



# The use and legacy of depleted uranium weapons in the Balkans

Doug Weir

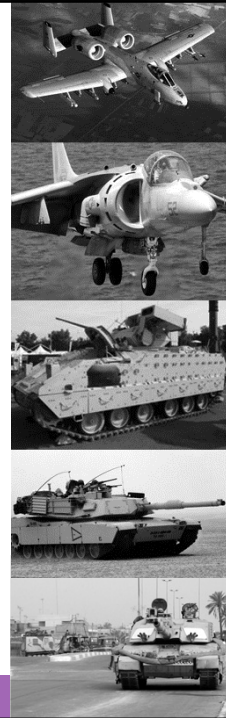
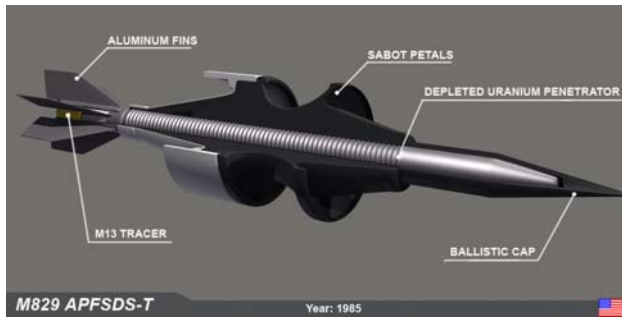
International Coalition to Ban Uranium Weapons

Brussels, May 2017



## INTERNATIONAL COALITION TO BAN URANIUM WEAPONS - ICBUW

- Global coalition campaigning for a ban on the use of uranium in all conventional weapons and weapon systems and for monitoring, health care and environmental remediation for communities affected by their use.
- Membership: 160 groups in 33 countries worldwide.



**DENSE:** 18.9 g/cc  
**PYROPHORIC:** particles spontaneously burn in air  
**KINETIC ENERGY PENETRATORS:** use kinetic energy instead of chemical explosive to pierce armour (armour piercing incendiary).  
**PLATFORMS:** aircraft, tanks, armoured fighting vehicles.  
**USERS:** Six manufacture, ~20 stockpile.

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**PGU-14 API (Armour Piercing Incendiary)**

30 mm GAU-8

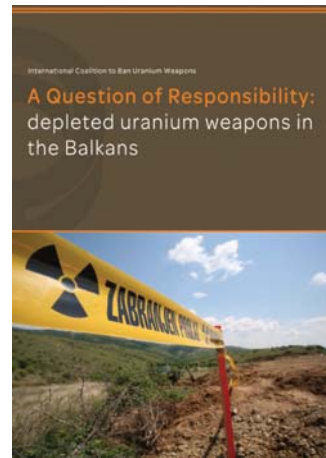


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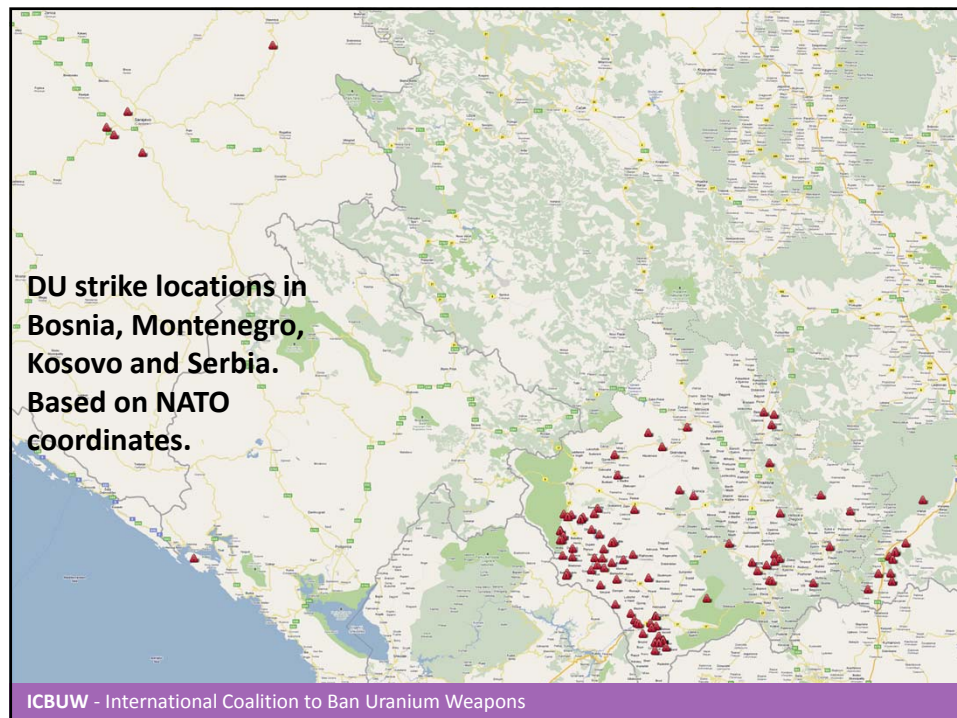
## A QUESTION OF RESPONSIBILITY

### Objective:

- To document the response by the national authorities of Serbia, Bosnia & Herzegovina and Kosovo to the use of DU munitions by US aircraft operated by NATO.
- To assess whether UNEP's recommended harm reduction measures had been fully implemented by 2010.



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## BOSNIA & HERZEGOVINA

- Date used: 1994 & 1995
- Number of targeted sites: 19 (data incomplete)
- Number of rounds fired: More than 6,780
- Volume of DU: More than 2,000kg
- Coordinates revealed: 2001



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### BOSNIA FINDINGS IN 2010

- Without the swift release of target coordinates unnecessary civilian exposures are unavoidable.
- DU contamination interferes with economic recovery and spreads fear amongst civilian population.
- Potential hazards highly dependent on many factors but fear of DU is inevitable – in spite of claims of no risk from authorities.
- Moderate national capacity had allowed some monitoring work – water and soil - and some surface clearance at the two worst affected sites.
- Clearance was incomplete, as was data on sites affected.

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## SERBIA

- **Date used: 1999**
- **Number of targeted sites: 12**
- **Number of rounds fired: Between 3-5,000**
- **Volume of DU: Between 1,000 – 3,000kg**
- **Coordinates revealed: 'General map' 1999, coordinates released in 2000.**



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### SERBIA FINDINGS IN 2010

- Few contaminated sites, their early identification and high local capacity resulted in comprehensive site decontamination programme.
- DU contamination has not 'gone' but has been relocated to a storage facility.
- The Environment Ministry and UNEP acknowledged that it was impossible to remove 100% of the contamination.
- Struggling to finance long-term monitoring.

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## SERBIA FINDINGS IN 2010

Sites with confirmed contamination*	Bratoseelce	Pljačkovica	Borovac	Reljan	Total
Activity	2002-03	2004	2005, 2007	2006-07	2002-07
NATO data**	2,140	?	300	>180	Incomplete
Penetrators found	324	49	138	195	706
Jackets found	314	36	136	194	680
Area analysed	2,185m <sup>2</sup>	971m <sup>2</sup>	16,680m <sup>2</sup>	13,044m <sup>2</sup>	29,724m <sup>2</sup>
Volume soil removed	2,800kg	1,500kg	1.38m <sup>3</sup>	3.0m <sup>3</sup>	4,300kg 4.38m <sup>3</sup>
Cost***	RSD34.8m £348,000	RSD18.76m £187,600	RSD34.5m £345,000	RSD27.6m £276,000	RSD115.66m £1.156m

Table comparing cost of decontamination work undertaken by Serbian authorities at four NATO strike sites. \* NATO gave 12 firing points, 6 had no trace of contamination, remaining 6 combined into 4 sites. \*\* NATO data thought to be incomplete by Serb authorities who estimated total rounds used at between 3-5000. \*\*\*GBP data estimated as exchange rate fluctuated.

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## KOSOVO

- Date used: 1999
- Number of targeted sites: 107
- Number of rounds fired: More than 30,000.
- Volume of DU: More than 10,000kg
- Coordinates revealed: 'General map' released in 1999, coordinates released in 2000.

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### KOSOVO FINDINGS IN 2010

- KFOR had refused to share information on decontamination with NGOs; no data available on what had been done at each site.
- Environment Ministry had insufficient funds or capacity for monitoring or decontamination.
- Environment Ministry warned local people but sites visited were in use.
- Impossible to gauge risk without transparency from KFOR.
- The national authorities had (and continues to have) a range of competing environmental and health priorities.

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### CURRENT STATUS OF CONTAMINATION

#### Bosnia & Herzegovina:

- Remediation work and data on affected sites is still incomplete. Research to date has not been sufficient to determine health impact. Government structure created by Dayton accords makes assessment or remediation programmes difficult to develop.

#### Serbia:

- Remediation work complete, ongoing monitoring at affected sites, continued public concern over health impacts, particularly cancer.

#### Kosovo:

- Agency on Protection from Radiation and Nuclear Safety est. 2012; capacity still limited. KFOR still unwilling to cooperate with NGOs. Little meaningful work done, Agency currently preparing a mitigation plan for the clean-up of possible depleted uranium sites.

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## LESSONS LEARNED

**Transparency:** Rapid release of targeting data vital to minimise civilian exposure but DU users have been reluctant to release data.

**Capacity:** Post-conflict states rarely have the capacity to deal with DU. UNEP's recommendations had not been fully addressed.

**Cost:** DU clearance is expensive and technically challenging.

**Health studies:** Robust health research is incredibly difficult in post-conflict settings, implications for documenting harm.

**Clearance obligations:** There are no current legal obligations on DU users, or international mechanisms, to provide assistance, unlike explosive remnants of war.

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## IMPLICATIONS FOR IRAQ

### Scale

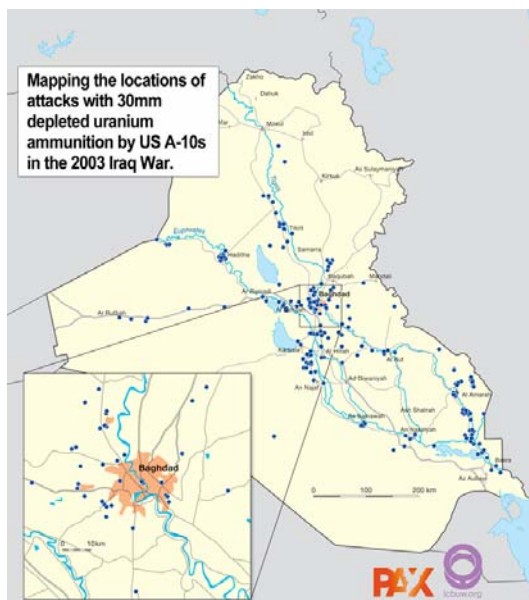
57 times more DU was fired in 1991 and 2003.

### Transparency

US, UK have not released data on 1991. UK did provide 2003 data, tiny fraction of US use. We obtained >50% of US 2003 data through FOIA last year.

### Clearance

Incomplete, hampered by lack of data and capacity.



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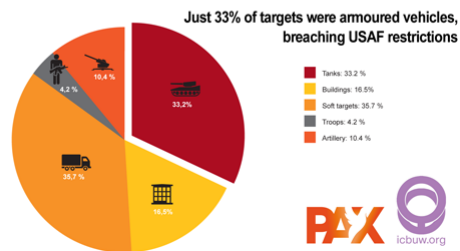


## IMPLICATIONS FOR IRAQ



### Target types attacked with depleted uranium by US A-10 aircraft in Iraq, 2003

Target category	Types of targets	Total per category
1. Tanks/armoured vehicles	Tanks, armoured vehicles, armour and tanks in revetments	371
2. Artillery and anti-aircraft guns	Artillery, anti-aircraft guns	116
3. Troops	Troops, troops in revetments	47
4. Soft targets	Aircrafts, boats, cars, trucks, missile launchers, mortars, defensive positions	398
5. Buildings	Storage sites, buildings, encampments, fortifications, bunkers, observation posts, staging areas, control towers, compounds.	184



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## IMPLICATIONS FOR SYRIA

### Scale

1,490 rounds (16/11/2015)  
3,775 rounds (22/11/2015)

### Transparency

US stated that DU would not be used. Our investigation revealed that it had. Targets were unarmoured fuel tanker convoys. Coordinates not provided.

### Clearance

Will not be possible until the security situation stabilises.



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## THE SOLUTION

**Stigmatisation:** Public opposition, national bans, divestment, EU and UN resolutions are influencing DU procurement policies.

**Clearance obligations :** DU is outside the scope of CCW Protocol V on explosive remnants of war. However Protocol V is not retrospective and state parties oppose DU's inclusion.

**Treaty ban:** Achieving a treaty ban requires greater public, civil society and state engagement than currently exists.

**Toxic remnants of war:** Since 2012, ICBUW has been supporting a wider framing on conflict and military pollution – toxic remnants of war – as the health and environmental problems with DU are not unique. This avenue may provide greater opportunities for progress.

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## FURTHER READING

On DU: [www.icbuw.org/publications](http://www.icbuw.org/publications) @ICBUW

On TRW: [www.toxicremnantsofwar.info](http://www.toxicremnantsofwar.info) @detoxconflict



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