

Nicking the Thin Edge of the Wedge:
What History Suggests about the Environmental Law of War

Edmund Russell
Departments of Science, Technology, and Society and History
University of Virginia
27 September 2005

For presentation at
University of Virginia Environmental Letters/Environmental Law Conference
October 7, 2005

Preliminary draft. Please do not cite or quote without author's permission.

This paper reflects deep research in history, superficial research in law, and an effort to link those two fields in a way the author had not considered until shortly before the conference (the original plan was to talk only about the history). The paper makes broad, categorical assertions about the environmental law of war in order to (1) make the general argument clear, and (2) encourage others (especially lawyers) at the conference to weigh in with corrections and improvements.

Introduction

The thesis of this paper is that the environmental law of war, as currently conceived, might blunt some of the most obvious harms that war inflicts on the environment but not constrain war's most transformative effects.

The environmental law of war focuses primarily on direct, intentional harm by armed forces to environments at or near battlefronts. History has seen cases of significant harm from such activities, and legal efforts to constrain such damage are admirable.

A new subfield of environmental history, military environmental history, suggests that the most transformative effects of war on the environment occur elsewhere in place and time. Armed forces are the thin edge of the wedge of national power in the modern era. A sharp edge is valuable, but at least as important is the rest of the wedge. The wedge's bulk, which enables armies to achieve their maximum effect, comes from enlisting civilians and nature in peace as well as wartime. This process transforms technology and institutions in ways that multiply and expand human impacts on the environment during and after conflicts on a scale larger than the direct impacts of armed forces on battlefronts in wartime.

Nature's Roles in War

The environmental law of war has viewed nature in two ways. The first and most prominent role is natural enemy, or the target of direct, intentional attack. The forests of Vietnam, which the United States defoliated to expose enemy soldiers, and the oil supplies of Kuwait, which Iraq set ablaze to confound enemy planes, are examples. The second is nature as unintentional victim. The sea life killed when Iraq flooded the Persian Gulf with oil to deter landing craft is an example.

Environmental law has overlooked two more roles of nature that are mirror images of the first two. Nature's third role is intentional beneficiary. During World War II, the extraordinary wartime powers of the federal government enabled it to prohibit aerial spraying of DDT inside the United States to protect wildlife. That ability disappeared in peacetime, and mass aerial spraying ensued. Nature's fourth role is unintentional beneficiary. Military zones, such as Rocky Mountain Arsenal in Colorado and the Demilitarized Zone in Korea, have become important, de facto nature preserves. Simply keeping people out of a place, a task important to armed forces, is one of the most effective ways to preserve habitat.

Nature's two most important roles of all, also outside the current framework of the environmental law of war, are as allies. The fifth role is fortuitous ally. Russia's winter and disease, rather than its armed forces, defeated the armies of Napoleon Bonaparte and Adolph Hitler. Nature's sixth role is enlisted ally. That armies travel on their stomach has become a truism that reveals the central role of agriculture in military might. Also essential is the nature transformed into transportation, uniforms, medicines, and weapons.

This sixth role brings the most important transformations to environments, often indirectly and after fighting stops. War changes technology, institutions, and values in size and in type (quantity and quality). These changes carry forward into peacetime (or originate in peacetime if a country is mobilized) and change nature on the largest scale.

Transforming Relations with Nature

Some of the most important transformations war brings are:

- New technology. War brings new environmental technology into being that did not exist, or would have been adopted much more slowly absent war. This technology moves from the military to civilian sphere, where it finds wide use. Examples: DDT, crop dusters, nuclear power, penicillin, humvees. In many cases, features suitable for military use are less suitable for civilian use. E.g., the persistence and wide lethality of DDT; fission-based nuclear reactors growing out of bomb building rather than safer fusion-based reactors; the stable and thick-sided--but gas guzzling--humvee.
- New institutions. Once created, these wartime institutions continue their existence into peacetime. In some cases, these institutions exist not only because war created demand, but also because war removed peacetime barriers to creation. Example: the Centers for Disease Control and Prevention, which are in Atlanta because they grew out of the World War II Malaria Control in War Areas Project, which was possible to create only because war powers enabled the federal government to intervene in public health matters previously reserved to states and localities.
- New institutional missions. Existing institutions broaden or redirect their ambit in response to military needs. Example: university research on science and technology funded by the Department of Defense (e.g., the federal government created the radiation laboratory at MIT in WWII, which produced radar, which became an important tool for understanding weather after the war). Conversely, peace can also create new missions. World War I prompted the creation of the Chemical Warfare Service in the US Army, which fought efforts to kill it in peacetime by adding research on chemical pest control to its mission.
- New institutional strategies. Example: the American chemical industry paid little attention to research before World War I. Some 1500 chemists learned about product-driven research in the Chemical Warfare Service's laboratory at American University during World War I. That experience convinced chemical companies after the war that using in-house research to develop new products was the route to success.
- New institutional relations. War topples peacetime barriers, legal and cultural, to cooperation. New ties continue into peacetime. Example: the federal government funded little university research before World War II. World War II led it to support military research at universities and new laboratories across the nation. Those labs produced products that contributed to victory (atomic bomb, radar to locate enemy ships and planes, penicillin and plasma to slash deaths from

- wounds, napalm to destroy enemy cities, DDT to fight insect-borne malaria and typhus that threatened troops) created interest in continuing this successful structure into peacetime. Out of that grew the massive funding of science and engineering at universities by the Department of Defense and the National Science Foundation.
- Economic subsidies. War creates direct and indirect subsidies for endeavors that would not have survived in free markets. Example: before World War II, the American crop dusting industry was small and stalled. Federal training of military pilots, sales of surplus military airplanes at low cost, and wartime research into aerial dispersal methods enabled the post-war crop dusting industry to take off. Surplus airplanes, to use one part of that triad as an example, were so cheap that efforts by Grumman to introduce a commercial crop dusting airplane failed in the 1950s.
 - Institutional growth. During World War I, the Hooker Company went from making 2 products to 17. It became the world's largest producer of one of the new products, monochlorobenzol (used to make explosives, poison gases, and dyes).
 - Reduction of barriers from intellectual property. In World War I, American chemical companies gained access to German chemical patents for free. They became the basis for a vastly expanded American chemical industry. During World War II, Dupont refused to make DDT (then desperately needed by the US Army to protect soldiers from disease) until the patent owner, Geigy, promised Dupont a post-war license to make the product.
 - Favorable laws. The American chemical industry tried and failed to get Congress to pass a protective tariff before World War I. During the war, they shifted their arguments from economic protectionism to national defense and got the tariff, which continued into peacetime.
 - Technology that inspires new peacetime institutions and strategies. The US created the Muscle Shoals Dam in Alabama to help production of explosives in World War I. Its existence inspired the creation of the massive Tennessee Valley Authority in the New Deal that transformed the environment of much of the American South.
 - Public demand for military technology and solutions. Wartime engenders massive publicity of military successes, often one-sided, which convinces the public that military solutions are appropriate for them too. Example: DDT.

Conclusion

Written from a historian's perspective, this paper emphasizes analysis over solutions. (That is one of the perquisites of our profession.) It is intended to provoke questions and discussion that, down the road, might lead to recommendations. I will make a few initial forays, however, into applying these findings. Given that war benefits as well as harms the environment, could the environmental law of war broaden its concern from torts and crimes to promoting benefits? Might mitigation, the flawed but better-than-nothing approach that enables developers to offset harm in one place with improvements in another, be used by armed forces to offset the damage they cause? Rather than seeking

civilian development of decommissioned military bases, might their use as nature preserves be considered the default fate? Might Congress build sunset provisions into changes it makes to laws during wartime, including those that shape institutional structures and incentives? And since the most important effects of war on the environment are unintentional (from a military perspective), might the environmental law of war reformulate its focus from hostile intent to harm? Though the answers are unclear at this point, it seems worthwhile to question some of the assumptions of the environmental law of war in the spirit of opening windows onto unimagined solutions.