5. In the press release accompanying the polar bear determination, Secretary of Interior Dirk Kempthorne said: "Listing the polar bear as threatened can reduce avoidable losses of polar bears. But it should not open the door to use of the ESA to regulate greenhouse gas emissions from automobiles, power plants, and other sources. That would be a wholly inappropriate use of the ESA law. The ESA is not the right tool to set U.S. climate policy." Do you agree? Undeterred by the FWS's decisions relating to the polar bear designation, the Center for Biological Diversity asked FWS and NMFS to list ringed, bearded, spotted and ribbon seals and the Pacific walrus, all ice-dependent species, as threatened or endangered. NMFS responded by listing two distinct populations segments of a subspecies of the bearded seal as threatened, listing three subspecies of the ringed seal as threatened, and listing one subspecies of the ringed seal as endangered. 77 Fed. Reg. 76,740 (Dec. 28, 2012); 77 Fed. Reg. 76,706 (Dec. 28, 2012). FWS, however, denied listing the Pacific walrus. Although the agency found that listing the animal as threatened or endangered was justified, listing was "precluded by higher priority actions to amend the Lists of Endangered and Threatened Wildlife and Plants." Instead, FWS added the walrus to the FWS candidate species list, which it reviews annually. 76 Fed. Reg. 7,634 (Feb. 10, 2011). What effect, if any, do you think these listing decisions will have on climate change mitigation and adaptation efforts? What benefits will they offer the species?

IV. THE CLEAN WATER ACT

The Clean Water Act (CWA) may not immediately come to mind when one thinks of federal statutes that could address climate change. And, to be sure, the CWA will likely play a very limited role in reducing emissions of greenhouse gases from most facilities. However, it could play a more substantial part in protecting and restoring water bodies, including the ocean, degraded by climate change and acidification.

A. Overview

Congress enacted the CWA to "restore and maintain the chemical, physical and biological integrity of the Nation's waters." Federal Water Pollution Control Act, 33 U.S.C. §§ 1251–1387, § 1251(a). It also sought to eliminate by 1985 discharges of pollutants into navigable waters and achieve by 1983, wherever attainable, water quality that protects fish and wildlife and provides recreation in and on the water. *Id*.

To effectuate its goals, the CWA prohibits "the discharge of any pollutant" into navigable waters unless otherwise permitted. 33 U.S.C. § 1311(a). A "discharge of a pollutant" is defined as "any addition of any pollutant into navigable waters from any point source." 33 U.S.C. § 1362(12). Any release of pollution that qualifies as a "discharge of a pollutant" is subject to stringent requirements under the CWA's National Pollutant Discharge Elimination System (NPDES) permit program of Section 402 or the dredged or fill material permit program under Section 404. 33 U.S.C. §§ 1342, 1344. The NPDES permit program forms the heart of the CWA and, along with other sections of the CWA, requires discharges to meet technology-based effluent limitations (reflecting the application of the best practicable, best conventional, or best available technology to limit pollution) as well as "any more stringent limitation necessary to meet water quality standards." 33 U.S.C. §§ 1342, 1311(b) & (b)(1)(C). The CWA's dual

emphases on technology-based treatment and protection of water quality has made the CWA one of the most effective — and onerous — pollution control laws in effect in the United States.

However, these controls apply only where the "jurisdictional triggers" of Section 301(a) are satisfied. In other words, unless a release of pollution qualifies as (1) any addition, (2) of any pollutant, (3) into navigable waters, (4) from any point source, it will not trigger the Section 301(a) discharge prohibition or the Section 402 NPDES permit program. The CWA provides statutory definitions of the terms "navigable waters," "pollutant," and "point source," and a considerable body of case law has developed to further define these terms and the meaning of the word "addition." While the nuances of these definitions are beyond the scope of this section, the definitions are summarized as follows. First, a "point source" includes "any confined, discrete conveyance" such as any pipe, ditch, or tunnel, but excludes return flows from agricultural irrigation waters. 33 U.S.C. § 1362(14). (In contrast, nonpoint sources of pollution are "non-discrete sources," and are the responsibility of the states with certain federal oversight.). Second, the term "pollutant" includes "industrial, municipal, and agricultural wastes," as well as "heat," which could become important for waters affected by climate change. 33 U.S.C. § 1362(6). Third, "navigable waters" include any "waters of the United States." 33 U.S.C. § 1362(7). Several Supreme Court cases have limited the term to include navigable-in-fact waterways, as well as tributaries to navigable-in-fact waters, if the tributaries have a "substantial nexus" with such waters. *See* Solid Waste Agency of N. Cook County v. U.S. Army Corps of Eng'rs., 531 U.S. 159, 174 (2001) (invaliding regulation extending definition of "waters of the United States" to isolated waters with no hydrological connection to navigable-in-fact waters); United States v. Rapanos, 547 U.S. 715 (2006) (Kennedy, J.) (stating that tributaries which have a substantial nexus to navigable-in-fact waters qualify as waters of the United States under the CWA); *see also* U.S. v. Gerke Excavating, Inc., 464 F.3d 723, 724-25 (7th Cir. 2006) (holding that Justice Kennedy's concurrence in *Rapanos* is the appropriate test for determining whether a water body is subject to Clean Water Act jurisdiction); U.S. v. Lucas, 516 F.3d 316, 325 n.8 (5th Cir. 2008) (same); N. Cal. River Watch v. City of Healdsburg, 496 F.3d 993, 995 (9th Cir. 2007) (same). Whenever a pollution release satisfies the CWA's statutory triggers, it becomes subject to the CWA's pollution control requirements.

———————

B. Climate Change and the Water Quality Standards Program

In the context of climate change, it is unlikely that the CWA could directly limit the releases of greenhouse gases, since these substances are generally emitted into the atmosphere and not discharged directly into water. However, it is possible that climate change will nonetheless affect the regulatory requirements that apply to many point sources — and perhaps nonpoint sources — under the CWA, through the Act's water quality standards program.

Section 303 requires states to set water quality standards that protect designated uses for water bodies. 33 U.S.C. § 1313(c)(1). Water quality standards establish the water quality goals for a water body. 40 C.F.R. § 131.2. Water quality standards include three elements: (1) one or more designated "uses" of a waterway; (2) numeric and narrative "criteria" specifying the water quality conditions, such as maximum amounts of toxic pollutants, maximum temperature levels, and the like, that are necessary to protect the designated uses; and (3) an antidegradation policy

and implementation methods that ensure that "[e]xisting instream water uses and the level of water quality to protect the existing uses [will] be maintained and protected" and that high quality waters will be maintained and protected. 33 U.S.C. §§ 1313(c)(2), 1313(d)(4)(B); 40 C.F.R. Part 131, Subpart B. Each state must develop water quality standards that specify a water body's designated uses and water quality criteria necessary to protect such uses. States establish water quality standards by "taking into consideration their use and value for public water supplies, propagation of fish and wildlife, recreational purposes, and agricultural, industrial, and other purposes [and] their use and value for navigation." 33 U.S.C. § 1313(c)(2).

Whenever a state agency develops water quality standards, it must submit the standards to the Environmental Protection Agency (EPA) for review. 33 U.S.C. § 1313(c)(2). EPA, in turn, reviews the submitted state standards to determine whether they meet the requirements of the Clean Water Act. 33 U.S.C. § 1313(c)(3). Specifically, EPA evaluates whether the standards include proper designated uses, whether the criteria will protect those uses, and whether the state's antidegradation policy conforms to federal rules. 40 C.F.R. § 131.6. In evaluating the designated uses, EPA ensures that the uses include, at a minimum, propagation of fish, shellfish, and wildlife and human recreation. 40 C.F.R. § 131.2. EPA also ensures the criteria are "based on sound scientific rationale and [] contain sufficient parameters or constituents to protect the designated use." 40 C.F.R. § 131.11(a)(1). EPA must also determine that the criteria will protect the most sensitive designated uses. *Id*. Thus, water quality standards must include scientifically defensible criteria necessary to protect aquatic life.

In addition, Section 303(d) requires each state to identify waters within its boundaries for which "effluent limitations . . . are not stringent enough to implement any water quality standard applicable to such waters." 33 U.S.C. § 1313(d)(1)(A). A water body failing to meet any numeric criteria or narrative criteria (*e.g.*, "no aesthetically displeasing conditions"), designated uses, or antidegradation requirements shall be included as a water-quality limited segment on the "303(d) List." 40 C.F.R. § 130.7(b)(3).

For waters identified on the 303(d) List, the states must establish a total maximum daily load limit (TMDL) for pollutants "at a level necessary to implement the applicable water quality standards." 33 U.S.C. § 1313(d)(1)(C). "A TMDL defines the specified maximum amount of a pollutant which can be discharged or 'loaded' into the water at issue from all combined sources." Dioxin/Organochlorine Center v. Clarke, 57 F.3d 1517, 1520 (9th Cir. 1995). The 303(d) List must include a priority ranking for all listed segments still requiring TMDLs. 40 C.F.R. § 130.7(b)(4).

A TMDL is, in essence, an allocation of the total allowable pollution that all known and unknown sources may release into a water body each day. Each TMDL must allocate the allowable pollution into "load allocations" (LAs), which apply to nonpoint sources, and "waste load allocations" (WLAs), which apply to point sources. 40 C.F.R. § 130.2(g), (h). All sources are then prohibited from releasing more pollution than authorized under the LAs and WLAs. The TMDLs thus "serve as a link in an implementation chain that includes federally-regulated point source controls, state or local plans for point and nonpoint source pollution reduction, and assessment of the impact of such measures on water quality, all to the end of attaining water

quality goals for the nation's waters." Pronsolino v. Nastri, 291 F.3d 1123, 1127, 1129 (9th Cir. 2002).

EPA oversees the states' implementation of Section 303(d) and must approve the identified impaired water bodies and TMDLs. 33 U.S.C. § 1313(d)(2). If EPA disapproves either, then EPA must identify such waters and establish TMDLs as necessary to ensure water quality standards are met. 33 U.S.C. § 1313(d)(2).

Unlike the CWA's NPDES and dredged or fill material permitting programs, the CWA's water quality standards program does not apply only to discharges of pollutants from point sources. Instead, the water quality standards apply to water bodies regardless of the sources of pollution that may affect water quality. If a water body is placed on a state's 303(d) List, moreover, that placement can have significant consequences for both point and nonpoint sources of pollution. First, the CWA regulations prohibit "new discharges" of pollutants that have a reasonable likelihood of contributing to water quality standards violations from any point sources into water quality limited streams for which the state (or EPA) has not established a TMDL. 40 C.F.R. § 122.4(i). Second, once a TMDL is established, all releases of pollutants must comply with the load allocations and waste load allocations established in the TMDL. Thus, even if a particular source of pollution is not currently restricted under the Clean Water Act, degradation of a water body may ultimately result in future regulation.

Scientists predict that climate change will alter water quality in a number of ways. For example, increased flooding and precipitation in many areas will likely result in increased sedimentation and pollution, which EPA acknowledges may overload storm water and waste water treatment systems. Stream temperatures in many areas will also increase, leading, in turn, to a reduction in dissolved oxygen available for aquatic life and direct impacts to temperature-sensitive species. If these alterations result in violations of applicable water quality standards, all sources of water pollution will likely face increased restrictions on the types and amounts of pollution they can release in the waters of the United States.

1. *The 303(d) Listing Process*

Federal regulations implementing the CWA require states to submit every two years their 303(d) Lists identifying all "water quality limited" water bodies within the state. 40 C.F.R. § 130.7(d). In developing their 303(d) Lists, states must "assemble and evaluate all existing and readily available water quality-related data and information." 40 C.F.R. § 130.7(b)(5). In evaluating the data, states must expressly consider information related to any water quality problems reported by other governmental agencies and members of the public. *Id.* at § 130.7(b)(5)(iii). If a state ultimately decides not to use any existing and readily available data and information to develop its 303(d) List, the state must submit to EPA a rationale for excluding such data. 40 C.F.R. § 130.7(b)(6)(iii). The listing process thus provides an avenue for members of the public to get involved in the 303(d) List development.

The Center for Biological Diversity petitioned California to add waters to the 303(d) List due to carbon dioxide pollution resulting in ocean acidification. As you read the petition, consider what possible actions California could take in response.

CENTER FOR BIOLOGICAL DIVERSITY, REQUEST TO ADD CALIFORNIA OCEAN WATERS TO LIST OF IMPAIRED WATERS DUE TO CARBON DIOXIDE POLLUTION RESULTING IN OCEAN ACIDIFICATION

(Feb. 27, 2007)

III. OCEAN ACIDIFICATION BACKGROUND * * *

A. Seawater Chemistry and Carbon Dioxide

The oceans freely exchange carbon dioxide with the atmosphere. The oceans have already taken up about 50% of the carbon dioxide that humans have produced since the industrial revolution, and already this has lowered the average ocean pH by 0.11 units. . . . Over time, the ocean will absorb up to 90% of anthropogenic carbon dioxide released into the atmosphere.

When carbon dioxide is dissolved in seawater it becomes reactive and changes seawater chemistry along with many other physical and biological reactions. When carbon dioxide combines with water, it forms carbonic acid and releases hydrogen ions. These hydrogen ions determine the acidity of the ocean, accounting for the change in pH. The slightly alkaline pH of the ocean is becoming more acidic. The naturally occurring pH values for the ocean were on average 8.16 and as a result of carbon dioxide pollution, the average pH value has dropped to 8.05.

Carbon dioxide pollution results in more severe pH changes than experienced in the past 300 million years. * * *

B. The Adverse Impacts of Carbon Dioxide Pollution on the Marine Environment

Scientists agree that carbon dioxide pollution is causing ocean acidification with adverse impacts on many marine organisms. Available evidence suggests that the consequences of anthropogenic carbon dioxide accumulation have already begun in surface waters.

One of the most alarming effects of ocean acidification is the impact on the availability of carbonate for calcifying organisms such as mollusks, crustaceans, echinoderms, corals, calcareous algae, foraminifera and some phytoplankton. Nearly all marine species that build shells or skeletons from calcium carbonate that have been studied have shown deterioration when exposed to increasing carbon dioxide levels in seawater. Estimates suggest that calcification rates will decrease up to 50% by the end of the century. Snails, sea urchins, starfish, lobster, crabs, oysters, clams, mussels, and scallops all build shells that are vulnerable to ocean acidification. Other marine species may experience physiological effects from acidification including lowered immune response, metabolic decline, and reproductive and respiratory problems.

[The petition then detailed the impacts of ocean acidification on a range of species. These impacts include impaired growth and development of coccolithophorids, foraminifera, and

pteropods, the dominant calcifying planktonic organisms. Phytoplankton, such as these, contribute much of the organic material entering the marine food chain and are responsible for about 50% of the earth's primary production. They are food sources for a wide variety of marine organisms, including krill, whales, salmon, and other fish. Larger calcifying animals such as corals, crustaceans, echinoderms, and mollusks are also threatened by ocean acidification because, like calcifying plankton, they are experiencing reduced calcification and erosion of their protective shells. For example, at a pH change of 0.3 units, echinoderms are significantly impacted.

Even marine animals that do not calcify are threatened by carbon dioxide increases in their habitat. Changes in the ocean's carbon dioxide concentration result in accumulation of carbon dioxide in the tissues and fluids of fish and other marine animals, called hypercapnia, and increased acidity in the body fluids, called acidosis. These impacts can cause a variety of problems for marine animals including difficulty with acid-base regulation, calcification, growth, respiration, energy turnover, and mode of metabolism. For example, even under a moderate 0.15 pH change, squid have reduced capacity to carry oxygen and higher carbon dioxide pressures are likely to be lethal. Additionally, studies have shown various impacts on fish, oysters, sea urchins, and mollusks due to changes in ocean pH. Impacts on individual species can lead to even greater ecosystem responses that will alter ecosystem productivity, nutrient availability, and carbon cycling.]

IV. CALIFORNIA'S OCEAN WATERS ARE IMPAIRED AND MUST BE ADDED TO THE 303(D) LIST

All segments of California's ocean waters must be included on the State's 303(d) List because current measures are not stringent enough to prevent ocean acidification and achieve water quality standards. 33 U.S.C. § 1313(d). The Clean Water Act requires that California protect the water quality for designated uses of its waters. California's Ocean Plan defines the designated uses of ocean waters:

> The beneficial uses of the ocean waters of the State that shall be protected include industrial water supply; water contact and non-contact recreation, including aesthetic enjoyment; navigation; commercial and sport fishing; mariculture; preservation an enhancement of designated Areas of Special Biological Significance (ASBS); rare and endangered species; marine habitat; fish migration; fish spawning and shellfish harvesting.

California Ocean Plan at 3 (2005).

The beneficial uses of California's oceans are threatened by ocean acidification. For example, many marine species are vulnerable to ocean acidification, which can impair the ocean's marine resources and economic activities dependent on these resources such as fishing, mariculture, and shellfish harvesting. Habitat for imperiled species, and their spawning, migration, and forage may be impaired. Even under conservative estimates of future carbon dioxide emissions, scientists predict chemical changes that threaten the ability of marine life to

adapt to the acidifying ocean. All these impacts would severely impair Californians' aesthetic and recreational enjoyment of the ocean waters and sea life they contain.

California's ocean waters meet one or more of the 303(d) listing factors enumerated in California's Water Quality Control Policy ("WQCP"). First, California's ocean waters are experiencing a trend of declining water quality for pH. Second, ocean acidification is causing degradation of marine communities. For these reasons, which are described in detail below and supported by the attached scientific evidence, California's ocean should be placed on the 303(d) List as impaired for pH as a result of anthropogenic carbon dioxide emissions.

A. California's Oceans Are on a Trajectory for Declining Water Quality

The Clean Water Act and California's antidegradation policy prohibits any degradation of water bodies that are currently meeting water quality standards. The increasing acidification of the ocean requires that California's ocean waters be added to the 303(d) List.

> A water segment shall be placed on the section 303(d) list if the water segment exhibits concentrations of pollutants or water body conditions for any listing factor that shows a trend of declining water quality standards attainment.

WQCP § 3.10 (2004). As this listing criterion fulfills the Clean Water Act's antidegradation requirements, a water body must be listed if it has declining water quality even if water quality objectives are not exceeded. WQCP § 3.10. . . .

At present, California's ocean segments are on a trajectory of declining attainment of water quality standards for pH. California's water quality standard for the ocean states, "the pH shall not be changed at any time more than 0.2 units from that which occurs naturally." California Ocean Plan 6 (2005).

Applying the existing Ocean Plan standard for pH, all California ocean waters must be included on the 303(d) List because they are experiencing degradation. As described above, dissolved carbon dioxide lowers the pH of seawater and acidifies the ocean. Surface ocean pH has already declined by 0.11 units on average from preindustrial values. The naturally occurring pH values for the ocean were on average 8.16 and as a result of carbon dioxide pollution, the average pH value has dropped to 8.05. This is a significant change in water quality since each step is a tenfold change in acidity. * * *

The ongoing acidification of the ocean is the most severe change in ocean pH in several million years. These changes are occurring at about 100 times the rate of changes seen naturally in geological history. * * *

Meanwhile, human activities continue to release carbon dioxide, and the ocean is continuing to absorb such pollution. With the oceans absorbing about 22 millions of carbon dioxide each day, seawater pH will continue to decrease. Assuming current trends of greenhouse gas emissions, the global average pH of seawater will drop another 0.3-0.4 units. Having already absorbed half of anthropogenic carbon dioxide, scientists predict that the oceans will absorb up

to 90%. Unabated, carbon dioxide pollution will degrade seawater quality beyond California's water quality standards. By the end of this century, absent significant reductions in carbon dioxide emissions, this will result in a pH change up to 0.5 units.

California is among the largest producers of carbon dioxide pollution. Contributing about 492 million metric tons of greenhouse gases each year, California is the nation's second largest emitter of greenhouse gases and the world's 12th largest contributor. Carbon dioxide accounts for 84% of those emissions, much of which is quickly absorbed into the surface layers of the ocean. California's population is expected to increase from 35 million today to 55 million by 2050. Absent significant per-capita reductions in current carbon dioxide emission rates, California's emissions are likely to increase.

Increasing carbon dioxide in the atmosphere will lead to further ocean acidification.

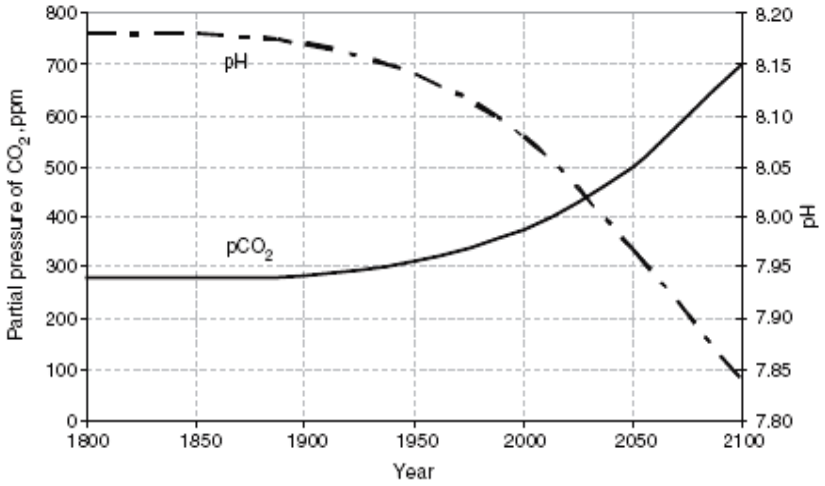

Figure 8.1 The past and projected change in atmospheric CO_2 and seawater pH assuming anthropogenic emissions are maintained at current predictions (redrawn from Zeebe and Wolf-Gladrow 2001).

Source: Turley 2006

* * *

B. Ocean Acidification Is Impairing Marine Communities

California's ocean waters should also be placed on the 303(d) List because they exceed the narrative water quality criteria for biological characteristics described in California's Ocean Plan. The Ocean Plan provides that "[m]arine communities, including vertebrate, invertebrate, and plant species, shall not be degraded."

California's Water Quality Control Policy ("WQCP") explicitly states that a water segment that "exhibits adverse biological response" such as "reduction in growth, reduction in reproductive capacity, abnormal development, histopathological abnormalities, and other adverse conditions" should be placed on the list. WQCP § 3.8. A segment should also be listed "if the

water segment exhibits significant degradation in biological populations and/or communities" as evidenced by declining species diversity or individuals in a species. WQCP § 3.9.

As described above, the impacts of ocean acidification on marine organisms, and ultimately, marine communities are significant, diverse, and will greatly increase in severity over time. * * *

In short, ocean acidification caused by anthropogenic carbon dioxide is causing degradation of California's marine communities in breach of the water quality standards. As such, California's ocean waters should be added to the 303(d) List as impaired for pH from absorption of anthropogenic atmospheric carbon dioxide.

QUESTIONS AND DISCUSSION

1. The Center for Biological Diversity petition seeks to place all of California's ocean waters on California's 303(d) List because (a) the water quality in the oceans is declining, in violation of California's antidegradation policy and (b) the acidic ocean waters do not adequately protect California's designated uses, in violation of California's narrative water quality criteria. Based on the language in California's water quality standards (quoted in the petition), could California deny the petition? Why or why not?

2. In *Sierra Club, Inc. v. Leavitt*, the Eleventh Circuit found that EPA had violated the Clean Water Act when it approved Florida's 303(d) List because Florida had excluded all data that was more than 7.5 years old when it developed the list. 488 F.3d 904, 913-14 (11th Cir. 2006). Florida had chosen to exclude all older data from consideration on the basis that older data can be less reliable in assessing current conditions. *Id.* at 914. The court, however, held that Florida (and, by extension, EPA) must at least review all relevant data and then provide for specific justifications if the agencies choose not to use such data in making the 303(d) List. *Id.* What does this case suggest about how California may need to respond to the petition?

3. The Center for Biological Diversity did not limit its efforts to California. It sued EPA for failing to reject Washington's 303(d) List, which failed to list coastal waters as impaired for pH. The Center for Biological Diversity also petitioned several other states to place acidic waters on their 303(d) Lists. In response to the lawsuit, EPA agreed to publish a memorandum providing guidance to states. *See* EPA, Memorandum, Integrated Reporting and Listing Decisions Related to Ocean Acidification (Nov. 15, 2010). The memorandum advised states that they should indeed place coastal waters on their 303(d) Lists if they failed to meet applicable standards for pH. *Id.* at 4. It otherwise informed states of research underway regarding ocean acidification. What do you think of that outcome?

4. The Center for Biological Diversity's petition identifies airborne emissions of carbon dioxide as the primary cause of ocean acidification. While the petition also attempts to link the increased acidification to California's own carbon dioxide emissions, it is likely that global carbon dioxide emissions are responsible for increased acidification of the world's oceans. Is the 303(d) List the appropriate tool to use to address global pollution? Do you think Congress intended the Clean *Water* Act to control *air* pollution?

The answers to these questions may depend upon the particular program of the Clean Water Act. As noted above (and discussed in greater detail below), the water quality standards program is focused on the quality of water bodies generally, regardless of the source of any pollution that may impact water quality. Thus, an assessment of whether a water body is water quality limited (and thus placed on a state's 303(d) List) should focus on the designated uses in a given waterway, the criteria established to protect those uses, and the levels of pollution found in the water body. For all of these factors, the source of the pollution should be irrelevant. Indeed, many water bodies in the United States are on states' 303(d) Lists due to mercury pollution, even though, in many states, the primary sources of aquatic mercury pollution are air emissions of mercury from coal-fired power plants and industrial facilities located within and outside the United States.

As for controlling air emissions in order to protect water quality, various possible approaches exist. States are developing TMDLs for mercury that establish load allocations for anthropogenic sources of airborne mercury pollution. *See, e.g.*, Northeast Regional Mercury Total Maximum Daily Load 30 (Oct. 24, 2007); OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY, WILLAMETTE BASIN TMDL, CHAPTER 3: WILLAMETTE BASIN MERCURY TMDL 3-36 to 3-37 (Sept. 2006). These TMDLs thus treat airborne mercury emitters as nonpoint sources of mercury pollution. As discussed in the *Pronsolino* case, below, states that attempt to regulate nonpoint pollution through TMDLs will likely survive a challenge to this exercise of regulatory power.

Outside of the water quality standards and TMDL context, however, it is unclear whether courts will accept regulation of airborne pollution through the Clean Water Act's point source controls. *See* Chemical Weapons Working Group, Inc. v. U.S. Dept. of Defense, 111 F.3d 1485 (10th Cir. 1997); League of Wilderness Defenders v. Forsgren, 309 F.3d 1181 (9th Cir. 2002). In *Chemical Weapons Working Group*, the Tenth Circuit rejected the plaintiffs' arguments that the Clean Water Act applied to emissions from a chemical weapons incinerator that would enter a nearby waterway, and concluded that Congress intended for the Clean Air Act to regulate such emissions. In that case, the court was particularly reluctant to allow the Clean Water Act to apply because the Clean Water Act contains an absolute ban on discharges of chemical or biological warfare agents. 111 F.3d at 1490. Thus, regulation under the Clean Water Act would have likely resulted in closure of the facility, even though Congress had approved and funded it. *Id.* The court was unwilling to interpret the law in a way that would yield such a result. In *League of Wilderness Defenders*, however, the Ninth Circuit had no difficulty concluding that aerial spraying of pesticides over waters within national forests is a point source discharge requiring a NPDES permit. 309 F.3d at 1184–85 ("an airplane fitted with tanks and a mechanical spraying apparatus is a 'discrete conveyance'"). The cases, however, are distinguishable in at least one important way: in *Chemical Weapons Working Group*, the facility had received and was operating under a Clean Air Act permit, 111 F.3d at 1490–91; in *League of Wilderness Defenders*, nobody argued that the Clean Air Act could regulate the pesticide releases. *See* 309 F.3d at 1184–90. Thus, the scope of Clean Water Act regulation may depend, at least in part, on whether a facility is already subject to Clean Air Act requirements.

5. Several states already include water bodies on their 303(d) List for exceeding applicable water quality standards for temperature. Many species, such as salmon and steelhead, require

cold stream temperatures for spawning, rearing, and migration, and warm waters impair the species' ability to survive. In fact, multiple populations of salmon have been listed as endangered or threatened species under the Endangered Species Act due in part to elevated stream temperatures. Scientists predict that climate change will further alter water quality of streams, by increasing average stream temperatures. What additional protections do you think the Clean Water Act's 303(d) listing process could provide species that are already protected under the Endangered Species Act? For a discussion of the interplay between the Clean Water Act and the Endangered Species Act, *see* Craig N. Johnston, *Salmon and Water Temperature: Taking Species Seriously in Establishing Water Quality Standards*, 33 ENVTL. L. 151 (2003).

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2. *The Consequences of a 303(d) Listing Decision*

Once a water body is on a state's 303(d) List, important regulatory consequences result. First, federal regulations prohibit the introduction of new discharges of pollutants that may cause or contribute to violations of water quality standards into water quality limited streams for which a TMDL has not been developed. 40 C.F.R. § 122.4(*i*). Second, once a TMDL is developed, sources must adhere to the established load allocations and waste load allocations. As you read the following cases, consider the implications for both point and nonpoint sources if climate change alters water quality in the way most scientists predict.

a. *Implications for Point Sources: The Prohibition against New Discharges into Water Quality Limited Streams*

FRIENDS OF PINTO CREEK v. UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
504 F.3d 1007 (9th Cir. 2007)

HUG, Circuit Judge: * * *

In this case, we determine whether the Environmental Protection Agency ("EPA") properly issued a National Pollution Discharge Elimination System ("NPDES") permit under the Clean Water Act to Carlota Copper Company ("Carlota"). The permit allows mining-related discharges of copper into Arizona's Pinto Creek, a waterbody already in excess of water quality standards for copper. . . .

I. FACTUAL BACKGROUND

. . . Due to excessive copper contamination from historical mining activities in the region, Pinto Creek is included on Arizona's list of impaired waters under § 303(d) of the Clean Water Act, 33 U.S.C. § 1313(d), as a water quality limited stream due to non-attainment of water quality standards for dissolved copper.

Carlota proposed to construct and operate an open-pit copper mine and processing facility approximately six miles west of Miami, Arizona, covering over 3000 acres while extracting

about 100 million tons of ore. Part of the operation plan includes constructing diversion channels for Pinto Creek to route the stream around the mine, as well as groundwater cut-off walls to block the flow of groundwater into the mine.

. . . Because the proposed action would involve the discharge of pollutants into Pinto Creek, Carlota applied to the EPA for an NPDES permit under § 402 of the Clean Water Act, 33 U.S.C. § 1342, in 1996. The EPA ultimately issued the permit, and the Environmental Appeals Board ("Appeals Board"), the internal appellate board of the EPA, denied review. * * *

V. ANALYSIS

* * * Under § 303 of the Clean Water Act, 33 U.S.C. § 1313, the states are required to set water quality standards for all waters within their boundaries, regardless of the sources of the pollution entering the waters. Pursuant to § 303(d)(1), 33 U.S.C. § 1313(d)(1), each state is required to identify those waters that do not meet the water quality standard which is frequently called the "§ 303(d)(1) list." For impaired waters identified in the § 303(d)(1) list, the states must establish a TMDL for pollutants identified by the EPA. A TMDL specifies the maximum amount of pollutant that can be discharged or loaded into the waters from all combined sources, so as to comply with the water quality standards.

Each state is required to submit its § 303(d)(1) list and its TMDL to the EPA for its approval or disapproval. If the EPA disapproves either of those documents, the EPA is responsible for preparing that document. The state then incorporates its § 303(d)(1) list and its TMDL or the EPA's approved document into its continuing planning process as required by § 303(e), 33 U.S.C. § 1313(e).

In this case, the state had prepared the § 303(d)(1) list, but it had not prepared a TMDL. Therefore, in response to the Petitioners' objection, the EPA prepared the TMDL utilized in its awarding of the permit.

The Petitioners contend that as a "new discharger" Carlota's discharge of dissolved copper into a waterway that is already impaired by an excess of the copper pollutant violates the intent and purpose of the Clean Water Act. Under the NPDES permitting program, 40 C.F.R. § 122.4(i) addresses the situation where a new source seeks to permit a discharge of pollutants into a stream already exceeding its water quality standards for that pollutant. Section 122.4 states in relevant part:

> No permit may be issued:
>
> . . . .
>
> (i) To a new source or a new discharger if the discharge from its construction or operation will cause or contribute to the violation of water quality standards. The owner or operator of a new source or new discharger proposing to discharge into a water segment which does not meet applicable water quality standards or is not expected to meet those standards ... and for which the State or interstate agency

> has performed a pollutants load allocation for the pollutant to be discharged, must demonstrate, before the close of the public comment period, that:
>
> (1) There are sufficient remaining pollutant load allocations to allow for the discharge; and
>
> (2) The existing dischargers into that segment are subject to compliance schedules designed to bring the segment into compliance with applicable water quality standards.

40 C.F.R. § 122.4 (2000).

The plain language of the first sentence of the regulation is very clear that no permit may be issued to a new discharger if the discharge will contribute to the violation of water quality standards. This corresponds to the stated objectives of the Clean Water Act "to restore and maintain the chemical, physical, and biological integrity of the nation's waters." 33 U.S.C. § 1251(a) (1987). And that "it is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited." 33 U.S.C. § 1251(a)(3) (1987).

The EPA contends that the partial remediation of the discharge from the Gibson Mine will offset the pollution. However, there is nothing in the Clean Water Act or the regulation that provides an exception for an offset when the waters remain impaired and the new source is discharging pollution into that impaired water.

The regulation does provide for an exception where a TMDL has been performed and the owner or operator demonstrates that *before the close of the comment period* two conditions are met, which will assure that the impaired waters will be brought into compliance with the applicable water quality standards. The plain language of this exception to the prohibited discharge by a new source provides that the exception does not apply unless the new source can demonstrate that, under the TMDL, the plan is designed to bring the waters into compliance with applicable water quality standards.

The EPA argues that under the requirements of clause (1), there are sufficient remaining load allocations to allow for the discharge because the TMDL provides a method by which the allocations could be established to allow for the discharge. There is no contention, however, that these load allocations represent the amount of pollution that is currently discharged from the point sources and nonpoint sources, and there is no indication of any plan that will effectuate these load allocations so as to bring Pinto Creek within the water quality standards. The TMDL merely provides for the manner in which Pinto Creek *could* meet the water quality standards if all of the load allocations in the TMDL were met, not that there are sufficient remaining pollutant load allocations under existing circumstances.

With regard to the requirements of clause (2), the EPA argues that the requirement of "compliance schedules" pertains only to point sources for which there is a permit. This does not correspond to the plain language of clause (2), which provides "the existing discharges into that segment [of Pinto Creek] are subject to compliance schedules designed to bring the segment into

compliance with applicable water quality standards." 40 C.F.R. § 122.4(i)(2) (2000).

We examine that language utilizing the definitions provided in the regulation. The term "discharge" is defined to mean "the discharge of a pollutant." 40 C.F.R. § 122.2 (2000). The term "discharge of a pollutant," is defined as any addition of any "pollutant" or combination of pollutants to "waters of the United States" from "*any point source.*" *Id.* at § 122.2(a) (emphasis added). Thus, under the plain language of the regulation, compliance schedules are not confined only to "permitted" point source discharges, but are applicable to "any" point source.

The EPA contends that this would amount to a complete ban of the discharge of pollution to impaired waters. This is based on its misreading of the plain language of the regulation to state that the remediation has to be *completed* before Carlota's discharge. The plain language of clause (2) of the regulation, instead, provides that existing discharges into that segment (of the waters) are "subject to *compliance schedules* designed to bring the segment into compliance with applicable water quality standards." 40 C.F.R. § 122.4(i)(2) (2000) (emphasis added). This is not a complete ban but a requirement of schedules to meet the objective of the Clean Water Act.

Here the existing discharges from point sources are not subject to compliance schedules designed to bring Pinto Creek into compliance with water quality standards. Thus, Carlota has not demonstrated that clause (2) of 40 C.F.R. § 122.4(i) has been met. This is the regulation upon which Carlota and the EPA rely for issuance of the permit.

Initially, Carlota and the EPA contended that the first and second sentences of § 222.4(i) could be construed to apply independently, thus not requiring compliance with clauses (1) and (2) when an offset would result in a substantial net reduction of pollution to the impaired waters. The Petitioners, on the other hand, maintained that the two sentences must be read together, not independently. However, the EPA subsequently asked the Appeals Board to assume, for purposes of this decision, that clauses (1) and (2) do apply. *See In re Carlota Copper Co.*, 11 E.A.D. 692, 766 (EAB 2004). Thus, we are concerned in this case with whether the EPA required Carlota to fulfill all of the requirements of § 122.4(i), including clauses (1) and (2), in order to issue a permit to it as a new discharger.

The Respondents and Carlota rely on *Arkansas v. Oklahoma*, 503 U.S. 91 (1992) in support of their contentions. That case involved the issuance of a permit for a city in Arkansas to discharge effluent into a stream in Arkansas that entered a river that eventually flowed into Oklahoma. Oklahoma challenged the permit before the EPA, alleging that the discharge violated Oklahoma Water Quality Standards. In that case, the EPA found that the discharge would not lead to a "detectable change in water quality," which the Supreme Court held was supported by substantial evidence. *Arkansas*, 503 U.S. at 112. In the opinion, the Court stated that "the parties have pointed to nothing that mandates a complete ban on discharges into a waterway that is in violation of those standards. The statute does, however, contain provisions designed to remedy existing water quality violations and to allocate the burden of reducing undesirable discharges between existing sources and new sources. *See, e.g.* § 1313(d)." *Id.* at 108. Section 1313(d) of the Clean Water Act, referred to by the Court, is the one that provides for the establishment of water quality standards and TMDLs.

The Supreme Court in *Arkansas v. Oklahoma* also referred to § 1288(b)(2), which provides for the development of area-wide programs to eliminate existing pollution in the context of area-wide waste treatment management. *Id.* That section provides details required of any plan to eliminate the pollution, including schedules, time lines, identification of agencies, and identification of measures necessary to carry out the plan.

The Appeals Board stated that prior Agency pronouncements "confirm our position that, rather than completely banning new source discharges, § 122.4(i) provides new sources with the opportunity to obtain a permit if the requirements specified in that section are met." *In re Carlota Copper Co.*, 11 E.A.D. 692, 765 (EAB 2004). The prior Agency position quoted states:

> A new source or new discharger may, however, obtain a permit for discharge into a water segment which does not meet applicable water quality standards by submitting information demonstrating that there is sufficient loading capacity remaining in waste load allocations (WLAs) for the stream segment to accommodate the new discharge and that existing dischargers to that segment are subject to *compliance schedules* designed to bring the segment into compliance with the applicable water quality standards.

Id. (emphasis added). The language quoted by the Appeals Board from the prior agency action requires compliance schedules designed to bring the water segment into compliance with the applicable water quality standards.

In Carlota's case, there are no plans or compliance schedules to bring the Pinto Creek segment "into compliance with applicable water quality standards," as required by § 122.4(i)(2), which Carlota and the EPA both acknowledge is the applicable section with which Carlota must comply. The error of both the EPA and Carlota is that the objective of that section is not simply to show a lessening of pollution, but to show how the water quality standard will be met if Carlota is allowed to discharge pollutants into the impaired waters.

The EPA has the responsibility to regulate discharges from point sources and the states have the responsibility to limit pollution coming into the waters from non-point sources. If point sources, other than the permitted point source, are necessary to be scheduled in order to achieve the water quality standard, then the EPA must locate any such point sources and establish compliance schedules to meet the water quality standard before issuing a permit. If there are not adequate point sources to do so, then a permit cannot be issued unless the state or Carlota agrees to establish a schedule to limit pollution from a nonpoint source or sources sufficient to achieve water quality standards. * * *

QUESTIONS AND DISCUSSION

1. The federal regulation at issue in *Friends of Pinto Creek* prohibits new discharges into water quality-limited streams unless a TMDL has been developed *and* 1) there are sufficient load allocations in the TMDL to accommodate the new pollution source and 2) all other existing discharges are subject to a schedule for compliance with applicable water quality standards. 40

C.F.R. § 122.44(i). How did EPA interpret this regulation before the Ninth Circuit? Why did the court reject EPA's arguments? What implications could such a decision have in the climate change context? For example, if California were to place all of its ocean waters on the 303(d) List, what additional steps would California need to take before issuing permits to new dischargers?

2. The water body at issue in *Friends of Pinto Creek* had become polluted as a result of historic mining activities caused by other entities. If climate change has the impacts on stream quality that many predict, many water bodies could be listed as impaired and subject to TMDLs, in which case many other companies will bear the burden of restoring water quality, even though they may not be the primary cause of water quality impairment. Consider, for example, the likely increases in stream temperatures that will result from climate change. Should industries which discharge heated water bear the burden of cooling their discharges even though climate change has contributed to the warming?

What consequences would result if California were to list all ocean waters in California under the 303(d) List for impairment due to increased acidity? Does this mean that no new facilities could be built on the California coast until California develops a TMDL and establishes schedules of compliance for all discharges of acidic water? Is that a fair burden for the state to bear? Could California reject the Center's petition based on such concerns?

3. In *Friends of Pinto Creek*, EPA initially proposed to issue a permit to Carlota Copper Company, even though the company proposed to discharge copper into a stream listed as impaired due to excessive copper pollution and even though the state of Arizona had not yet developed a TMDL for the creek. When the environmental organizations opposed the permit, EPA then developed a TMDL. Could EPA have justified issuing the permit even absent a TMDL? Reread 40 C.F.R. § 122.4(i) and specifically consider the language regarding waters "for which the State or interstate agency has performed a pollutants load allocation." Does this language mean that EPA or the state must already have completed a TMDL before new discharges can receive permits? At least one court has determined that it does. *Friends of the Wild Swan v. EPA,* 130 F.Supp.2d 1999 (D. Mont. 2000) (enjoining issuance of any NPDES permits to new sources until Montana had completed TMDLs for more than 900 streams included on Montana's 303(d) List), *aff'd in relevant part*, 74 Fed. Appx. 718 (9th Cir. 2003). Consider also the requirement that there be "sufficient remaining pollutant load allocations to allow for the [new or increased] discharge." 40 C.F.R. 122.4(i)(1). If states begin listing water bodies due to climate change-related impacts, what type of burden will the development of TMDLs place on state agencies and EPA? How feasible will it be for agencies to develop TMDLs with remaining pollutant load allocations, when much of the carbon dioxide pollution is coming from other countries, many of which are growing at unexpected rates?

4. The Ninth Circuit rejected EPA's argument that Carlota could avoid the regulatory restrictions for "new discharges" by offsetting its own pollution through pollution reductions at another mine. The Minnesota Supreme Court, however, reached a different conclusion. *See* In the Matter of the Cities of Annandale and Maple Lake NPDES/SDS Permit Issuance for the Discharge of Treated Wastewater, 731 N.W.2d 502 (Minn. 2007) ("*Annandale*"). In *Annandale*, the state issued a permit for a new facility to discharge phosphorus into a water body listed under

the Minnesota 303(d) List due to insufficient oxygen. (Excess phosphorus in water bodies results in oxygen depletion.) The Minnesota Supreme Court upheld the permit by deferring to a state agency's conclusion that the new discharge would not result in a violation of water quality standards because an improvement to a different wastewater treatment facility would remove much more phosphorus than the new facility would add. Why did EPA's similar argument in *Pinto Creek* fail? In the climate change context, which court's approach do you think is a better one, and why?

5. While the Clean Water Act directs states to develop TMDLs for impaired waters, the Clean Water Act does not impose rigid deadlines on the development of TMDLs; so long as the state developed its first TMDL by June 26, 1979, the state need only develop other TMDLs "from time to time" thereafter. 33 U.S.C. § 1313(d)(2). This lack of enforceable deadlines has led to a significant backlog in the development of TMDLs. *See* OLIVER A. HOUCK, THE CLEAN WATER ACT TMDL PROGRAM: LAW, POLICY, AND IMPLEMENTATION 51-53 (2d ed. 2002). Do you think the *Friends of Pinto Creek* decision will spur states to develop TMDLs more quickly?

6. Many states have antidegradation policies which prohibit both new and *increased* discharges of pollutants into 303(d)-listed waters until the states have developed TMDLs for those streams. *See, Hells Canyon Preservation Council v. Haines*, 2006 WL 2252554, *4 (D. Or. Aug. 4, 2006) (finding that the U.S. Forest Service violated Oregon's antidegradation rules by authorizing new and increased discharges into a water quality-limited stream). The court in *Friends of the Wild Swan* similarly prohibited the issuance of NPDES permits to both new and increased discharges until Montana had completed the required TMDLs. 74 Fed. Appx. 718, 723–24 (9th Cir. 2003).

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b. *Implications for All Sources: Compliance with TMDLs*

PRONSOLINO V. NASTRI

291 F.3d 1123 (9th Cir. 2002)

BERZON, Circuit Judge. * * *

II. FACTUAL AND PROCEDURAL BACKGROUND

A. The Garcia River TMDL

In 1992, California submitted to the EPA a list of waters pursuant to § 303(d)(1)(A). Pursuant to § 303(d)(2), the EPA disapproved California's 1992 list because it omitted seventeen water segments that did not meet the water quality standards set by California for those segments. Sixteen of the seventeen water segments, including the Garcia River, were impaired only by nonpoint sources of pollution. After California rejected an opportunity to amend its § 303(d)(1) list to include the seventeen sub-standard segments, the EPA, again acting pursuant to § 303(d)(2), established a new § 303(d)(1) list for California, including those segments on it. California retained the seventeen segments on its 1994, 1996, and 1998 § 303(d)(1) lists.

California did not, however, establish TMDLs for the segments added by the EPA. Environmental and fishermen's groups sued the EPA in 1995 to require the EPA to establish TMDLs for the seventeen segments, and in a March 1997 consent decree the EPA agreed to do so. According to the terms of the consent decree, the EPA set March 18, 1998, as the deadline for the establishment of a TMDL for the Garcia River. When California missed the deadline despite having initiated public comment on a draft TMDL and having prepared a draft implementation plan, the EPA established a TMDL for the Garcia River. The EPA's TMDL differed only slightly from the state's draft TMDL.

The Garcia River TMDL for sediment is 552 tons per square mile per year, a sixty percent reduction from historical loadings. The TMDL allocates portions of the total yearly load among the following categories of nonpoint source pollution: a) "mass wasting" associated with roads; b) "mass wasting" associated with timber-harvesting; c) erosion related to road surfaces; and d) erosion related to road and skid trail crossings.

B. The Appellants

In 1960, appellants Betty and Guido Pronsolino purchased approximately 800 acres of heavily logged timber land in the Garcia River watershed. In 1998, after re-growth of the forest, the Pronsolinos applied for a harvesting permit from the California Department of Forestry ("Forestry").

In order to comply with the Garcia River TMDL, Forestry and/or the state's Regional Water Quality Control Board required, among other things, that the Pronsolinos' harvesting permit provide for mitigation of 90% of controllable road-related sediment run-off and contain prohibitions on removing certain trees and on harvesting from mid-October until May 1. The Pronsolinos' forester estimates that the large tree restriction will cost the Pronsolinos $750,000.

Larry Mailliard, a member of the Mendocino County Farm Bureau, submitted a draft harvesting permit on February 4, 1998, for a portion of his property in the Garcia River watershed. Forestry granted a final version of the permit after incorporation of a 60.3% reduction of sediment loading, a requirement included to comply with the Garcia River TMDL. Mr. Mailliard's forester estimates that the additional restrictions imposed to comply with the Garcia River TMDL will cost Mr. Mailliard $10,602,000. *** * ***

III. ANALYSIS * * *

B. Plain Meaning and Structural Issues

1. *The Competing Interpretations*

Section 303(d)(1)(A) requires listing and calculation of TMDLs for "those waters within [the state's] boundaries for which the effluent limitations required by section [301(b)(1)(A)] and section [301(b)(1)(B)] of this title *are not stringent enough to implement any water quality standard* applicable to such waters." § 303(d) (emphasis added). The precise statutory question before us is whether, as the Pronsolinos maintain, the term "not stringent enough to implement ...

water quality standard[s]" as used in § 303(d)(1)(A) must be interpreted to mean *both* that application of effluent limitations will not achieve water quality standards *and* that the waters at issue are subject to effluent limitations. As only waters with point source pollution are subject to effluent limitations, such an interpretation would exclude from the § 303(d)(1) listing and TMDL requirements waters impaired only by nonpoint sources of pollution.

The EPA, as noted, interprets "not stringent enough to implement . . . water quality standard[s]" to mean "not adequate" or "not sufficient . . . to implement any water quality standard," and does not read the statute as implicitly containing a limitation to waters initially covered by effluent limitations. According to the EPA, if the use of effluent limitations will not implement applicable water quality standards, the water falls within § 303(d)(1)(A) regardless of whether it is point or nonpoint sources, or a combination of the two, that continue to pollute the water.

2. *The Language and Structure of § 303(d)*

* * * Based on the language of the contested phrase alone, then, the more sensible conclusion is that the § 303(d)(1) list must contain any waters for which the particular effluent limitations will not be adequate to attain the statute's water quality goals.

Placing the phrase in its statutory context supports this conclusion. Section 303(d) begins with the requirement that each state "identify those waters within its boundaries. . . ." § 303(d)(1)(A). So the statute's starting point for the listing project is a compilation of each and every navigable water within the state. Then, only those waters that will attain water quality standards after application of the new point source technology are excluded from the § 303(d)(1) list, leaving all those waters for which that technology will not "implement any water quality standard applicable to such waters." § 303(d)(1)(A); *see American Wildlands v. Browner*, 260 F.3d 1192, 1194 (10th Cir. 2001) ("[E]ach state is required to identify all of the waters within its borders not meeting water quality standards and establish [TMDLs] for those waters."). The alternative construction, in contrast, would begin with a subset of all the state's waterways, those that have point sources subject to effluent limitations, and would result in a list containing only a subset of that subset — those waters as to which the applicable effluent limitations are not adequate to attain water quality standards.

The Pronsolinos' contention to the contrary notwithstanding, no such odd reading of the statute is necessary in order to give meaning to the phrase "for which the effluent limitations required by section [301(b)(1)(A)] and section [301(b)(1)(B)] . . . are not stringent enough." The EPA interprets § 303(d)(1)(A) to require the identification of any waters not meeting water quality standards only if specified effluent limitations would not achieve those standards. 40 C.F.R. § 130.2(j). If the pertinent effluent limitations would, if implemented, achieve the water quality standards but are not in place yet, there need be no listing and no TMDL calculation. * * *

Under the EPA's construction, the reference to effluent limitations reflects Congress' intent that the EPA focus initially on implementing effluent limitations and only later avert its attention to water quality standards. * * *

Nothing in § 303(d)(1)(A) distinguishes the treatment of point sources and nonpoint sources as such; the only reference is to the "effluent limitations required by" § 301(b)(1). So if the effluent limitations required by § 301(b)(1) are "as a matter of law" "not stringent enough" to achieve the applicable water quality standards for waters impaired by point sources not subject to those requirements, then they are also "not stringent enough" to achieve applicable water quality standards for other waters not subject to those requirements, in this instance because they are impacted only by nonpoint sources. * * *

3. *The Statutory Scheme as a Whole*

The Pronsolinos' objection to this view of § 303(d) . . . is, in essence, that the CWA as a whole distinguishes between the regulatory schemes applicable to point and non-point sources, so we must assume such a distinction in applying §§ 303(d)(1)(A) and (C). We would hesitate in any case to read into a discrete statutory provision something that is not there because it is contained elsewhere in the statute. But here, the premise is wrong: There is no such general division throughout the CWA.

Point sources are treated differently from nonpoint sources for many purposes under the statute, but not all. In particular, there is no such distinction with regard to the basic purpose for which the § 303(d) list and TMDLs are compiled, the eventual attainment of state-defined water quality standards. Water quality standards reflect a state's designated *uses* for a water body and do not depend in any way upon the source of pollution. *See* § 303(a)-(c).

Nor is there any other basis for inferring from the structure of the Act an implicit limitation in §§ 303(d)(1)(A) and (C). The statutory subsection requiring water quality segment identification and TMDLs, § 303(d), appears in the section entitled "Water Quality Standards and Implementation Plans," not in the immediately preceding section, CWA § 302, 33 U.S.C. § 1312, entitled "Water Quality Related Effluent Limitations."

Additionally, § 303(d) follows the subsections setting forth the requirements for water quality standards, § 303(a)-(c) — which, as noted above, apply without regard to the source of pollution — and precedes the "continuing planning process" subsection, § 303(e), which applies broadly as well. Thus, § 303(d) is structurally part of a set of provisions governing an interrelated goal-setting, information-gathering, and planning process that, unlike many other aspects of the CWA, applies without regard to the source of pollution.

True, there are, as the Pronsolinos point out, two sections of the statute as amended, § 208 and § 319, that set requirements exclusively for nonpoint sources of pollution. But the structural inference we are asked to draw from those specialized sections — that no *other* provisions of the Act set requirements for waters polluted by nonpoint sources — simply does not follow. Absent some irreconcilable contradiction between the requirements contained in §§ 208 and 319, on the one hand, and the listing and TMDL requirements of § 303(d), on the other, both apply.

There is no such contradiction. . . . As various sections of the Act encourage different, and complementary, state schemes for cleaning up nonpoint source pollution in the nation's

waterways, there is no basis for reading any of those sections — including § 303(d) — out of the statute.

There is one final aspect of the Act's structure that bears consideration because it supports the EPA's interpretation of § 303(d): The list required by § 303(d)(1)(A) requires that waters be listed if they are impaired by a combination of point sources and nonpoint sources; the language admits of no other reading. Section 303(d)(1)(C), in turn, directs that TMDLs "shall be established at a level necessary *to implement* the applicable water quality standards. . . ." *Id.* (emphasis added). So, at least in blended waters, TMDLs must be calculated with regard to nonpoint sources of pollution; otherwise, it would be impossible "to implement the applicable water quality standards," which do not differentiate sources of pollution.

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QUESTIONS AND DISCUSSION

1. In *Pronsolino*, the Ninth Circuit upheld the application of restrictions upon nonpoint sources necessary to comply with a TMDL established for sedimentation. What implications could this decision have on nonpoint source activities that contribute to warmer surface waters? Logging, agriculture, and grazing, for example, all result in stream alterations and a loss of stream shading, which, in turn, cause streams and rivers to become hotter. As climate change further exacerbates problems associated with warm water temperatures, could loggers, ranchers, and farmers all face the onerous prospect of Clean Water Act compliance?

2. EPA has not always acted consistently with the positions it took in the *Pronsolino* case. For example, in *American Wildlands v. Browner*, 260 F.3d 1192 (10th Cir. 2001), EPA argued that Montana could choose to adopt a rule exempting nonpoint sources from compliance with water quality standards. EPA has also taken the position that state water quality rules relating to nonpoint sources are, categorically, not water quality standards and thus not subject to EPA review and approval. Yet, EPA continues to insist that nonpoint sources remain subject to requirements developed through TMDLs. Are EPA's positions consistent with each other? Are they consistent with the Clean Water Act?

3. As discussed in other parts of this book, land management activities (including forestry, agriculture, and grazing) are both significant sources of greenhouse gas emissions and potentially significant sinks as well. Can regulation under the Clean Water Act provide a mechanism to enhance their functions as sinks? Even if it can, should these types of activities be subject to regulation to offset emissions generated by all of us?