

**ARTICLE 5 DEADLINE: 1 MARCH 2026**  
UNCLEAR WHETHER ON TRACK TO MEET DEADLINE

### KEY DATA

**ANTI-PERSONNEL (AP)  
MINE CONTAMINATION: HEAVY**

MINE ACTION REVIEW ESTIMATE

**30KM<sup>2</sup>**

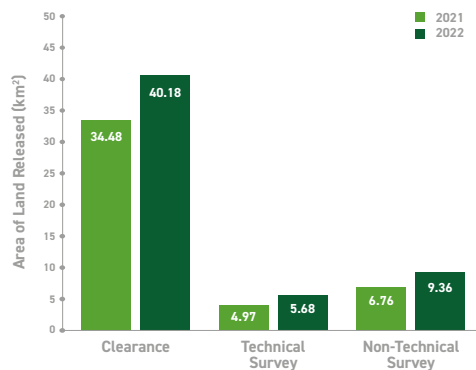
AP MINE  
CLEARANCE IN 2022

**40.18KM<sup>2</sup>**

AP MINES  
DESTROYED IN 2022

**1,098**

### LAND RELEASE OUTPUT



**CURRENT LIKELIHOOD OF MEETING 2025 CLEARANCE TARGET** (as per the Oslo Action Plan commitment): **LOW**

## KEY DEVELOPMENTS

Croatia increased its clearance output in 2022 from the previous year and exceeded its land release target despite a reduction in technical survey (TS) and non-technical survey (NTS) output. However, Croatia continues to clear land without any mines being found and there was a decrease in the proportion of mines found per square metre in 2022, indicating the need for better targeting of clearance activities.

## RECOMMENDATIONS FOR ACTION

- Civil Protection Directorate – Croatia Mine Action Centre (CROMAC) should increase its survey and clearance capacity in order to meet the targets outlined in its revised work plan 2022–26.
- In addition to survey of suspected hazardous areas (SHAs), CROMAC should also review the basis on which confirmed hazardous areas (CHAs) are established. In particular, it should conduct survey to confirm evidence of mine contamination before embarking on full clearance.
- CROMAC should fulfil the pledge in Croatia’s 2018 extension request to explore the potential for mine detection dogs (MDDs) to enhance TS efficiency. The 2015 demining law, which only allows MDDs to be used in clearance and not for survey, should be amended

## ASSESSMENT OF NATIONAL PROGRAMME PERFORMANCE

Criterion	Score (2022)	Score (2021)	Performance Commentary
<b>UNDERSTANDING OF CONTAMINATION</b> (20% of overall score)	7	7	Croatia considers its current national baseline of anti-personnel (AP) mine contamination to be reasonably accurate, evidence-based, and complete. However, as one third of remaining mined area is SHA and the remaining CHA has a low density of mine contamination, continued survey remains necessary.
<b>NATIONAL OWNERSHIP AND PROGRAMME MANAGEMENT</b> (10% of overall score)	8	8	There is strong national ownership of mine action in Croatia, with political will to implement Article 5. In 2022, Croatia contributed approx. €35 million (68% of the total) to the overall mine action budget.
<b>GENDER AND DIVERSITY</b> (10% of overall score)	5	4	The proportion of women employed at CROMAC remains low. However, Croatia is now collecting data on the different needs, vulnerabilities and perspectives of women, girls, boys and men from diverse populations and all age groups.
<b>INFORMATION MANAGEMENT AND REPORTING</b> (10% of overall score)	8	8	Croatia provides regular, accurate, and consistent updates on its progress in Article 5 implementation at Anti-Personnel Mine Ban Convention (APMBC) meetings and in its Article 7 reports. However, a more detailed breakdown of land release output should be provided in its Article 7 reports.
<b>PLANNING AND TASKING</b> (10% of overall score)	7	7	Croatia approved an updated draft of its National Mine Action Strategy 2020–2026 in February 2023. Croatia also has a work plan in place for 2022–26 with annual targets for land release.
<b>LAND RELEASE SYSTEM</b> (20% of overall score)	5	5	There is a continued need for Croatia to conduct survey prior to any clearance, to avoid clearance of CHAs where no contamination is found. In 2022, hazardous areas which did not contain AP mines accounted for 22% of all cleared areas, a similar proportion to 2021.
<b>LAND RELEASE OUTPUTS AND ARTICLE 5 COMPLIANCE</b> (20% of overall score)	8	7	Clearance output in 2022 increased by 18% from the previous year. Croatia exceeded its land release targets for year and there was also an increase in clearance of mined areas under military control.
<b>Average Score</b>	<b>6.8</b>	<b>6.5</b>	<b>Overall Programme Performance: AVERAGE</b>

## DEMINING CAPACITY

### MANAGEMENT CAPACITY

- Ministry of the Interior (MoI), in which CROMAC and the Government Office for Mine Action (GOMA) are integrated within the Civil Protection Directorate.

### NATIONAL OPERATORS

- Forty-two commercial demining companies are accredited for mine and CMR clearance operations.
- Pioneer Company of the Engineering Regiment, Croatian Armed Forces

### INTERNATIONAL OPERATORS

- None

### OTHER ACTORS

- Geneva International Centre for Humanitarian Demining (GICHD)

## UNDERSTANDING OF AP MINE CONTAMINATION

At the end of 2022, Croatia reported a total of more than 149km<sup>2</sup> of mined area remaining, excluding military areas.<sup>1</sup> Of this 99.39km<sup>2</sup> is in confirmed hazardous area (CHA), and 50.30km<sup>2</sup> in suspected hazardous areas (SHAs) (see Table 1).<sup>2</sup> This represents an 27% decrease in estimated contamination excluding military areas compared to 204km<sup>2</sup> of mined area at the end of 2021.<sup>3</sup> Survey in 2022 by the Civil Protection Directorate sector of CROMAC added 0.52km<sup>2</sup> of previously unrecorded mined areas to Croatia's information management database.<sup>4</sup> Croatia believes that hazardous areas, excluding the military zones, contain 11,898 anti-personnel (AP) mines and 827 anti-vehicle (AV) mines.<sup>5</sup>

A further 19.8km<sup>2</sup> of confirmed mined area existed in areas under military control as at the end of 2022 compared to 29.5km<sup>2</sup> as at the end of 2021.<sup>6</sup> This mined area, which is also contaminated with unexploded ordnance (UXO), is across military barracks, training sites, radar stations, and storage sites.

**Table 1: AP mined area (in civilian areas) (at end 2022)<sup>7</sup>**

County	Municipal areas with hazardous areas	CHA (m <sup>2</sup> )	SHA (m <sup>2</sup> )	Total mined area (m <sup>2</sup> )
Karlovac	5	6,200,152	12,689,324	18,889,476
Lika-Senj	9	56,522,659	18,023,649	74,546,308
Osijek-Baranja	1	6,772,726	0	6,772,726
Split-Dalmacija	2	13,173,346	3,342,569	16,515,915
Sisak-Moslavina	8	10,949,529	14,069,940	25,019,469
Šibenik-Knin	3	5,770,632	2,170,390	7,941,022
<b>Totals</b>	<b>28</b>	<b>99,389,044</b>	<b>50,295,872</b>	<b>149,684,916</b>

A further 19.8km<sup>2</sup> of mined area exists in areas under military control.

Six of Croatia's twenty-one counties are still mine-affected, one fewer than in 2021. At the end of 2022, 98.7% of mine contamination was on forested land, 1.2% was on agricultural land, and the remaining 0.1% was on other areas (e.g. marshland).<sup>8</sup> Much of the remaining mined area is mountainous and has not been accessed for 20 years, so the terrain and conditions will pose challenges to demining.<sup>9</sup>

According to Croatia's Civil Protection Directorate, the baseline of AP mine contamination has been established through inclusive consultation with women, girls, boys, and men, including, where relevant, with minority groups. Croatia considers its current baseline of contamination to

be evidence-based and reasonably accurate, following the completion of a baseline survey.<sup>10</sup> However, the high ratio of SHAs to CHAs, and the fact that mined areas continue to be cleared without AP mines being encountered, calls this into question.

Aside from mines Croatia is affected, to a much lesser extent, by explosive remnants of war (ERW), a legacy of four years of armed conflict associated with the break-up of the former Yugoslavia in the early 1990s. On 1 August 2020, Croatia declared compliance with Article 4 of the Convention on Cluster Munitions, having completed clearance of cluster munition-contaminated areas.<sup>11</sup>

1 Email from Dejan Rendulić, Senior Advisor for EU Funds and International Cooperation, Civil Protection Directorate, 7 April 2023.

2 Email from Dejan Rendulić, Civil Protection Directorate, 7 April 2023.

3 Email from Slavenka Ivšić, Head of Unit, Civil Protection Directorate, Ministry of Interior, 23 May 2022.

4 Email from Dejan Rendulić, Civil Protection Directorate, 7 April 2023.

5 Article 7 Report (covering 2022), Form C.

6 Email from Dejan Rendulić, Civil Protection Directorate, 7 April 2023; and email from Slavenka Ivšić, Civil Protection Directorate, Ministry of Interior, 23 May 2022.

7 Email from Dejan Rendulić, Civil Protection Directorate, 7 April 2023; and Article 7 Report (covering 2022), Form C.

8 Email from Dejan Rendulić, Civil Protection Directorate, 7 April 2023.

9 Interview with Nataša Mateković, CROMAC, Sisak, 18 May 2017.

10 Email from Slavenka Ivšić, Civil Protection Directorate, 8 April 2020.

11 Statement of Croatia on Clearance, CCM Second Review Conference, 25–27 November 2020.

## NATIONAL OWNERSHIP AND PROGRAMME MANAGEMENT

In August 2018, the Croatian government decided that 54 government agencies, including CROMAC and the Government Office for Mine Action (GOMA), were to be integrated within existing State administration bodies. This was formally concluded through legislation which entered into force on 1 January 2019.<sup>12</sup> As a consequence, CROMAC and GOMA ceased to exist as separate government entities and CROMAC became an “operational sector” within the Civil Protection Directorate, under the Ministry of the Interior (MoI).<sup>13</sup> The main rationale for this was said to be “the establishment of a more relevant and operationally wider national institution (Civil Protection Directorate) that could more efficiently and effectively tackle all of the aspects of civil protection in the Republic of Croatia, including mine action activities”.<sup>14</sup> Prior to 2019, both CROMAC (established in 1998 as the umbrella organisation for mine action coordination),<sup>15</sup> and the GOMA (created in 2012 as a government focal point for mine action),<sup>16</sup> had operated as independent entities.

A new law on mine action was adopted by the Croatian parliament on 21 October 2015.<sup>17</sup> While the Law marked an improvement in certain respects (for instance, by permitting land release through TS), there were concerns that it would impede efficient and effective mine action.<sup>18</sup> For accreditation, the MoI provides three separate permits: approval for manual mine detection; approval for mechanical mine detection; and approval for operations by mine and explosive detection dogs (EDDs). This replaces the former unified accreditation licence.<sup>19</sup>

The Civil Protection Directorate – CROMAC is not responsible for survey and clearance of military areas, which comes under the remit of the Ministry of Defence (MoD). But in order

to address the slow progress in release of mined areas under military control, CROMAC and the MoD held joint meetings to outline further cooperation between the ministries. This included plans for joint NTS and TS to identify CHA and SHA which fall within the MoD’s responsibility.<sup>20</sup>

In 2022, representatives from the Civil Protection Directorate – CROMAC received training on quality management from the Geneva International Centre for Humanitarian Demining (GICHD).<sup>21</sup>

In its 2018 Extension request, Croatia estimated that fulfilment of its Anti-Personnel Mine Ban Convention (APMBC) Article 5 obligations would cost a further €459 million in total.<sup>22</sup> In its Revised Work Plan 2022–2026 Croatia estimated it would cost €219 million to clear the remaining hazardous area.<sup>23</sup> Funding for land release through to 2025, is expected to come from the Croatian government (51%) and from the European Union (EU) and other sources (49%).<sup>24</sup>

In 2022, the overall annual mine action budget for survey and clearance in Croatia was €51.4 million.<sup>25</sup> The State contribution was 68% of the total (approx. €35 million),<sup>26</sup> an increase on the €33.2 million in 2021, when it was almost 70% of the budget.<sup>27</sup> EU funding remained a significant contribution in 2022, at 29.7% of the total, while the Swiss-Croatian Cooperation Programme contributed 2.3% of the total.<sup>28</sup>

Croatia does not have a resource mobilisation strategy for Article 5 implementation.<sup>29</sup> The Civil Protection Directorate reported in 2023 that an in-country platform for dialogue, consisting of representatives from the MoI and the association of private companies in demining, meets on a regular basis.<sup>30</sup>

## ENVIRONMENTAL POLICIES AND ACTION

There are no specific national standards for environmental management in mine action in Croatia but several synchronised cross-ministry policies and laws regulate environmental protection.<sup>31</sup> In accordance with the 2015 Act on Mine Action (as amended) mine action operations are to minimise adverse impact on the environment. Furthermore, planning for mine action

12 Act on Amendments to the Act on Mine Action (OG No. 118/2018); and Act on Amendment to the Act on the Government (OG No. 116/2018).

13 Emails from Slavenka Ivšić, Civil Protection Directorate, 23 May 2019 and 8 April 2020; and Article 7 Report (covering 2018), Form J; and Article 7 Report (covering 2019), p. 1.

14 Article 7 Report (covering 2019), Form 4.1.

15 CROMAC, “National Mine Action Strategy of Croatia 2009–2019”, Zagreb, June 2009, p. 2.

16 Interviews with Dijana Pleština, Director, GOMA, in Geneva, 23 May 2012 and 10 April 2014; and email from Miljenko Vahtarić, CROMAC, 4 July 2013.

17 OG No. 110/15; and Article 7 Report (covering 2017), Form A.

18 Interviews with Neven Karas, CROMAC; and Tomislav Ban, Assistant Director and Head of Sector for Operational Planning and Programming, CROMAC, Sisak, 18 May 2017.

19 Email from Miljenko Vahtarić, CROMAC, 24 August 2016.

20 Email from Slavenka Ivšić, Civil Protection Directorate, 23 May 2022.

21 Email from Dejan Rendulić, Civil Protection Directorate, 7 April 2023.

22 2018 Article 5 deadline Extension Request, p. 44.

23 Revised Work Plan 2022–2026, April 2022, p. 13.

24 Ibid.

25 Email from Dejan Rendulić, Civil Protection Directorate, 7 April 2023.

26 Ibid.

27 Email from Slavenka Ivšić, Civil Protection Directorate, 23 May 2022.

28 Email from Dejan Rendulić, Civil Protection Directorate, 7 April 2023.

29 Email from Slavenka Ivšić, Civil Protection Directorate, 8 April 2020.

30 Email from Dejan Rendulić, Civil Protection Directorate, 7 April 2023.

31 Email from Slavenka Ivšić, Civil Protection Directorate, 23 May 2022.

operations must identify and assess relevant environmental issues and determine appropriate and effective mitigation measures. Croatia's annual mine action plans are coordinated through several ministries, including the Ministry of Economy and Sustainable Development, and with local and regional administrations. Specific nature protection measures are described in detail within conceptual demining plans and operators are obliged to take all reasonable measures to ensure that the environment is left in a state suitable for its intended use once mine action operations cease.

For EU and international projects targeting Natura 2000 Ecological Network areas or national park areas, particularly recent projects financed by the EU Cohesion Fund, the environmental considerations are more complex. Every clearance project is subject to a comprehensive environmental study, which details specific measures that must be performed before, during, and after clearance.<sup>32</sup> Three of these projects, "Naturavita", "Fearless Velebit", and "Karlovac Karst", finalised their clearance activities in 2022 and were subject to strict restrictions on when clearance activities could take place and which methods could be used so that the disruption to the local species and habitats were minimised. As a high proportion of the remaining contaminated land is in forested areas, Croatia is putting sustainable development and environmental stewardship at the forefront and will focus on preserving and restoring forest ecosystems.<sup>33</sup>

## GENDER AND DIVERSITY

The Gender Equality Act,<sup>34</sup> which establishes national guidelines for gender equality, prohibits gender-based discrimination, and creates equal opportunities for men and women, including with regard to employment.<sup>35</sup>

According to the national authorities, women, men, boys and girls are all effectively consulted during survey and community liaison activities.<sup>36</sup> CROMAC gathers all relevant data during NTS.<sup>37</sup> In 2023, a Swiss-Croatian Cooperation Programme was completed, an output of which is the establishment of a comprehensive database on explosive ordnance where information has been collected on the different needs, vulnerabilities and perspectives of women, girls, boys and men from diverse populations and all age groups.<sup>38</sup>

The Civil Protection Directorate does not compile or disclose data regarding commercial demining companies, which are privately owned.<sup>39</sup> According to Croatia, the low proportion of women working in the Civil Protection Directorate – CROMAC (see Table 2) is due to the fact that when CROMAC ceased to exist as an independent centre and was downsized when it was integrated within the Civil Protection Directorate/Mol in 2019, a significant portion of woman (including in managerial positions) were transferred or promoted into other sectors and managerial positions in the Mol or in other State or local authority institutions.<sup>40</sup>

**Table 2: Gender composition of CROMAC<sup>41</sup>**

Total staff	Women employed	Total staff in managerial or supervisory positions	Women in managerial or supervisory positions	Total staff in operational positions	Total women in operational positions
87	11	8	0	64	2

## INFORMATION MANAGEMENT AND REPORTING

For the purpose of mine action information management, CROMAC established a mine information system (MIS), which is said to be compliant with the International Mine Action Standards (IMAS) and customised to meet CROMAC's needs. The MIS uses databases and a geographic information system (GIS) to deliver a fully integrated information management system.<sup>42</sup> Efforts

32 Ibid.

33 Email from Dejan Rendulić, Civil Protection Directorate, 7 April 2023.

34 Official Gazette 82/08 and 69/17.

35 Article 7 Report (covering 2017), Form C; Statement of Croatia, APMBIC Intersessional Meetings, Geneva, 7 June 2018; and email from Davor Laura, CROMAC, 6 April 2018.

36 Article 7 Report (covering 2017), Form C; Statement of Croatia, APMBIC Intersessional Meetings, Geneva, 7 June 2018; and email from Davor Laura, CROMAC, 6 April 2018.

37 Email from Ivana Odalj, Civil Protection Directorate, 16 August 2021.

38 Email from Dejan Rendulić, Civil Protection Directorate, 7 April 2023.

39 Email from Ivana Odalj, Civil Protection Directorate, 16 August 2021.

40 Ibid.

41 Email from Dejan Rendulić, Civil Protection Directorate, 7 April 2023.

42 CROMAC website, "CROMAC's Mine Information System", accessed 26 June 2018.

are ongoing to improve the quality of mine-related data by CROMAC's survey personnel.<sup>43</sup> In 2022, Croatia was accepted into the eurozone so all financial data was converted into euros.<sup>44</sup>

Croatia submits timely and accurate annual Article 7 transparency reports and reports on its progress in Article 5 implementation at the APMBBC intersessional meetings and meetings of States Parties. However, it would be valuable if Croatia were to provide a more detailed breakdown of its land release output in its Article 7 reports.

## PLANNING AND TASKING

Croatia has a National Mine Action Strategy 2020–2026, an updated draft of which was submitted to the relevant government ministries and to mine action stakeholders and approved in February 2023.<sup>45</sup>

In 2018, Croatia was granted a seven-year request to extend its APMBBC Article 5 deadline from 1 March 2019 to 1 March 2026. In its extension request, Croatia stated it had prioritised the remaining mined areas according to those which affect safety, pose barriers to socio-economic development, and impact the environment in other ways. Priorities at the operational level are elaborated in annual demining action plans.<sup>46</sup>

A "Mine Action Revised Work Plan 2020–26" was adopted by the Deputy Prime Minister and Minister of the Interior in 2019.<sup>47</sup> However, following Croatia's failure to meet work plan targets in 2020 a revised mine action work plan was issued for 2022–26.<sup>48</sup> This sets out how it proposes to release the remaining 234km<sup>2</sup> of mined area as at the end of 2021 (204.4km<sup>2</sup> under the MoI/Civil Protection Directorate and 29.5km<sup>2</sup> under the MoD's jurisdiction), with higher land release targets to make up for previous shortfalls (see Table 3).

**Table 3: Planned land release output (in km<sup>2</sup>) (2022–26)<sup>49</sup>**

	Total	2022	2023	2024	2025	2026
Clearance	136.8	34.3	34.6	33.1	34.8	0
Clearance in combination with TS	17.4	3.8	8.4	5.2	0	0
Technical Survey	19.8	7.8	5.0	5.0	2.0	0
NTS	30.4	10.0	12.6	7.8	0	0
<b>Subtotals</b>	<b>204.4</b>	<b>55.9</b>	<b>60.6</b>	<b>51.1</b>	<b>36.8</b>	<b>0</b>
Croatian Army (MoD area)	29.5	7.4	3.1	8.8	10.2	0
<b>Totals</b>	<b>233.9</b>	<b>63.3</b>	<b>63.7</b>	<b>59.9</b>	<b>47.0</b>	<b>0</b>

Based on approved funding, CROMAC drafts annual work plans, which are submitted to the responsible ministries and other State bodies for comment and approval.<sup>50</sup> CROMAC reported to Mine Action Review that in 2023 it in fact planned to release 43km<sup>2</sup> through clearance, 7.4km<sup>2</sup> through TS, and 12.6km<sup>2</sup> through NTS, totalling 63km<sup>2</sup> (an increase from the 60.6km<sup>2</sup> in its work plan).<sup>51</sup>

## LAND RELEASE SYSTEM

### STANDARDS AND LAND RELEASE EFFICIENCY

The 2015 law on mine action allowed use of TS to confirm the presence or absence of contamination.<sup>52</sup> The law introduced a new procedure for "supplementary general survey" (a form of NTS) and enabled "exclusion" (i.e. reduction) of SHAs through

43 Email from Slavenka Ivšić, Civil Protection Directorate, 23 May 2019.

44 Email from Dejan Rendulić, Civil Protection Directorate, 7 April 2023.

45 Ibid.

46 2018 Article 5 deadline Extension Request, pp. 8 and 11.

47 Email from Slavenka Ivšić, Civil Protection Directorate, 30 April 2021.

48 Revised Work Plan 2022–2026, April 2022, p. 10.

49 Ibid.

50 Email from Slavenka Ivšić, Civil Protection Directorate, 23 May 2019.

51 Email from Dejan Rendulić, Civil Protection Directorate, 7 April 2023.

52 National Gazette No. 110/15; and CCM Article 7 Report (covering 2017), Form A.

TS, which was not possible under the previous law.<sup>53</sup> The law also eliminated the need for standing operating procedures (SOPs), as all aspects of mine action were defined in detail.<sup>54</sup> National mine action standards are also encompassed within it and no changes were made in 2022.<sup>55</sup>

In recent years, a significant number of CHAs have been cleared in which no AP mines were found, although the Civil Protection Directorate said many of these areas did, however, contain AV mines or UXO. Furthermore, other oversized CHAs were cleared with very few AP mines discovered. In 2022, hazardous areas which did not contain AP mines accounted for 22% of all cleared areas, a similar proportion to 2021.<sup>56</sup> The high proportion of cleared land containing no AP mines in recent years calls into question the efficiency of the demining and strongly suggests the need for better use of pre-clearance, evidence-based survey to confirm contamination before time- and cost-intensive full clearance is undertaken on mined areas recorded by CROMAC as “confirmed”.

Croatia organises an annual Mine Action Symposium, which discusses new detection and clearance technologies. The 2022 symposium brought together more than 140 participants from 26 countries on topics such as mine action in Ukraine, training standards, research and development of new technologies in mine action and best practice in land release.<sup>57</sup>

In 2022, at the Croatian Mine Action Centre – Centre for Testing, Development and Training (HCR-CTRO) test sites, a team from Manchester University has been testing an advanced multi-frequency metal detector, an integrated frequency domain ground penetrating radar and several options for cm level position sensing. In addition, field testing of a Norwegian UAV 3D GPR system created a 3D subsurface volumetric image for each lane to facilitate target recognition, using a 17-channel lightweight GPR antenna array and a heavy-lift UAV platform. The GICHD has been conducting a trial of the Mine Kafon airborne demining system.<sup>58</sup>

## OPERATORS AND OPERATIONAL TOOLS

In 2022, 42 commercial companies were engaged in mine clearance operations in Croatia (see Table 4). While all survey is conducted by CROMAC with eight NTS personnel and 28 TS personnel deployed in 2022.<sup>59</sup> As a result of conditions for earlier World Bank funding, Croatia has an unusually commercialised mine action sector, with almost all civil clearance conducted by local companies competing for tenders. Non-governmental organisations (NGOs) are barred from competing for commercial tenders as CROMAC views their subsidy by other funds as unfair.<sup>60</sup> The Pioneer Company of the Engineering Regiment is responsible for clearing all military facilities.<sup>61</sup>

**Table 4: Clearance capacity (in 2022)<sup>62</sup>**

Clearance capacity	No.	Comments
Deminers	388	Reduction from 397 in 2021.
Mine detection dogs	46	Reduction from 104 in 2021.
Demining machines	44	One more than 2021.

Clearance operations in Croatia are conducted manually as well as with mechanical assets and with the support of mine detection dogs (MDDs). In accordance with the 2015 Act on Mine Action and its prescribed demining methodologies, MDDs are used only for clearance and not TS.<sup>63</sup> Croatia had previously reported plans to develop methods and techniques for use of MDDs for TS, as a potentially more effective tool to address mined areas in mountainous terrain.<sup>64</sup> However, this would require amendment to the 2015 demining law.

## DEMINER SAFETY

In November 2022, in the county of Lika-Senj, an auxiliary worker operating an MV-4 mine clearance machine was injured by a PROM-1 bounding fragmentation AP mine while conducting ground preparation within the marked hazardous area. The worker received immediate first aid and was taken to hospital. An on-site inspection by the Civil Protection Directorate found no

53 CCM Article 7 Report (covering 2017), Form A; and emails from Miljenko Vahtarić, CROMAC, 13 and 18 May 2016.

54 Email from Miljenko Vahtarić, CROMAC, 13 May 2016; and Article 7 Report (covering 2015), Form A.

55 Email from Miljenko Vahtarić, CROMAC, 13 May 2016; and email from Dejan Rendulić, Civil Protection Directorate, 7 April 2023.

56 Emails from Dejan Rendulić, Civil Protection Directorate, 7 April 2023 and 3 August 2022.

57 Email from Dejan Rendulić, Civil Protection Directorate, 7 April 2023.

58 Ibid.

59 Ibid.

60 Interview with Miljenko Vahtarić, CROMAC, Sisak, 14 April 2014.

61 2018 Article 5 deadline Extension Request, p. 25; and email from Slavenka Ivšić, Civil Protection Directorate, 30 April 2021.

62 Email from Dejan Rendulić, Civil Protection Directorate, 7 April 2023.

63 Email from Slavenka Ivšić, Civil Protection Directorate, 23 May 2019.

64 2018 Article 5 deadline Extension Request, pp. 43, 44, and 45; and Additional information submitted 21 June 2018, p. 1.

circumstances indicating misdemeanour liability under the Mine Action Act or related by-laws governing machine clearance/surface preparation activities. The responsible individuals at the work site promptly took appropriate actions to care for the injured worker. Based on all the available information, the inspection concluded that the incident qualifies as an accident.<sup>65</sup>

## LAND RELEASE OUTPUTS AND ARTICLE 5 COMPLIANCE

### LAND RELEASE OUTPUTS IN 2022

In total, almost 65km<sup>2</sup> of mined area was released in 2022 (including military areas), of which more than 40km<sup>2</sup> was cleared by commercial demining companies, over 5.7km<sup>2</sup> was reduced by CROMAC through TS, and nearly 9.4km<sup>2</sup> was cancelled through NTS.<sup>66</sup> A total of almost 9.7km<sup>2</sup> was released by the Croatian army on military sites, including through 0.49km<sup>2</sup> of clearance.<sup>67</sup>

### SURVEY IN 2022

CROMAC released a total of more than 15.04km<sup>2</sup> through survey in 2022, a 28% increase from the 11.73km<sup>2</sup> released through survey in 2021.<sup>68</sup> Close to 9.36km<sup>2</sup> was cancelled through NTS and more than 5.68km<sup>2</sup> was reduced through TS in 2022 (see Tables 5 and 6).<sup>69</sup> In addition, the MoD in partnership with CROMAC cancelled 9.2km<sup>2</sup> through NTS in military areas.<sup>70</sup>

**Table 5: Release of mined area through NTS in 2022<sup>71</sup>**

County	Operator	Area cancelled (m <sup>2</sup> )
Karlovac	CROMAC	2,217,390
Lika-Senj	CROMAC	2,261,299
Osijek-Baranja	CROMAC	1,689,533
Split-Dalmacija	CROMAC	448,220
Sisak-Moslavina	CROMAC	2,739,276
<b>Total</b>		<b>9,355,718</b>

**Table 6: Release of mined area through TS in 2022<sup>72</sup>**

County	Operator	Area reduced (m <sup>2</sup> )
Karlovac	CROMAC	717,335
Lika-Senj	CROMAC	1,973,595
Osijek-Baranja	CROMAC	37,587
Požega-Slavonija	CROMAC	1,856,396
Sisak-Moslavina	CROMAC	591,358
Šibenik-Knin	CROMAC	505,455
<b>Total</b>		<b>5,681,726</b>

### CLEARANCE IN 2022

In 2022, nearly 40.7km<sup>2</sup> of mined area was released through clearance (40.2km<sup>2</sup> by operators working under the direction of CROMAC (see Table 7) and a further 0.5km<sup>2</sup> by the Croatian army). During land release, a total of 1,107 AP mines were destroyed (1,098 by the Civil Protection Directorate – CROMAC and 9 by the MoD); along with 25 AV mines.<sup>73</sup> This is an 18% increase from the 34.5km<sup>2</sup> of mined area released through clearance in 2021 (nearly 34.11km<sup>2</sup> by operators working under the direction of CROMAC and a further 0.38km<sup>2</sup> by the Croatian army).<sup>74</sup>

The 488,200m<sup>2</sup> of military facilities cleared in 2021 by the Pioneer company of the Engineering Regiment of the Croatian army was an increase from the 375,961m<sup>2</sup> of military facilities cleared in 2021.<sup>75</sup>

65 Email from Dejan Rendulić, Civil Protection Directorate, 24 July 2023.

66 Ibid.

67 Ibid.

68 Emails from Dejan Rendulić, Civil Protection Directorate, 7 April 2023; and Slavenka Ivšić, Civil Protection Directorate, 23 May 2022; and Article 7 report (covering 2022), Form C.

69 Email from Dejan Rendulić, Civil Protection Directorate, 7 April 2023.

70 Ibid.

71 Email from Slavenka Ivšić, Civil Protection Directorate, 23 May 2022.

72 Email from Dejan Rendulić, Civil Protection Directorate, 7 April 2023.

73 Ibid.; and Article 7 report (covering 2022), Form C.

74 Email from Slavenka Ivšić, Civil Protection Directorate, 23 May 2022.

75 Emails from Dejan Rendulić, Civil Protection Directorate, 7 April 2023; and Slavenka Ivšić, Civil Protection Directorate, 23 May 2022.



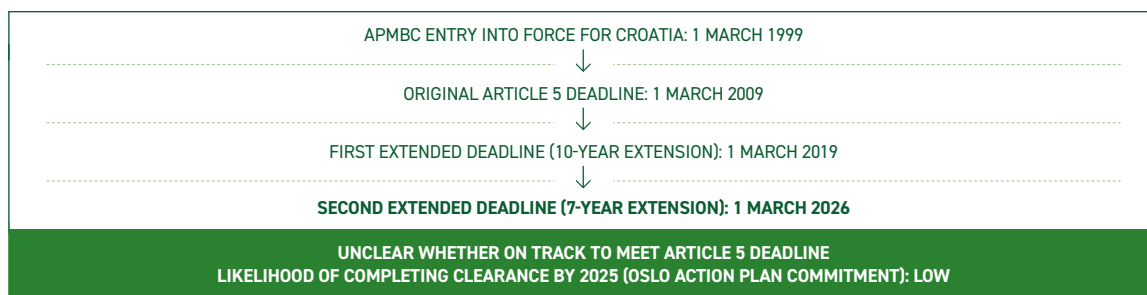
**Table 7: Mine clearance in 2022 (excluding military clearance)<sup>76</sup>**

County	Operator	Area cleared (m <sup>2</sup> )*	AP mines destroyed*	AV mines destroyed*	UXO destroyed
Karlovac	LLCs authorised for clearance	16,317,632	620	2	49
Lika-Senj	LLCs authorised for clearance	8,417,223	172	22	233
Osijek-Baranja	LLCs authorised for clearance	2,604,260	4	1	6
Požega-Slavonija	LLCs authorised for clearance	4,432,447	42	0	22
Split-Dalmacija	LLCs authorised for clearance	1,088,426	16	0	4
Sisak-Moslavina	LLCs authorised for clearance	6,471,269	230	0	2,023
Šibenik-Knin	LLCs authorised for clearance	850,057	14	0	63
<b>Totals</b>		<b>40,181,314</b>	<b>1,098</b>	<b>25</b>	<b>2,400</b>

\* An additional 488,200m<sup>2</sup> of mined area was cleared by the MoD on military areas with 9 AP mines, 1 AV mine and 711 items of UXO destroyed.

While the amount of area cleared in 2022 has increased from the previous year, the proportion of mines cleared per square metre equates to approximately one AP mine destroyed for every 36,000m<sup>2</sup> of cleared area (excluding the items of UXO and AV mines destroyed). This is a decline from the—already poor—average of one AP mine per 28,000m<sup>2</sup> Croatia managed in 2021. This indicates very poor targeting of clearance and suggests that Croatia could be releasing much greater areas through survey. CROMAC reported that in 2022 that 19 tasks totalling over 8.73km<sup>2</sup> were cleared with no AP mines found, a poor use of limited resources.<sup>77</sup>

## ARTICLE 5 DEADLINE AND COMPLIANCE



Under Article 5 of the APMBC, Croatia is required to destroy all AP mines in mined areas under its jurisdiction or control as soon as possible, but not later than 1 March 2026. It is unclear whether Croatia will meet this deadline.

Croatia exceeded its clearance target for 2022 of 34.3km<sup>2</sup> by nearly one fifth and its overall land release target for 2022 of 63.3km<sup>2</sup> by 3%, with the small shortfall in survey output made up by increased clearance of military areas. Croatia will need to release around 50km<sup>2</sup> of hazardous area annually over the next three years in order to meet its Article 5 deadline. This should be possible as 50km<sup>2</sup> of remaining contamination is in SHAs and, furthermore, given that an extremely low proportion of mines are found during clearance, with greater targeting Croatia could be releasing more of its CHA through survey. In addition, the military will need to release 6.6km<sup>2</sup> per year which is all planned to be released through clearance. A total of more than 200km<sup>2</sup> of mined area has been cleared over the last five years (see Table 8).

<sup>76</sup> Email from Dejan Rendulić, Civil Protection Directorate, 7 April 2023.

<sup>77</sup> Ibid.

**Table 8: Five-year summary of AP mine clearance**

Year	Area cleared (km <sup>2</sup> )
2022	40.67
2021	34.48
2020	49.66
2019	39.16
2018	49.01
<b>Total</b>	<b>212.98</b>

Croatia remains confident that survey and clearance operations will be completed by the end of 2025, leaving only administrative/paperwork issues to be finalised before its Article 5 deadline of 1 March 2026.<sup>78</sup> This is an ambitious goal,

made more difficult as the remaining areas to be released are mainly forested (98.7%), implying a significant reduction in the use of demining machinery, especially medium and heavy machines.<sup>79</sup> Croatia foresees that more use will be made of small, mobile machines that can be efficiently transported and used in affected areas, and that the resulting increase in manual demining will reduce productivity and increase the cost of clearance and technical survey. Use of mechanical assets is also further restricted in the "Natura 2000" protected area.<sup>80</sup>

In order to ensure that Croatia meets its Article 5 obligation, CROMAC will need to significantly increase its capacity and implementation of survey to determine the size and location of contamination more accurately before starting clearance, and to cancel and reduce areas in which no evidence of contamination is found.

### PLANNING FOR MANAGEMENT OF RESIDUAL CONTAMINATION

CROMAC has reported that the management of residual contamination will be the joint responsibility of several departments within the Mol.<sup>81</sup> Activities which must be conducted upon discovery of residual contamination are predefined by the Act on Mine Action.<sup>82</sup>

78 Revised Work Plan 2022–2026, April 2022, p. 11.

79 Email from Slavenka Ivšić, Civil Protection Directorate, 30 April 2021; and 2018 Article 5 deadline Extension Request, p. 43.

80 2018 Article 5 deadline Extension Request, p. 45; and email from Slavenka Ivšić, Civil Protection Directorate, 23 May 2019.

81 Email from Dejan Rendulić, Civil Protection Directorate, 7 April 2023.

82 Statement of Croatia on Clearance, CCM Second Review Conference (Part 1, virtual meeting), 25–27 November 2020.