



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF WATER

GUIDANCE MEMORANDUM¹

SUBJECT: Applying the Supreme Court’s *County of Maui v. Hawaii Wildlife Fund* Decision in the Clean Water Act Section 402 National Pollutant Discharge Elimination System Permit Program

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This memorandum provides focused guidance to the regulated community and permitting authorities, including the U.S. Environmental Protection Agency (EPA or Agency), on applying the recent decision of the United States Supreme Court in *County of Maui v. Hawaii Wildlife Fund*, 140 S. Ct. 1462 (2020) (“*Maui*”), on a case by case basis, in the Clean Water Act (CWA or the Act) Section 402 National Pollutant Discharge Elimination System (NPDES) permit program.² The *Maui* decision outlines seven non-exclusive factors for the regulated community and permitting authorities to consider when evaluating whether a discharge of a pollutant from a point source that travels through groundwater to a water of the United States is the “functional equivalent” of a direct discharge from a point source to a water of the United States. This guidance places the functional equivalent analysis into context within the existing NPDES permitting framework and identifies an additional factor for the regulated community and permitting authorities to consider when evaluating whether and how to perform a “functional equivalent” analysis.

Background

The CWA – initially enacted as the Federal Water Pollution Control Act Amendments of 1972 and subsequently amended – establishes the statutory structure for the regulation and permitting of discharges of pollutants to waters of the United States. The CWA Section 402 NPDES permitting program, whether implemented directly by EPA or by a state that is authorized to carry out its own program in lieu of the federal program, is limited to regulating the “discharge of a pollutant” from a

¹ This guidance document does not have the force and effect of law and it does not bind the public in any way. By issuing this guidance, the Agency intends only to provide clarity to the public regarding existing requirements under the law or Agency policies. Consistent with *EPA Guidance; Administrative Procedures for Issuance and Public Petitions*, 85 Fed. Reg. 66230 (Oct. 19, 2020), EPA solicited public comments on this draft memorandum for thirty days. A summary response to major concerns and comments is available in Docket # EPA-HQ-OW-2020-0673.

² This guidance only addresses discharges of pollutants that reach waters of the United States through groundwater.

“point source” to “navigable waters,” terms which are all defined in the Act. Congress prohibited the “discharge of any pollutant” “from any point source” “to navigable waters” unless it is authorized, generally by a permit. See 33 U.S.C. §§ 1311, 1342, 1344, and 1362. The Act defines “discharge of a pollutant” as “any addition of any pollutant to navigable waters from any point source.” *Id.* § 1362(12)(A). “Pollutant” means “dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water.” *Id.* § 1362(6). The Act defines “navigable waters” as “the waters of the United States, including the territorial seas,” *id.* § 1362(7); a term that is more specifically defined in federal regulation. See 33 CFR 328.3 and 40 CFR 120.2. The Act defines a “point source” 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, or vessel or other floating craft, from which pollutants are or may be discharged.” 33 U.S.C. § 1362 (14). The Act authorizes EPA to issue NPDES permits pursuant to Section 402(a), but if a state submits its own NPDES program to EPA for approval, EPA shall authorize the state to administer its own program unless EPA determines that the program does not meet the statutory criteria. *Id.* § 1342(b). When a state receives such authorization, EPA retains oversight and enforcement authorities. *Id.* §§, 1342(d), 1319.

Until recently, federal courts were divided on the question of whether a “discharge of a pollutant” subject to the CWA occurs when a pollutant is released from a point source and subsequently moves through groundwater before reaching a “water of the United States.” Three recent appellate court decisions highlighted this disagreement: *Hawai’i Wildlife Fund v. Cty. of Maui*, 886 F.3d 737 (9th Cir. 2018) (holding that point source discharges to groundwater that reach jurisdictional surface waters are subject to CWA permitting where they are fairly traceable to the point source and more than *de minimis*); *Upstate Forever v. Kinder Morgan Energy Partners*, 887 F.3d 637, 651 (4th Cir. 2018) (holding that “a plaintiff must allege a direct hydrological connection between ground water and navigable waters in order to state a claim under the CWA for a discharge of a pollutant that passes through ground water,” and noting that the discharge at issue in the case occurred 1,000 feet or less from a navigable water which “provides strong factual support” for a conclusion that the discharge is covered under the CWA.); and *Kentucky Waterways Alliance v. Kentucky Utilities Co.*, 905 F.3d 925 (6th Cir. 2018) & *Tenn. Clean Water Network v. TVA*, 905 F.3d 436 (6th Cir. 2018) (holding that the Ninth Circuit and Fourth Circuit approaches were “foreclose[d]” by the CWA, which applies only where pollutants are added directly to navigable waters “by virtue of a point-source conveyance,” rather than through some other mechanism like groundwater). In 2018, the County of Maui and Kinder Morgan both petitioned the U.S. Supreme Court for *certiorari* review of the Ninth and Fourth Circuit’s decisions, respectively.

The Supreme Court granted *certiorari* in the *Maui* case and heard oral argument on November 6, 2019. On April 23, 2020, the Court issued its decision, addressing the question whether a CWA NPDES permit may be required for releases of pollutants from a point source that reach a jurisdictional water through groundwater. The Court held that an NPDES permit is required for a discharge of pollutants from a point source that reach navigable waters after traveling through groundwater if that discharge is the “functional equivalent of a direct discharge from the point source into navigable waters.”³ *Maui*, 140 S. Ct. at 1468. The Court explicitly rejected the Ninth Circuit’s overly broad “fairly traceable test.” *Id.* at 1470. Nonetheless, the Court’s opinion leaves significant uncertainty concerning how the regulated community and permitting authorities should evaluate point source discharges that travel

³ On May 4, 2020, the Court granted *certiorari* in *Kinder Morgan*, and then vacated and remanded the case for further consideration in light of its decision in *Maui*. *Kinder Morgan* was subsequently settled without further court proceedings.

through groundwater before reaching a water of the United States. The Court outlined a non-exclusive list of seven factors that may be relevant in determining whether a discharge from a point source to a jurisdictional water is the “functional equivalent” of a direct discharge, depending on the circumstances of a particular case. Those factors are: (1) transit time, (2) distance traveled, (3) the nature of the material through which the pollutant travels, (4) the extent to which the pollutant is diluted or chemically changed as it travels, (5) the amount of pollutant entering the navigable waters relative to the amount of the pollutant that leaves the point source, (6) the manner by or area in which the pollutant enters the navigable waters, and (7) the degree to which the pollution (at that point) has maintained its specific identity. *Id.* at 1476-77. The Court explained that the “functional equivalent” analysis can be further refined through court decisions in individual cases – the traditional common-law method – and through EPA administrative actions or guidance. *Id.* at 1477.

This guidance provides EPA’s guidance to assist the regulated community and permitting authorities with applying the *Maui* holding in existing CWA NPDES permit programs and authorized state programs. Importantly, the *Maui* decision did not change the overall statutory or regulatory structure of the NPDES permit program, and EPA cannot modify the NPDES program through guidance. *See* 40 CFR Parts 122-24. *Maui*, however, identified an additional analysis that should be conducted in certain factual scenarios to determine whether an NPDES permit is required. This guidance is intended to inform how the Court’s “functional equivalent” analysis may be applied within the framework of the longstanding NPDES permit program. This guidance first reiterates the basic principles that govern whether a facility owner or operator may need an NPDES permit, and then identifies an additional factor that the regulated community and permitting authorities should consider when evaluating whether discharges of pollutants from point sources that travel through groundwater before reaching waters of the United States might require NPDES permit coverage.

NPDES Permit Applicability and the Relationship to the “Functional Equivalent” Analysis

Under the CWA, the discharge of any pollutant into a water of the United States is generally prohibited unless authorized by a permit. *See* 33 U.S.C. §§ 1311, 1342, 1344, and 1362. Typically, owners or operators of facilities or systems will analyze whether an NPDES permit is required and obtain coverage prior to assuming ownership or control of such a facility or system, or prior to discharging pollutants to a water of the United States. In some cases, a future discharge event either is not expected or happens by accident. The decision whether to seek and obtain NPDES permit coverage resides with the facility owner or operator; however, the failure to obtain coverage prior to a discharge exposes the owner or operator to potential civil or criminal enforcement and court orders mandating compliance with CWA permitting requirements.

EPA and its state and tribal partners frequently work with regulated entities to address factual scenarios where the need for NPDES permit coverage may be unclear. The Agency anticipates that the *Maui* decision likely will increase the instances where potentially regulated entities may have questions regarding whether and when to obtain permit coverage, particularly given the uncertainties associated with the Court’s fact-specific, multi-factor functional equivalent analysis. This section describes some existing baseline permitting principles to assist permitting authorities and regulated entities with these foundational questions.

The CWA, EPA’s regulations, and relevant court decisions provide certain threshold conditions that must be satisfied before the legal obligation to have an NPDES permit is triggered. First, there must be (or will be) an actual discharge of a pollutant to a water of the United States. Second, such a discharge must be from a point source. The *Maui* decision did not modify these two threshold conditions for

triggering NPDES permit applicability. Instead, *Maui* clarified that an NPDES permit is required for only a subset of discharges of pollutants that reach a water of the United States through groundwater – those that are the “functional equivalent” of direct discharges to jurisdictional waters. *Maui*, 140 S. Ct. at 1468, 1477. These concepts are described in more detail below.

1. An actual discharge of a pollutant to a water of the United States is a threshold condition that must be satisfied before the need for an NPDES permit is triggered.

Section 301(a) of the CWA prohibits unpermitted point source discharges of pollutants to waters of the United States. 33 U.S.C. § 1311(a). The responsibility to obtain an NPDES permit lies with the facility owner or operator. See generally 40 CFR Part 122. As articulated by the U.S. Court of Appeals for the Second Circuit and adopted by EPA, “in the absence of an actual addition of any pollutant to navigable waters from any point, there is no point source discharge, no statutory violation, no statutory obligation of point sources to comply with EPA regulations for point source discharges, and no statutory obligation of point sources to seek or obtain an NPDES permit in the first instance.” *Waterkeeper Alliance, Inc. v. EPA*, 399 F.3d 486, 505 (2nd Cir. 2005). The court went on to clarify that “the Clean Water Act gives the EPA jurisdiction to regulate and control only *actual* discharges—not potential discharges, and certainly not point sources themselves.” *Id.*; see also *Nat’l Pork Producers Council v. EPA*, 635 F.3d 738, 744-45, 750-51 (5th Cir. 2011); *Service Oil, Inc. v. EPA*, 590 F.3d 545, 551 (8th Cir. 2009). This requirement of an actual discharge of pollutants to a water of the United States is a cornerstone of the NPDES permit program and a threshold condition that must be met before there is a need to consider whether the discharge occurs directly into a water of the United States or is a “functional equivalent” of a direct discharge into a water of the United States.

A release of pollutants from a point source is a necessary, but not a sufficient, condition for triggering the need for an NPDES permit. In other words, a release of pollutants from a point source that occurs near a water of the United States does not by itself trigger the NPDES permit requirement. The Supreme Court’s decision in *Maui* did not instruct NPDES permitting authorities to *assume* that discharges to groundwater that occur in the vicinity of a jurisdictional water are the “functional equivalent” of direct discharges to that water. Indeed, such discharges may never reach jurisdictional waters for a number of reasons, including characteristics of the pollutant itself and the nature of the subsurface aquifer and hydrogeology.

However, where there are indications that there may be a discharge of pollutants through groundwater to waters of the United States, the Agency recommends considering whether conducting a technical analysis would be prudent. Indications may include, for example, a discharge of highly mobile pollutants from a point source directly to sandy soils, or in an area with shallow groundwater in close proximity to a water of a United States. In cases like these, it may be informative to evaluate hydraulic conductivity based on the soil type or porosity and hydraulic gradient through which the pollutant travels, depth to groundwater, groundwater flowpath (including distance and transit time over which the pollutant reaches the receiving water of the United States), or pollutant-specific dynamics along the groundwater flowpath (e.g., sorption, biological uptake, microbial processing). The purpose of such an evaluation would be to understand not only whether an actual discharge of a pollutant is occurring to a water of the United States via groundwater, but also whether any such discharge is the “functional equivalent” of a direct discharge to a water of the United States.

In a typical NPDES permitting process, the facility owner or operator and its consultants may be asked to provide to the permitting authority engineering, modeling or other technical information to support a permit application. These analyses often evaluate the likely fate and transport of pollutants that travel from the point source and into the environment and are often included in the record of decision for a final NPDES permit. In an enforcement context, the enforcement agency is typically the entity performing the technical analysis to support an allegation that an unpermitted discharge of pollutants has occurred to waters of the United States. Importantly, a mere allegation (i.e., without supporting evidence) that a point source discharge of pollutants is or may be reaching a water of the United States via groundwater is likely not sufficient to trigger the need for an NPDES permit. An allegation alone, for example one made in a public comment on a draft NPDES permit for a surface water discharge from the same facility, typically would not trigger a requirement for the permitting authority to investigate the unsupported comment.

Neither the “functional equivalent” analysis set out by the Supreme Court nor the CWA itself requires a facility owner or operator or a permitting authority to prove the *absence* of a discharge. At the same time, it would be prudent for facility owners or operators to obtain an NPDES permit before they initiate a discharge of pollutants into waters of the United States to avoid potential CWA liability for unpermitted discharges.

2. The discharge of pollutants that reaches, or will reach, a water of the United States must be from a point source to trigger NPDES permitting requirements.

Another longstanding threshold condition that must be satisfied before the need for a permit is triggered is that the prohibition in CWA Section 301 applies to releases of pollutants from a *point source* that reach a water of the United States. As noted above, the CWA defines the term “discharge of a pollutant” as “any addition of any pollutant to navigable waters from any *point source*.” 33 U.S.C. § 1362(12)(A) (emphasis added). The term “point source” is defined as “any discernible, confined and discrete conveyance. . . .” *Id.* § 1362(14). The Supreme Court in *Maui* reiterated this threshold condition: “[t]he statute couples the word ‘from’ with the word ‘to’ – strong evidence that Congress was referring to a destination (‘navigable waters’) and an origin (‘any point source’). Further underscoring that Congress intended this every day meaning is that the object of ‘from’ is a ‘point source’ – a source, again, connoting an origin.” *Maui*, 140 S. Ct. at 1473-74 (emphasis in original).

The threshold requirement of a release from a point source applies to discharges through groundwater no less than it applies to direct discharges. The Court’s decision in *Maui* reinforces this basic principle. *Maui* recognizes the need, set forth in the CWA, “to preserve state regulation of groundwater and other nonpoint sources of pollution.” *Id.* at 1476. Indeed, as the Court observed, the NPDES permitting provisions “say nothing at all about non-point source regulation or groundwater regulation.” *Id.* at 1471. The Court rejected the Ninth Circuit’s “fairly traceable” test in part because it could interfere “seriously with States’ traditional regulatory authority” over nonpoint source pollution and groundwater. *Id.* at 1471. The Court also declined to adopt “means-of-delivery” test (also known as the terminal point source theory, and which would have required a point source to convey the pollutant directly into a water of the United States), *id.* at 1474, and declined to exclude from the Act’s NPDES requirements the release of pollutants to groundwater, as presented in EPA’s Interpretive Statement, *id.* at 1470 (citing 84 Fed. Reg. 16810 (2019)). However, the Court affirmed that the CWA still requires a discharge of a pollutant from a point source to a water of the United States. If the pollutant travels through groundwater first, the same point source requirement applies; *Maui* instructs that “an addition [of a pollutant to

navigable waters] falls within the statutory requirement that it be ‘from any point source’ when a point source directly deposits pollutants into navigable waters, or when the discharge reaches the same result through roughly similar means.” *Id.* at 1476. Thus, a determination that there is or will be a point source discharge is a threshold condition that must be met before regulatory jurisdiction can be established under the CWA. Only after it is established that an actual discharge of pollutants from a point source to waters of the United States via groundwater occurs (or will occur) would there be a need to consider the Supreme Court’s “functional equivalent” analysis.

3. Only a subset of discharges of pollutants to groundwater that ultimately reach a water of the United States are the “functional equivalent” of a direct discharge to a water of the United States.

A demonstration that pollutants from a point source have reached or will reach a water of the United States via groundwater does not by itself trigger the requirement for an NPDES permit. *Id.* at 1476-77. To say otherwise would amount to adoption of the “fairly traceable” test that the *Maui* Court rejected. When a discharge of pollutants occurs or will occur from a point source to a water of the United States via groundwater, the Supreme Court has instructed that there are “many potentially relevant factors” that may be considered, depending on the circumstances, when determining whether the discharge is or will be the “functional equivalent” of a direct discharge. *Id.* at 1476-77. The Court explained that “an addition of pollutants falls within the statutory requirement that it be ‘from any point source’ when a point source directly deposits pollutants into navigable waters, or when the discharge reaches the same result through roughly similar means.” *Id.*

Discharges of pollutants that reach a water of the United States via groundwater may not be the “functional equivalent” of a direct discharge, based on a number of factors identified in *Maui*. The Agency’s experience indicates that science (e.g., characteristics of the pollutant itself and the nature of the subsurface aquifer and hydrogeology) informs the effect of time and distance traveled on a discharge, and thus whether that discharge is ultimately the “functional equivalent” of a direct discharge. In other words, what happens to the discharged pollutant over that time and distance traveled to the water of the United States, is critical to the “functional equivalent” analysis. Pollutants may be discharged from a point source and migrate through a system that treats, provides uptake of, dilutes, or retains pollutants before the pollutant reaches a water of the United States. If the pollutant composition or concentration that ultimately reaches the water of the United States is materially different from the composition or concentration of the pollutant as initially discharged, whether through chemical or biological interaction with soils, microbes, plants and their root zone, groundwater, or other pollutants, or simply through physical attenuation or dilution, it might not be the “functional equivalent” of a direct discharge to a water of the United States. By contrast, a discharge via groundwater that reaches a water of the United States in the same or nearly the same chemical composition and concentration may be more like a direct discharge to the jurisdictional water.

Historically, few NPDES permits have been issued for point source discharges of pollutants that reach waters of the United States via groundwater. Permits issued for these types of discharges were based on a case-by-case analysis that was grounded in a “direct hydrologic connection” analysis. *See e.g.*, 84 FR 16810, 83 FR 7126, 66 FR 2959. Compared with the hundreds of thousands of NPDES permits that have been issued since the inception of the program, the number of NPDES permits issued for discharges through groundwater is extremely low. EPA anticipates that the issuance of such permits will continue

to be a small percentage of the overall number of NPDES permits issued following application of the Supreme Court’s “functional equivalent” analysis.

Considering System Design and Performance as Part of the “Functional Equivalent” Analysis

Based on EPA’s analysis of the Supreme Court’s decision, the Agency’s technical and scientific expertise, and its experience administering the NPDES permit program and overseeing authorized state NPDES programs for several decades, the Agency has identified an additional factor that may prove relevant and thus should be considered when performing a “functional equivalent” analysis: the design and performance of the system or facility from which the pollutant is released.

EPA has discretion to identify relevant factors beyond those the Court identified in *Maui*. See 140 S. Ct. at 1476-77. Even when an agency’s interpretation of an ambiguous statutory provision differs from a court’s interpretation, an agency may take such a construction because it remains the authoritative interpreter of the statutes it administers. *National Cable & Telecomm. Ass’n v. Brand X Internet Serv.*, 545 U.S. 967, 982 (2005). In this instance, EPA’s discretion to identify relevant factors beyond those the Court identified in *Maui* is fully consistent with, and specifically contemplated by, the *Maui* decision. See 140 S. Ct. at 1476-77. Although the design and performance of the system or facility from which the pollutant is released was not identified as a specific factor in *Maui*, inquiries concerning design and performance are important and relevant and are routinely considered by permitting authorities in the administration of the NPDES permit program. See e.g., 40 CFR 122.21.⁴ In many cases, a facility owner or operator may apply for an NPDES permit for an anticipated discharge from a new or proposed facility. In these cases, permitting authorities will likely establish NPDES permits based on the design of the new facility, including how the facility is planned and engineered to transfer, store, treat, or discharge wastewater. In other cases, the design and performance of an existing facility can provide important information about the function and effectiveness of the engineered system, which can also be informed by actual discharge data and water quality information. In both kinds of cases, the design and performance of the system or facility from which the pollutant is released can inform the scope and extent of the “functional equivalent” analysis and inform the factors identified in *Maui*.

Maui directs that “[w]hether pollutants that arrive at navigable waters after traveling through groundwater are ‘from’ a point source depends upon how similar to (or different from) the particular discharge is to a direct discharge.” *Maui*, 140 S. Ct. at 1476. The composition and concentration of discharges of pollutants directly from a pipe or other discernible, confined, and discrete conveyance into a water of the United States with little or no intervening treatment or attenuation often differ significantly from the composition and concentration of discharges of pollutants into a system that is engineered, designed, and operated to treat or attenuate pollutants or uses the surface or subsurface to treat, provide uptake of, or retain pollutants.

The design and performance of a system or facility can affect or inform all seven factors identified in *Maui*. For example, the point of discharge may be engineered to direct the pollutant into a subsurface aquitard or to a surface area designed to slow the transit time of a pollutant that ultimately reaches a water of the United States. Similarly, the point of discharge may be located to intentionally increase the

⁴ NPDES permit application forms used when EPA is the permitting authority are available at <https://www.epa.gov/npdes/npdes-application-forms>.

distance the pollutant would travel before reaching a water of the United States. Other system or facility design and performance components may promote dilution, adsorption or dispersion of the pollutant, thereby affecting the extent to which the pollutant is chemically changed, the amount of pollutant entering the water of the United States relative to the amount of the pollutant that leaves the point source, and the degree to which the pollutant has maintained its specific identity at the point it reaches a water of the United States. Finally, a system may be designed and perform so that the discharge is either discrete and confined or diffuse, affecting the manner by which the pollutant may enter the water of the United States. The design and performance of the facility or system therefore informs the analysis of whether the release of a pollutant from that system is the “functional equivalent” of a direct discharge from a point source to a water of the United States.

If a facility or system is designed and performs to discharge pollutants from a point source through groundwater and into a water of the United States, the owner or operator should contact its permitting authority to determine whether an NPDES permit is required. On the other hand, if a facility is designed and performs with a storage, treatment or containment system such as a septic system, cesspool or settling pond; if the facility is operating as a runoff management system, such as with stormwater controls, infiltration or evaporation systems or other green infrastructure; or if the facility operates water reuse, recycling or groundwater recharge facilities, and these system components in fact abate discharges of pollutants to waters of the United States, such that the discharges either do not reach a water of the United States or because the discharge is not the “functional equivalent” of a direct discharge, it may be less likely that an NPDES permit would be required.