

ENVIRONMENTAL STYLE GUIDE



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Environmental Style Guide

Introduction

When communicating with the public about environmental issues, Army personnel have an obligation to use clear, easily understood language. This style guide contains basic guidelines and helpful suggestions on conveying technical environmental information in simple terms.

Most Army publications use the Associated Press (AP) *Stylebook and Libel Manual*, which also is the style guide used by most newspapers and other mass media. This environmental style guide serves as a supplement to that publication. It contains environmental terms and usage not addressed by the Associated Press, as well as some common definitions and acronyms normally found at the end of environmental documents in the glossary or acronym sections. Although we urge writers to avoid any legal or technical terms not commonly known to a lay public, in those instances where legal or technical language must be used, this guide includes suggested language that explains the terms.

Other reference materials that supplement the AP *Stylebook* and this style guide are Strunk & White's *Elements of Style* and the dictionary. In addition, it is also recommended that writers consult with local subject matter experts on additional terms.

Writers should follow five basic rules:

- 1) Avoid acronyms and abbreviations – use only when they are easily recognized and only after the first full reference, which also clearly explains their meanings.
- 2) Avoid jargon. While we may want to say *surface water* rather than *lake* and *remediate* rather than *clean up*, *lake* and *clean up* are the terms the public understands.
- 3) Use active verbs rather than passive ones – write *The Army cleaned the site*, not *The site was cleaned by the Army*. Sentences written in the active voice are much more direct and full of action than passive sentences, which often are less concise.
- 4) Make sure the main idea/message is up front. “Cut to the chase” by following the basic tenet of newspaper writing, i.e., first answer the basic questions (who, what, when, where, why, and how).
- 5) Try to use shorter, simpler words (three syllables or less) in shorter, simpler sentences.

Although we learn to use as few words as possible when writing for the public, too often that results in using obscure acronyms and scientific or legal terms that are unfamiliar to the people we want to reach. It is better to use an extra sentence to explain an idea or a

term to ensure that readers understand the concept, rather than to assume that everyone knows what an ARAR is. (By the way, that's an applicable or relevant and appropriate requirement.)

Many thanks to EPA Region 5 for sharing its publication, *Region 5 Style, A Guide For Writers*, and to the California Department of Toxics Substances Control for its *Graphic & Editorial Standards Manual*. Much of the material contained in this style guide was gleaned from these publications as the Army, EPA and state agencies strive to be better and more effective communicators.

Environmental Style Guide

Here are definitions and guidance on using many environmental terms.

abbreviation and acronyms: Avoid alphabet soup. Do not use abbreviations or acronyms that the reader would not quickly recognize. On second reference, *EPA* is acceptable, as is *PCBs*, even though most people probably don't know that PCBs are polychlorinated biphenyls. Other abbreviations, such as ARARs, RI/FS, etc., may be familiar to the Army, DoD, and the environmental community, but they should be avoided even if they have been previously referenced. We should not ask people to go back six or seven pages (especially in a Web document) to find what an abbreviation means.

about: A good replacement for *approximately*. In addition, *about* is a relative term. You can say *about 45* or *about 50*, but you cannot say *about 47*. The only way to arrive at an exact number like 47 is by counting.

acute effects: The immediate, brief, and severe effects that follow exposure to a given pollutant. Conversely, chronic effects are long-term.

adjacent: Bureaucratic jargon for the simple word *beside* or *next to*.

administrative record: This document contains all the reports, studies and other site-related documents that are required to be available to the public. It is important that you define the term when first using it: *The documents, maps and studies related to this cleanup, known as an administrative record, can be found in the public library.*

aeration: Cleaning contaminated soil or water through a process that breaks down and evaporates the contaminants by exposing them to air. Define it before using.

air stripping: Using compressed air to remove certain compounds from contaminated water. Avoid the term. Explain it instead: *The Army is proposing to clean the contaminated water by pumping it into a pressurized container, and then forcing a high pressure stream of air through the water, causing the pollutants to evaporate.*

ambient air: *Surrounding air* or just plain *air*.

applicable or relevant and appropriate requirements (ARARs): Define it before using, or in some cases, you can say: *federal and state environmental requirements*.

approximately: Use *about*. See also **about**.

aquatic habitats/settings: Use instead *the creek's ecosystem* or *the watershed's animal and plant life*.

aquifer, groundwater, plume: An aquifer is an underground layer of rock, sand or gravel capable of storing water within cracks and pores, or between grains. The water contained in the aquifer is groundwater. A plume is a mass of underground contaminants in the groundwater. Most people don't understand the differences between these three terms. To avoid confusion, use *underground water* when talking about contamination of this nature. See also **groundwater, plume**.

attenuation: The process by which a contaminant biodegrades during a period of time. In other words, it is a breakdown of the contaminant by nature throughout several years. Define before using: *The Army will monitor the underground water during the next 30 years while the contamination dilutes and biodegrades through a process known as natural attenuation*.

background level: The naturally occurring concentration of a substance in air, water or soil. In exposure assessment, it is the concentration of a substance in a defined control area during a fixed period of time before, during or after a data-gathering operation. Explain before using.

Base Realignment And Closure (BRAC) Program: This is the Department of Defense program that closes military installations that are no longer going to be used. Normally environmental cleanup is required before the Department of Defense turns the property back to private, federal, state or local owners.

baseline: A standard against which you can measure other numbers and calculations.

beach renourishment: *Rebuild a beach* or *pump more sand on a beach*

bedrock: This is unbroken solid rock, normally the bottom layer, overlaid by soil or rock formations. Normally recognized by the public, but it might help to list the depth and type of rock and anything out of ordinary about its properties.

below federal standards: Depending upon the context, you may want to consider using *safe according to federal standards*. An example could be: *The contamination in the aquifer was found to be 6 parts per million, which makes it safe according to federal standards since the federal drinking water standard is 25 parts per million*.

benthos/benthis organisms: Animals or organisms that live in the bottom of lakes, rivers, streams or oceans. Avoid the term.

bioremediation: Using living organisms to clean up oil spills or remove pollutants. Avoid the term or define it when using: *The plan calls for cleaning the contaminated soil using bioremediation, a process that uses natural microorganisms to digest contaminants and break them down into non-hazardous components.* If you use this definition, follow up with an example of where the technique has been successfully used.

brownfield, brownfields: Abandoned or underused industrial or commercial sites where real or perceived environmental contamination restricts redevelopment. Although more people are using the term, it is still best to define it before using. Capitalize only when part of a proper name. A single site is a brownfield.

built: A short, simple substitute for *constructed*, a word dear to federal engineers.

cap, cover: Explain what it is made of and how big an area it will cover. If it will cover an area the size of a football field, say so.

capitalization: Refer to the *AP Stylebook* for most situations. Here are some normal mistakes:

- Don't capitalize federal, state, or city unless part of the formal title.
- Don't capitalize record of decision, feasibility study, or proposed plan unless they appear directly as a part of a specific title.
- Don't capitalize everything in sight ... a common sin in federal writing.

carbon adsorption: Using activated carbon to remove contaminants from water. Avoid the term or define it when using: *The Army plans to clean the groundwater using carbon adsorption, a treatment system that removes contaminants by forcing water through tanks containing carbon, which attracts and retains the contaminants.*

carcinogenic: Experts define a carcinogen as a possible cancer-causing agent. It's a term most people understand, but it's probably better to use the term *cancer-causing* instead.

chemical warfare materiel (CWM): Items generally configured as a munition containing a chemical compound that is intended to kill, seriously injure, or incapacitate a person through its physiological effects. The definition of chemical warfare material is specific, follow these guidelines: Chemical warfare material includes V- and G-series nerve agents or H-series (mustard) and L-series (lewisite) blister agents in other-than-munition configurations; and certain industrial chemicals (e.g., hydrogen cyanide (AC), cyanogen chloride (CK), or carbonyl dichloride (called phosgene or CG)) configured as a military munition. Due to their hazards, prevalence, and military-unique application, chemical agent identification sets (CAIS) are also considered chemical warfare material.

Chemical warfare material does not include: riot control devices; chemical defoliants and herbicides; industrial chemicals (e.g., AC, CK, or CG) not configured as a munition; smoke and other obscuration producing items; flame and incendiary producing items; or soil, water, debris or other media contaminated with low concentrations of chemical agents where no CA hazards exist.

chronic toxicity: The extent to which long-term exposure to a pollutant causes death. Substitute *long-term effects* whenever possible.

CHPPM: The U.S. Army Center for Health Promotion and Preventive Medicine. Don't use the acronym.

citizens: Avoid the word. We work with all people living in a community, not just those who are legal citizens. In most cases, the better word to use is *residents*.

cleanup, clean up: The noun is cleanup, the verb is to clean up and the adjective is cleanup. *The site cleanup involved cleaning up contaminated soil and disposing of it in a licensed landfill. The cleanup method involved using bioremediation, a process that uses natural microorganisms to digest contaminants and break them down into non-hazardous components.*

cleanup actions: One word is sufficient: *cleanups*.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA): Congress passed this act, also known as Superfund, in 1980 in response to growing concern about the environment. It requires responsible parties to clean up releases of hazardous substances and certain pollutants and contaminants. The 1986 Superfund Amendments and Reauthorization Act (SARA) refined and expanded CERCLA. It also established the Defense Environmental Restoration Program (DERP) and its funding mechanism, the Defense Environmental Restoration Account. Most Army and Department of Defense cleanups follow CERCLA.

comprise, compose: In the passive voice, use *is composed of*, not *comprised of*. See the *AP Stylebook* for more details.

consent decree, consent order: A legal document, signed by a judge and entered into the public record, which formalizes a prior agreement between two parties. Avoid it if possible, otherwise define it first and then introduce it. *Judge Tom Jones signed an order today requiring ABC Corp. to pay for the site cleanup. The order, known as a "consent decree," was agreed to by the Army and the EPA.*

containment: Generally understandable, but it's good to explain how you are using it: *The Army will contain the waste at the landfill by putting a synthetic cap over it. The cap will eliminate the possibility of any contamination spreading to other areas through the air or underground water.*

contaminants: Fine, but *pollutants* may be better.

corresponding surface water/bodies: Use *nearby lakes, rivers, streams* or *coastal areas*.

cost recovery: Use *reimbursement*.

criteria, criterion: Criterion is singular and criteria is plural.

curie: A unit of radioactivity that represents the amount of radioactivity associated with one gram of radium. It is named after Marie Curie. A sample of radioactive material that exhibits one curie of radioactivity means that the element is emitting radiation at the rate of 3.7 million times a second. Use the term sparingly and make sure you explain it.

dates: Do not use “nd” or “th” after numerals in a date. Remember to abbreviate months that can be abbreviated when using numerals with the date, but do not abbreviate March, April, May, June, or July. Always put the date after the month, not before. And remember that the preferred method for writing dates and times is always *time, date, place*. Do not write: The Restoration Advisory Board will meet at the project site on Wednesday at 2 p.m. Write instead: *The Restoration Advisory Board will meet at 2 p.m. Wednesday at the project site.*

dense non-aqueous phase liquids (DNAPLs): The average reader is unfamiliar with the terminology and the acronym. Don’t use. Say instead: *The underground water is contaminated with dense oily liquids that are heavier than water.*

dermal contact: *Skin contact* or *touch* – *It’s a health hazard to touch the soil.*

dewater: *Drain.*

DoD: Lowercase the “o” when using DoD for Department of Defense.

dollars: Always lowercase. Use figures and the \$ sign in all except casual references or amounts without a figure: *The book costs \$4. Please give me a dollar. Dollars are flowing overseas.* Remember for amounts of more than \$1 million, use the \$ and numerals up to two decimal places: *It is worth \$4.35 million.*

down gradient: *Downstream* or *in the path of.*

Earth, earth: *Earth* is the name of our planet, while *earth* is a synonym for dirt.

Earth’s environment: The human environment is what surrounds us: air, water, trees, land, etc. The Earth’s environment is composed of planets, stars, cosmic dust, solar wind, asteroids and the like. Don’t use the term Earth’s environment.

ecological risk assessment: A formal estimate of the effect of human actions on natural resources as well as the interpretation of the significance of those effects. Avoid using the term. You can explain it as such: *The Army studied the effects the site would have on the local ecosystem if it were left untreated.*

effluent: Waste material, such as liquid, smoke, industrial refuse, or sewage, discharged into the environment as a pollutant.

encroachment: A Department of Defense term that refers to incompatible land use that can arise when military installations or ranges share limited air and sea space, land or other resources with neighboring communities. When discussing such challenges it is important to note the effects experienced by both the community and the military. It is best to describe the issue at hand and ways to forge mutually beneficial solutions that to use the term “encroachment” as the public can perceive military activity (and the resultant traffic, noise, dust, etc.) as the encroachment.

engineering evaluation/cost analysis (EE/CA): A series of technical and financial studies used to determine an appropriate cleanup plan. Avoid the acronym. Use general terms to explain what these studies involved.

environmental impact statement (EIS): This is a decision-making tool that describes the positive and negative effects of a proposed project on the local environment. Explain it when you use it.

EPA: EPA stands for *the Environmental Protection Agency*, so it is redundant to say “the EPA.” Also, regions are identified with Arabic numbers, not Roman numerals, so it is correct to use “*EPA Region 5*” but incorrect to use “The EPA Region V.”

erosion control: Placing material, such as plants, rocks, fabric, fencing, etc., to stop or reduce the wearing away of land by wind and/or water.

excavate: *Dig.*

execute: *Carry out, accomplish, manage, oversee, run, operate, perform, fulfill* – any of these would be better than leaving readers with the mental picture of the Army chopping someone’s head off with a guillotine.

exceedance: Not a word – use *above*.

explanation of significant differences (ESD): A document that explains changes made to a site cleanup plan. Avoid it. Explain the changes and why they were made.

exposure: The radiation or pollutants that come into contact with the body and present a potential health hazard. The most common routes of exposure are through the skin, mouth or by inhalation.

exposure assessment: The determination or estimation of the magnitude, frequency, duration and route of exposure. If you use this term, explain it.

extraction: The *pumping of water*.

feasibility study (FS): An analysis of how practical a specific proposal is to undertake. Business and industry use the term, but it's probably better to say: *The Army is studying cleanup alternatives for the site*.

feasible: OK, but perhaps better to use *practical* or *possible*.

federal, state, tribal: Capitalize only when part of a formal name, lowercase when standing alone.

fish consumption: *Eating fish*.

Formerly Used Defense Sites (FUDS) Program: This is a Department of Defense program that cleans up environmental contamination and used military munitions (e.g., unexploded ordnance) still remaining at properties formerly owned, leased, possessed or otherwise used by the Army, Navy, Air Force or other defense agencies. The Army is the executive agent for the program, and the U.S. Army Corps of Engineers is responsible for carrying out the program.

Formerly Utilized Sites Remedial Action Program (FUSRAP): An environmental cleanup program established by the Atomic Energy Commission. The program, now administered by the U.S. Army Corps of Engineers, identifies, investigates, and takes appropriate cleanup action at sites with radioactive contamination resulting from the nation's early atomic energy program.

fractured bedrock: Bedrock with breaks in it, which makes it difficult to determine the path the contaminated underground water could take.

groundwater: People continue to be unclear about what this term means. To many it means mud puddles. Groundwater is the water you cannot see unless you dig into the ground for it. To help clarify the term, add a qualifier: *The Army is trying to figure out what effects the contamination is having on the underlying groundwater*. See also **aquifer** and **plume**.

hazard ranking system (HRS): This is a tool used to evaluate risks to public health and the environment. Avoid this term, explain it instead: *The Army used a ranking tool to evaluate the waste site. The tool takes into account the nature and extent of the*

contamination, and the potential for the hazardous substances to spread from the site through the air, surface water or underlying groundwater.

holding basin: A lined or unlined basin used to temporarily contain liquids or sediment. Always try to describe the size and any other relevant features.

humans, individuals: *People.*

impact: Try to avoid using this as it is overused. For most people, impacted is a dental term rather than something we want to use in the environmental world.

impermeable: Acceptable, but *solid* or *impenetrable* might be better.

incidental ingestion: Avoid the term. You can explain it by using: *The Army is evaluating the small amount of soil most people would ingest daily by having dirt on their food, hands or other objects that may come in contact with their mouth.*

Indians, Native Americans: The federal government uses Indians or American Indians to refer to Native Americans living on the mainland. “Native Americans” is a broader term that includes American Indians, Alaska natives, Hawaiians, and residents of U.S. territories and protectorates.

infectious waste: *Medical waste.*

in-situ: Use *on-site* or *in place*.

innovative technology: New or creative methods to treat hazardous wastes, conserve energy or to prevent pollution. Use the term, but always explain how the technology is new or creative.

Installation Restoration Program (IRP): Explain it. The Installation Restoration Program (IRP) is a Department of Defense program at U.S. military installations to identify, investigate, and clean up contamination resulting from past practices.

institutional controls: It is better to explain what type of institutional control is being used at a site rather than using the term, or use the term ‘land use controls’, as defined by DoD.

interagency agreement (IAG): Also known as a federal facilities agreement (FFA). But instead of using either term, explain the situation: *The Army and EPA signed an agreement today that outlines the roles and responsibilities of each agency in cleaning up the site.*

interim remedial measures: *Immediate steps to clean up the site.*

land use controls (LUC): LUC are physical, legal, or administrative mechanisms that restrict the use of, or limit access to, real property, to manage risks to human health and the environment. Physical mechanisms encompass a variety of engineered remedies to contain or reduce contamination and/or physical barriers to limit access to real property, such as fences or signs.

leachate: Contaminated liquid flowing from a site carrying many of the pollutants. Avoid the term. Explain it instead.

leachate collection system: A system to collect contaminated liquids. Avoid the term, explain it instead.

light non-aqueous phase liquids (LNAPLs): Again, not a term or acronym familiar to the average reader. Substitute: *The underlying groundwater is contaminated with oily liquids, such as gasoline, that float on the water's surface.*

ly: No hyphens between adverbs ending in *ly* and the adjectives they modify: *It's a badly damaged boat*, not a *badly-damaged boat*.

management of migration (MOM): Preventing contaminants from moving off a site to a non-contaminated area. Avoid the term. Explain it by identifying what methods are being used to prevent the migration.

maximum contaminant level: The highest level of a contaminant permitted in a public water supply system. Another term to avoid. Explain it as such: *The Army will strive to reach public drinking water standards when cleaning the contaminated underground water.*

media: Avoid using this for anything other than discussing radio, TV or newspapers.

media projection standard, media scenario: Again avoid these terms. Explain them instead.

migrating: *Moving or flowing.*

military munitions: Military munitions means all ammunition products and components produced for or used by the armed forces for national defense and security, including ammunition products or components under the control of the Department of Defense, the Coast Guard, the Department of Energy, and the National Guard. Use this term carefully, as its use is dictated by statute. The term includes confined gaseous, liquid, and solid propellants; explosives, pyrotechnics, chemical and riot control agents, smokes, and incendiaries, including bulk explosives, and chemical warfare agents; chemical munitions, rockets, guided and ballistic missiles, bombs, warheads, mortar rounds, artillery ammunition, small arms ammunition, grenades, mines, torpedoes, depth charges, cluster munitions and dispensers, demolition charges; and devices and components

thereof. The term does not include wholly inert items; improvised explosive devices; and nuclear weapons, nuclear devices, and nuclear components, other than nonnuclear components of nuclear devices that are managed under the nuclear weapons program of the Department of Energy after all required sanitization operations under the Atomic Energy Act of 1954 (42 U.S.C. 2011 et seq.) have been completed. (10 U.S.C. 101(e)(4)(A) through (C)).

mitigate: To make less severe, intense, painful. Try using *lessen the impact of*.

mobile source: Use *cars, trucks, buses, or vehicles* as appropriate.

monitoring wells: A well used to obtain water quality samples: *The Army has placed a series of 70 wells around the site to track the extent and any possible movement of the contaminated ground water.*

more than, less than: Terms for comparisons involving numbers, i.e., “*more than 20 percent*” or “*less than 1,000.*” Do not use as synonyms for *over* and *under*. See also **over, under**.

National Priorities List (NPL): Capitalize but do not abbreviate: *Two Army sites are on the EPA’s National Priorities List.*

NEPA: National Environmental Policy Act. NEPA requires an assessment of virtually all significant federal decisions likely to impact the environment. This Act was passed to ensure that decision-makers are aware of the environmental consequences of decisions, and to permit the public to comment on both the scope of an environmental impact study and the alternatives under consideration.

nonpoint: Pollution sources without a single point of origin, such as runoff from a parking lot or field. Avoid using the term, or make sure you define it if using.

non-time critical removal action: Use *cleanup*. The average person does not make a distinction between a removal action cleanup selection and a remedial action cleanup selection. If it is relevant or necessary to understand the specific type of removal action, then use those words but make sure you explain their meaning.

numbers: Spell out whole numbers below 10, use figures for 10 and above. Use Arabic numbers (figures) for distance, weight, volume, time, degrees, and percentages – do not spell out numbers in these cases. Also, in text, always spell out “percent,” but you can use the symbol (%) in charts, figures, etc.

obtain: *Get*.

ongoing: One word, not *on-going*.

operable unit: Avoid the term. Instead say: *The Army has divided the installation into a set of distinct contaminated areas that it will address individually as it works toward the overall installation cleanup.*

over, under: Do not use *over* for *more than* or *in excess of* or *under* for *less than*. *Over* and *under* are only for spatial references, such as *The cow jumped over the moon*. Or *We found the picnic basket under the tree*. See also **more than, less than**. Do not say *There were over 100 people stuck in the elevator*.

parts per million, parts per billion (ppm and ppb): An expression of contamination ratios that really doesn't mean much to the average person. Try to express the number in a way the average person might understand or visualize, and give the readers something to compare the result to: *There are 23 parts per million of lead in the landfill. To put this in perspective, this equates to 23 pancakes in a stack 92 miles high*. Take care to compare solids with solids, liquids with liquids. Also explain what numbers are considered "safe" for the pollutant being evaluated. See **Concentration Comparisons** chart at the end of this style guide.

passive sentences: A passive sentence often obscures who or what is responsible for the action and can leave a reader with negative connotations. **Instead of writing:** A proposed cleanup plan will be issued this summer, **write:** *The Army will issue a proposed cleanup plan this summer.*

pathways: The means by which contaminants move. Possible pathways include air, surface water, underlying ground water, plants and animals. Best to identify the specific pathway.

plume: Another term to avoid – explain it as *a mass of underground contaminants*. See also **aquifer** and **ground water**.

polychlorinated biphenyls (PCBs): PCBs is acceptable but should be amplified by explaining where they were used. *A synthetic, organic chemical once widely used in electrical equipment, specialized hydraulic systems, heat transfer systems, and other industrial products. PCBs are highly toxic, and a potent carcinogen. Any hazardous waste that contains more than 50 parts per million of PCBs are subject to regulation under the Toxic Substances Control Act.*

potential future exposures: Possible scenarios in which people or organisms could be exposed to pollutants in the future. It's far better to explain the scenario rather than use the term.

potentially responsible parties: Parties who may be legally responsible for a site's contamination. Better to explain than use the term.

preliminary assessment: Initial collection and evaluation of information about a site: *The Army gathered information about the site to determine if a real or potential threat exists to human health and the environment.*

preventive: Not *preventative*.

primary source area: The main source of the site's contamination.

prior to: *Before.*

protective of: *Protects.*

pursuant to: *Following, according to, meeting the requirements of.*

quality assurance/quality control (QA/QC): Again, a relatively common term in business and industry, but better to explain: *The Army ran the data collected from the site through an extensive set of checks, audits, and procedures to ensure the field work and laboratory analysis meet federal requirements.*

record of decision (ROD): A public document that explains cleanup alternatives. Define it before use.

remedial/remedy: Substitute *cleanup* whenever appropriate. For most people outside the environmental field, this term refers to the remedial reading programs offered in elementary schools.

remedial action: *The cleanup of environmental contamination.*

remedial design: Includes development of engineering drawings and specifications for a site cleanup. Avoid the term. Explain it: *The final design of an underground water treatment system calls for 50 wells and a system that cleans the contaminate underground water.*

remedial investigation (RI): Explain rather than use: *The Army has conducted studies into the nature and extent of the contamination at the site.* It is a good idea to detail the amount of work that went into conducting the investigation.

Resource Conservation and Recovery Act (RCRA): The federal law that governs ongoing waste handling practices.

restoration: The process of eliminating hazards to return the property to its former state. Often used interchangeably with remediation, although the two terms are different. It is better to explain the process being used or use *cleanup*.

revegetated: *Planted.*

risk: A measure of the probability that damage to life, health, property and/or the environment will occur as a result of a given hazard.

risk assessment: Use this term, but elaborate on what factors were considered in doing the assessment.

sediment: Singular, not plural.

seeps: This is acceptable because it allows the reader to visualize the concept.

site characterization: A report that documents the physical and chemical aspects of a site, and how they will factor into a cleanup plan to address the contamination. Explain it.

slurry wall: Another term to avoid. Explain the concept. *An underground wall will be built out of [tell what kind of material] to provide a barrier [if impervious] or filter [if pervious] to contain [or treat] the underground water contaminants.*

soil: Not *soils*.

soil vapor extraction: Avoid the term. Explain the process instead. *Air will be pumped out of the soil to remove the contaminants.*

soil washing: Avoid the term. Explain it. *The soil will be “washed” by running water (or a liquid solvent) through it to remove contaminants.*

solidification and stabilization: Removal of waste water from a waste or changing it chemically to make it less permeable and susceptible to transport by water.

solubility: The amount of a compound that will dissolve in a unit volume of solution. Aqueous solubility is the maximum concentration of a chemical that will dissolve in pure water at a reference temperature. Explain these terms.

source control: A measure used to stem the flow of contaminants by removing or reducing the pollution’s source.

state abbreviations: Refer to the *AP Stylebook*. Spell out the names of the states when they stand alone without a city. Never abbreviate the names of eight states (Alaska, Hawaii, Idaho, Iowa, Maine, Ohio, Texas and Utah). Use the AP state abbreviations with cities rather than postal abbreviations. It may be necessary to add the word *state* to New York to distinguish it from New York City and use *state of Washington* or *Washington state* to distinguish it from the District of Columbia. Don’t capitalize the word *state* after Washington as *Washington State* is the name of a university in the state of Washington.

stated, declared, commented: Use *said*.

storm water: Two words.

Superfund: If talking about EPA's program, always capitalize. See also *Comprehensive Environmental Response, Compensation and Liability Act*.

Superfund Amendments and Reauthorization Act (SARA): SARA refined and expanded CERCLA in 1986, formally establishing the Defense Environmental Restoration Program (DERP) and its funding mechanism, the Defense Environmental Restoration Account (DERA).

surface/subsurface soil: Use *shallow or deep soil*. List the depths.

surface water: Two words. Standing water after rain or in a pond, lake or river.

sustainability: In context of the Army Strategy for the Environment, a condition in which the Army is able to fully execute its present missions without compromising either its ability to accomplish future missions or the ability of its neighboring communities and other stakeholders to realize their aspirations. Sustainability takes full accounting of the "triple bottom line" on mission, environment, and social impact of Army operations, therefore, do not use "environmental sustainability." Explain this in context whenever possible and often presented with other terms such as: sustainable installations, sustainable mission, sustainable operations, sustainable design, and sustainable communities.

thermal treatment: This depends entirely on the specific thermal treatment being used. Be careful in wording your description of the treatment because anything remotely related to incineration can generate extreme controversy.

time: It's 9 a.m., not 9:00 a.m., nor is it 0900 hours.

time-critical removal action: Use *expedited cleanup* or *immediate cleanup*.

toxic: *Poisonous*. Toxic is an adjective. The noun is toxicant, not toxics.

trichloroethylene (TCE): A solvent commonly used to wash or degrease industrial equipment, including aircraft. Also commonly used in dry cleaning operations. Breaks down fairly easily into vinyl chloride, a known carcinogen.

under way: Always two words unless referring to a moving vessel.

unexploded ordnance (UXO): This refers to live ammunition, designed to kill or inflict serious bodily injury, that did not function as intended and still contains explosive material. Regardless of age or physical shape, unexploded ordnance, even fragments, can

still explode and hurt or kill. People should never touch, move or kick what they think may be UXO. Instead, mark the spot, retreat and notify authorities as quickly as possible.

upgradient: Use *upstream* or *not in the path of*.

utilize, utilization: *Use*.

vacuum extraction: Explain this term rather than using it: *The Army will clean up the contaminated soil by installing vacuum pumps in the ground and sucking out the contaminants in gas form. The contaminated gases are then sent for treatment.*

volatile organic compounds (VOCs): Contaminants that evaporate into the air easily. Define when using and avoid using the abbreviation.

volatilized: *Evaporated*.

washups: One word when referring to items that have washed up on the shore.

waste: The word waste is implicitly plural. Do not use “wastes” unless you mean different types of waste.

wastewater: One word.

waterbody, waterbodies: Don't use these words. *Body of water* is OK, but it's better to identify it as *the lake* or *the river*.

we, our: Normally we are taught to write in the third person, i.e., the Army, Fort Bliss, the U.S. Army Corps of Engineers. However, when writing for people in communities around our installations, we may want to be less formal and use terms such as *we* and *our* when talking about the work we are doing. It's one way of demonstrating to the communities that we own the programs and are responsible for carrying them out.

Web: It's *World Wide Web*, *Web site* and *Web page*. Always two words and a capital W. *Internet* is always capitalized.

wetlands compensation: Don't use, instead explain: *The plan calls for artificially replacing the wetland that will be destroyed as a result of the cleanup process.*

-wide: Wrong. No hyphen before “wide.” It's *worldwide*, *Armywide*, but when *-wide* is combined with an acronym, it is hyphenated, such as *DoD-wide*.

Concentration Comparisons

Environmental cleanup criteria is generally reported in parts per million (ppm) for solids and parts per billion (ppb) for liquids. Although federal drinking water standards are an

exception and reported in ppm, care should be taken when converting analytical results to make it easier for the reader to understand when making comparisons of the results with the regulatory standards or limits. Again, always compare solids with solids and liquid with liquid.

Parts per million:

- One automobile in bumper-to-bumper traffic from Cleveland to San Francisco.
- One pancake in a stack four miles high.
- One ounce in 32 tons.
- One minute in two years.

Parts per billion:

- One drop of impurity in 500 barrels of water.
- One drop of dye in a body of water equal to 40 Olympic-sized swimming pools (10 million gallons).
- One silver dollar in a roll of silver dollars stretching from Detroit to Salt Lake City.
- One kernel of corn in enough corn to fill a 45-foot silo, 16 feet in diameter.
- One sheet in a roll of toilet paper stretching from New York to London.

Parts per trillion:

- One square foot of floor tile on a kitchen floor the size of Indiana.
- One drop of detergent in enough dishwasher to fill a train of railroad tank cars 10 miles long.
- One square inch in 250 square miles.

References/links:

www.epa.gov/OCEPAt/terms/

www.hq.usace.army.mil/cecw/fusrap/geninf/GLOSSARY.HTM

www.psandman.com/articles/cma-0.htm