# Good Pollution

A Response to Arden Rowell, *Allocating Pollution*, 79 U Chi L Rev 985 (2012)

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## INTRODUCTION

Butte's notorious air pollution was an issue during the Montana state constitutional convention of 1889. William Clark was a delegate at that convention and one of Butte's equally notorious Copper Kings.[1] Clark defended Butte at the convention by insisting "that the ladies are very fond of this smoky city, as it is sometimes called, because there is just enough arsenic there to give them a beautiful complexion, and that is the reason the ladies of Butte are renowned everywhere they go for their beautiful complexions."[2] That was not the only benefit that Clark assigned to Butte's air pollution. He further claimed that "[i]t has been believed by all the physicians of Butte that the smoke that sometimes prevails there is a disinfectant, and destroys the microbes that constitute the germs of disease."[3]

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1 See Michael P. Malon, *Midas of the West: The Incredible Career of William Andrews Clark*, 33 Montana: The Magazine of Western History 2, 6 (Autumn 1983).

2 *Proceedings and Debates of the Constitutional Convention Held in the City of Helena, Montana, July 4th, 1889, August 17th, 1889* 754 (State 1921). The idea that arsenic has cosmetic benefits did not originate with Clark; rather, it may have developed in sixteenth-century Styria, Austria. See John Parascandola, *King of Poisons: A History of Arsenic* 134 (Potomac 2012).

3 *Proceedings and Debates of the Constitutional Convention* at 754 (cited in note 2). Clark is most famous for saying that "I never bought a man who wasn't for sale." See, for example, 158 Cong Rec S 5051 (daily ed July 17, 2012) (statement of Sen Harry Reid) (quoting Clark). That quip may be apocryphal, but its veracity is supported by Mark Twain's report that Clark "is said to have bought legislatures and judges as other men buy food and raiment." Mark Twain, *Senator Clark of Montana*, in Bernard DeVoto, ed, *Mark Twain in Eruption: Hitherto Unpublished Pages about Men and Events* 70, 72 (Harper 1940). See also *Western Tradition Partnership, Inc v Attorney General*, 271 P3d 1, 8–9 (Mont 2011) (using the story of Clark's Senate election experience to illustrate the history of corruption in Montana politics). Twain added that Clark was "as rotten a human being as can be found anywhere under the flag," "a shame to the American nation," and "the most disgusting creature that the republic has produced since Tweed's time." Twain, *Senator Clark of Montana* at 72 (cited in note 3).

Clark's appreciation of the cosmetic and medicinal properties of arsenic probably had more to do with his copper investments than his dermatological prowess.[4] But Clark is not the only person to insist that what we commonly regard as a pollutant may be viewed by others as a beneficial substance. The idea that pollution can be good builds on Professor Arden Rowell's insight that the harmfulness of pollution is not always directly related to exposure to pollution.[5] Rowell offers a typology of pollution based on a range of dose-response curves that belies the simplistic assumption that increased exposure to a pollutant is always more harmful. Instead, different pollutants possess different properties, including the seemingly counterintuitive possibility that exposure to certain amounts of a pollutant may be harmless or even beneficial.[6] Rowell thus identifies a number of ways in which the law can respond differently to pollutants with different dose-response curves.[7]

Rowell could go further. There is another group of pollutants that are harmful and beneficial at the same time and in the same quantity. What some regard as a harmful pollutant is valued by others as providing a valuable benefit. Pesticides possess this quality: they kill pests (thus providing a benefit), but they also harm birds, other animals, farm workers, and those who eat tainted food. This phenomenon of "good pollution" is even more common outside the context of environmental pollution. Claims of sensory pollution—including noise pollution, light pollution, and visual pollution—involve sounds, lights, and sights that are welcomed by some people even as they bother others. Cultural pollution—as pornography and violent entertainment are often characterized—is simultaneously enjoyed and loathed by different viewers.[8] A different set of responses is needed for these kinds of good pollution because the goal is not simply to "reduce the harm caused by pollution."[9] The response to good pollution must seek to preserve its benefit as well as reduce its harm.

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4 See Malon, 33 Montana: The Magazine of Western History at 6.

5 Arden Rowell, *Allocating Pollution*, 79 U Chi L Rev 985, 987–88 (2012).

6 Id.

7 Id at 40–55.

8 See John Copeland Nagle, *The Idea of Pollution*, 43 UC Davis L Rev 1, 16–18, 24–26 (2009).

9 Rowell, 79 U Chi L Rev at 988 (cited in note 5).

## I. WHY GOOD POLLUTION IS NOT AN OXYMORON

The original meaning of "pollution" referred to moral or spiritual uncleanness or defilement. The environmental connotation of pollution did not emerge until the end of the nineteenth century, and now the idea of pollution is firmly attached to the natural environment.[10] Environmental law employs three distinct approaches to the problem of defining pollution: the comprehensive solution, which treats everything added to the environment as pollution; the listing solution, which relies on detailed lists of pollutants or polluters; and the effects solution, which looks at the effects of an alleged pollutant.[11]

Good pollution is an oxymoron if pollution is defined according to the effects solution, which considers whether a substance causes any harm before labeling it a pollutant. Some cases have adopted that approach.[12] But most environmental statutes—including the federal Clean Air Act[13] (CAA) and Clean Water Act[14] (CWA)—contain a much broader definition that does not limit pollution to evidence of harm. Those statutes separate the identification of a pollutant from the inquiry into harm, and thus they preserve the possibility that a substance added to the environment may be harmful, beneficial, or both. More specifically, pollution may be (1) always harmful, (2) always harmless, (3) harmless at low doses or exposure but harmful at higher doses or exposure, (4) beneficial at low doses or exposure but harmful at high doses or exposure, or (5) beneficial to some but harmful to others. I examine each possibility below, using Clark's example of arsenic to illustrate the surprising ways in which even such an apparently deadly poison can fit in each category.

### A. Harmful Pollution

Our common intuition is that less pollution is always better, and no pollution is best of all. The Clean Water Act memorialized that view by stating a goal of eliminating all water pollution by 1985.[15] The Pollution Prevention Act of 1990[16] establishes a

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10 See Nagle, 43 UC Davis L Rev at 7–16 (cited in note 8).

11 For an examination of the history and meaning of pollution, see Nagle, 43 UC Davis L Rev at 5–49 (cited in note 8).

12 See id at 51–52, citing *Wilmore v Chain O'Mines, Inc*, 44 P2d 1024, 1029 (Colo 1934); *Slide Mines, Inc v Left Hand Ditch Co*, 77 P2d 125, 127 (Colo 1938); *Doresmus v Paterson*, 69 A 225, 226–27 (NJ Chanc 1908).

13 Pub L No 88-206, 77 Stat 392 (1963), codified at 42 USC § 7401 et seq.

14 Pub L No 92-500, 86 Stat 816 (1972), codified at 33 USC § 1251 et seq.

15 See CWA § 101(a)(1), codified at 33 USC § 1251(a)(1).

national goal of preventing pollution.[17] The fact that pollution remains is not because we like it but because we are unwilling to bear the costs of eliminating it.

At first glance, arsenic would seem to confirm the intuitive harmfulness of all pollution. Arsenic has many dire consequences for humans who are exposed to it. Large doses produce vomiting, diarrhea, and even death within hours Long-term human exposure to arsenic has been linked to cancers of the bladder, lungs, skin, kidneys, nasal passages, liver, and prostate. Arsenic also has cardiovascular, pulmonary, immunological, neurological, and endocrine effects.[18] Thus, as Rowell observes, "no one enjoys pondering the arsenic content of the tap water used to make their coffee."[19]

But Rowell shows that the intuition that all pollution is always harmful is wrong. Only so-called nonthreshold pollutants are always harmful. For such pollutants, there is no threshold below which exposure is harmless. Nonthreshold pollutants exhibit "the *only* dose-response relationship for which exposure allocation will prove to be irrelevant to the harm caused by pollution exposure."[20]

## B. Harmless Pollution

The idea of harmless pollution is the inevitable consequence of broad definitions of pollution as any substance that is released into the environment. The CAA, for example, defines "air pollutant" to include "any physical, chemical, biological, radioactive . . . substance or matter which is emitted into or otherwise enters the ambient air."[21] In *Massachusetts v EPA*,[22] the Supreme Court held that greenhouse gases fit within the CAA's definition of pollution even though they lack many of the attributes of the air pollution that motivated Congress to enact the law in 1970.[23] Justice Antonin Scalia dissented precisely because

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16 Pub L No 101-508, 104 Stat 1388, codified at 42 USC § 13101 et seq.

17 See Pollution Prevention Act § 6602(b), codified at 42 USC § 13101(b).

18 See Agency for Toxic Substances and Disease Registry, *Toxicological Profile for Arsenic* 41–198 (Department for Health and Human Services Aug 2007), online at http://www.atsdr.cdc.gov/toxprofiles/tp2.pdf (visited Jan 27, 2013).

19 Rowell, 79 U Chi L Rev at 989 (cited in note 5).

20 Id at 1008–09.

21 CAA Amendments of 1977 § 301(b), Pub L No 95-95, 91 Stat 770, codified at 42 USC § 7602(g).

22 549 US 497 (2007).

23 Id at 528–32. See also John Copeland Nagle, *Climate Exceptionalism*, 40 Envir L 53, 57–63 (2010) (describing the ways in which greenhouse gases are different from most other air pollutants).

he rejected the idea that a harmless substance could constitute a pollutant. Otherwise, he explained, the CAA would apply to everything that is put in the air, "from Frisbees to flatulence."[24]

Frisbees and flatulence do not fit the common conception of air pollution. Indeed, they are harmless in the vast majority of instances in which they are released into the air. But there are times when even Frisbees and flatulence can cause real harm. Flatulence from livestock contains high levels of methane that operate as a greenhouse gas, so there have been a number of tentative efforts to regulate such pollution, with predictable expressions of disbelief.[25] Frisbees remain innocuous, so much so that Los Angeles County was ridiculed when it was mistakenly reported that the county had authorized a $1,000 fine for throwing Frisbees on the beach.[26]

The supposed harmlessness of arsenic relies on its status as a naturally occurring element that is found in rocks and soils throughout the world. Arsenic enters the water naturally as minerals and ores erode and the arsenic that had been contained in them escapes into the water.[27] The amount of arsenic thus released into the water depends upon local geology, so that areas with a high arsenic content in the rocks often confront a higher amount of arsenic naturally entering potential drinking water supplies. Arsenic thus appears in higher concentrations in certain places, including Nevada, New Mexico, and other western states.[28] According to Nevada Senator Chic Hecht, "[R]esidents of Western towns have been drinking this water, which contains naturally occurring pentavalent arsenic, for generations, with no apparent adverse effects."[29]

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24 *Massachusetts*, 549 US at 558 n 2 (Scalia dissenting).

25 See Kate Galbraith, *Farmers Panic about a 'Cow Tax,'* NY Times Green Blog (NY Times Dec 1, 2008), online at http://green.blogs.nytimes.com/2008/12/01/farmers-panic-about-a-cow-tax (visited Jan 11, 2013).

26 See Dan Whitcomb, *Chastened L.A. Officials May Toss Out Beach Frisbee Law* (Reuters Feb 15, 2012), online at http://www.reuters.com/article/2012/02/15/us-frisbee-ban-losangeles-idUSTRE81E28O20120215 (visited Jan 27, 2013) (noting that the recent law in fact made such activities lawful more often than previous laws).

27 See Rebecca S. Burkel and Richard C. Stoll, *Naturally Occurring Arsenic in Sandstone Aquifer Water Supply Wells of Northeastern Wisconsin*, 19 Ground Water Monitoring & Remediation 114, 114 (1999).

28 See Alan H. Welch, Michael S. Lico, and Jennifer L. Hughes, *Arsenic in Ground Water of the Western United States*, 26 Ground Water 333, 333 (1988).

29 132 Cong Rec 11669 (daily ed May 21, 1986) (statement of Sen Hecht).

### C. Threshold Pollution: Harmless at Low Dose, Harmful at Higher Dose

"Threshold" pollutants, Rowell explains, are those for which "there are detectable quantities of exposure that cause no detectable harm."[30] The Environmental Protection Agency (EPA) assumes that noncarcinogenic pollutants and some suspected carcinogens are properly characterized as threshold pollutants.[31] Presumably threshold pollutants only need to be regulated once the exposure amount becomes harmful.

Many environmental statutes operate from that premise, including the Safe Drinking Water Act[32] (SDWA). Enacted by Congress in 1974, the SDWA is designed to limit the amount of certain pollutants present in public water systems. The Act requires EPA to set both "maximum contaminant level goals" (MCLG) at "the level at which no known or anticipated adverse effects on the health of persons occur and which allows an adequate margin of safety,"[33] and a "maximum contaminant level [(MCL)] as close to the [MCLG] as is feasible."[34] In short, the SDWA directs EPA to determine the safe amount of a substance in drinking water and to regulate any pollution above that threshold amount.

Arsenic in drinking water became a potent political issue at the end of the Clinton administration and the beginning of the Bush administration. Everyone agreed that there was a point above which arsenic in drinking water is dangerous and below which arsenic in drinking water is safe. But they disagreed about what that point is. The lame-duck Clinton administration adopted a stricter rule for arsenic in drinking water on its last day in office in January 2001, and the Bush administration abandoned any effort to adopt a less stringent rule in the face of widespread popular reaction.[35]

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30 Rowell, 79 U Chi L Rev at 1012 (cited in note 5).

31 See id at 1013.

32 Pub L No 95-523, 88 Stat 1661 (1974), codified at 42 USC § 300f et seq.

33 SDWA § 1412(b)(1)(B), codified at 42 USC § 300g-1(b)(4)(A).

34 SDWA § 1412(b)(3), codified at 42 USC § 300g-1(b)(4)(B).

35 For a description and analysis of this saga, see Cass R. Sunstein, *The Arithmetic of Arsenic*, 90 Georgetown L J 2255, 2261–63 (2002); Lisa Heinzerling, *Markets for Arsenic*, 90 Georgetown L J 2311 (2002).

### D. Hormetic Pollution: Beneficial at Low Dose, Harmful at High Dose

Rowell acknowledges the possibility that exposure to small amounts of pollution may actually be beneficial even though exposure to larger amounts of the same kind of pollution is harmful.[36] Substances that provide a benefit at low doses but become harmful in higher doses are known as hormetic. Rowell's list of hormetic substances includes prescription medicines, vitamins, and trace metals such as selenium, iron, chromium, and zinc.[37] She also suggests that sunshine, mercury, arsenic, heat, pesticides, carbon monoxide, food, and water may share the same hormetic properties. It has even been suggested that almost all substances may be hormetic.[38]

As noted above, Arsenic fits this category, too. Representing a state with high levels of naturally occurring arsenic, Nebraska's US Representative Tom Osborne proclaimed that "[a]rsenic is necessary for human life and is present in every person's body."[39] "A great deal of it was introduced purposefully into many of the components of everyday life," explains one study of arsenic in Victorian Britain, "with the result that people took it in with fruits and vegetables, swallowed it with wine, inhaled it from cigarettes, absorbed it from cosmetics, and imbibed it even from the pint glass."[40] Arsenic has been used as a medicine,[41] as a nutritional supplement,[42] to color wallpaper and artificial flowers,[43] for

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36 Rowell, 79 U Chi L Rev at 1015 (cited in note 5).

37 Id at 1016.

38 See Peter A. Parsons, *The Hormetic Zone: An Ecological and Evolutionary Perspective Based upon Habitat Characteristics and Fitness Selection*, 76 Q Rev Biology 459, 459 (2001) ("[H]ormesis may be almost universal for substances normally present through geologic time."), quoting Linda M. Gerber, George C. Williams, and Sandra J. Gray, *The Nutrient-Toxin Dosage Continuum in Human Evolution and Modern Health*, 74 Q Rev Biology 273, 285 (1999). See also Frank B. Cross, *Paradoxical Perils of the Precautionary Principle*, 53 Wash & Lee L Rev 851, 896–97 (1996) (observing that "[h]ormesis has been identified for many regulated substances, including various pesticides, PCBs, heavy metals, and chlorinated hydrocarbons").

39 147 Cong Rec H 1932 (daily ed May 8, 2001) (statement of Rep Osborne).

40 James C. Whorton, *The Arsenic Century: How Victorian Britain Was Poisoned at Home, Work, and Play* x (Oxford 2010).

41 See Hugh Aldersey-Williams, *Periodic Tales: A Cultural History of the Elements, from Arsenic to Zinc* 315 (HarperCollins 2011); Parascandola, *King of Poisons* at 145–71 (cited in note 2). Most recently, arsenic has shown promise as a cancer treatment. See Elspeth M. Beauchamp, et al, *Arsenic Trioxide Inhibits Human Cancer Cell Growth and Tumor Development in Mice by Blocking Hedgehog/GLI Pathway*, 121 J Clinical Investigation 148, 157 (2011).

42 See Parascandola, *King of Poisons* at 130 (cited in note 2) (explaining that arsenic is added to chicken food "in order to promote growth, kill parasites, and improve the pigmentation of meat"). The Poison-Free Poultry Act would "ban the use of the arsenic

taxidermy and embalming,[44] to preserve wood,[45] and most famously to murder.[46] These many uses prompted one historian to assert that "[t]he infiltration of arsenic into nineteenth-century domestic life was the template for pollution in the modern industrial world."[47]

### E. Good Pollution: Beneficial to Some, Harmful to Others

Rowell stops there. The dose-response curves in her catalog vary with respect to the effects of exposure to a small amount of pollution, but each curve shoots upward to reflect the harms associated with greater exposures. But there are other types of pollution for which the distinction is not between smaller and larger exposures, but instead between beneficial and harmful effects that occur at the same exposure.

Again, consider arsenic. It was the active ingredient in the first chemical pesticides produced during the nineteenth century.[48] There was a long history of employing arsenic "in small-scale battles" against insects, but the spread of agriculture across North America demanded something more effective than

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compound known as roxarsone as a food additive." HR 1487, 112th Cong, 1st Sess, in 157 Cong Rec H 2603 (daily ed April 12, 2011).

43 See Parascandola, *King of Poisons* at 110 (cited in note 2).

44 See id at 92–105.

45 See Department of Commerce, Availability of Draft Guidelines for Use of Pesticide-Treated Wood Products, 74 Fed Reg 1663, 1664 (2009); Parascandola, *King of Poisons* at 137–40 (cited in note 2).

46 Criminal cases involving the use of arsenic as a poison include *People v Staples*, 86 P 886, 889 (Cal 1906) (doctor accused of using arsenic to kill his wife); *McNaughton v State*, 71 SE 1038, 1039 (Ga 1911) (adulterous couple accused of using arsenic to kill the wife's husband); *Sarah v State*, 28 Ga 576, 577 (1859) (slave accused of using arsenic to attempt to kill her owner's son); *Hadley v State*, 496 NE2d 67, 69 (Ind 1986) (arsenic added to distilled water bottle and to a glass of water); *Shenkenberger v State*, 57 NE 519, 520 (Ind 1900) (woman used arsenic to kill her daughter-in-law); *Carter v State*, 2 Ind 617, 618, 626 (1851) (arsenic used to kill the unborn baby of a married woman with whom the defendant was having an affair); *McCarthy v Metropolitan Life Ins Co*, 69 A 170, 171 (NJ 1908) (insurance company refused to pay a life insurance policy to a beneficiary who allegedly used arsenic to kill the insured); *Clark v Commonwealth*, 29 Pa 129, 129–30 (1858) (defendant mixed arsenic with magnesia and water); *Johnson v State*, 20 Tex App 178, 187 (1886) (rejecting the argument that the stomach containing arsenic was not actually that of the deceased). See also Parascandola, *King of Poisons* at 5–51 (cited in note 2). Fictional murders involving arsenic include *Arsenic and Old Lace* (Warner 1944); Agatha Christie, *After the Funeral* (HarperCollins 1953); Dorothy Sayers, *Strong Poison* (Harper & Row 1987).

47 Whorton, *The Arsenic Century* at xi (cited in note 40).

48 See id at 317 (describing how arsenic was "used in great quantities" during the nineteenth century "intentionally to poison animals that might be destructive to crops").

"horse-drawn beetle crushers."[49] Then, around the summer of 1867, the same arsenic-based "Paris green" compound that was used to color wallpaper green began to be used to kill insects. Arsenic quickly spread as the ideal pesticide even though farmers were immediately told of the dangers of the poison as well.[50] It was not until chemists synthesized DDT that arsenic lost its position as the preferred ingredient for pesticides.[51] Even then, Rachel Carson observed in 1962 that arsenic was "still the basic ingredient in a variety of weed and insect killers."[52]

Pesticides presume that the environment will be better if a chemical is introduced. As William Rodgers put it, "[T]he essence of the exercise is to pollute purposefully."[53] Pesticides are "excused pollution" with a "destroy-by-design feature," defying the typical characterization of environmental pollution as "the unintended consequences of technological undertakings."[54] For example, the toxic effects of arsenic used to color wallpaper were unintentional. But the toxic effects of arsenic sprayed as a pesticide were very much intended to result in the demise of the pest.

The dilemma is that pesticides are applied to kill certain pests, but they often kill other plants or wildlife that are not targeted. That was the concern that Rachel Carson so eloquently brought to the public's attention in her book *Silent Spring*. The springtime had become silent because pesticides were killing birds in addition to the pests they were intended to control.[55] DDT, for example, nearly caused the American bald eagle to go extinct; once DDT was banned, the eagle recovered nicely.[56] But DDT was also extraordinarily effective in killing insects and plants that were the bane of farmers at the time. The role that pesticides played in the agricultural revolution after World War II is credited with providing food for millions of people around the world, so that even the National Wildlife Federation initially refused to accept the dire warnings voiced in *Silent Spring*.[57]

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49 James Whorton, *Before* Silent Spring*: Pesticides and Public Health in Pre-DDT America* 17, 20 (Princeton 1974).

50 See id at 20–21.

51 See id at 17–35 (recounting the use of arsenic as a pesticide); Parascandola, *King of Poisons* at 124–28 (cited in note 2).

52 Rachel Carson, *Silent Spring* 17 (Houghton Mifflin 1962).

53 William H. Rodgers Jr, *Environmental Law* § 5.1 at 394 (West 2d ed 1994).

54 Id.

55 Carson, *Silent Spring* at 103–27 (cited in note 52).

56 See James W. Grier, *Ban of DDT and Subsequent Recovery of Reproduction in Bald Eagles*, 218 Science 1232, 1232 (1982).

57 See Robert Gordon, *Poisons in the Fields: The United Farm Workers, Pesticides, and Environmental Politics*, 68 Pac Hist Rev 51, 61 (1999) (noting that mainstream

Dispersants are another example of chemicals that are purposefully introduced into the environment in order to make the environment better. Dispersants are employed in order to prevent oil from remaining on the water's surface after an oil spill. BP released 1.84 million gallons of dispersants into the Gulf of Mexico in response to the Deepwater Horizon oil spill in 2010.[58] Like pesticides, dispersants are intended to benefit the environment. The commission that investigated BP's spill noted that dispersants have many acknowledged benefits: they limit the amount of oil that reaches the shore, they reduce the amount of oil encountered by animals and birds on the water surface, they may accelerate the rate at which oil biodegrades, and they can be used when bad weather prevents skimming or burning.[59] But like pesticides, dispersants are toxic chemicals that can have toxic effects. The debate over the use of dispersants pits those who champion the environmental benefits of dispersants against those who fear its environmental harms.[60]

Sensory pollution—noise pollution, light pollution, and odors that offend our senses—provides further examples of the same effect being described as pollution by some and as desirable by others. Petula Clark sang about "the music of the traffic in the city" even as many urban residents characterized downtown traffic as noise pollution.[61] Many noise pollution disputes involve concerts, boom boxes, and car alarms, yet the volume of the noise is precisely what makes it attractive to listeners and to the owners of expensive cars. Noise also connotes power in cars, lawnmowers, air conditioners, and other common targets of noise complaints. Barking dogs are another frequent source of litigation, scorned by neighbors but valued by their owners as a warning of possible trouble. A similar phenomenon can be seen with much light pollution, where the brightness of security lights and billboards is the cause of both comfort and offense.

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environmental groups like the National Wildlife Federation, while opposed to the expanded use of pesticides, were relatively indifferent to campaigns against DDT).

58 See National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, *The Use of Surface and Subsea Dispersants during the BP Deepwater Horizon Oil Spill* *12 (Staff Working Paper No. 4, Jan 11, 2011), online at http://www.oilspillcommission.gov/document/use-surface-and-subsea-dispersants-during-bp-deepwater-horizon-oil-spill (visited Jan 27, 2013).

59 See National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, *Deep Water: The Gulf Oil Disaster and the Future of Offshore Drilling* 143 (GPO 2011).

60 See generally Jacqueline Michel, et al, *Oil Spill Dispersants: Efficacy and Effects* (National Academies 2005).

61 Petula Clark, *Downtown* (Warner 1964).

Claims of cultural pollution offer additional examples of good pollution. Pornography is often condemned for polluting the cultural environment.[62] But "[p]resumably," observed Professor C. Edwin Baker, "the person who chooses to read pornography, unless she happens to be a Supreme Court Justice, values this 'polluting' activity."[63] The substantial market for sexually explicit materials confirms that many people enjoy what they see or read while studies praise the benefits of pornography for enriching relationships, teaching about sexuality, and encouraging unconventional sexual practices.[64] Violent entertainment has provoked similar complaints that it pollutes the culture by encouraging greater acceptance of actual violence,[65] but violent movies, television, and video games attract millions of viewers because of the promise of violent action, not despite it.

In each of these instances, the characterization of a class of materials as pollution is contested by those who experience benefits from those materials. The very effects that cause farmers to value pesticides cause environmentalists to fear them. The very pornographic images and words that some feminists applaud evoke opposition from others. The environments in which pesticides and pornography are introduced include pests and patrons for which each product has the desired result, but those environments also include bald eagles and children who suffer from the presence of each product. Noises, lights, violent entertainment, hostile work environments, and even some water pollution all suffer from similar competing perceptions. The existence of such contrasting effects confirms that the harms of pollution may be accompanied by benefits, too.

## II. THE LAW OF GOOD POLLUTION

The challenge of good pollution is crafting a response that eliminates the pollution's harms while preserving its benefits. The ideal solution would be to allocate all of the pollution to

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62 See John Copeland Nagle, *Pornography as Pollution*, 70 Md L Rev 939, 939–40 (2011) (noting the first comparison of pornography to pollution came in discussion of British obscenity laws in the nineteenth century, but that comparisons were also common in the United States in the 1960s and 1970s).

63 C. Edwin Baker, *Scope of the First Amendment Freedom of Speech*, 25 UCLA L Rev 964, 1016 (1978).

64 See, for example, Nadine Strossen, *Defending Pornography: Free Speech, Sex, and the Fight for Women's Rights* 161–78 (Scribner 2000).

65 See, for example, James T. Hamilton, *Channeling Violence: The Economic Market for Violent Television Programming* 6 (Princeton 1998) (analyzing "how television violence is akin to pollution").

those whom it benefits and none of the pollution to those whom it harms. Imagine, for example, restricting nighttime lighting to those who want to recreate outside or who value the light for security while eliminating lighting around drive-in theaters and astronomical observatories. Or imagine a pesticide that affected the pest but nothing else in the environment. Unfortunately, such examples remain imaginary.

Rowell's proposals are aimed at allocating exposure to pollution depending on whether the pollutant is always harmful, harmless, or beneficial in small doses, or otherwise follows a unique dose-response curve. She offers four proposals to address such situations: manage the siting of polluting facilities, tailor pollution standards, rely on strategic enforcement decisions, and employ trading and market-based tools.[66] The fact that the same substance is regarded by some people as harmful but by other people as beneficial complicates Rowell's suggested methods of pollution allocation. Most of Rowell's proposals are designed to limit the amount of pollution so that harmless amounts are permitted but harmful ones are regulated. That strategy does not account for good pollution, where the same amount of pollution is simultaneously desired by those whom it benefits and opposed by those whom it harms.

The obvious alternative is to separate pollution from its victims while allowing others to enjoy that pollution. This is the approach that the law takes with respect to several kinds of good pollution. Many noise pollution ordinances, for example, establish the permissible time, place, and volume of sounds so that the sounds are heard by those who desire them but not heard by those whom they harm. In one recent case, an individual who hosted a party to celebrate his admission to law school was cited for violating a city ordinance prohibiting "noise from 'mechanical sound-making devices' or from a 'party' that is 'plainly audible' 100 feet away from a person's property limits between midnight and 7:00 a.m. on Saturday and Sunday."[67] The ordinance seeks to accommodate the interests of both those who appreciated the music with those who preferred to be sleeping at 3:00 a.m. It was only when the music could be heard far away from those who enjoyed it that the law treated it as prohibited noise pollution.

Pesticides, the quintessential good pollution, must navigate a distinctive regulatory regime. The Federal Insecticide, Fungicide,

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66 Rowell, 79 U Chi L Rev at 1026–39 (cited in note 5).

67 *Grady v Athens-Clarke County*, 715 SE2d 148, 149 (Ga 2011).

and Rodenticide Act[68] (FIFRA) regulates the use, sale, and labeling of pesticides. A manufacturer must first obtain EPA approval to register the pesticide. EPA will register the pesticide if it is effective for its intended use and if it does not cause unreasonable adverse effects on humans and the environment. Registration is further contingent on the approval of a label that accurately describes the intended uses, instructions, and warnings regarding the pesticide.[69] FIFRA's approach, in short, is to allow the introduction of pesticides into the environment provided that their beneficial features are demonstrated while their harms are minimized by warning people to avoid them.

The law takes a similar approach to dispersants. Certain chemical dispersants are preapproved for use in response to spills that could occur in certain places.[70] There is also a general recommendation to use dispersants only where specified environmental circumstances exist.[71] Indiscriminate application of dispersants is prohibited if the dispersants would worsen environmental conditions at the same time, even if that would facilitate the dispersion of an oil spill.

In each instance, good pollution—things that are simultaneously beneficial and harmful—require a unique approach. The common goal of minimizing exposure to pesticides, dispersants, unwanted noises, and violent entertainment must be pursued while acknowledging that such exposure also provides benefits that prevent their entire elimination. Rowell has furthered the law's response to pollution claims by demonstrating that more pollution does not always result in more harm, so a more nuanced approach is needed. The next step is to confront the challenge presented by the seemingly contradictory insight that what some may call pollution others may call good.

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68 Pub L No 92-516, 86 Stat 975 (1972), codified at 7 USC § 136 et seq.

69 See *Bates v Dow AgroSciences LLC*, 544 US 431, 437–38 (2005); *Reckitt Benckiser Inc v EPA*, 613 F3d 1131, 1134 (DC Cir 2010) (explaining that "[a] FIFRA registration is a product-specific license describing the terms and conditions under which the produce can be legally distributed, sold, and used").

70 See Michel, et al, *Oil Spill Dispersants* at 1 (cited in note 60).

71 See id at 14:

> In general, the use of dispersants is recommended if: (a) an oil slick threatens a sensitive coastal area and mechanical recovery is not feasible, (b) there is sufficient wave energy to break up the surface slick and mix the oil droplets into the water column, (c) the oil is of a type know [sic] to be dispersible (i.e., the type and properties of the oil favor chemical dispersion), and (d) there is sufficient potential for rapid dilution of the dispersed oil, and (e) in the course of spraying, dispersants are not applied directly to birds and mammals.