

# Functional Equivalent of a Direct Discharge

## Determining if a Discharge to Groundwater Requires an NPDES Permit



**Kate Sinner**  
Environmental Engineer



# Overview



- Background and definitions
- Determination Factors
- What we know / what we don't know
- Examples



# Background: NPDES Permit Program Scope



The National Pollutant Discharge Elimination System (NPDES) program is a Federal Clean Water Act program that, in most states, is delegated to a state regulatory agency for implementation with U.S. EPA oversight.

The NPDES program requires permits for the discharge of pollutants from any **point source** into **waters of the United States**. (40 CFR 122.1(b)(1))

## Definitions

- **Point source:** Any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. (40 CFR 122.2)
- **Waters of the United States (WOTUS):** As defined in 40 CFR 120.2

Side note: Waters of the U.S. does not include groundwater; however, states have broad authority to include groundwater in their “waters of the state” and to regulate discharges under state-specific programs.

- Example: Minnesota’s State Disposal System (SDS) program

# Functional Equivalent: Determining if a Discharge to Groundwater Requires an NPDES Permit



U.S. Supreme Court *County of Maui v. Hawaii Wildlife Fund* (“Maui Decision”), April 2020:

- Held that a National Pollutant Discharge Elimination System (NPDES) permit is required “when there is a direct discharge from a point source into navigable waters or when there is the functional equivalent of a direct discharge.”

Why is this important?

- Discharges of pollutants through groundwater to surface waters may require NPDES permits

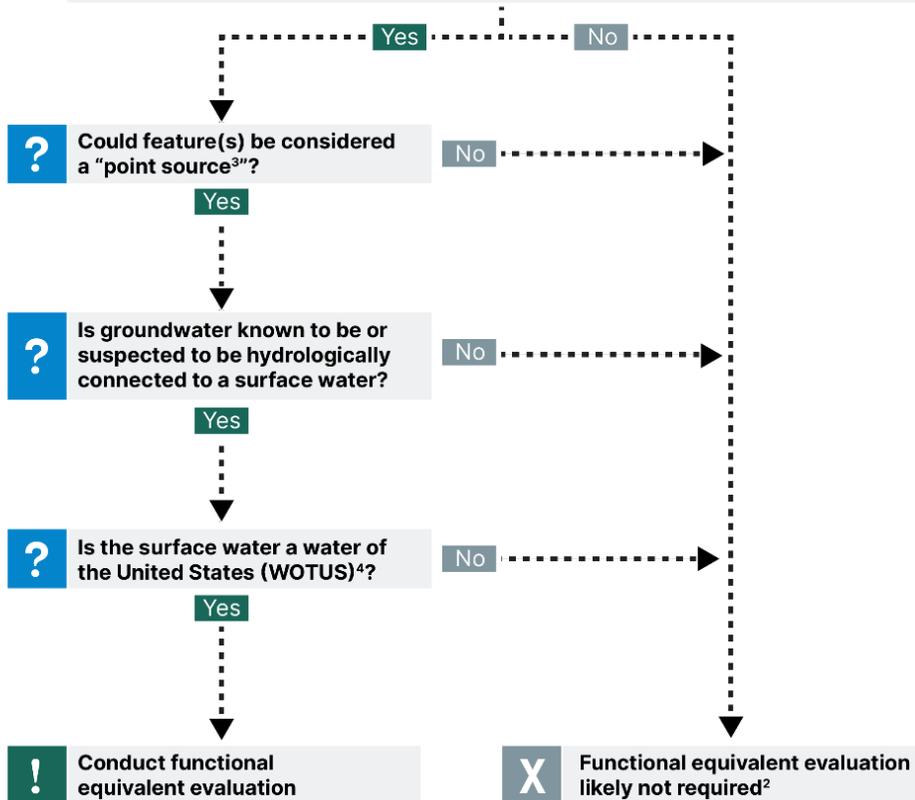
# Background: An Evolving Issue



# IS A FUNCTIONAL EQUIVALENT EVALUATION NEEDED?

**? Are one or more of the following features present that potentially discharges pollutant(s) to groundwater<sup>1</sup>?**

- Wastewater pond
- Stormwater pond
- Infiltration basin
- Landfill
- Septic system
- Injection well
- Sprayfield/land application site
- Tailings basin
- Waste rock stockpile
- Flooded mine pit
- Coal combustion residual impoundment
- Leaking storage tank or piping
- Subsurface contamination remaining in place
- Other

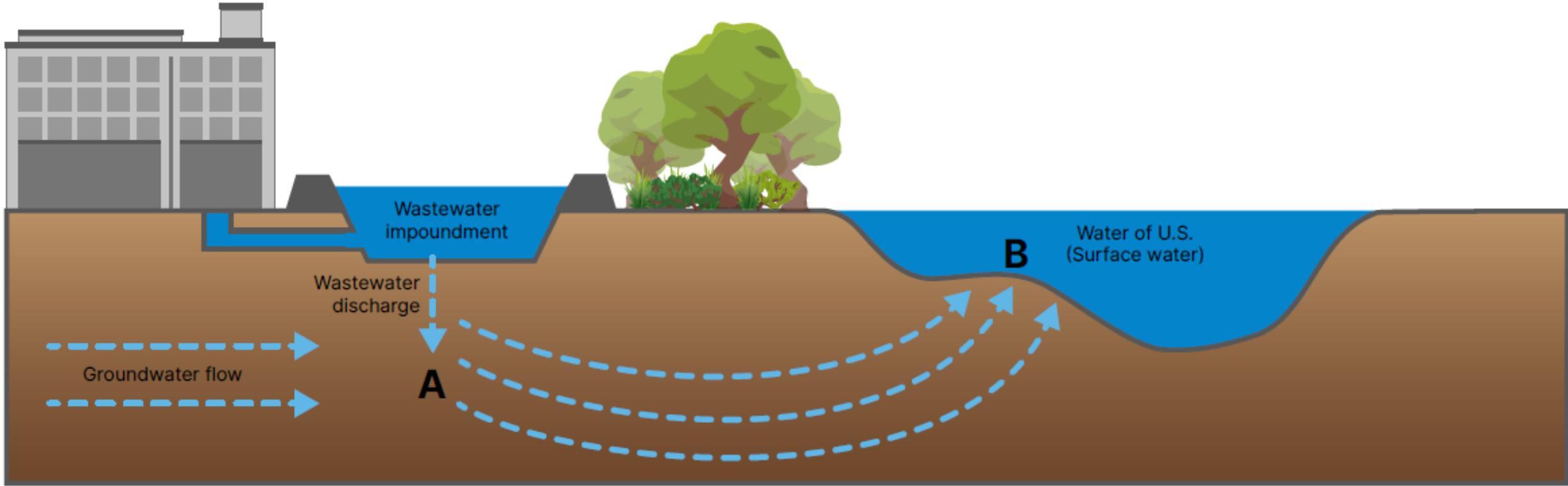


**Notes:**

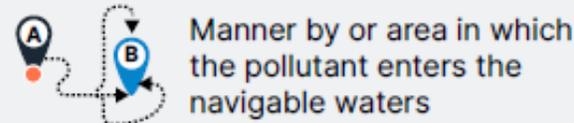
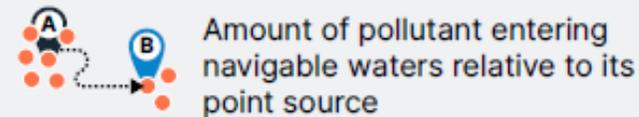
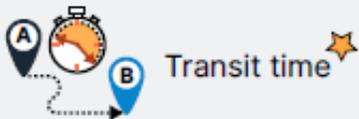
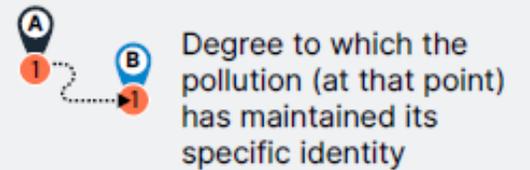
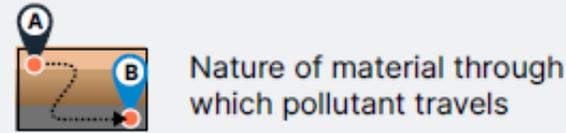
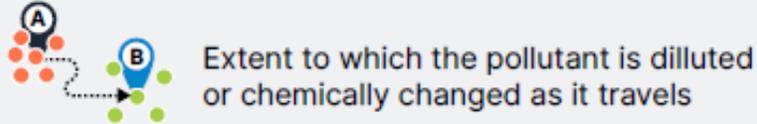
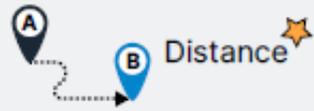
1. This list is not exhaustive.
2. Final determination on whether a functional equivalent evaluation is required will likely be made by the regulatory authority.
3. A point source is defined in 40 CFR 122.2 as "any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged."
4. Waters of the United States are defined in 40 CFR 120.2.



# FUNCTIONAL EQUIVALENT OF A DIRECT DISCHARGE



## FUNCTIONAL EQUIVALENT DETERMINATION FACTORS



Noted as most important in 2020 Maui Decision and 2023 Draft EPA Guidance Document

# What we know / don't know



## What we know:

- States have begun to add functional equivalent-related requirements to NPDES permits.
- EPA referenced the Maui decision in its new effluent limitation guidelines (ELGs) for coal-fired powered plants.

## What we don't know:

- The future of EPA guidance on this topic
- How quickly individual state NPDES permitting authorities will proceed with incorporating functional equivalent-related requirements into NPDES permits.
- How EPA and state NPDES permitting authorities will handle liability when an evaluation indicates that a functional equivalent discharge is present.

# Example 1



## Peconic Baykeeper, Inc. v. Harvey

- Functional equivalent: No
- Source: septic systems
- Waterbody: groundwater to several surface waters surrounding Long Island
- Pollutant: nitrogen
- **Factors:**
  - Time: weeks
  - Distance: short distance
  - Although travel time and distance are often the most important factors under Maui, the dispute about the **extent to which the pollutant is diluted or chemically changed as it travels, the amount of pollutant entering the navigable water relative to the point source, and the degree to which the pollution (at that point) has maintained its specific identity** outweigh the time and distance factors.



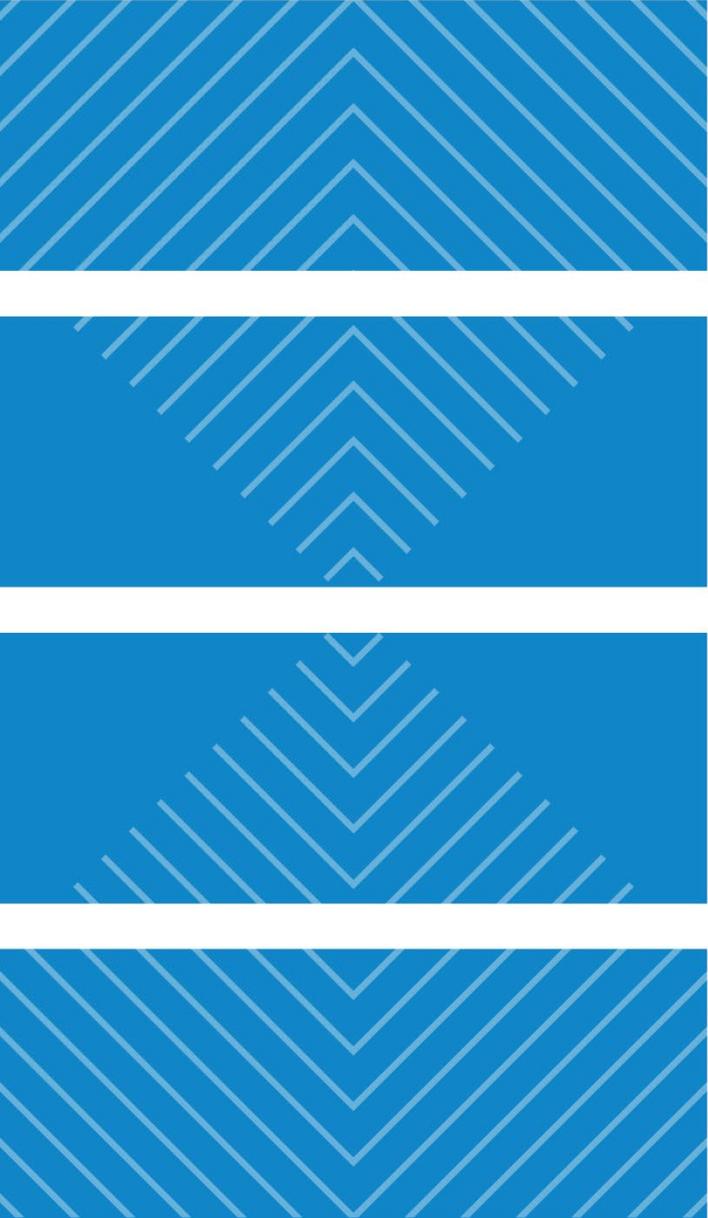
## Example 2



### Black Warrior River-Keeper, Inc. v. Drummond Co

- Functional equivalent: Yes
- Source: waste pile at Maxine Mine (abandoned underground mine)
- Waterbody: Locust Fork of the Black Warrior River and Tributary
- Pollutants: Acid mine drainage
- **Factors:**
  - Time: 1.5 – 14 days
  - Distance: 10 – 100 ft
  - Travels through porous materials and waste that “exacerbates” rather than dilutes the intensity of the acid mine drainage





# Discussion



[ksinner@barr.com](mailto:ksinner@barr.com)