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### Environmental Impacts of WWI

Aside from the many horrendous impacts that World War I had on humanity, an often overlooked and yet still adverse aspect was the impact that this war had on the surrounding environment. From trench warfare, poisonous gasses, and post-war clean-up, the areas where fighting occurred suffered injuries of the same magnitude as the ones received by soldiers of the war. As America commemorates its one hundredth anniversary of their entrance into the Great War, parts of the world still bear the physical scars of mass destruction that occurred.

One of the main fighting techniques of WWI was the use of trenches on the battlefield. These trenches stretched from the North Sea, through Belgium and France, and stopped at the border of Switzerland. While these trenches may seem like harmless holes in the ground, they actually caused immense environmental destruction. Digging them disrupted both plants and animals of the surrounding areas and led to trampled grass and the churning of soil. When soldiers were faced with forests in the way of trench lines, they would cut down these trees causing mass amounts of soil erosion and an altered soil structure. Without the war and the great system of trenches these environments would look entirely different today, still thriving with the native plants and animals from before the war.

Another fighting technique that adversely impacted both the environment and human life was the use of poisonous gasses. When soldiers would approach an enemy's line

of trenches, they would throw or spray a myriad of noxious gasses into the trenches in order to kill any who were unlucky enough to be there. Among these gasses included tear gas, an aerosol that causes eye irritation, mustard gas, a cell toxic gas that causes blistering and bleeding, and carbonyl chloride, a carcinogenic gas. These gases easily killed and injured any who came into contact with them and after they were released they would evaporate into the atmosphere and blow to nearby towns where civilians would breathe them in, continuing the damage. When animals came into contact with these gasses they would experience the same adverse effects that soldiers intended to give to their enemies. After WWI many countries signed an agreement not to use gaseous chemical weapons again. Called the Geneva Protocol, it was signed in 1925 and prohibits the use of asphyxiating, poisonous, or other gases, and of bacteriological methods of warfare.

After the Allied Powers successfully ended the war, the next task many nations faced was post-war clean-up. It has been found that many of the rounds fired during fighting did not explode on impact and these unexploded round of ammunition, or UXOs, caused the pollution of surrounding soil and marine sediment. Because of their old age, these UXOs are at risk of corrosion or releasing toxic chemicals into the environment. A study in the European Journal of Soil Science in 2008 found that “the Belgian army handles between 250-300 tons of UXO annually in their clearance scheme.” There were clean up operations that began after the war to dispose of ammunition stockpiles and UXOs, but often times shells made of lead, copper and brass, and other metals were burned in an open pit on the battlefield. The soil around these sights still contains high levels of these chemicals and is deemed unfit for agriculture to this day. There is a region of destruction that includes roughly 33,000 square kilometers and was divided into 4 zones. One of these zones in

France is labeled a Red Zone because it has been deemed “beyond hope of restoration” (Garrity) and is still off limits to the public today. The collected ammunition that was not burned was dumped into “designated dumping grounds” in the surrounding oceans. Sediment in these areas contains high traces of the chemicals present in UXOs and there is also the risk that these UXOs will drift from the dumping sites and land on nearby coastlines.

As Americans with no visual reminder of the environmental impacts of the Great War, it is easy for us to forget about the potential we have to destroy our world even in the process of saving our society. With the rollback of policies to address climate change on a national level, it is important for us to look at the scars of destruction that still exist in the environment a century after the fighting ceased. We must evaluate our past mistakes and realize that our everyday actions affect our environment in ways we may not see first hand. Along with this, we must unite with other nations and make the changes necessary to ensure that in a century from now our grandchildren and great-grandchildren will not look back and shake their heads on our unwillingness to address the environmental issues of our time.

#### *Works Cited*

- Enzler, S. M. "Environmental Effects of Warfare." *Lenntech*. Lenntech B.V., Sept. 2006. Web. 01 Apr. 2017.
- Garrity, Andrew. "Assessing the Toxic Legacy of First World War Battlefields." Blog post. *The*

*Toxic Remnants of War Project*. N.p., 5 Aug. 2013. Web. 1 Apr. 2017.

"Geneva Protocol." *U.S. Department of State*. U.S. Department of State, 25 Sept. 2002. Web. 01 Apr. 2017.