The Supreme Court tends to get all the attention, but for every Supreme Court opinion on environmental law there are probably fifty opinions in the lower federal courts. Collectively, the lower courts have done at least as much to shape the law as the Supreme Court's occasional interventions. Any "top ten" list is a bit arbitrary. Given the sheer number of lower court cases, my selection will reflect chance - which lower court cases I happen to know the most about - as well as personal judgment. Regardless of whether these cases are the very most important, I feel confident in saying they're truly significant.

Calvert Cliffs' Coordinating Committee, Inc. v. U.S. Atomic Energy Commission (1971). Decided only a year after NEPA went into effect, this D.C. Circuit opinion gave real teeth to the requirement of issuing an environmental impact statement.

Natural Resources Defense Council v. Morton (1972). NEPA requires environmental impact statements to discuss alternatives to a proposed action. In this case involving offshore drilling, the D.C. Circuit said a "rule of reason" applies, allowing the agency to focus on reasonable alternatives. The Supreme Court soon picked up on this language, and the concept was written into the law when Congress amended NEPA in 2022.

Sierra Club v. Ruckelshaus (1972). This was a federal trial court opinion that ended up being the law of the land by default. Both the appeals court judges and the Supreme Court Justices split evenly on the case, resulting in automatically affirming the trial judge's ruling. The issue was whether state plans under the Clean Air Act only need to prevent violation of national air quality standards, or whether they must prevent deterioration in areas where the air is already cleaner than the standards. The court said EPA did have to preserve clean air, EPA worked up some rules, and Congress ultimately added elaborate provisions on the subject to the Clean Air Act.

International Harvester Co. v. Ruckelshaus (1973). In immediate terms, this D.C. Circuit case was a loss to the environmental side because the court awarded the car industry a delay in requiring catalytic converters. In my view, the court pretty much ignored the statutory language because it thought a delay was good policy. But what makes the case important is the court's use of "hard look" judicial review, which environmentalists have often used to attack bad regulations.

Environmental Defense Fund, Inc. v. EPA (1975). This is another major D.C. Circuit opinion. It helped create the framework for regulating pesticides and upheld the use of a precautionary approach rather than requiring EPA to have definitive evidence.

National Audubon Society v. Superior Court (1983). This case involved an effort by LA

to drain water from Lake Mono for its own use. The California Supreme Court built on earlier precedents applying what is called the public trust doctrine, The public trust doctrine holds that certain resources, especially aquatic ones, are held by the state in trust for the public. What was so notable about this case was that the court applied the doctrine to limit water rights, which are generally sacrosanct in Western states.

Corrosion Proof Fittings v. EPA (1991). In this case, the Fifth Circuit overturned a ban on asbestos and in the process made an entire federal statute, the Toxic Substances Control Act, virtually inoperative. It did so by imposing impossible analytic burdens on EPA before it can take action under the law. It was only many years later that Congress overcame gridlock and fixed the statute. The decisions has its supporters but is more often harshly criticized. Still, there's no denying its importance.

Center for Biological Diversity v. National Highway Traffic Safety Administration (2007). This opinion overturned weak fuel efficiency standards adopted by the Bush Administration because the government had not considered the effects of its action on climate change in its environmental impact statement. It became a key precedent on the issue.

Coalition for Responsible Regulation v. EPA (2012). This is a D.C. Circuit decision that upheld EPA's finding emission of greenhouse gases endangers human health and welfare. It also upheld the Obama Administration's pathbreaking regulation of greenhouse gases from vehicles. The Supreme Court declined to review either of those rulings, although it did review and partially reverse another portion of the D.C. Circuit's decision.

Rocky Mountain Farmers Union v. Corey (2019). This 9th Circuit case involved an attack on California's Low Carbon Fuel Standard (LCFS). The LCFS scores vehicle fuels based on life-cycle emissions, which means that renewable fuels get credit because they're derived from plants that took CO2 out of the air, but they're also debited for emissions relating to process the plans and transporting the fuel. The Ninth Circuit rejected the arguments that California was discriminating against interstate commerce and indirectly regulating emissions from outside the state. The ruling was a major boost to state renewable energy programs.