

REGULATORY REFERENCE

have.

This section contains the following important references:

Acronym List

Glossary

Pollutant Regulation References, issue profiles or handbooks by pollutant type, for example water, hazardous waste or air.

Acronym List

A

ASTM: American Society for Testing and Materials
ATSDR: Agency for Toxic Substances and Disease Registry
ATTF: Air Toxics Task Force

B

BMP: Best Management Practice(s)
BOD: Biochemical Oxygen Demand or Biological Oxygen Demand
BPJ: Best Professional Judgment
BPT: Best Practicable Technology or Best Practicable Treatment

C

CAA: Clean Air Act or Compliance Assurance Agreement
CDBG: Community Development Block Grant
CERCLA: Comprehensive Environmental Compensation Response and Liability Act (Superfund)
CFR: Code of Federal Regulations
CSO: Combined Sewer Overflow
CWA: Clean Water Act (a.k.a. FWPCA)
CZMA: Coastal Zone Management Act
CZARA: Coastal Zone Management Act Reauthorization Amendments

D

DMR: Discharge Monitoring Report
DO: Dissolved Oxygen
DPA: Deepwater Ports Act

E

EHS: Extremely Hazardous Substance
EMS: Enforcement Management System
EPCRA: Emergency Planning and Community Right to Know Act

F

FLP: Flash Point

FIFRA. Federal Insecticide, Fungicide, and Rodenticide Act.

G, H

HAZMAT: Hazardous Materials

I

IDLH: Immediately Dangerous to Life and Health

J, K, L

LEPC: Local Emergency Planning Committee

LERC: Local Emergency Response Committee

M

MCL: Maximum Contaminant Level

MSDS: Material Safety Data Sheets

N

NIOSH: National Institute of Occupational Safety and Health

NOAA: National Oceanographic and Atmospheric Agency

NPDES: National Pollutant Discharge Elimination System

O, P

PPB: Parts Per Billion

PPM/PPB: Parts per million/ parts per billion

Q

QA/QC: Quality Assistance/ Quality Control

QAPP: Quality Assurance Program (or Project) Plan

R

RCRA: Resource Conservation and Recovery Act
RQ: Reportable Quantity

S

SARA: Superfund Amendments and Reauthorization Act
SERC: State Emergency Response Commission
SPCC: Spill Prevention, Containment, and Countermeasure
SQG: Small Quantity Generator

T

TBT: Tributyltin
TCLP: Total Concentrate Leachate Procedure. Toxicity Characteristic Leachate Procedure
TPQ: Threshold Planning Quantity
TRI: Toxic Release Inventory
TSCA: Toxic Substances Control Act

U

UV: Ultraviolet

V, X, Y, Z

GLOSSARY

-A-

Abatement: Reducing the degree or intensity of, or eliminating, pollution.

Acidic: The condition of water or soil that contains a sufficient amount of acid substances to lower the pH below 7.0.

Active Ingredient: In any pesticide product, the component that kills, or otherwise controls, target pests. Pesticides are regulated primarily on the basis of active ingredients.

Adverse Effects Data: FIFRA requires a pesticide registrant to submit data to EPA on any studies or other information regarding unreasonable adverse effects of a pesticide at any time after its registration.

Air Contaminant: Any particulate matter, gas, or combination thereof, other than water vapor. (See: [air pollutant](#).)

Air Pollutant: Any substance in air that could, in high enough concentration, harm man, other animals, vegetation, or material. Pollutants may include almost any natural or artificial composition of airborne matter capable of being airborne. They may be in the form of solid particles, liquid droplets, gases, or in combination thereof. Generally, they fall into two main groups: (1) those emitted directly from identifiable sources and (2) those produced in the air by interaction between two or more primary pollutants, or by reaction with normal atmospheric constituents, with or without photoactivation. Exclusive of pollen, fog, and dust, which are of natural origin, about 100 contaminants have been identified. Air pollutants are often grouped in categories for ease in classification; some of the categories are: solids, sulfur compounds, volatile organic chemicals, particulate matter, nitrogen compounds, oxygen compounds, halogen compounds, radioactive compound, and odors. **Air Pollution:** The presence of contaminants or pollutant substances in the air that interfere with human health or welfare, or produce other harmful environmental effects.

Air Pollution Control Device: Mechanism or equipment that cleans emissions generated by a source (e.g. an incinerator, industrial smokestack, or an automobile exhaust system) by removing pollutants that would otherwise be released to the atmosphere.

Air Toxics: Any air pollutant for which a national ambient air quality standard (NAAQS) does not exist (i.e. excluding ozone, carbon monoxide, PM-10, sulfur dioxide, nitrogen oxide) that may reasonably be anticipated to cause cancer; respiratory, cardiovascular, or developmental effects; reproductive dysfunctions, neurological disorders, heritable gene mutations, or other serious or irreversible chronic or acute health effects in humans.

Airborne Particulates: Total suspended particulate matter found in the atmosphere as solid particles or liquid droplets. Chemical composition of particulates varies widely, depending on location and time of year.

Sources of airborne particulates include: dust, emissions from industrial processes, combustion products from the burning of wood and coal, combustion products associated with motor vehicle or non-road engine exhausts, and reactions to gases in the atmosphere.

Airborne Release: Release of any pollutant into the air.

Algae: Simple rootless plants that grow in sunlit waters in proportion to the amount of available nutrients. They can affect water quality adversely by lowering the dissolved oxygen in the water. They are food for fish and small aquatic animals.

Algal Blooms: Sudden spurts of algal growth, which can affect water quality adversely and indicate potentially hazardous changes in local water chemistry.

Algicide: Substance or chemical used specifically to kill or control algae.

Alkaline: The condition of water or soil which contains a sufficient amount of alkali substance to raise the pH above 7.0.

Alkalinity: The capacity of bases to neutralize acids. An example is lime added to lakes to decrease acidity.

Ambient Air: Any unconfined portion of the atmosphere: open air, surrounding air.

Anaerobic: A life or process that occurs in, or is not destroyed by, the absence of oxygen.

Anaerobic Decomposition: Reduction of the net energy level and change in chemical composition of organic matter caused by microorganisms in an oxygen-free environment.

Aqueous: Something made up of water.

Aquifer: An underground geological formation, or group of formations, containing water. Are sources of groundwater for wells and springs.

Assimilation: The ability of a body of water to purify itself of pollutants.

Assimilative Capacity: The capacity of a natural body of water to receive wastewaters or toxic materials without deleterious effects and without damage to aquatic life or humans who consume the water.

Attenuation: The process by which a compound is reduced in concentration over time, through absorption, adsorption, degradation, dilution, and/or transformation. An also be the decrease with distance of sight caused by attenuation of light by particulate pollution.

-B-

Background Level: 1. The concentration of a substance in an environmental media (air, water, or soil) that occurs naturally or is not the result of human activities. 2. In exposure assessment the concentration of a substance in a defined control area, during a fixed period of time before, during, or after a data-gathering operation..

Bacteria: (Singular: bacterium) Microscopic living organisms that can aid in pollution control by metabolizing organic matter in sewage, oil spills or other pollutants. However, bacteria in soil, water or air can also cause human, animal and plant health problems.

Baffle: A flat board or plate, deflector, guide, or similar device constructed or placed in flowing water or slurry systems to cause more uniform flow velocities to absorb energy and to divert, guide, or agitate liquids.

Best Management Practice (BMP): Methods that have been determined to be the most effective, practical means of preventing or reducing pollution from non-point sources.

Bioavailability: Degree of ability to be absorbed and ready to interact in organism metabolism.

Biochemical Oxygen Demand (BOD): A measure of the amount of oxygen consumed in the biological processes that break down organic matter in water. The greater the BOD, the greater the degree of pollution.

Bioconcentration: The accumulation of a chemical in tissues of a fish or other organism to levels greater than in the surrounding medium.

Biological Magnification: Refers to the process whereby certain substances such as pesticides or heavy metals move up the food chain, work their way into rivers or lakes, and are eaten by aquatic organisms such as fish, which in turn are eaten by large birds, animals or humans. The substances become concentrated in tissues or internal organs as they move up the chain. (See: [bioaccumulants](#).)

Biological Treatment: A treatment technology that uses bacteria to consume organic waste.

Bioremediation: Use of living organisms to clean up oil spills or remove other pollutants from soil, water, or wastewater; use of organisms such as non-harmful insects to remove agricultural pests or counteract diseases of trees, plants, and garden soil.

Biotic Community: A naturally occurring assemblage of plants and animals that live in the same environment and are mutually sustaining and interdependent. (See: [biome](#).)

Blackwater: Water that contains animal, human, or food waste.

Buffer: A solution or liquid whose chemical makeup is such that it minimizes changes in pH when acids or bases are added to it.

Buffer Strips: Strips of grass or other erosion-resisting vegetation between or below cultivated strips or fields.

By-product: Material, other than the principal product, generated as a consequence of an industrial process or as a breakdown product in a living system.

-C-

Carbon Monoxide (CO): A colorless, odorless, poisonous gas produced by incomplete fossil fuel combustion.

Carcinogen: Any substance that can cause or aggravate cancer.

Catalyst: A substance that changes the speed or yield of a chemical reaction without being consumed or chemically changed by the chemical reaction.

Cathodic Protection: A technique to prevent corrosion of a metal surface by making it the cathode of an electrochemical cell.

Characteristic: Any one of the four categories used in defining hazardous waste: ignitability, corrosivity, reactivity, and toxicity.

Chemical Compound: A distinct and pure substance formed by the union of two or more elements in definite proportion by weight.

Chemtrec: The industry-sponsored Chemical Transportation Emergency Center; provides information and/or emergency assistance to emergency responders.

Chlorinated Hydrocarbons: 1. Chemicals containing only chlorine, carbon, and hydrogen. These include a class of persistent, broad-spectrum insecticides that linger in the environment and accumulate in the food chain. Among them are DDT, aldrin, dieldrin, heptachlor, chlordane, lindane, endrin, Mirex, hexachloride, and toxaphene. Other examples include TCE, used as an industrial solvent. 2. Any chlorinated organic compounds including chlorinated solvents such as dichloromethane, trichloromethylene, chloroform.

Chlorinated Solvent: An organic solvent containing chlorine atoms (e.g. methylene chloride and 1,1,1-trichloromethane). Uses of chlorinated solvents include aerosol containers, in highway paint, and dry cleaning fluids.

Chlorofluorocarbons (CFCs): A family of inert, nontoxic, and easily liquefied chemicals used in refrigeration, air conditioning, packaging, insulation, or as solvents and aerosol propellants. Because CFCs are not destroyed in the lower atmosphere they drift into the upper atmosphere where their chlorine components destroy ozone. (See: [fluorocarbons](#).)

Clear Cut: Harvesting all the trees in one area at one time, a practice that can encourage fast rainfall or snowmelt runoff, erosion, sedimentation of streams and lakes, and flooding, and destroys vital habitat.

Coastal Zone: Lands and waters adjacent to the coast that exert an influence on the uses of the sea and its ecology, or whose uses and ecology are affected by the sea.

Code of Federal Regulations (CFR): Document that codifies all rules of the executive departments and agencies of the federal government. It is divided into fifty volumes, known as titles. Title 40 of the CFR (referenced as 40 CFR) lists all environmental regulations.

Coliform Organism: Microorganisms found in the intestinal tract of humans and animals. Their presence in water indicates fecal pollution and potentially adverse contamination by pathogens.

Combined Sewer Overflows: Discharge of a mixture of storm water and domestic waste when the flow capacity of a sewer system is exceeded during rainstorms.

Combined Sewers: A sewer system that carries both sewage and storm-water runoff. Normally, its entire flow goes to a waste treatment plant, but during a heavy storm, the volume of water may be so great as to cause overflows of untreated mixtures of storm water and sewage into receiving waters. Storm-water runoff may also carry toxic chemicals from industrial areas or streets into the sewer system.

Combustion: 1. Burning, or rapid oxidation, accompanied by release of energy in the form of heat and light. 2. Refers to controlled burning of waste, in which heat chemically alters organic compounds, converting into stable inorganics such as carbon dioxide and water.

Commercial Waste: All solid waste emanating from business establishments such as stores, markets, office buildings, restaurants, shopping centers, and theaters.

Community: In ecology, an assemblage of populations of different species within a specified location in space and time. Sometimes, a particular subgrouping may be specified, such as the fish community in a lake or the soil arthropod community in a forest.

Compact Fluorescent Lamp (CFL): Small fluorescent lamps used as more efficient alternatives to incandescent lighting. Also called PL, CFL, Twin-Tube, or BIAX lamps.

Composite Sample: A series of water samples taken over a given period of time and weighted by flow rate.

Concentration: The relative amount of a substance mixed with another substance. An example is five ppm of carbon monoxide in air or 1 mg/l of iron in water.

Conductivity: A measure of the ability of a solution to carry an electrical current.

Consent Decree: A legal document, approved by a judge, that formalizes an agreement reached between EPA and potentially responsible parties (PRPs) through which PRPs will conduct all or part of a cleanup action at a Superfund site; cease or correct actions or processes that are polluting the environment; or otherwise comply with EPA initiated regulatory enforcement actions to resolve the contamination at the Superfund site involved. The consent decree describes the actions PRPs will take and may be subject to a public comment period.

Conservation Easement: Easement restricting a landowner to land uses that are compatible with long-term conservation and environmental values.

Conservation: Preserving and renewing, when possible, human and natural resources. The use, protection, and improvement of natural resources according to principles that will ensure their highest economic or social benefits.

Contact Pesticide: A chemical that kills pests when it touches them, instead of by ingestion. Also, soil that contains the minute skeletons of certain algae that scratch and dehydrate waxy-coated insects.

Contaminant: Any physical, chemical, biological, or radiological substance or matter that has an adverse effect on air, water, or soil.

Contamination: Introduction into water, air, and soil of microorganisms, chemicals, toxic substances, wastes, or wastewater in a concentration that makes the medium unfit for its next intended use. Also applies to surfaces of objects, buildings, and various household and agricultural use products.

Contingency Plan: A document setting out an organized, planned, and coordinated course of action to be followed in case of a fire, explosion, or other accident that releases toxic chemicals, hazardous waste, or radioactive materials that threaten human health or the environment. (See: [National Oil and Hazardous Substances Contingency Plan](#).)

Corrosion: The dissolution and wearing away of metal caused by a chemical reaction such as between water and the pipes, chemicals touching a metal surface, or contact between two metals.

Corrosive: A chemical agent that reacts with the surface of a material causing it to deteriorate or wear away.

Cradle-to-Grave or Manifest System: A procedure in which hazardous materials are identified and followed as they are produced, treated, transported, and disposed of by a series of permanent, linkable, descriptive documents (e.g. manifests). Commonly referred to as the cradle-to-grave system.

Cubic Feet Per Minute (CFM): A measure of the volume of a substance flowing through air within a fixed period of time. With regard to indoor air, refers to the amount of air, in cubic feet, that is exchanged with outdoor air in a minute's time; i.e. the air exchange rate.

Cumulative Exposure: The sum of exposures of an organism to a pollutant over a period of time.

-D-

Delegated State: A state (or other governmental entity such as a tribal government) that has received authority to administer an environmental regulatory program in lieu of a federal counterpart. As used in connection with NPDES, Underground Injection Control, and Public Water Supply programs, the term does not connote any transfer of federal authority to a state.

Detection Limit: The lowest concentration of a chemical that can reliably be distinguished from a zero concentration.

Detergent: Synthetic washing agent that helps to remove dirt and oil. Some contain compounds which kill useful bacteria and encourage algae growth when they are in wastewater that reaches receiving waters.

Digestion: The biochemical decomposition of organic matter, resulting in partial gasification, liquefaction, and mineralization of pollutants.

Dilution Ratio: The relationship between the volume of water in a stream and the volume of incoming water. It affects the ability of the stream to assimilate waste.

Direct Discharger: A municipal or industrial facility which introduces pollution through a defined conveyance or system such as outlet pipes; a point source.

Direct Runoff: Water that flows over the ground surface or through the ground directly into streams, rivers, and lakes.

Discharge: Flow of surface water in a stream or canal or the outflow of ground water from a flowing artesian well, ditch, or spring. Can also apply to discharge of liquid effluent from a facility or to chemical emissions into the air through designated venting mechanisms.

Disinfectant: A chemical or physical process that kills pathogenic organisms in water, air, or on surfaces. Chlorine is often used to disinfect sewage treatment effluent, water supplies, wells, and swimming pools.

Dispersant: A chemical agent used to break up concentrations of organic material such as spilled oil.

Disposables: Consumer products, other items, and packaging used once or a few times and discarded.

Disposal: Final placement or destruction of toxic, radioactive, or other wastes; surplus or banned pesticides or other chemicals; polluted soils; and drums containing hazardous materials from removal actions or accidental releases. Disposal may be

accomplished through use of approved secure landfills, surface impoundments, land farming, deep-well injection, ocean dumping, or incineration.

Dissolved Oxygen (DO): The oxygen freely available in water, vital to fish and other aquatic life and for the prevention of odors. DO levels are considered a most important indicator of a water body's ability to support desirable aquatic life. Secondary and advanced waste treatment are generally designed to ensure adequate DO in waste-receiving waters.

Disturbance: Any event or series of events that disrupt ecosystem, community, or population structure and alters the physical environment.

Downgradient: The direction that groundwater flows; similar to "downstream" for surface water.

-E-

Ecological Impact: The effect that a man-caused or natural activity has on living organisms and their non-living (abiotic) environment.

Ecology: The relationship of living things to one another and their environment, or the study of such relationships.

Ecosystem: The interacting system of a biological community and its non-living environmental surroundings.

Effluent Guidelines: Technical EPA documents which set effluent limitations for given industries and pollutants.

Effluent Limitation: Restrictions established by a state or EPA on quantities, rates, and concentrations in wastewater discharges.

Effluent Standard: (See: [effluent limitation](#).)

Effluent: Wastewater--treated or untreated--that flows out of a treatment plant, sewer, or industrial outfall. Generally refers to wastes discharged into surface waters.

Endangered Species: Animals, birds, fish, plants, or other living organisms threatened with extinction by anthropogenic (man-caused) or other natural changes in their environment. Requirements for declaring a species endangered are contained in the Endangered Species Act.

Enforcement: EPA, state, or local legal actions to obtain compliance with environmental laws, rules, regulations, or agreements and/or obtain penalties or criminal sanctions for violations. Enforcement procedures may vary, depending on the requirements of different environmental laws and related implementing regulations. Under CERCLA, for example, EPA will seek to require potentially responsible parties to clean up a Superfund site, or pay for the cleanup, whereas under the Clean Air Act the Agency may invoke sanctions against cities failing to meet ambient air quality

standards that could prevent certain types of construction or federal funding. In other situations, if investigations by EPA and state agencies uncover willful violations, criminal trials and penalties are sought.

Environment: The sum of all external conditions affecting the life, development and survival of an organism.

Environmental/Ecological Risk: The potential for adverse effects on living organisms associated with pollution of the environment by effluents, emissions, wastes, or accidental chemical releases; energy use; or the depletion of natural resources.

Erosion: The wearing away of land surface by wind or water, intensified by land-clearing practices related to farming, residential or industrial development, road building, or logging.

Estuary: Region of interaction between rivers and near-shore ocean waters, where tidal action and river flow mix fresh and salt water. Such areas include bays, mouths of rivers, salt marshes, and lagoons. These brackish water ecosystems shelter and feed marine life, birds, and wildlife. (See: [wetlands](#).)

Eutrophic Lakes: Shallow, murky bodies of water with concentrations of plant nutrients causing excessive production of algae. (See: [dystrophic lakes](#).)

Eutrophication: The slow aging process during which a lake, estuary, or bay evolves into a bog or marsh and eventually disappears. During the later stages of eutrophication the water body is choked by abundant plant life due to higher levels of nutritive compounds such as nitrogen and phosphorus. Human activities can accelerate the process.

Evaporation Ponds: Areas where sewage sludge is dumped and dried.

Exotic Species: A species that is not indigenous to a region.

Extremely Hazardous Substances: Any of 406 chemicals identified by EPA as toxic, and listed under SARA Title III. The list is subject to periodic revision.

-F-

Facilities Plans: Plans and studies related to the construction of treatment works necessary to comply with the Clean Water Act or RCRA. A facilities plan investigates needs and provides information on the cost-effectiveness of alternatives, a recommended plan, an environmental assessment of the recommendations, and descriptions of the treatment works, costs, and a completion schedule.

Fecal Coliform Bacteria: Bacteria found in the intestinal tracts of mammals. Their presence in water or sludge is an indicator of pollution and possible contamination by pathogens.

FIFRA Pesticide Ingredient: An ingredient of a pesticide that must be registered with EPA under the Federal Insecticide, Fungicide, and Rodenticide Act. Products making pesticide claims must register under FIFRA and may be subject to labeling and use requirements.

Fill: Man-made deposits of natural soils or rock products and waste materials.

Filling: Depositing dirt, mud or other materials into aquatic areas to create more dry land, usually for agricultural or commercial development purposes, often with ruinous ecological consequences.

Filter Strip: Strip or area of vegetation used for removing sediment, organic matter, and other pollutants from runoff and wastewater.

Filtration: A treatment process, under the control of qualified operators, for removing solid (particulate) matter from water by means of porous media such as sand or a man-made filter; often used to remove particles that contain pathogens.

Flash Point: The lowest temperature at which evaporation of a substance produces sufficient vapor to form an ignitable mixture with air.

Floodplain: The flat or nearly flat land along a river or stream or in a tidal area that is covered by water during a flood.

Flow Rate: The rate, expressed in gallons –or liters-per-hour, at which a fluid escapes from a hole or fissure in a tank. Such measurements are also made of liquid waste, effluent, and surface water movement.

Fossil Fuel: Fuel derived from ancient organic remains; e.g. peat, coal, crude oil, and natural gas.

Fungicide: Pesticides which are used to control, deter, or destroy fungi.

Fungus (Fungi): Molds, mildews, yeasts, mushrooms, and puffballs, a group of organisms lacking in chlorophyll (i.e. are not photosynthetic) and which are usually non-mobile, filamentous, and multicellular. Some grow in soil, others attach themselves to decaying trees and other plants whence they obtain nutrients. Some are pathogens, others stabilize sewage and digest composted waste.

-G-

General Permit: A permit applicable to a class or category of dischargers.

General Reporting Facility: A facility having one or more hazardous chemicals above the 10,000 pound threshold for planning quantities. Such facilities must file MSDS and emergency inventory information with the SERC, LEPC, and local fire departments.

Generator: 1. A facility or mobile source that emits pollutants into the air or releases hazardous waste into water or soil. 2. Any person, by site, whose act or process produces regulated medical waste or whose act first causes such waste to become

subject to regulation. Where more than one person (e.g. doctors with separate medical practices) are located in the same building, each business entity is a separate generator.

Grab Sample: A single sample collected at a particular time and place that represents the composition of the water, air, or soil only at that time and place.

Gray Water: Domestic wastewater composed of wash water from kitchen, bathroom, and laundry sinks, tubs, and washers.

Ground Cover: Plants grown to keep soil from eroding.

Ground Water: The supply of fresh water found beneath the Earth's surface, usually in aquifers, which supply wells and springs. Because ground water is a major source of drinking water, there is growing concern over contamination from leaching agricultural or industrial pollutants or leaking underground storage tanks.

Ground-Water Discharge: Ground water entering near coastal waters which has been contaminated by landfill leachate, deep well injection of hazardous wastes, septic tanks, etc.

-H-

Habitat: The place where a population (e.g. human, animal, plant, microorganism) lives and its surroundings, both living and non-living.

Hazard: 1. Potential for radiation, a chemical or other pollutant to cause human illness or injury. 2. In the pesticide program, the inherent toxicity of a compound. Hazard identification of a given substance is an informed judgment based on verifiable toxicity data from animal models or human studies.

Hazardous Air Pollutants: Air pollutants that are not covered by ambient air quality standards but which, as defined in the Clean Air Act, may present a threat of adverse human health effects or adverse environmental effects. Such pollutants include asbestos, beryllium, mercury, benzene, coke oven emissions, radionuclides, and vinyl chloride.

Hazardous Substance: 1. Any material that poses a threat to human health and/or the environment. Typical hazardous substances are toxic, corrosive, ignitable, explosive, or chemically reactive. 2. Any substance designated by EPA to be reported if a designated quantity of the substance is spilled in the waters of the United States or is otherwise released into the environment.

Hazardous Waste: By-products of society that can pose a substantial or potential hazard to human health or the environment when improperly managed. Possesses at least one of four characteristics (ignitability, corrosivity, reactivity, or toxicity), or appears on special EPA lists.

Heavy Metals: Metallic elements with high atomic weights; (e.g. mercury, chromium, cadmium, arsenic, and lead); can damage living things at low concentrations and tend to accumulate in the food chain.

Herbicide: A chemical pesticide designed to control or destroy plants, weeds, or grasses.

Holding Pond: A pond or reservoir, usually made of earth, built to store polluted runoff.

Household Hazardous Waste: Hazardous products used and disposed of by residential as opposed to industrial consumers. Includes paints, stains, varnishes, solvents, pesticides, and other materials or products containing volatile chemicals that can catch fire, react or explode, or that are corrosive or toxic.

Household Waste (Domestic Waste): Solid waste, composed of garbage and rubbish, which normally originates in a private home or apartment house. Domestic waste may contain a significant amount of toxic or hazardous waste.

Hydrocarbons (HC): Chemical compounds that consist entirely of carbon and hydrogen.

Hydrology: The science dealing with the properties, distribution, and circulation of water.

Hydrophilic: Having a strong affinity for water.

Hydrophobic: Having a strong aversion for water.

Hypoxia/Hypoxic Waters: Waters with dissolved oxygen concentrations of less than 2 ppm, the level generally accepted as the minimum required for most marine life to survive and reproduce.

-I-

Identification Code or EPA I.D. Number: The unique code assigned to each generator, transporter, and treatment, storage, or disposal facility by regulating agencies to facilitate identification and tracking of chemicals or hazardous waste.

Impermeable: Not easily penetrated. The property of a material or soil that does not allow, or allows only with great difficulty, the movement or passage of water.

Incompatible Waste: A waste unsuitable for mixing with another waste or material because it may react to form a hazard.

Indirect Discharge: Introduction of pollutants from a non-domestic source into a publicly owned waste-treatment system. Indirect dischargers can be commercial or industrial facilities whose wastes enter local sewers.

Indirect Source: Any facility or building, property, road or parking area that attracts motor vehicle traffic and, indirectly, causes pollution.

Industrial Process Waste: Residues produced during manufacturing operations.

Industrial Waste: Unwanted materials from an industrial operation; may be liquid, sludge, solid, or hazardous waste.

Inert Ingredient: Pesticide components such as solvents, carriers, dispersants, and surfactants that are not active against target pests. Not all inert ingredients are innocuous.

Infiltration: 1. The penetration of water through the ground surface into sub-surface soil or the penetration of water from the soil into sewer or other pipes through defective joints, connections, or manhole walls. 2. The technique of applying large volumes of waste water to land to penetrate the surface and percolate through the underlying soil. (See: [percolation](#).)

Infiltration Gallery: A sub-surface groundwater collection system, typically shallow in depth, constructed with open-jointed or perforated pipes that discharge collected water into a watertight chamber from which the water is pumped to treatment facilities and into the distribution system. Usually located close to streams or ponds.

Infiltration Rate: The quantity of water that can enter the soil in a specified time interval.

Influent: Water, wastewater, or other liquid flowing into a reservoir, basin, or treatment plant.

Insecticide: A pesticide compound specifically used to kill or prevent the growth of insects.

-J, K,

-L-

Lagoon: 1. A shallow pond where sunlight, bacterial action, and oxygen work to purify wastewater; also used for storage of wastewater or spent nuclear fuel rods. 2. Shallow body of water, often separated from the sea by coral reefs or sandbars.

Landscape: The traits, patterns, and structure of a specific geographic area, including its biological composition, its physical environment, and its anthropogenic or social patterns. An area where interacting ecosystems are grouped and repeated in similar form.

Large Quantity Generator: Person or facility generating more than 2200 pounds of hazardous waste per month. Such generators produce about 90 percent of the nation's hazardous waste, and are subject to all RCRA requirements.

Leachate: Water that collects contaminants as it trickles through wastes, pesticides or fertilizers. Leaching may occur in farming areas, feedlots, and landfills, and may result in hazardous substances entering surface water, ground water, or soil.

Leaching: The process by which soluble constituents are dissolved and filtered through the soil by a percolating fluid. (See: [leachate](#).)

Lead (Pb): A heavy metal that is hazardous to health if breathed or swallowed. Its use in gasoline, paints, and plumbing compounds has been sharply restricted or eliminated by federal laws and regulations. (See: [heavy metals](#).)

Listed Waste: Wastes listed as hazardous under RCRA but which have not been subjected to the Toxic Characteristics Listing Process because the dangers they present are considered self-evident.

Litter: 1. The highly visible portion of solid waste carelessly discarded outside the regular garbage and trash collection and disposal system. 2. leaves and twigs fallen from forest trees.

Local Emergency Planning Committee (LEPC): A committee appointed by the state emergency response commission, as required by SARA Title III, to formulate a comprehensive emergency plan for its jurisdiction.

-M-

Managerial Controls: Methods of nonpoint source pollution control based on decisions about managing agricultural wastes or application times or rates for agrochemicals.

Manifest: A one-page form used by haulers transporting waste that lists EPA identification numbers, type and quantity of waste, the generator it originated from, the transporter that shipped it, and the storage or disposal facility to which it is being shipped. It includes copies for all participants in the shipping process.

Manifest System: Tracking of hazardous waste from "cradle-to-grave" (generation through disposal) with accompanying documents known as manifests. (See: [cradle to grave.](#))

Manufacturer's Formulation: A list of substances or component parts as described by the maker of a coating, pesticide, or other product containing chemicals or other substances.

Marine Sanitation Device: Any equipment or process installed on board a vessel to receive, retain, treat, or discharge sewage.

Marsh: A type of wetland that does not accumulate appreciable peat deposits and is dominated by herbaceous vegetation. Marshes may be either fresh or saltwater, tidal or non-tidal. (See: [wetlands.](#))

Material Safety Data Sheet (MSDS): A compilation of information required under the OSHA Communication Standard on the identity of hazardous chemicals, health, and physical hazards, exposure limits, and precautions. Section 311 of SARA requires facilities to submit MSDSs under certain circumstances.

Maximum Contaminant Level: The maximum permissible level of a contaminant in water delivered to any user of a public system. MCLs are enforceable standards.

Mechanical Separation: Using mechanical means to separate waste into various components.

Minimization: A comprehensive program to minimize or eliminate wastes, usually applied to wastes at their point of origin. (See: [waste minimization.](#))

Monitoring: Periodic or continuous surveillance or testing to determine the level of compliance with statutory requirements and/or pollutant levels in various media or in humans, plants, and animals.

Mulch: A layer of material (wood chips, straw, leaves, etc.) placed around plants to hold moisture, prevent weed growth, and enrich or sterilize the soil.

Municipal Discharge: Discharge of effluent from waste water treatment plants which receive waste water from households, commercial establishments, and industries in the coastal drainage basin. Combined sewer/separate storm overflows are included in this category.

Municipal Sewage: Wastes (mostly liquid) originating from a community; may be composed of domestic wastewaters and/or industrial discharges.

Municipal Solid Waste: Common garbage or trash generated by industries, businesses, institutions, and homes.

-N-

National Estuary Program: A program established under the Clean Water Act Amendments of 1987 to develop and implement conservation and management plans for protecting estuaries and restoring and maintaining their chemical, physical, and biological integrity, as well as controlling point and nonpoint pollution sources.

National Pollutant Discharge Elimination System (NPDES): A provision of the Clean Water Act which prohibits discharge of pollutants into waters of the United States unless a special permit is issued by EPA, a state, or, where delegated, a tribal government on an Indian reservation.

Navigable Waters: Traditionally, waters sufficiently deep and wide for navigation by all, or specified vessels; such waters in the United States come under federal jurisdiction and are protected by certain provisions of the Clean Water Act.

Non-Point Sources: Diffuse pollution sources (i.e. without a single point of origin or not introduced into a receiving stream from a specific outlet). The pollutants are generally carried off the land by storm water. Common non-point sources are agriculture, forestry, urban, mining, construction, dams, channels, land disposal, saltwater intrusion, and city streets.

Non-Contact Cooling Water: Water used for cooling which does not come into direct contact with any raw material, product, byproduct, or waste.

Nutrient: Any substance assimilated by living things that promotes growth. The term is generally applied to nitrogen and phosphorus in wastewater, but is also applied to other essential and trace elements.

Nutrient Pollution: Contamination of water resources by excessive inputs of nutrients. In surface waters, excess algal production is a major concern.

-O-

Oil Spill: An accidental or intentional discharge of oil which reaches bodies of water. Can be controlled by chemical dispersion, combustion, mechanical containment, and/or adsorption. Spills from tanks and pipelines can also occur away from water bodies, contaminating the soil, getting into sewer systems and threatening underground water sources.

Organic: 1. Referring to or derived from living organisms. 2. In chemistry, any compound containing carbon.

Organic Chemicals/Compounds: Naturally occurring (animal or plant-produced or synthetic) substances containing mainly carbon, hydrogen, nitrogen, and oxygen.

Organic Matter: Carbonaceous waste contained in plant or animal matter and originating from domestic or industrial sources.

Organism: Any form of animal or plant life.

Outfall: The place where effluent is discharged into receiving waters.

Overburden: Rock and soil cleared away before mining.

-P-

Packaging: The assembly of one or more containers and any other components necessary to ensure minimum compliance with a program's storage and shipment packaging requirements. Also, the containers, etc. involved.

Parameter: A variable, measurable property whose value is a determinant of the characteristics of a system; e.g. temperature, pressure, and density are parameters of the atmosphere.

Particulates: 1. Fine liquid or solid particles such as dust, smoke, mist, fumes, or smog, found in air or emissions. 2. Very small solids suspended in water; they can vary in size, shape, density and electrical charge and can be gathered together by coagulation and flocculation.

Pathogens: Microorganisms (e.g., bacteria, viruses, or parasites) that can cause disease in humans, animals and plants.

Permit: An authorization, license, or equivalent control document issued by EPA or an approved state agency to implement the requirements of an environmental regulation; e.g. a permit to operate a wastewater treatment plant or to operate a facility that may generate harmful emissions.

Pest: An insect, rodent, nematode, fungus, weed or other form of terrestrial or aquatic plant or animal life that is injurious to health or the environment.

Pesticide: Substances or mixture thereof intended for preventing, destroying, repelling, or mitigating any pest. Also, any substance or mixture intended for use as a plant regulator, defoliant, or desiccant.

Petroleum: Crude oil or any fraction thereof that is liquid under normal conditions of temperature and pressure. The term includes petroleum-based substances comprising a complex blend of hydrocarbons derived from crude oil through the process of separation, conversion, upgrading, and finishing, such as motor fuel, jet oil, lubricants, petroleum solvents, and used oil.

Petroleum Derivatives: Chemicals formed when gasoline breaks down in contact with ground water.

pH: An expression of the intensity of the basic or acid condition of a liquid; may range from 0 to 14, where 0 is the most acid and 7 is neutral. Natural waters usually have a pH between 6.5 and 8.5.

Phosphates: Certain chemical compounds containing phosphorus.

Phosphorus: An essential chemical food element that can contribute to the eutrophication of lakes and other water bodies. Increased phosphorus levels result from discharge of phosphorus-containing materials into surface waters.

Plume: 1. A visible or measurable discharge of a contaminant from a given point of origin. Can be visible or thermal in water, or visible in the air as, for example, a plume of smoke. 2 The area of radiation leaking from a damaged reactor. 3. Area downwind within which a release could be dangerous for those exposed to leaking fumes.

Point Source: A stationary location or fixed facility from which pollutants are discharged; any single identifiable source of pollution; e.g. a pipe, ditch, ship, ore pit, factory smokestack.

Pollutant: Generally, any substance introduced into the environment that adversely affects the usefulness of a resource or the health of humans, animals, or ecosystems..

Pollution: Generally, the presence of a substance in the environment that because of its chemical composition or quantity prevents the functioning of natural processes and produces undesirable environmental and health effects. Under the Clean Water Act, for example, the term has been defined as the man-made or man-induced alteration of the physical, biological, chemical, and radiological integrity of water and other media.

Pollution Prevention: 1. Identifying areas, processes, and activities which create excessive waste products or pollutants in order to reduce or prevent them through, alteration, or eliminating a process. Such activities, consistent with the Pollution Prevention Act of 1990, are conducted across all EPA programs and can involve cooperative efforts with such agencies as the Departments of Agriculture and Energy. 2. EPA has initiated a number of voluntary programs in which industrial, or commercial or "partners" join with EPA in promoting activities that conserve energy, conserve and protect water supply, reduce emissions or find ways of utilizing them as energy resources, and reduce the waste stream. Among these are: Agstar, to reduce methane emissions through manure management. Climate Wise, to lower industrial greenhouse-gas emissions and energy costs. Coalbed Methane Outreach, to boost methane recovery at coal mines. Design for the Environment, to foster including environmental considerations in product design and processes. Energy Star programs, to promote energy efficiency in commercial and residential buildings, office equipment, transformers, computers, office equipment, and home appliances. Environmental Accounting, to help businesses identify environmental costs and factor them into management decision making. Green Chemistry, to promote and recognize cost-effective breakthroughs in chemistry that prevent pollution. Green Lights, to spread the use of energy-efficient lighting technologies. Indoor Environments, to reduce risks from indoor-air pollution. Landfill Methane Outreach, to develop landfill gas-to-energy projects. Natural Gas Star, to reduce methane emissions from the natural gas industry. Ruminant Livestock Methane, to reduce methane emissions from ruminant livestock. Transportation Partners, to reduce carbon dioxide emissions from the transportation sector. Voluntary Aluminum Industrial Partnership, to reduce perfluorocarbon emissions from the primary aluminum industry. WAVE, to promote efficient water use in the lodging industry. WastewiSe, to reduce business-generated

solid waste through prevention, reuse, and recycling. (See: [Common Sense Initiative](#) and [Project XL](#).)

Pretreatment: Processes used to reduce, eliminate, or alter the nature of wastewater pollutants from non-domestic sources before they are discharged into publicly owned treatment works (POTWs).

Process Wastewater: Any water that comes into contact with any raw material, product, byproduct, or waste.

-Q-

Quality Assurance/Quality Control: A system of procedures, checks, audits, and corrective actions to ensure that all EPA research design and performance, environmental monitoring and sampling, and other technical and reporting activities are of the highest achievable quality.

-R-

Raw Sewage: Untreated wastewater and its contents.

Raw Water: Intake water prior to any treatment or use.

Receiving Waters: A river, lake, ocean, stream or other watercourse into which wastewater or treated effluent is discharged.

Receptor: Ecological entity exposed to a stressor.

Recharge Area: A land area in which water reaches the zone of saturation from surface infiltration, e.g., where rainwater soaks through the earth to reach an aquifer.

Recharge Rate: The quantity of water per unit of time that replenishes or refills an aquifer.

Recharge: The process by which water is added to a zone of saturation, usually by percolation from the soil surface; e.g., the recharge of an aquifer.

Reclamation: (In recycling) Restoration of materials found in the waste stream to a beneficial use which may be for purposes other than the original use.

Recycle/Reuse: Minimizing waste generation by recovering and reprocessing usable products that might otherwise become waste (i.e. recycling of aluminum cans, paper, and bottles, etc.).

Red Tide: A proliferation of a marine plankton toxic and often fatal to fish, perhaps stimulated by the addition of nutrients. A tide can be red, green, or brown, depending on the coloration of the plankton.

Release: Any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment of a

hazardous or toxic chemical or extremely hazardous substance. Remedial Action (RA): The actual construction or implementation phase of a Superfund site cleanup that follows remedial design.

Remediation: 1. Cleanup or other methods used to remove or contain a toxic spill or hazardous materials from a Superfund site; 2. for the Asbestos Hazard Emergency Response program, abatement methods including evaluation, repair, enclosure, encapsulation, or removal of greater than 3 linear feet or square feet of asbestos-containing materials from a building.

Residential Use: Pesticide application in and around houses, office buildings, apartment buildings, motels, and other living or working areas.

Residential Waste: Waste generated in single and multi-family homes, including newspapers, clothing, disposable tableware, food packaging, cans, bottles, food scraps, and yard trimmings other than those that are diverted to backyard composting. (See: [Household hazardous waste.](#))

Residual: Amount of a pollutant remaining in the environment after a natural or technological process has taken place; e.g., the sludge remaining after initial wastewater treatment, or particulates remaining in air after it passes through a scrubbing or other process.

Reuse: Using a product or component of municipal solid waste in its original form more than once; e.g., refilling a glass bottle that has been returned or using a coffee can to hold nuts and bolts.

Reverse Osmosis: A treatment process used in water systems by adding pressure to force water through a semi-permeable membrane. Reverse osmosis removes most drinking water contaminants. Also used in wastewater treatment. Large-scale reverse osmosis plants are being developed.

Riparian Habitat: Areas adjacent to rivers and streams with a differing density, diversity, and productivity of plant and animal species relative to nearby uplands.

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.

Rubbish: Solid waste, excluding food waste and ashes, from homes, institutions, and workplaces.

Run-Off: That part of precipitation, snow melt, or irrigation water that runs off the land into streams or other surface-water. It can carry pollutants from the air and land into receiving waters.

-S-

Sacrificial Anode: An easily corroded material deliberately installed in a pipe or intake to give it up (sacrifice it) to corrosion while the rest of the water supply facility remains relatively corrosion-free.

Safe: Condition of exposure under which there is a practical certainty that no harm will result to exposed individuals.

Salinity: The percentage of salt in water.

Salvage: The utilization of waste materials.

Sand Filters: Devices that remove some suspended solids from sewage. Air and bacteria decompose additional wastes filtering through the sand so that cleaner water drains from the bed.

Sanitary Sewers: Underground pipes that carry off only domestic or industrial waste, not storm water.

Sanitary Survey: An on-site review of the water sources, facilities, equipment, operation and maintenance of a public water system to evaluate the adequacy of those elements for producing and distributing safe drinking water.

Secondary Treatment: The second step in most publicly owned waste treatment systems in which bacteria consume the organic parts of the waste. It is accomplished by bringing together waste, bacteria, and oxygen in trickling filters or in the activated sludge process. This treatment removes floating and settleable solids and about 90 percent of the oxygen-demanding substances and suspended solids. Disinfection is the final stage of secondary treatment. (See: [primary, tertiary treatment](#).)

Sedimentation: Letting solids settle out of wastewater by gravity during treatment.

Sediments: Soil, sand, and minerals washed from land into water, usually after rain. They pile up in reservoirs, rivers and harbors, destroying fish and wildlife habitat, and clouding the water so that sunlight cannot reach aquatic plants. Careless farming, mining, and building activities will expose sediment materials, allowing them to wash off the land after rainfall.

Semivolatile Organic Compounds: Organic compounds that volatilize slowly at standard temperature (20 degrees C and 1 atm pressure).

Septic System: An on-site system designed to treat and dispose of domestic sewage. A typical septic system consists of tank that receives waste from a residence or business and a system of tile lines or a pit for disposal of the liquid effluent (sludge) that remains after decomposition of the solids by bacteria in the tank and must be pumped out periodically.

Septic Tank: An underground storage tank for wastes from homes not connected to a sewer line. Waste goes directly from the home to the tank. (See: [septic system](#).)

Settleable Solids: Material heavy enough to sink to the bottom of a wastewater treatment tank.

Sewage Sludge: Sludge produced at a Publicly Owned Treatment Works, the disposal of which is regulated under the Clean Water Act.

Sewage: The waste and wastewater produced by residential and commercial sources and discharged into sewers.

Sewer: A channel or conduit that carries wastewater and storm-water runoff from the source to a treatment plant or receiving stream. "Sanitary" sewers carry household, industrial, and commercial waste. "Storm" sewers carry runoff from rain or snow. "Combined" sewers handle both.

Sewerage: The entire system of sewage collection, treatment, and disposal.

Site: An area or place within the jurisdiction of the EPA and/or a state.

Sludge: A semi-solid residue from any of a number of air or water treatment processes; can be a hazardous waste.

Small Quantity Generator (SQG-sometimes referred to as "Squeegee"): Persons or enterprises that produce 220-2200 pounds per month of hazardous waste; they are required to keep more records than conditionally exempt generators. The largest category of hazardous waste generators, SQGs, include automotive shops, dry cleaners, photographic developers, and many other small businesses. (See: [conditionally exempt generators.](#))

Smog: Air pollution typically associated with oxidants. (See: [photochemical smog.](#))

Smoke: Particles suspended in air after incomplete combustion.

Soil and Water Conservation Practices: Control measures consisting of managerial, vegetative, and structural practices to reduce the loss of soil and water.

Soil Erodibility: An indicator of a soil's susceptibility to raindrop impact, runoff, and other erosive processes.

Sole-Source Aquifer: An aquifer that supplies 50-percent or more of the drinking water of an area.

Solid Waste Disposal: The final placement of refuse that is not salvaged or recycled.

Solid Waste: Non-liquid, non-soluble materials ranging from municipal garbage to industrial wastes that contain complex and sometimes hazardous substances. Solid wastes also include sewage sludge, agricultural refuse, demolition wastes, and mining residues. Technically, solid waste also refers to liquids and gases in containers.

Solid Waste Management: Supervised handling of waste materials from their source through recovery processes to disposal.

Special Waste: Items such as household hazardous waste, bulky wastes (refrigerators, pieces of furniture, etc.) tires, and used oil.

Spill Prevention, Control, and Countermeasures Plan (SPCC): Plan covering the release of hazardous substances as defined in the Clean Water Act.

Sprawl: Unplanned development of open land.

Spring: Ground water seeping out of the earth where the water table intersects the ground surface.

Stakeholder: Any organization, governmental entity, or individual that has a stake in or may be impacted by a given approach to environmental regulation, pollution prevention, energy conservation, etc.

State Emergency Response Commission (SERC): Commission appointed by each state governor according to the requirements of SARA Title III. The SERCs designate emergency planning districts, appoint local emergency planning committees, and supervise and coordinate their activities.

Submerged Aquatic Vegetation: Vegetation that lives at or below the water surface; an important habitat for young fish and other aquatic organisms.

Surface Runoff: Precipitation, snow melt, or irrigation water in excess of what can infiltrate the soil surface and be stored in small surface depressions; a major transporter of non-point source pollutants in rivers, streams, and lakes..

Surface Water: All water naturally open to the atmosphere (rivers, lakes, reservoirs, ponds, streams, impoundments, seas, estuaries, etc.)

Suspended Solids: Small particles of solid pollutants that float on the surface of, or are suspended in, sewage or other liquids. They resist removal by conventional means.

Swamp: A type of wetland dominated by woody vegetation but without appreciable peat deposits. Swamps may be fresh or salt water and tidal or non-tidal. (See: [wetlands](#).)

-T-

Tidal Marsh: Low, flat marshlands traversed by channels and tidal hollows, subject to tidal inundation; normally, the only vegetation present is salt-tolerant bushes and grasses. (See: [wetlands](#).)

Topography: The physical features of a surface area including relative elevations and the position of natural and man-made (anthropogenic) features.

Total Petroleum Hydrocarbons (TPH): Measure of the concentration or mass of petroleum hydrocarbon constituents present in a given amount of soil or water. The word "total" is a misnomer--few, if any, of the procedures for quantifying hydrocarbons can measure all of them in a given sample. Volatile ones are usually lost

in the process and not quantified and non-petroleum hydrocarbons sometimes appear in the analysis.

Total Suspended Solids (TSS): A measure of the suspended solids in wastewater, effluent, or water bodies, determined by tests for "total suspended non-filterable solids." (See: [suspended solids](#).) Total Suspended Particles (TSP): A method of monitoring airborne particulate matter by total weight.

Toxic Chemical: Any chemical listed in EPA rules as "Toxic Chemicals Subject to Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986."

Toxic Pollutants: Materials that cause death, disease, or birth defects in organisms that ingest or absorb them. The quantities and exposures necessary to cause these effects can vary widely.

Toxic Substance: A chemical or mixture that may present an unreasonable risk of injury to health or the environment.

Toxic Waste: A waste that can produce injury if inhaled, swallowed, or absorbed through the skin.

Toxicity: The degree to which a substance or mixture of substances can harm humans or animals. Acute toxicity involves harmful effects in an organism through a single or short-term exposure. Chronic toxicity is the ability of a substance or mixture of substances to cause harmful effects over an extended period, usually upon repeated or continuous exposure sometimes lasting for the entire life of the exposed organism. Subchronic toxicity is the ability of the substance to cause effects for more than one year but less than the lifetime of the exposed organism.

Transporter: Hauling firm that picks up properly packaged and labeled hazardous waste from generators and transports it to designated facilities for treatment, storage, or disposal. Transporters are subject to EPA and DOT hazardous waste regulations.

Trash: Material considered worthless or offensive that is thrown away. Generally defined as dry waste material, but in common usage it is a synonym for garbage, rubbish, or refuse.

Treated Wastewater: Wastewater that has been subjected to one or more physical, chemical, and biological processes to reduce its potential of being health hazard.

Treatment: (1) Any method, technique, or process designed to remove solids and/or pollutants from solid waste, waste-streams, effluents, and air emissions. (2) Methods used to change the biological character or composition of any regulated medical waste so as to substantially reduce or eliminate its potential for causing disease.

Treatment Plant: A structure built to treat wastewater before discharging it into the environment. Treatment, Storage, and Disposal Facility: Site where a hazardous

substance is treated, stored, or disposed of. TSD facilities are regulated by EPA and states under RCRA.

-U-

Ultraviolet Rays: Radiation from the sun that can be useful or potentially harmful. UV rays from one part of the spectrum (UV-A) enhance plant life. UV rays from other parts of the spectrum (UV-B) can cause skin cancer or other tissue damage. The ozone layer in the atmosphere partly shields us from ultraviolet rays reaching the earth's surface.

Urban Runoff: Storm water from city streets and adjacent domestic or commercial properties that carries pollutants of various kinds into the sewer systems and receiving waters.

Used Oil: Spent motor oil from passenger cars and trucks collected at specified locations for recycling (not included in the category of municipal solid waste).

-V-

Variance: Government permission for a delay or exception in the application of a given law, ordinance, or regulation.

Vegetative Controls: Non-point source pollution control practices that involve vegetative cover to reduce erosion and minimize loss of pollutants. Vehicle Miles Travelled (VMT): A measure of the extent of motor vehicle operation; the total number of vehicle miles travelled within a specific geographic area over a given period of time.

Volatile: Any substance that evaporates readily.

Volatile Liquids: Liquids which easily vaporize or evaporate at room temperature. Volatile Organic Compound (VOC): Any organic compound that participates in atmospheric photochemical reactions except those designated by EPA as having negligible photochemical reactivity. Volatile Solids Those solids in water or other liquids that are lost on ignition of the dry solids at 550° centigrade.

-W-

Waste: 1. Unwanted materials left over from a manufacturing process. 2. Refuse from places of human or animal habitation.

Waste Minimization: Measures or techniques that reduce the amount of wastes generated during industrial production processes; term is also applied to recycling and other efforts to reduce the amount of waste going into the waste stream.

Waste Stream: The total flow of solid waste from homes, businesses, institutions, and manufacturing plants that is recycled, burned, or disposed of in landfills, or segments thereof such as the "residential waste stream" or the "recyclable waste stream."

Wastewater: The spent or used water from a home, community, farm, or industry that contains dissolved or suspended matter. **Water Pollution:** The presence in water of enough harmful or objectionable material to damage the water's quality.

Water Quality Criteria: Levels of water quality expected to render a body of water suitable for its designated use. Criteria are based on specific levels of pollutants that would make the water harmful if used for drinking, swimming, farming, fish production, or industrial processes.

Water Quality Standards: State-adopted and EPA-approved ambient standards for water bodies. The standards prescribe the use of the water body and establish the water quality criteria that must be met to protect designated uses.

Water Quality-Based Limitations: Effluent limitations applied to dischargers when mere technology-based limitations would cause violations of water quality standards. Usually applied to discharges into small streams.

Water Quality-Based Permit: A permit with an effluent limit more stringent than one based on technology performance. Such limits may be necessary to protect the designated use of receiving waters (e.g. recreation, irrigation, industry or water supply).

Water Solubility: The maximum possible concentration of a chemical compound dissolved in water. If a substance is water soluble it can very readily disperse through the environment.

Water Table: The level of groundwater.

Watershed Approach: A coordinated framework for environmental management that focuses public and private efforts on the highest priority problems within hydrologically-defined geographic areas taking into consideration both ground and surface water flow.

Watershed Area: A topographic area within a line drawn connecting the highest points uphill of a drinking water intake into which overland flow drains.

Watershed: The land area that drains into a stream; the watershed for a major river may encompass a number of smaller watersheds that ultimately combine at a common point.

Wetlands: An area that is saturated by surface or ground water with vegetation adapted for life under those soil conditions, as swamps, bogs, fens, marshes, and estuaries.

Wildlife Refuge: An area designated for the protection of wild animals, within which hunting and fishing are either prohibited or strictly controlled.

-X-Y-Z-

Regulatory References and Handbooks

The following subsections contain issue specific material including “issue profiles”, “fact sheets”, handbooks and other helpful publications as well as web-site references for all the laws and rules. Each regulatory area has a subsection.

In most cases actual law or rule text is provided on the Brightwork CD included with the manual.

Discharges to Water (including groundwater)

Please see the enclosed Brightwork CD for regulatory texts.

Discharge of Pollutants to Water - 38 M.R.S.A § Section 413
<http://janus.state.me.us/legis/statutes/38/title38sec413.html>

Discharge of Pollutants from Motor Vehicles (Pumpout Requirements) 38 M.R.S.A § Section 423
<http://janus.state.me.us/legis/statutes/38/title38sec423.pdf>
<http://janus.state.me.us/legis/statutes/38/title38sec423-B.html>

Maine Subsurface Wastewater Disposal Rules - 144A CMR 241
<ftp://ftp.state.me.us/pub/sos/cec/rcn/apa/10/144/144c241.doc>



Maine DEP Pumpout Grant Program

The Maine Department of Environmental Protection (MEDEP) has managed the Boat Pumpout Grant Program (PGP) since 1999. The Maine PGP is funded by the federal Clean Vessel Act. The purpose of the PGP is to reduce the pollution from recreational vessels due to improperly disposed waste from malfunctioning or non-existent marine sanitation devices (MSDs). Through the PGP, MEDEP hopes to better eliminate the barriers to proper MSD use by helping to provide convenient pumpout stations along the Maine coast. The goals are to provide adequate holding tank pumpout locations along the entire coast, further improving accessibility to pumpout facilities by locating mobile pumpout vessels in strategic locations along the Maine coast.

In addition to administering the PGP, the MEDEP is responsible for ensuring that all facilities are in compliance with state law that requires all marinas and boatyards with 18 or more slips or moorings for boats greater than 24" in length have a pumpout system*. If your facility is over this threshold and you do not have a pumpout system, please contact MEDEP for more information on the requirements and the grant program.

So, What Does the PGP Do?

The primary purpose of the pumpout grant program is to provide funding for the installation of pumpout systems. **MEDEP will pay 75% of the cost of system purchase (90% for municipalities), installation, and construction costs associated with installation of the system including connection to a public sewer line or installation of a holding tank.**

A new facet of the Maine PGP is the addition of a *reimbursement* grant for operations and maintenance (O&M) costs. **MEDEP will pay 75% of the O&M of the pumpout system purchase (90% for municipalities)** including:

- ✓ Cost of waste disposal from the holding tank.
- ✓ Cost of waste disposal to the public sewer.
- ✓ Electricity cost of the pumpout station (if that cost can be separated from the rest of the facility).
- ✓ Personnel costs (salary + overhead) to operate the pumpout system (the cost of that person actually operating the system).
- ✓ Cost of any repair that is not covered under warranty as long as the cost is not due to negligence or misuse.

For more information about boat sewage, or the pumpout grant program, please contact Pam Parker at (207)287-7905 or via e-mail at pamela.d.parker@maine.gov, or visit the Maine PGP website at <http://www.MaineDEP.com>, keyword "pumpout" or <http://www.state.me.us/dep/blwq/docgrant/pumpout.htm>



DEP ISSUE PROFILE

Floor Drain Management

issued: July 2003

contact: (207) 287-3901

Background

Floor drains are collection points which remove wash water and other liquid wastes from a work area and carry them away through pipes or ditches for disposal. Every year Mainers improperly dispose of thousands of gallons of wastewater through floor drains – a practice with the potential to contaminate soil and ground water and threaten drinking water supplies. If your business has floor drains, here are four steps to help you evaluate their risk and identify options to fix this environmental hazard.

STEP 1: Find out where your floor drains go.

Have you checked your floor drains lately? Do you know where they go? If you are unsure where your floor drains go, check the building's blueprint or speak with your local code enforcement officer about conducting a dye test. Identifying where your floor drains are connected is a vital first step.

Floor drains connected to a municipal sewer system are the DEP-preferred connection option. If your floor drains are connected to a municipal sewer system, make sure your local sewer district knows what types of liquid wastes could enter your floor drains. Your local sewer district may require you make an effort to keep some types of pollutants from entering the drains, possibly by developing a spill prevention and containment plan or installing an oil/water separator.

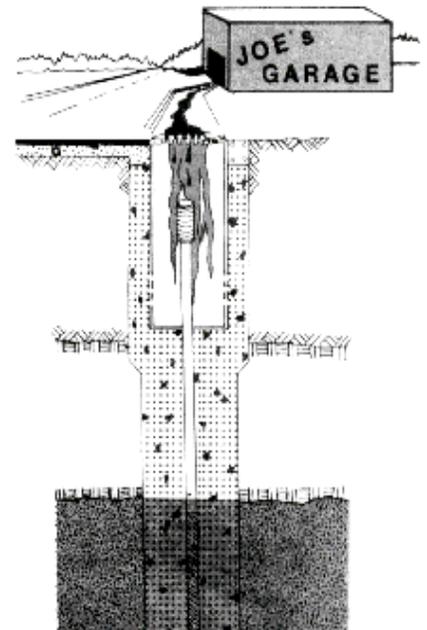
But, not everyone has access to a municipal sewer system. Without access to a municipal sewer, acceptable connection options are limited by the types and amounts of liquid wastes potentially flowing to your floor drains.

STEP 2: Know what goes down your floor drains.

Is that just soapy wash water from your vehicles or does it contain gasoline, oils and cleaning solvents? Are process chemicals lost when equipment is cleaned or solutions changed? Thinking about what goes down your floor drains may give you a little headache now, but it's better than the BIG financial and public relations headache that could await you if wastewater from your floor drains pollute local drinking water. Consider not only what you *know* goes down floor drains but also what *might* drip, leak, spill or wash into them.

Generally, wastewater can be divided into two broad categories based on its potential risk to contaminate ground water:

- ♦ **LOW RISK** - This is wastewater that a normal household would produce, including animal and vegetable matter, soap and diluted domestic-use cleaning solutions. Wastewater from commercial and industrial sources is also considered **LOW RISK** as long as both the ingredients and their concentrations



are similar to household waste water. Businesses which typically produce this kind of wastewater include restaurants, schools, hotels and some veterinary clinics. **LOW RISK** wastewater also includes wash water solely from the exterior of cars and light trucks, snowmelt from vehicles, and most non-contact cooling water.

Type of Business	Potential Pollutants to Floor Drains ¹
<ul style="list-style-type: none"> • Engine and equipment repair facilities (vehicles, aircraft, watercraft, etc.) 	<ul style="list-style-type: none"> • Various fuels, oils, degreasers, hydraulic fluids, cleaning solvents, antifreeze, metal waste
<ul style="list-style-type: none"> • Photoprocessors 	<ul style="list-style-type: none"> • Film developing solutions
<ul style="list-style-type: none"> • Commercial car and truck washes 	<ul style="list-style-type: none"> • Oil- and grease-contaminated wash water
<ul style="list-style-type: none"> • Meat packing and food processing facilities 	<ul style="list-style-type: none"> • Animal by-products, pathogens, high nitrogen waste water
<ul style="list-style-type: none"> • Pest control and lawn care companies and other commercial pesticide application services 	<ul style="list-style-type: none"> • Pesticides, fertilizers and pesticide-contaminated wash water

- ♦ **HIGH RISK** - This wastewater has ingredients, in types or concentrations, which you would not normally find in household waste water. This category includes wastewater which contains any pollutants such as those listed in the table to the left.

Even if the wastewater entering your floor drains is LOW RISK, but the potential exists for any pollutants to drip, leak, spill or wash into the floor drains, you must consider your liquid waste as HIGH RISK.

STEP 3: Make the right floor drain connection.

If you have **LOW RISK** wastewater entering your floor drains, here are

your options where no municipal sewer is available. **If municipal sewer service is available, the DEP strongly encourages you to contact your local sewer district about connecting the floor drains to the sewer before pursuing one of these options.**

Option 1: Connect your floor drains to an approved subsurface disposal system. Floor drains may be connected to a subsurface waste water disposal (septic) system designed and installed in accordance with the *Maine Subsurface Waste Water Disposal Rules* (144A CMR 241) if the following criteria are met:

- ♦ the disposal area is properly sized to handle the potential flow from the drains;
- ♦ there is no significant potential for pollutants to drip, spill or wash into the floor drains; and
- ♦ the floor drains are necessary for the disposal of wash water or other liquid waste similar to household waste water.

Under some circumstances, floor drains discharging **LOW RISK** wastewater to a subsurface system must also be registered with the DEP as a requirement of the Federal Underground Injection Control (UIC) Program. Contact the DEP at (207)287-7814 or visit <http://www.MaineDEP.com>, Keyword: **UIC** for more information about the UIC Program and a registration form.

Option 2: Connect your floor drains to a pipe which discharges on top of the ground. Floor drains may be piped to the top of the ground if these criteria are met:

- ♦ the pipe must discharge on top of the ground in an area that is accessible for inspection;

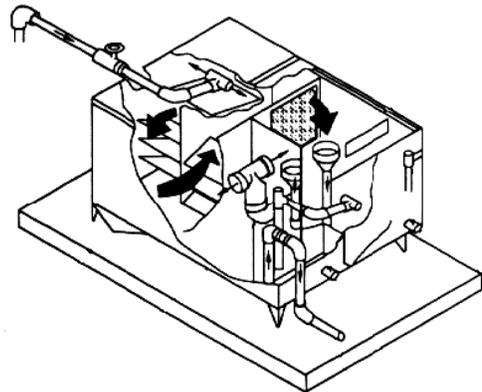
- ◆ the pipe must not discharge directly into a ditch, stream, wetland, pond or other surface water body;
- ◆ there is no significant potential for pollutants to drip, leak, spill or wash into the floor drains; and
- ◆ the volume of wastewater does not exceed 60 gallons per day, and proper erosion control methods are used for discharge volumes over 30 gallons per day.

DEP recommends the installation of an oil/water separator if snow melt or waste water is generated from cars, trucks or other equipment utilizing engines which run on gasoline, diesel or aviation fuel. However, oil/water separators work best when they receive **only** oils and water. Water-soluble solvents and some gasoline additives will pass through an oil/water separator and be discharged with the water. Some detergents will also emulsify the oil and allow it to pass through the separator as well. Finally, oil/water separators must be inspected and cleaned routinely, and the waste generated from cleaning the separator must be disposed of in an approved manner.

If you have **HIGH RISK** wastewater entering your floor drains or if the potential exists that it could, you have the following options. **Again, if municipal sewer service is available, the DEP strongly encourages you to contact your local sewer district about connecting the floor drains to the system before pursuing one of these options.**

Option 1: Seal the floor drains. Ask yourself: Are the floor drains really needed? **Floor drains should be avoided or eliminated where possible.** A bag of cement, a little water, a trowel -- and you're on your way.

Option 2: Connect to a holding tank. A holding tank is a stationary device used to accumulate and store **HIGH RISK** wastewater. A holding tank does not discharge wastewater to surface or ground water or onto the surface of the ground: it is designed and constructed to facilitate collection of wastewater for ultimate disposal at another site. Proper disposal may mean having the tank contents trucked away as hazardous or special waste by a licensed transporter or, after getting approval from the sanitary district, shipped to a licensed waste water treatment plant. For more information on holding tanks, see *DEP Issue Profile: Recommended Practices for Non-Hazardous, Industrial Wastewater Holding Tanks (April 2003)*.



Option 3: Separate the facility into two areas by building a berm. All activities which could create **HIGH RISK** wastewater would be performed in an area where floor drains are sealed or connected to a holding tank (see *Option 2*). The other area -- the **LOW RISK** waste water area -- could be served by floor drains if certain criteria are strictly met (see *LOW RISK options*, page 2). This is appropriate for many fleet maintenance buildings; the **HIGH RISK** wastewater area is used for changing fluids and repair work and the **LOW RISK** wastewater area is used for vehicle washing or catching melt-water prior to servicing. Appropriate activities in each area need to be strictly observed and you should have a spill prevention, control and clean-up plan in case **HIGH RISK** pollutants accidentally make their way into the **LOW RISK** area.

Option 4: Obtain a waste discharge license for subsurface disposal of wastewater. Businesses that generate a significant volume of **HIGH RISK** wastewater and for whom the above options are not practical may apply for a waste discharge license from the DEP for the installation, operation and

maintenance of a subsurface waste water disposal system. Examples of such businesses include commercial car washes, food processors, drinking water treatment plants and sludge storage sites. Contact the DEP's Water Licensing Unit at (207)287-3901 for more information about waste discharge licenses.

STEP 4: Notify the DEP.

Whether you've sealed your floor drains with cement, connected them to a holding tank or chosen one of the other options mentioned here, you must notify the DEP in writing about your action. The DEP uses information about floor drains to assess potential threats to ground water quality. The steps you take to eliminate or modify risky floor drain practices should be noted by us!

The Federal UIC Program also requires business owner to notify the DEP thirty (30) days prior to closing floor drains in motor vehicle repair areas (also known as Class V motor vehicle waste disposal wells). Please send closure and/or pre-closure notification and direct any questions to:

Underground Injection Control Program
Maine Dept. of Environmental Protection
Bureau of Land and Water Quality
17 State House Station
Augusta, ME 04333-0017

Tel.: 207-287-3901
FAX: 207-287-7191
E-mail:
Erich.D.Kluck@Maine.gov

Visit us at <http://www.MaineDEP.com> Keyword: **floordrain**

DEPLW0079-B2003

Air

Please see the enclosed Brightwork CD for regulatory texts.

Discharge of Pollutants to the Air - 38 M.R.S.A § 592-A (1) and § 590
<http://janus.state.me.us/legis/statutes/38/title38sec592-A.html>

Solid, Special, Universal and Hazardous Waste

Please see the enclosed Brightwork CD for regulatory texts and

- ✓ The Hazardous Waste Generators Handbook
- ✓ The Universal Waste Handbook
- ✓ Solid Waste Guidance

Hazardous Wastes Regulations - Maine Hazardous Waste Management Rules Chapters 850-857.

<http://www.maine.gov/dep/rwm/hazardouswaste/index.htm#wr>

<http://www.maine.gov/dep/rwm/hazardouswaste/rcrafax.htm>

<http://janus.state.me.us/legis/statutes/38/title38ch16-Bsec0.html>

Emergency Planning and Community Right to know Act (EPCRA) – Superfund Amendments and Reauthorization Act of 1986, Title III and

<http://yosemite.epa.gov/oswer/ceppoweb.nsf/content/epcraOverview.htm#fact>

http://yosemite.epa.gov/oswer/ceppoehs.nsf/EHS_Profile?openform

State EPCRA 37-B M.R.S.A Chapter 13 §791-806

<http://janus.state.me.us/legis/statutes/37-B/title37-Bsec791.html>

<http://janus.state.me.us/legis/statutes/37-B/title37-Bsec792.html>

<http://janus.state.me.us/legis/statutes/37-B/title37-Bsec793.html>

<http://janus.state.me.us/legis/statutes/37-B/title37-Bsec794.html>

<http://janus.state.me.us/legis/statutes/37-B/title37-Bsec795.html>

<http://janus.state.me.us/legis/statutes/37-B/title37-Bsec796.html>

<http://janus.state.me.us/legis/statutes/37-B/title37-Bsec797.html>

<http://janus.state.me.us/legis/statutes/37-B/title37-Bsec798.html>

<http://janus.state.me.us/legis/statutes/37-B/title37-Bsec799.html>

<http://janus.state.me.us/legis/statutes/37-B/title37-Bsec801.html>

<http://janus.state.me.us/legis/statutes/37-B/title37-Bsec804.html>

<http://janus.state.me.us/legis/statutes/37-B/title37-Bsec805.html>

<http://janus.state.me.us/legis/statutes/37-B/title37-Bsec806.html>

MAINE DEPARTMENT OF ENVIRONMENTAL PROTECTION
SOLVENT CONTAMINATED WIPERS MANAGEMENT

1. **ISSUE DESCRIPTION.** Solvents regulated under Maine's hazardous waste management laws pose health threats to people and our environment when improperly stored or disposed of. It is the Maine Department of Environmental Protection's (DEP) goal to encourage the elimination of chlorinated solvents by seeking to reduce use by 80%, from a base year of 1999, by the year 2010 through the application of pollution prevention measures. The contribution of wipers¹ contaminated with chlorinated solvents to the waste stream is a concern for the DEP. Generators of solvent-containing wipers have alternatives that should be continuously evaluated.

2. **INTRODUCTION.** The DEP provides the following waste management guidance for wipers containing solvents having waste codes F001, F002, F003, F004 and F005 (F-listed), as listed in Maine's *Identification of Hazardous Wastes* rule, 06-096 CMR 850.3(C) (as amended July 20, 2004). These F-listed solvents will be referred to generically as "solvents."

This guidance is issued pending regulatory guidance and decisions on an exemption request to the United States Environmental Protection Agency (EPA) from a variety of states and regulated entities that seek an interpretation on the applicability of the so called "mixture rule" to solvent-containing wipers. DEP has received a similar request. The applicability of RCRA to these wipers is at issue because the law requires management as hazardous waste of any material mixed with another that, by definition, is hazardous waste. Since no *de minimus* level of contamination is defined in federal law, RCRA management requirements have historically been applied to solvent-containing wipers. While a determination by EPA is pending on this exemption, EPA deferred to its regional offices and states, allowing states leeway to formulate guidance on contaminated wipers.

3. **APPLICABILITY.** This guidance applies to all generators of hazardous waste, as defined in Maine's *Standards for Generators of Hazardous Waste* rule, 06-096 CMR 851.3(C).

4. **POLLUTION PREVENTION ANALYSIS.** Prior to implementing any wiper program under the terms and conditions of this guidance, generators of F-listed solvent waste streams are required to have documentation that applies to the site specifying that the following pollution prevention options

¹ Although "wipers" refers specifically to shop towels, rags and disposable wipes used in commercial and industrial settings, other non-saturated textiles (e.g., uniforms, floor mats) are subject to this guidance.

have been examined to the maximum extent possible and have documented that even after employing these options, the F-listed solvent could not be eliminated or substituted.¹ The options are (1) physical methods to clean including but not limited to brushing, vacuuming, and dry wiping, (2) use of alternative non-hazardous chemicals including steam or water, and (3) alternative non-F-listed chemicals. The DEP's Office of Innovation and Assistance (207-287-7100) will provide technical assistance regarding alternative processes and information on the availability and effectiveness of a variety of non-toxic solvent alternatives that are currently available. Avoiding use of F-listed solvents and the generation of hazardous waste provides multiple benefits, often including lowering costs and reducing waste management requirements and disposal liability.

5. **ALTERNATIVE MANAGEMENT OPTIONS.** Through this guidance, DEP is allowing alternative management options for specific hazardous waste solvent-containing wipers to promote pollution prevention, reuse and, if necessary, an alternative environmentally responsible disposal method. As such, F-listed solvent-containing wipers in a non-saturated condition that are managed consistent with the practices described in this guidance will be regulated as nonhazardous waste. Failure to follow the terms and conditions of this guidance document will result in a generator being subject to all applicable provisions of Maine Law, including, but not limited to, the Maine Hazardous Waste Management Rules, 06-096 CMR 850-857.
6. **ALTERNATIVE WIPER STANDARDS.** All of the following standards must be met in order for a generator to use the alternative management options in this guidance.
 - A. WIPER SATURATION.** The alternative standards established in this guidance apply to only solvent-containing wipers that are “non-saturated”. The determination as to whether wipers are non-saturated shall be made using the "one-drop" test. This determination shall be made by the generator by wringing the wipers out by hand or some other mechanical extraction method. As long as one drop of solvent flows from a wiper when subjected to this test, that wiper is saturated and therefore a hazardous waste; hand wringing or mechanical extraction may be repeated until the wiper passes the one-drop criterion. Intentional air-drying of saturated wipers to achieve the one-drop criterion is not allowable. Wipers placed in any container that has visible liquid at the bottom of the storage container prescribed in this guidance shall not be

¹ If the pollution prevention options for solvents have been addressed by the generator under TURA, the documentation required by this guidance may be maintained in the generator's TURA pollution prevention plan.

removed from the generator's facility as non-saturated wipers until those wipers are hand wrung or mechanically extracted by the generator and the wipers pass the one drop criterion. For the purposes of this guidance, neither hand wringing nor any mechanical extraction method applied to solvent-containing wipers constitutes treatment of a hazardous waste.

- 1) **SATURATED WIPERS.** Solvent-containing wipers that become waste must be managed as a hazardous waste according to all applicable provisions in the Maine Hazardous Waste Management Rules, 06-096 CMR 850-857, until non-saturated and stored under this guidance.
- 2) **EXTRACTION PROCESS.** Any physical or mechanical extraction must be performed in compliance with State and federal OSHA requirements, including use of any required personal protective equipment and procedures for handling flammable materials and in compliance with all applicable fire codes, does not require a license for treatment of hazardous waste. Any mechanical extraction of solvents performed as a result of this guidance must also be done in accordance with the manufacturer specifications.

Any extraction process must immediately collect all drainage from the wipers in accordance with the Maine Hazardous Waste Management Rules, 06-096 CMR 850-857. Wipers not contaminated with solvents mixed together with solvent-containing wipers for batch extraction or storage must be managed in accordance with this guidance.

Reuse of drainage without further treatment for an original intended purpose may occur within ninety (90) days of generation. Any drainage not suitable for an original intended purpose must be managed as a hazardous waste.

- B. ON-SITE WIPER MANAGEMENT.** Immediately upon becoming non-saturated under this guidance, wipers must be placed in storage, in closed leak proof containers or closed clear plastic bags that eliminate solvent evaporation when closed, minimize occupational exposure when being loaded, and minimize susceptibility to spontaneous heating while still meeting applicable fire codes. In addition, the containment system must otherwise facilitate visual inspection for liquids. The container or clear plastic bag must have labels identifying the contents being accumulated and stored, and be marked with the date the container or bag becomes full.

For on-site laundering, non-saturated wipers must be laundered within 90 days of the date that a container or bag becomes full. For off-site laundering, generators must arrange to have non-saturated wipers picked up and transported from the generator's facility within 90 days of the date that a container or bag becomes full. The wipers must be

handled to meet all applicable health and safety requirements prior to laundering. The generator must provide specific training or written guidance on the proper handling of wipers being managed for conforming to this guidance. The generator must maintain solvent wiper information sufficient for reporting in an annual hazardous waste generator report (See attached reporting form).

C. CLEANING AND INCINERATION. As an alternative to disposal as a hazardous waste, non-saturated wipers managed under this guidance may be either laundered at a properly licensed laundry facility or laundered at the generator's own on-site facility that discharges in accordance with a permit issued through the Maine Pollutant Discharge Elimination System (MEPDES) or if disposable paper wipers are used, incinerated at a generator's on-site boiler that operates under an Air Emission License. Failure to determine the appropriate condition of wipers, as described in the guidance, or licensing status of a facility, will result in a generator, transporter, and laundering facility being subject to all applicable enforcement provisions in Maine law.

1) **OFF-SITE LAUNDERING.** Any off-site wiper cleaning performed under this guidance must be done by an industrial laundry². The facility must discharge to a Publicly Owned Treatment Work (POTW) with an approved pretreatment program, as defined by Maine's *Pretreatment Program* rules, 06-096 CMR 528. Discharges from wiper laundering may not commence until authorized by the POTW or DEP under an agreement that includes specific approval for the discharge volume and characteristics associated with its solvent-containing wipers laundering service.

The industrial laundry processing non-saturated wipers under this guidance must process all wipers prior to laundering by mechanical means such as wringing, compacting or centrifuging. All drainage from a mechanical means, must be managed and disposed of in accordance with the Maine Hazardous Waste Management Rules, 06-096 CMR 850-857. Any sludge generated from laundering must be managed in accordance with its status after being tested, i.e. pursuant to Maine's Hazardous Waste Management Rules, 06-096 CMR 850-857 or Maine's Solid Waste Management Rules, 06-096 CMR 400-418. Sludge generated from laundering of non-saturated wipers managed under these alternative management standards shall not be deemed hazardous waste solely because of the contained-in/derived from policy.

² For the purposes of this guidance, an "industrial laundry" is defined as a commercial, stand alone facility primarily engaged in laundering uniforms, wipers, mats and linens that may be rented or leased from that facility.

- 2) **ON-SITE LAUNDERING.** A generator laundering non-saturated wipers under this guidance at the generator's own on-site facility must discharge under an MEPDES permit that specifically recognizes the operation of the non-saturated wipers laundering operation.

Any on-site laundry accepting non-saturated wipers under this guidance must process all wipers prior to laundering by mechanical means such as wringing, compacting or centrifuging. All drainage from a mechanical means must be managed and disposed of in accordance with the Maine Hazardous Waste Management Rules, 06-096 CMR 850-857. Any sludge generated from laundering must be managed in accordance with its status after being tested, i.e. pursuant to Maine's Hazardous Waste Management Rules, 06-096 CMR 850-857, or Maine's Solid Waste Management Rules, 06-096 CMR 400-418. Sludge generated from laundering of non-saturated wipers managed under these alternative management standards shall not be deemed hazardous waste solely because of the contained-in/derived from policy.

- 3) **INCINERATION.** The incineration of non-saturated disposable paper wipers managed in accordance with this guidance must be specifically licensed in a facility Air Emission License by DEP. The incineration facility must have a combustion unit rated at greater than 100,000,000 Btu/hr, and operate with particulate controls. An application for minor revisions of an existing license, if not already specified as an approved fuel, is to be submitted to the Maine DEP Bureau of Air Quality. The facility must manage any resulting ash in accordance with applicable Maine hazardous Waste Management Rules, 06-096 CMR 850-857 and Solid Waste Management Rules, 06-096 CMR 4000-418. A facility with a boiler of less than 100,000,000 Btu/hr but greater than 25,000,000 Btu/hr may apply for a minor revision of their existing Air Emission License on a case-by-case basis from the Maine DEP Bureau of Air Quality. The incineration facility may not be a cast iron or fire tubed boiler or rated at less than 25,000,000 Btu/hr. The incineration of solvent-contaminated wipers is limited to disposable paper wipers only.

D. OFF-SITE SHIPMENTS. Wipers moved off-site for laundering must be transported in the same closed container or closed clear plastic bag used for accumulation and storage on-site and in accordance with applicable USDOT requirements.

7. **HAZARDOUS WASTE CHARACTERISTICS.** Non-saturated solvent-containing wipers testing as hazardous for any reason other than

contamination with an F-listed solvent must be managed as hazardous waste. Generators of wipers that have utilized a D001 solvent are subject to the same one-drop criterion and the "no-liquids" in the bottom of the container standard, as is specified in this guidance for F-listed solvents, to achieve a non-saturated condition. Non-saturated D001 solvent-containing wipers will not meet the ignitability characteristic of a hazardous waste.

8. **HAZARDOUS WASTE SPILLS.** Any materials, including wipers, used to clean up a solvent spill or hazardous waste of any kind or used in a manner other than for its original purpose or used to clean up excess hazardous waste or contaminated with any hazardous waste other than the F001-F005 listed solvents, must be managed as hazardous waste. Liquid solvent may not be poured, dumped or added to wipers to avoid regulation as hazardous waste.
9. **EXPIRATION.** Issuance of this guidance is completely discretionary. This guidance does not constitute a rule. DEP will continue to evaluate the need for rulemaking and regulatory guidance in this area. This guidance will expire upon the effective date of a rule or statute that supercedes it, or when DEP provides subsequent guidance, or terminates this guidance. This guidance may also be subject to change based on EPA revisions to the federal mixture rule.

Approved for implementation beginning this 31st day of March, 2005



Stephen K. Davis, P.G.

Director

Bureau of Remediation and Waste Management

Instructions for Completing the Solvent-Contaminated Wipes Form

The State of Maine Department of Environmental Protection adopted a Solvent-Contaminated Wipes Policy (“Policy”) on April 19, 2005. This Policy specifies that Solvent-Contaminated Wipes which are managed pursuant to the Policy must be reported in the Annual Hazardous Waste Activities Report. This information will be used to assess the quantities of wipes, and the trends and methods used by generators for managing, recycling, or disposing of Solvent-Contaminated Wipes. This Solvent-Contaminated Reporting Form is designed to collect this information.

Please fill in the site name and EPA ID number of the site. Provide the quantity of solvent-contaminated wipes that were generated, the quantity of solvent extracted from wipes, and shipped for laundering, or laundered on-site in 2006. Please provide the name and site address of the laundry that received your solvent-contaminated wipes. Please identify the receiving location by type (i.e. laundry). Submit the Solvent-Contaminated Wipes Reporting Form along with the rest of the 2006 Hazardous Waste Report.

If you have any questions about completing the Solvent-Contaminated Reporting Form, or if you want to receive information regarding the Solvent-Contaminated Wipe Guidance, please contact the departments Hazardous Waste Staff at 207-287-2651.

	Pounds	Or	# of Containers (specify container size in gallons)
Quantity of Solvent-Contaminated Wipes Generated in 2006			
Quantity of Solvent Extracted			
Quantity of Solvent-Contaminated Wipes Shipped in 2006 to Laundry			
Quantity of Solvent-Contaminates Wipes Laundered On-site in 2006 (non-septic system sites only)			
	Laundry Name / Address		
Name and address of receiving location (i.e. Laundry, specify type)			

Excerpts from the Solid Waste Regulation CMR Chapter 400 (1) III

Hhh. Solid waste. "Solid waste" means useless, unwanted or discarded solid material with insufficient liquid content to be free flowing, including but not limited to rubbish, garbage, refuse-derived fuel, scrap materials, junk, refuse, inert fill material, and landscape refuse, but does not include hazardous waste, biomedical waste, septic tank sludge, or agricultural wastes. The fact that a solid waste, or constituent of the waste, may have value, be beneficially used, have other use, or be sold or exchanged, does not exclude it from this definition.

Nnn. Special waste. "Special waste," means any solid waste generated by sources other than household and typical commercial establishments that exists in such an unusual quantity or in such a chemical or physical state, or any combination thereof, that may disrupt or impair effective waste management or threaten the public health, human safety or the environment and requires special handling, transportation and disposal procedures. Special waste includes, but is not limited to:

- (1) Ash;
- (2) Industrial and industrial process waste;
- (3) Sludge and dewatered septage;
- (4) Debris from nonhazardous chemical spills and cleanup of those spills;
- (5) Contaminated soils and dredge materials;
- (6) Asbestos and asbestos-containing waste;
- (7) Sand blast grit and non-liquid paint waste;
- (8) High and low pH waste;
- (9) Spent filter media residue; and
- (10) Shredder residue.

CCcc. Universal waste. "Universal waste" means any waste listed in section 3.A(13)(b) of Chapter 850, the Maine Hazardous Waste Management Rules, including but not limited to cathode ray tubes; mercury-containing lamps; mercury-containing thermostats; and totally enclosed, non-leaking polychlorinated biphenyl (PCB) ballasts.

Pesticides

Please see the enclosed Brightwork CD for regulatory texts.

Antifouling Paint Labels FIFRA Section 12 (a)(2)(G)

<http://www.epa.gov/region5/defs/html/fifra.htm>

Antifouling Paint Labels 7 MRSA § 606 (2)(B)

<http://janus.state.me.us/legis/statutes/7/title7sec606.html>

Antifouling Paint Application 7 MRSA § 606(2)(B)

<http://janus.state.me.us/legis/statutes/7/title7sec606.html>

Antifouling Paint Application CMR 01 026 Chapter 22

<http://www.state.me.us/agriculture/pesticides/laws/regs.htm>

Prohibition on the use of Tributyltin 38 M.R.S.A §419-A

<http://janus.state.me.us/legis/statutes/38/title38sec419-A.html>

Pesticide Applicator's License - 22 M.R.S.A. §258-A, Sec.1471-D

<http://janus.state.me.us/legis/statutes/22/title22sec1471-D.html>

Petroleum Products

Please see the enclosed Brightwork CD for regulatory texts and

- ✓ Plain Talk on Motor Fuel Tanks (commercial underground)
- ✓ Operating You Heating Oil Tank (underground)
- ✓ Waste Oil Guidance
- ✓ NFPA 303
- ✓ Federal and State SPCC info

Emergency Planning and Community Right to know Act (EPCRA) – Superfund Amendments and Reauthorization Act of 1986, Title III and

<http://yosemite.epa.gov/oswer/ceppoweb.nsf/content/epcraOverview.htm#fact>
http://yosemite.epa.gov/oswer/ceppoehs.nsf/EHS_Profile?openform

37-B M.R.S.A Chapter 13 §791-806

See reference under Hazardous Waste above.

Pollution and corruption of waters and lands of the State prohibited – 38 M.R.S.A §543

<http://janus.state.me.us/legis/statutes/38/title38sec543.html>

Removal of prohibited discharges - 38 M.R.S.A §548.

<http://janus.state.me.us/legis/statutes/38/title38sec548.html>

Enforcement; penalties - 38 M.R.S.A §550.

<http://janus.state.me.us/legis/statutes/38/title38sec550.html>

Oil Pollution Prevention 40 CFR Part 112.1 (A)(4)(f)(2)(ii)

<http://www.epa.gov/oilspill/opprover.htm>

Spill Prevention and Control - 38 MRSA §570-K, sub-§5

<http://janus.state.me.us/legis/statutes/38/title38sec570-K.html>

<http://www.maine.gov/dep/rwm/spcc/spccguidanceplan.htm>

<http://www.epa.gov/oilspill/spcc.htm>

Rules and Regulations for Flammable and Combustible Liquids 16-219 CMR Chapter 31

<http://www.maine.gov/dps/fmo/LFS/LawsFireService3.htm>

Regulation of underground oil storage facilities used to store motor fuels or used in the marketing and distribution of oil - 38 M.R.S.A §564.

<http://janus.state.me.us/legis/statutes/38/title38sec564.html>

National Fire Protection Association (NFPA) Section303

<http://www.nfpa.org/index.asp?cookie%5Ftest=1>

Used Oil Collection Center 38MRSA § 1319-G and 1319-Y and
<http://janus.state.me.us/legis/statutes/38/title38sec1319-Y.html>
Waste Oil Management CMR Chapter 860
<ftp://ftp.state.me.us/pub/sos/cec/rcn/apa/10/144/144c241.doc>

SPCC, EMERGENCY RESPONSE AND INTEGRATED CONTINGENCY PLANS

January 2005
(207) 287-2651

Spill Prevention and Emergency Response Planning for Oil and Hazardous Matter

Facilities in Maine that handle oil or hazardous matter may be subject to state and federal requirements for spill prevention and emergency planning, depending on the types and quantities of materials at the site. These requirements are intended to protect public health, safety and the environment by preventing accidental discharges, and by planning ahead for response procedures in the event of a discharge. The spill prevention and response planning requirements are summarized below.

What is an Oil SPCC plan and who is required to have one?

The term "SPCC Plan," as used in federal regulations under the Clean Water Act, stands for "Spill Prevention Control and Countermeasure Plan." An Oil SPCC plan is a plan prepared in accordance with good engineering practices to prevent and clean up spills from oil storage tanks. "Oil" as defined in the federal regulations includes petroleum oils such as gasoline, diesel and heating oil as well as non-petroleum oils such as animal or vegetable oils, synthetic oils, and mineral oils.

The federal SPCC plan requirements apply specifically to oil storage facilities with an aggregate storage capacity greater than 1,320 gallons and where a discharge could reach a navigable water body, either directly or indirectly. Any oil storage container or tank that is 55 gallons or larger in size counts towards the total aggregate storage capacity. Most areas in Maine are considered locations where a discharge could reach navigable waters.

In 2002, the Maine Legislature enacted 38 MRSA § 570-K(5), giving the Maine DEP authority to oversee compliance with the federal SPCC requirements for aboveground storage facilities that exceed the federal 1,320 gallon aggregate storage capacity threshold and are used to market and distribute oil.

An SPCC plan lists the containment equipment and structures used to prevent spills from reaching ground water or surface water, and it identifies the inspection, monitoring and oil transfer procedures that will be followed to prevent a spill. If a spill occurs, a well-developed Oil SPCC plan will identify whom to call, and will specify steps, or "countermeasures," to contain the spill and minimize environmental impacts. The specific SPCC requirements for oil storage facilities are found in federal regulation, 40 CFR Part 112. A qualified professional engineer must examine the plan and attest that it has been prepared in accordance with good engineering practices.

What is a Hazardous Matter SPCC plan and who is required to have one?

In 1991, the Maine Legislature introduced a slightly different term-"Spill Prevention Control and Clean-up Plan"-into the law governing hazardous matter. "Hazardous matter" refers to substances that have been identified by the Board of Environmental Protection as posing a danger to people or the environment when spilled. Over 400 substances have been identified as hazardous matter by the board under Chapter 800 of the DEP's rules. Oil does not appear on this list and is not subject to the laws governing hazardous matter.

A hazardous matter SPCC plan shares the same acronym and has the same pollution prevention goal as an oil SPCC plan, but there are significant differences. Most notably, the preparation of a hazardous matter SPCC plan is optional for facilities storing hazardous matter.

Although hazardous matter SPCC plans are optional, the law rewards facilities who have prepared them. Under 38 MRSA §1318-B, a hazardous matter spill, regardless of the quantity spilled, must be reported immediately to the State Police *unless an SPCC plan has been filed with the DEP*. If a facility has filed a conforming plan with the DEP as specified under 38 MRSA §1318-C(2), then only spills exceeding the reportable quantity for that particular hazardous matter, as specified in federal regulations, Title 40, Table 302.4, must be reported.

A hazardous matter SPCC plan must contain the information listed in Maine hazardous matter law, 38 MRSA §1318-C. Engineering assistance often is used, but is not required, in preparing SPCC plans for hazardous matter.

What is an Emergency Response Plan and who is required to have one?

An Emergency Response Plan is a written plan outlining procedures to protect public health and safety in the event of an accidental release of an extremely hazardous substance. Extremely hazardous substances are listed in the Code of Federal Regulations at Title 40, Part 355, Appendices A and B, along with their threshold planning quantities.

Facilities that handle and store "extremely hazardous substances" in amounts greater than the "threshold planning quantity," as designated under the federal regulations, must prepare an Emergency Response Plan. In general, extremely hazardous substances are chemicals that readily become airborne gases, vapors, mists or dust and that are toxic to humans in relatively low concentrations. Chlorine, ammonia and acids are examples of extremely hazardous substances commonly used in Maine.

The required elements for an Emergency Response Plan are listed in Maine law at 37-B MRSA §795, and include the following: emergency contact information; emergency warning systems; employee training and testing programs; response and protective equipment; notification and evacuation procedures, and any mutual aid agreements with public safety officials or emergency responders. The plan must be submitted to the local fire department and the Maine Emergency Management Agency (MEMA). If your facility handles such substances, you should contact MEMA at 207-624-4400 (or 1-800-452-8735 if calling from a Maine location) for guidance on plan preparation.

What is an Integrated Contingency Plan?

An Oil SPCC plan, a Hazardous Matter SPCC plan, and an Emergency Response Plan can be developed as separate stand-alone, user-friendly documents that incorporate the requirements of each type of plan. Alternatively, facilities handling both oil and hazardous matter can develop a single Integrated Contingency Plan that incorporates all federal and state planning requirements for all types of materials stored and handled at the site.

The required components of an Integrated Contingency Plan depends on the range of substances covered. In general, the Integrated Contingency Plan includes the following components: a description of the facility and operations; a hazard assessment; inspection and maintenance protocols; spill response and mitigation procedures; safety procedures; disposal of contaminated materials; and training of personnel.

The Integrated Contingency Plan also includes a comprehensive regulatory compliance and cross-reference matrix of all applicable federal and state requirements. The National Response Team has provided guidelines for Integrated Contingency Plans in its document, *Integrated Contingency Plan Guidance*, 61 Federal Register 109 (June 5, 1996).

What are the benefits of SPCC, Emergency Response and Integrated Contingency plans?

For facilities that handle oil or hazardous matter, preparation of an Oil SPCC plan, Hazardous Matter SPCC plan, Emergency Response Plan or an Integrated Contingency Plan is critical for employee

safety and environmental protection. Facilities that have well-prepared plans and follow them conscientiously can expect to avoid costly spills that could temporarily or permanently close their businesses.

If you have a spill, what are the reporting requirements?

Oil spills must be reported within two hours of occurrence to avoid fines or civil penalties. Oil spills are reported to the DEP by calling 800-482-0777.

Hazardous matter spills must be reported immediately to the Department of Public Safety (State Police) by calling 800-452-4664. Hazardous matter spills of any quantity must be reported unless:

- the spill is covered by a Hazardous Matter SPCC plan containing the information listed in 38 MRSA §1318-C; **and**
- the plan has been submitted to DEP; **and**
 - the discharge is less than the applicable reportable quantity under federal regulations, 40 CFR, Table 302.4.

Where should the SPCC, Emergency Response, and Integrated Contingency plans be sent?

SPCC, Emergency Response and Integrated Contingency plans, where required, must be kept at the facility. In addition:

- A copy of the Oil SPCC plan must be sent to EPA New England if requested by the EPA Regional Administrator;
- A copy of the Hazardous Matter SPCC plan must be sent to the Maine DEP when you wish to avoid the need to report hazardous matter spills less than the federal reportable quantities under 40 CFR Part 302; and
- A copy of the Emergency Response plan must be sent to MEMA whenever you have extremely hazardous substances stored over the threshold amounts. They must also be sent to the State Fire Marshal's Office if requested by the Fire Marshal.

What resources are available to help in writing SPCC and Emergency Response plans?

This Issue Profile provides a general overview of SPCC and emergency planning requirements. If your facility handles oil or hazardous matter, or extremely hazardous substances, you should carefully review the applicable state and federal laws, rules and regulations. The following documents and web sites provide more details on SPCC, Emergency Response and Integrated Contingency Plans:

Oil:

- federal SPCC requirements for oil storage facilities under 40 CFR Part 112.
- U.S. Environmental Protection Agency's Oil Program web page:
<http://www.epa.gov/oilspill/spcc.htm>
- Maine Department of Environmental Protection's SPCC web page for oil & hazardous matter:
<http://www.state.me.us/dep/rwm/spcc/index.htm>

Hazardous Matter:

- federal list of hazardous substances and their reportable quantities under 40 CFR Part 302.4.
- state requirements for hazardous matter SPCC Plans under 38 MRSA 1318-C.
- list of extremely hazardous substances and their reportable and threshold planning quantities under 40 CFR Part 355, Appendices A and B.

- state requirements for Emergency Response Plans for extremely hazardous substances under 37-B MRSA section 795.

Integrated Contingency Plans:

- guidelines for Integrated Contingency Plans by the National Response Team under the Integrated Contingency Plan Guidance, 61 Federal Register 109 (June 5, 1996).

Spill Response:

- “Responding to Oil & Hazardous Materials Spills,” Maine Department of Environmental Protection.

Where can I get more information?

For more information on spill prevention and control at oil storage facilities, please contact Sara Brusila in the DEP Technical Services Division at (207) 287-2651 or (207) 287-4804, in-state toll free at 1-800-452-1942, or by e-mail at Sara.Brusila@Maine.Gov.

For information on spill prevention and control of hazardous matter, please contact John Dunlap in the DEP Hazardous Waste Program at (207) 287-2651 or (207) 287-3547, in-state toll free at 1-800-452-1942, or by e-mail at John.M.Dunlap@Maine.Gov.

SPCC Plans for Aboveground Oil Storage Tanks

The Basics of the Law:

Link: to the Office of the Revisor of Statutes' web site to view the law, 38 M.R.S.A. section 570-K(5):

<http://janus.state.me.us/legis/statutes/38/title38sec570-K.html>

Legislative Intent: The new law is intended to strengthen compliance with existing federal SPCC regulations by authorizing the Maine DEP to enforce those regulations as they pertain to facilities used for marketing or distribution of oil.

Background:

Federal Regulation

Existing federal statutes under the Clean Water Act and federal regulations under 40 CFR 112 require Spill Prevention Control and Countermeasures (SPCC) plans for aboveground oil storage facilities having a total aboveground storage capacity exceeding 1,320 gallons. The purpose of the federal regulations is to prevent oil spills from reaching “navigable” waters, which are broadly defined to include water bodies used for both commercial and recreational purposes. The federal rules apply to those facilities that “can be reasonably expected to spill into navigable water.” This definition includes not only those facilities that could potentially discharge directly to navigable waters, but also facilities that could discharge indirectly to navigable waters via some pathway such as a storm sewer or tributary. U.S. Environmental Protection Agency (EPA) representatives have indicated that all, or virtually all, Maine facilities exceeding 1,320 gallons of aboveground oil storage capacity fall within the scope of federal regulations and are required to have SPCC plans. The federal SPCC regulations were last revised August 16, 2002. For more information on the federal regulations see the following EPA web site:

<http://www.epa.gov/oilspill/spcc.htm>

State Law

In 2000, the Maine DEP was directed by the Legislature to convene a Task Force to review existing regulations regarding aboveground oil storage facilities. The Task Force reported back to the Legislature in January 2002. The Task Force concluded that existing federal regulations provide adequate protection from oil spills from aboveground facilities, but that federal enforcement of these regulations was not adequate. To address this deficiency, the new law authorizes the Maine DEP to enforce compliance with existing federal SPCC regulations. It does not expand the existing federal regulatory program.

The Purpose of the State Law

EPA's regulations do not expressly address threats to groundwater or to natural resources other than surface water. However, spills from aboveground oil storage tanks (ASTs) in Maine have discharged to the groundwater and have led to drinking water well contamination. As of October, 2004, the Maine DEP had spent approximately \$5.7 million dollars linked to 1563 oil spills from non-residential, non-marine oil ASTs that occurred from 1995 through 2003. Spills at service stations and bulk plants accounted for slightly more than a quarter of the number of these spills, but over a half of the total clean-up costs. During this time period about three times more spills occurred at bulk plants than at service stations, but service station cleanup costs ran about five times higher than the cleanup costs associated with bulk plants. This is likely due to the fact that bulk plants handle relatively large volumes of product compared to retail service stations, but retail service stations are more likely to be sited close to drinking water supplies. Furthermore, retail service stations predominately handle gasoline which contain many toxic constituents that typically travel faster and farther in groundwater if spilled than do heating oil products. The state law addresses the fact that properly written and executed Spill Prevention Control and Countermeasure (SPCC) plans can prevent both the number and extent of oil spills, protecting groundwater and reducing state expenditures for clean-up of spills.

Frequently Asked Questions:

What is an SPCC Plan?

An SPCC plan specifies measures to prevent oil spills from a given oil storage facility. It also specifies procedures to be followed in the event an oil spill does occur. An SPCC plan addresses the design and construction of the facility, regular inspections, training of personnel, spill response, reporting and cleanup procedures, and a spill response contact list.

Generally, an SPCC plan is required to include the following: 1) a description of the facility including a summary of the tanks, piping and drums, etc., as well as drainage paths and potential spill scenarios; 2) spill prevention measures (training, inspections and testing procedures; 3) control measures (diking and overfill devices); and 4) counter-measures (clean-up equipment and procedures, spill reporting procedures). The SPCC plan is required to be reviewed and amended as necessary every 5 years. The plan review should include an evaluation of new prevention and control technology that may have become available since the development or last review of the SPCC plan. The plan must be amended to include any facility changes that materially affect the facility's potential to discharge (e.g., additional tanks, fueling areas, etc.). The plan must also be amended as necessary to address causes of any past discharges at the facility and/or to bring the facility up-to-date with current technology. A Professional Engineer must certify the SPCC plan, as well as any technical amendments. The facility is required to keep a copy of the SPCC plan on site, but there is currently no requirement to submit SPCC plans to either the EPA or to the Maine DEP.

For more details on the components of an SPCC plan see the SPCC Plan Guidance document and the Model SPCC Plans for Retail Facilities and Bulk Facilities. These documents are available electronically at

the DEP's SPCC website: <http://www.state.me.us/dep/rwm/spcc/index.htm>, or in hard copy by contacting the DEP's Technical Services Division.

Which facilities must meet the SPCC requirements?

The federal regulations apply to any oil storage facility with a total aboveground storage capacity greater than 1,320 gallons, while the state law applies only to such tanks that are used for marketing or distribution of oil. Total aboveground storage capacity includes completely aboveground tanks, partially buried tanks, seasonal/temporary aboveground tanks, and tanks encased in a vault installed below ground. Only containers with a capacity of 55 gallons or more are counted towards the total aboveground storage capacity of the facility. "Permanently closed" tanks i.e., empty tanks where all connecting piping has been disconnected and all valves have been closed and locked, are not counted towards the total aboveground storage capacity of the facility.

Facilities subject to the state law include retail gas stations and bulk plants. If the Maine DEP believes that a facility's plan does not meet the federal regulations, the state law requires the Department to consult with the EPA as to the legal adequacy of the plan and any amendments necessary to bring the facility into compliance. In general, the DEP will only enforce the federal SPCC rules at retail gas stations and bulk plants but this does not preclude routine enforcement at other AST facilities for spills and clean-up, or requiring SPCC plans as part of consent agreements resulting from illegal actions, as has been done in the past.

Which facilities are exempt from the SPCC requirements?

Under recent changes to the federal regulations, all underground storage tanks are exempt from SPCC requirements. However, underground tanks must meet the requirements of Chapter 691 of the Maine DEP's regulations which establishes standards for installation, operation and closure of underground oil storage facilities, and specifies requirements for reporting and clean-up of oil discharges at these facilities. To view Chapter 691 regarding underground oil storage facilities, see the Secretary of State's web site:

<http://www.maine.gov/dep/rwm/ust/newchapter691-2004.doc>. If a facility has both aboveground tanks and underground tanks, and is required to have an SPCC plan for its aboveground facilities, all underground tanks must also be shown on the facility diagram required as part of the SPCC plan.

The SPCC requirements do not apply to facilities storing only liquid propane or natural gas, or to residential home heating oil tanks.

What is the deadline for having a SPCC Plan in place and implemented?

The deadlines for bringing facilities into compliance with the current federal SPCC regulations have been extended. Under the current deadlines, facilities in operation on or before August 16, 2002 must amend their SPCC plans as necessary to comply with the current regulation by February 17, 2006, and the revised plan must be implemented by August 18, 2006. For facilities that became operational after August 16, 2002 through August 18, 2006, an SPCC plan in compliance with the current rule must be developed and implemented by August 18, 2006. For facilities that become operational after August 18, 2006, an SPCC plan must be developed and implemented prior to operation.

What other requirements apply to aboveground tanks?

A permit from the State Fire Marshal's Office is required for almost all facilities having aboveground tanks. The State Fire Marshal's Office has largely adopted National Fire Protection Association (NFPA) Standard 30, Flammable and Combustible Liquids Code, and NFPA 30-A, Code for Motor Fuel Dispensing Facilities and Repair Garages (2003 editions). These NFPA codes contain standards for the design, construction and maintenance of aboveground tank facilities. Underground piping is subject to the requirements of Chapter 691 of the Maine DEP's rules regarding underground oil storage facilities. These rules require that underground piping be of cathodically protected steel, fiberglass, or other noncorrosive materials, and have secondary containment with continuous leak detection.

Oil storage facilities may also be subject to local zoning and land use ordinances. You should contact your local town office for information on any applicable local ordinances; or if your facility is located in an unorganized territory contact the Maine Land Use Regulation Commission.

Will I get inspected?

The Maine DEP and the Legislature are aware that many facilities are not familiar with the existence or extent of the SPCC requirements. Accordingly, the state law requires the Department to prepare educational and technical materials for use by owners and operators of facilities, which are subject to the state law. The Maine DEP has developed model SPCC plans for AST retail gas stations, retail gas stations with both ASTs and USTs, and small AST bulk oil facilities. Additional material and training will be available soon. Because of the need for education and outreach, the state SPCC program will initially be focused on technical assistance, including inspections to facilitate compliance, rather than on enforcement action. Technical assistance inspections started in 2003.

What should I do now?

If you operate a retail AST facility or wholesale bulk oil plant you should contact a professional engineer, knowledgeable in the design of aboveground storage facilities, to review your existing plan for compliance with current regulations, and revise the plan as needed. If you are planning to construct a new facility, or your existing facility does not have a SPCC plan, contact a knowledgeable professional engineer to help you develop one. See the model SPCC plans as examples when developing or amending your SPCC plans.

For more information: Please call Sara Brusila of the DEP's Technical Services Division at 287-4804 or by e-mail at: sara.brusila@Maine.gov.

Ver. 12/13/04

Shoreland Zoning, Land Use, and Stormwater,

Please see the enclosed Brightwork CD for regulatory texts and

- ✓ Additional Issue Profiles
- ✓ “Maine Shoreland Zoning” A handbook for shoreland owners.

Mandatory Shoreland Zoning Act - 38 M.R.S.A. §435-449,

<http://janus.state.me.us/legis/statutes/38/title38sec435.html>

For balance of Statute see reference disk

C.M.R. Chapter 1000 and Local Ordinances

<http://www.maine.gov/sos/cec/rules/06/096/096c1000.doc>

Natural Resource Protection Act (NRPA) 38 M.R.S.A. §480

<http://www.maine.gov/dep/blwq/docstand/nrpastat.pdf>

Submerged Lands Law – 12 M.R.S. A. § Section 1861-1867

<http://janus.state.me.us/legis/statutes/12/title12sec1862.html>

Erosion Control Law 38 M.R.S.A. §420-C

<http://janus.state.me.us/legis/statutes/38/title38sec420-C.html>

Stormwater Management Law - 38 M.R.S.A § Section 481- 490 and 420D

<http://www.maine.gov/dep/blwq/docstand/stormwater/stormstat.pdf>

<http://www.maine.gov/dep/blwq/docstand/escbmps/index.htm>

NPDES Stormwater Laws (Multi-Sector General Permit) – 40 CFR 122.26

<http://cfpub.epa.gov/npdes/stormwater/indust.cfm>



DEP Issue Profile

Non-conforming Structures in the Shoreland Zone

Revised: October 2003

Contact: (207) 287- 2111

The information presented in this Issue Profile is based on standards in the *State of Maine Guidelines for Municipal Shoreland Zoning Ordinances*. If your community's locally adopted shoreland zoning ordinance has more restrictive standards those more restrictive provisions apply.

What is a non-conforming structure?

A non-conforming structure is one that does not meet one or more of the following dimensional requirements: shoreline setback, height, or lot coverage. It is allowed to remain solely because it was in lawful existence at the time the ordinance or subsequent amendments took effect.

Non-conforming structures can be maintained and improved, without a permit, as part of *normal* upkeep. However, additions, expansions, or relocations require a permit from the municipal officials before work can begin.

Are there limitations on expansions of non-conforming structures?

Yes. Since January 1, 1989 the State's Mandatory Shoreland Zoning Act (Section 439-A(4)) had prohibited any portion of a structure which does not meet the shoreline setback requirement (typically 75 or 100 feet) from being expanded by more than 30% in floor area and volume. In addition, such structures cannot be expanded closer to the shoreline.

Effective July 9, 1998 the Shoreland Zoning Act was further amended to provide municipalities with an optional alternative for regulating expansions of structures that do not meet the waterbody or wetland setback standard. This new option enables a municipality to limit expansion of such nonconforming structures based on total floor area and structure height, taking into consideration the structure's distance from the shoreline. A municipality can only administer this alternative, rather than the long-standing 30% expansion limitation rule, if it is specifically incorporated into the local ordinance. Otherwise, the 30% expansion limitation rule is in effect.



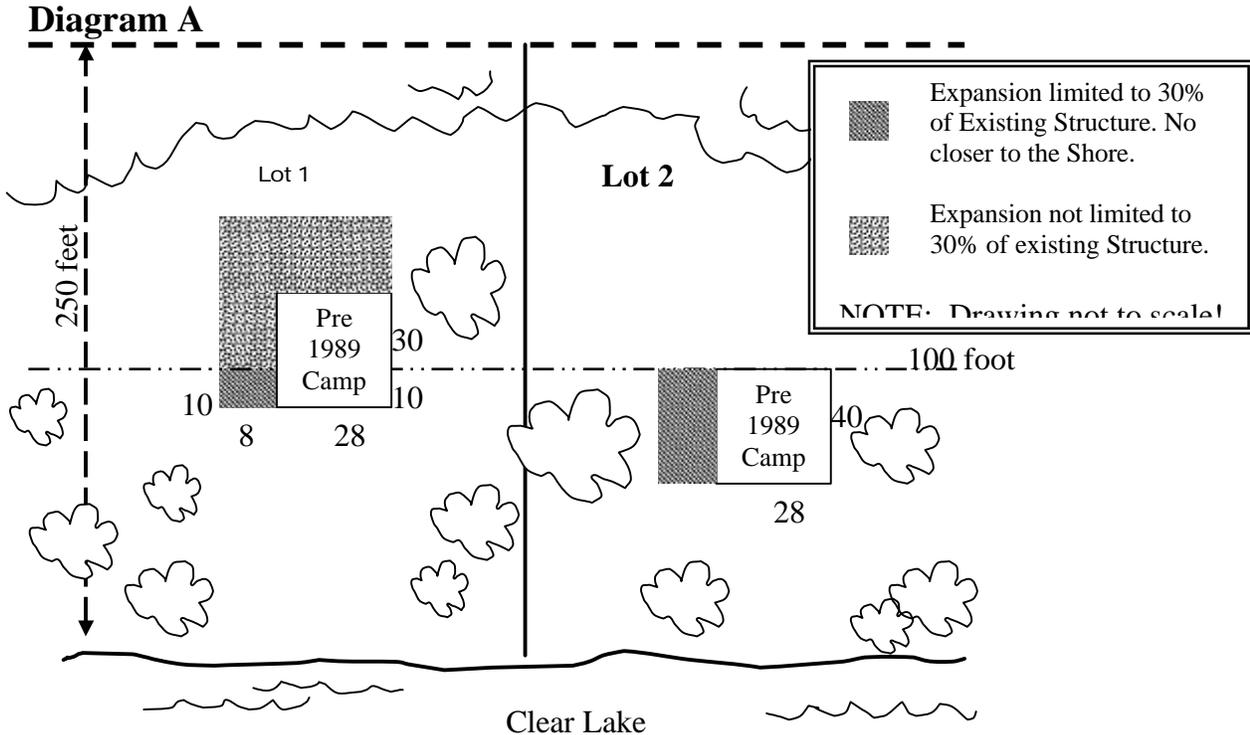
The 30% Expansion Rule

The expansion limitation noted in the above paragraph applies only to that part of the structure which is non-conforming. It does not apply to that part of the structure which meets the setback requirement. For example, if only a 10' x 28' section of a 40' x 28' building is non-conforming as to setback, only the 10' x 28' section is subject to the floor area and volume limitation. The remainder of the building can be expanded in compliance with other applicable standards, including lot coverage limitations. (see diagram "A")

How are "volume" and "floor area" calculated?

Under the State Guidelines, floor area is the total square footage of all floors plus any porches and deck areas. Volume is defined as the cubic footage of all spaces enclosed within the exterior walls and roof of a structure.

IMPORTANT NOTE: Some town ordinances define volume and floor area to exclude certain areas such as unfinished attics, basements and certain storage areas. It is important to check the town ordinance



before developing your plans.

Can I expand both the floor area and volume of my fully non-conforming structure up to the 30% limitation?

Yes. Both the volume and floor area can be expanded up to the 30% limitation. However, neither the floor area nor volume expansions can exceed the limitation. For example, if a proposal is made to expand the floor area by only 10%, but the proposed volume expansion is 35%, the project cannot be approved until the volume expansion is reduced below 30%.

.....
Basic Provisions of the Optional Alternative to the 30% Expansion Rule

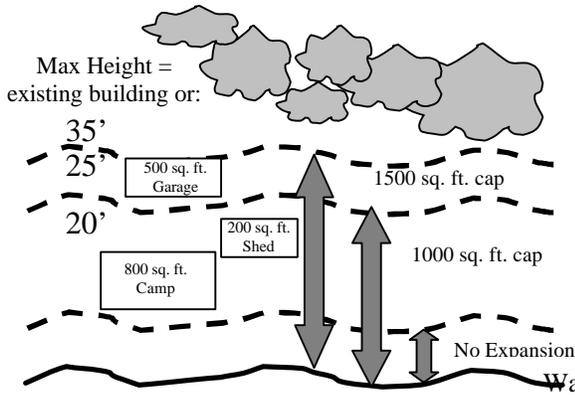
A municipality may, but is not required to adopt an alternative to the 30% expansion limitation rule, consistent with provisions enacted by the legislature in 1998. This optional method of limiting expansions of non-conforming structures is based on the following criteria:

1. No portion of a structure located within 25 feet of the shoreline can be expanded.
2. Expansion of an accessory structure that is located closer to the shoreline than the principal structure is prohibited.
3. For structures located less than 75 feet from the shoreline, the maximum combined total floor area of all structures is 1000 square feet, and the maximum height of any structure is 20 feet or the height of the existing structure, whichever is greater.

- ✓ For structures located less than 100 feet from a great pond or river flowing to a great pond, the combined maximum total floor area for all structures is 1500 square feet, and the maximum height of any structure is 25 feet or the height of the existing structure, whichever is greater, except that any portion of those structures located less than 75 feet from the shoreline must meet the floor area and height limits of criterion 3 above.

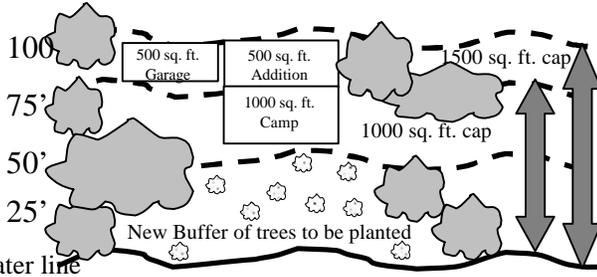
For the purposes of the alternative expansion limitation, an existing basement is not calculated toward floor area.

**Diagram B
Expansion Option**



**Diagram C
Special Expansion Allowance**

Up to 500 sq. ft. above cap allowed provided:
Camp greater than 50' from shore,
Buffer planted and maintained within 50', and soil erosion and stormwater runoff problems addressed



Clear Lake

(See diagram B for a visual display of the basic alternative method of limiting expansions.)

The Special Expansion Allowance Pursuant to the Alternative Method of Limiting Expansions.

Under the alternative method of limiting expansions of nonconforming structures, a municipality may permit up to 500 additional square feet of floor area than that allowed above if: the structure is located at least 50 feet from the shoreline; an adequate 50-foot vegetated buffer exists or the owner agrees to plant a suitable buffer; and the owner agrees to implement a plan addressing erosion and stormwater runoff problems on the property. Other requirements may also apply. (See diagram C for a visual display of special expansion allowance)

If a municipality adopts the basic 1000/1500 square foot limits of the alternative to the 30% rule, does it also have to adopt the special expansion allowance?

No. The special expansion allowance (extra 500 square feet) is an optional provision. Whether to adopt the provision is for the municipality to decide,

Does the floor area cap apply to just the principal structure?

No. The cap applies to the total floor area of all principal and accessory structures located within the shoreline setback area, including the upper floors of multi-story buildings. As with the 30% expansion limitation rule, decks, porches, and patios also count as floor area.

Can a municipality adopt both the 30% expansion limitation and the alternative method of limiting expansions of nonconforming structures?

No. The expansion option, if adopted, replaces the 30% rule. The option can not be used in conjunction with the 30% rule to maximize expansions of nonconforming building expansions. The intent of the option is to provide a comparable, and equitable, amount of expansion in a format that is also easier to administer.



Additional Standard Issues Pertaining to Non conforming Structures

Why does the Mandatory Shoreland Zoning Act Establish a Cap on Expansions of Non-conforming Structures?

There are several reasons for the 30% expansion limitation. However, the primary goal is to balance the need to maintain vegetated areas near the shoreline in order to protect water quality and control stormwater runoff, and to preserve the natural character of Maine's shoreland areas, while providing some expansion potential for structures which are closer to the shoreline than current standards allow.

Can a non-conforming structure be expanded in all directions?

No. Expansions, which reduce the already non-conforming setback, are not permitted. For example, regarding water and wetland setback requirements, no structure that is less than the required setback from the water or wetland, can be expanded toward the water or wetland. Similarly, a structure, which exceeds the height limitation, cannot be expanded upward. The same is true for the lot coverage limitation. If the buildings, driveways, and other non-vegetated areas already exceed the total lot coverage limitation, these areas cannot be expanded to further increase the lot coverage.

Although the Department's Guidelines do not require structures to be set back a minimum distance from roads and side lot lines, many local ordinances do contain such limitations and must be considered.

Can a foundation be added to a non-conforming structure?

Yes. Construction or enlargement of a foundation beneath an existing non-conforming structure is permitted. However, that addition will count toward the 30% expansion limitation unless: the structure and new foundation are placed such that the setback requirement is met to the greatest practical extent (may require movement of structure away from a waterbody or wetland); the foundation does not extend beyond the exterior dimensions of the structure; and the foundation does not cause the structure to be elevated by more than three (3) additional feet.

The State Guidelines do not require a structure to be moved away from the water or wetland when the replacement foundation is simply new posts, footings, slab, or similar foundation.

In most cases, the planning board reviews applications for new or enlarged foundations.

Can a non-conforming structure be relocated on the same parcel provided that the setback is not further reduced?

Yes. However, if the structure is relocated it must meet the shoreline setback requirement to the greatest practical extent. If the lot has enough depth to relocate the structure beyond the setback requirement, the owner will be required to move the structure to that location. If the structure cannot be moved to the setback line, the owner will be required to move the building to the furthest practical distance from the waterbody or wetland.

If a non-conforming structure is damaged or destroyed can it be reconstructed or replaced?

Yes. If a structure is damaged or destroyed by less than 50% of the market value before such damage or destruction, it may be reconstructed in place after obtaining a permit from the local code enforcement officer. However, if the structure is damaged or destroyed by more than 50% of the market value of the structure before such damage or destruction occurred, it can only be reconstructed or replaced if the new structure is placed such that the setback requirement is met to the greatest practical extent, as determined by the planning board. The planning board must consider several factors when determining the appropriate setback, including the type and condition of any foundation that may have been part of the original structure.

The words "damaged" and "destroyed" include voluntary removal by the owners, as well as "Acts of God" such as fire, flood, wind or other causes.

Can the use of a non-conforming structure be changed to another use?

Perhaps. The use of a non-conforming structure can be changed provided that the new use will have no greater adverse impact on the water body or wetland, on the property itself, or on adjacent properties. The planning board makes that determination.

If I have a non-conforming structure and wish to modify it, whom should I contact?

You should first contact the local code enforcement officer for information on permitting requirements. In most cases the code officer can provide appropriate application forms and will direct you to the planning board. Most significant modifications to non-conforming structures must go through planning board review.



DEP Issue Profile

Clearing Vegetation in the Shoreland Zone

Revised: September 2003

Contact: (207) 287- 2111

The information presented in this Issue Profile is based on the standards in the *State of Maine Guidelines for Municipal Shoreland Zoning Ordinances* (Guidelines). If your community's locally adopted shoreland zoning ordinance has more restrictive standards those more restrictive provisions apply.

Background

The Mandatory Shoreland Zoning Act requires municipalities to adopt land use regulations for all areas within the shoreland zone. The shoreland zone consists of areas within 250 feet of the normal high-water line of great ponds, rivers, and tidal waters; within 250 feet of the upland edge of non-forested freshwater and coastal wetlands; and within 75 feet of certain streams. Distances are measured horizontally.

The land use controls adopted by the municipalities must be consistent with or no less restrictive than the Board of Environmental Protection's *State of Maine Guidelines for Municipal Shoreland Zoning Ordinances*.

Do the Guidelines for Municipal Shoreland Zoning Ordinances include limitations on vegetative cutting for development activities in shoreland areas?

Yes. The Guidelines limit the amount of vegetation that can be cut in the shoreland zone. In order to maintain water quality, protect wildlife, and to preserve the natural beauty of shoreland areas, it is important to maintain naturally vegetated shoreland areas. Studies have shown that the removal of natural vegetation and the subsequent conversion of the land to unvegetated surfaces, lawns, or other uniform vegetative cover fails to adequately protect water quality, mostly due to phosphorus and nitrogen runoff (nutrient runoff). An increase in the concentration of phosphorus within a lake of just 1 part per billion can result in a noticeable decrease in water quality.

Nutrient runoff into surface waters can be reduced or prevented by maintaining an uneven-aged stand of trees and other vegetation, including natural ground cover. Furthermore, by leaving the ground surface undisturbed, and by retaining natural depressions for water to collect, nutrients will be removed as water percolates through the upper layers of organic duff.

Water quality is not the only environmental issue affected by the loss of shorefront vegetation. Valuable habitat is lost, and disturbance of wildlife is greatly increased by the loss of a vegetative "screen". As a result, waterfowl, songbirds, shorebirds, and mammal populations are negatively affected.

Although natural beauty is a rather subjective term, most will agree that a Maine coast or inland waterbody with excessive removal of trees and other natural vegetation is not in the best interest of the people of Maine.

What are the restrictions on clearing of vegetation in the shoreland zone?

Generally, in the first 75 feet from the normal high-water line or the upland edge of a wetland, no "clear-cut openings" (openings in the forest canopy greater than 250 square feet) are permitted, although 40% percent of the volume of trees four inches or more in diameter, measured at 4 1/2 feet above ground level can be removed in any ten year period. The cutting must be done such that a well-distributed stand of trees and other vegetation remains. This area is commonly referred to as the buffer strip. Adjacent to great ponds and rivers flowing to great ponds, the buffer strip extends for a distance of 100 feet from the normal high-water line.

Beyond the buffer strip, vegetative cutting limitations are less restrictive. In this area cleared openings are permitted provided that such clearings do not exceed 25% of the lot area, or ten thousand square feet, whichever is greater. In total, however, no more than 40% of the volume of trees can be removed in any 10-year period from the shoreland zone.

Do the Department's Guidelines define a "well-distributed stand of trees and other vegetation"?

The Department's Guidelines define a well-distributed stand of trees and other vegetation by a "point system". This system, which assigns values to trees down to two (2) inches in diameter, requires a certain total value of trees be maintained in any 25-foot by 25-foot square (625 square feet) area within the buffer strip.

The tree values are based on tree diameters and are as follows:

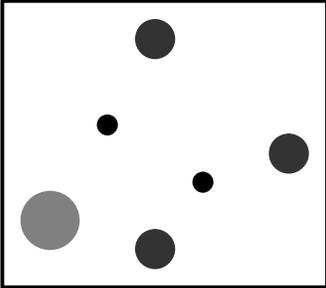
<u>Diameter of Tree at 4-1/2 feet</u> <u>Above Ground Level (inches)</u>	<u>Points</u>
2-4 inches	1
>4-12 inches	2
>12 inches	4

Adjacent to great ponds, and rivers and streams flowing to great ponds, a rating score of 12 or more points must be maintained. Adjacent to other water bodies, tributary streams, and wetlands, a "well-distributed stand of trees and other vegetation" is defined as maintaining a minimum rating score of 8 per 25-foot square area. The point system was created to provide a more enforceable standard for tree cutting activities within the buffer strip.

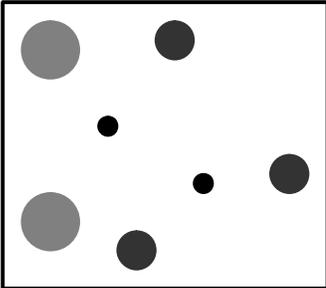
As an example of the above rating system, adjacent to a great pond, if a 25-foot X 25-foot plot contains two (2) trees between 2 and 4 inches in diameter, three trees between 4 and 12 inches in diameter, and two (2) trees over 12 inches in diameter, the rating score is:

$$(2 \times 1) + (3 \times 2) + (2 \times 4) = 16 \text{ points}$$

Thus, the 25-foot by 25-foot plot contains trees totaling 16 points. Trees totaling 4 points (16 – 12 = 4) may be removed from the plot provided that no cleared opening is created. The figure below is just one example of



allowable cutting under the point system.



Before (16 points)

KEY		
<u>Symbol</u>	<u>Tree Dia.</u>	<u>Points</u>
●	2-4 inches	1
●	>4-12 inches	2
●	>12 inches	4

After (12 points)

Is the cutting of vegetation less than 2 inches in diameter limited?

Yes. State law prohibits new cleared openings from being created within the buffer area. If removal of vegetation less than two inches in diameter will create cleared openings, enough vegetation must be retained to prevent the creation of such openings. Furthermore, adjacent to great ponds, and rivers and streams flowing to great ponds, in order to protect water quality vegetation less than three (3) feet in height must be maintained within the buffer strip.

Are there areas where the cutting of vegetation is prohibited?

Yes. Vegetative cutting is prohibited abutting a great pond zoned Resource Protection for a distance of 75 feet inland of the normal high-water line, except to remove safety hazards.

May I cut within the buffer strip for shoreline access?

Yes. A footpath not to exceed (10) feet in width as measured between tree trunks is permitted provided that a cleared line of sight to the water through the buffer strip is not created. In other words, the footpath must meander, rather than being a straight line to the water. The purpose of this limitation is to prevent runoff from funneling directly along the pathway to the water. By meandering the pathway, runoff is more likely to be trapped by vegetation and natural depressions within the buffer strip.

Adjacent to great ponds, and rivers and streams flowing to great ponds, the width of the footpath is limited to six (6) feet.

May I prune trees within the buffer strip?

Yes. Pruning of tree branches, on the bottom 1/3 of the tree is permitted. Dead branches are permitted to be pruned without restriction.

What if a cleared opening is created within the buffer area due to storm damage, disease, or the removal of an unsafe tree?

When the removal of storm-damaged, diseased, unsafe, or dead trees results in the creation of a cleared opening, the opening must be replanted with native species unless existing new tree growth is present.

Can existing cleared openings to the water be maintained?

Yes. Cleared openings legally in existence on the effective date of the ordinance may be maintained. However, areas that were once fields or cleared openings, but have reverted to primarily shrubs, trees, or other woody vegetation are regulated as any other buffer area under the ordinance.

If I adhere to the "Clearing of Vegetation For Development" Standards in the Department's Guidelines will I be sure that I am in compliance with all clearing limitations?

No. Local ordinances may be more restrictive. You should always consult with you local code enforcement officer before your begin clearing of vegetation in the shoreland zone.

Natural Resources Protection Act (NRPA)

December 2002

(207)-287-

2111

Background

The Natural Resources Protection Act (NRPA) became effective on August 4, 1988. The Act applies to the following protected natural resources: coastal wetlands and sand dunes; freshwater wetlands; great ponds; rivers, streams and brooks; fragile mountain areas, and significant wildlife habitat. There have been significant changes and additions to the law since its enactment. To obtain the current version of the NRPA contact the nearest DEP office and request a copy of the statute.

Among the changes to the NRPA have been the addition of: a cranberry general permit, a streamlined wetland permitting process and a general permit for agricultural irrigation ponds. In addition, a permit-by-rule process has been adopted for many routine projects. This Issue Profile will briefly discuss these programs, but there are separate Issue Profiles and information pamphlets concerning wetland permitting, irrigation ponds, cranberry bogs and the permit-by-rule program. If you think these will apply to you, or if you just are not sure, call the nearest DEP office and ask to speak with a staff person.

What is the intent of the Natural Resources Protection Act?

The NRPA recognizes the State significance of these natural resources in terms of their recreational, historical, and environmental value to present and future generations. The Act's intent is to prevent any unreasonable impact to, degradation of or destruction of the resources and to encourage their protection or enhancement.

What activities require an NRPA permit?

Permits are required for certain activities that occur in, on, or over any protected natural resource area or on land adjacent to any great pond, river, stream or brook, coastal wetland and some freshwater wetlands.

Activities requiring a permit include:

- dredging, bulldozing, removing, or displacing soil, sand, vegetation, or other materials;
- draining or otherwise dewatering;
- filling, including adding sand or other material to a beach or sand dune;
- constructing, repairing or altering any permanent structure (A permanent structure is one placed or constructed in a fixed location for a period exceeding 7 months of the year).

What environmental standards must the proposed activity meet?

To receive an NRPA permit, the applicant must demonstrate that the proposed activity will NOT:

- unreasonably interfere with existing scenic, aesthetic, recreational, or navigational uses
- cause unreasonable erosion of soil or sediment, or prevent naturally occurring erosion
- unreasonably harm any significant wildlife, fisheries or aquatic habitat
- unreasonably interfere with the natural flow of any surface or subsurface waters
- lower water quality
- cause or increase flooding
- unreasonably interfere with supply or movement of sand to sand dune areas
- cross a river segment identified in the NRPA as "outstanding" unless no other alternative having less adverse impact on the river exists.

How do I know if I need a permit?

Generally, you will need a permit if you are working within 75 feet of a protected natural resource. The definitions of each of the protected natural resources are contained within the law. In most cases, determining whether or not your project is in the resource itself, a great pond for instance, is not difficult. However, identifying the boundary of a resource can be more of a problem. In particular, determining wetland boundaries may require technical expertise. If you are at all unsure about whether or not an NRPA permit is required for your project, contact the appropriate DEP office and arrange for a staff visit.

Can I use maps to identify wetlands?

At present, National Wetland Inventory Maps are available for most of the state. These maps may be viewed at any DEP office. However, these maps should only be relied on for general guidance. There are many areas which are not mapped that are considered to be wetlands and mapped wetland boundaries may not always be accurate. Whether or not maps are available, a site inspection by a professional consultant or a DEP staff member may be necessary to positively determine whether an area is in fact a wetland.

What about fragile mountain areas and significant wildlife habitat?

Fragile mountain areas are defined as areas above 2700 feet in elevation from mean sea level. These areas can be easily identified from contour lines on Natural Resources Information and Mapping Center topographic maps.

Significant wildlife habitat must be mapped by the Maine Department of Inland Fisheries and Wildlife (MIF&W) and formally adopted through a rule-making process before it becomes regulated. Current maps are available through MIF&W and may be viewed at any DEP office. You don't need a permit for altering any significant wildlife habitat area that has not been

mapped, unless the area is located in another protected natural resource such as a wetland or river.

What is the permitting process?

Once it has been determined that the project is in or adjacent to a protected natural resource, the next step is to determine which permitting process applies. Many projects, such as the replacement of permanent structures and most stream crossings, can qualify for Permit by Rule. To do so, the project must meet specific standards. If the standards cannot be met then a full NRPA permit is required.

If the project involves a freshwater wetland only, then the project may qualify for licensing under a tiered review process. For smaller projects in relatively low value wetlands, the process guarantees quicker review times with less paperwork.

The NRPA also contains two general permits, one for the construction of cranberry bogs in freshwater wetlands and the second for the construction of agricultural irrigation ponds in streams. Before filing notifications for projects of either type, it is highly recommended you first contact DEP staff to discuss your project and to determine if the general permit process is applicable.

NRPA and Tier applications have been combined for your convenience, but information required may vary. If you have questions about which process is appropriate for your proposed activity, contact the Department at the appropriate regional office.

Is there an application fee?

Yes. The fee for a permit-by-rule project is \$50.00. For "full" applications, the fee is based on the type of activity proposed and the natural resource involved. For alterations of freshwater wetlands that qualify for the tiered review process, fees also vary depending on the amount of wetland being impacted. In general, higher fees reflect activities that require more intensive review by DEP staff. A fee schedule accompanies the application form.

How long does it take to get a permit?

That depends on the complexity of the proposed activity, its potential to adversely affect the environment, and the quality of the application. By law, the commissioner of the DEP is annually required to set processing times on applications. Currently, permit-by-rules must be processed in no more than 14 days. Tier 1 wetland applications must be processed in 30 days and the Tier 2 applications are completed within the maximum of 60 days. The general permits for cranberry bogs and irrigation ponds stipulate a maximum review time of 45 days. The maximum processing time for most full NRPA applications is 120 calendar days, but most applications are processed in a shorter time period. If the project is unusually complex or there is a problem with the quality of an application, processing will occasionally take the maximum processing time.

How do NRPA permits issued by DEP relate to other permits I may need for my activity?

DEP permits do not incorporate or supersede any other State, federal or local permits, although Water Quality Certification, required under the Clean Water Act, is issued *concurrently* with an NRPA permit.

Be sure to check with your own town and DEP to find out what permits are required for your proposed activity. The U.S. Army Corps of Engineers is the most common federal agency involved with projects located in waterways and wetlands. The Corps' Maine Project Office is located in Manchester, Maine and can be reached at (207) 623-8367. For activities that only affect freshwater wetlands and qualify for tiered review, a joint application for both the state and federal permits is available through the DEP. These applications are jointly reviewed by the DEP and Army Corps providing "one step" permitting for applicants.

Where can I get additional information?

For additional information, contact the DEP office closest to you, asking specifically for a staff person in the NRPA program:

- Portland -- 312 Canco Road, Portland, ME 04103
(207) 822-6300
Toll free 1-888-769-1036
- Augusta -- 17 State House Station, Augusta, ME 04333-0017
(207) 287-2111
Toll free 1-800-452-1942
- Bangor -- 106 Hogan Road, Bangor, ME 04401
(207) 941-4570
Toll free 1-888-769-1137
- Presque Isle -- 1235 Central Drive, Presque Isle, ME 04769-2094
(207) 764-0477
Toll free 1-888-769-1053

Other Issue Profiles/Fact Sheets:

- Wetlands Protection: A Federal, State & Local Partnership
- Maine's Wetlands: Their Functions & Values
- Wetland Compensation: Techniques for Restoring Lost Functions & Values
- Designing Projects to Minimize Impacts upon Natural Resources
- Permit-by-Rule (NRPA)
- Planning Projects to Meet Permit-by-Rule Standards
- Agricultural Irrigation Ponds
- New Authority over Activities Adjacent to Protected Natural Resources

Website for NRPA is <http://www.state.me.us/dep/blwq/docstand/nrpapage/htm>



DEP FACT SHEET

Planning Projects to Meet Permit-By-Rule Standards

issued: March 2000

contact: (207) 287-2111

Background

State law identifies certain natural resources as having “state significance” due to their recreational, historical and environmental value to present and future generations. The Natural Resources Protection Act (NRPA) is designed to prevent the degradation and destruction of and to encourage the protection or enhancement of:

- √ coastal wetlands and sand dunes
- √ significant wildlife habitat
- √ great ponds
- √ fragile mountain areas
- √ freshwater wetlands
- √ rivers, streams and brooks

The NRPA requires permits for certain activities in, on or over a protected natural area. It also requires permits for activities on land adjacent to any freshwater wetland, great pond, river, stream or brook that could cause material to be washed into these resources. Examples of these activities include:

- Ö dredging, bulldozing, removing or displacing soil, sand, vegetation or other materials;
- Ö draining or otherwise dewatering;
- Ö filling;
- Ö constructing, repairing or altering any permanent structure (i.e., one constructed or placed in a fixed location for a period exceeding seven months of the year)

Maine’s Department of Environmental Protection (DEP) recognizes that many of the activities subject to the NRPA should not significantly affect the environment if carried out in accordance with the standards contained in the regulations. Accordingly, the DEP has established a **permit-by-rule** procedure to save applicants the time and expense of filing a full permit application.

A separate DEP Issue Profile, entitled Permit-by-Rule (NRPA) answers questions about obtaining a permit-by-rule. This **DEP Fact Sheet** answers questions commonly associated with planning a project to meet the DEP’s permit-by-rule standards. This publication is not a substitute for the law or regulations. Anyone intending to seek a permit by rule should obtain and carefully review the **NRPA Permit By Rule Standards, Chapter 305** available from DEP by contacting one of the offices listed below.

What types of activities governed by the NRPA may be undertaken under the DEP’s permit-by-rule procedure?

The DEP has identified 17 specific activities that may be undertaken under the permit-by-rule procedure. If a project is limited to one or more of these activities and includes no other activities subject to NRPA regulation, then the applicant may use the permit-by-rule procedure.

The chart below identifies each of these 17 activities and the condition under which the permit-by-rule standards apply:

Activity	Planning the Project to Comply with the DEP's Permit-by-Rule Standards
Section 2. activities adjacent to protected natural resources	Regulated only if the possibility exists that soil or fill materials may wash into a regulated water body (i.e., not regulated if existing barriers such as ice berms and retaining wall or a negative slope will prevent runoff): permit-by-rule applicable only if the work involves soil disturbance and/or fill placement adjacent to (i.e., within 100 feet, measured horizontally, from the normal high water line) but not in a coastal wetland, freshwater wetland, great pond, river stream or brook; [Note: soil disturbance in areas adjacent to freshwater wetlands is exempt from this standard except for those wetlands listed under 480-C.1.B.]
Section 3. intake pipes	Pipes must not significantly affect water levels or flows in the water body: applies also to drilled wells in or adjacent to freshwater wetlands or adjacent to coastal wetlands, great ponds, rivers, streams or brooks [Note: Water line placement to a single family house adjacent to a great pond is exempt from NRPA regulation provided excavated trenches are backfilled, riprapped and seeded to prevent erosion.]
Section 4. replacement of structures	A replaced structure may not exceed the dimensions of the previously existing structure, nor may it extend any further into the water body or wetland, except applicants may replace retaining walls with properly installed riprap (see riprap installation, below)
Section 5.	REPEALED
Section 6. movement of rocks or vegetation	The standards allow for only minimal movement (no more than ten feet) of rocks or removal of vegetation from below the normal high water line of a great pond, river, stream or brook to provide access for swimming or navigation
Section 7. outfall pipes	PBR applies to the installation and maintenance of permanent outfall pipes, ditch outlets and drain tiles for discharges of storm water, ground water and other discharges approved by the DEP (Note: Except for uncontaminated groundwater and storm water from residential and small commercial/industrial facilities, applicants must receive a wastewater discharge license from the DEP)
Section 8. shoreland stabilization	PBR applies to the placement of riprap along the shoreline of coastal wetlands (only to protect a structure within 100 feet of the eroding bank and never in any portion of a coastal sand dune system or in areas containing soft-bottom/mudflat sediments or salt marsh marsh vegetation), great ponds, rivers, streams and brooks only where erosion already exists and cannot be controlled by planting vegetation . Riprap must not extend higher on the bank than the level at which vegetation can be established to control erosion (1-3 feet above normal high water). Applicants must plant trees and shrubs above the riprap to replace any material removed. Vegetation planted must be similar in type and placement to that removed. Riprap slope must not exceed one horizontal to one vertical, nor be shallower than three horizontal to one vertical. Applicants must: <ul style="list-style-type: none">◆ anchor riprap at the base of the existing bank by placing the bottom row of rock in a trench excavated at least to a depth equal to the height of the largest rock;◆ place a layer of filter fabric or crushed rock or washed gravel under the riprap to prevent the washing of soil particles into the water;◆ not install any fill material below the normal high water line and must cutback eroding banks to required slopes to allow forriprap installation;◆ not put riprap in front of a retaining wall in a manner that it extends

- ◆ further into the water; and
 - ◆ combine riprap with tree and shrub planting to provide bank stabilization, shading of the water and cover for wildlife along any river, stream or brook.
- Section 9.
utility
crossings
- PBR applies to the installation, maintenance and replacement of utility lines over, submerged under or adjacent to: coastal wetlands, freshwater wetlands, great ponds, rivers, streams or brooks, excluding “outstanding river segments” identified in Title 38, Section 480-P. (**Note:** The installation of utility cables to a single family house adjacent to a great pond are exempt from NRPA regulation provided excavated trenches are backfilled, riprapped and seeded to prevent erosion. Overhead service drops less than 1,000 feet long for telephone or electrical service in freshwater wetlands.)
- Section 10.
stream crossings
- PBR applies to the construction of a permanent road crossing of a river, stream or brook using either a bridge or culvert **except for:**
- ◆ “outstanding river segments” identified in Title 38, Section 480-P;
 - ◆ any river subject to state mandated Shoreland Zoning; and
 - ◆ coastal wetlands, freshwater wetlands, floodplain wetlands greater than 10 acres and great ponds.
- (**Note:** maintenance and repair of public and private crossings are exempt from the NRPA provided that erosion control measures prevent sedimentation, the activity does not block fish passage; and there is no additional intrusion into the river, stream or brook)
- Section 11.
State transportation
facilities
- PBR is applicable only to projects conducted by the Maine Department of Transportation or the Maine Turnpike Authority
- Section 12.
restoration of
natural areas
- PBR applies to the restoration of altered portions of coastal wetlands, freshwater wetlands, great ponds, rivers, streams, brooks (or areas adjacent to these protected natural resources) to their natural conditions through the removal of fill, structures or deposited debris. PBR also applies to the restoration of adjacent areas through recontouring or grading to pre-existing elevations, replanting to pre-existing or similar vegetation and correcting for inundation from previous flooding. Does **not** apply to:
- ◆ restoration or replacement of structures or to draining of freshwater wetlands to convert an area to upland;
 - ◆ conversions of existing natural wetlands to a different type of wetland through flooding, inundation or other means;
 - ◆ dredging silt, sand or soil materials naturally deposited into a coastal wetland, freshwater wetland, great pond, river, stream or brook;
 - ◆ mining of gravel or other minerals from rivers, streams or brooks;
 - ◆ replacement of eroded soil material in areas above, below and adjacent to the normal high water mark of coastal wetlands, freshwater wetlands, great ponds, rivers, streams or brooks; and
 - ◆ removal of dam structures.
- Section 13.
IF&W creation,
enhancement, water
quality
- PBR applies to alterations in and adjacent to coastal wetlands, freshwater wetlands, great ponds, rivers, streams and brooks, provided the alterations are exclusively to create or enhance habitat for fisheries or wildlife or projects to improve water quality. Activities must be conducted by public utilities and municipalities under the supervision of public natural resource agencies. Activities allowed include, but are not limited to:

- ◆ fishway installation;
 - ◆ the construction of artificial reefs, nesting platforms and boxes;
 - ◆ maintenance, installation or modification of dam structures; and
 - ◆ the construction and maintenance of nutrient retention structures
- Section 14.
piers, wharves
and pilings
- PBR applies to the construction or expansion of pile-supported piers and wharves and the installation of pilings in coastal wetlands. PBR also applies to the construction of structures for water dependent uses (e.g., bait sheds) on pile-supported piers and wharves.
- Section 15.
public boat
ramps
- PBR applies to the construction of new or the replacement of existing public boat ramps (no more than two new lanes or a total of two upon completion) and carry-in launch areas, including associated parking and accessways (walk-ways or stairs, portage trails, etc.) in or adjacent to a protected natural area. Such activities include projects by public natural resource agencies, municipalities and owners of federally-licensed hydropower projects. Larger projects or projects where any portion of the ramp or related facilities is located in, on or over emergent marsh vegetation or intertidal mudflat are not eligible for permit-by-rule.
- Section 16.
coastal sand projects
- PBR applies to the following specific activities, provided the activity is undertaken in conformance with the DEP's Coastal Sand Dune Rules (Chapter 355):
- ◆ replacement of existing seawalls;
 - ◆ dune restoration or construction;
 - ◆ beach nourishment;
 - ◆ walkways and driveways, open fences and decks in back dune areas classified as "A," "B" or "C" flood hazard areas;
 - ◆ movement of sand and cobble from the front of buried seawalls using machinery; and
 - ◆ new development or additions to existing development in back dune, non-flood ("C" zone) areas of coastal sand dune systems ***that are not expected to be damaged due to shoreline change within the next 100 years based on historic and projected trends.***
- [Note: The DEP will review such permit-by-rule applications on a case-by-case basis. If the DEP determines that the potential exists for damage from shoreline change, the DEP will require a complete NRPA permit application. This PBR section ***does not apply*** to the construction of or additions to existing single family dwellings in "A" or "B" flood hazard zones or to any structures in "V" hazard zones.]
- Section 17.
transfers and permit
extensions
- To transfer an NRPA permit from the original permit holder to a new owner, an applicant must submit:
- ◆ an affidavit attesting to the fact that the new owner has received, read, understands the terms and conditions and willfully comply with the original terms and conditions of the permit; and
 - ◆ copies of the permit to be transferred along with documents establishing proof of ownership of the property on which the project is located or sufficient title, right or interest to complete the project in accordance with the requirements of the permit and the NRPA.
- To extend a permit, an applicant must submit a copy of the permit along with a written reason/explanation for the extension request.
- Section 18.
maintenance
dredging
- PBR applies to the renewal of DEP permits for dredging in coastal wetlands, freshwater wetlands, great ponds, rivers, streams and brooks provided that the dredged material:

- ◆ will be disposed of in conformance with Maine Solid Waste Law on land and not in any protected resource area;
- ◆ is located in an area that was dredged within the last 10 years; and
- ◆ is not located within 250 feet of an area identified as significant wildlife habitat by the Maine Department of Inland Fisheries and Wildlife (DIF&W).

[Note: Applicants can determine whether or not the project is located in or near a significant wildlife habitat area by contacting the local regional DIF&W office]

Are there other general guidelines applicants must follow to comply with the NRPA Permit-by-Rule standards?

Yes. That is why it is important that every applicant obtain and carefully review Chapter 305, the DEP's Permit-by-Rule standards.

What are some of the specific guidelines contained in these standards?

The following represents examples of the guidelines contained in these standards. **It is not intended as a complete listing, but is presented rather to provide applicants with an appreciation for the tenor and intent of the actual guidelines.**

Depending upon the activity undertaken, applicants for a DEP Permit-by-Rule must:

- maintain a 25 foot setback between the normal high water line or upland edge of the protected resource and the activity .(This setback unnecessary for planting vegetation to control erosion, placing or replacing foundations of existing legal structures, or for removing underground storage tanks or closing a landfill in accordance with applicable state laws);
- maintain existing vegetation (especially within the setback area) if possible: if not possible, vegetation must be replaced when activity completed;
- install and maintain appropriate erosion control measures (e.g., staked hay bales, a silt fence) throughout duration of activity;
- limit width of any trenches for water lines or utility cables to the minimum necessary for installation, and refill with the materials excavated and restore the area to the original grading and elevation;
- not operate wheeled or tracked vehicles in the water except to cross streams on rock, gravel or ledge bottom. (Equipment operating on shore may reach into the water with a bucket or similar extension.);
- operate a wheeled or tracked vehicle in a vegetated coastal wetland so that the vehicle travels or works on mats or platforms to protect wetland vegetation;
- not perform work below the high water line of a great pond, river, stream or brook at low water, unless the activity is emergency flood control;
- not place uncured concrete directly into water;
- not use wood treated with creosote or pentachlorophenol;
- assure that work performed in rivers, streams or brooks will allow fish passage, maintain normal stream flows at all times of the year and neither obstruct boat passage nor impound water;

- not remove any rocks from below the normal high water line of any coastal wetland, freshwater wetland, great pond, river, stream or brook;
- not clear an area wider than ten feet. (If the area has been cleared in the past, subsequent clearing is limited to the original area. Rocks from the cleared area must remain, randomly distributed, in the area in such a way that no jetty is create);
- not remove rocks holding the shoreline if removal would result in shoreline destabilization or soil erosion;
- use pumps for temporary diversions only when necessary, and provided there is no erosion or sediment discharge;
- not use rocks from the shoreline (because these prevent erosion) or from below the normal high water line (because they provide habitat for aquatic life);
- submit evidence of approval from a Professional Engineer or by the Natural Resources Conservation District for design of work proposed on any river, stream or brook bank; and
- assure that any crossing does not obstruct any recreational use of the water body.

For more information about the NRPA and its permit-by-rule procedure, ask for a copy of *Chapter 305, Permit By Rule Standards and Volume II: The Permit-by-Rule Program* of the DEP's four volume series *Protecting Maine's Natural Resources*, by contacting DEP staff at one of the following locations:

*Headquarters & Central Maine Regional Office
17 State House Station
Ray Building, AMHI Complex
Augusta, ME 04333
(207) 287-2111
1-800-452-1942*

*Eastern Maine Regional Office
106 Hogan Road
Bangor, ME 04401
(207) 941-4570*

*Northern Maine Regional Office
528 Central Drive
Presque Isle, ME 04769
(207) 764-0477*

*Southern Maine Regional Office
312 Canco Road
Portland, ME 04103
(207) 822-6300*

Applications to Dredge or to Dispose of Dredged Material in Coastal Waters

March 1997

(207)-287-2111

Background

Dredging and the management of dredged material are regulated jointly by the Maine Department of Environmental Protection (DEP) and by the U.S. Army Corps of Engineers (ACOE). Permits are required from both of these agencies for any dredging activity. This document has been prepared by the Bureau of Land and Water Quality of the Maine DEP to assist applicants proposing to dredge or to dispose of dredged material in coastal waters of the state.

Dredging and the disposal of dredged material have both long and short term adverse impacts on the marine environment. Short term effects include the degradation of water quality due to increased turbidity, the suspension of toxic contaminants contained within the sediments and the physical removal of marine organisms. Long term effects include the cumulative disturbance caused by the need for periodic maintenance, the removal of soft bottom sediments that provide habitat to economically important species and the possible acceleration of adjacent shoreline erosion. These guidelines are intended to minimize the adverse impacts of dredging to the greatest extent possible.

Applicants proposing to dredge must file a Natural Resources Protection Act application with the DEP. State requirements for collecting and testing sediments are the same as those of the ACOE, and are outlined in the attached testing protocol. Maine's Natural Resources Protection Act and Wetland Protection Rules contain specific language that protects the state's marine habitats and fisheries, including requirements for timing the project and notifying local fisheries interests of planned dredging activities.

Application Process

All applicants must submit an analysis of alternatives for the project as required by the Wetland Protection Rules. The analysis must include information that describes and documents the need for dredging. The analysis must also explore the beneficial use of dredged material or other alternative disposal options before considering offshore disposal. Alternative options for the disposal of dredged material include use in construction projects, beach nourishment, and habitat creation or enhancement. If offshore disposal is proposed, documentation of the review of available alternatives and the justification for their rejection must be provided.

Maintenance dredging of previously-impacted areas utilizing either upland disposal or disposal at an approved ACOE disposal site is the least complex of all dredging activities. If the material is to be placed in a previously-approved upland area, the work may be done under the Department's Permit by Rule program. There are presently three approved offshore disposal areas at Portland, Rockland and Cape Arundel. Assuming that sampling shows the material to be suitable for the chosen disposal method, and that all disposal alternatives have been evaluated, applicants proposing maintenance dredging need only to follow Department recommendations on timing and notification (for offshore disposal) as outlined below.

New dredging, or the proposed use of an offshore site other than the Corps-designated sites in Rockland, Portland or Cape Arundel, requires additional information. In addition to the information outlined below, the applicant must fill out "Part II" of the Natural Resources Protection Act application, which requires a detailed biological assessment of the area to be dredged and/or the area to be used for disposal. The physical impacts

of any proposed dredging project must also be investigated. Data must be provided regarding the past and predicted shoaling rate at the site, and the potential impact of dredging on the erosion of adjacent banks and intertidal areas. The investigation must address current patterns, speeds and water circulation, substrate types and impacts, the effect of suspended sediments or particulates, and any potential water column impacts, both long and short term. The dredging of intertidal areas, or of areas with submerged subtidal vegetation (e.g. eelgrass), is generally not approved. The applicant is strongly advised to contact the Department for a pre-application meeting for new dredging or the proposed use of a non-designated disposal site.

Timing of the project must coincide with the time of year that will minimize impacts on marine resources. The impact to these resources will be minimized by performing dredging activities at the time of year that avoids anadromous fish runs, shellfish spawning and lobster migration activities. For most projects, this means that dredging must be undertaken between November 1 and April 15.

Notification of fisheries interests is also required by the Natural Resources Protection Act. If the dredged material is to be disposed of at an offshore site, the applicant must publish the proposed route of the barge in a newspaper circulated in the project area when the application is submitted. The proposed route should be published under the headline "Notice to Fishermen" and must clearly describe the route using compass bearings or Loran coordinates. The DEP can then coordinate with local fisheries interests, including a public hearing if necessary, to insure that any impact to the industry is minimized. A copy of the application must be submitted to all municipalities adjacent to the proposed barge route. If the project is not undertaken immediately, the applicant may be required to republish the notice just prior to beginning work.

A dredging lease for projects located on submerged land (below the elevation of low tide) may be required from the Department of Conservation, Bureau of Public Lands (BPL). The Department sends a copy of the dredging application to BPL, and the applicant will be contacted by that agency if a lease is required.

The disposal of dredged material in an upland area is subject to the Maine Solid Waste Management Regulations. Physical and chemical testing guidelines for upland disposal are outlined in the regulations.

Projects undertaken by federal agencies require pre-application, pre-submission and public informational meetings. Federal agencies should contact the Department for more information on these requirements prior to submitting a request for federal consistency review.

TESTING PROTOCOL

For Applicants Proposing to Dispose of Dredged Material in Coastal Waters

The Maine Department of Environmental Protection requires that applicants and federal agencies proposing to dispose of dredged material in coastal waters sample and test the material as outlined in the U.S. Environmental Protection Agency and U.S. Army Corps of Engineers joint publication entitled "Evaluation of Dredged Material Proposed for Ocean Disposal" (1991).

Further requirements for sampling and testing shall be followed as outlined in the interagency publication adopted by Region I of the U.S. Environmental Protection Agency and the New England Division of the U.S. Army Corps of Engineers entitled "Guidance for Performing Tests on Dredged Material to be Disposed of in Open Waters" (1989). Any subsequent relevant ACOE/EPA publications, or amendments or revisions to the existing publications shall be incorporated into these testing guidelines.

The testing procedure consists of a "tiered" approach, whereby sediments are analyzed only to the level of detail required to make a decision on the environmental impact of disposal. Physical, chemical and biological tests are performed on the sediments as necessary to determine the potential for environmental impact. Certain areas, such as those where the material is coarse grained and found in areas of high current or wave velocity (coastal areas with shifting bars and channels), may be exempt from chemical testing based on the results of a physical analysis and an assessment of the potential for contaminated sediments. Areas where chemical test results suggest the possibility of adverse environmental effects from dredging or disposal operations may have to undergo biological testing. Most sites in Maine undergo physical and chemical testing at a minimum. Areas where existing data is available, but is more than 3 years old, may also need to be retested.

The DEP must often review applications for dredging prior to their approval by the Army Corps of Engineers (ACOE). The Department also maintains records of sediment sampling results for state waters. For these reasons, the Department requires that all information gathered in the ACOE/EPA sampling and testing procedure be submitted with the application, including:

1. **Information regarding the dredge site** including: any available information on resources in the area such as the presence of intertidal mudflats, shellfish or eelgrass beds; the results of any prior chemical or physical testing; any available information about the source of the material to be dredged; any evidence of the historical occurrence of spills; the existence of point source discharges in the area; the existence of landfills and EPA Superfund sites in the vicinity of the project that could affect the material to be dredged; the character of marine traffic; and any existing outfalls which may affect the area, including sewage, stormwater, industrial, municipal, commercial or residential discharges into the waterway.
2. **The location and depth of all physical and chemical samples.** Sampling plans must be approved by the U.S. Army Corps of Engineers Regulatory Division prior to sample collection. The applicant must demonstrate that the sampling has been designed to give an accurate representation of the area to be dredged. Details of the sampling plan, including the depth(s) represented by the sampling device and the basis for the compositing of samples, must be submitted. Unless valid justification for another sampling method is demonstrated, all core samples must include sediment to the depth of the proposed dredging. Core samples must be visually inspected for the existence of strata. A grain size analysis may be required for each distinct layer observed in the material to be dredged. For some projects, especially areas that exhibit distinct differences in strata and/or have not been previously dredged, chemical or biological toxicity testing may also need to be performed on individual strata. The applicant is encouraged to contact the DEP to discuss the ACOE-approved sampling plan prior to testing.
3. **Sample collection methods and handling.** All sampling must be done with core or grab samplers, depending on the depth of the proposed dredging and the nature of the materials. Field notes must be submitted that describe the sample depth, color, horizons, visual grain size, general cohesiveness and any obvious odors of the sediments. Care must be taken to avoid contaminating the sample through improper sampling techniques. Sampling records must be submitted that document the field collection and chain of custody to the time of analysis. Reports must specify the analytical methods followed. Percent recoveries and blanks and the method used must accompany all results. The laboratory QA/QC plan must be filed as required with the ACOE. The Department may request copies of the laboratory QA/QC on a case by case basis.

For additional information, contact the DEP office closest to you, asking specifically for a staff person in the NRPA program:

- **Portland -- 312 Canco Road, Portland, ME 04103
(207) 822-6300**
- **Augusta -- 17 State House Station, Augusta, ME 04333
(207) 287-2111**
- **Bangor -- 106 Hogan Road, Bangor, ME 04401
(207) 941-4570**
- **Presque Isle -- 1235 Central Drive, Presque Isle, ME 04769
(207) 764-2044**

**For more information about federal
law, contact:**

**For information on sampling and testing,
contact:**

**U.S. Army Corps of Engineers
Maine Field Office
RR 2, Box 1855
Manchester, ME 04351
623-8367
623-8124**

**U.S. Army Corps of Engineers
New England Division-Marine Analysis Section
424 Trapelo Road
Waltham, MA 02254-9154
(617) 647-8291**

Wetlands Protection: A Federal, State and Local Partnership

August 2003

(207) 287-2111

Background

Maine possesses a wealth and diversity of wetlands unequaled in the Northeastern United States. Fully 25 percent of Maine's land area is wetlands, four times the wetland area of the other five New England States combined. Over five million acres of Maine's wetlands are freshwater wetlands (wooded swamps, shrub swamps, bogs, freshwater meadows, freshwater marshes and floodplains). Only 157,500 acres are tidal or coastal wetlands (tidal flats, salt marsh, freshwater/brackish marsh, aquatic beds, beaches and reefs).

Wetlands are valuable not only for their beauty and the recreation opportunities they support, but also for critically important functions they perform in our environment, including water storage, flood conveyance, groundwater recharge and discharge, shoreline erosion control and water quality improvement. Wetlands are a highly valuable source of timber to Maine's forest products industry providing jobs and bolstering the economy of many communities. Perhaps most

important, wetlands provide habitat vital to fish and wildlife, including many threatened and endangered species.

Maine's wetlands are resources of great value to Maine communities, the state and the nation. All three levels of government have a stake in their continued health and availability. This DEP Issue Profile examines the roles all three levels of government play and the partnership they have developed to assure that Maine's wetlands are adequately protected.

Under what authority does each level of government (federal, state and local) regulate wetlands?

Congress established federal regulatory power concerning wetlands under Section 404 of the Clean Water Act. In Maine, the 1988 Natural Resources Protection Act (NRPA) established state regulatory authority over wetlands. Maine communities regulate wetlands under the home rule provisions of the Maine Constitution and under Maine's Municipal Shoreland Zoning statute which gives authority to local government to regulate non-forested wetlands greater than ten



acres in size.

How are these authorities exercised?

The state and federal governments have developed cooperative arrangements that streamline the permitting process for activities affecting wetlands. For activities affecting coastal wetlands the state and federal government retain full permitting over all wetlands of any size.

For activities involving freshwater wetlands, the state and federal governments have developed a reduced permitting process, based on the size of the alteration in the wetland, rather than the size of the wetland itself.

How does this process work?

Under this program, applicants file a permit application with the Maine Department of Environmental Protection (DEP). DEP then coordinates the screening and review of all applications with all other state and federal agencies. Since the federal agencies participate in the process, they maintain the authority to deny a permit or to require restrictions consistent with federal law.

Is this a time-consuming process?

No. Under changes to the NRPA adopted in 1995, the Legislature established strict time limits on the application and permitting process. Unless significant wetlands (defined below) are involved, the DEP must process applications for projects that will affect less than 15,000 square feet of a wetland area within 30 days. For projects that will affect between 15,000 square feet and one acre of wetland area processing must be completed within 60 days.

What are the *significant wetlands* that would disqualify certain freshwater wetlands from this permitting procedure?

Freshwater wetlands may not qualify for this expedited process if they:

- √ are within 250 feet of a coastal wetland or a great pond;
- √ are within 25 feet of a river, stream or brook;
- √ contain 20,000 square feet or more (approximately ½ acre) of open water and/or emergent vegetation under normal circumstances;
- √ are in a floodplain;
- √ contain significant wildlife habitat (as defined and, in some cases, explicitly identified, in the law); and or
- √ consist of peatland.

Are there any areas exempt from the NRPA's permit requirements?

Yes, there are several exemptions, including

- √ projects affecting less than 4,300 square feet (approximately 1/10 of an acre) of wetland area, as long as the affected area is not within a shoreland zone (based on Municipal Shoreland Zoning Act requirements), is not peatland, does not contain 20,000 sq.ft. of open water or emergent vegetation, maintains a setback of at least 25 feet from all other natural resources, and constitutes a single, complete project;
- √ forest management activities in forested wetlands only, including associated road construction or maintenance, and conducted under specific restrictions as defined in the NRPA;
- √ normal farming activities such as the clearing of vegetation for agricultural purposes (if there is no alteration of land topography) including: plowing, seeding, cultivating, minor drainage and harvesting; construction or maintenance of farm or livestock ponds or irrigation ditches; maintenance of drainage ditches; and construction or maintenance of farm roads; and
- √ activities adjacent to a freshwater wetland unless the wetland contains either peatlands or at least 20,000 square feet of marsh vegetation or open water, (excluding artificial ponds or impoundments unless they are alterations of other protected resources such as streams).

For more information about the rules applying to wetlands, obtain a copy of *Chapter 310, the wetlands rules under the NRPA and the DEP's publication, *Protecting Maine's Natural Resources, by contacting DEP staff at one of the following locations:**

*Augusta Office
17 State House Station
Ray Building, AMHI Complex*

*Augusta, ME 04333
(207) 287-2111
1-800-452-1942*

DEPLW012-B2003

Wetlands

*Northern Maine Regional Office
528 Central Drive
Presque Isle, ME 04769
(207) 764-0477*

*Eastern Maine Regional Office
106 Hogan Road
Bangor, ME 04401
(207) 941-4570*

*Southern Maine Regional Office
312 Canco Road
Portland, ME 04103
(207) 822-6300*



DEP INFORMATION SHEET

Erosion and Sedimentation Control Law

date: May 1998

contact: Bill Laflamme (207) 287-7726

Background: For many years, state laws and local shoreland zoning ordinances have required that erosion control measures be taken when a project (ex. construction or landscaping) will disturb soil in a shoreland area. Erosion is the loss of exposed soil caused by the action of rain, snowmelt or wind. Erosion control measures such as the use of silt fence and hay bales to temporarily prevent soil from being carried away in a storm, and seeding to permanently cover and stabilize an exposed area, were required in order to prevent damage to fish habitat in streams, and to reduce the movement of pollutants such as phosphorus, to lakes. Unfortunately, requiring the use of these measures only in shoreland areas has not been enough to protect streams and lakes. All land is located in some watershed: all land drains to some waterbody or wetland. Basic, good-practice, erosion control measures need to be used throughout watersheds, not just in immediate shoreland areas. The Erosion and Sedimentation Control Law was enacted by the Legislature in 1997 as an important step in addressing this need.

Law Requirements: The Erosion and Sedimentation Control Law (Erosion Control Law) applies everywhere in all organized areas of the state, for all sizes of projects.

- For projects on or after July 1, 1997. If a person is filling, displacing or exposing soil or other earthen materials, the Erosion Control Law requires that he or she take measures to prevent unreasonable erosion of soil or sediment beyond the site or into a protected natural resource, such as a river, stream, brook, lake, pond, or wetland. Erosion control measures must be installed before the activity begins, be maintained, kept in place and functional until the site is permanently stabilized.

- For property with a chronic erosion problem resulting from human activity undertaken before July 1, 1997. By July 1, 2005, property subject to erosion of soil or sediment into a protected natural resource, and located in the watershed of a body of water most at risk (as listed in Ch. 502 of DEP rules), must be properly stabilized to prevent further erosion. All other property subject to such erosion of soil or sediment into a protected natural resource must be stabilized by July 1, 2010.

The Full Text of the Law: *A person who conducts, or causes to be conducted, an activity that involves filling, displacing or exposing soil or other earthen materials shall take measures to prevent unreasonable erosion of soil or sediment beyond the project site or into a protected natural resource as defined in section 480-B. Erosion control measures must be in place before the activity begins. Measures must remain in place and functional until the site is permanently stabilized. Adequate and timely temporary and permanent stabilization measures must be taken and the site must be maintained to prevent unreasonable erosion and sedimentation.*

A person who owns property that is subject to erosion because of a human activity before July 1, 1997 involving filling, displacing or exposing soil or other earthen materials shall take measures in

DEPLW0051-B1998

accordance with the dates established under this paragraph to prevent unreasonable erosion of soil or sediment into a protected natural resource as defined in section 480-B, subsection 8. Adequate and timely

temporary and permanent stabilization measures must be taken and maintained on that site to prevent unreasonable erosion and sedimentation. This paragraph applies on and after July 1, 2005 to property that is located in the watershed of a body of water most at risk as identified in the department's storm water rules adopted pursuant to section 420-D and that is subject to erosion of soil or sediment into a protected natural resource, as defined in section 480-B, subsection 8. This paragraph applies on and after July 1, 2010 to other property that is subject to erosion of soil or sediment into a protected natural resource as defined in section 480-B, subsection 8.

This section applies to a project or any portion of a project located within an organized area of this State. This section does not apply to agricultural fields. Forest management activities, including associated road construction or maintenance, conducted in accordance with applicable standards of the Maine Land Use Regulation Commission, are deemed to comply with this section. This section may not be construed to limit a municipality's authority under home rule to adopt ordinances containing stricter standards than those contained in this section.

Further information: The DEP's Bureau of Land and Water Quality (BLWQ) can provide additional information such as the publications and videos listed below. Please feel free to contact the nearest BLWQ office.

(Headquarters)
Central Maine Regional Office
17 State House Station
Ray Building
Augusta, Maine 04333
(207) 287-2111

Eastern Maine Regional Office
106 Hogan Road
Bangor, Maine 04401
(207) 941-4570

Northern Maine Regional Office
1235 Central Drive
Presque Isle, Maine 04769
(207) 764-0477

Southern Maine Regional Office
312 Canco Road
Portland, Maine 04103
(207) 822-6300

Maine Erosion & Sediment Control Handbook for Construction: Best Management Practices, Cumberland County Soil And Water Conservation District and Maine Department of Environmental Protection, March 1991.

Erosion Control for Homeowners Fact Sheet #3

Keeping Soil on Construction Sites: Best Management Practices Video, Ohio Department of Natural Resources, Ohio Homebuilders Association

Erosion and Sediment Control Practices: Video Modules, North Carolina Dept. Of Environment, Health and Natural Resources, 1991

Erosion Control For Water Quality Protection Video, Cobbossee Watershed District

*Please visit the DEP's Home Page at <http://www.state.me.us/dep>
Go to "Land and Water" (the Bureau of Land and Water Quality)*