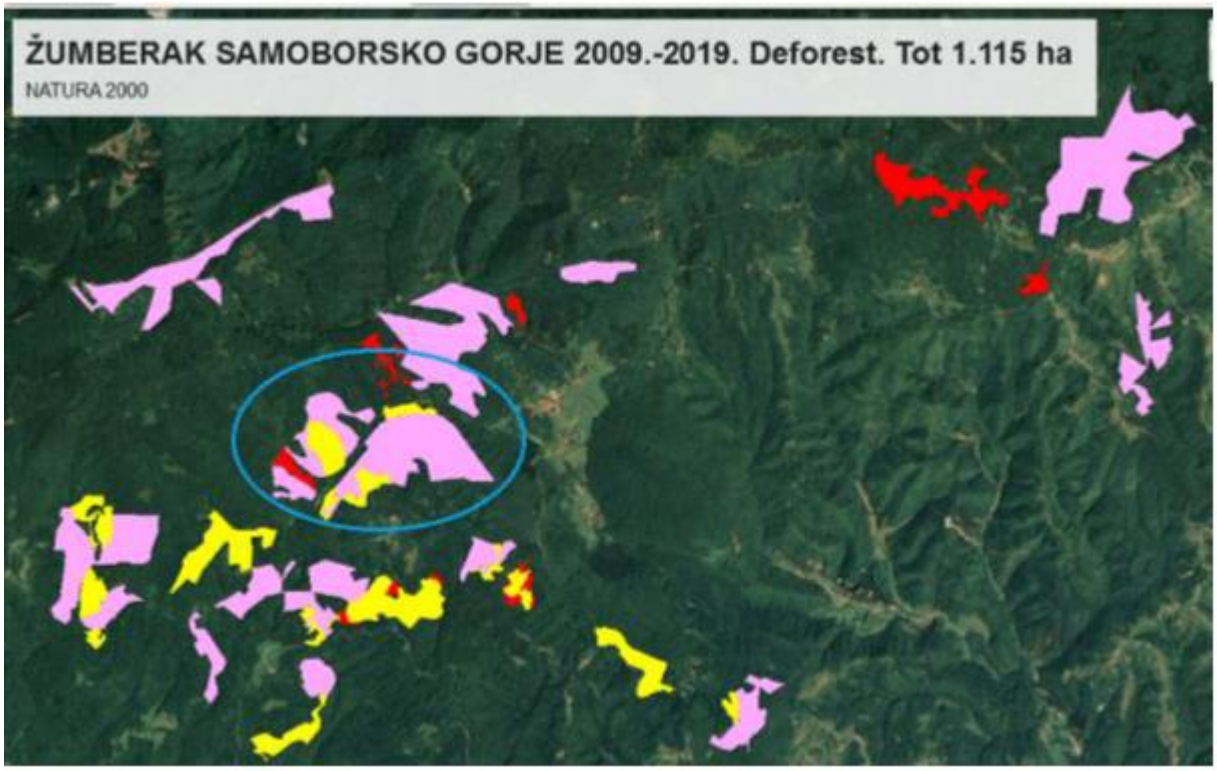
- **There is no evidence of deforestation, see the photos of evidence.**

Issue 8

deforestation is carried out ruthlessly (see map) ***Žumberak Samoborsko gorje Natura 2000***

deforestation is carried out ruthlessly (see map)

Žumberak Samoborsko gorje Natura 2000



Evidence found during investigation by SA Cert, 2021

Hrvatske šume, 20/7/2021
UŠP Karlovac, GJ Kupčina Žumberak

1) Forest stand 37a
24.63 ha, 36 years old, spruce, Douglas fir and other coniferous
On stock 2210 m3 + 2165 m3 (it were two forest stands in the past)
In 2018 it was harvested 717 m3 and 662 m3 as a thinning.
Seen marking for the future thinning, natural regeneration of coniferous species.

2) Forest stand 36a

24.96 ha, 31 years old, spruce and other coniferous species and broadleaves

On stock 4008 m3. No interventions in the recent past.

Seen marking for the future thinning from 2021 and plan is to make a thinning in 2022.

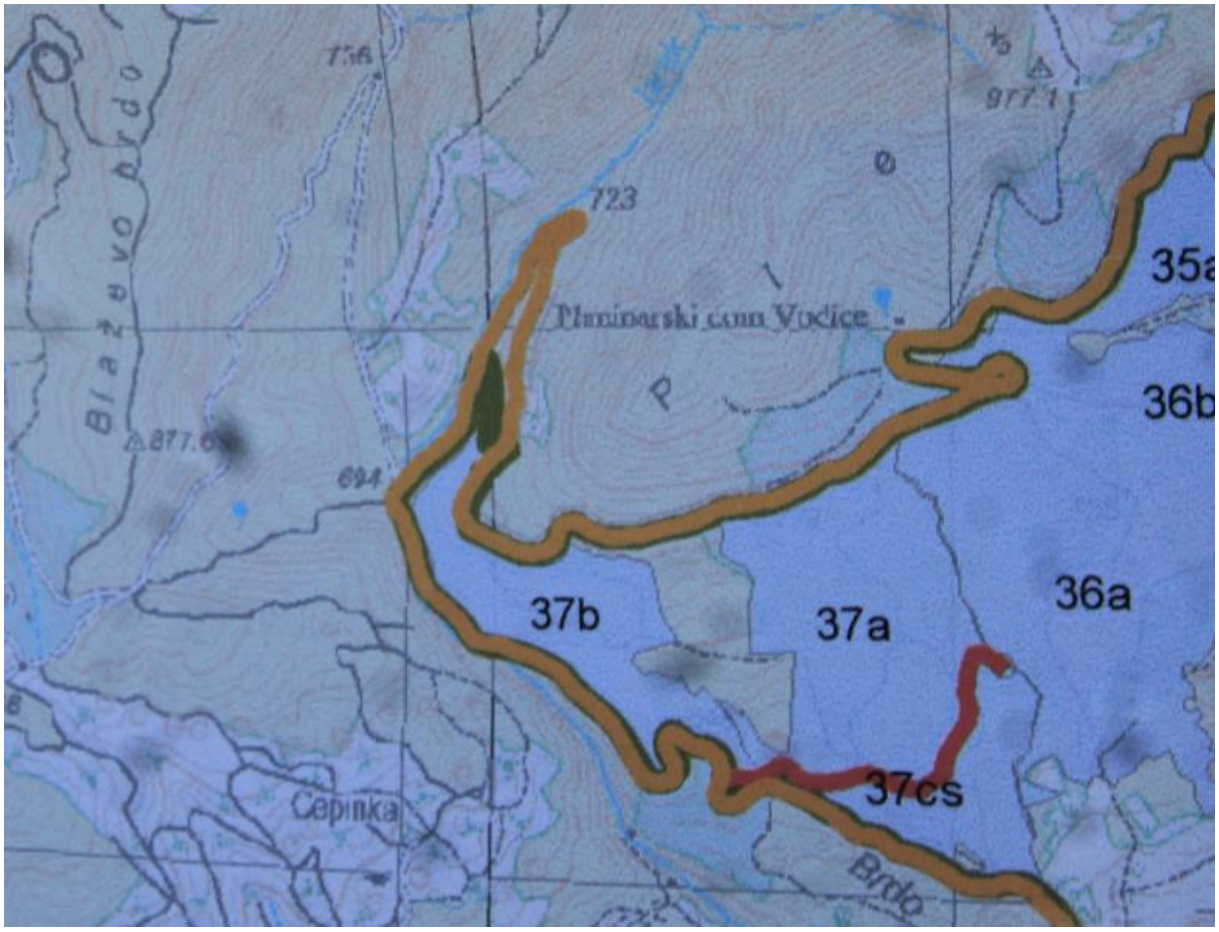
3) Forest stand 37b

12.87 ha, 16 years old, beech, hornbeam and other broadleaves

Tending was done in 2014.

4) Meadow next to the forest stand

On meadow on which grow protected plants (seen on a table with information and according to the interviewed stakeholder on site the protected plants occur here, e. g Tofields asphodel), on the visited part of this area, there are no seedlings of trees. See documentation below.



5) Forest stand 35a

8.75 ha, 101 years old, Fagus sylvatica, Acer platanoides, Betula pendula, on stock 3 065 m3, without interventions in the recent time.

6) Forest stand 52d

48.14 ha, 91 years old, Quercus petraea, Quercus cerris, Fagus sylvatica, Carpinus betulus and other broadleaved species. On stock 16 907 m3. Commercial cutting as a 1. Phase for supporting natural regeneration was done in 2021 and it was harvested 1 650 m3. On site inspection were seen several amphibians.

7)Forest stand 53a

The harvesting was done in 2020, beech forest stand. Full of natural regeneration of broadleaved species.

8) Forest stand 55c

17.74 ha, 101 years old, beech and hornbeam. On stock 7 249 m3, last harvesting was done on 2020, 18m3, in the forest management plan in to harvest 800m3. Some trees were already mark for the cutting.

9) Forest stand 55b
17.15 ha, tending was done in 2019, the thinning is in the FMP.

10) Forest stand 54d

29.72 ha, 91 years old, beech and other broadleaved trees, on stock is 10 271, marking for harvesting was done in 2020 and in the plan is to harvest 10 271 m3. The last cutting was done in 2019, beech and spruce, 1248 m3.

Issue 8 Conclusion of SA Cert:

- **There is no evidence of deforestation, see the photos of evidence**.

Issue 9 Mt. Medvednica

An example of failure to implement regulations related to the biological regeneration of forests is the economic unit of ***Sljeme-Medvedgradske šume on Mt. Medvednica****, where, following the inventory of wood mass taken in the period 2008-2017, out of 22.10 hectares prescribed for sowing and planting, only 6.10 hectares were used for that purpose, i.e. only 27.5%!*

Also, it is important to mention the following: the inventory taken in the same period of the wood mass at the above mentioned economic unit Sljeme-Medvedgradske Šume found the enormous deficit of 136,277 m³ of wood mass deficit.

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Evidence found during investigation by SA Cert, 2021

Forests on slopes inclined to south, covered by Park prirode Medvednica (Nature Park), that from lowest 150 m a.s.l reaches to 1033 m a.s.l. It is also Natura 2000 site. The mountain area is visible from Zagreb and from afar, and is a frequented touristing site.

GJ Sljeme Medvedgradske šume, FM plan 2018-2027

The site in past times contained more meadows than it has now, many of them were overgrown by forest. With its exposition over the Sava river plane, the mountain slopes stay as a wall against winds. However, this also means that the forests are frequently damaged by the same. Each compartment has its own history, e.g. comp. 2a windblown in 1974, and more recently window by hurricane Theodor 2013, Rea in 2019, and ice breaks in winter. Those natural factors caused optically “huge clearcuts”, very conspicuous from afar (e.g. from Zagreb).

None the less, the majority of the stands has been withstanding the abiotic impacts, and large parts even deserved to have been assigned a new “destiny” – they are going to be protected as preserve in a form of would-be “pristine forests” with the aim of once reaching a “virgin forests” – like status compartments 5+6+7, and 4.e,

The following compartments were checked in detail. Only main tree species are mentioned, usually 5 and more species are present, even Ostrya in the foothills and Castanea on slopes. Most commonly, prescribed rotation time for these forest types on this site is 100 years. Natural regeneration is abundant, and is commonly used for restocking:

1d age 130 years, beech, oak prescribed rotation time 100 years, 16,85 ha, standing stock 603 m3, harvest plan 648 m3, harvest plan 648 m3, harvest 2018-2020 180m3, natural regeneration

2b age 140 years, beech, windblow 2013, prescribed rotation time 100 years, 7,22 ha, standing stock 743 m3, harvest plan 788 m3, 2019 final cut, adult ecosystem trees were left to stay 220 m3.

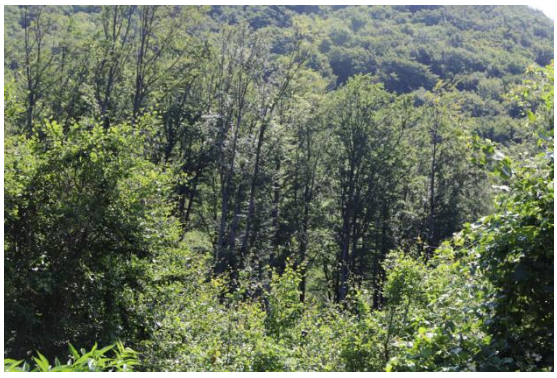
2a age 33 years, beech, 9,43 ha, standing stock 1995 m3, planned thinning 435 m3, tending in years 2019-2020, incidental cut 37m3 spruce due bark beetle and wind

3a age 33 years, beech, 7,05 ha, standing stock 1965 m3, planned thinning 430 m3, 2018-2020 incidental cut 86 m3

2e beech, 15,67 ha, standing stock 7467 m3, planned thinning 813 m3, then 2019-2020 (Rea wind) incidental cut 1050 m3

2d age 100 years, beech + maple, 6,27 ha, standing stock 1806 m3, no planned harvest, 2019 incidental cut 115 m3

2f age 130 years, beech, 4,85 ha, standing stock 1768 m3, no intervention or harvest is planned for the decennium, incidental cut 2018 was 130 m3



2g age 80 years, beech, 5,26 ha, standing stock 1806 m3, no intervention or harvest is planned for the decennium, incidental cut 2019-2020 was 90 m3

3b mixed-age forest, beech, windblow+ ice 2013+2019, 14,78 ha, standing stock 4149 m3, harvest plan 712 m3, harvested 328 m3.

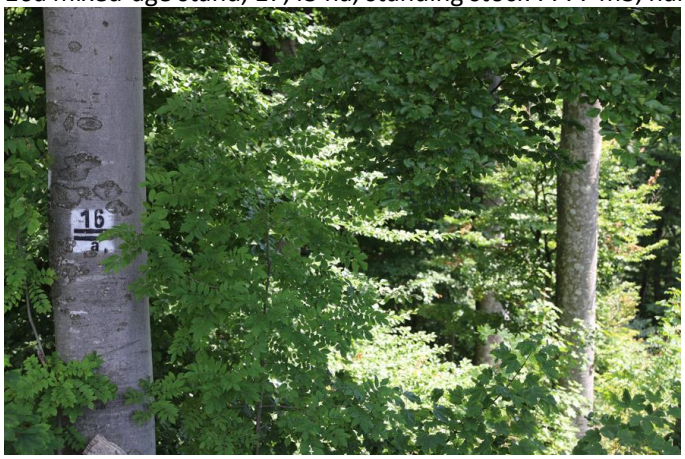
4b age 140 years, beech, 3,94 ha, standing stock 715 m3, harvest plan 760 m3, incidental cut 2018-2020 was 185 m3, also thinning was done

9b mixed age selective managed stand, beech, 9,11 ha, standing stock 3060 m3, harvest plan 146 m3, incidental cut 2018-2020 was 825 m3, also tending was done

9a 140 years, oak, rotation 120 years, 1,79 ha, standing stock 896 m3, harvest plan 951 m3

3d age 70 years, beech, 11,76 ha, standing stock 4703 m3, harvest plan 553 m3, incidental cut 2019-2020 was 430 m3

10h mixed-age stand, 8,03 ha, standing stock 3335 m3, harvest plan 361 m3, incidental harvest 2020 66 m3
16a mixed-age stand, 17,43 ha, standing stock 7777 m3, harvest plan 1221 m3, incidental harvest 2018 2600 m3



15a mixed-age stand, 19,52 ha, standing stock 6903 m3, harvest plan 859 m3, incidental harvest 2018-2020 appx. 800 m3

16c 1 year, 13,36 ha, windfall in 2018

4a mixed-age stand, 5,21 ha, standing stock 870 m3, harvest plan 80 m3, incidental harvest 2018-2020 appx 160 m3
9e mixed-age stand, 6,94 ha, standing stock 1884 m3, harvest plan 90 m3, harvest 60 m3
9i 2013 Theodor windblow, 2020-2021 final cut

Old sanatorium

8b mixed-age stand, 8,01 ha, standing stock 3004 m3, harvest plan 314 m3, incidental harvest 2018 150 m3

17b age 150 years, oak/beech, rotation 120 years, 2,85 ha, standing stock 1452 m3, harvest plan 1542 m3, incidental cut 2018 was 23 m3

17d

20a mixed-age stand, standing stock 2732 m3, harvest plan 290 m3, incidental cut 2018-2019 was 110 m3

8c mixed-age stand, 5,07 ha, standing stock 335 m3, harvest plan 101 m3, incidental cut 2018 was 15 m3

Forest Preserve on the upper part of Medvednica – all compartments without any planned intervention total 161,87 ha of this GJ, plus other half on the adjacent GJ, compartments 6+7+8

GJ Markuševačka gora. Shelterwood silvicultural system in pedunculate oak stands at various stages of the forest management cycle. Spruce, fir and beech dominated stands are within the regular thinning stage of the forest management cycle, and this includes regular small-scale sanitation interventions to remove individual trees which had been infected with bark beetle (*Pityokteines curvidens*) and/or the fungus *Armillaria mellea. Armillaria mellea* is a fungus that physiologically weakens trees after which they are more susceptible to other damaging factors such as bark beetle attacks. Timely extraction of diseased trees ("incidental harvest") keeps the stands more stable and healthy.

Sub-compartment 5d - sanitary logging in progress. This intervention is to remove the small proportion of dead and diseased trees (bark beetle / *Armilaria mellea*) within the stand.

Sub-compartment 12a - nature preserve for. Due this status, felling has not been carried out for a longer period of time, therefore individual trees and weakened and more susceptible to further damage by bark beetle and secondary infection.

Sub-compartment 14f - spruce trees attacked by bark beetle (*Ips typographus*) were felled a few years ago, and the size of canopy gap has created sufficient light to enable natural regeneration of spruce.

Sub-compartment 9h - final felling in the last regeneration phase was carried out in 2013, allowing the entire area was regenerated with young oak and hornbeam – the natural stand composition for the area.

Sub-compartment 21a – final felling of the regeneration phase was carried out in 2016. Young beech, oak, and hornbeam trees were observed across the sub-compartment. Silviculture activities - *Robinia* trees are removed according to the management plan – as alien and invasive species.

Issue 9 Conclusion of SA Cert:

- **Volumes from inventory and thereof calculated prescribed harvest correspond with the harvested volumes in each stand, within the limit of usual variation of volumes caused e.g. by different type of measurement.**
- **Replanting on many sites could not be done due to very abundant and vigorous natural regeneration.**
- **Difference in stock within forests of Medvednica, stated in 2018 as about 12,8% lower than expected stock, was explained to Javna Ustanova "Park prirode Medvedica" in a letter 07-00-05/01-19-02 of 25. ožujka 2019.**
    - **The major cause was a different methodology in estimating standing stock in 1998 and 2018. The inventory until 1998 bas established on measuring in single circular areas, whereas in 2018 a method of double circular areas were used. The latter method was used for 3 years and is currently abandoned, because its reliability was insufficient.**

Issue 9

On 3/8/2021, SA Cert attention was steered to an article from March 2021 https://www.total-croatia-news.com/news/51556-association-forest-management-company-manipulating-citizens-and-eu-institutions The contents says: "*We are glad that there is a growing public awareness of the importance of reforestation, but the public must know that Hrvatske Šume receives funding for its activities, including reforestation, from both the EU and the Croatian state. Hrvatske Šume uses citizens, even the Croatian Army, to do volunteer work for which it has taken the money and which it has pledged to do*," VIDRA head Vesna Grgić said".

Issue 9 Evidence found during investigation by SA Cert, 2021

Volunteers in HŠ have been active mainly in two situations: collecting rubbish from the forest (usually as a part of ***celebrating the Earth Day***) and afforestation by volunteers (on international ***Day of Forests***). The same is done in most EU countries.

The first case is self-explanatory, there is a voluntary work for the public benefit and Hrvatske šume provides most of the logistics. For example:

https://www.hrsume.hr/index.php/hr/75-news/latest-news/377-volonterska-akcija-premaila-sva-oekivanja

https://www.icv.hr/2021/04/dan-planeta-zemlje-sumarija-pitomaca-i-opcina-pitomaca-ocistile-sumu-od-cak-40-kubika-otpada/?fbclid=IwAR3QDU5Kod0T1_WwBzoHgRAj8jor1qswxjAgstIJPOxJC7xVph6xSDsQhe4

The second activity of afforestation is regulated in a way so that activities are organised and the volunteers (groups, schools, celebrities etc can apply to participate in the event). More details here:

https://www.hrsume.hr/index.php/hr/77-news/1148-dani-zajednicke-sadnje-proljece-2021

Other projects: afforestation of burned areas in south Dalmatia under the project FENIKS https://www.hrsume.hr/index.php/hr/home/75-news/latest-news/867-volonteri-u-akciji-posumljavanja-projekt-feniks

project BORANKA https://www.hrsume.hr/index.php/hr/75-news/latest-news/913-krece-boranka

removal of illegal waste disposal here under the project Zelena čistka which is on-going process for the last couple of years https://www.hrsume.hr/index.php/hr/component/content/article/624-zelena-istka

The purpose of these actions is raising awareness, education of adults and kids about importance of forests, or just social gathering on fresh air. Regarding potential economic benefits, they are negligible as the number of seedling planted are very small while costs are much higher than when doing the same job with employees (due to complex logistics), while the educational aspect is considered as main aim here.

Issue 10 Conclusion of SA Cert:

There is obvious misunderstanding of voluntary work and forced labour. Forced labour is not used in/by HŠ, while voluntary participation in some forestry events is supported by HŠ.

Additional issues investigated:

In addition the following issues as raised by SH have been evaluated during the audit and further details are contained within the report of FSC audit of Hrvatske šume, 2021.

Issues 11 - Hrvatske šume d.o.o. does not respect the priority of the supply of local population with firewood over favouring saw-mills, bio power plants, exporters, etc.

Evidence found during investigation by SA Cert, 2021:

- **No evidence was found to support this as consulted with various stakeholder, during the field visits even some local**

Issue 12- Hrvatske šume d.o.o. does not respect the regimes of management in the protected areas, such as nature parks and significant landscapes, ornithological reserves, the provisions of the ecological network Natura 2000, or FSC standards.

Evidence found during investigation by SA Cert, 2021:

- **No evidence was found to support this, see answer in part of this response " Lonjsko polje"**

Issue 13 *- Hrvatske šume d.o.o. perform excessive final logging of vast forest areas and major slopes. Landslides and erosions have been observed at several locations in RH. They are directly caused by the complete deforestation.*

Evidence found during investigation by SA Cert, 2021:

- **No evidence was found to support this , see answer in part of this response e.g. " Medvednica"**

Issue 14 - Hrvatske šume d.o.o. does not maintain order in the forests and the contractors who perform works leave behind garbage (sprays, fuel containers, plastic markings of the working sites, etc.).

Evidence found during investigation by SA Cert, 2021:

- **No evidence was found to support this , see answer in part of this response above, on photos of evidence.**

Issues 15 *- Hrvatske šume d.o.o. does not keep in order the signs which mark forest sections/segments, thus enabling manipulations with the documents relative to planning and performing the works, and also plundering.*

Evidence found during investigation by SA Cert, 2021:

- **No evidence was found to support this , marking forest compartments was found sufficient for foresters with forestry map (while forestry maps are available from Hrvatske šume).**
- **"Plundering" has not been seen on any site**

Issues 16 *- Hrvatske šume d.o.o. inflict serious damage to the trees close to the timber haul roads.*

Evidence found during investigation by SA Cert, 2021:

- **No evidence was found to support this no excessive/serious damage to the trees close to skidding roads and lines were found.**
- **See evidence on the photos above.**

Issues 17 - When entering into contracts with external contractors Hrvatske šume d.o.o. fail to inform them of the FSC or Natura 2000 provisions and does not require them to respect those provisions.

Evidence found during investigation by SA Cert, 2021:

- **No evidence was found to support this, reference regarding FSC is in all contracts with e.g. logging companies. See details in Audit Report 2021**

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