

**Introduction to the Clean Water Act -  
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A. Water Problems and Human effects on water

- 1) Quantity – Taking too much of it or needing it where it is not present.
- 2) Flow alternation – Grand Canyon is one of many places where waters have been affected by flow changes.
- 3) Channel modifications like channelization or cutting shoreline trees. Sometimes regulated by CWA as a "fill."
- 4) Putting something into the water – this adding of pollutants into the water is what the CWA directly addresses.

B. Uses for water – The CWA requires protection of existing and designated uses

- 1) Drinking water – also addressed by Safe Drinking Water Act and Resource Conservation and Recovery Act. 42 U.S.C. § 6901 et seq. Not considered a "fishable/swimmable" under CWA 101(a) by the United States Environmental Protection Agency. ("U.S. EPA")
- 2) Aquatic life
- 3) Fish consumption – a pollutant can be bad for people who eat the fish without hurting the fish.
- 4) Swimming and other forms of recreation
- 5) Generally states designate “uses” for water bodies under 40 CFR §131.10.

C. Types of pollution raise different issues and affect different uses

- 1) Toxins that kill aquatic life – acute and chronic toxicity, “emerging” pollutants such as pharmaceutical products and endocrine disrupters affect aquatic life and possibly drinking water
- 2) Toxins that affect people through drinking water, contact, or eating fish that have accumulated toxins (e.g. Hg) in their systems.
- 3) Nutrient pollution – causes excessive plant, algal and cyanobacteria blooms, and areas with very low dissolved oxygen ("dead zones")
- 4) Pathogens that affect swimmers and others that come into contact with water bodies – Many wastewater treatment plants (WWTP)

disinfect discharges to swimmable waters but combined sewer overflow contain pathogens. It is very difficult to test beaches properly.

- 5) "Dredges" and "Fills" that modify the water – wetlands, dams, stream channel destruction.
- 6) Heat – temperature changes affect aquatic life. (CWA § 316(a))
- 7) Impingement and entrainment of aquatic life in turbines. (§316(b))

#### D. The Clean Water Act

- 1) 33 U.S.C. § 1251 et seq.
- 2) Passed in 1972 as an amendment to the Federal Water Pollution Control Act of 1948 over President Nixon's veto.
- 3) Much of the CWA focuses on studies or distribution of federal money for wastewater treatment and other purposes.
- 4) Applies to all "waters of the U.S." 33 U.S.C §1362(7), which Congress did not define precisely. A huge legal/political battle has raged over a decade as to what should be considered the "waters of the U.S." with the Supreme Court making a mess of the issue as to "isolated" waters in *U.S. v. Rapanos*, 547 U.S. 715 (2006).
- 5) Law is also unclear as to the extent that groundwater connected to surface water is covered by CWA. compare, *Village of Oconomoc Lake v. Dayton Hudson Corp.* 24 F.3d 962 (7<sup>th</sup> Cir.) cert. denied 115 S.Ct. 322 (1994) with *Sierra Club v. Colorado Refining Co.* 838 F.Supp. 1428 (D.Colo.) app. dismissed, 28 F.3d 113 (10<sup>th</sup> Cir. 1994)
- 6) Waters were to be "fishable and swimmable" by July 1, 1983. CWA 101(a)(2), 33 U.S.C. §1251(a)(2).
- 7) CWA divides pollution into point and non-point source: point source pollution is regulated through Section 402 (NPDES) and Section 404 (dredged and fill material) permitting programs; non-point pollution is not subject to a regulatory program.
- 8) Point Source Pollution
  - a. Also referred to as a "discharge of pollutants"
  - b. A point source is "any discernible, confined and discreet conveyance" §502 (14) (e.g. a pipe coming from a factory or sewerage treatment plant)
  - c. Some stormwater discharge is point source, generally agricultural stormwater is not because of definition in law. Section 502(14), 33 USC § 1362(14).
  - d. Very large animal feeding operations (AFOs) are treated as

point sources. See 40 CFR §122.24 The ones that are so treated are called Concentrated Animal Feeding Operations (CAFOs)

- e. Point Sources are controlled by the National Pollution Discharge Elimination System (NPDES). One must have a NPDES permit to discharge from a point source. 33 U.S.C. §1311(a)
- f. The CWA (§101(a)(1)) sets elimination of discharges as a goal for 1985. “One of the primary objectives of the Act, as stated in section 101, 33 U.S.C. § 1251(a)(1), is to achieve the national goal ‘that the discharge of pollutants into navigable waters be eliminated by 1985.’” *In re Ocoee River Dam No. 2 Hydroelectric Project*, 717 F.2d 992, 998 (6th Cir. 1983).
- g. Much progress has been made on point sources since 1972. Many point source dischargers tell environmentalists to go deal with agriculture and leave them alone. Point sources, however, are still a significant source of toxins, and endocrine disrupting pollutants and in many waters point sources are the major source of nutrient pollution (nitrogen and phosphorus). Further, there is clear evidence that nutrient pollution from point sources has a greater environmental effect per pound because of greater bio-availability.

## 9) Non- Point Pollution

- a. Basically unregulated by Clean Water Act.
- b. Non-point sources include run-off from agriculture and construction sites less than one acre large. Even if coming through what looks like a point source, pollution from agriculture will often not be regulated because of the exemption from the definition of “point source” in 33 U.S.C. §1362 (14) (“[point source] does not include agricultural storm water discharges and return flows from irrigated agriculture”). Polluted groundwater coming from tile drains should not fall within this exception and it is such pollution that is the subject of the recent Des Moines Water Works lawsuit against several drainage districts. “Normal” farming activities are also exempted from the Section 404 controls on “fills.” 33 U.S.C. §1344(f)
- c. Non-point sources are a big problem, particularly as to nitrogen-based fertilizer. Phosphorus fertilizer is a major source of pollution in agricultural areas and some suburbs.

Nitrogen fertilizer is causing huge problems around the world. *Env. Health Perspectives*, Vol. 120, No.5 (May 2012)

- d. CWA Section 319, 33 U.S.C. §1329, requires states to develop plans for controlling non-point pollution, but does not establish mandatory controls.
- e. States receive 319 grants to address non-point sources but it is not a huge amount of money and not all of it is spent wisely.
- f. The state revolving fund (SRF) can also be used to address non-point pollution but few states use SRF money this way.
- g. A few states (e.g. California) have non-point controls with teeth established under state law but this is the exception.

#### E. NPDES Permits Overview

CWA permits come in two basic varieties: Section 402 National Pollutant Discharge Elimination System Permits (“NPDES”) and Section 404 permits to “fill.” NPDES permits are issued by U.S. EPA or, more often, a state agency (e.g. the Alabama Dept. of Environmental Management, Iowa Dept. of Natural Resources) that has received delegated authority to issue NPDES permits. Section 404 permits are generally issued by the United States Army Corps of Engineers (the “Corps”) although Section 404 permitting authority also can be delegated to states. As to both NPDES permits and 404 permits, there are specific permits that are applied for to obtain permission for a particular discharge or fill and general permits that allow persons that fit within the terms of a general permit to conduct the permitted activity, generally after giving notice of intent (an “NOI”) to use the general permit.

When the CWA was enacted in 1972, it was thought that technology would be improved over time and that NPDES discharge limits would be tightened until discharges were eliminated. Adler, R.W., Landsman, J.C. and Cameron, D.M., *The Clean Water Act 20 Years Later*, Island Press (1993) p. 137; Rodgers, Jr., W.H., *Environmental Law*, Second Edition (1994) pp. 361-62.

1. Effluent limits in permits are supposed to be set as the **more** stringent of technology based effluent limits (TBELs) or water quality standard based limits. 33 USC 1311(b)(1)(C). (water quality based effluent limits = WQBELs) This is a hard concept for many dischargers and state officials who want to have permits based on the **less** stringent of the TBELs and the WQBELs.
2. Technology based effluent guidelines are developed by U.S. EPA by considering of what certain types of dischargers (e.g. oil refineries) can generally be expected to achieve. Permit writers use these effluent guidelines to write TBELs. 40 CFR 125.3. If there

is no U.S. EPA effluent guideline as to a particular technology, permit writers are supposed to use “best professional judgment” to set TBELS. 33 U.S.C.A. §§ 1311(b)(2)(A)(i) and 1342(a)(1), and 40 C.F.R. § 125.3

3. Sewerage treatment plants generally are to provide “Secondary treatment” as defined by USEPA. 33 USC 1314(d) Achieving secondary treatment requires getting oxygen-depleting pollutants (BOD and CBOD), and total suspended solids (TSS), down to concentrations set by the regulations and controlling pH. 40 CFR 133.102. However, Secondary Treatment does not now require controlling pathogens, hormone disrupting chemicals or nutrients.
4. Where there is dilution and not a lot of discharge, technology based limits may be more stringent than is necessary to protect drinking water, swimming and aquatic life. Still, all dischargers must meet least the minimum technological requirements - the solution to pollution is not generally dilution. We are to be working toward zero discharge.
5. WQBELs are required whenever a discharge will cause or contribute to a water quality standards violation. 40 CFR 122.4(i) and 40 CFR 122.44(d); See also, *American Paper Institute v. U.S. Environmental Protection Agency*, 996 F.2d 346, 350 (D.C. Cir. 1993); *Alabama Dept. Environmental Management* 14 So. 3d 853, 859 (ala. Ct. Civ. App. 2007). This is true as to numeric water quality standards (e.g. Nitrate must be below 10 mg/L) and narrative water quality standards. (e.g. “waters of the state shall be free from plant or algal growth or other than natural origin”) NPDES permits need numeric WQBELs (e.g. discharge concentrations must be less than 0.1 mg/L total phosphorus) even if the water quality standard being protected is narrative. For example, the permit writer may have to determine what level of phosphorus or nitrogen can be discharged to prevent violations of the criterion that "waters must be free from unnatural algal growth." *Upper Blackstone Water Pollution Abatement Dist. v. U.S. EPA*, 690 F.3d 9 (1<sup>st</sup> Cir 2012); *American Paper Institute v. U.S. Environmental Protection Agency*, 996 F.2d 346, 350 (D.C. Cir. 1993); *Prairie Rivers Network v. Illinois Pollution Control Board*, 2016 IL App (1<sup>st</sup>) 150771.
6. Water quality Standards - States generally develop water quality standards but they must be approved by U.S. EPA. CWA 303(c). Water quality standards consist of designated uses (e.g. swimming, aquatic life, cold water fishery) and criteria to protect those uses. States are supposed to designate all the uses that are attainable and there is a presumption of attainability. *Kansas Natural Resources Council, Inc. v. Whitman*, 255 F.Supp. 2d 1208 (D. Kan. 2003).

The criteria must be based on a “sound scientific rationale” and protective of the designated uses including “the most sensitive use.” 40 CFR 131.11(a). The criteria should not take into account economic factors. *Mississippi Commission on Natural Resources v. Costle*, 625 F.2d 1269, 1277 (5th Cir. 1980). (other parts of the regulatory process do make allowances for economic factors including use designations and compliance schedules) U.S. EPA has authority to establish standards for states when they fail to do so 33 USC 1313(c)(4)(B) but USEPA has been very reluctant to use this authority.

Water quality standards are crucial both in driving NPDES permit limits and in setting the targets for TMDLs (discussed below). Much litigation has occurred in the context of challenges to U.S. EPA approval of water quality standards that failed to designate uses that should have been designated or that did not have criteria strong enough to protect those standards. E.g. *Ky. Waterways Alliance v. Johnson*, 540 F.3d 466 (6th Cir. 2008); *Fla. Pub. Interest Research Group v. EPA*, 386 F.3d 1070, 1088-90 (11th Cir. 2004); *NW Env'tl. Advocates v. U.S. EPA*, 268 F.Supp 2d 1255 (D.Ore. 2003).

Permit writing -A simplified example - Let us say, hypothetically, that a business wants to discharge iron in its wastewater into a stream and that the effluent flow from its factory will be five (5) cubic feet per second. Based upon analysis of economical wastewater treatment methods for that type of business, U.S. EPA might have determined that the hypothetical business with a certain level of production should not be allowed to discharge wastewater with a concentration of more than 4 mg/L of iron. So 4 mg/L would be the technology based effluent limit and the NPDES permit should contain a limit that allows the business to discharge no more than 4 mg/L of iron in its discharge no matter what the nature of the stream into which it will discharge.

However, the water quality standard for iron in our hypothetical (and in Illinois, 35 Ill. Admin. Code 302.208(f)) is 1 mg/L. Thus, if there is flow less than fifteen cubic feet per second (iron-free) in the stream upstream of the discharge, discharging five cubic feet per second at 4 mg/L would lead to a violation of the water quality standard. Therefore, a WQBEL would be needed. For example, if the upstream stream flow were only 5 cubic feet per second, a WQBEL of 2 mg/L would be needed to prevent a violation of the 1mg/L water quality standard for iron. Therefore, the iron concentration limit in the NPDES permit should be 2 mg/L. The hypothetical business would have to get its concentration of iron down to half of what is generally required of the industry because of the particular situation of the water into which it is discharging.

Of course, nothing is ever as easy as our example. There is generally some background level of the pollutant in the water and the stream flows, effluent flows and concentration level are never constant over time. There may also be mixing zones allowed

(places where a portion of the water body is allowed to violate standards) and the standards for many pollutants vary based on the hardness or pH or other factors.

7. Because U.S. EPA has not set nutrient effluent limits for industry or made nutrient control part of the definition of “secondary treatment,” nutrients are not controlled by technology based effluent limits. In practice, nutrients are not generally limited by WQBELs in NPDES permit because of the lack of numeric nutrient standards although legally they must be limited to prevent violations of narrative standards, DO standards and other limits.
8. Hormone disrupting chemicals also generally now escape technology and water quality based limits.
9. U.S. EPA and states and tribes may issue **general** NPDES permits. 40 CFR 122.28. States have issued general permits for certain kinds of discharges including construction stormwater permits, industrial stormwater, municipal stormwater, concentrated animal feeding facilities, stormwater from mining, sewage discharges from single family homes or small subdivisions. General permits are in place for administrative convenience but afford much less protection of the environment. General permits that have been used for some activities, such as coal mining, have been outrageously weak.
10. Review of State Agency issued NPDES permits
  - (a) States and tribes are required to allow members of the public to appeal the issuance of NPDES permits without requiring a stringent showing for standing. 40 CFR §123.30.
  - (b) NPDES permit appeals are taken to Environmental Appeals Board if U.S. EPA issued permit but generally it is a state that issues the permit and the appeals are handled through state procedures. Often there is some sort of state body (e.g. the Alabama Environmental Management Commission or Illinois Pollution Control Board) that considers appeals and a party unhappy with the result in the state appeals agency can seek review in the state court system. See, *Alabama Dept. of Environmental Management* 14 So. 3d 853.
  - (c) U.S. EPA has the power to object to NPDES permits issued by the states and tribes, *American Paper Institute, Inc. v. U.S. EPA*, 890 F2d 869 (7<sup>th</sup> Cir. 1989); 40 CFR 123.44, but only very rarely uses this authority.

## F. NDPES Permit Enforcement

- 1) Permit limits are generally enforced through self-monitoring. The permits are supposed to spell out the monitoring required. 40 CFR §122.48. The permit holders are to collect samples and file monthly discharge monitoring reports on the levels of pollution in their discharge. Obviously, this system provides incentives for permit holders to monitor inaccurately or at least to monitor at times in which it is less likely that a permit violation will be found. There are, however, some checks on self-reporting, including facility inspections and ambient water quality monitoring. Unfortunately, unreported violations are also discovered through fish kills and other obvious environmental damage.
- 2) U.S. EPA, states and, citizens may bring suit to enforce permit limits. 33 U.S.C. §§ 1319, 1365, See also, *Friends of the Earth, Inc. v. Laidlaw Environmental Services, Inc.* 528 U.S. 167 (2000). Citizen enforcement, though, is limited by a number of factors.
  - (i) Citizen suits can only be filed after giving 60 days' notice.
  - (ii) Regulation for how to give notice properly is at 40 CFR 135.3. The idea is to give dischargers a chance to correct problems or for federal or state enforcers to sue first.
  - (iii) If federal or state officials sue first and prosecute in good faith, citizens' suits are preempted although they may be able to intervene in government suit.
  - (iv) Even if citizens sue first, their suit may be blocked if federal or state officials reach a good faith settlement with the discharger that takes care of the problem. *Friends of Milwaukee River v. MMSD*, 382 F.3d 743 (7<sup>th</sup> Cir. 2004)
  - (v) Citizens, though, must have a reasonable opportunity to object to a weak settlement for their suit to be preempted by government action. *Jones v. City of Lakeland*, 244 F.3d 518 (6<sup>th</sup> Cir. 2000)
- 3) Relief that can be obtained from suit includes:
  - Civil penalties – go to the U.S. Treasury
  - Orders to stop the violation
  - Supplemental Environmental Projects that attempt to mitigate the damage done by the violations. *Sierra Club, Inc. v. Elec. Controls Design, Inc.*, 909 F.2d 1350, 1354-56 (9th Cir. 1990) (“The provisions of the Act provide no limitation on the type of payments to which parties to citizens' suits can agree in a settlement. There is no indication that where a defendant agrees to a settlement it must



also agree to pay penalties to the treasury. Likewise, the Act's legislative history reveals no Congressional intent that private parties be precluded from entering into settlements which do not require the defendant to tender civil penalties to the United States.”).

#### G.404 Dredge and Fill Permits

- 1) A §404 Permit is needed from the Corps to put fill in a wetland or other waters of the United States. 33 U.S.C. § 1344. While most of the focus of 404 has been on wetlands protection, a 404 permit may also be an issue as to activities in stream channels including dam building. *Simons v. United States Army Corps of Engineers*, 120 F.3d 664 (7<sup>th</sup> Cir. 1997).
- 2) Much of the recent focus has been on general permits, permits not requiring full consideration by the Corps or notice to the public. The Corps has a long list of nationwide general permits and then there are regional general permits established by Corps Divisions and Districts. 33 C.F.R. part 330.
- 3) As mentioned, there has been much controversy over what is included in the “waters of the United States.” Supreme Court in *SWANCC v. U.S. Army Corps*, 531 U.S. 159 (2001) narrowed reach of CWA over isolated waters and left a confusing body of law under *Rapanos v. United States*, 547 U.S. 715 (2006). This problem mostly affects fills of wetlands but may affect discharges of pollution if the pollution does not reach navigable waters or their tributaries.
- 4) In some cases, it has been controversial whether a form of pollution is a discharge, requiring an NPDES permit, or a “fill” falling under Section 404. This can be very important as discharges are generally regulated by state pollution control agencies and fills are normally regulated primarily by the Corps. Also, the rules pertaining to the two types of permits are different. This has been a hot topic with regard to mountaintop removal coal mining.
- 5) Generally, the only way to appeal a decision of the Corps to grant a 404 permit is to bring suit in federal district court on the basis that the decision to grant the permit was arbitrary under the Administrative Procedure Act or violates the National Environmental Policy Act (NEPA), 42 U.S.C. §§4321 to 4370f.
- 6) Enforcement of 404 is problematic. Corps is supposed to enforce against fills without a 404 permit and to enforce against violations of 404 permit conditions but enforcement is spotty at best. *Atchafalaya Basinkeeper v. Chutz*, 682 F.3d 356 (5<sup>th</sup> Cir. 2012) held that citizens cannot sue to enforce conditions in 404 permits.

There are cases holding that citizens can bring suit regarding fills that have no permit or that violate conditions of state 401 certifications. *Stillwater of Crown Point Homeowner's Assn v. Stiglich*, 999 F.Supp. 2d 1111 (N.D. Ind. 2014); *Love v. N.Y. State Dept. of Env. Conservation*, 529 F. Supp. 837 (S.D.N.Y. 1981)

#### H. Antidegradation

- 1) States and tribes are required to adopt antidegradation policies and implementation rules. 40 CFR §131.12; *Ky. Waterways Alliance*.
- 2) Good antidegradation rules should apply to all draft NPDES permits involving new or increased discharges of pollutants.
- 3) Tier I Antidegradation provides that a new or increased discharge cannot be allowed if the new pollution will harm any of the existing uses. 40 CFR §131.12(a)(1)
- 4) Tier II Antidegradation prohibits a new or increased discharge if it is not necessary to accommodate important social or economic development. 40 CFR §131.12(a)(2). We are trying to eliminate discharges, not permit new unnecessary pollution.
- 5) Tier III antidegradation prohibits any new pollution to waters that have been designated as Outstanding National Resource Waters (“ONRWs”). 40 CFR §131.12(a)(3). Federal law requires that a procedure be established for designating ONRWs but does not require that any ONRW be designated.

#### I. Section 303(d) – Total Maximum Daily Loads

- 1) Section 305b requires states to report on the condition of state waters and section 303(d), 33 USC §1313(d), requires listing of impaired waters. *Friends of Pinto Creek v. U.S. EPA*, 504 F.3d 1007, 1010 (9<sup>th</sup> Cir. 2007) *cert. denied*, 129 S.Ct. 896 (2009)
- 2) States are supposed to prepare studies of the total maximum daily load (TMDL) of pollutants that can be safely discharged into impaired waters and develop plans for bringing impaired waters into compliance. Such plans should be used to better regulate point sources and provide incentives for states to regulate or pressure non-point sources to control loadings. (Chesapeake Bay)
- 3) States and EPA have authority to write TMDLs as to non-point pollution but that does not provide CWA authority to regulate it. *Pronsolino v. Natri*, 291 F.3d 1123 (9<sup>th</sup> Cir. 2002).
- 4) Section 303(d) has been very controversial, probably the most controversial part of the CWA except for 404.