

Estonian Humanitarian

FOODS

The Estonian Rescue Board, under the Ministry of Interior, is responsible for demining activities, planned operations, emergency response, training in mine clearance and explosive ordnance disposal (EOD), and mine risk education (MRE) in Estonia. The Estonian Defense Forces are responsible for military bases and ranges. The Rescue Board's EOD center is based in Tallinn, and there are three other regional units, described as militarized companies, in Tallinn, Tartu and Jõhvi. In total, there are 35 fully trained Estonian deminers, including 17 at the EOD center. Planned demining operations are usually conducted from April to October.

Types of UXO buried throughout Estonia are primarily unexploded artillery, mortar, and rocket shells from World War II and also include various anti-personnel and anti-tank mines. Estimates of densities number in the hundreds of thousands based upon excavations as well as data recordings conducted by Estonian demining teams. Estonia has two significant problems: sea mines and land ordnance.

Sea mines. The Baltic Sea was heavily mined during both World Wars. Estimates of the remaining mines in the Gulf of Finland range high, but exact numbers are difficult to determine. Instances of deep-sea fishing nets pulling

up live mines are not uncommon. Growth in maritime traffic including ferries, cargo ships, recreational vessels and fishing is increasing the probability of future incidents. The most heavily mined locations are to the north of the Juminda Peninsula, northeast of the Prangli Islands, north of the Pakri Peninsula, north of the Tahkuna Peninsula, in Moonsund and in the Strait of Irbe.

Land ordnance. The UXO found in Estonia is largely a direct result of combat actions during World War II. Locations of Russian and German forces and their battle lines frequently changed during the war. As a result, each side in the conflict buried large caches of ordnance. Such caches are found on a routine basis during planned demining/excavations as well as new construction projects, both in the city as well as the countryside. Estimates of densities number in the hundreds of thousands based upon excavations as well as data recordings conducted by Estonian demining teams. The highest concentration of UXO is in the northeast (Sinimäe) region of the country. An area now believed to be more than 25 square kilometres (9.65 square miles) has the heaviest concentration. Based on data recordings, calls to the emergency centre and five separate visits by deminers, the Sõrve Peninsula (approximately 18 square kilometres [6.95 square miles] on the southern tip of the Saaremaa island) is considered to be a former site of a large battle and saturated with UXO. The third largest concentration recorded is in the Männiku forest less than 6 kilometres (3.73 miles) south of Tallinn. Large aerial delivery ordnance has been discovered in Estonia's largest rivers and two of Estonia's lakes

NDO:	2,014*
Tallinn Co.	18,424
Jõhvi Co.	4,921
Tartu Co.	5,312

*The national demining office (NDO) is primarily responsible for the city limits of Tallinn. Additionally, the NDO will normally pass on (to the Tallinn Company) single pieces of ordnance greater than 120 mm as well as large single quantities due to limited transportation and destruction capabilities in the capital.

UXO Statistics by Area of Responsibility, 1 January 1995 to 31 December 2004.

through the use of diving equipment and underwater detectors. Mortars, rockets and artillery shells expended by Russian troops and aircraft for the purposes of training have left three of Estonia's islands badly damaged and saturated with UXO.

Under 20 mm, training rounds and empty projectiles are not considered UXO. The map on the next page reflects the overall breakdown of operational areas for each of the four demining elements; the areas in red represent the five most concentrated UXO sites. Planned demining events normally encompass members from each of the four elements working in teams.

Lessons Learned and Successes

During the period 2002-2004, Estonian deminers fully employed U.S.-funded data-recording devices with detectors to more accurately map and archive suspect areas. These recordings were then used to plan and prioritize current and future operations. The provision of diving equipment and an underwater detector expedited the discoveries of large air-delivered ordnance in lakes and rivers and provided Estonian divers with the ability to clear two future harbor sites previously laden with large ordnance.

Estonian mine action and ordnance data was compiled and submitted to the U.S. government's Partnership for Peace Information Management System in the form of an open



ABOVE LEFT: Anti-tank mines in a forest 7 kilometres (4.35 miles) south of the capital. ABOVE RIGHT: 500-kg aerial delivery bomb, northeast Estonia. BELOW: Pieces of UXO found per year.

1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
4,046	1,898	10,949	2,152	2,340	1,437	1,347	1,669	2,875	1,958

Demining

by Stan Reber [Project Coordinator, Estonian National Demining Center]



PHOTOS AND GRAPHICS COURTESY OF STAN REBER

A pile of 1,100 UXO items located in a forest 7 kilometres (4.35 miles) south of the capital.

database for lessons learned as well as “The International Deminers Guide to Unexploded Ordnance Identification, Recovery and Disposal” (ORDATA) submitted to the Geneva International Centre for Humanitarian Demining for future publications. The NDO continues to annually support open publications such as the *Landmine Monitor Report* and Germany’s *Action Group Landmine*.

Data discovered during RONCO’s training visit concluded that the Saaremaa site had the potential of being highly saturated with UXO. That is, for each 10-metre by 10-metre area, an average of three to five pieces of UXO was record-

ed (approximately 40 pieces of UXO per acre). Following the training, the RONCO instructor concluded that the Estonian team is capable of fully implementing a field UXO survey and target data analysis. “When properly employed, the system has the potential to expedite the detection of UXO and provide a form of quality control not previously instituted in Estonia,” says Ron Hitchler, USA Vallon representative.

Mine Risk Education

In 2001, the NDO produced a video program to warn children of the dangers of UXO and also disseminated MRE booklets in schools. During 2002–2004, the

NDO conducted MRE with more than 350 adults (both civilians and military) and 295 school children. In addition, 16 broadcasts were televised stressing the potential of UXO hazards and providing safe procedures for reporting suspected UXO. During 2003–2004, Estonia’s Mine Awareness Section successfully visited 17 local schoolhouses and published various articles over the 2004 summer season. The NDO also hosted a weeklong rescue camp; 25 adults and 145 children were trained on first aid, fire prevention and UXO/mine awareness. MRE is now a compulsory part of the Estonian school curriculum.

Mine Action Assistance and Funding

Estonian EOD personnel and mine detection dog teams completed their fifth rotation in December 2004, supporting Coalition Forces in Afghanistan. Estonian teams have been in Afghanistan since July 2002. The cost to the Estonian government is estimated at more than \$1 million (U.S.). Through December 2003, Estonian EOD personnel, together with Coalition Forces, destroyed an estimated 253,000 weapons and pieces of UXO. Estonian dog teams known as explosive detecting dogs provided U.S. forces with enhanced base security as well as explosive detection capabilities. In 2004, as in previous years since 1999, Estonia contributed \$2,000 to the U.N. Voluntary Trust Fund for Assistance in Mine Action. Estonian personnel have also served with Stabilization Force in Bosnia and Herzegovina, with UXO- and mine-related tasks included in their duties.

Conclusions

The government of Estonia, in collaboration with the U.S. Department of State’s Humanitarian Mine Action Program, has established and maintained a framework that is fully capable of supporting a sustainable and viable UXO/mine action capacity.

Estonia’s current UXO disposal operations demonstrate a firm commitment to solve its internal UXO problem. The U.S. government program has enhanced the country’s operations by providing training and equipment. Estonia now has the tools and trained personnel to continue to develop a first-class program. Individuals involved with Estonia’s Office of Humanitarian Demining Programs have demonstrated the ability to do the following:

1. Conduct a “train-the-trainer” program capable of producing additional Estonian deminers able to conduct demining in accordance with international standards.
2. Operate in accordance with international standards both at home and abroad with North Atlantic Treaty Organization forces.
3. Solicit, receive and account for donor support to guarantee a sustainable program.
4. Plan, execute and sustain demining operations. ♦

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