



Fact Sheet for Proposed Permit Modification

The U.S. Environmental Protection Agency (EPA)
Proposes to Modify a National Pollutant Discharge Elimination System (NPDES)
Permit to Discharge Pollutants Pursuant to the Provisions of the Clean Water Act
(CWA) to:

Concentrated Animal Feeding Operations (CAFOs) in the State of Idaho

Public Comment Start Date: July 18, 2023
Public Comment Expiration Date: September 1, 2023

Technical Contact: Nicholas Peak
208-378-5765
peak.nicholas@epa.gov

EPA PROPOSES TO MODIFY THE NPDES PERMIT

The U.S. Environmental Protection Agency (EPA) proposes to modify the National Pollutant Discharge Elimination System (NPDES) general permit for concentrated animal feeding operations (CAFOs) in Idaho excluding Tribal lands (Permit). EPA proposes to modify the Permit to establish monitoring conditions for the subsurface discharges of pollutants from production areas and dry weather surface and subsurface discharges from land application areas at these CAFOs to waters of the United States. The modification is a major modification pursuant to 40 CFR 122.62(a)(15). EPA is only accepting public comment on the specific changes made to the Permit in this permit modification.

This Fact Sheet addresses the provisions of the Permit that are proposed to be modified from the final Permit that became effective on June 15, 2020. This Fact Sheet includes:

- information on public comment, public hearing, and appeal procedures; and
- a description of and technical information supporting the proposed revisions to effluent limitations, special conditions, records management, and monitoring requirements in the Permit.

STATE CLEAN WATER ACT SECTION 401 CERTIFICATION

On April 7, 2020, the Idaho Department of Environmental Quality (IDEQ) provided a final certification pursuant to Section 401 of the Clean Water Act, 33 U.S.C. § 1341, for the Permit that was public noticed in October 2019. Since the revisions to the Permit result in as stringent or more stringent conditions, a new CWA section 401 certification is not necessary for this

modification. On May 24, 2023, IDEQ did provide a memorandum to EPA with updated agency contact information, as well as hyperlinks to be included as an attachment to their 2020 final CWA Section 401 Certification, which is included as an appendix to this permit modification Fact Sheet.

PUBLIC COMMENT

Persons wishing to comment on, or request a Public Hearing for, the draft permit modification may do so in writing by the expiration date of the Public Comment period. A request for a Public Hearing must state the nature of the issues to be raised as well as the requester’s name, address and telephone number. All comments and requests for Public Hearings must be in writing and should be submitted to EPA as described below. Consistent with 40 CFR 122.62, only the conditions subject to modification are open to public review and comment. The modifications are listed in the table below and discussed in more detail in the referenced sections of the fact sheet. In addition, EPA made editorial changes, such as updating penalty amounts in Section V.B.2. and updating formatting.

Modification	Fact Sheet Section Reference
The permit requires all CAFOs to conduct visual inspections for all land application areas during land application events, regardless of the relative risk of dry weather discharges from those areas.	III.A.2. Effluent Limitations and Standards Applicable to the Land Application Area, Risk-based approach to monitoring for dry weather discharges
The permit requires monitoring for dry weather subsurface discharges from land application areas.	III.A.2. Effluent Limitations and Standards Applicable to the Land Application Area, Risk-based approach to monitoring for dry weather discharges
The permit requires CAFOs with either risk factor for subsurface discharges from a wastewater and manure storage structure (i.e., lack of documentation of compliance with NRCS Appendix 10D and IDAPA 02.04.14.030.01 OR a “High Risk” rating on either the Site Assessment Form or Structure Assessment Form for Washington NRCS Engineering Technical Note #23) to develop a Subsurface Discharge Monitoring Plan, regardless of the compliance option chosen to meet paragraph III.A.1.a.ii of the permit.	IV.A. Nutrient Management Plan – NMP Content
The proposed list of parameters for land application discharge monitoring are: (total Kjeldahl nitrogen (TKN), nitrate nitrogen, nitrite nitrogen, total phosphorus, E. coli, fecal coliform, and five-day biochemical oxygen demand (BOD5)).	V.C. Monitoring Requirements for Discharges from Land Application Areas

By the expiration date of the public comment period, all written comments and requests must be submitted to epar10wd-npdes@epa.gov with the subject line: Public Comments on IDG010000.

After the Public Notice expires, and all comments have been considered, EPA will make a final decision regarding the draft permit modification. If no substantive comments are received, the tentative conditions in the draft permit modification will become final, and the permit modification will be issued. If substantive comments are received, EPA will address the comments and issue the permit modification.

Pursuant to Section 509(b)(1) of the Clean Water Act, 33 U.S.C. § 1369(b)(1), any interested person may appeal the permit modification in the Ninth Circuit Court of Appeals within 120 days following notice of EPA's final decision for the permit.

DOCUMENTS ARE AVAILABLE FOR REVIEW

The draft NPDES permit, fact sheet and other information can be downloaded from the internet at <https://www.epa.gov/npdes-permits/npdes-general-permit-concentrated-animal-feeding-operations-cafos-idaho>

The draft NPDES permit, fact sheet and related documents are also available electronically upon request by contacting Nicholas Peak.

For technical questions regarding the permit or fact sheet, contact Nicholas Peak at the 208-378-5765 or peak.nicholas@epa.gov. Services can be made available to persons with disabilities by contacting Audrey Washington at (206) 553-0523.

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I. INTRODUCTION

A. Permit History

EPA Region 10 reissued the NPDES General Permit for CAFOs in Idaho (IDG010000) on May 13, 2020; the permit became effective on June 15, 2020. Subsequently, Food & Water Watch and Snake River Waterkeeper (Petitioners) filed a Petition for Review in the Ninth Circuit Court of Appeals challenging the Permit on the basis that it did not contain representative effluent monitoring to ensure compliance with all applicable effluent limitations in the permit in violation of the Clean Water Act and its implementing regulations. The Court granted the petition, in part, holding that the permit failed to include monitoring to ensure compliance with the discharge prohibitions in the permit. Specifically, the Court found that the Permit failed to include monitoring for underground discharges from the production area that ultimately reach surface waters and monitoring for dry weather discharges from land application areas. The Permit was remanded to EPA to address these deficiencies and remains in effect at this time.¹

As described in the fact sheet for the 2019 draft permit, the Idaho Department of Environmental Quality (IDEQ) is now the NPDES permitting authority in Idaho. However, pursuant to the terms of the NPDES Memorandum of Agreement between EPA and Idaho, EPA retains jurisdiction over permits that were appealed prior to the transfer of authority to IDEQ. Once EPA has addressed the Court’s remand, this Permit will be transferred to IDEQ to administer.

B. Summary of Changes to the Permit

The proposed permit includes new and revised conditions consistent with the Ninth Circuit Court of Appeal’s Order and Opinion filed on December 16, 2021, in *Food & Water Watch et al. v. U.S. Environmental Protection Agency* (No. 20-71554) (“*Food & Water Watch*”).

2020 Permit	Draft Permit
Section II.B. Effluent Limitations and Standards Applicable to the Land Application Area <ul style="list-style-type: none">Section II.B.9 prohibited dry weather discharges.	Section II.B. Effluent Limitations and Standards Applicable to the Land Application Area <ul style="list-style-type: none">Added Section II.B.9.a to prohibit land application to surface-irrigated fields.Added Sections II.B.9.b and c to require visual monitoring for dry weather discharges during land application on high-risk fields.
Section III.A. Nutrient Management Plan <ul style="list-style-type: none">Section III.A.1.a.ii established conditions for NMP content to ensure	Section III.A. Nutrient Management Plan <ul style="list-style-type: none">Added Section III.A.1.a.iii and iv to require CAFOs with a high risk of

¹ Initially, the Court vacated the Permit; however, EPA filed a Motion for Rehearing requesting that the Court modify the Order to remand the Permit to EPA which the Court granted. Therefore, EPA retains jurisdiction over the Permit which remains in effect.

<p>proper operation and maintenance of wastewater and manure storage structures.</p>	<p>subsurface discharges to establish a Subsurface Discharge Monitoring Plan for detecting and monitoring those discharges.</p>
<p>Section IV.A. Records Management</p> <ul style="list-style-type: none"> Section IV.A.2 established record keeping requirements for land application areas. 	<p>Section IV.A. Records Management</p> <ul style="list-style-type: none"> Added Section IV.A.2.g to require documentation of visual monitoring conducted to prevent and detect dry weather discharges from land application areas. Made an editorial change to Section IV.A.2 to reflect the addition of Section IV.A.2.g
<p>Section IV.D. Monitoring Requirements for All Discharges from Wastewater or Manure Storage Structures</p> <ul style="list-style-type: none"> Section IV.D.1 required monitoring of any discharge of pollutants to waters of the U.S. from a CAFO's manure or wastewater storage structure. Section IV.D.3 specified the discharge sample location and type. 	<p>Section IV.D. Monitoring Requirements for All Discharges from Wastewater or Manure Storage Structures</p> <ul style="list-style-type: none"> Revised Section IV.D.1. to clarify that the monitoring requirements also apply to subsurface discharges. Added Section IV.D.1.b to require daily monitoring for discharge events that exceed 24 hours. Revised Section IV.D.3 to identify the monitoring location for subsurface discharges. Added Section IV.D.6 to identify the elements that must be included in a Subsurface Discharge Monitoring Plan.
	<p>IV.E. Monitoring Requirements for Discharges from Land Application Areas</p> <ul style="list-style-type: none"> Added Section IV.E to require CAFOs to monitor unauthorized discharges from land application areas, including discharge monitoring and receiving water monitoring. Renumbered former Section IV.E. Spills / Releases in Excess of Reportable Quantities to IV.F.

II. RATIONALE FOR PERMIT MODIFICATIONS

After the Permit was remanded, EPA engaged in a comprehensive and lengthy process of review and consultation to understand the availability and feasibility of technologies and practices to identify and monitor subsurface discharges from CAFO wastewater storage structures and dry weather discharges from CAFO land application areas. To that end, EPA Region 10 met with a variety of external organizations with relevant expertise. Those meetings are listed below with a summary of the primary topics discussed.

- On February 23, 2022, EPA met with the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), Idaho State Office to discuss the availability and feasibility of procedures and technologies to detect and monitor subsurface discharges from CAFO waste storage ponds. The NRCS staff were not aware of affordable or widely available tools or monitoring approaches appropriate for detecting subsurface discharges from CAFO wastewater and manure storage structures. Further, NRCS testing of various technologies has shown that monitoring for seepage is more expensive than installing a liner for a wastewater storage structure. Participants discussed the potential for a risk-based approach using mapping to target monitoring requirements to high-risk areas.
- EPA met with NRCS's West National Technology Support Center on February 25, 2022, to discuss available technologies and practices for edge-of-field monitoring for CAFO land application area discharges. NRCS staff informed EPA that they are aware of no new technologies or developments that might make edge-of-field monitoring feasible for CAFO discharges. This type of monitoring is expensive and requires a lot of maintenance. Further, protecting monitoring stations from vandalism and theft can be a problem in remote locations. However, in fiscal year 2022, NRCS stated that they were planning a new Conservation Evaluation and Monitoring Activity (CEMA) for edge-of-field monitoring that will provide flexibility for lower-cost technologies. The data collected using these technologies is not as good as that collected through traditional edge-of-field monitoring, but the technologies make it possible to collect more data that can be used to target locations for more intensive monitoring. NRCS staff suggested that phosphorus could be a good indicator parameter for a screening-level analysis in a risk-based targeting approach.
- On March 1, 2022, EPA met with the USDA-NRCS National Headquarters Office, Conservation Engineering Division to discuss the availability and feasibility of procedures and technologies to detect and monitor subsurface discharges from CAFO waste storage ponds. Participants discussed NRCS standards for earthen-lined wastewater storage structures, which account for a small amount of seepage that will be treated by the microbial community that exists in the underlying soils. NRCS staff contrasted this seepage with a larger leak (e.g., through a damaged liner) that could lead to elevated groundwater nitrate levels. NRCS staff described ongoing research and testing for several technologies that monitor lagoon depth changes as a means of detecting leaks but suggested that the device developed by NRCS was too complicated to be practical for use

by CAFO operators. The NRCS device is very expensive and requires a trained technician to operate. Another device under development by a private company is more promising, but development is not complete, and it is not clear when or even if the technology will be commercially available.

USDA's Agricultural Research Service (ARS) is working on a different type of device that would measure electrical conductivity in soils under lagoons to detect leaks. The technology is relatively inexpensive but is also still under development and not available for use. While promising, the ARS technology has two limitations. First, it can detect a leak but cannot measure the volume or other characteristics of the leak. Second, because the device detects leaks based on changes in electrical conductivity, if retrofitted onto an existing lagoon, it could only detect a new leak as any potential existing leaks would not cause a change in conductivity.

NRCS staff discussed the potential for installing monitoring wells up- and down-gradient from wastewater storage structures to detect leaks and expressed the opinion that this would be prohibitively expensive to require for all CAFOs. Further, this approach is impractical in Idaho because of seasonal variations in the direction of subsurface flows. NRCS staff acknowledged the potential for use of a risk-based approach to target monitoring requirements to higher-risk operations and supported the use of Washington NRCS's Technical Note #23 for evaluating lagoon risk factors.

Finally, NRCS does not have tools that would help identify the potential for a subsurface discharge (i.e., a leak from a wastewater or manure storage structure that would ultimately discharge to a water of the U.S.). The shallow groundwater information available through Web Soil Survey is not relevant for most lagoons because the lagoon bottoms are typically below the shallow groundwater level.

- EPA met with Food & Water Watch on March 8 and April 19, 2022, to discuss possibilities for subsurface and edge-of-field monitoring. Participants discussed the applicability of groundwater monitoring requirements established in permits for CAFOs in Washington's Yakima Valley and in New Mexico, relative to the groundwater conditions that exist in Idaho. Participants also discussed requiring CAFOs to identify subsurface drainage infrastructure for production and land application areas, and the possible use of a risk-based approach combined with upstream and downstream monitoring to identify and characterize discharges. During the April 19th meeting, Food & Water Watch indicated that they were engaging experts to prepare a document summarizing the availability and feasibility of technologies for monitoring for subsurface discharges from wastewater storage structures that they would share with EPA when it is available. Food & Water Watch provided two documents titled: "Monitoring Discharges from Concentrated Animal Feeding Operations" by David Erickson and "Proposed CAFO Discharge Monitoring Program" by Richard R. Horner on January 10, 2023.
- On March 10, 2022, EPA met with IDEQ. Participants discussed the technical considerations for establishing subsurface and dry weather discharge monitoring

requirements, including the potential for using a risk-based approach that considers site vulnerability factors such as those evaluated under Washington NRCS Technical Note #23 and by Idaho's CAFO site evaluation team when reviewing suitability of sites for new or expanding CAFOs. IDEQ raised the possibility of using groundwater level data from the Idaho Department of Water Resources monitoring network as part of the risk-based screening to identify groundwater flow direction and seasonal variations. Other monitoring data may be available from Idaho State Department of Agriculture (ISDA; e.g., dairy well sampling for nitrates), the U.S. Geological Survey, or USDA to help inform a regional or state-wide risk-based screening analysis. The group discussed applicability of requirements in permits for similar or related types of discharges, such as CAFOs in Washington and Oregon, as well as permits for subsurface discharges with a clear hydrologic connection to surface waters in Idaho.

- EPA met with representatives of the Idaho Dairymen's Association (IDA) on March 15, 2022, to discuss expectations and possibilities for subsurface and edge-of-field monitoring at CAFOs in the context of dairy practices and groundwater flow conditions in Idaho. The IDA representatives suggested that surface discharges from land application areas to canals would be more likely than subsurface discharges from land application areas. The group discussed whether visual monitoring for land application discharges would be sufficient to address the Ninth Circuit Court's decision and, if not, what level of additional monitoring is appropriate. IDA raised the potential for costly monitoring requirements to have the effect of limiting the extent of CAFOs' land application areas, with more manure being applied to smaller areas to minimize the monitoring costs. The group discussed the actual costs of various types of water quality monitoring, similar monitoring requirements in neighboring states, the feasibility of various options for monitoring and reporting dry weather discharges from CAFO land application areas, the potential for using a risk-based approach to target monitoring requirements to high-risk fields, and the potential for upstream/downstream monitoring to help identify and characterize land application area dry weather discharges.

Participants also discussed potential approaches for detecting and monitoring subsurface discharges from wastewater and manure storage structures. IDA indicated that a requirement or option to line storage structures could be less costly than ongoing groundwater monitoring to detect leaks. The group discussed the relationship between seepage and subsurface discharges and whether documentation of construction and operation in accordance with NRCS standards indicates a lower risk for leaks and subsurface discharges. IDA asked about the potential for using screening criteria to target monitoring requirements to facilities where there is a higher risk for a subsurface discharge. IDA expressed concern with the applicability of Washington NRCS Technical Note #23 as a risk-based screening tool for dairies in Idaho and referred to their comments on that topic submitted during the public comment period for the last draft general permit.

- On April 7, 2022, EPA met again with ISDA and IDEQ to continue discussing the addition of subsurface discharge monitoring requirements in the general permit. The ISDA staff participating in the discussion confirmed the lack of feasible and affordable technology to detect subsurface discharges from wastewater and manure storage structures. ISDA relies on proper design and construction to prevent leaks rather than monitoring to detect them. Based on a program audit conducted several years ago and subsequent work with dairies to bring lagoons into compliance, most operations in Idaho now meet the construction standards for dairy waste lagoons. ISDA continues to work with those that do not. ISDA evaluated seepage for older lagoons that lacked documentation of construction and rarely saw seepage beyond 2 feet below the lagoon. The group discussed the potential for a risk-based approach to target requirements to facilities with a higher potential for subsurface discharges, and what characteristics might suggest a higher risk, including proximity to surface water, high water table, and unsuitable soils or bedrock.

For land application, allowing producers to write their own NMPs, with support and oversight from ISDA, has been valuable in educating operators on water quality protection. The group discussed the potential for establishing screening criteria to target monitoring requirements to higher-risk fields. According to ISDA, about one third of dairies in Idaho are using the phosphorus index, but some in eastern Idaho are still using the phosphorus threshold method. Most of the fields evaluated with the phosphorus index are medium risk without implementing management practices, largely based on proximity to canals. Common conservation practices include contour farming, low pressure irrigation, filter strips, and retention ponds.

Regarding discharge sampling, in ISDA's experience it is better to have trained personnel on-call to conduct sampling when needed; the resulting data are more credible. IDEQ staff added that self-monitoring is standard for NPDES permittees, but that IDEQ generally conducts sampling for enforcement purposes.

In addition to the discussions described above, EPA Region 10 reviewed an array of permits and regulatory requirements for similar types of discharges in other states and regions to determine whether and how those programs address dry weather discharge monitoring for land application of waste or subsurface discharges from waste storage structures. EPA reviewed documents including NPDES CAFO permits for facilities in Washington, Oregon, New Mexico, Texas, and Wisconsin; federal regulations and guidance documents for land application of biosolids; NPDES permits for small wastewater treatment lagoon systems in EPA Region 1; and regulations controlling discharges from livestock operations to groundwater in Nebraska and Colorado. Once provided, EPA Region 10 reviewed the two documents provided by Food & Water Watch that addressed the monitoring of CAFO discharges to ground water and the monitoring of surface water discharges from CAFOs.

Based on these consultations and reviews, EPA Region 10 determined that technically feasible and affordable technologies currently are not available to support a requirement for all CAFOs to routinely monitor to detect dry weather discharges from land application areas and subsurface

discharges from wastewater storage structures. However, where such discharges occur, they should be monitored, consistent with the existing permit requirement to sample all discharges from CAFOs to waters of the U.S. Permit at Section IV.D. Region 10 recognizes the inherent difficulty in detecting these types of discharges, and the need to establish requirements that would increase the likelihood of identifying such discharges where they exist. To balance the need for additional monitoring requirements to detect dry weather and subsurface discharges with the cost and complexity associated with such monitoring, Region 10 is proposing a risk-based approach to ensure that facilities that pose the highest risk to water quality from these types of discharges will be required to monitor for them. The draft permit provides flexibility for those facilities to establish appropriate protocols for detecting and monitoring discharges based on the design, operational, and site characteristics of individual facilities. Further, as previously stated, any facility that discharges to a water of the U.S., whether via surface or subsurface or in wet or dry weather, is required to monitor those discharges. Permit at Section IV.D.

III. PROPOSED EFFLUENT LIMITATIONS AND OTHER PERMIT PROVISIONS

A. Effluent Limitations and Standards

1. Overview

In *Food & Water Watch*, the Court concluded that the Permit failed to require monitoring that ensures the detection of unpermitted discharges. Regarding the production areas at CAFOs, the Court found that although “the Permit has sufficient monitoring requirements for above-ground discharges...,” the Permit failed to contain monitoring provisions for underground discharges from production areas despite the fact that EPA was aware that “leaky containment structures – especially lagoons – are sources of groundwater pollution and that ‘groundwater flow is the primary contributor of nitrate to surface water...’” *Id.* at p. 22. The Court held that “[w]ithout a requirement that CAFOs monitor waste containment structures for underground discharges, there is no way to ensure that production areas comply with the Permit’s zero- discharge requirement.” *Id.* at p. 23-34.

Regarding the land application areas at CAFOs, the Court found that the Permit contained a prohibition of discharges from land application areas during dry weather; however, the Permit failed to contain monitoring provisions for dry weather discharges from land application areas. The court stated, “[w]ithout a requirement to monitor runoff from irrigated CAFO fields, there is no way to ensure that a CAFO is complying with the Permit’s dry weather no discharge requirement for land application areas.” *Id.* at p. 25.

2. Effluent Limitations and Standards Applicable to the Land Application Area

Currently, the Permit contains a general prohibition of dry weather discharges as a result of the application of manure, litter, or process wastewater to land areas under the control of the CAFO. *See* Permit at Section II.B.9. EPA is proposing to add the permit provisions discussed in further detail below.

No land application on surface-irrigated fields

EPA proposes to add a provision to the permit that prohibits land application of manure, litter, or process wastewater on CAFO fields that are irrigated using surface irrigation methods (for example, flood or furrow irrigation). This prohibition does not apply to fields that use other methods of irrigation, such as center pivots, drip irrigation, or other methods of sprinkler irrigation. As the Ninth Circuit noted, there is the potential for irrigation-produced runoff of pollutants from land application areas. See *Food & Water Watch* at p. 24-25. EPA recognizes that the greatest risk for such pollutant loss is from fields where surface irrigation occurs together with manure, litter, or process wastewater application. Although Idaho farmers, in general, are switching from surface irrigation to methods that do not generate runoff when properly implemented, such as sprinkler or drip irrigation,² some CAFO operators in Idaho still use surface irrigation. As such, EPA is establishing this water quality-based effluent limitation to prevent nutrients, pathogens, and other pollutants associated with land-applied manure from running off fields to surface waters.

EPA Region 10 believes this prohibition is consistent with the agricultural stormwater exclusion for CAFOs. The 2003 federal CAFO regulations clarified that runoff from the application of CAFO manure, litter, or process wastewaters to land that is under the control of a CAFO is a discharge from the CAFO and subject to NPDES permit requirements, except where it is an agricultural stormwater discharge. In order to reconcile the Clean Water Act's *inclusion* of CAFOs as point sources and its *exclusion* of agricultural stormwater from the point source definition, the regulations identified the conditions under which discharges from the land application area of a CAFO are point source discharges subject to NPDES permitting requirements and those under which they are agricultural stormwater and therefore are not point source discharges. In the preamble to the 2003 CAFO regulations, EPA interpreted agricultural stormwater to encompass discharges of manure, litter and process wastewater when it has been applied in accordance with practices to ensure appropriate agricultural utilization of nutrients. 68 Fed. Reg. 7176, 7197 (Feb. 12, 2003).

The 2003 regulations and subsequent revisions recognized the potential for runoff of nutrients from CAFOs and sought to minimize the load by establishing site specific management practices to prevent over-application of nutrients. Applying manure to a surface-irrigated field that will cause manure and other pollutants to flow into waters of the U.S. does not ensure appropriate agricultural utilization of nutrients and does not minimize the potential for a discharge of pollutants to waters of the U.S. Moreover, the significantly declining use of surface irrigation on fields in Idaho indicates that this practice is not

² USDA's Agricultural Research Service data from the 1997 Census of Agriculture indicated that 67% of Idaho's irrigated land was sprinkler irrigated, and 31% was surface irrigated (<https://www.ars.usda.gov/ARSUserFiles/20540000/k12/irrigation.htm>). By 2018, 76% of Idaho's irrigated lands were sprinkler- or drip-irrigated and 24% was surface-irrigated (https://www.nass.usda.gov/Publications/AgCensus/2017/Online_Resources/Farm_and_Ranch_Irrigation_Survey/fris.pdf).

necessary, and that methods that result in less runoff of pollutants to waters of the United States are readily available.

The existing permit prohibits dry weather discharges. Considering the Ninth Circuit Court's concerns regarding the potential water quality impacts of dry weather discharges from land application areas at CAFOs, and similar to EPA's clarification of the applicability of the agricultural stormwater exemption to CAFO land application areas, Region 10 is proposing to modify the permit to further clarify that dry weather discharges from surface-irrigated fields are prohibited under the general permit.

Risk-based approach to monitoring for dry weather discharges

As described in Section V.C below, EPA is proposing to modify the permit to require monitoring for all dry weather discharges from land application areas at permitted CAFOs. In order to monitor a dry weather discharge, the CAFO owner or operator must first determine that the discharge is occurring. To identify potential dry weather discharges, the draft permit requires visual inspections of land application areas during and after land application events where there is an elevated risk of discharge to waters of the U.S. The existing permit requirement to determine those land application areas with a high risk of runoff to waters of the U.S. (see Section III.A.2.f of the existing permit) will inform this requirement. Specifically, the draft permit requires permittees to conduct visual inspections during and after land application events for land application areas where 1) the Idaho Nutrient Transport Risk Assessment (INTRA) or the Phosphorus Site Index (P Index) risk assessment required by Section III.A.2.f of the permit results in a risk rating of medium or higher and liquid manure or process wastewater is applied, or 2) a land application setback or compliance alternative is required per Section II.B.8 of the permit.

Section III.A.2.f of the existing permit requires permittees to use either the Idaho Nutrient Transport Risk Assessment (INTRA) or the Phosphorus Site Index (P Index) risk assessment to identify appropriate site-specific conservation practices to be implemented on the land application areas to control runoff of pollutants to waters of the United States. EPA is proposing to supplement this requirement by requiring CAFOs to conduct visual inspections during and after land application of liquid manure or process wastewater on land application areas with a risk assessment rating of medium or higher using the INTRA or P Index. These tools are designed to assess the management unit- or field-scale potential risk of nutrient movement from the land application area to water resources based on site and management characteristics. Both tools provide management recommendations, as needed, to mitigate the risk of nutrient loss from the CAFO's land application area. For land application areas where the result of the assessment (whether INTRA or P Index is used) indicates that a land application area has a medium, high, or very high potential for nutrient loss before the recommended management measures are implemented, the CAFO operator must conduct visual assessments during and after liquid manure or process wastewater land application to determine whether a dry weather discharge has occurred.

INTRA and the P Index assess the risk of nutrient loss largely through surface runoff or infiltration (i.e., water movement). Because this requirement is intended to detect dry weather discharges on high-risk fields as indicated by INTRA or the P Index, it is limited to land application of liquid manure or process wastewater. Application of dry manure during dry weather is not likely to result in a dry weather discharge because the application is not expected to generate runoff.

Region 10 proposes to modify the permit to require CAFOs to conduct visual inspections during and after land application of manure, litter, or process wastewater on land application areas subject to a land application setback or compliance alternative per Section II.B.8 of the permit. The existing permit prohibits land application closer than 100 feet to any down-gradient surface waters or conduit to surface water. Permittees may implement a 35-foot vegetated buffer as a compliance alternative to the 100-foot setback or may implement an alternative compliance practice that they have demonstrated to provide equivalent or better pollutant reductions. The setback requirement and alternative compliance practices are intended to minimize the potential runoff of nutrients and associated pollutants from land application sites that are close to down-gradient surface waters or conduits to surface water and, based on proximity, pose an increased risk of impacting surface waters from manure application. For those land application areas, the draft permit requires visual inspections during and after land application to ensure the setback requirement or compliance alternative is being maintained and functioning as intended, and to identify any potential dry weather discharges. This requirement applies to all applications of manure, litter, or process wastewater, whether wet or dry.

EPA expects that visual inspections will be timed based on the land application type and site conditions such that inspections occur when any potential discharges are most likely. For example, for wastewater irrigation via a center-pivot or side-roll sprinkler, the visual inspection should be conducted when the wastewater is being applied to the portion of the field nearest a surface water or conduit to surface water. For a land application event that spans multiple days, “during” means daily throughout the event. The inspection that occurs after the end of the event is intended to detect any potential dry weather discharges that may have occurred after the visual inspection that occurred during the land application event. Therefore, the inspection should be conducted as soon as is reasonably possible after the end of the event when a discharge is potentially still active and could be monitored. This will also ensure that any potential receiving water impacts can be assessed and downstream users can be notified, if necessary, before they are affected. If a dry weather discharge is discovered, then the CAFO must monitor the discharge as discussed in Section V.C, below.

EPA considered the possibility of requiring visual inspections for all CAFO land application areas. This requirement would have imposed a high labor cost on the CAFOs that are the most likely to seek coverage under this permit, as those are large CAFOs that typically have many acres of land application areas that may be geographically distributed and land application events that can span multiple days. Ultimately, EPA determined that the economic impact of requiring visual inspections for all fields is not justifiable where the

location, soil types, land application methods, and other site-specific characteristics create a low potential for dry weather discharges. Therefore, Region 10 is proposing to modify the permit to require visual inspections for land application areas where there is a high potential for runoff from the field to transport nutrients and other pollutants to waters of the U.S. Region 10 requests comment on whether all CAFOs should be required to conduct visual inspections for all land application areas during land application events, regardless of the relative risk of dry weather discharges from those areas.

Region 10 also requests comment on whether to require monitoring for subsurface dry weather discharges from land application areas.

IV. SPECIAL CONDITIONS

A. Nutrient Management Plan – NMP Content

EPA proposes to modify the permit to require CAFOs whose wastewater and manure storage structures have an increased risk of leaks to include a plan in their NMP for detecting and monitoring subsurface discharges. This risk-based approach is based on requirements in Section III.A.1.a.ii of the existing permit for the permittee to ensure proper operation of wastewater and manure storage structures. The permittee may choose to comply with the requirement in the existing permit by either confirming compliance with NRCS Appendix 10D and IDAPA 02.04.14.030.01 through a Professional Engineer (P.E.), or by completing the Washington NRCS Engineering Technical Note #23 for each manure storage structure.

NRCS Appendix 10D is an appendix to the Animal Waste Management Field Handbook that contains Design and Construction Guidelines for Waste Impoundments Lined with Clay or Amendment-Treated Soil. The appendix focuses on preventing pollution of surface water and underground aquifers by establishing guidelines to meet design criteria and permeability requirements that limit seepage from waste storage ponds and treatment lagoons. IDAPA 02.04.14.030.01 contains Idaho's state requirements for Dairy Storage and Containment Facility Criteria. In addition to establishing minimum storage volume, siting, and structural requirements these criteria require earthen dairy storage and containment facilities to have a soil liner with a specific discharge rate of $1 \times 10^{-6} \text{ cm}^3/\text{cm}^2/\text{sec}$ or a concrete or synthetic liner that meets NRCS Appendix 10D specifications. Washington NRCS Engineering Technical Note #23 describes an assessment procedure for evaluating the overall risk to surface water and groundwater resources from existing waste storage ponds. The procedure includes assessments of risk based on characteristics and attributes of both the site and the waste storage pond and of the structure itself.

EPA is proposing to build from these permit requirements to target subsurface discharge monitoring requirements to CAFOs whose wastewater and manure storage structures have an increased risk of leaks. For CAFOs that either cannot document compliance with NRCS Appendix 10D and IDAPA 02.04.14.030.01 for one or more wastewater or manure storage structures OR that have a structure that receives a "High Risk" rating on either the Site

Assessment Form or Structure Assessment Form for Washington NRCS Engineering Technical Note #23 (depending on the compliance option selected for paragraph III.A.1.a.ii of the general permit), the draft permit requires the CAFO to develop a plan to detect and monitor subsurface discharges from those wastewater and manure storage structures. Where required, the subsurface discharge monitoring plan must be included in the NMP submitted with the CAFO's Notice of Intent (NOI).

Under the existing permit, a CAFO may choose to comply with paragraph III.A.1.a.ii of the permit by obtaining confirmation of compliance with NRCS Appendix 10D and IDAPA 02.04.14.030.01. If such a CAFO does not also have documentation demonstrating that each wastewater and manure storage structure complies with the requirements (i.e., documentation to support the confirmation of compliance), EPA considers those wastewater and manure storage structures to pose a higher risk of leaks that could discharge to waters of the U.S. EPA anticipates that documentation showing that a structure was initially built to meet the design criteria established in NRCS guidelines and Idaho regulations would consist of the type of information that a P.E. would use to confirm compliance for that structure, for example, design drawings and calculations, as-built drawings, liner permeability or seepage test result, photographs, etc. This documentation, combined with documentation of liner maintenance (required in Section III.B of the existing permit) provides a level of confidence that the lagoon is not expected to leak. If a facility chooses this compliance option and does not have documentation to support the confirmation of compliance with NRCS Appendix 10D and IDAPA 02.04.14.030.01, Region 10 is proposing to modify the permit to require the facility to develop and implement a plan for identifying and monitoring any subsurface discharges that might occur.

CAFOs also may choose to comply with paragraph III.A.1.a.ii of the existing permit by using Technical Note #23 to evaluate various factors that may contribute to the risk of degradation to water resources, based on the location and design of each storage structure. For a CAFO that chooses this compliance option, where the assessment procedure identifies a high risk for a structure, either based on the site characteristics (i.e., Ground Water Resource - Site Risk in the Overall Assessment Form for Technical Note #23) or structural considerations (i.e., WSP Seepage – Structure Risk in the Overall Assessment Form for Technical Note #23), EPA considers that structure to pose a higher risk of leaks that could discharge to waters of the U.S. For those high-risk structures, Region 10 is proposing to modify the permit to require the CAFO to develop and implement a plan for identifying and monitoring any subsurface discharges that might occur. When determining whether a facility is required to develop a subsurface discharge monitoring plan based on use of Technical Note #23, the CAFO should consider the structural assessment result before implementation of additional practices to reduce discharge potential (i.e., the requirement applies based on the potential for structural failure, without consideration of additional practices implemented to mitigate discharge potential from a structural failure).

EPA is considering whether it should require the subsurface monitoring plan for CAFOs that meet either criterion (the CAFO cannot document compliance with NRCS Appendix 10D and IDAPA 02.04.14.030.01 for one or more wastewater or manure storage structures or the CAFO

has a structure that receives a “High Risk” rating on either the Site Assessment Form or Structure Assessment Form for Washington NRCS Engineering Technical Note #23), regardless of the compliance option selected for paragraph III.A.1.a.ii. This option would require EPA to include specific risk factors from Technical Note #23 even for those facilities that have not selected to use Technical Note #23 to comply with paragraph III.A.1.a.ii. EPA requests comment on whether it is appropriate to apply both criteria (regardless of the selected compliance option) in determining which CAFOs are required to develop a subsurface monitoring plan.

In *County of Maui v. Hawaii Wildlife Fund*, 140 S.Ct. 1462 (2020), the Supreme Court held that a NPDES permit is required when there is a direct discharge of pollutants from a point source to waters of the United States or when there is the functional equivalent of a direct discharge. The Court stated that some of the factors that may prove relevant in determining whether a discharge of pollutants through groundwater is the functional equivalent of a direct discharge and requires an NPDES permit include, for example: (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 stated that time and distance will be the most important factors in most cases, but not necessarily every case. *Id.* at 1477. Case-specific information is used to inform the determination of whether a discharge through groundwater is the functional equivalent of a direct discharge. EPA recommends that operators of facilities with discharges to groundwater should determine whether those discharges reach waters of the United States and, if so, whether those discharges are the functional equivalent of direct discharges that require NPDES permits. For purposes of this permit, EPA has concluded that a “subsurface discharge” means a discharge from a CAFO that travels through the soil profile before reaching a water of the United States that is the “functional equivalent” of a direct discharge.

Subsurface discharges from wastewater and manure storage structures are not authorized discharges under the permit. As specified in Section II.A of the permit, only overflows of manure, litter, or process wastewater pollutants caused by precipitation are authorized, subject to the provisions in paragraphs II.A.1.a and b.

V. RECORDS, REPORTING, MONITORING AND NOTIFICATION

A. Records Management – Record Keeping Requirements for the Land Application Area

Section IV.A.2.g of the draft permit requires CAFOs to document land application visual inspections conducted to prevent, identify, and mitigate dry weather discharges. This requirement applies to CAFOs subject to the land application visual inspection requirements for high-risk fields under Section II.B.9.b and c of the permit. EPA anticipates that documentation of visual inspections will include information such as the date and time of the inspection, the area(s) inspected, the person conducting the inspection, and the results of the inspection. These field-specific records must be maintained on-site for a period of five years from the date they are created.

B. Monitoring Requirements for All Discharges from Wastewater or Manure Storage Structures

Region 10 proposes to modify Section IV.D.1 of the permit to clarify that the requirement to monitor discharges from wastewater or manure storage structures applies to all discharges, including subsurface discharges, from wastewater or manure storage structures to waters of the U.S. In addition, Region 10 is proposing to add Section IV.D.1.b to require daily monitoring for discharges that exceed 24 hours in duration. EPA expects CAFOs that discharge, whether or not the discharge is authorized by the permit, to take all reasonable steps to stop the discharge and minimize its potential impact on human health and the environment. However, if such measures do not result in termination of the discharge within 24 hours, as may be the case with some types of subsurface discharges, daily monitoring of the ongoing discharge will provide more complete information on the magnitude of the discharge, the waste characteristics, and potential human health and environmental impacts than would a single sample.

Region 10 proposes to modify Section IV.D.3 of the permit to identify the required sampling location for subsurface discharges. To best assess the potential impact of such discharges on receiving waters, subsurface discharges must be sampled at the point of discharge to the receiving water, or at a point that provides a sample representative of the discharge if the point of discharge is not accessible.

A subsurface discharge (*i.e.*, a discharge from a CAFO that travels through the soil profile before reaching a water of the United States that is the “functional equivalent” of a direct discharge) is an unauthorized discharge, subject to all monitoring and notification requirements in the permit that apply to other types of discharges. Therefore, the subsurface discharge monitoring requirements described in the draft permit apply to all permitted CAFOs that have a subsurface discharges. These requirements are not limited to those CAFOs required to develop and implement a subsurface discharge monitoring plan under Section III.A.1.a of the draft permit.

Section IV.D.6 of the draft permit outlines the required content of the subsurface discharge monitoring plan, for those CAFOs that are required to include such a plan in the NMP submitted with their permit application (as described in Section IV.A above). EPA has not included specific protocols for detecting and sampling subsurface discharges because the most appropriate means

of leak or damage detection, subsurface discharge determination, and discharge sampling will be dictated largely by site-specific conditions. These include the type of wastewater or manure storage structure, type of liner, structure operation and maintenance procedures, subsurface geology and soil types, existence of subsurface preferential flow paths, depth to groundwater and distance to surface water, etc. EPA will evaluate submitted plans on a case-by-case basis to ensure they establish reasonable provisions for both detecting subsurface discharges when they occur and for monitoring such discharges in a way that provides useful information about the discharge characteristics and potential human health and environmental impacts. EPA requests public comment on whether more specific protocols for subsurface monitoring plans should be included in the permit and, if so, what specific protocols would be appropriate to include.

C. Monitoring Requirements for Discharges from Land Application Areas

Section IV.E.1 of the draft permit adds monitoring requirements for unauthorized discharges (i.e., those that are not agricultural stormwater) from land application areas to address the Court's remand. The draft permit requires discharge monitoring as well as monitoring in the receiving water. Because of the technical challenges associated with measuring the flow or volume of runoff from agricultural fields, receiving water monitoring is required to help the CAFO operator and EPA better assess the magnitude of the discharge and potential human health and environmental impacts. These monitoring requirements apply to all unauthorized discharges from a CAFO's land application area, regardless of whether the CAFO is required to conduct visual inspections to detect discharges, pursuant to Section II.B.9 of the draft permit.

For dry weather discharges and other discharges from a CAFO's land application area that are not agricultural stormwater discharges, the CAFO owner or operator must collect a grab sample of the discharge in accordance with the protocols described [in Section 3 of EPA's Industrial Stormwater Monitoring and Sampling Guide](#) (EPA 832-B-09-003, April 2021), which describes procedures for collecting samples from stormwater collection and conveyance structures at industrial facilities. Although CAFO land application areas are not industrial stormwater dischargers, the procedures for collecting samples of these discharges are applicable to the types of discharges that may occur from a CAFO's land application area. In some cases, land application area discharges may not be conveyed in a structure that facilitates collection of a sample directly into a sample bottle. For sheet flow or other shallow flows, CAFOs may construct a dam or barrier to allow collection and transfer of the sample into a sample bottle. The Minnesota Pollution Control Agency has published useful instructions and an accompanying video that describe this procedure. Those materials are available online at <https://www.pca.state.mn.us/business-with-us/step-7-sampling> (under the subheading Sampling guidance, "[Industrial Stormwater Sheet Flow Sampling Guidance Document](#)," and "[Video: Industrial stormwater: How to collect a sheet flow sample](#).")

The discharge sample must be collected at a location that provides a representative sample of the discharge before it mixes with the receiving water. In most cases, this will be at or immediately upstream of the point of discharge to the receiving water. If the discharge point is inaccessible, an alternative sampling location may be selected, provided the resulting sample is representative of the actual discharge to the receiving water. Collecting a sample from the wastewater storage

structure where the discharge originated, for example, may not be representative of the discharge if the wastewater must travel some distance overland or through the soil substrate before it reaches the point of discharge, because interactions with the intervening soils, vegetation, and other material can change the characteristics of the wastewater between the point of origin and the point of discharge.

In addition, grab samples of the receiving water must be collected upstream and downstream of the point of discharge, in accordance with EPA Region 4's [Surface Water Sampling](https://www.epa.gov/quality/surface-water-sampling) procedures (LSASDPROC-201-R5, December 2021; available at <https://www.epa.gov/quality/surface-water-sampling>). The sampling locations must be selected so that the water sampled at the upstream sampling location is representative of the receiving water quality before mixing with the discharge. The downstream location must provide a sample that is representative of the receiving water quality after mixing with the discharge and before pollutants from other sources are introduced.

Sampling locations for discharge and receiving waters must be documented with sufficient detail to allow EPA to identify the sampling points. This may include the latitude and longitude, a map with the location clearly identified, and/or a narrative description that provides enough information so that someone who did not collect the samples could pinpoint the location on a map or in the field. In addition, for receiving water monitoring, the CAFO must document the receiving water conditions during the discharge event. A log must be maintained to document receiving water conditions and changes in conditions during the discharge event. These conditions include the color of the receiving water; the presence of any bottom deposits; condition of aquatic life (if observed); the presence of visible films, sheens, or coatings; fungi, slimes, or objectionable growths; and any potential nuisance conditions (odor, vectors, etc.). These observations, along with the required water quality monitoring data, can help EPA and other interested agencies and stakeholders determine the magnitude and potential impact of the discharge.

CAFO operators or their consultants conducting discharge and receiving water monitoring activities are strongly encouraged to familiarize themselves with the sampling requirements and protocols in advance of any discharge to ensure the necessary sampling equipment is available and proper procedures are followed to collect representative samples that result in valid data. For example, CAFO operators should have a plan for delivering samples to a laboratory within the required holding times for the various parameters; holding times for bacteria can be relatively short (e.g., 6 – 8 hours at 10 °C).

Discharge samples and receiving water samples must be analyzed in accordance with approved EPA methods (as listed in 40 CFR Part 136) for total Kjeldahl nitrogen (TKN), nitrate nitrogen, nitrite nitrogen, total phosphorus, E. coli, fecal coliform, and five-day biochemical oxygen demand (BOD5). These parameters are consistent with those used by Region 10 to evaluate the impact of a CAFO discharge for purposes of designation. E. coli and fecal coliform are indicator constituents that can help verify manure or wastewater impacts in receiving waters with high background nutrient concentrations. The nutrient parameters and BOD5 are standard monitoring parameters for CAFO-type discharges. EPA requests comment on whether monitoring for these

constituents will provide sufficient data to verify a discharge has occurred and to assess the magnitude of the discharge and associated potential human health and environmental impacts.

Section IV.E.1.d of the draft permit specifies that discharges exceeding 24 hours in duration must be monitored daily until the discharge ceases; this requirement applies to both discharge and receiving water monitoring for land application area discharges. Daily monitoring of ongoing discharges will provide more complete information on the magnitude of the discharge, the waste characteristics, and potential human health and environmental impacts than would a single sample.

The sampling provisions in Sections IV.E.1.f – g (i.e., documentation requirements, provisions for unsafe conditions, and reporting) are consistent with discharge monitoring requirements for discharges from CAFO production areas and for other types of NPDES permits.

VI. APPENDIX A – IDEQ 401 CERTIFICATION ATTACHMENT MEMORANDUM



MEMORANDUM

TO: Susan Poulsom, NPDES Permitting Section Manager, U.S. Environmental Protection Agency, Region 10

FROM: Mary Anne Nelson, Surface and Wastewater Division Administrator of the Department of Environmental Quality

DATE: 05/24/23

SUBJECT: 2020 Final § 401 Water Quality Certification, NPDES General Permit for Concentrated Animal Feeding Operations in Idaho Contact and Hyperlink Updates

The Department of Environmental Quality (DEQ) is submitting an update for agency contacts and hyperlinks to be included as an attachment to the § 401 Water Quality Certification, NPDES General Permit for Concentrated Animal Feeding Operations in Idaho dated April 7, 2020, upon NPDES permit modification.

Table 1. Idaho DEQ regional and state office contacts.

Regional Office	Address	Phone Number	Email
Boise	1445 N. Orchard St., Boise, ID 83706	(208) 373-0490	chase.cusack@deq.idaho.gov
Coeur d'Alene	2110 Ironwood Parkway, Coeur d'Alene, ID 83814	(208) 666-4605	chantilly.higbee@deq.idaho.gov
Idaho Falls	900 N. Skyline, Suite B., Idaho Falls, ID 83402	(208) 528-2679	alex.bell@deq.idaho.gov
Lewiston	1118 "F" St., Lewiston, ID 83501	(208) 799-4874	sujata.connell@deq.idaho.gov
Pocatello	444 Hospital Way, #300 Pocatello, ID 83201	(208) 239-5007	matthew.schenk@deq.idaho.gov
Twin Falls	650 Addison Ave. W., Suite 110, Twin Falls, ID 83301	(208) 737-3877	sean.woodhead@deq.idaho.gov
State Office	1410 N. Hilton St., Boise, ID 83706	(208) 373-0570	tambra.phares@deq.idaho.gov

Table 2. Updated hyperlinks.

Page	Hyperlink
3	Integrated Report
7	Compendium of BMPs to Control Polluted Runoff Idaho
7	Agricultural Best Management Practices Field Guide for Evaluating BMP Effectiveness

Please direct questions or comments about the actions taken in the 2020 Final § 401 Water Quality Certification to Tambra Phares, State Office DEQ, (208) 373-0187, or email at tambra.phares@deq.idaho.gov.

APPROVAL:  05/24/2023

Mary Anne Nelson, PhD
Department of Environmental Quality
Surface and Wastewater Division Administrator

Date