California Regional Water Quality Control Board
North Coast Region
Geoffrey M. Hales, Chairman

www.waterboards.ca.gov/northcoast
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone: (877) 721-9203 (toll free) • Office: (707) 576-2220 • FAX: (707) 523-0135

Matt Rodriquez
Secretary for
Environmental Protection

Edmund G. Brown Jr.
Governor

ORDER NO. R1-2012-0001
GENERAL NPDES NO. CAG011001

WASTE DISCHARGE REQUIREMENTS
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

FOR
CONCENTRATED ANIMAL FEEDING OPERATIONS WITHIN
THE NORTH COAST REGION

The following Dischargers are subject to waste discharge requirements as set forth in this General Permit upon authorization by the California Regional Water Quality Control Board, North Coast Region (Regional Water Board), Executive Officer:

Table 1. Discharger Information

Dischargers[1]	Dischargers of process water from Concentrated Animal Feedings Operations (CAFOs) to land and to surface waters.
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified these discharges as **minor** discharges.	

Discharges at the points identified below are subject to waste discharge requirements as set forth in this General Permit:

Table 2. Discharge Description

Discharge Point	Effluent Description	Receiving Water
001	Process Water Discharged as Overflow from a Pond or Containment Structure[2]	Surface Water
002	Process Water, Bedding, or Manure Applied to Land	Land and or Groundwater

[1] Dischargers are those CAFOs that as of the adoption of this General Permit meet the requirements for exemption 1 under the California Environmental Quality Assurance Act guidelines (Cal. Code of Reg, tit 14, §15301).

[2] Permitted discharges of wastewater to surface streams may occur only during 25-Year, 24-Hour (or greater) storm events.

Table 3. Administrative Information

This General Permit was adopted by the Regional Water Quality Control Board on:	**January 19, 2012**
This General Permit shall become effective on:	**April 1, 2012**
This General Permit shall expire on:	**March 31, 2017**
Coverage under this General Permit will be authorized only for minor discharges, as classified by the United States Environmental Protection Agency (USEPA) and the Regional Water Board, which otherwise meet the criteria for authorization established herein.	

IT IS HEREBY ORDERED, that in order to meet the provisions contained in division 7 of the California Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, dischargers shall comply with the requirements in this General Permit.

I, Catherine Kuhlman, Executive Officer, do hereby certify that this General Permit with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, North Coast Region, on January 19, 2012.

_____

Catherine Kuhlman, Executive Officer

CONTENTS

I. Overview 1
II. Findings 5
III. Discharge Prohibitions 16
IV. Effluent Limitations 17
A. Final Effluent Limitations - All Facilities 17
B. Final Effluent Limitations - Existing Facilities 17
C. Additional Measures Applicable to All CAFOs 20
V. Receiving Water Limitations 20
A. Surface Water Limitations 20
B. Groundwater Limitations 23
VI. Provisions 23
A. NPDES Standard Provisions 23
B. Monitoring and Reporting Program Requirements 26
C. Special Provisions 26
1. Reopener Provisions 26
2. Special Studies, Technical Reports and Supplemental Monitoring – Not Applicable 28
3. Best Management Practices: Nutrient Management Plan 28
4. Construction, Operation and Maintenance Specifications 29
5. Other Special Provisions 29
6. Compliance Schedules – Not Applicable 33
VII. Compliance Determination 33

ATTACHMENTS

Attachment A – Notice of Intent (NOI) A-1
Attachment B – Nutrient Management Plan (NMP) Requirements B-1
Attachment C – Technical Standards for Nutrient Management C-1
Attachment C1 – Technical Standards for Nutrient Management C1-1
Attachment D – Standard Provisions D-1
Attachment E – Monitoring and Reporting Program (MRP) E-1
Attachment F – Fact Sheet F-1
Attachment G – Discharge Reporting Form G-1
Attachment H – Changes to NMP Cover Letter H-1
Attachment I – Definitions I-1

I. OVERVIEW

The California Regional Water Quality Control Board, North Coast Region (Regional Water Board) protects water quality by regulating the discharge of wastes, including nutrients, salts, pathogens, and other constituents of manure that is produced by animals that are kept in confinement. The Regional Water Board has developed Order No. R1-2012-0001, National Pollutant Discharge Elimination System (NPDES) General Permit No. CAG011001 (the "General Permit") to regulate concentrated animal feeding operations (CAFOs), that discharge into waters of the United States (U.S.). "Discharge" and other terms used in the General Permit are defined in Attachment I – "Definitions." CAFOs in the North Coast Region that do not discharge wastes to waters of the U.S. are regulated by the Regional Water Board under a General Waste Discharge Requirements (WDR) Order, under an individual WDR Order, or under a conditional waiver.

A. Industry Description

An animal feeding operation (AFO) is a facility where animals are kept and raised in confined situations. AFOs manage animals, feed, manure, dead animals, and crop production operations on a relatively small land area. The NPDES regulations at section 122.23 title 40 of the Code of Federal Regulations[1] define AFOs as operations where animals have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period, and where vegetation is not sustained in the confinement area during the normal growing season. In the North Coast Region, AFOs include feedlots, poultry (chickens, ducks, etc.) and swine facilities, and approximately 150 dairies.

A CAFO means an AFO which is defined as a Large CAFO or Medium CAFO by section 122.23 (4) and (6), or that is designated as a CAFO by the United States Environmental Protection Agency (USEPA) or the Regional Water Board. An explanation of these definitions is provided in Attachment I of this Order. AFOs that meet the definition of a CAFO, or AFOs that are designated as CAFOs by USEPA or the Regional Water Board are defined by the federal Clean Water Act (CWA) as point sources, and are subject to NPDES permitting requirements. CAFOs that discharge wastes to waters of the U.S. and waters of the State are subject to the requirements of this General Permit. Attachment I of this General Permit provides definitions for waters of the U.S. and waters of the State as well as other key terms applicable to this General Permit. Discharges to surface waters include spills, breeches or overflows of waste containment structures. Discharges to groundwater

[1] All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.

may occur by infiltration of wastes through the soil profile or through preferential flow paths in the soil.

B. Eligible Discharges

1. The owner and/or operator of a CAFO is identified in this document as "Discharger" and must seek coverage under this General Permit if the CAFO discharges to surface water (see Attachment I - Definitions)

   For AFOs that do not meet the definition of a CAFO, the Regional Water Board Executive Officer or the USEPA Regional Administrator may designate the facility a CAFO upon determining that a facility is a significant contributor of pollutants to waters of the U.S. In making this designation, the Regional Water Board shall conduct a site inspection and consider the following factors:

   a. The size of the AFO and the amount of wastes reaching waters of the U.S.;
   b. The location of the AFO relative to waters of the U.S.;
   c. The means of conveyance of animal wastes and process waters into waters of the U.S.;
   d. The slope, vegetation, rainfall, and other factors affecting the likelihood or frequency of discharge of animal wastes, manure, and process waters into waters of the U.S.; and
   e. Other relevant factors.

2. The General Permit is applicable to all animal sectors within the CAFO point source category for existing sources.

3. To obtain coverage under this General Permit, each Discharger shall submit a completed Notice of Intent (NOI) together with other information as described in section I.C. below. Regional Water Board staff will notify the applicant regarding any deficiencies in the NOI. If the Regional Water Board determines that coverage under this General Permit is appropriate, the Regional Water Board will provide the Discharger with a written authorization. The written authorization will identify terms of the Nutrient Management Plan (NMP) that have been incorporated as terms and conditions of the General Permit. The written authorization may also identify revisions to the Nutrient Management Plan that Regional Water Board staff have identified as appropriate, and have incorporated as terms and conditions of the General Permit.

The Executive Officer of the Regional Water Board or the USEPA Regional Administrator may require any person authorized to discharge wastes in accordance with this General Permit to subsequently apply for and obtain individual permit coverage. Cases where an individual permit may be required include the following:

1. The Discharger is not in compliance with the conditions of the General Permit or the discharge authorization letter from the Executive Officer;

2. A change has occurred in the availability of demonstrated control technology or practices for the control or abatement of pollutants applicable to the CAFO point source category;

3. Circumstances have changed since the time of the request to be covered so that the discharge is no longer appropriately regulated under the General Permit;

4. Changes to the Basin Plan containing requirements applicable to such point sources are approved;

5. The requirements of section 122.28(a) are not met; or

6. The discharge may adversely affect the water quality objectives of the receiving water.

C. Application for Coverage

1. Notice of Intent. It is the responsibility of the Discharger to obtain coverage under this General Permit prior to commencement of any discharge to surface waters. To apply for coverage under this General Permit, the Discharger must submit a complete NOI to the Regional Water Board and the appropriate first annual fee as required by title 23 of the California Code of Regulations (CCR), Division 3, Chapter 9, Article 1.

2. The NOI form and instructions are provided as Attachment A to this General Permit, and all information it requires must be provided.

3. All required submittals shall be submitted to the Regional Water Board at the following address:

North Coast Regional Water Quality Control Board
5550 Skylane Boulevard, Suite A
Santa Rosa, California 95403

4. **Nutrient Management Plan (NMP).** The Discharger shall complete a NMP, developed in accordance with Attachments B and C of this General Permit. The NMP should be submitted concurrently with the NOI. Discharges from the facility will not be covered under the General Permit until a complete NMP is received, reviewed by Regional Water Board staff, and the public comment process is complete as described below.

5. **NOI/NMP Review.** Regional Water Board staff will review the NOI and NMP to ensure that all permit requirements are fulfilled. Staff will request additional information from the CAFO owner or operator if necessary to complete the NOI or NMP or clarify or supplement previously submitted material. Once the Regional Water Board staff makes a preliminary determination that the NOI is complete, the NOI, NMP and draft terms of the NMP to be incorporated into the permit will be made available for a 21-day public review and comment period to comply with section 122.23 h(1). Regional Water Board staff will review comments received during the comment period and, at the discretion of the Regional Water Board Executive Officer, may require the CAFO owner or operator to revise the NMP. If the discharge meets the requirements of the General Permit, the Regional Water Board will provide the owner or operator with a written discharge authorization after close of the public comment period.

   CAFO owners or operators that do not discharge manure, process water, or wastes to waters of the U.S. are not required to obtain coverage under this General NPDES Permit. Such CAFOs may enroll under General Waste Discharge Requirements Order No. R1-2012-0002, Conditional Waiver of Waste Discharge Requirements Order No. R1-2012-0003, or other permit coverage as deemed appropriate by the Regional Water Board Executive Officer.

D. Termination of Coverage

Upon ceasing operation at the facility, the Discharger shall ensure that the facility has been cleaned out so that there will be no remaining potential for a discharge of manure, litter, bedding, process water, or wastes. The standard clean-out procedures may include, but are not limited to, scraping all the manure off the corral areas, and filling in the containment pond(s) with clean dirt and excavation of soil containing high levels of nitrogen at the base of ponds. The Discharger shall then submit a written request to terminate enrollment under the General Permit to the Regional Water Board. Once the Regional Water Board determines that the facility no longer poses a threat to water quality, the Regional Water Board will issue a Notice of Termination (NOT) to the Discharger.

E. Transfer of Ownership

In the event of any change in operational control or ownership of land or facilities that are part of the CAFO, the Discharger shall notify the succeeding owner or operator of the existence of this General Permit by letter, a copy of which shall be immediately forwarded to the Regional Water Board. The succeeding owner or operator shall then submit a new NOI to the Regional Water Board, in accordance with C.1 above.

F. Compliance with Applicable Storm Water Requirements

If storm water discharges associated with regulated, non-CAFO, industrial activities occur, the Discharger shall ensure that such discharges are authorized under the State Water Resources Control Board (State Water Board) Board's General Industrial Storm Water Permit.

1. Storm water discharges from the facility shall comply with the laws of municipalities, counties, drainage districts, and other local agencies regarding discharges of storm water to storm water drain systems or other courses under their jurisdiction.

2. Storm water discharges from the facility shall not cause or threaten to cause pollution or contamination.

3. Storm water discharges associated with industrial activity from the facility shall not contain hazardous substances equal to or in excess of a reportable quantity listed in section Part 117 and/or Part 302.

II. FINDINGS

The Regional Water Board finds that:

A. Background

1. Section 502 of the CWA specifically defines the term point source to include CAFOs.

2. USEPA first issued Effluent Limitations Guidelines (ELGs) for feedlots in 1974 and promulgated NPDES CAFO regulations in 1976.

3. On February 12, 2003, USEPA published revisions to its CWA regulations for CAFOs (the 2003 CAFO Rule). These revisions expanded the number of operations covered by the CAFO regulations and included requirements to address land application of manure from CAFOs.

4. The 2003 CAFO Rule was petitioned for judicial review. The court decision was set forth in *Waterkeeper et al. v. EPA, 399 F.3d 486* (2d Cir. 2005).

5. Revised final NPDES Regulations and ELGs for CAFOs were issued on November 20, 2008 (2008 CAFO Rule).

6. On March 15, 2011, the U.S. Court of Appeals for the Fifth Circuit issued its decision in *National Pork Producers Council v. EPA* regarding litigation over USEPA's 2008 CAFO Rule. In its decision, the court affirmed that CAFOs that actually discharge into waters of the U.S. are required to apply for NPDES permits. However, the court vacated USEPA's requirement that CAFOs that propose to discharge apply for NPDES permits. USEPA plans to revise the NPDES CAFO regulations consistent with the Fifth Circuit's decision.

7. Section 122.23(b) defines AFOs as those facilities where the following conditions are met:

    a. Animals (other than aquatic animals) have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period, and

    b. Crops, vegetation, forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility.

8. An AFO is a CAFO if it meets the regulatory definition of a Large CAFO at section 122.23(b)(4) or a Medium CAFO at section 122.23(b)(6) (see Attachment I - Definitions) or if it has been designated as a CAFO by the Regional Water Board Executive Officer or the USEPA Regional Administrator in accordance with procedures and requirements detailed at section 122.23(c). Two or more AFOs under common ownership are considered to be a single AFO for purposes of determining the number of animals at an operation if they adjoin each other or if they use a common area or system for the management of nutrients or the disposal of wastes. Pursuant to the CWA, all CAFOs are point sources and may be subject to NPDES permitting requirements.

9. NPDES regulations at section 122.28 provide for the issuance of general NPDES permits to regulate a category of point sources which involve the same or substantially similar types of operations; discharge the same type of wastes; require the same type of effluent limitations or operating conditions; require similar monitoring; and are more appropriately regulated under general discharge requirements.

10. On September 22, 1989, a Memorandum of Agreement executed by the USEPA and the State Water Board authorized and established procedures for the State Water Board to issue general NPDES permits pursuant to NPDES regulations at section 122.28 and 122.44.

11. On April 17, 1997, the State Water Board adopted a General Industrial Storm Water Permit (State Water Board Order No. 97-03-DWQ, NPDES No. CAS000001), which implements the final federal regulation for storm water. Discharges authorized by this General Permit do not also need to be authorized by the General Industrial Storm Water Permit.

    Once a Discharger is authorized to discharge under the General Permit, it can seek to terminate coverage, if any, under the State Water Board's General Industrial Storm Water Permit. However, any Discharger that has regulated industrial storm water discharges associated with non-CAFO activities must obtain or maintain coverage under the General Industrial Storm Water Permit in a manner that precludes a gap in permit coverage.

12. California Water Code section 13263(i) authorizes the Regional Water Board to prescribe general waste discharge requirements for a category of discharges which are produced by the same or similar operations; involve the same or similar types of waste; require the same or similar treatment standards; and are more appropriately regulated under general discharge requirements. CAFOs that discharge to waters of the U.S. in the North Coast Region are subject to the requirements of this General Permit.

B. Discharge Description

1. For purposes of this General Permit, process water is water directly or indirectly used in the management of a CAFO or resulting from any of the following: spillage or overflow from animal watering systems; washing, cleaning, or flushing pens, barns, or other facilities where manure is deposited or stored; direct contact with animals; and water which comes in contact with manure, litter, bedding, feed, or other non-hazardous material used or produced at the CAFO, including waste milk. Spillage or overflow that does not contact manure, animals, or other materials in any way that would cause contaminants to be added to the water is not considered process water.

2. Common types of CAFOs include dairies, cattle feedlots, swine and poultry farms. Wastes generated by CAFOs include significant quantities of manure and process water (primarily wash water from the milk barn and storm water runoff from manured areas).

Most dairies use either a “wet” or a “dry” manure management system, but some dairies use both types. In a dry system, manure is collected on a regular basis and stored to prevent contact with rainfall and runoff. In a wet system, manure is diluted with water through flushing, is stored as a slurry or liquid, and is usually mixed with process water. Larger dairies typically use freestall barns with flushing systems.

Swine facilities typically manage manure through a wet handling system, where manure is stored in pits under the housing unit or in a lagoon. Poultry housing typically contains some type of bedding, known as litter when mixed with poultry manure. Litter is typically cleaned out as a solid once per year. References in this General Permit to bedding include litter as applicable. Waste from a beef feedlot may be managed as a solid or a liquid, while waste from veal operations is typically managed as a liquid. Most CAFOs apply animal manure to land to provide nutrients for crops, either as a liquid (process water) or a solid (solid manure, bedding or litter).

Manure and process water may be utilized for cropland fertilization and irrigation in accordance with an approved NMP. This General Permit does not authorize discarding or abandonment and/or uncontrolled releases of such materials or their constituents (e.g., transport of nutrients and salts by runoff to surface water or by leaching to groundwater).

3. Manure and process water produced by CAFOs contain high concentrations of salts (usually referenced as “total dissolved solids” or “TDS”), including nitrates. The application of manure or process water to land results in the discharge of salts that have the potential to adversely impact the quality of groundwater and surface water in the North Coast Region. This is particularly so if the CAFO’s manure and process water facilities (e.g., holding ponds) are within the influence of a tile-water drainage system, there is insufficient separation between the bottom of ponds and groundwater, or the manure and process water are applied to land at rates that exceed crop needs.

4. Discharges to waters of the U.S. from CAFOs can occur from the production area or from the land application area. As defined at section 122.23(b)(8), the production area generally includes animal confinement areas and all areas used for storing manure, bedding, “wastewater” (e.g., process water), or raw materials such as feed, silage, and bedding materials. Discharges from these areas include spills or overflows from wastewater storage facilities and runoff of storm water that has come into contact with manure, bedding, process water, or raw materials. As defined at section 122.23(b)(3), the land application area is any area under the control of the CAFO owner or operator where manure, bedding, or process water is applied.

C. Legal Authorities. This General Permit is issued pursuant to section 402 of the federal CWA and implementing regulations adopted by USEPA and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as a general NPDES permit for CAFOs that discharge to surface waters as well as general WDRs pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).

D. Background and Rationale for Requirements. The Regional Water Board developed the requirements in this General Permit based on information obtained during public workshops on the General Permit, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for General Permit requirements, is hereby incorporated into this General Permit and constitutes part of the Findings for this General Permit. Attachments A through I are also incorporated into this General Permit.

E. California Environmental Quality Act (CEQA)

1. Pursuant to Water Code section 13389, this action to adopt an NPDES permit is exempt from the California Environmental Quality Act (CEQA) provisions of chapter 3 (commencing with section 21100) of division 13 of the Public Resources Code, except requirements for “new sources” as defined at CWA 122.2. For any new source compliance with CEQA must be achieved before coverage under this General Permit can be authorized for the facility.

2. Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100-21177, Requirements for “new sources” as defined in the Federal Water Pollution Control Act Are not covered by the exemption.

3. Any facility that is a “new source,” as that term is defined in CWA section 306 and Code of Federal Regulations, title 40, sections 122.2 and 122.29, must demonstrate that it is an “existing facility” under CEQA Guidelines Exemption 1 for Existing Facilities (Cal. Code of Reg, tit 14, §15301) before coverage under this General Permit can be issued for the project. New sources that do not qualify for the Existing Facilities categorical exemption will be required to submit an application for an individual NPDES permit and action on that application will require compliance with CEQA.

4. CEQA Guidelines Exemption 1 for Existing Facilities (Cal. Code of Regs., tit. 14, §15301) applies to “… the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use beyond that existing at the time of the lead agency’s

determination…" The environmental baseline for this action is considered the CAFOs as they and their surrounding physical environment existed upon adoption of this General Permit. Board action with regard to existing facilities is categorically exempt from the requirements of CEQA

5. Two additional CEQA categorical exemptions are also applicable to this action. CEQA Guidelines Exemption 2 for Replacement of Existing Structures (Cal. Code of Regs., tit. 14, §15302) exempts "replacement or reconstruction of existing structures and facilities where the new structure will be located on the same site as the structure replaced and will have substantially the same purpose and capacity as the structure replaced." Consistent with the categorical exemption for Replacement of Existing Structures, this General Permit may require covered CAFOs to replace or reconstruct ponds or other structures on the facility to ensure proper function in compliance with this General Permit. CEQA Guidelines Exemption 4 for Minor Alterations (Cal. Code of Regs., tit. 14, §15304) exempts "minor public or private alterations in the condition of land, water, and/or vegetation which do not involve removal of healthy, mature, scenic trees except for forestry and agricultural purposes…" Consistent with the categorical exemption for Minor Alterations, this General Permit may require covered CAFOs to make improvements to their facilities that will result in minor alterations to land, water, and/or vegetation.

6. Food and Agricultural Code section 33487 exempts state agencies from any requirement to prepare a CEQA environmental impact report for CAFOs under the following circumstances: (1) when the CAFO will be constructed and operated in accordance with the minimum standards in Chapter 5 of the Food and Agricultural Code; (2) where the applicable local agencies have completed all necessary reviews and approvals including that required by CEQA; and (3) where a permit for construction was issued by a local agency on or after the effective date of Food and Agricultural Code section 33487 and construction has begun.

F. Technology-Based Effluent Limitations. Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, require that NPDES permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this General Permit must meet minimum federal technology-based requirements based on Effluent Limitation Guidelines (ELGs) for the CAFO Point Source Category in Part 412 and Best Professional Judgment (BPJ) in accordance with section 125.3. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).

G. Water Quality-Based Effluent Limitations. Section 301(b) of the CWA and section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

Section 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established where possible using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

H. Water Quality Control Plans. The Regional Water Board adopted a Water Quality Control Plan for the North Coast Basin (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the Basin Plan. Beneficial uses are designated for all waters of the North Coast Region and are designated for coastal and inland waters, wetlands, and groundwater. Beneficial uses of any water body specifically identified in the Basin Plan generally apply to its tributary streams. In addition, the Basin Plan implements State Water Board Resolution No. 88-63, which established State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Applicable beneficial uses of surface waters for the North Coast Region are listed below.

- Municipal and Domestic Supply (MUN)
- Agricultural Supply (AGR)
- Industrial Service Supply (IND)
- Industrial Process Supply (PRO)
- Groundwater Recharge (GWR)
- Freshwater Replenishment (FRSH)
- Navigation (NAV)
- Hydropower Generation (POW)
- Water Contact Recreation (REC-1)
- Non-contact Water Recreation (REC-2)
- Commercial and Sport Fishing (COMM)

- Aquaculture (AQUA)
- Warm Freshwater Habitat (WARM)
- Cold Freshwater Habitat (COLD)
- Inland Saline Water Habitat (SAL)
- Estuarine Habitat (EST)
- Marine Habitat (MAR)
- Wildlife Habitat (WILD)
- Preservation of Areas of Special Biological Significance (ASBS)
- Rare, Threatened, or Endangered Species (RARE)
- Migration of Aquatic Organisms (MIGR)
- Spawning, Reproduction, and/or Early Development (SPWN)
- Shellfish Harvesting (SHELL)
- Water Quality Enhancement (WQE)
- Flood Peak Attenuation/Flood Water Storage (FLD)
- Wetland Habitat (WET)
- Native American Culture (CUL)
- Subsistence Fishing (FISH)

Requirements of this General Permit implement the Basin Plan as well as applicable portions of the following:

- The State Water Board adopted the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for surface waters.
- The State Water Board's Water Quality Control Plan for Enclosed Bays and Estuaries—Part 1, Sediment Quality became effective on August 25, 2009. This plan integrates three lines of evidence (sediment toxicity, benthic community condition, and sediment chemistry) to determine if sediment-dependent biota and human health are protected from exposure to toxic pollutants in sediment. The plan focuses on benthic communities in enclosed bays and estuaries, and supersedes other narrative sediment quality objectives and related implementation provisions in other water quality control plans to the extent that they apply to sediment quality in bays and estuaries.

I. National Toxics Rule (NTR) and California Toxics Rule (CTR). USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR

criteria that were applicable in the State. The CTR was amended on February 13, 2001. These rules include water quality criteria for priority pollutants.

J. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays and Estuaries of California (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005, that became effective on July 13, 2005. The SIP established implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control.

K. **Compliance Schedules and Interim Requirements.** Section 2.1 of the SIP provides that, based on a Discharger's request and demonstration that it is infeasible for an existing Discharger to achieve immediate compliance with an effluent limitation derived from a CTR criterion, compliance schedules may be allowed in an NPDES permit. Unless an exception has been granted under section 5.3 of the SIP, a compliance schedule may not exceed 5 years from the date that the permit is issued or reissued, nor may it extend beyond 10 years from the effective date of the SIP (or May 18, 2010) to establish and comply with CTR criterion-based effluent limitations. Where a compliance schedule for a final effluent limitation exceeds 1 year, the General Permit must include interim numeric limitations for that constituent or parameter. Where allowed by the Basin Plan, compliance schedules and interim effluent limitations or discharge specifications may also be granted to allow time to implement a new or revised water quality objective.

The State Water Board adopted Resolution No. 2008-0025 on April 15, 2008, titled *Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits*, which includes compliance schedule policies for pollutants that are not addressed by the SIP. This policy has been approved by USEPA and the Office of Administrative Law, and became effective on August 27, 2008, superseding the Basin Plan's compliance schedule policy. Consistent with the State Water Board's 2008 policy, this General Permit does not include compliance schedules or interim effluent limitations.

L. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes. (40 C.F.R. § 131.21; 65 Fed. Reg. 24641 (April 27, 2000).) Under the revised regulation (also known as the Alaska rule), new and

revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

M. Stringency of Requirements for Individual Pollutants. This General Permit contains both technology-based effluent limitations and water quality-based permit conditions. The General Permit's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

Water quality-based effluent limitations are scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable water quality standards. To the extent that toxics pollutant water quality-based effluent limitations were derived from the CTR, the CTR is the applicable standard pursuant to section 131.38. The scientific procedures for calculating the individual water quality-based effluent limitations for priority pollutants are based on the CTR-SIP, which was approved by USEPA on May 18, 2000. All beneficial uses and water quality objectives contained in the Basin Plan were approved under State law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant section 131.21(c)(1). Collectively, this General Permit's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

N. Antidegradation Policy. Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. As discussed in detail in the Fact Sheet, the permitted discharge is consistent with the antidegradation provision of section 131.12 and State Water Board Resolution No. 68-16.

O. Anti-Backsliding Requirements. Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed.

P. Endangered Species Act. This General Permit does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This General Permit requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

Q. Monitoring and Reporting. Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. California Water Code sections 13267 and 13383 authorize the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in Attachment E.

R. Standard and Special Provisions. Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D. The Discharger shall comply with all standard provisions and with those additional conditions that are applicable under section 122.42. The Regional Water Board has also included in this General Permit special provisions applicable to Dischargers covered by this General Permit. Rationale for the special provisions contained in this General Permit is provided in the attached Fact Sheet.

S. Provisions Implementing State Law. The provisions/requirements in subsection V.B. are included to implement State law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions are not subject to the enforcement remedies that are available for NPDES violations.

T. Notification of Interested Parties. The Regional Water Board has notified authorized dischargers and interested agencies and persons of its intent to prescribe waste discharge requirements in accordance with this General Permit for CAFO discharges and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet.

U. Consideration of Public Comment. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the General Permit. Details of the Public Hearing are provided in the Fact Sheet.

III. DISCHARGE PROHIBITIONS

A. The discharge of wastes, other than those described in section II.B of the General Permit, are prohibited unless the Discharger obtains coverage under another general or individual permit that regulates the discharge of such wastes.

B. The discharge of wastes not disclosed by the Discharger, or not within the reasonable contemplation of the Regional Water Board is prohibited.

C. Creation of pollution, contamination, or nuisance, as defined by Section 13050 of the California Water Code (CWC) is prohibited.

D. Discharge to the Mad, Eel, or Russian Rivers, or tributaries thereto, is prohibited during the period of May 15 through September 30 each year. During the period of October 1 through May 14, discharges to these waters shall not exceed one percent of the receiving water flow.

E. Discharges of manure, litter, bedding, or process water from the production area that do not comply with the effluent limitations and additional measure requirements of section IV. of this General Permit, and the applicable production area recordkeeping requirements of section X of the MRP are prohibited.

F. Discharges of manure, litter, bedding, or process water from the land application area that do not comply with the BMP requirements of Attachment B of this General Permit, and the applicable land application recordkeeping requirements of MRP section X (Attachment E) are prohibited. Where manure, litter, bedding, or process water has been land applied in accordance with the Discharger's site specific nutrient management practices that ensure appropriate agricultural utilization of nutrients in manure, litter, bedding, and process water, a precipitation-related discharge of manure, litter, bedding, or process water from land areas under control of the CAFO is an agricultural storm water discharge, and is excluded from this prohibition.

G. The discharge of wastes via tile drain lines is prohibited.

H. Discharge of irrigation return flow is prohibited from the first irrigation after land application of manure and prior to planting.

I. The discharge of waste from existing CAFOs to surface waters which causes or contributes to an exceedance of any applicable water quality objective in the Basin Plans or any applicable state or federal water quality criteria, or a violation of any applicable state or federal policies or regulations is prohibited.

J. Discharge to the Klamath River and its tributaries, including but not limited to the Trinity, Salmon, Scott, and Shasta rivers and their tributaries, is prohibited.

IV. EFFLUENT LIMITATIONS

The following final effluent limitations apply to facilities covered under this permit.

A. Final Effluent Limitations - All Facilities

The Discharger shall comply with the terms of the approved site-specific NMP and shall not land apply wastes or process water at a rate greater than identified as the maximum application rate in the Discharger's NMP.

B. Final Effluent Limitations - Existing Facilities

1. **Effluent Limitations Applicable to Horse and Sheep CAFOs**

   a. There shall be no discharge of process wastewater pollutants except whenever rainfall events cause an overflow of process wastewater from a facility designed, constructed, operated and maintained to contain all process generated wastewater plus the runoff from a 25-year, 24-hour rainfall event for the location of the facility. Design volume for waste storage structures shall reflect the storage volume required for each of the elements described in Attachment B of the Order, below.

2. **Effluent Limitations Applicable to Duck CAFOs**

   a. The Discharger shall comply with the following numeric limitations:

Table 1. Numeric Effluent Limitations Applicable to Existing Duck CAFOs

Parameter	Units	Effluent Limitations	
		Average Monthly	Maximum Daily
Five-day Biological Oxygen Demand (BOD_5)	lbs/1000 ducks	2.0	3.66
	kg/1000 ducks	0.91	1.66
Fecal Coliform	MPN/100 mL	---	400

3. **Effluent Limitations Applicable to Dairy Cow, Cattle Other than Veal Calves, Swine, Poultry, and Veal Calf CAFOs**

   a. Production Area

      i. There shall be no discharge of manure, litter, or process wastewater pollutants from the production area except whenever precipitation causes an overflow of manure, litter, or process wastewater, provided that the production area is designed, constructed, operated, and maintained to contain all manure, litter and process wastewater,

including the runoff and direct precipitation from a 25-year, 24-hour rainfall event, and provided that the production area is operated in accordance with the additional measures of Attachment B, and that the recordkeeping requirements of section X of the MRP (Attachment E) are maintained. Design volume for waste storage structures shall reflect the storage volume required for each of the elements described in Attachment A (NOI).

ii. Voluntary Alternative Performance Standards. The Discharger may request that Regional Water Board establish permit limitations based on site-specific alternative technologies that achieve a quantity of pollutants discharged from the production area equal to or less than the quantity of pollutants discharged under the baseline performance standards under 3.a.(i), above. Required supporting information in requesting voluntary performance standards is specified in Provision VI.C.5.b of the Order.

b. Land Application Area. Discharges from land application areas are subject to the requirements of Attachment B of the Order and the applicable land application recordkeeping requirements of section X of the MRP (Attachment E).

C. Final Effluent Limitations - New Facilities

1. **Effluent Limitations Applicable to Horse, Sheep, and Duck CAFOs**

a. There shall be no discharge of process wastewater pollutants except whenever rainfall events cause an overflow of process wastewater from a facility designed, constructed, operated and maintained to contain all process generated wastewater plus the runoff from a 25-year, 24-hour rainfall event at the location of the facility. Design volume for waste storage structures shall reflect the storage volume required for each of the elements described in section VI.C.4 of this General Permit.

2. **Effluent Limitations Applicable to Dairy Cow and Cattle (Other than Veal Calf) CAFOs**

a. Production Area

i. There shall be no discharge of manure, litter, or process wastewater pollutants from the production area except whenever precipitation causes an overflow of manure, litter, or process wastewater, provided that the production area is designed, constructed, operated, and maintained to contain all manure, litter and process wastewater,

including the runoff and direct precipitation from a 25-year, 24-hour rainfall event, and provided that the production area is operated in accordance with the additional measures of IV.D, below and the recordkeeping requirements of section X of the MRP (Attachment E) are maintained. Design volume for waste storage structures shall reflect the storage volume required for each of the elements described in section VI.C.4 of this General Permit.

ii. Voluntary Alternative Performance Standards. The Discharger may request the Regional Water Board to establish permit limitations based on site-specific alternative technologies achieve a quantity of pollutants discharged from the production area equal to or less than the quantity of pollutants discharged under the baseline performance standards under 3.a.(i), above. Required supporting information in requesting voluntary performance standards is specified in section VI.C.4 of this General Permit.

b. Land Application Area. Discharges from land application areas are subject to the requirements of the approved site-specific NMP and the applicable land application recordkeeping requirements of section X of the MRP (Attachment E).

3**. Effluent Limitations Applicable to Swine, Poultry, and Veal Calf CAFOs**

a. Production Area. There shall be no discharge of manure, litter, or process wastewaters pollutants.

i. Any swine, poultry, or veal CAFO may request that the Regional Water Board establish Best Management Practices (BMPs) effluent limitations designed to ensure no discharge of manure, litter, or process wastewater based on a site-specific evaluation of the CAFO's open surface manure storage structure. The Discharger shall achieve no discharge of manure, litter, or process wastewater by designing, operating, and maintaining the open surface storage structure in accordance with these BMPs. Requirements for the technical evaluation of the open surface storage structure are provided in section VI.C.4 of this General Permit.

b. Land Application Areas. Discharges from land application areas are subject to the requirements of section VI.C.3.a-c of the Order and the applicable land application recordkeeping requirements of section X of the MRP (Attachment E).

D. Additional Measures Applicable to All CAFOs

In addition to the requirements in section IV.A –C of this General Permit, the Discharger shall implement the following additional measures.

1. Routine visual inspections of the CAFO production area including, at a minimum, the inspections listed in MRP (Attachment E).

2. All open surface liquid impoundments must have a depth marker which clearly indicates the minimum capacity necessary to contain all process water generated between applications to cropland and the runoff and direct precipitation of the 25-year, 24-hour rainfall event for the location of the CAFO.

    a. For swine, poultry and veal calf new sources that have BMP effluent limitations, pursuant to IV.C.3.a.i of this General Permit, designed to ensure no discharge of manure, litter, or process wastewater, all open surface manure storage structures must have a depth marker which clearly indicates the minimum capacity necessary to contain the maximum runoff and direct precipitation associated with the design storm used in sizing the impoundment for no discharge.

3. Timely correction of any deficiencies that are identified during inspections.

4. Mortalities must be handled in such a way as to prevent the discharge of pollutants to surface water, and mortalities must not be disposed of in any liquid manure or process water system.

    a. The Regional Water Board may grant an exception to this measure upon request from an existing dairy and cattle (other than veal calf) CAFOs for which voluntary alternative performance standards pursuant to section IV.B.3.a.(ii) of the General Permit have been established that demonstrate technologies designed to handle mortalities.

5. Maintain complete on-site records, as required by MRP (Attachment E) section X, documenting implementation of all required additional measures for a period of 5 years.

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

Receiving water limitations are based on water quality objectives contained in the Basin Plan and are a required part of this General Permit. Discharges authorized by this General Permit shall not cause the following:

1. Unless more stringent water quality objectives for dissolved oxygen are established for a specific receiving water by the Basin Plan, authorized discharges shall not cause the dissolved oxygen concentration of receiving water to be depressed below 7.0 mg/L at any time nor below 9.0 mg/L during critical spawning and egg incubation periods. In the event that the receiving waters have background dissolved oxygen concentrations that are below these levels, discharges shall not depress dissolved oxygen concentrations below existing levels.

2. Unless more stringent water quality objectives for pH are established for a specific receiving water by the Basin Plan, authorized discharges shall not cause the pH of receiving waters to be depressed below 6.5 nor raised above 8.5. Within this range, a discharge shall not cause the pH of the receiving waters to be changed at any time more than 0.5 units from that which occurs naturally.

3. Authorized discharges shall not cause or substantially contribute to exceedances of water quality objectives for specific waters of the North Coast Region that are established in the Basin Plan for specific conductance, total dissolved solids, hardness and boron.

4. Authorized discharges shall not cause turbidity of receiving waters to be increased more than 20 percent above naturally occurring background levels.

5. Authorized discharges shall not cause receiving waters to contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses of receiving waters.

6. Authorized discharges shall not cause receiving waters to contain floating materials, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.

7. Authorized discharges shall not cause receiving waters to contain taste- or odor- producing substances in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, that cause nuisance, or that adversely affect beneficial uses.

8. Authorized discharges shall not cause coloration of receiving waters that causes nuisance or adversely affects beneficial uses.

9. Authorized discharges shall not cause bottom deposits in the receiving waters to the extent that such deposits cause nuisance or adversely affect beneficial uses.

10. Authorized discharges shall not cause or substantially contribute to concentrations of biostimulants in receiving waters that promote objectionable aquatic growth to the extent that such growth causes nuisance or adversely affects beneficial uses of the receiving waters.

11. Authorized discharges shall not cause receiving waters to contain toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in humans, plants, animals, or aquatic life.

12. Authorized discharges shall not cause alteration of natural temperature of receiving waters unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses. At no time or place shall discharges cause an increase of the receiving water by more than 5º F above natural receiving water temperature.

13. Authorized discharges shall not cause an individual pesticide or combination of pesticides to be present in concentrations that adversely affect beneficial uses of receiving waters. Authorized discharges must not cause bioaccumulation of pesticide, fungicide, wood treatment chemical, or other toxic pollutant concentrations in bottom sediments or aquatic life to levels which are harmful to human health.

14. Authorized discharges shall not cause the receiving water to contain concentrations of pesticides in excess of the limiting concentrations set forth in Table 3-2 of the Basin Plan or in excess of more stringent Maximum Contaminant Levels (MCLs) established for these pollutants in CCR title 22, Division 4, Chapter 15, Articles 4 and 5.5.

15. Authorized discharges shall not cause receiving waters to contain oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise affect beneficial uses.

16. Authorized discharges shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Regional Water Board or the State Water Board, as required by the CWA and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to CWA section 303, or amendments thereto, the Regional Water Board will revise and modify this General Permit in accordance with the more stringent standards.

17. Authorized discharges shall not cause concentrations of chemical constituents to occur in excess of limits specified in Table 3-2 of the Basin

Plan or in excess of more stringent Maximum Contaminant Levels (MCLs) established for these pollutants in CCR title 22, Division 4, Chapter 15, Articles 4 and 5.5.

18. Authorized discharges shall not cause radionuclides to be present in concentrations which are deleterious to humans, plants, animals, or aquatic life or which result in the accumulation of radionuclides in the food web to an extent which presents a hazard to humans, plants, animals, or indigenous aquatic life.

19. Waters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of radionuclides in excess of the limits specified in CCR title 22, Division 4, Chapter 15, Article 4, section 64442.

B. Groundwater Limitations

1. Collection, storage, and application of manure, litter, bedding, and process water shall not cause or contribute to exceedances of applicable water quality objectives or create adverse impacts to beneficial uses of groundwater.

2. Collection, storage and application of manure, litter, bedding, and process water shall not cause or substantially contribute to a statistically significant degradation of groundwater.

3. Collection, storage and application of manure, litter, bedding, and process water shall not cause groundwater to contain taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses.

VI. PROVISIONS

A. NPDES Standard Provisions

1. **Federal Standard Provisions.** The Discharger shall comply with all Standard Provisions included in Attachment D of this General Permit and shall adhere to the following standard provisions applicable to general permits [section 122.28(b).]

   a. The General Permit may be modified, revoked, and reissued or terminated in accordance with applicable requirements of NPDES regulations at section 124.

   b. The Executive Officer may require any discharger authorized by the General Permit to apply for and obtain an individual NPDES permit. Any interested person may petition the Executive Officer to take action under

this paragraph. Cases where an individual NPDES permit may be required include the following:

i. The Discharger is not in compliance with the terms of the General Permit;

ii. A change has occurred in the availability of demonstrated technology or practices for the control or abatement of pollutants applicable to the point source;

iii. A Water Quality Management plan applicable to the point sources covered by the General Permit is approved;

iv. Circumstances have changed since the time of the request to be covered so that the discharger is no longer appropriately controlled under the General permit or either a temporary or permanent reduction or elimination of the authorized discharge is necessary; or

v. The discharger is a significant contributor of pollutants to the receiving waters.

c. Any owner or operator authorized under the General Permit may request to be excluded from coverage by applying for an individual permit in accordance with section 122.28(b)(3)(iii).

d. When an individual NPDES permit is issued to an owner or operator otherwise subject to the General Permit, the applicability of the General Permit to the Discharger is automatically terminated on the effective date of the individual permit.

2. **Regional Water Board Standard Provisions.** The Discharger shall comply with the following Regional Water Board standard provisions:

a. Authorization to discharge under this General Permit may be terminated for reasons which include, but are not limited to, the following:

i. Violation of any term or condition contained in this General Permit;

ii. Obtaining authorization to discharge under this General Permit by misrepresentation or failure to fully disclose relevant information;

iv. A change in the characteristics of wastewater such that the discharge is not eligible for coverage under this General Permit; or

v. The discharge is endangering human health or the environment.

b. The USEPA Regional Administrator may request the Regional Water Board Executive Officer to require any discharger authorized to discharge under this General Permit to subsequently apply for and obtain an individual NPDES permit. The Executive Officer may require any discharger authorized to discharge waste under this General Permit to subsequently apply for and obtain an individual NPDES permit. An interested person may petition the Executive Officer or the Regional Administrator to take action under this provision. The Regional Water Board may also review and revise this General Permit at any time upon application by any person, or on the Regional Water Board's own motion.

c. The Executive Officer may modify or revoke authorization to discharge under this General Permit if it is determined that the Discharger is causing or significantly contributing to adverse impacts to the water quality and/or beneficial uses of receiving waters. In the event that the Regional Water Board's interpretation of the narrative toxicity objective is modified or invalidated by the Regional Water Board, a court decision, or a State statute or regulation, this General Permit may be revised to be consistent with the decision, statute or regulation.

d. Availability. A copy of this General Permit and the Regional Water Board's authorization letter shall be maintained at the Discharger's facility for reference by operating personnel. Key operating personnel shall be familiar with its content.

e. Change in Discharge. At least 30 days prior to an expected material change in the character, location, or volume of a discharge, the Discharger shall reapply for coverage under the General Permit by submitting a completed NOI to the Regional Water Board and submitting a new filing fee. A material change includes, but is not limited to, the following changes that could potentially cause different water quality or nuisance problems: a substantial increase in the number or type of animals housed at the facility, an increase in the rate or volume of the discharge, or a change in the discharge location.

f. Failure to comply with provisions or requirements of this General Permit, or violation of other applicable laws or regulations governing discharges from this facility, may subject the Discharger to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Discharger to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.

g. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, effluent limitation, land discharge specification, receiving water limitation, or provision of this General Permit, the Discharger shall notify the Regional Water Board orally[2] within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Regional Water Board waives confirmation. The written notification shall state the nature, time, duration, and cause of noncompliance and shall describe the measures being taken to remedy the current noncompliance and, prevent recurrence including, where applicable, a schedule of implementation. Other noncompliance requires written notification as above at the time of the normal monitoring reporting.

h. Transfers. This General Permit is not transferable to any person except after notice to the Regional Water Board. The Regional Water Board may require modification or revocation and reissuance of the General Permit to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (section 122.41(l)(3); section 122.61)

B. Monitoring and Reporting Program Requirements

Authorized Dischargers shall comply with the MRP, and future revisions thereto in Attachment E of this General Permit.

C. Special Provisions

1. Reopener Provisions

a. Standard Revisions. If applicable water quality standards are promulgated or approved pursuant to section 303 of the CWA, or amendments thereto, the Regional Water Board may reopen this General Permit and make modifications in accordance with such revised standards.

b. Toxic Pollutant Standards. If any standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under the federal CWA at section 307(a) for a toxic pollutant which is present in the discharge, and that standard or prohibition is more stringent than any limitation for the pollutant in this General Permit, this General Permit shall be modified or revoked and reissued to

[2] Oral reporting means direct contact with a Regional Water Board staff person. The oral report may be given in person or by telephone. After business hours, oral contact must be made by calling the State Office of Emergency Services at (800) 852-7550 or Regional Water Board spill officer at (707) 576-2220.

conform to the toxic effluent standard or prohibition and the Discharger so notified.

c. **Reasonable Potential.** This General Permit may be reopened for modification to include an effluent limitation if monitoring establishes that the discharge causes, has the reasonable potential to cause, or contributes to an excursion above an applicable water quality objective.

d. **303(d)-Listed Pollutants.** If a Total Maximum Daily Load (TMDL) is adopted and is applicable to receiving waters for this discharge, this General Permit may be reopened to incorporate requirements of the TMDL. TMDLs for bacteria, nitrogen, phosphorous, sediment, and temperature are currently applicable and/or under development for various watersheds within in the North Coast Region. Non-point source load allocations (LA) may have been assigned to CAFOs in accordance with various TMDLs. The nutrient management plan (NMP) specified in this General Permit implements applicable TMDLs by controlling the discharge of pollutants to all surface waters, and in some instances potentially reducing the load of pollutant discharge for which waterbodies may be impaired. Accordingly, to the extent that any of the North Coast Region's TMDLs include LAs for CAFOs, this General Permit implements those allocations. The applicant shall refer to Chapter 4 of the Basin Plan to determine whether there are any applicable TMDLs for the receiving water. If the Regional Water Board determines that a voluntary offset program is feasible for and desired by the Discharger, then this General Permit may be reopened to re-evaluate the effluent limitations for the pollutant(s) that are subject of a TMDL and, if appropriate, to incorporate provisions recognizing the Discharger's participation in an offset program. In addition, the Regional Water Board may include additional provisions necessary for dischargers to comply with applicable TMDLs and/or consider revising this General Permit to make it consistent with any Regional Water Board decisions arising from various petitions for re-hearing and litigation concerning the SIP, 303(d) list, and TMDL program.

e. **Nutrients.** This General Permit contains effluent monitoring requirements for ammonia, nitrate, and phosphorus. If new water quality objectives for nutrients are established, or if monitoring data indicate the need for effluent limitations for these or other nutrient parameters, this General Permit may be reopened and modified to include new effluent limitations, as necessary.

2. Special Studies, Technical Reports and Supplemental Monitoring – Not Applicable

3. Best Management Practices: Nutrient Management Plan

a. Nutrient Management Plan (NMP)

All authorized Dischargers shall implement a NMP developed in accordance with the specifications defined in Attachment B of this General Permit, which contains at a minimum Best Management Practices (BMPs) necessary to meet the requirements of the applicable effluent limitations and standards, and that is developed according to the Technical Standards for Nutrient Management provided in Attachment C.

b. Additional Land Application Specifications

i. Land application areas that receive dry manure shall be managed through implementation of erosion control measures to minimize erosion.

ii. Areas shall be identified that due to topography or other factors have a high potential for soil erosion; where these areas are identified, measures to limit erosion and pollutant runoff shall be documented in the NMP and implemented.

iii. Neither process water nor manure shall be applied to land application areas during periods when the soil is at or above field moisture capacity.

iv. Land application of process water shall 1) not result in surface runoff, 2) be managed to minimize percolation to groundwater, and 3) not cause groundwater to contain pollutants in excess of the groundwater limitations contained in this General Permit.

v. Rates of application to land shall not contribute to the development of odors, flies, or other nuisance conditions.

vi. The operator must inspect equipment used for land application of manure, litter, bedding, or process water for leaks, at the minimum frequency specified in the MRP (Attachment E).

4. Construction, Operation and Maintenance Specifications

a. Pond Design, Maintenance, and Operation

i. Ponds shall be designed and maintained to prevent groundwater contamination and shall in no case cause groundwater to contain pollutants in excess of the groundwater limitations contained in this General Permit.

ii. A minimum freeboard, consistent with pond design but not less than two feet, shall be maintained at all times in any pond that does not overflow to other ponds, except with prior authorization by the Executive Officer.

iii. All reservoirs and ponds shall be operated and maintained to prevent inundation or washout due to floods with a 100-year return frequency.

iv. Pond shall be operated and maintained to ensure adequate storage.

v. Ponds shall have sufficient capacity to accommodate process water flow, groundwater infiltration and inflow in the collection system, the 25-year, 24-hour storm event, and seasonal precipitation during the rainy season.

vi. All process water storage lagoons/ponds shall be sited, designed, constructed, and operated in accordance with the requirements of title 27 of the California Code of Regulations that are applicable to Confined Animal Facilities.

vii. The Professional Engineers Act (Business and Professional Code section 6700, et seq.) requires that all engineering work must be performed by a California registered professional engineer.

viii. Process water storage lagoons/ponds shall be managed to prevent breeding of mosquitoes.

5. Other Special Provisions

a. Transfer of Manure, Litter, Bedding, and Process Water. In cases where CAFO-generated manure, litter, bedding, or process water is sold, given away or otherwise transferred, the Discharger shall comply with the following conditions:

i. Provide the recipient(s) with the most current nutrient analysis, or more representative information on the nutrient content of the manure, bedding, and/or process water.

(a) Manure, bedding, and process water must be tested for nitrogen and phosphorus at least annually; and

(b) Sampling and analysis must be conducted in accordance with the requirements of section IX.C.1 of the MRP and the specifications in the Technical Standards for Nutrient Management (Attachment C).

ii. Retain the applicable records specified in section X of the MRP, Manure Transfer Records, for transfer of manure, litter, bedding and process water. In accordance with section IV of Attachment D, "Standard Provisions – Records," these records shall be maintained on-site for a period of 5 years and submitted to the Regional Water Board upon request.

b. Supporting Information for Dairy, Other Cattle, Swine, Poultry, and Veal Calf CAFO Alternate Effluent Limitations (Optional). To receive voluntary alternative performance standards, pursuant to this General Permit, the Discharger must submit to the Regional Water Board a technical analysis supporting the request. The technical analysis must include calculation of the quantity of pollutants discharged on a mass basis, where appropriate, based on a site specific analysis of a system designed, constructed, operated and maintained to contain all manure, litter, bedding and process water, including the runoff from a 25-year, 24-hour rainfall event. The technical analysis must include:

i. All daily inputs to the system, including manure, litter, bedding, all process waters, direct precipitation, and runoff;

ii. All daily outputs from the storage system, including losses due to evaporation, sludge removal, and the removal of process water for use on cropland at the CAFO or transport offsite;

iii. A calculation determining the predicted median annual overflow volume based on a 25-year period of actual rainfall data applicable to the site;

iv. Site-specific pollutant data, including nitrogen, phosphorus, BOD_5, and TSS, for the CAFO from representative sampling and analysis of all sources of input to the storage system, or other appropriate pollutant data;

v. Predicted annual average discharge of pollutants, expressed where appropriate as a mass discharge on a daily basis (lbs/day) and calculated considering the results of 5.b.i. - iv., above.

The Regional Water Board may request additional information to supplement the supporting technical analysis, including an inspection of the CAFO.

c. **Requirements for Open Surface Storage Structure Technical Evaluation (Optional).** To request that the Regional Water Board establish BMP effluent limitations for any new source swine, poultry or veal calf CAFO designed to ensure no discharge of manure, litter or process wastewater, a site-specific technical evaluation of the CAFO's open surface manure storage structure must be submitted with the request. The technical evaluation must address the following:

i. Open manure storage structure design information:

(a) Minimum storage periods for rainy seasons;

(b) Additional minimum capacity for chronic rainfalls;

(c) Applicable technical standards that prohibit or otherwise limit land application to frozen, saturated, or snow-covered ground;

(d) Planned emptying and dewatering schedules consistent with the CAFO's NMP;

(e) Additional storage capacity for manure or wastewater intended to be transferred to another recipient at a later time; and

(f) Any other factors that would affect the sizing of the open manure storage structure.

ii. Open manure storage structure design as determined by the most recent version of the NRCS's AWM software, or equivalent design software or procedures approved by the Regional Water Board Executive Officer.

iii. All inputs used in the open manure storage structure design including actual climate data for the previous 30 years, consisting of historical average monthly precipitation and evaporation values, the number and types of animals, anticipated animal sizes or weights, any added water or bedding, any other process wastewater, and the size and condition of outside areas exposed to rainfall and contributing runoff to the open manure storage structure.

iv. The planned minimum period of storage in months including, but not limited to, the factors for designing an open manure storage structure listed in 5.c.i., above. Alternatively, the Discharger may determine the minimum period of storage by specifying times the storage pond will be emptied consistent with the CAFO's NMP.

v. Site-specific predicted design specifications including dimensions of the storage facility, daily manure and wastewater additions, the size and characteristics of the land application areas, and the total calculated storage period in months.

vi. An evaluation of the adequacy of the designed manure storage structure using the most recent version of the Soil Plant Air Water (SPAW) Hydrology Tool. The evaluation must include all inputs to SPAW including but not limited to daily precipitation, temperature, and evaporation data for the previous 100 years, user-specified soil profiles representative of the Discharger's land application areas, planned crop rotations consistent with the Discharger's NMP, and the final modeled result of no overflows from the designed open manure storage structure. For those CAFOs where 100 years of local weather data for the CAFO's location is not available, the Discharger may use a simulation with a confidence interval analysis conducted over a period of 100 years. The Regional Water Board Executive Officer may approve equivalent evaluation and simulation procedures. Alternately, the Regional Water Board Executive Officer may waive the requirements of this paragraph for a site-specific evaluation of the designed manure storage structure and instead authorize the Discharger to use a technical evaluation developed for a class of specific facilities within a specified geographical area.

vii. Waste management and storage facilities designed, constructed, operated, and maintained consistent with the analysis conducted above and operated in accordance with the additional measures and records required by section IV. D of the Order and section X of the MRP will fulfill the requirements of this section.

viii. The Regional Water Board Executive Officer has the discretion to request additional information to support a request for effluent limitations based on a site-specific open surface manure storage structure.

d. Pretreatment. The Discharger shall comply with all requirements of any applicable pretreatment permit.

e. **Salt Management.** Salt in animal rations shall be limited to the amount required to maintain animal health and optimal production.

6. **Compliance Schedules – Not Applicable**

VII. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in section IV of this General Permit shall be determined as specified below:

A. General

Compliance determination with the terms of this General Permit shall be based on the following:

1. Periodic inspections by Regional Water Board staff;
2. Evaluation of the annual report submitted according to the Monitoring and Reporting Program of this General Permit; and
3. Any other information deemed necessary by the Regional Water Board Executive Officer.

B. Multiple Sample Data

When determining compliance with an Average Monthly Effluent Limitation (AMEL) for priority pollutants, and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of “Detected, but Not Quantified” (DNQ) or “Not Detected” (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure.

1. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

2. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

C. Average Monthly Effluent Limitation (AMEL)

If the average (or when applicable, the median determined by subsection B above for multiple sample data) of daily discharges over a calendar month exceeds the AMEL for a given parameter, this will represent a single violation, though the Discharger will be considered out of compliance for each day of that month for that parameter (e.g., resulting in 31 days of non-compliance in a 31-day month). If only a single sample is taken during the calendar month and the analytical result for that sample exceeds the AMEL, the Discharger will be considered out of compliance for that calendar month. The Discharger will only be considered out of compliance for days when the discharge occurs. For any one calendar month during which no sample (daily discharge) is taken, no compliance determination can be made for that calendar month.

D. Maximum Daily Effluent Limitation (MDEL)

If a daily discharge (or when applicable, the median determined by subsection B, above, for multiple sample data of a daily discharge) exceeds the MDEL for a given parameter, the Discharger will be considered out of compliance for that parameter for that 1 day only within the reporting period.

Attachment A – Notice of Intent (NOI)

EPA I.D. NUMBER (*copy from Item 1 of Form 1)*

FORM 2B NPDES	**EPA**	U.S. ENVIRONMENTAL PROTECTION AGENCY APPLICATIONS FOR PERMIT TO DISCHARGE WASTEWATER CONCENTRATED ANIMAL FEEDING OPERATIONS AND AQUATIC ANIMAL PRODUCTION FACILITIES

I. GENERAL INFORMATION Applying for: Individual Permit ☐ Coverage Under General Permit ☐

A. TYPE OF BUSINESS	B. CONTACT INFORMATION	C. FACILITY OPERATION STATUS
☐ 1. Concentrated Animal Feeding Operation (complete items B, C, D, and section II) ☐ 2. Concentrated Aquatic Animal Production Facility (complete items B, C, and section III)	Owner/or Operator Name:_____ Telephone: (_____)_____ Address:_____ Facsimile: (_____)_____ City: _____State:____ Zip Code: _____	☐ 1. Existing Facility ☐ 2. Proposed Facility

D. FACILITY INFORMATION

Name: _____ Telephone: (_____) _____

Address: _____ Facsimile: (_____) _____

City: _____ State: _____ Zip Code: _____

County: _____ Latitude: _____ Longitude: _____

If contract operation: Name of Integrator:_____

Address of Integrator: _____

II. CONCENTRATED ANIMAL FEEDING OPERATION CHARACTERISTICS

A. TYPE AND NUMBER OF ANIMALS		B. MANURE, LITTER, AND/OR WASTEWATER PRODUCTION AND USE
1. TYPE	2. ANIMALS	1. How much manure, litter, and wastewater is generated annually by the facility? _____tons _____ gallons 2. If land applied how many acres of land under the control of the applicant are available for applying the CAFOs manure/litter/wastewater? _____acres 3. How many tons of manure or litter, or gallons of waste-water produced by the CAFO will be transferred annually to other persons? _____tons _____ gallons
☐ Mature Dairy Cows		
☐ Dairy Heifers		
☐ Veal Calves		
☐ Cattle (not dairy or veal calves)		
☐ Swine (55 lbs. or over)		
☐ Swine (under 55 lbs.)		
☐ Horses		
☐ Sheep or Lambs		

☐ Turkeys		
☐ Chickens (Broilers)		
☐ Chickens (Layers)		
☐ Ducks		
☐ Other: Specify _____		
3. TOTAL ANIMALS		

C. ☐ TOPOGRAPHIC MAP

D. TYPE OF CONTAINMENT, STORAGE AND CAPACITY

1. Type of Containment	Total Capacity (in gallons)	
☐ Lagoon		
☐ Holding Pond		
☐ Evaporation Pond		
☐ Other: Specify _____		

2. Report the total number of acres contributing drainage: _____ acres

3. Type of Storage	Total Number of Days	Total Capacity (gallons/tons)	
☐ Anaerobic Lagoon			
☐ Storage Lagoon			
☐ Evaporation Pond			
☐ Aboveground Storage Tanks			
☐ Belowground Storage Tanks			
☐ Roofed Storage Shed			
☐ Concrete Pad			
☐ Impervious Soil Pad			
☐ Other: Specify _____			

E. NUTRIENT MANAGEMENT PLAN

Note: Effective February 27, 2009, a permit application is not complete until a nutrient management plan is submitted to the Permitting Authority.

1. Please indicate whether a nutrient management plan has been included with this permit application. ☐ Yes ☐ No

2. If no, please explain:

3. Is a nutrient management plan being implemented for the facility? ☐ Yes ☐ No

4. The date of the last review or revision of the nutrient management plan. Date: _____

5. If not land applying, describe alternative use(s) of manure, litter, and/or wastewater:

F. LAND APPLICATION BEST MANAGEMENT PRACTICES

Please check any of the following best management practices that are being implemented at the facility to control runoff and protect water quality:

☐ Buffers ☐ Setbacks ☐ Conservation tillage ☐ Constructed wetlands ☐ Infiltration field ☐ Grass filter ☐ Terrace

III. CONCENTRATED AQUATIC ANIMAL PRODUCTION FACILITY CHARACTERISTICS

A. For each outfall give the maximum daily flow, maximum 30-day flow, and the long-term average flow.				B. Indicate the total number of ponds, raceways, and similar structures in your facility.		
1. Outfall No.	2. Flow (*gallons per day*)			1. Ponds	2. Raceways	3. Other
	a. Maximum. Daily	b. Maximum 30 Day	c. Long Term Average	C. Provide the name of the receiving water and the source of water used by your facility.		
				1. Receiving Water	2. Water Source	

D. List the species of fish or aquatic animals held and fed at your facility. For each species, give the total weight produced by your facility per year in pounds of harvestable weight, and also give the maximum weight present at any one time.

1. Cold Water Species		2. Warm Water Species	
a. Species	b. Harvestable Weight *(pounds)*	a. Species	b. Harvestable Weight *(pounds)*

	(1) Total Yearly	(2) Maximum		(1) Total Yearly	(2) Maximum

E. Report the total pounds of food during the calendar month of maximum feeding.	1. Month	2. Pounds of Food

IV. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. Name and Official Title (*print or type)*	B. Telephone (___) _____
C. Signature	D. Date Signed

EXISTING FACILITIES INSTRUCTIONS FOR COMPLETING NOI

I. GENERAL

This form must be completed by all applicants who check "yes" to Item II-B in Form 1. Not all animal feeding operations are required to obtain NPDES permits. Exclusions are based on size and whether or not the facility discharges. *See* the description of these exclusions in the CAFO regulations at section 122.23.

For aquatic animal production facilities, the size cutoffs are based on whether the species are warm water or cold water, on the production weight per year in harvestable pounds, and on the amount of feeding in pounds of food (*for cold water species*). Also, facilities which discharge less than 30 days per year, or only during periods of excess runoff (*for warm water fish*) are not required to have a permit.

Refer to the Form 1 instructions to determine where to file this form. In addition, in order for Regional Water Board staff to consider an application for coverage, the NOI form must be accompanied by a Nutrient Management Plan (see Attachment B) and appropriate fees. The fee schedule can be viewed at the following web address:
http://www.waterboards.ca.gov/resources/fees/docs/confined_animal_facilities_fees.pdf.

II. Notice of Intent

Item I-A

See the note above to be sure that your facility is a "concentrated animal feeding operation" (CAFO).

Item I-B

Use this space to give owner/operator contact information.

Item I-C

Check "proposed" if your facility is not now in operation or is expanding to meet the definition of a CAFO in accordance with the CAFO regulations at section 122.23.

Item I-D

Use this space to give a complete legal description of your facility's location including name, address, and latitude/longitude. Also, if a contract grower, the name and address of the integrator.

Item II

Supply all information in item II if you checked (1) in item I-A.

Item II-A

Give the maximum number of each type of animal in open confinement or housed under roof (either partially or totally) which are held at your facility for a total of 45 days or more in any 12 month period. Provide the total number of animals confined at the facility.

Item II-B

Provide the total amount of manure, litter, and wastewater generated annually by the facility. Estimates should be calculated using the figures below, which are provided in units of pounds per day per animal. The estimate should be calculated by multiplying the number of animals in a particular category by the appropriate factor. If a different method is used to estimate manure production, this should be documented and submitted with the application.

Animal	Manure Weight (lb/d)	Source
Dairy		
Lactating Cow Milk Production[1/], 50 lb/d	133	4/
Lactating Cow Milk Production[1/], 75 lb/d	148	4/
Lactating Cow Milk production[1/], 100 lb/d	164	4/
Lactating Cow Milk Production[1/], 125 lb/d	179	4/
Calf, 330 lb	27	4/
Heifer, 970 lb	54	4/
Beef		
Beef Cow in Confinement[2/]	125	4/
Growing Calf Confined[2/] (450-750 lb)	50	4/
Finishing Cattle	64	5/
Veal		
Veal Calves (260 lb)	7.8	5/
Swine		
Nursery Pig (27.5 lb)	2.4	5/
Grow-Finish Pig (154 lb)	10	5/
Gestating Sow (440 lb)	11	5/
Lactating Sow (423 lb)	25	5/
Boar (440 lb)	8.4	5/
Poultry		
Layer	0.19	5/
Broiler	0.22	5/
Turkey (male)	0.59	5/
Turkey (female)	0.36	5/
Duck	0.36	5/
Sheep		
Lamb (60 lb)	2.4	4/
Horse		
Sedentary (1100 lb)[3/]	56	5/
Intense Exercise (1100 lb)[3/]	57	5/

1/ Beef cow values are representative of animals during nonlactating period and first 6 months of gestation.
2/ Assumes 1,375 lb lactating cow.
3/ Value applies to a horse 18 months of age or older not pregnant or lactating. Sedentary applies to horses not receiving any imposed exercise. Intense represents horses used for competitive activities such as racing.
4/ USDA, NRCS, 2008. Agricultural Waste Management Field Handbook, Chapter 4. March 2008.
5/ ASAE, 2005. Manure Production and Characteristics, Standard ASAE D384.2. March 2005.

Identify if manure, litter, and wastewater generated by the facility is to be land applied and the number of acres, under the control of the CAFO operator, suitable for land application. If the answer to question 3 is yes, provide the estimated annual quantity of manure, litter, and wastewater that the applicant plans to transfer off-site.

Item II-C

Check this box if you have submitted a topographic map of the entire operation, including the production area and land under the operational control of the CAFO operator where manure, litter, and/or wastewater are applied with Form 1.

Item II-D

1. Provide information on the type of containment and the capacity of the containment structure (s).
2. The number of acres that are drained and collected in the containment structure (s).
3. Identify the type of storage for the manure, litter, and/or wastewater. Give the capacity of this storage in days.

Item II-E

Provide information concerning the status of submitting a nutrient management plan for the facility to complete the application. In those cases where the nutrient management plan has not been submitted, provide an explanation. If not land applying, describe the alternative uses of the manure, litter, and wastewater (*e.g.*, composting, pelletizing, energy generation, etc.). The application for coverage under the General Permit is not complete until a NMP is submitted. See Nutrient Management Plan (NMP) Review and Terms below for additional information.

Item II-F

Check any of the identified conservation practices that are being implemented at the facility to control runoff and protect water quality.

Item III

Supply all information in Item III if you checked (2) in Item I-A.

Item III-A

Outfalls should be numbered to correspond with the map submitted in Item XI of Form 1. Values given for flow should be representative of your normal operation. The maximum daily flow is the maximum measured flow occurring over a calendar day. The maximum 30-day flow is the average of measured daily flow over the calendar month of highest flow. The long-term average flow is the average of measure daily flows over a calendar year.

Item III-B

Give the total number of discrete ponds or raceways in your facility. Under “other,” give a descriptive name of any structure which is not a pond or a raceway but which results in discharge to waters of the United States.

Item III-C

Use names for receiving water and source of water which correspond to the map submitted in Item XI of Form 1.

Item III-D

The names of fish species should be proper, common, or scientific names as given in special Publication No. 6 of the American Fisheries Society. “A List of Common and Scientific Names of Fishes from the United States and Canada.” The values given for total weight produced by your facility per year and the maximum weight present at any one time should be representative of your normal operation.

Item III-E

The value given for maximum monthly pounds of food should be representative of your normal operation.

Item IV

The Clean Water Act provides for severe penalties for submitting false information on this application form.

Section 309(C)(2) of the Clean Water Act provides that “Any person who knowingly makes any false statement, representation, or certification in any application…shall upon conviction, be punished by a fine of no more than $10,000 or by imprisonment for not more than six months, or both.”

Federal regulations require the certification to be signed as follows:

A. For a corporation, by a principal executive officer of at least the level of vice president;

B. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or

C. For a municipality, State, federal, or other public facility, by either a principal executive officer or ranking elected official.

III. Nutrient Management Plan (NMP) Review and Terms

A. Upon receipt of the NMP, the Regional Water Board will review the NMP. If additional information is necessary to complete the NMP, or to clarify, modify, or supplement previously submitted material, the Regional Water Board shall request such information from the Discharger.

B. The NMP will be used by the Regional Water Board to identify site-specific permit terms with respect to protocols for the land application of manure, bedding, and process water as outlined in Attachment B of the General Permit. The Regional Water Board will also identify site-specific permit terms with respect to storage of manure, bedding, and process water and site specific conservation practices to the extent that such terms are necessary to support the application rates expressed in the NMP.

C. When the Regional Water Board determines that the NMP and NOI are complete, Regional Water Board staff will make the application available for public comment, including the CAFO's NMP, and the site-specific terms to be incorporated into the General Permit. The public notice will also provide the opportunity for a public hearing on the NOI and the proposed terms of the NMP.

D. The period of time for the public to comment and request a hearing on the proposed terms of the NMP to be incorporated into the permit will be twenty one (21) days.

E. The Regional Water Board staff will respond to significant comments received during the comment period, and, if necessary, require the CAFO owner or operator to revise the NMP in order to be granted coverage under the General Permit.

F. When the Regional Water Board enrolls the Discharger under the General Permit, the terms of the NMP shall be incorporated as terms and conditions of the permit for the CAFO. The Regional Water Board will notify the Discharger that coverage has been authorized and of the site-specific terms and conditions of the permit. Notice of permit coverage and site-specific permit terms will be provided to the Discharger in a written permit authorization.

ATTACHMENT B – REQUIREMENTS FOR NUTRIENT MANAGEMENT PLANS

The NMP shall, to the extent applicable:

I. *Ensure adequate storage of manure, litter, bedding, and process water, including procedures to ensure proper operation and maintenance of the storage facilities.*

A. Identify all structures used to store manure, litter, bedding, and process water (including storm water that has contacted wastes and specify the following for each:

1. The maximum storage period (length of time between emptying events);
2. The volumes of manure, process water, and wastes expected to be accumulated during the maximum storage period;
3. The expected volume of direct precipitation on the surface of process water storage lagoons during the maximum storage period and the expected evaporation losses from the lagoons during the same period;
4. The volume of runoff from the production area generated from normal precipitation during the maximum storage period;
5. The volume of direct precipitation from the 25-year, 24-hour rainfall event[1] on the surface of process water storage lagoons;
6. The volume of runoff from the production area from the 25-year, 24-hour rainfall event[1];
7. The volume of residual solids remaining in process water storage lagoons after liquids are removed;
8. A minimum of two feet of freeboard, or alternative practice designed to prevent overflow of process water storage lagoons; and
9. Any additional design or management specifications required to meet nutrient management goals and regulatory agency requirements.

B. Specify all operation and maintenance (O&M) procedures necessary to ensure adequate storage including the following, as applicable:

1. Manure, litter, bedding, and/or process water removal schedules;

[1] Or other event consistent with BMP effluent limitations for new source swine, poultry, and veal calf Facility.

2. Schedules of storage structure inspections to ensure adequate containment including storage capacity for the 25-year, 24-hour rainfall;
3. Schedules and methodology for solids removal necessary to maintain adequate storage capacity in manure, process water, and waste storage structures;
4. Procedures, including inspection and maintenance activities needed to prevent excessive vegetation, burrowing or grazing animals, storm water runoff, process water input, and other events from eroding or otherwise damaging berms, embankments, liners, and sidewalls;
5. Procedures to ensure proper flow of process water in and out of storage lagoons; and
6. Any other procedures, protocols, and schedules necessary to ensure adequate storage of manure, litter, bedding, and process water.

II. *Ensure proper management of mortalities to ensure that they are not disposed of in a liquid manure, storm water, or process water storage or treatment system that is not specifically designed to treat animal mortalities.*

A. For facilities that transfer mortalities to a rendering facility or to a landfill or other disposal facility, place mortalities in a designated area where runoff is prevented or contained until mortalities and associated runoff are removed from the site.

B. California regulations at CCR title 14, division 7, chapter 3.1 178552(a) prohibit composting of mammal carcasses except under special circumstances. All composting operations at this Facility shall comply with the laws of state agencies, local enforcement agencies, municipalities, counties, drainage districts, air quality management districts, and other appropriate agencies.

C. The Facility's mortality management and disposal practices for both normal and catastrophic animal mortality shall be described in writing.

D. Mortalities shall be managed in accordance with the requirements of Part IV.D.4 of the General Permit.

III. *Ensure that clean water is diverted, as appropriate from the production area.*

A. In cases where it is not feasible to divert water from the production area, convey all water that has contacted wastes to a process water holding and reuse system, with sufficient capacity to contain the diverted water.

B. Design and manage all production areas to direct leachate and runoff to the process water holding and reuse system, and to minimize infiltration of water to underlying soils.

C. Divert clean water from contact with animal housing, and manure and process water storage areas, except as provided for in Part VI.C.3.a.i.(A) of the General Permit.

D. Identify each structure used to divert clean water from the production area, including berms, ditches, gutters, downspouts, and piping.

E. Identify O&M procedures, including inspections and maintenance schedules, used to ensure proper operation of the structures identified in paragraph iii (B).

IV. *Prevent direct contact of confined animals with waters of the U.S.*

A. Identify all structures (e.g., fencing, etc.) necessary to prevent direct contact of confined animals with waters of the U.S.

B. Identify the maintenance procedures needed to ensure the proper function of the structures identified in paragraph IV.A.

V. *Ensure that chemicals and other contaminants handled on-site are not disposed of in any manure, litter, bedding, process water or storm water storage or treatment system unless specifically designed to treat such chemicals and other contaminants*

A. Handle and dispose all wastes from storage tanks for fuel, oil, other petroleum products; pest and parasite control units; storage tanks for cleaning and disinfecting products; and other facilities used to store or manage potentially hazardous or toxic chemicals in a manner sufficient to prevent pollutants from entering the manure, litter, bedding, or process water retention structures, ground water, or waters of the U.S.

B. This permit condition is not intended to prohibit the use of chemicals such as disinfectants used in milking parlors or animal foot baths that would enter the Facility's waste stream during normal operation.

VI. *Identify appropriate site specific conservation practices to be implemented, including as appropriate buffers or equivalent practices, to control runoff of pollutants to waters of the U.S.*

A. Unless the Facility exercises one of the compliance alternatives provided for in paragraph 1 or 2 below, manure, litter, bedding, and process water may not be applied closer than 100 feet to any down-gradient surface waters, open tile line intake structures, sinkholes, agricultural well heads, or other conduits to surface waters.

1. *Vegetated buffer compliance alternative.* The Facility may substitute the 100-foot setback with a 35-foot wide vegetated buffer where applications of

manure, litter, bedding, or process water are prohibited. National Resources Conservation Service Conservation Practice Standard Code 393 (*Filter Strip*, August 2006) should be used for guidance in implementing vegetated buffers.

2. *Alternative practices compliance alternative.* The Facility may demonstrate that a setback or buffer is not necessary because implementation of alternative conservation practices or field-specific conditions will provide pollutant reductions equivalent or better than the reductions that would be achieved by the 100-foot setback. The Discharger shall explicitly state in the NMP that compliance alternatives have been implemented, identify the alternative practices, and describe how the alternative practices achieve pollutant reductions equivalent to, or better than, the reductions that would be achieved by the 100-foot setback.

B. Identify all conservation practices used to control runoff of pollutants to waters of the U.S. from the land application and production areas, including identifying the location of each conservation practice on Facility maps submitted with the NMP. Where appropriate, identify the technical standards (such as Natural Resources Conservation Service [NRCS] Conservation Practice Standards) that the Discharger will comply with to properly implement and maintain each conservation practice.

C. Identify any O&M procedures necessary to ensure the proper function of these conservation practices, including, as appropriate, any procedures identified in the technical guidance(s) identified under paragraph B above.

D. Conservation practices that are implemented for purposes other than to control the runoff of pollutants (e.g., windbreaks, irrigation water management) will not be included as site-specific terms of this permit.

VII. *Identify protocols for appropriate testing of manure, litter, bedding, process water and soil*.

A. Manure must be analyzed a minimum of once annually for nitrogen and phosphorus content, and soil analyzed a minimum of once every five years for phosphorus content. Nitrogen analyses must be done immediately prior to land application whenever there is any potential for significant changes to have occurred.

B. Sampling and analysis methods shall be in accordance with the procedures described in the Technical Standards for Nutrient Management (Attachment C, Section IV, “Manure and Soil Sampling and Analysis”.

C. The results of these analyses are to be used in determining application rates for manure, litter, bedding, and process water.

D. Identify the following:

1. Sampling schedules for manure, litter, bedding, and/or process water and soil; and
2. Criteria used to choose sampling locations for manure, litter, bedding and/or process water (e.g., storage structures and/or in-field locations if sampling during application) and soil (i.e., individual fields or management units to be sampled).

VIII. *Establish protocols to land apply manure, litter, bedding, or process water in accordance with site-specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients in the manure, litter, bedding or process water (See Attachment C).*

A. Facilities that land apply manure, litter, bedding, and/or process water, shall conduct the tasks listed in Table B-1:

Table B-1

NMP Requirement – All Facilities	Applicable Section of Technical Standards for Nutrient Management (Attachment C)
1. Identify all fields planned to be used for land application of manure, litter, bedding, and/or process water.	N/A
2. Identify timing limitations for land application including those identified in the Technical Standards for Nutrient Management.	Section VI, “Timing of Application”
3. Include the result of the phosphorus transport risk assessment conducted for each field in accordance with the Technical Standards for Nutrient Management.	Section I, “Nutrient Basis for Land Application”
4. List the planned crops or other use (such as pasture) for each field to be used for land application of manure, litter, bedding, and/or process water. Alternative crops may also be listed in accordance with paragraph viii.B.ii.2 below for Dischargers that develop NMPs following the narrative rate approach.	N/A

Table B-1

NMP Requirement – All Facilities	Applicable Section of Technical Standards for Nutrient Management (Attachment C)
5. Provide a realistic yield goal for each crop (and alternative crops if listed in accordance with paragraph VIII.B.2 below) for each field used for land application of manure, litter, bedding, and/or process water. Determine the yield goals in accordance with the Technical Standards for Nutrient Management Attachment C.	Section II, "Realistic Crop Yield Expectations"
6. Provide nitrogen and phosphorus recommendation for each crop (and alternative crops if listed in accordance with paragraphVIII.B.2 below) in accordance with the Technical Standards for Nutrient Management Attachment C.	Section III, "Crop Nutrient Recommendations"

B. Application rates for manure, litter, bedding, and other process water applied to land under the ownership or operational control of the Facility must minimize phosphorus and nitrogen transport from the field to surface waters in compliance with the Technical Standards for Nutrient Management (Attachment C). Each Facility will need to address nitrogen application rates for nitrogen. Some facilities will need to incorporate application rates for both nitrogen and phosphorus, based on the results of the phosphorus risk assessment contained in the Technical Standards (Attachment C). Application rates shall be expressed in the NMP consistent with one of the following two approaches:

1. *Linear Approach*: This is an approach that expresses rates of application as pounds of nitrogen and phosphorus to be applied from manure, litter, bedding, and process water. In addition to the information identified in Table B-1 above, the information identified in Table B-2 must be incorporated in the NMP:

Table B-2

NMP Requirement – Linear Approach	Applicable Section of Technical Standards for Nutrient Management (Attachment C)
1. Identify the maximum amount of nitrogen and phosphorus, expressed in pounds per acre per year, from manure, litter, bedding, and process water for each crop and field.	All Sections

Table B-2

NMP Requirement – Linear Approach	Applicable Section of Technical Standards for Nutrient Management (Attachment C)
2. For the rates calculated pursuant to paragraph B-1, the NMP shall:	
a. Identify credits, in pounds per acre, for all nitrogen that will be plant available in each field planned for land application of manure, litter, bedding, or process water, including credits from prior applications of manure or other organic nutrient sources, previous legume crops, and other nitrogen sources.	Section V, "Application Rate Calculations"
b. Identify, in pounds per acre, all other additions of plant available nitrogen and phosphorus (e.g., from commercial fertilizer, biosolids application, and other nutrient sources to be applied).	Section V, "Application Rate Calculations"
c. Identify the form (e.g., solid, semi-solid, liquid) and source (e.g., storage structure) of manure, litter, bedding and process water to be applied.	N/A
d. Describe the timing (e.g., month or season) and method (e.g., sprinkler, broadcast, injection) of land application.	N/A
e. Describe the calculations and data that will be used to account for the amount of nitrogen and phosphorus in the manure, litter, bedding and process water to be applied.	N/A
f. For fields where rates of application are based on the crop phosphorus need, identify whether the rates reflect multi-year phosphorus application, in accordance with the Technical Standards for Nutrient Management.	Section I, "Nutrient Basis for Land Application"

Facilities that use the linear approach must calculate the maximum amount of manure, litter, bedding, and process water to be land applied to each field at each application using the analytical results for nitrogen and phosphorus in representative samples of manure, litter, bedding, and process water and considering other relevant factors as described in Table B-2.

3. *Narrative Rate Approach:* This is an approach that expresses rates of application as a narrative in order to identify the amount of manure, litter, bedding, and/or process water to be land applied. In addition to the information and BMPs identified in Table B-1 above, the information identified in Table B-3 must be incorporated in the NMP:

Table B-3

NMP Requirement – Narrative Rate Approach	Applicable Section of Technical Standards for Nutrient Management (Attachment C)
1. Identify the maximum amount of nitrogen and phosphorus, expressed in pounds per acre per year, derived from all sources of nutrients for each crop for each field.	All Sections
2. Identify alternative crops that are not in the planned crop rotation identified under paragraph viii.A.4 above. List such alternative crops by field, including realistic yield goals, nitrogen and phosphorus recommendations for each alternative crop for each field.	Section II, "Realistic Crop Yield Expectations" Section III, "Crop Nutrient Recommendations"
3. Describe the methodology (including procedures, calculations, and data sources) that will be used to account for the following when calculating the amount of manure, litter, bedding, or process water to be applied:	
a. Results of soil tests conducted in accordance with protocols identified in the NMP	Section IV, "Manure and Soil Testing"
b. Credits for all nitrogen that will be plant available, including credits from prior applications of manure or other organic nutrient sources, previous legume crops, and other nitrogen sources.	Section V, "Application Rate Calculations"
c. The amount of nitrogen and phosphorus in the manure, litter, bedding, and process water to be applied. Form (e.g., solid, semi-solid, liquid) and source (e.g., storage structure) of manure, litter, bedding and process water to be applied.	Section IV, "Manure and Soil Testing"
d. Multi-year phosphorus application, for fields where rates of application are based on the crop phosphorus need, in accordance with the Technical Standards for Nutrient Management.	Section I, "Nutrient Basis for Land Application"
e. Accounting for all other additions of plant available nitrogen and phosphorus (e.g., from commercial fertilizer, biosolids application, and other nutrient sources to be applied).	Section V, "Application Rate Calculations"
f. Timing (e.g., month or season) and method (e.g., sprinkler, broadcast, injection) of land application.	N/A
g. Volatilization of nitrogen and mineralization of organic nitrogen.	Section V, "Application Rate Calculations"
4. Include the following projections. These items are required in the NMP, but are not terms of the permit for the purposes of enforcement.	
a. Planned crop rotations for each field for the period of permit coverage.	N/A
b. The projected amount of manure, litter, bedding, or process water to be applied.	Section V, "Application Rate Calculations"

Table B-3

NMP Requirement – Narrative Rate Approach	Applicable Section of Technical Standards for Nutrient Management (Attachment C)
c. In conjunction with item 4.d. below, projected credits for all nitrogen in the field that will be plant available.	Section V, "Application Rate Calculations"
d. The predicted form, source, and method of application of manure, litter, bedding, and process water for each crop.	N/A
e. Consideration of multi-year phosphorus application.	Section I, "Nutrient Basis for Land Application"

4. Facilities that use the narrative approach must calculate maximum amounts of manure, litter, bedding, and process water to be land applied at least once annually using the approach described in Table B-3 and must include the following data:

   a. A field-specific determination of soil levels of nitrogen including a determination of nitrogen that will be plant available consistent with the approach required by Table B-3 and

   b. For phosphorus, the results of the most recent soil test conducted in accordance with soil testing requirements approved by the Regional Water Board; and

   c. The results of the most recent representative manure, litter, bedding, and process water tests for nitrogen and phosphorus taken within 12 months of the date of land application, in order to determine the amount of nitrogen and phosphorus in the manure, litter, bedding, and process water to be applied.

IX. *Identify specific records that will be maintained to document the implementation and management of the minimum NMP elements described above, including the recordkeeping requirements required by section X of the MRP (Attachment E).*

If any capital improvements are needed to achieve any of the items I through IX above, a schedule of implementation must be included.

Changes to the NMP

A. When a Discharger covered by the General Permit makes changes to an NMP previously submitted to the Regional Water Board, the Discharger must provide the Regional Water Board with the most current version of the NMP and identify changes from the previous version, with the exception of annual calculations of application rates for manure, litter, and process wastewater which are not required to be submitted. A format for the cover letter to be submitted with the updated NMP is provided in Attachment H.

B. When changes to a NMP are submitted to the Regional Water Board, staff will review the revised NMP to ensure that it meets the requirements of the General Permit. If staff determines that changes to the NMP necessitate revision to the terms incorporated into the permit, the Regional Water Board must determine whether such changes are substantial. Substantial changes to the terms of a NMP incorporated as terms and conditions of a permit include, but are not limited to:

1. Addition of land application areas not previously included in the CAFO's NMP;

2. For NMPs using the Linear Approach, increases to the field-specific maximum annual rates of land application (pounds of N and P from manure, bedding, and process water). For NMPs using the Narrative Rate Approach, increases to the maximum amounts of nitrogen and phosphorus derived from all sources for each crop;

3. Addition of any crop or other uses not included in the terms of the CAFO's NMP; and

4. Changes to site-specific components of the CAFO's NMP, including the addition of animals at the CAFO, where such changes are likely to increase the risk of nitrogen and phosphorus transport to waters of the U.S.

C. If the Regional Water Board determines that changes to the terms of the NMP are not substantial, the revised NMP will be added to the permit record, the terms of the permit will be revised based on the site specific NMP, and the Discharger and the public will be notified of any changes to the terms of the permit based on revisions to the NMP.

D. If, pursuant to ii. (1 – 4), above, the Regional Water Board determines that the changes to the terms of the NMP are substantial the Regional Water Board will notify the public, make the proposed changes and the information submitted by the CAFO owner or operator available for public review and comment, and respond to all significant comments received during the 21-day comment period. The Regional Water Board may require the Discharger to further revise the NMP, if necessary. Once the Regional Water Board incorporates the revised terms of the NMP into the permit, the Discharger will be notified of the revised terms and conditions of the permit.

ATTACHMENT C – TECHNICAL STANDARDS FOR NUTRIENT MANAGEMENT

Nutrient management plans (NMPs) developed by facilities and submitted with a Notice of Intent (NOI) for coverage under Regional Water Board Order No. R1-2012-0001, National Pollutant Discharge Elimination System (NPDES) General Permit No. CAG011001 (the "General Permit") must be developed in accordance with the procedures, data, and protocols identified below or equivalent as approved by the Executive Officer.

I. NUTRIENT BASIS FOR LAND APPLICATION

The NMP shall identify whether application rates are calculated based on the nitrogen or phosphorus needs of the crop(s) to be grown for each field every year that manure, bedding, or process water will be applied or if application rates are calculated on some other basis. Each Facility must incorporate nitrogen application rates on an annual basis, based upon the results of the phosphorus transport risk assessment, some facilities may be required to develop nutrient management based upon both nitrogen and phosphorus loading.

II. APPLICATION RATE CALCULATIONS

Planned rates of nitrogen and phosphorus application and calculations used to determine the planned rates shall be clearly documented in the NMP or in Facility records.

Where nitrogen-based application rates are used, planned rates of application and associated calculations are required only for the planned nitrogen application rate.

Where phosphorus-based application rates are used planned rates of application and associated calculations must be documented for the planned phosphorus and associated nitrogen application rates to ensure the annual nitrogen recommendation is not exceeded.

Planned rates of application shall be in accordance with the results of the phosphorus transport risk assessment identified in Part II.B.

Planned rates of application must consider all other sources of nutrients available to the crop, and must address the form and source of manure and the timing and method of application. For nitrogen-based application rates, all sources of nitrogen must be considered. For phosphorus-based plans, all sources of nitrogen and phosphorus must be considered. Planned rates of application must be consistent with all requirements of this General Permit, Attachment B.

A. Nitrogen Application Factors

1. Credits from prior legume crops, are shown in Table C-1. Additional or alternative data sources may be used but the source of data must be documented in the NMP.

Table C-1. Nitrogen credits for prior legume crop

Prior Crop	N credit (lbs/acre)
Alfalfa	40 – 80*
Dry peas	35**
Lentils	20**
Garbanzo beans	20**
* Adjust within range based on alfalfa stand density and yield. ** Reduce the credit by 10 lb N/acre if vegetation is removed from the field (e.g., pea vines for hay).	
Source: For alfalfa: UC Manure Technical Guide Series for Crop Management Professionals *Legume N Credit for Crops Following Alfalfa* published in December 2009 (http://groups.ucanr.org/manuremanagement/files/74626.pdf); For peas, lentils, garbanzo beans: Oregon State University Cooperative Extension. *Winter Wheat in Continuous Cropping Systems (High precipitation zone), FG 84*. (http://extension.oregonstate.edu/catalog/html/fg/fg84/)	

2. Credits from prior manure and/or process water applications, must be calculated using appropriate mineralization rates, as shown in Tables C-2 and C-3. Alternative data sources may be used, but the source of data must be documented in the NMP. If the NMP is prepared using a software package that addresses mineralization rates, the software package used may be documented as the data source for nitrogen mineralization.

Table C-2. Mineralization rates for nitrogen – dairy manure

	Years after initial application		
	1	2	3
Waste and nitrogen content	**Percent available (percent of original N applied, accumulative)**		
Fresh bovine waste, 3.5% N	75	84	85.6
Dry corral manure, 2.5% N	40	55	57.7
Dry corral manure, 1.5% N	35	44.7	47.2
Dry corral manure, 1.0% N	20	28	29.4
a. Table assumes annual applications on the same site. If a one-time application, the decay series can be estimated by subtracting year 1 from year 2 and year 2 from year 3. The decay rate becomes essentially constant after 3 years.			

Table C-2. Mineralization rates for nitrogen – dairy manure

Waste and nitrogen content	Years after initial application		
	1	2	3
	Percent available (percent of original N applied, accumulative)		
Source: Alison Van Eenennaam. No date. *Dairy Manure as a Soil Amendment.* University of California Cooperative Extension *after* Azevedo, J. and P. R. Stout. 1974. *Farm animal manures: an overview of their role in the agricultural environment*. University of California, Manual 44.			

Table C-3. Mineralization rates for nitrogen – other manure types

Waste and management practice	Years after initial application		
	1	2	3
	Percent available (percent of original N applied, accumulative)		
Fresh poultry manure	90	92	93
Fresh swine or cattle manure	75	79	81
Layer manure from pit storage	80	82	83
Swine or cattle manure stored in covered storage	65	70	73
Swine or cattle manure stored in open structure or pond (undiluted)	60	66	68
Cattle manure with bedding stored in roofed area	60	66	68
Effluent from lagoon or diluted waste storage pond	40	46	49
Manure stored on open lot, cool-humid	50	55	57
Manure stored on open lot, hot-arid	45	50	53
a. Table assumes annual applications on the same site. If a one-time application, the decay series can be estimated by subtracting year 1 from year 2 and year 2 from year 3. For example, the decay series for fresh poultry manure would be 0.90, 0.02, 0.01. The decay rate becomes essentially constant after 3 years.			
Source: Table 11-9, USDA-NRCS Agricultural Waste Management Field Handbook			

3. Other sources of available nutrients (commercial fertilizer, biosolids, irrigation water, etc.).

4. Availability of nutrients from current crop year manure and process water application, considering mineralization rates as shown in Table C-3, as well

as nutrient loss for current crop application from N volatilization, as shown in Table C-4. Alternative data sources may be used but the source of data must be documented in the NMP. If the NMP is prepared using a software package that addresses volatilization rates, the software package used may be documented as the data source for nitrogen volatilization.

Table C-4. Percentage of nitrogen in applied manure still potentially available to the soil after ammonia volatilization losses

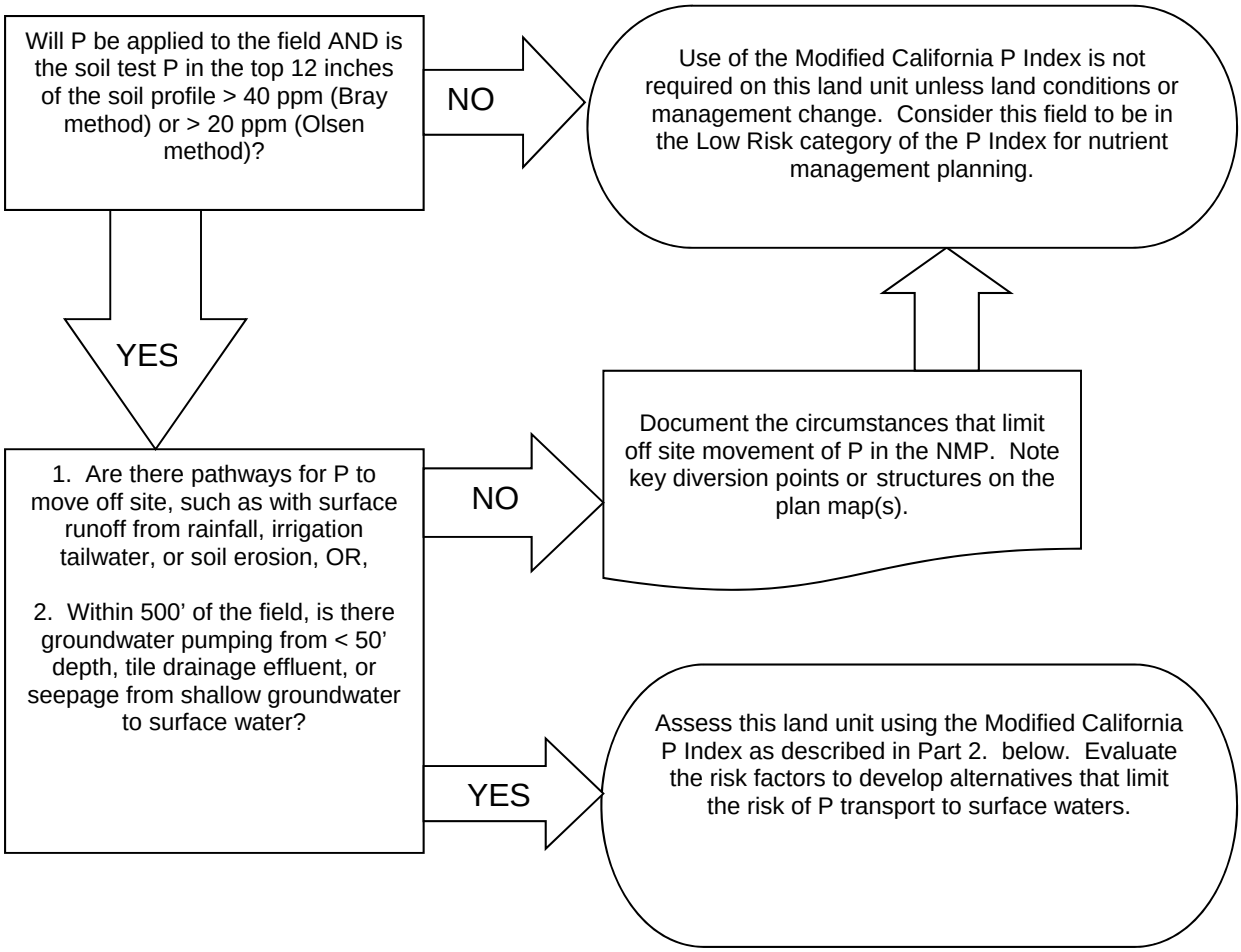
Application Method	**Percentage remaining/delivered**		
Injection	95		
Sprinkling	75		
Broadcast (fresh solids):			
Days between application and incorporation	*Soil Conditions*		
	Warm dry	*Warm wet*	*Cool wet*
1	70	90	100
4	60	80	95
7 or more	50	70	90
Source: Table 11-6, USDA-NRCS Agricultural Waste Management Field Handbook, (after Willrich, et al., 1974)			

B. Phosphorus Application Factors

A phosphorus transport risk assessment as described in Parts 1 and 2, below must be conducted for each field prior to land application of manure, bedding or process water a minimum of once per permit term,. Land application rates shall be consistent with the results of the phosphorus transport risk assessment described in Parts II.B.1 and II.B.2, below.

1. Initial Phosphorus Transport Risk Assessment

   The following assessment shall be conducted for each field prior to land application of manure, bedding or process water as described in the NMP:



2. Modified California Phosphorus Index

Where required by the Initial Phosphorus Transport Risk Assessment in Part 1, evaluate the risk of phosphorus transport from each field using the Modified California Phosphorus Index as described below.

a. Follow the steps outlined in the Modified California Phosphorus Index (found at the end of Attachment C in Appendix C-1) determine each field's Phosphorus Index score and associated Risk Rating for each of following three risk categories: 1) <u>Erosion:</u> phosphorus loss associated with soil erosion, 2) Runoff: phosphorus loss (dissolved or suspended) in surface runoff, and 3) Leachable: phosphorus in leachate that ultimately enters surface water. The assessment tool provided for California by the USDA NRCS in its electronic Field Office Technical Guide (eFOTG, Section I, Technical Notes, Agronomy, Agronomy Tech Note 62, Phosphorus Index Tool) may be used to calculate the Modified California Phosphorus Index Risk Rating (see Part b, below).

b. The Phosphorus Index score for each risk category will correspond to a Phosphorus Index Risk Rating as indicated in Table C-5. The highest score from any one of the three risk categories for a field will determine the "Risk Rating" and the corresponding Phosphorus Management Requirements that must be taken on that field (e.g., Erosion <20, Runoff <30, and Leachable 50 is a medium risk rating).

Table C-5. Modified California Phosphorus Index Risk Ratings and Associated Phosphorus Management Requirements

Score	Risk Rating	Phosphorus Management Requirements
Erosion: <20 Runoff: <30 Leachable: <40	Low	Apply manure at a rate to match N requirements of the crops (see Part III, below). Commercial P fertilizer should be applied based on soil or tissue sampling as recommended by University of California (UC) guidelines, and in accordance with the Discharger's approved NMP.
Erosion: 20 – 60 Runoff: 30 – 100 Leachable: 40 – 80	Medium	Apply manure at a rate to match N requirements of the crops (see Part 3 a III, below). Commercial P fertilizer should be applied based on soil or tissue sampling as recommended by UC guidelines and in accordance with the Discharger's approved NMP. For fields in this category, the Regional Water Board may require more frequent soil monitoring to assure that the risk of P loss does not increase. Appropriate practices should be considered to limit risk.
Erosion: 60 – 300 Runoff: 100 – 300 Leachable: 80 – 120	High	Apply manure at a rate to match P requirements of the crops (see Part III, below). A conservation plan must be in place to lower the Risk Rating to "Medium". Commercial P fertilizers should be applied based on soil or tissue sampling as recommended by UC guidelines and in accordance with the Discharger's approved NMP. If a manure-derived form of P is used to substitute for the use of commercial P fertilizer, apply using UC guidelines based on soil and tissue sampling and in accordance with the Discharger's approved NMP.
Erosion: >300 Runoff: >300 Leachable: >120	Very High	Apply no manure. Conservation practices must be included in the NMP to lower the Risk Rating to "High" or lower. Commercial P fertilizer should be applied based on soil or tissue sampling as recommended by UC guidelines and in accordance with the Discharger's approved NMP. Do not apply P from any source if Soil Test P level exceeds 80 PPM (Olsen) or 120 PPM (Bray). A starter of up to 30 lbs P_2O_5/acre may be injected into soils below 55 degrees Fahrenheit when seeding winter vegetables. (Food for human consumption may not be grown with uncomposted manure).

c. Document in the NMP the result of the Modified California Phosphorus Index evaluation for each field, including at a minimum the highest risk rating for that field. If the Modified California Phosphorus Index is not required for a field, based on the Initial Phosphorus Transport Risk Assessment,, document in the NMP the reason why (e.g., P will not be

applied, soil test P < 40 ppm (Bray), no pathway for off-site P movement, etc.).

d. The phosphorus transport risk assessment as described in Part II.B must be re-calculated for a field if there is a change to any of the factors used in the Initial Phosphorus Transport Risk Assessment or in the factors used to calculate the Modified California Phosphorus Index Risk Rating for that field. If such change results in a change to the field's Risk Rating, and it is not possible to adjust other factors to maintain the Risk Rating category identified in the NMP, then the NMP must be revised and submitted to the Regional Water Board in accordance with Attachment B of the General Permit.

3. Multi-year phosphorus application

a. For fields where phosphorus-based nutrient management is required, an application of manure, bedding, and/or process water may be made at a rate equal to the recommended phosphorus application determined in accordance with Part IV "Crop Nutrient Recommendations", below, for the crop rotation or multiple years in the crop sequence. When such applications are made, the following conditions apply.

i. The application rate shall not exceed the recommended nitrogen application rate during the year of application (which may include a calculation for fertilization inefficiencies), or the estimated nitrogen removal in harvested plant biomass during the year of application when there is no recommended nitrogen application.

ii. Conservation practices must be included in the NMP and implemented to minimize the risk of phosphorus loss from the field.

iii. No additional manure, bedding, or process water may be applied to the field until the phosphorus applied in the single application has been removed through plant uptake and harvest.

4. Phased implementation of P-based nutrient management.

Where the initial assessment (i.e., the first assessment for a field included in the Discharger's approved NMP) of a field results in a risk rating of "High," the Discharger shall have a three-year period within which to manage the site for the purpose of lowering the phosphorus transport risk assessment rating to "Medium" or less. During this period, manure or process water may be applied to the site at either nitrogen- or phosphorus-based rates. The

phosphorus risk management plan shall be described in the Discharger's NMP (40 CFR 412.4(c)(2)(ii).

III. REALISTIC CROP YIELD EXPECTATIONS

The crop yield goals used to determine crop nutrient requirements must be realistic and clearly documented in the NMP for each crop to be grown in each field included in the NMP.

Where historic crop yield data are available, those data must be used as appropriate to determine realistic crop yield expectations by calculating the average of the 3 highest yields for the 5 most recent years the crop was grown in the field. Use good judgment to adjust yield goals to counteract unusually low or high yields for the averaging period, where necessary.

Where historic crop yield data are unavailable, realistic yield goals may be based on other data sources. The data source used to determine realistic yield goals must be documented in the NMP. Yield goals based on alternative data sources must be updated as appropriate when site-specific yield information becomes available.

IV. CROP NUTRIENT RECOMMENDATIONS

A. Crop nutrient requirements shall be based on Table C-6 or on one of the sources listed after that table.

Table C-6. Nutrient Uptake and Removal in the Harvested Portion of Various Crops

Crop	Yield Units	N Removed Lb/Unit	P_2O_5 Removed Lb/Unit	K_2O Removed Lb/Unit
Alfalfa, hay	Ton	60	12.4	50
Barley, grain	Ton	64	24	64
Barley, silage, boot stage	Ton	16	6	14
Barley, silage, dough stage	Ton	10	3.7	10
Bermudagrass, hay	Ton	35	10.5	50
Clover-grass, hay	Ton	38	11.5	50
Corn, grain	Ton	48	20	48
Corn, silage	Ton	8	3.5	8
Cotton, lint	Bale	80	25	50
Oats, grain	Ton	100	37	100
Oats, hay	Ton	40	15	40
Oats, silage, soft dough	Ton	10	3.7	10
Orchardgrass, hay	Ton	35	10.5	50

Table C-6. Nutrient Uptake and Removal in the Harvested Portion of Various Crops

Crop	Yield Units	N Removed Lb/Unit	P_2O_5 Removed Lb/Unit	K_2O Removed Lb/Unit
Ryegrass, hay	Ton	32	10.5	50
Safflower	Ton	100	25	75
Sorghum	Ton	50	20	48
Sudan, hay	Ton	32	10	40
Sudan, silage	Ton	11	4	15
Sugar beets	Ton	8.5	2	18
Tall fescue, hay	Ton	32	10.5	50
Timothy, hay	Ton	35	10.5	50
Triticale, boot stage	Ton	15	6.1	14
Triticale, soft dough	Ton	10	3.8	9
Wheat, grain	Ton	58	25	60
Wheat, hay	Ton	40	15	40
Wheat, silage, boot stage	Ton	16	6.4	15
Wheat, silage, soft dough	Ton	11	4	10
Source: Purdue University's Manure Management Planner, version 0.29, which provides as the data source Western Fertilizer Handbook & Roland Meyer (UCCE) & Inter-agency CNMP Development Committee (2002)				

B. The Western Fertilizer Handbook, 9th edition. Western Plant Health Association, 2002.

C. Site specific crop tissue testing conducted in accordance with University of California guidelines for the purpose of determining crop nutrient uptake and documented on site in Facility records. For example, see the crop sampling protocols for the California Dairy Quality Assurance Program (available online at http://www.cdqa.org/binder.asp, Section 5, Part 5. Forage Crops-Corn & Winter Forage Sampling Protocol and Part 9. Alfalfa Sampling Protocol).

D. Recommendations from a crop consultant, nutrient management planner, NRCS-Certified Technical Service Provider, or other expert, based on local or regional data and information from the University of California Cooperative Extension or other appropriate and documented source.

E. The total nitrogen and phosphorus requirement for each crop included in the NMP and the data source used to determine crop nutrient requirements shall be documented in the NMP. If the NMP is prepared using a software package that addresses crop nutrient requirements, the software package used may be documented as the data source.

V. Manure, Process Water, and Soil Testing

A. Sampling Protocols

The protocols identified below must be followed for collecting samples of solid manure, process water and liquid manure, and soils. Slurry or semi-solid manure may be sampled in accordance with the protocols for solid manure or liquid manure, as appropriate. All samples must be monitored for the constituents required in the Monitoring and Reporting Program (MRP, Attachment E). Other constituents identified in the referenced California Dairy Quality Assurance Program protocols may be considered voluntary for purposes of compliance with this General Permit. Testing for nitrogen (all forms) must be done immediately prior to land application whenever there is any potential for significant changes in nitrogen content to have occurred.

1. Solid manure

   Solid manure shall be sampled at least once annually using the most recent protocols for solid manure sampling developed by the California Dairy Quality Assurance Program (available online at http://www.cdqa.org/binder.asp, Section 5, Part 2. Solid Manure Sampling Protocol).

2. Process Water

   Process water and/or liquid manure shall be sampled at least once annually using the most recent protocols for solid manure sampling developed by the California Dairy Quality Assurance Program (available online at http://www.cdqa.org/binder.asp, Section 5, Part 3. Liquid Manure Sampling Protocol).

3. Soil

   Soils for all fields where manure, bedding, or process water will be applied shall be sampled at least once every five years using the most recent protocols for soil or pasture sampling, as appropriate, developed by the California Dairy Quality Assurance Program (available online at http://www.cdqa.org/binder.asp, Section 5, Part 4. Soil Sampling Protocol, and Part 7. Pasture Sampling Protocol).

4. Alternative methods

   Alternative protocols for sampling solid or liquid manure, process water, slurry or semi-solid manure, or soils may be included in the Facility's NMP. The NMP including the alternative methods must be approved by the Regional

Water Board before such alternative methods can be used to comply with this General Permit.

VI. Timing of Application

Manure, bedding, and process water shall not be applied to land:

A. During rainy or saturated conditions unless conditions allow no other reasonable alternative and provisions are identified in the NMP and implemented to control runoff and pollution;

B. When precipitation capable of producing runoff is predicted within 24 hours of the planned application or prior to incorporation;

C. When soils are frozen or snow-covered.

APPENDIX C1 - MODIFIED CALIFORNIA PHOSPHORUS INDEX

The Modified California Phosphorus Index is used for performing field-specific assessments of the risk of phosphorus transport to surface water, as needed based on use of the Initial Phosphorus Transport Risk Assessment in the General Permit, Attachment C, Part II.B.1.

The worksheets provided in this section can be used to calculate the risk of phosphorus loss from each field for each of the three phosphorus loss risk categories (erosion, runoff, and leachable). Each worksheet must be completed for each field for which the Phosphorus Index is required.

I. CATEGORIES OF RISK FROM P LOSS

There are three categories of risk from P loss. They are: P loss associated with soil erosion (erosion), P loss when dissolved or suspended in surface runoff (runoff), and P lost by leachate that ultimately enters surface water (leachable). Each of these categories is evaluated separately. Each category of loss is evaluated for risk, and the field must be managed in accordance with the requirements for the highest risk rating from any of the three risk categories. The individual categories use the following risk factors to evaluate risk.

Transport Factors	Erosion	Runoff	Leachable
Soil Erosion – RUSLE2	X		
Irrigation induced erosion	X		
Ephemeral gully erosion	X		
Irrigation Tailwater		X	
Runoff Class		X	
Subsurface Drainage			X
Drainage system type	X	X	X

Source Factors	Erosion	Runoff	Leachable
Soil Test P	X	X	X
Commercial P Rate	X	X	X
Commercial P Method	X	X	
Organic P Rate	X	X	X
Organic P Method - Solids	X	X	
Organic P Method - Liquids	X	X	

II. WORKSHEETS

Worksheets A, B, and C below must be completed for each field being evaluated. Each numbered row is a "Factor," and guidance on evaluating each of the Factors is provided in Section III which follows the worksheets.

Worksheet A. Risk Rating for Erosion P Loss

FIELD ID: _____ **Score**

1. Estimated soil erosion using the Revised Universal Soil Loss Equation, Version 2 (RUSLE2)

RUSLE2 soil loss estimate (tons/ac/yr)	Risk	Score	
< 1	None	0	
1 – 3	Low	1	
4 – 6	Medium	2	
7 – 15	High	4	
> 15	Very High	8	_____ (A1)

2. Sediment from irrigation-induced erosion

Sediment reduction	Risk	Score	
No irrigation or negligible sediment loss off site	None	0	
Sediment reduction from conservation practices at least 90%	Low	1	
Sediment reduction from conservation practices at least 80%	Medium	2	
Sediment reduction from conservation practices at least 40%	High	4	
Sediment reduction from conservation practices at least <40%	Very High	8	_____ (A2)

3. Ephemeral gully erosion, including furrowed fields

Erosion frequency	Risk	Score	
Negligible	None	0	
Occurs in 1 of 4 years	Low	1	
Occurs in 2 of 4 years	Medium	2	
Occurs in 3 of 4 years	High	4	
Occurs annually	Very High	8	_____ (A3)

Worksheet A. Risk Rating for Erosion P Loss

FIELD ID: _____ **Score**

4. Add Transport Factors (A1 – A3 above)

RUSLE2 soil loss (A1) + Sediment from irrigation-induced erosion (A2) + Ephemeral gully erosion (A3): (A1) + (A2) + (A3) =

_____ + _____ + _____ = _____ (A4)

5. Soil Test P

Soil test P in the top 0 – 12" (ppm): _____

Threshold (use 20 for Olsen, use 40 for Bray): _____

(Soil test P – Threshold) ÷ 10 =

(_____ – _____) ÷ 10 = _____ (A5)

6. Commercial P Fertilizer Application Rate

Annual P_2O_5 applied (lbs/ac): _____

Annual P_2O_5 applied ÷ 50 =

_____ ÷ 50 = _____ (A6)

7. Commercial P Fertilizer Application Method

Method	Risk	Score
None applied, or phosphorus fertilizer is injected, banded, or incorporated to greater than 2" prior to the rainy season	None – Low	0
Surface applied fertilizer is incorporated less than 2" prior to the rainy season	Medium – High	2
Surface applied – not incorporated prior to irrigation or winter rain	Very High	8

_____ (A7)

8. Organic P Source Application Rate

Rate	Risk	Score
None applied.	None	0
Application rate based on lab analysis of all sources of manure, consideration of all nutrient sources, soil or tissue tests, record keeping, and historic yields	Low	1

_____ (A8)

Worksheet A. Risk Rating for Erosion P Loss

FIELD ID: _____ **Score**

Application rate based on UC accepted manure nutrient level estimates and crop needs, and record keeping	Medium	2
Application rate based on UC accepted manure nutrient level estimates and crop needs	High	4
Manure application rate decisions are not constrained by estimated crop needs or manure nutrient levels	Very High	8

9. Organic P Source Application Method for solids

Method	**Risk**	**Score**
None Applied, or all solids are incorporated > 3'' prior to runoff and application system is calibrated.	None	0
Solids from corrals, stalls, lanes, settling basins, separators, or ponds incorporated > 3'' before typical onset of the rainy season or irrigation.	Low – Medium	1
Solids from corrals, stalls, lanes, settling basins, separators, or ponds not incorporated before typical onset of the rainy season or irrigation.	High – Very High	4

_____ (A9)

10. Organic P Source Application Method for liquids

Method	**Risk**	**Score**
None Applied.	None	0
Low organic solids load with process water application. Very effective settling and separation system in place.	Low	0.5
Moderate organic solids load with process water application. Agitation on a consistent basis during irrigation.	Medium	1
High organic solids load applied with irrigation water during irrigation. Poor separation system in place.	High	2
Very high organic solids load applied with irrigation when accumulated solids are being cleaned from pond, annually or less often.	Very High	4

_____ (A10)

Worksheet A. Risk Rating for Erosion P Loss

FIELD ID: _____ **Score**

11. Add Source Factors (A5 – A10 above)

Soil Test P (A5) + Commercial P Fertilizer Application Rate (A6) + Commercial P Fertilizer Application Method (A7) + Organic P Source Application Rate (A8) + Organic P Source Application Method for solids (A9) + Organic P Source Application Method for liquids (A10)

(A5) + (A6) + (A7) + (A8) + (A9) + (A10) =
_____ + _____ + _____ + _____ + _____ + _____ = _____
(A11)

12. Use of drainage system discharging to waters of the U.S.

Drainage System	**Discharge Rating**	
Water containing particulate, dissolved, or suspended phosphorus discharges from tile lines, direct seepage, shallow groundwater extraction, tailwater ditch, field drain ditch, etc., into a drainage system that provides no substantial filtering and drains without significant impediment into a water of the U.S.. Such conveyances may be a pipeline, free flowing ditch, or direct sheet flow into the water body or its tributary.	1.5	
Other situations	1.0	_____ (A12)

13. Calculate risk score for erosion P loss

Sum of Transport Factors (A4) x Sum of Source Factors (A11) x Drainage System Discharge Rating (A12)

(A4) x (A11) x (A12) =
_____ x _____ x _____ = _____
(A13)

14. Risk Rating for Erosion P Loss **Risk Rating**

Erosion P Loss Score (A13)	**Risk Rating**	
< 20	Low	
20 – 60	Medium	
60 – 300	High	
> 300	Very High	_____

Worksheet B. Risk Rating for Runoff P Loss

FIELD ID: _____ **Score**

1. Irrigation Tailwater Runoff (off-farm)

Runoff Frequency	**Risk**	**Score**	
No irrigation or all tailwater is captured	None	0	
Occasional discharge of tailwater off farm	Low – Medium	4	_____
Frequent discharge of tailwater off farm	High – Very High	8	(B1)

2. Hydrologic Soil Group

Soil Group (from soil survey, Web Soil Survey)	**Risk**	**Score**	
Runoff from rainfall is insignificant	None	0	
Hydrologic Group A	Low	1	
Hydrologic Group B	Medium	2	
Hydrologic Group C	High	4	_____
Hydrologic Group D	Very High	8	(B2)

3. Add Transport Factors (B1 and B2 above)

Irrigation Tailwater Runoff (B1) + Hydrologic Soil Group (B2) (B1) + (B2) =

_____ + _____ = _____

(B3)

4. Sum of Source Factors

Same as A11 from Risk Rating for Erosion P Loss calculation above. (A11) = _____

(B4)

5. Use of drainage system discharging to impacted surface water

Same as A12 from Risk Rating for Erosion P Loss calculation above. (A12) = _____

(B5)

Worksheet B. Risk Rating for Runoff P Loss

FIELD ID: _____ **Score**

6. Calculate risk score for runoff P loss

Sum of Transport Factors (B3) x Sum of Source Factors (B4) x Drainage system discharge rating (B5)

(B3) x (B4) x (B5) =
_____ x _____ x _____ = _____
(B6)

7. **Risk Rating for Runoff P Loss** **Risk Rating**

Runoff P Loss Score (B6)	Risk Rating
< 30	Low
30 - 100	Medium
100 - 300	High
>300	Very High

_____

Worksheet C. Risk Rating for Leachable P Loss

FIELD ID: _____ **Score**

1. Subsurface Drainage

Outlet for Groundwater Transfer to Surface Water	Risk	Score
No tile drains, no groundwater pumping from < 50' depth, and no seepage to surface water occurs within 500' of the field.	None – Medium	0
Irrigation occurs. Tile drains, seepage, or pumping from < 50' occurs within 500' of the field.	High – Very High	8

_____
(C1)

2. Soil Test P

Same as A5 from Risk Rating for Erosion P Loss calculation above. (A5) = _____
(C2)

3. Commercial P Fertilizer Application Rate

Same as A6 from Risk Rating for Erosion P Loss calculation above. (A6) = _____
(C3)

Worksheet C. Risk Rating for Leachable P Loss

FIELD ID: _____ **Score**

4. Organic P Source Application Rate

Same as A8 from Risk Rating for Erosion P Loss calculation above. (A8) = _____ (C4)

5. Add Source Factors (C2 – C4 above)

Soil Test P (C2) + Sediment Commercial P Fertilizer Application Rate (C3) + Organic P Source Application Rate (C4)

(C2) + (C3) + (C4) =
_____ + _____ + _____ = _____ (C5)

6. Use of drainage system discharging to a 303(d) listed surface water

Same as A12 from Risk Rating for Erosion P Loss calculation above. (A12) = _____ (C6)

7. Calculate risk score for leachable P loss

Subsurface Drainage (C1) x Sum of Source Factors (C5) x Drainage System Discharge Rating (C6)

(C1) x (C5) x (C6) =
_____ x _____ x _____ = _____ (C7)

8. Risk Rating for Leachable P Loss **Risk Rating**

Leachable P Loss Score (C7)	Risk Rating
< 40	Low
40 - 80	Medium
80 -120	High
>120	Very High

_____

III. Interpretations of P Index Factors

A. Risk for P loss ratings are based on two primary criteria:

1. There must be a means to transport available P offsite. These are collectively called “Transport Factors”. Transport factors are discussed in Part B below relative to completing Worksheets A, B, and C.

2. There must be P available for transport offsite in adequate quantities to create risk. These are collectively called “Source Factors”.

B. Transport Factors:

1. Soil Erosion – Sheet and Rill Erosion (Factor 1, Worksheet A)

P loss from agricultural fields is strongly related to sediment loss. To assign points for this category, calculate the sheet and rill erosion using the Revised Universal Soil Loss Equation, Version 2 (RUSLE2) procedures and apply the criteria on the Index. Until further field testing is complete, the RUSLE2 erosion estimates should not be used on fields that are ridged or furrowed during the winter rainy season. Record zero points in this category for those conditions.

RUSLE2 is a tool used to predict the long-term average rate of soil loss for a field or management unit. It is a computer model that uses a detailed mathematical approach for integrating multiple equations describing how various factors and field characteristics affect soil erosion. The basic structure of the RUSLE2 equation is:

$$A = RKLSCP$$

Where:

A = predicted average annual soil loss from rill and inter rill erosion caused by rainfall and its associated overland flow expressed in tons/acre/year

R = climatic erosivity

K = soil erodibility measured under a standard condition

L = slope length

S = slope steepness

C = cover and management

P = support practices (erosion control)

The soil loss for each field can be calculated using the RUSLE2 program available at http://fargo.nserl.purdue.edu/rusle2_dataweb/RUSLE2_Index.htm. The RUSLE2 estimated soil loss value for each field must be recorded and used to calculate the California P Index score.

2. Sediment from Irrigation Induced Erosion (Factor 2, Worksheet A)

Risk in this category is based on the level of conservation being used to reduce irrigation induced erosion. Table C1-1 is provided to estimate the percent reduction of irrigation induced erosion from applying specific conservation practices. These reductions are based on conditions typical to west Stanislaus County. For Dischargers with similar furrow irrigation practices, the relative reductions are assumed to be similar. For significantly different circumstances, reduction values can be estimated using the FUSED and FURROW4 irrigation induced erosion prediction models. If no sediment loss is observed during the first irrigation of the season, and no significant system or management changes are expected for future irrigations, then zero points can be assigned at the discretion of the planner.

Tailwater Tarps have the effect of grade stabilization in the tailwater ditch. They reduce the erosive force of the water by allowing it to lose elevation at controlled and protected points along the ditch. They are commonly constructed when 2” x 4” wood beams are place in the ditch and a tarpaulin is placed over them to form a dam. Water is allowed to go over the structure at a certain elevation and through a notch in the dam wide enough to allow the desired flow, but narrow enough to protect the ditch banks from turbulence. Table C1-1 assumes well managed and maintained practices.

Table C1-1. Estimated reduction in irrigation induced erosion from selected conservation practices

Practices used with furrow irrigation on field crops or orchards:	**Percent Reduction**
Tailwater tarps	45
Cutback stream	60
Filter strips	45
Sediment basin	95
Conservation tillage w/ low residue crop	5
Conservation tillage w/ high residue crop	40
Surge Irrigation	80

Table C1-1. Estimated reduction in irrigation induced erosion from selected conservation practices

Practices used with furrow irrigation on field crops or orchards:	**Percent Reduction**
Tailwater return system	95
Tailwater tarps and cutback stream	80
Tailwater tarps, cutback stream and sediment basin	95
Tailwater tarps and sediment basin	95
Surge Irrigation and sediment basin	95
Polyacrylamide addition to irrigation stream	95
Other practices:	
Permanent cover crop with surface irrigation in orchards	60
Temporary cover crop with furrow irrigation	20
Sprinkler irrigation w/ low runoff	60
Drip irrigation	90

3. Ephemeral Gully Erosion (Factor 3, Worksheet A)

   Assign points based on the frequency of ephemeral gully erosion occurring in the field. Include erosion of this type occurring on fields that are ridged or furrowed during the rainy season.

4. Irrigation Tailwater (Factor 1, Worksheet B)

   This category considers the effect of runoff from irrigation tailwater that may carry suspended or dissolved P into water bodies. Suspended P is usually associated with organic material that floats, such as manure. Assign points if irrigation tailwater from this field is allowed to leave the farm. If tailwater is discharged to waters of the U.S. infrequently (once annually or less), assign four points. If the discharge is more frequent, assign eight points. If all tailwater from this field is captured and reused on the farm, or if irrigation is not used, assign zero points.

5. Hydrologic Soil Group (Factor 2, Worksheet B)

   This risk factor is based on the Hydrologic Soil Group assigned to the predominant soil in the field. Refer to the soil survey, Web Soil Survey Hydrologic Soil Group report (instructions for obtaining the Web Soil Survey is provided below):. This category considers the effect of runoff from rainfall that may carry suspended or dissolved P into water bodies. Suspended P is usually associated with organic material that floats, such as manure. Soils with higher runoff will shed a higher portion of rainfall, and are more likely to

shed P as well. If the runoff is held on site, or is insignificant, assign zero points.

Instructions for obtaining the Hydrologic Soil group on Web Soil Survey:

a. Go to the Web Soil Survey Website at http://websoilsurvey.nrcs.usda.gov/app/ and click on "Start WSS".
b. In the opening screen, select "Soil Survey Area" in the Quick Navigation menu. After selecting a survey, select "Set AOI".
c. After the data loads select "Soil Data Explorer" at the top of the map area.
d. Select "Soil Properties and Qualities".
e. Select "Soil Qualities and Features".
f. Select "Hydrologic Soil Group".
g. At a minimum, select "Table", then "View Rating".
h. At the top of the screen, select "Printable Version" to print a table of values for the soil survey area.

6. Subsurface Drainage (Factor 1, Worksheet C)

Current studies suggest that P dissolved in subsurface water is unlikely to move further than 500 feet from the source. For the purpose of the P Index, for dissolved P from a field to be released to surface water, there must be collection of subsurface drainage within 500 feet of the field and subsequent discharge of that drainage to surface water. Collection of drainage may occur by seepage into a drainage ditch; tile drains; or groundwater extraction from a depth of less than 50 feet.

In Part 1 of Worksheet C, assign eight points if any of the conditions listed below apply to field that receives manure or process water. If not, assign zero points. When evaluating whether or not there is a discharge to waters of the U.S., apply the "tributary rule[1]."

a. Seepage of groundwater occurs within 500 feet of the field and the seepage is discharged to waters of the U.S.

b. Tile drains are located within 500 feet of the field and the drainage is discharged to waters of the U.S.

[1] Under the "tributary rule," a discharge to a water course that is tributary to a water of the U.S. is considered a discharge to that water of the U.S.

c. A well located within 500 feet of the field is perforated at a depth of 50 feet or less regardless of the total depth of the well, and water from the well is discharged directly to waters of the U.S. (i.e., it is not first used on site for domestic, industrial, or agricultural purpose)

7. Discharge Rating (Factor 12, Worksheet A)

This factor is used to identify situations where there is a high potential for the transport of P to waters of the U.S. If the drainage system for a field that receives manure or process water has little or no filtering and no impediment to flow to a water of the U.S., assign a factor of 1.5. Examples of conduits with this property are a pipeline, free flowing ditch, or direct sheet flow from the field into the tributary.

If the outlet for the field has no access to an efficient drainage path then use a discharge rating of 1.

C. Source Factors

1. Soil Test P (Factor 5, Worksheet A)

This factor is based on the concentration of available P in the top 12 inches of the soil profile. In most cases the Olsen test will be used in California. When soil pH is 6 or less, the Bray method should be used. Points are assigned in proportion to the Soil Test P (STP). As STP goes higher than the threshold the points increase according the formula shown on the P Index Worksheet. For the Olsen method a threshold of 20 ppm is used. One point is assigned for each 10 ppm the soil test P exceeds 20 ppm. For the Bray method the threshold is 40 ppm in 12 inches, so one point is assigned per 10 ppm above that level.

2. Commercial P fertilizer application rate

One point is assigned per 50 pounds/acre of P_2O_5 applied.

3. Commercial P fertilizer application method (Factor 7, Worksheet A)

Risk is assigned in this category based on how P fertilizer is incorporated into the soil. If the fertilizer is banded, injected, applied as a liquid, or broadcast and then incorporated greater than 2 inches before irrigation or onset of the rainy season then assign zero points. If surface applied fertilizer is incorporated less than 2 inches prior to irrigation or onset of the rainy season assign two points. Broadcast fertilizer not incorporated prior to the rainy season or irrigation should be assigned 8 points.

4. Organic P source application rate (Factor 8, Worksheet A)

   Risk is assigned in this category based on the approach used to determine the amount of liquid manure or scraped solids or other sources of organic P (solids from storage ponds, separators, settling basins, digesters, etc.) to be applied. Dischargers using laboratory sampling, actual yield data, soil testing, tissue testing, recordkeeping, and consideration of all nutrient sources to determine the rate of manure application have a low risk. As less test data is used to establish application rates, higher risk categories apply. *Records need to be gathered and maintained for each field showing the data used, the recommended rate, and the amounts and dates of application.*

5. Organic P source application method for solids (Factor 9, Worksheet A)

   The method of solid manure application affects the risk of P loss by irrigation, rainfall runoff, or soil erosion. If solids are injected or incorporated to a depth of 3 inches or more before runoff from irrigation or rainfall is likely to occur, then risk of loss is reduced. To be low risk, the Discharger must incorporate solids prior to the beginning of the rainy season or prior to irrigation. Lowest risk occurs when solids are also applied using a calibrated system. Solid manure includes scrapings from corrals and feed lanes, material removed from separators and digesters, solids from ponds, fresh or stacked manure from freestalls, etc.

6. Organic P source application method for liquids (Factor 10, Worksheet A)

   Risk in this category is assigned based on the amount of organic solids applied with liquids from holding ponds. If organic solids are applied consistently and at low rates, then the risk is low. If organic solids are applied infrequently and at high rates, then the risk is high. A separation system effective enough that the pond does not require an agitator pump or other means to remove solids is considered to reduce risk. Medium risk would be associated with a separation system that requires use of an agitator pump or other methods to remove solids from the pond. Organic solids applied consistently while using an agitator pump without a settling system results in a high risk. Very high risk occurs when organic solids are applied with irrigation water and an agitator pump while cleaning the pond at a yearly or less frequent interval, usually when an effective solids separation system is not in use. Organic solids removed from the pond should be applied at agronomic rates.

ATTACHMENT D –STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the conditions of this General Permit. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 CFR § 122.41(a))

2. The Discharger shall comply with effluent standards or prohibitions established under section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this General Permit has not yet been modified to incorporate the requirement. (40 CFR § 122.41(a)(1))

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this General Permit. (40 CFR § 122.41(c))

C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this General Permit that has a reasonable likelihood of adversely affecting human health or the environment. (40 CFR § 122.41(d))

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this General Permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this General Permit. (40 CFR § 122.41(e))

E. Property Rights

1. This General Permit does not convey any property rights of any sort or any exclusive privileges. (40 CFR § 122.41(g))

2. The issuance of this General Permit does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 CFR § 122.5(c))

F. Inspection and Entry

The Discharger shall allow the Regional Water Board, State Water Board, United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (40 CFR § 122.41(i); Water Code, § 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this General Permit (40 CFR § 122.41(i)(1));

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this General Permit (40 CFR § 122.41(i)(2));

3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this General Permit (40 CFR § 122.41(i)(3)); and

4. Sample or monitor, at reasonable times, for the purposes of assuring compliance with this General Order or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (40 CFR § 122.41(i)(4))

G. Bypass

1. **Definitions**

   a. “Bypass” means the intentional diversion of waste streams from any portion of a treatment facility. (40 CFR § 122.41(m)(1)(i))

   b. “Severe property damage” means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 CFR § 122.41(m)(1)(ii))

2. **Bypass not exceeding limitations**. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance below. (40 CFR § 122.41(m)(2))

3. **Prohibition of bypass**. Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless (40 CFR § 122.41(m)(4)(i)):

   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 CFR § 122.41(m)(4)(i)(A));
   b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 CFR § 122.41(m)(4)(i)(B)); and
   c. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 CFR § 122.41(m)(4)(i)(C))

4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance above. (40 CFR § 122.41(m)(4)(ii))

5. **Notice**

   a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 CFR § 122.41(m)(3)(i))
   b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 CFR § 122.41(m)(3)(ii))

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed

treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 CFR § 122.41(n)(1))

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of Standard Provisions - Permit Compliance below, are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 CFR § 122.41(n)(2)).

2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 CFR § 122.41(n)(3)):

   a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 CFR § 122.41(n)(3)(i));
   b. The permitted facility was, at the time, being properly operated (40 CFR § 122.41(n)(3)(ii));
   c. The Discharger submitted notice within 24 hours of identifying the upset as required in Standard Provisions – Reporting section V.E.2.b below (40 CFR § 122.41(n)(3)(iii)); and
   d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance by subsection I.C, above. (40 CFR § 122.41(n)(3)(iv))

3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 CFR § 122.41(n)(4))

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This General Permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any condition in this General Permit. (40 CFR § 122.41(f))

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by the General Permit after the expiration date of the General Permit, the Discharger shall apply for and obtain a new permit. (40 CFR § 122.41(b))

C. Transfers

This General Permit is not transferable to any person except after notice to the Regional Water Board. The Regional Water Board may require modification or revocation and reissuance of the General Permit to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 CFR § 122.41(l)(3); § 122.61)

III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 CFR § 122.41(j)(1))

B. Monitoring results shall be conducted according to test procedures under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503 unless other test procedures have been specified in this General Permit. (40 CFR § 122.41(j)(4); § 122.44(i)(1)(iv))

IV. STANDARD PROVISIONS – RECORDS

A. The Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this General Permit, and records of all data used to complete the application for this General Permit, for a period of at least five (5) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time. (40 CFR § 122.41(j)(2))

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 CFR § 122.41(j)(3)(i));
2. The individual(s) who performed the sampling or measurements (40 CFR § 122.41(j)(3)(ii));
3. The date(s) analyses were performed (40 CFR § 122.41(j)(3)(iii));
4. The individual(s) who performed the analyses (40 CFR § 122.41(j)(3)(iv));
5. The analytical techniques or methods used (40 CFR § 122.41(j)(3)(v)); and
6. The results of such analyses (40 CFR § 122.41(j)(3)(vi)).

C. Claims of confidentiality for the following information will be denied (40 CFR § 122.7(b)):

1. The name and address of any permit applicant or Discharger (40 CFR § 122.7(b)(1)); and

2. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 122.7(b)(2))

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, State Water Board, or USEPA within a reasonable time, any information which the Regional Water Board, State Water Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this General Permit or to determine compliance with this General Permit. Upon request, the Discharger shall also furnish to the Regional Water Board, State Water Board, or USEPA copies of records required to be kept by this General Permit. (40 CFR § 122.41(h); Water Code, § 13267)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting sections V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 C.F.R. § 122.41(k))

2. Applications shall be signed as follows:

   a. For a corporation: All permit applications shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. (40 CFR § 122.22(a)(1))

b. For a partnership or sole proprietorship: All permit applications shall be signed by a general partner or the proprietor, respectively. (40 CFR § 122.22(a)(2))

c. For a municipality, State, federal, or other public agency: All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA). (40 C.F.R. § 122.22(a)(3))

3. All reports required by this General Permit and other information requested by the Regional Water Board, State Water Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 CFR § 122.22(b)(1));

   b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position) (40 CFR § 122.22(b)(2)); and

   c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 CFR § 122.22(b)(3))

4. If an authorization under Standard Provisions – Reporting section V.B.3, above, is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting section V.B.3, above, shall be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 CFR § 122.22(c))

5. Any person signing a document under Standard Provisions – Reporting section V.B.2 or section V.B.3 shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." (40 CFR § 122.22(d))

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this General Permit. (40 CFR § 122.22(l)(4))

2. Monitoring results shall be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 CFR § 122.41(l)(4)(i))

3. If the Discharger monitors any pollutant more frequently than required by this General Permit using test procedures approved under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503, or as specified in this General Permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board. (40 CFR § 122.41(l)(4)(ii))

4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this General Permit. (40 CFR § 122.41(l)(4)(iii))

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this General Permit, shall be submitted no later than 14 days following each schedule date. (40 CFR § 122.41(l)(5))

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written

submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 CFR § 122.41(l)(6)(i))

2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 CFR § 122.41(l)(6)(ii)):

   a. Any unanticipated bypass that exceeds any effluent limitation in this General Permit. (40 CFR § 122.41(l)(6)(ii)(A))

   b. Any upset that exceeds any effluent limitation in this General Permit. (40 CFR § 122.41(l)(6)(ii)(B))

3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 CFR § 122.41(l)(6)(iii))

F. Planned Changes

The Discharger shall give notice to the Regional Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 CFR § 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 CFR § 122.41(l)(1)(i)); or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this General Permit. (40 CFR § 122.41(l)(1)(ii))

3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 CFR § 122.41(l)(1)(iii))

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Regional Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with General Permit requirements. (40 CFR § 122.41(l)(2))

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (40 CFR § 122.41(l)(7))

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information. (40 CFR § 122.41(l)(8))

VI. STANDARD PROVISIONS – ENFORCEMENT

A. The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

TABLE OF CONTENTS

I. General Monitoring Provisions E-3
II. Monitoring Locations E-3
III. Influent Monitoring Requirements – Not Applicable E-4
IV. Effluent Monitoring Requirements – Applicable to All CAFOS E-5
A. Monitoring Locations EFF-001 and EFF-002 ..... E-5
V. Whole Effluent Toxicity Testing Requirements – Not Applicable E-6
VI. Land Discharge Monitoring Requirements – Not Applicable E-6
VII. Reclamation Monitoring Requirements – Not Applicable E-6
VIII. Receiving Water Monitoring Requirements – Surface and Groundwater E-6
A. Surface Water Monitoring E-6
B. Groundwater Monitoring (when required) E-6
IX. Other Monitoring Requirements E-8
A. Production Area Visual Inspections – Applicable To All CAFOs E-8
B. Land Application Visual Inspections – Applicable to all CAFOs that Apply Manure, Litter, Bedding, or Process Water to Land E-8
C. Manure, Litter, Bedding, and Process water Monitoring – Applicable to CAFOs that Apply Manure, Litter, Bedding, or Process Water to Land Under the CAFO's Ownership or Operational Control or that Transfer Manure, Litter, Bedding, or Process Water to Other Persons E-9
D. Soil Monitoring – Applicable to CAFOs that Apply Manure, Litter, Bedding, or Process Water to Land Under the CAFO's Ownership or Operational Control E-10
X. RecordKeeping Requirements E-11
XI. Reporting Requirements E-13
A. General Monitoring and Reporting Requirements E-13
B. Self Monitoring Reports (SMRs) E-13
C. Other Reports E-16

LIST OF TABLES

Table E-1. Monitoring Station Locations.....E-3
Table E-2. Effluent Monitoring – Monitoring Locations EFF-001 and EFF-002 .....E-5
Table E-3. Watercourse Monitoring Requirements – Monitoring Location SWR-001, SWR-002, etc. E-6
Table E-4. Groundwater Monitoring Requirements – Monitoring Location Well-001, Well-002, etc.....E-7
Table E-5. Groundwater Monitoring Requirements – Monitoring Location RGW-001, RGW-002, etc.....E-7
Table E-6. Production Area Visual Inspections E-8
Table E-7. Land Application Area Visual Inspections.....E-8
Table E-8. Land Application Recordkeeping Requirements.....E-9
Table E-9. Manure, Litter, Bedding, and Process Water Monitoring – Monitoring Location MAN-001, MAN-001A, etc.....E-10
Table E-10. Soil Monitoring – Monitoring Location SOL-001.....E-11

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

Title 40 of the Code of Federal Regulations section 122.48 (section 122.48) requires that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

A. Process water Monitoring Provision. Composite samples may be taken by a proportional sampling device approved by the Executive Officer or by grab samples composited in proportion to flow. In compositing grab samples, the sampling interval shall not exceed one hour.

B. If the Discharger monitors any pollutant more frequently than required by this General Permit, using test procedures approved by section Part 136 or as specified in this General Permit, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the annual discharger monitoring reports.

C. Representative sampling shall be conducted in a manner consistent with the Technical Standards for Nutrient Management (Attachment C).

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this General Permit:

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
001	EFF-001	Location where representative samples of discharges from the production area(s), after exiting the production area and before contact with the receiving water and/or dilution by any other water or waste, can be collected. If more than one production area discharge point is authorized by the General Permit, monitoring locations shall be named EFF-001A, EFF-001B, etc.

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
---	EFF-002	Location where representative discharges from the land application area(s), after exiting the land application area and before contact with the receiving water and/or dilution by any other water or waste, can be collected. If more than one land application area discharge point is authorized by the General Permit, monitoring locations shall be named EFF-002A, EFF-002B, etc. Note: These requirements apply to discharges from land application areas that are not exempt agricultural storm water discharges, and are therefore unauthorized discharges.
002[1]	RGW-001	Groundwater within the influence of the land application area monitored at groundwater monitoring wells, if any, installed to implement the groundwater monitoring program required by the Regional Water Board. If more than one groundwater monitoring well is installed, monitoring locations shall be named RGW-001, RGW-002, etc.
Manure, Process Water, Litter, Bedding	MAN-001	Location where representative samples of manure, process water, and/or litter, bedding to be land applied can be collected. If more than one land application area discharge point is authorized by the General Permit, monitoring locations shall be named MAN-001A, MAN-001B, etc.
Soil	SOL-001	Location where representative samples of soil from the land application area(s) can be collected.
Surface Runoff	SWR-001	Watercourses that flow through the dairy property at the point where the watercourse leaves the property. If more than one watercourse is used for monitoring, locations shall be named SWR-001, SWR-002, etc.
---	Well-001	Groundwater from the onsite domestic well and/or agricultural supply well, collected from the access nearest the well head. If more than one well is used for monitoring, locations shall be named Well-001, Well-002, etc.

III. INFLUENT MONITORING REQUIREMENTS – NOT APPLICABLE

[1] Applies to only to Dischargers required to prepare a ground water monitoring program and conduct groundwater monitoring as described in section VIII. A. of the MRP.

IV. EFFLUENT MONITORING REQUIREMENTS – APPLICABLE TO ALL CAFOS

A. Monitoring Locations EFF-001 and EFF-002

1. The Discharger shall monitor production area and land application area discharges at EFF-001 and EFF-002 (including EFF-001A, EFF-001B, etc., and EFF-002A, EFF-002B, etc., as applicable) as follows.

Table E-2. Effluent Monitoring – Monitoring Locations EFF-001 and EFF-002[2]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Volume	Gallons or Acre-inches	Estimate	Once per Discharge	---
pH	standard units	[2]	Once per Discharge	Field Measurement
Total Nitrogen	mg/L		Once per Discharge	40 CFR 136
Nitrate as N	mg/L		Once per Discharge	40 CFR 136
Total Ammonia as N	mg/L	[2]	Once per Discharge	40 CFR 136
Total Kjeldahl Nitrogen	mg/L	[2]	Once per Discharge	40 CFR 136
Total Phosphorus as P	mg/L	[2]	Once per Discharge	40 CFR 136
Total Dissolved Solids	mg/L	[2]	Once per Discharge	40 CFR 136
Biochemical Oxygen Demand, 5-Day @ 20ºC (BOD_5)	mg/L	[2]	Once per Discharge	40 CFR 136
Total Suspended Solids (TSS)	mg/L	[2]	Once per Discharge	40 CFR 136
Fecal Coliform	MPN/100 mL	[2]	Once per Discharge	40 CFR 136

2. The Discharger shall also maintain a record of the following information for all discharges at EFF-001 and EFF-002:

a. Date and time of discharge
b. Approximate duration of discharge

[2] Discharges at EFF-002 that are in compliance with both the CAFO's NMP and the recordkeeping requirements of section X of the MRP are exempt agricultural storm water discharges, and are exempt from the monitoring requirements of Table E-2. Discharges at EFF-002 that are not in compliance with both the NMP and recordkeeping requirements are unauthorized discharges, and monitoring according to Table E-2 shall be conducted.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS – NOT APPLICABLE

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

VII. RECLAMATION MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE AND GROUNDWATER

A. Surface Water Monitoring

1. Monitoring Location SWR-001, SWR-002, etc.

a. Beginning October 1, 2012, the Discharger shall conduct water course monitoring at SWR-001, SWR-002, etc., during or directly following each of 3 storm events exceeding 1 inch rain and occurring a minimum of one month apart in accordance with the specifications below:

Table E-3. Watercourse Monitoring Requirements – Monitoring Location SWR-001, SWR-002, etc.

Parameter	Units	Sample Type	Minimum Sampling Frequency[3]	Required Analytical Test Method
Total Suspended Solids	mg/L	Grab	3 times per Year	40 CFR 136
Ammonia -Nitrogen		Grab	3 times per Year	40 CFR 136
Total Nitrogen	mg/L	Grab	3 times per Year	40 CFR 136
Total Phosphorus	MPN/100 ml	Grab	3 times per Year	40 CFR 136
Specific Conductance	micromhos	Grab	3 times per Year	Meter
pH	Standard Units	Grab	3 times per Year	Meter

B. Groundwater Monitoring (when required)

1. Monitoring Location Well - 001

a. The Discharger shall conduct groundwater monitoring at Well-001, Well-002, etc. in accordance with the specifications below:

Table E-4. Groundwater Monitoring Requirements – Monitoring Location Well-001, Well-002, etc.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total Dissolved Solids	mg/L	Grab	Annually	40 CFR 136
Nitrate-Nitrogen	mg/L	Grab	Annually	40 CFR 136
Total Coliform	MPN/100 ml	Grab	Annually	40 CFR 136
Depth to Groundwater	feet	Observation	Semi-Annually[3]	Measurement

2. Monitoring Location RGW - 001

a. The Discharger shall determine the need for conducting groundwater monitoring through an evaluation of the potential for nitrate leaching from land application fields to groundwater. The Discharger shall utilize the University of California Center for Water Resources Nitrate Groundwater Pollution Hazard Index, available at http://ucanr.org/sites/wrc/.

A hazard index result of greater than twenty (20) is the trigger to develop and implement a groundwater monitoring program. Alternately, the Discharger can evaluate practices that are criteria of the hazard index that can be altered to reduce the hazard ranking below 20. The groundwater monitoring program requires the installation of monitoring wells at the facility. Dischargers that exceed the Nitrate Groundwater Pollution Hazard Index trigger of twenty (20) shall monitor all monitoring locations RGW-001, RGW-002, etc., as follows.

Table E-5. Groundwater Monitoring Requirements – Monitoring Location RGW-001, RGW-002, etc.

Parameter	Units	Sample Type	Minimum Sampling Frequency[3]	Required Analytical Test Method
Total Dissolved Solids	mg/L	Grab	Semi-Annually	40 CFR 136
Nitrate-Nitrogen	mg/L	Grab	Semi-Annually	40 CFR 136
Total Coliform	MPN/100 ml	Grab	Semi-Annually	40 CFR 136
Depth to Groundwater	feet	Observation	Semi-Annually	Measurement

b. Dischargers shall conduct the Nitrate Groundwater Pollution Hazard Index within 1 year of the effective date of the General Permit, and shall submit

[3] Semi-annual depth to groundwater measurements shall be conducted once in April and once in October each year.

the Groundwater Monitoring Plan, if applicable, within 18 months of the effective date of the General Permit. Monitoring shall be implemented at the frequency provided in Table E-4.

IX. OTHER MONITORING REQUIREMENTS

A. Production Area Visual Inspections – Applicable To All CAFOs

1. The Discharger shall conduct visual inspections of the production area(s) as follows.

Table E-6. Production Area Visual Inspections

Inspection Type	Minimum Monitoring Frequency
All water lines, including drinking water and cooling water lines	Once per Day
All storm water diversion devices, runoff diversion structures, and devices channeling contaminated storm water to process water storage and containment structures	Once per Week
Process water impoundments, ponds, noting the level of all as indicated by the depth marker installed in accordance with Attachment B of this General Permit.	Once per Week
Manure, litter, bedding, and feed storage areas, noting any discharges from the property that is under control of the Discharger	Once per Day during significant storm events
All storm water containment structures	After each significant storm event

2. The results of all inspections required by this section shall be recorded in accordance with section X of the MRP. Records shall be maintained on site at the permitted facility for a period of 5 years and shall be available upon request by the Regional Water Board.

B. Land Application Visual Inspections – Applicable to all CAFOs that Apply Manure, Litter, Bedding, or Process Water to Land

1. The Discharger shall conduct visual inspections of the land application area(s) as follows.

Table E-7. Land Application Area Visual Inspections

Inspection Type	Minimum Monitoring Frequency
Land application equipment, noting leaks, any corrective actions taken, and date of inspection.	For process water, once per event. For solid manure, at the Discharger's discretion but not

	less than once per year.
Land application areas, noting any discharges from the property that is under control of the Discharger.	Once per day during significant storm events

2. The results of all visual inspections required above, and the additional recordkeeping requirements in Table E-7below, shall be recorded in accordance with section X of the MRP. Records shall be maintained on-site at the permitted facility for a period of 5 years and shall be available upon request by the Regional Water Board.

Table E-8. Land Application Recordkeeping Requirements

Activity	Frequency
Expected crop yields	Once per Year
Date of application	Once per Event/Field
Weather conditions at time of application and for 24 hours prior to and following application	Once per Event/Field
Test methods used to sample and analyze manure, litter, bedding, process water and soil and results	Once per Year
Explanation of basis for determining manure application rate	Once per Year
Calculations showing total nitrogen and phosphorus to be applied to each field	Once per Year
Calculations showing total amount of nitrogen and phosphorus actually applied to each field	Once per Year
Method used to apply manure, litter, bedding or process water	Once per Event/Field

3. Discharges from the land application area(s) shall be monitored according to IV.A of the MRP.

C. Manure, Litter, Bedding, and Process water Monitoring – Applicable to CAFOs that Apply Manure, Litter, Bedding, or Process Water to Land Under the CAFO's Ownership or Operational Control or that Transfer Manure, Litter, Bedding, or Process Water to Other Persons

1. The Discharger shall conduct sampling and analysis as follows. This monitoring is for nutrient management and is expected to be part of the Nutrient Management Plan for Dischargers that land apply manure, litter, bedding, or process water. All Dischargers are expected to provide the results of the required monitoring to recipients of any manure, litter, bedding, or process water transferred to other persons, in accordance with Attachment B of the General Permit. Process water and manure shall be analyzed separately to determine the nutrient and salt content.

Table E-9. Manure, Litter, Bedding, and Process Water Monitoring – Monitoring Location MAN-001, MAN-001A, etc.

Parameter	Sample Type	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Ammonium as N	Liquid	mg/L	Consistent with Technical Standards for Nutrient Management (Attachment C)	Once per Year	Consistent with Technical Standards for Nutrient Management (Attachment C)
	Solid	mg/kg			
Nitrate as N	Liquid	mg/L			
	Solid	mg/kg			
Total Nitrogen	Liquid	mg/L			
	Solid	mg/kg			
Total Kjeldahl Nitrogen	Liquid	mg/L			
	Solid	mg/kg			
Phosphorus, Total	Liquid	mg/L			
	Solid	mg/kg			
General Minerals[4]	Liquid	mg/L			
	Solid	mg/kg			
pH	All	pH units			
Percent Moisture	Solid	%			

2. Manure transfer records shall be maintained in accordance with the recordkeeping requirements contained in section X of the MRP.

D. Soil Monitoring – Applicable to CAFOs that Apply Manure, Litter, Bedding, or Process Water to Land Under the CAFO's Ownership or Operational Control

1. Dischargers that land apply manure, litter, bedding, or process water shall conduct soil sampling and analysis for each field as follows.

[4] General minerals includes bicarbonate, boron, calcium, carbonate, chloride, magnesium, potassium, sodium, and sulfate, reported individually.

Table E-10. Soil Monitoring – Monitoring Location SOL-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Total Phosphorus	mg/kg	Consistent with Technical Standards for Nutrient Management (Attachment C)	Once per 5 Years	Consistent with Technical Standards for Nutrient Management (Attachment C)
Total Kjeldahl Nitrogen	mg N/ kg			
Nitrate Nitrogen	mg N/kg			

X. RECORDKEEPING REQUIREMENTS

All records summarized below shall be retained on site at the permitted operation for a period of five (5) years from the date they are created and made available to the Regional Water Board or its designee upon request.

Record	Element	Frequency of Record
Permit Application Information[5]	NOI	Once every 5 Years
Site - Specific NMP	NMP, Land Application	Once every 5 years; Updated as necessary
Documentation that the nine minimum elements of the NMP are implemented	NMP	As identified in the NMP
Annual Report	Summary of All Monitoring and Record Keeping	Once per Year
Annual Report Appendices	Receiving Water Monitoring	2 to 3 times per Year
Manure Transfer Tracking Form	Manure Transfer	Once per Event
Production Area Visual Inspection – Water Lines	Production Area	Once per Week

[5] Records of all data used for completing the permit application shall be retained for a period of at least three years from the date of the application.

Record	Element	Frequency of Record
Production Area Visual Inspection – Storm water diversion devices, runoff structures, contaminated storm water channels, impoundments	Production Area	Once per Week
Depth of the manure and process wastewater in liquid impoundments as indicated by the depth marker installed in accordance with this General Permit.	Production Area	Once per Week
Correction of any production area deficiencies; Include explanation if correction does not occur within 30 days of deficiency being identified.	Production Area	As applicable
Mortality Management Practice Records	Production Area	Frequency at the Discharger's discretion
Manure or litter, bedding storage structure design documents; must include the volume for solids accumulation, design treatment volume, total design volume, and approximate number of days of storage capacity	Production Area	Once every 5 Years; Updated as necessary
Record of the date, time, and estimated volume of any overflow	Production Area	Once per Event
Expected Crop Yields	Land Application Area	Once per Year
Date manure, litter, bedding or process water is land applied, for each field	Land Application Area	Once per Event/Field
Weather conditions at time of application and 24 hours prior and following application	Land Application Area	Once per Event/Field
Test methods for sampling and analyzing manure, litter, bedding, process water, and	Land Application Area	Once per Year

Record	Element	Frequency of Record
soil, and results of analysis		
Method of application	Land Application Area	Once per Event/Field
Date of manure application equipment inspection	Land Application Area	Once per Event/Field for process water; At Discharger's discretion, but at a minimum of once per year for solid manure
Explanation of the basis for manure application rate	Land Application Area	Once per Year
Calculations for total nitrogen and total phosphorus to be applied to each field, that include all sources	Land Application Area	Once per Year
Calculations for total amount of nitrogen and phosphorus actually applied to each field	Land Application Area	Once per Year

XI. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.

2. Schedules of Compliance. If applicable, the Discharger shall submit all reports and documentation required by compliance schedules that are established by this General Permit. Such reports and documentation shall be submitted to the Regional Water Board on or before each established compliance date. If noncompliance is reported, the Discharger shall describe the reasons for noncompliance and a specific date when compliance will be achieved. The Discharger shall notify the Regional Water Board when it returns to compliance.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit Self-Monitoring Reports (SMRs) using the State Water Board's California Integrated Water Quality

System (CIWQS) Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). Until such notification is given, the Discharger shall submit hard copy SMRs. The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.

2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Discharger shall submit SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this General Permit. If the Discharger monitors any pollutant more frequently than required by this General Permit, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

3. SMRs shall be submitted annually by November 15th.

4. The Discharger shall submit SMRs in accordance with the following requirements:

   a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.

   b. The Discharger shall attach a cover letter to the SMR. The cover letter shall contain the information listed.

      i. Facility name and address;

      ii. WDID number;

      iii. Applicable period of monitoring and reporting;

      iv. Violations of the WDRs (identified violations must include a description of the requirement that was violated and a description of the violation);

      v. Corrective actions taken or planned; and

      vi. The proposed time schedule for corrective actions.

5. **Annual Reports**

   a. By November 15 of each year, the Discharger shall submit an Annual Report for the previous 12 month period.

   b. **Cover Letter:** Each Annual Report shall have a cover letter that provides the following information:

      i. Facility name and address;

      ii. WDID number;

      iii. Applicable period of monitoring and reporting;

      iv. Violations of the WDRs (identified violations must include a description of the requirement that was violated and a description of the violation);

      v. Corrective actions taken or planned; and

      vi. The proposed time schedule for corrective actions.

   c. **Annual Report Content:** Each Annual Report shall provide the following information applicable to site specific conditions:

      i. Effluent monitoring results from Monitoring Locations EFF-001 and EFF-002, etc.

      ii. Watercourse monitoring results from Monitoring Locations SWR-001, SWR-002, etc. Groundwater monitoring results from Monitoring Location Well-001, Well-002, RGW-001, RGW-002, etc.

      iii. Production area visual inspection observations

      iv. Land application area visual inspection observations

      v. Land application records and calculations

      vi. Manure, litter, bedding, and process water monitoring results from Monitoring Locations MAN-001, MAN-001A, etc.

      vii. Soil monitoring results from Monitoring Location SOL-001, etc.

   d. **Report Submission**: SMRs and Annual Reports shall be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the address listed below:

      CAFO Program Staff
      Regional Water Quality Control Board
      North Coast Region
      5550 Skylane Blvd., Suite A
      Santa Rosa, CA 95403

C. Other Reports

1. Unauthorized Discharges

The Discharger shall notify the Office of Emergency Services (800) 852-7550 and the Regional Water Board (760) 346-7491, by telephone within 24 hours of any unauthorized discharge of wastes. This notification shall be followed by a written report that shall be submitted to the Regional Water Board within two weeks of the discharge. The written report shall contain:

a. The approximate date and time of the discharge;

b. The volume and duration of the discharge;

c. The specific type and source of the waste discharges (e.g., overflow from holding pond, rainfall runoff from the manure storage areas, etc.); and

d. The location of the discharge (i.e., the receiving waterbody, and any landmarks that describe where the discharge entered the waterbody.) and any impacts observed.

ATTACHMENT F – FACT SHEET

TABLE OF CONTENTS

I. Permit Information F-19
II. Industry Description F-20
A. Background F-20
B. Definition of CAFOs F-20
C. Description of Discharge F-21
D. Description of Discharge Location F-23
E. Eligible Discharges F-23
F. Ineligible Discharges F-23
III. Applicable Plans, Policies, and Regulations F-23
A. Legal Authorities F-23
B. California Environmental Quality Act (CEQA) F-24
C. State and Federal Regulations, Policies, and Plans F-24
D. Impaired Water Bodies on CWA 303(d) List F-27
E. Other Plans, Policies, and Regulations F-27
IV. Rationale For Effluent Limitations and Discharge Specifications F-28
A. Discharge Prohibitions F-28
B. Technology-Based Effluent Limitations F-31
C. Water Quality-Based Effluent Limitations (WQBELs) F-35
1. Scope and Authority F-35
2. Applicable Beneficial Uses and Water Quality Criteria and Objectives F-36
3. Determining the Need for WQBELs F-36
D. Final Effluent Limitations F-38
1. Satisfaction of Anti-backsliding Requirements F-38
2. Satisfaction of Antidegradation Policy F-38
3. Stringency of Requirements for Individual Pollutants F-38
V. Rationale for Receiving Water Limitations F-39
A. Surface Water F-39
B. Groundwater F-39
VI. Rationale for Monitoring and Reporting Requirements F-39
A. Influent Monitoring – Not Applicable F-39
B. Effluent Monitoring F-39
C. Watercourse Monitoring F-40
D. Groundwater Monitoring F-40
E. Other Monitoring Requirements F-41

1. Production Area Visual Inspections F-41
2. Land Application Area Visual Inspections F-41
3. Manure, Litter, Bedding, and Process Water Monitoring F-41
4. Soil Monitoring F-42
F. Recordkeeping Requirements F-42
VII. Rationale for Provisions F-43
A. Standard Provisions F-43
B. Regional Water Board Standard Provisions F-44
C. Special Provisions F-45
1. Reopener Provisions F-45
2. Best Management Practices and Pollution Prevention F-46
3. Construction, Operation, and Maintenance Specifications F-50
4. Other Special Provisions F-50
VIII. Public Participation F-51
A. Notification of Interested Parties F-51
B. Written Comments F-52
C. Public Hearing F-52
D. Waste Discharge Requirements Petitions F-52
E. Information and Copying F-53
F. Register of Interested Persons F-53
G. Additional Information F-53

LIST OF TABLES

Table F-1. Regulatory Basis for Recordkeeping Requirements F-42

ATTACHMENT F – FACT SHEET

As described in section II of Order No. R1-2012-0001, General NPDES No. CAG011001 (the "General Permit"), this Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of the General Permit.

This General Permit has been prepared under a standardized format to accommodate a broad range of discharge requirements for dischargers in California. Only those sections or subsections of this General Permit that are specifically identified as "not applicable" have been determined not to apply to Dischargers authorized for coverage under this General Permit. Sections or subsections of this General Permit not specifically identified as "not applicable" are fully applicable to the Dischargers authorized under this General Permit.

I. PERMIT INFORMATION

A. Background. In 1972, the Federal Water Pollution Control Act [referred to as the Clean Water Act (CWA)] was amended to provide that the discharge of pollutants to waters of the United States from any point source is effectively prohibited unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) Permit. On September 22, 1989, the United States Environmental Protection Agency (USEPA) granted the State of California, through the State Water Resources Control Board (State Water Board) and the Regional Water Quality Control Boards (Regional Water Boards) the authority to issue general NPDES permits pursuant to title 40 of the Code of Federal Regulations Parts 122 and 123. Section 502 of the CWA specifically defines the term point source to include Concentrated Animal Feeding Operations (CAFOs).

Regulations at section 122.28 (Note: all further statutory references are pursuant to title 40 of the Code of Federal Regulations otherwise indicated) provide for issuance of general permits to regulate a category of point sources if the sources involve the same type of waste; require the same type of effluent limitation or operating conditions; require similar monitoring; and are more appropriately regulated under a general order rather than individual orders. The types of wastes and appropriate waste discharge requirements for dairies and related facilities are similar. Given this, the CAFOs in the North Coast Region can be adequately and appropriately regulated by coverage under the terms of a general NPDES permit.

Five dairies located in Sonoma County in the North Coast Region are currently covered under the State Water Board's Industrial Storm Water General Permit, and one dairy is covered under individual Waste Discharge Requirements. The remaining dairies in the North Coast Region are regulated under a conditional waiver, "*A Policy for Waiving Waste Discharge Requirements for Specific Types of Waste Discharge"* (Order No. R1-2007-0098), adopted by the Regional Water

Board December 6, 2007. Order No. R1-2007-0098 establishes a categorical waiver for confined animal wastes where discharges are in compliance with the California Code of Regulations, title 27, division 2, subdivision 1, chapter 7, subchapter 2, article 1. However, the waiver excludes "confined animal waste operations" (i.e., dairies and other CAFOs) requiring NPDES permits under federal CWA regulations.

The General Permit was developed concurrently with General Waste Discharge Requirements (WDRs) for Dairies and a Conditional Waiver of General Waste Discharge Requirements for Dairies as a comprehensive Dairy Program for the North Coast Region.

B. For the purposes of this General Permit, references to the "Discharger" in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

II. INDUSTRY DESCRIPTION

A. Background

The USEPA first issued Effluent Limitations Guidelines (ELGs) for the feedlot industry in 1974, and promulgated NPDES CAFO regulations in 1976. On February 12, 2003, USEPA published revisions to its CWA regulations for CAFOs (the 2003 CAFO Rule), which required owners or operators of all CAFOs to seek NPDES permit coverage unless they demonstrated no potential to discharge. A number of CAFO industry organizations petitioned for judicial review of the 2003 Rule. The U.S. Court of Appeals for the Second Circuit ruled on the petitions in February 2005 [*Waterkeeper Alliance, et al*. v. *EPA*, 399 F.3d 486 (2d Cir. 2005)], and upheld most provisions of the 2003 Rule, but vacated and remanded others. USEPA revised NPDES permit regulations and ELGs for CAFOs in a final rule published November 20, 2008.

On March 15, 2011, the U.S. Court of Appeals for the Fifth Circuit issued its decision in *National Pork Producers Council v. EPA* regarding litigation over USEPA's 2008 CAFO Rule. In its decision, the court affirmed that CAFOs that actually discharge into waters of the U.S. are required to apply for NPDES permits. However, the court vacated USEPA's requirement that CAFOs that propose to discharge apply for NPDES permits. USEPA plans to revise the NPDES CAFO regulations consistent with the Fifth Circuit's decision.

B. Definition of CAFOs

Regulations at section 122.23 define an animal feeding operation (AFO) as an operation where animals have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period, and where

crops, vegetation, forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility. An AFO is a CAFO if it meets the regulatory definition of a Large CAFO at section 122.23(b)(4) or a Medium CAFO at section 122.23(b)(6). (See Attachment I for definitions.) An AFO that is determined to be a significant contributor of pollutants may also be designated as a CAFO by the Regional Water Board, or by the USEPA Regional Administrator, in accordance with the procedures and requirements for designating an AFO a CAFO at section 122.23(c).

When considering the designation of an AFO as a CAFO, the Regional Water Board or USEPA Regional Administrator must consider certain factors. These factors include: the size of the AFO and the amount of wastes reaching waters of the U.S.; the location of the AFO relative to surface waters; the means of conveyance (including a manmade ditch, flushing system, or other similar manmade device) of animal manure and/or process water to waters of the U.S.; slope, vegetation, rainfall and other factors that increase the likelihood or frequency of discharges; and other relevant factors. An AFO cannot be designated a CAFO without an on-site inspection by the Regional Water Board. A facility that confines animals other than those specifically indicated by the ELGs may also be designated a CAFO in accordance with the factors contained in section 122.23(c).

AFOs in the North Coast Region should self-identify the type of coverage required for their facilities, i.e., NPDES permit coverage, WDR permit coverage, or a Conditional Waiver from WDR coverage. USEPA has provided guidance that can be used for determining if a CAFO discharges (see *Implementation Guidance on CAFO Regulations – CAFOs That Discharge or Are Proposing to Discharge* (EPA-833-R-10-006, May 28, 2010, found at http://www.epa.gov/npdes/pubs/cafo_implementation_guidance.pdf).

C. Description of Discharge

Dairies, feedlots, and other operations that concentrate animals in a confinement area generate large volumes of materials that can impact both groundwater and surface water if not managed properly. Examples of such materials include manure; water used for washing, cleaning or flushing pens, barns, and manure pits; water used for washing or spray cooling of animals or that otherwise contacts animals; spillage or overflow from animal watering systems; storm water runoff from areas with manure, litter, or bedding, raw materials, products, or byproducts including feed, milk, eggs, or bedding, and storm water runoff from cropland where manure and/or process water was applied without following an NMP.

Open outdoor lots are used primarily in dairy cow, beef cattle, and heifer operations. Dairy operations also use confinement areas such as milking parlors and barns, but provide large outdoor areas for exercise or as the pathway between the barn and the milking parlor. These large open areas are exposed to precipitation, necessitating the ability to collect storm water runoff in retention ponds. Storm water that contacts food or silage must also be collected. Swine, poultry and veal calf operations predominantly maintain animals in confinement housing; manage manure either in dry form or use containment structures such as lagoons, tanks or underground pits for managing liquid manure; and in general, do not generate large volumes of contaminated storm water. Broiler and turkey operations generate dry manure that can be covered under tarps or sheds. Layer operations with a dry manure handing system usually store manure inside the confinement building under the birds' cages.

The production area of a CAFO includes the facilities for animal confinement, manure storage, process water control, raw material storage, and waste containment. Confinement areas include open corrals, covered animal housing feed alleys, milkrooms, medication pens, and connecting pathways. Manure storage areas include lagoons, runoff ponds, storage sheds, pits, piles, and drying or composting areas. Process water control areas include ponds, conveyances, and settling basins. Raw materials storage includes silos, silage areas, and bedding materials pads. Waste containment areas include settling basins and areas where wastes, including animal mortality, are generated, accumulated, treated, or stored. Egg washing or processing facilities, and animal mortality storage, handling, treatment or disposal areas are also part of the production area. The land application area of a CAFO is the land under the control of the CAFO owner or operator to which manure, litter, bedding, or process water from the production area is or may be applied.

Animal manure and process water are typically high in nutrients (such as nitrogen and phosphorus), other salts, bacteria, and organic matter, and may also contain small amounts of metals, pesticides and antibiotics. Studies conducted by the Santa Ana Regional Water Quality Control Board have shown that cow manure produced in that Region contains about 160 pounds of salt per dry ton of manure (110 pounds of salt per ton of manure at 33% moisture). The application of manure or process water to land results in the discharge of salts that have the potential to adversely impact the quality of groundwater and surface water. Pollutants can also be released to surface waters through discharges from production or land application areas. Ammonia is highly toxic to aquatic organisms, and elevated nutrients stimulate harmful algal blooms. Decay of organic matter reduces oxygen content of the water, and elevated pathogen concentrations pose a threat to the beneficial uses of the water. Pollutants can be released to groundwater through application of manure and process water to

cropland; however, the effects of such releases can be minimized by use of an NMP.

D. Description of Discharge Location

The North Coast Region is characterized by distinct temperature zones. Coastal regions are temperate and foggy, while inland areas can experience temperatures greater than 100°F. Precipitation is greater in the North Coast Region than in other areas of the State, ranging from 15 to 125 inches per year. The North Coast Region makes up approximately 12 percent of the area of California but produces about 40 percent of the annual runoff. There are 14 major hydrologic units in this Region.

E. Eligible Discharges

The General Permit is applicable to existing facilities in all animal sectors [1] within the CAFO point source category. To apply for coverage under the General Permit, a Discharger shall submit a completed Notice of Intent (NOI) (Attachment A) and a draft Nutrient Management Plan (NMP) (see Attachment B).

F. Ineligible Discharges

Those Dischargers that have been required by the Executive Officer or the USEPA Regional Administrator to apply for and obtain individual waste discharge requirements or an individual NPDES permit are not eligible for coverage under this General Permit.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in the General Permit are based on the requirements and authorities described in this section.

A. Legal Authorities

This General Permit is issued pursuant to section 402 of the CWA and implementing regulations adopted by the USEPA and pursuant to chapter 5.5, division 7 of the California Water Code [(CWC),commencing with section 13370]. It shall serve as a general NPDES permit for point source discharges from existing CAFOs to surface waters. This General Permit also serves as Waste

[1] New sources are those facilities that are subject to the New Source Performance Standards of the Effluent Limitations and Standards, i.e., horse, sheep, duck, dairy cow and other cattle CAFO facilities that initiated construction after April 14, 2003; swine, poultry and veal CAFO facilities that initiated construction after December 22, 2008.

Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).

B. California Environmental Quality Act (CEQA)

Under California Water Code (CWC) section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100 to 21177. "New sources" are defined by NPDES regulations at section 122.2 as any building, structure, or facility, from which the discharge of pollutants may occur, that was built after the promulgation of applicable ELGs. For any new source, compliance with CEQA must be achieved before coverage under this General Permit can be authorized for the project. New sources that do not qualify for the Existing Facilities categorical exemption will be required to submit an application for an individual NPDES permit and action on that application will require compliance with CEQA.

C. State and Federal Regulations, Policies, and Plans

1. **Water Quality Control Plans.** The Regional Water Board adopted a Water Quality Control Plan for the North Coast Basin (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the Basin Plan. Beneficial uses are designated for all waters of the North Coast Region and are designated for coastal and inland waters, wetlands, and groundwater. Beneficial uses of any water body specifically identified in the Basin Plan generally apply to its tributary streams. In addition, the Basin Plan implements State Water Board Resolution No. 88-63, which established State policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Applicable beneficial uses of surface waters for the North Coast Region are listed below.

   - Municipal and Domestic Supply (MUN)
   - Agricultural Supply (AGR)
   - Industrial Service Supply (IND)
   - Industrial Process Supply (PRO)
   - Groundwater Recharge (GWR)
   - Freshwater Replenishment (FRSH)
   - Navigation (NAV)
   - Hydropower Generation (POW)
   - Water Contact Recreation (REC-1)
   - Non-contact Water Recreation (REC-2)
   - Commercial and Sport Fishing (COMM)

- Aquaculture (AQUA)
- Warm Freshwater Habitat (WARM)
- Cold Freshwater Habitat (COLD)
- Inland Saline Water Habitat (SAL)
- Estuarine Habitat (EST)
- Marine Habitat (MAR)
- Wildlife Habitat (WILD)
- Preservation of Areas of Special Biological Significance (ASBS)
- Rare, Threatened, or Endangered Species (RARE)
- Migration of Aquatic Organisms (MIGR)
- Spawning, Reproduction, and/or Early Development (SPWN)
- Shellfish Harvesting (SHELL)
- Water Quality Enhancement (WQE)
- Flood Peak Attenuation/Flood Water Storage (FLD)
- Wetland Habitat (WET)
- Native American Culture (CUL)
- Subsistence Fishing (FISH)

Requirements of this General Permit implement the Basin Plan.

The State Water Board adopted the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. This plan contains temperature objectives for surface waters. Requirements of this General Permit implement the Thermal Plan for these waters.

The State Water Board's *Water Quality Control Plan for Enclosed Bays and Estuaries—Part 1, Sediment Quality* became effective on August 25, 2009. This plan integrates three lines of evidence (sediment toxicity, benthic community condition, and sediment chemistry) to determine if sediment-dependent biota and human health are protected from exposure to toxic pollutants in sediment. The plan focuses on benthic communities in enclosed bays and estuaries, and supersedes other narrative sediment quality objectives and related implementation provisions in other water quality control plans to the extent that they apply to sediment quality in bays and estuaries.

2. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the State. The CTR was amended

on February 13, 2001. These rules contain water quality criteria for priority pollutants and are applicable to discharges to inland surface waters, estuaries and enclosed bays.

3. **State Implementation Policy.** On March 2, 2000, the State Water Board adopted the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this General Permit implement the SIP.

4. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes (section 131.21, 65 Fed. Reg. 24641 (April 27, 2000)). Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

5. **Antidegradation Policy.** Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of section 131.12 and State Water Board Resolution No. 68-16.

6. **Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.

D. Impaired Water Bodies on CWA 303(d) List

An impaired or threatened waterbody is any waterbody that is listed according to section 303(d) of the CWA as not attaining water quality standards. Standards may be violated due to an individual pollutant, multiple pollutants, thermal pollution, or an unknown cause of impairment.

Applicants shall refer to Chapter 4 of the Water Quality Control Plan for the North Coast Region to determine if TMDLs have been adopted for the receiving water. If TMDLs are applicable, the applicant shall include measures or Best Management Practices in their NMP to comply with the requirements of the TMDL. If a CAFO discharges to an impaired water that has an approved TMDL, the Regional Water Board will inform the Discharger if any additional limits or controls are necessary for the discharge to be consistent with the assumptions of any available waste-load allocation in the TMDL. Any additional limits or controls shall be included in the NMP. If the CAFO discharges to an impaired waterbody without an approved TMDL, the Regional Water Board will inform the Discharger if any additional limits or controls are necessary to meet water quality standards. Any additional limits or controls shall be included in the NMP. Dischargers to an impaired waterbody must prevent any discharge that contains the pollutant(s) for which the waterbody is impaired and document the procedures taken to prevent such a discharge in the NMP, or must document that the pollutant(s) for which the waterbody is impaired is not present at the facility. Dischargers must present documentation with the NOI that the discharge will not contribute to the impairment of the receiving water.

E. Other Plans, Policies, and Regulations

While developing effluent and receiving water limitations, monitoring requirements, and special conditions for the General Permit, the following information sources were used:

1. Federal Register Volume 68, Number 29, pages 7176-7274
2. Federal Register Volume 73, Number 225, pages 70418-70486
3. California National Resource Conservation Service, Conservation Practice Standard Code 590
4. USEPA, 2010. *Implementation Guidance on CAFO Regulations – CAFOs That Discharge or Are Proposing to Discharge*, USEPA, Office of Water, and Office of Wastewater Management, EPA-933-R-10-006. May 28, 2010
5. Central Valley Regional Water Quality Control Board's Waste Discharge Requirements for Existing Milk Cow Dairies (Order No. R5-2007-0035).

6. Colorado River Basin Regional Water Quality Control Board's General Waste Discharge Requirements and General NPDES Permit for Concentrated Animal Feeding Operations Within the Colorado River Basin Region (Order No. R7-2008-0800).
7. American Society of Agricultural Engineers Standard ASAE D384.2, Manure Production and Characteristics, March 2005
8. United States Department of Agriculture, Natural Resources Conservation Service, 2008. Agricultural Waste Management Field Handbook, Chapter 4 – Agricultural Waste Characteristics. March 2008
9. California Dairy Quality Assurance Program. http://www.cdqa.org/

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the U.S. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations: section 122.44(a) requires that permits include applicable technology-based limitations and standards; and section 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

A. Discharge Prohibitions

1. **Discharge Prohibition III.A.** The discharge of manure, process water, or wastes other than those described in section II.B of the General Permit are prohibited, unless the Discharger obtains coverage under another permit that regulates such discharge.

   NPDES regulations at section 122.28 and CWC section 13263(i) authorize the issuance of general NPDES permits and general waste discharge requirements to regulate a category of point sources, which involve the same or substantially similar types of operations; discharge the same type of wastes; require the same type of effluent limitations or operating conditions; require similar monitoring; and are more appropriately regulated under a general permit than individual permits.

   Coverage under this General Permit allows for streamlined coverage for eligible discharges. Before authorization to discharge under the General Permit can be granted, however, the Regional Water Board must be assured that all authorized dischargers have similarities required by the NPDES

regulations and the Water Code. By this prohibition, the Regional Water Board is therefore prohibiting discharges which are not regulated by this General Permit or that are not contemplated by the Regional Water Board.

2. **Discharge Prohibition III.B.** The discharge of wastes not disclosed by the Discharger or not within the reasonable contemplation of the Regional Water Board is prohibited.

   This prohibition is based on the Basin Plan, and on State Water Board Order WQO 2002-0012 regarding the petition of WDRs Order No. 01-072 for the East Bay Municipal Utility District and Bay Area Clean Water Agencies. In State Water Board Order No. WQO 2002-0012, the State Water Board found that this prohibition is acceptable in orders, but should be interpreted to apply only to constituents that are either not disclosed by the Discharger, or are not reasonably anticipated to be present in the discharge.

3. **Discharge Prohibition III.C.** Creation of pollution, contamination, or nuisance as defined by CWC section 13050 is prohibited.

   This prohibition is based on section 13050 of the CWC.

4. **Discharge Prohibition III.D.** Discharge to the Mad, Eel or Russian River, or tributaries thereto, is prohibited during the period of May 15 through September 30 each year. During the period of October 1 through May 14, discharges to these receiving waters shall not exceed one percent of the receiving water flow.

   This prohibition is required by the Basin Plan. The Basin Plan prohibits discharges to the Mad, Eel and Russian Rivers and their tributaries during the period May 15 through September 30 (Chapter 4, North Coastal Basin Discharge Prohibition No. 4) and year-round in all other surface waters of the North Coast Region. The original intent of this prohibition was to prevent the contribution of wastes to the baseline flow of the Russian River during the period of the year when the Russian River and its tributaries experience the heaviest water-contact recreation use.

   The seasonal discharge flow limitations are required by the Basin Plan. The original intent of these flow limitations was to protect the water supply and contact recreation beneficial uses with respect to waste discharges.

5. **Discharge Prohibition III.E.** Discharges of manure, litter, bedding, or process water from the production area that do not comply with the effluent limitations contained in section IV.D. of the General Permit and the applicable

production area recordkeeping requirements of section X of the MRP are prohibited.

This prohibition is based on requirements of the Effluent Limitations Guidelines (ELGs), Part 412 for the point source category applicable to the Dairy Cow and Cattle Other than Veal Calves, and Swine, Poultry, and Veal Calves categories (section 412.31(a) and 412.43(a)). These requirements have been applied to all CAFO categories covered under the General Permit based on Best Professional Judgment (BPJ). The Discharger will be in compliance with this discharge prohibition by complying with the effluent limitations in section IV of the General Permit applicable to the Discharger's animal category and by complying with the appropriate production area recordkeeping requirements in section X of the MRP.

6. **Discharge Prohibition III.F.** Discharges of manure, litter, bedding or process water from the land application area that do not comply with the BMP requirements of Attachment B of the General Permit and applicable land application recordkeeping requirements of section X of the MRP are prohibited.

   This prohibition is based on section 122.23(e) which states that discharges from land application areas at a CAFO are subject to NPDES requirements, except where the discharge is an agricultural storm water discharge as defined in section 1362(14) of the CWA. Where manure, litter, bedding and process water have been applied in accordance with the Discharger's NMP and appropriate documentation as required by section 122.42(e)(ix) is maintained, a precipitation-related discharge from the land application area is an agricultural storm water discharge.

   These requirements are reiterated in the ELG requirements in sections 412.31(b) and 412.43(b), and have been applied to all CAFOs covered under this General Permit. The Discharger shall be in compliance with this prohibition by complying with the BMP requirements for an NMP contained in Attachment B, the additional land application specifications contained section Attachment C of the General Permit, and the applicable land application recordkeeping requirements contained in section X of the MRP.

7. **Discharge Prohibition III. G.** The discharge of wastes via tile drain lines is prohibited.

   This prohibition is established by the General Permit for protection of surface water quality. Tile drain lines bypass the natural flow of water from the surface to the water table, and therefore waters are not naturally filtered by passing through soils. Tile drainage water may contain various agricultural

pollutants, including nutrients and salts. Because the conditions and limitations contained in the General Permit do not address or regulate discharges from tile drain lines, such discharges are therefore prohibited.

8. **Discharge Prohibition III. H.** The discharge of irrigation return flow from the first irrigation after land application of manure and prior to planting is prohibited.

   This prohibition is established by the General Permit for protection of surface water. During the period after land application but prior to planting, fields are susceptible to runoff and erosion; therefore any excess irrigation water that is returned to an irrigation ditch is likely to contain high concentrations of pollutants.

9. **Discharge Prohibition III. I.** The discharge of waste from existing CAFOs to surface waters which causes or contributes to an exceedance of any applicable water quality objective in the Basin Plans or any applicable state or federal water quality criteria, or a violation of any applicable state or federal policies or regulations is prohibited.

   This prohibition is established by the General Permit for protection of surface water in accordance with state and federal criteria not otherwise specified in the permit among other criterion the California Toxics Rule.

10. **Discharge Prohibition III.J.** Discharge to the Klamath River and its tributaries, including but not limited to the Trinity, Salmon, Scott, and Shasta rivers and their tributaries, is prohibited.

    This prohibition is required by the Basin Plan. The Basin Plan prohibits discharges to the Klamath River Basin. The original intent of this discharge prohibition protects the water supply, areas of special biological significance and other beneficial uses with respect to waste discharges.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and regulations at section 122.44 require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharges authorized by this General Permit must meet minimum federal technology-based requirements based on ELGs for the CAFO point source category and/or BPJ in accordance with section 125.3.

The CWA requires that technology-based effluent limitations are established based on several levels of controls:

a. Best practicable treatment control technology (BPT) represents the average of the best performance by plants within an industrial category or subcategory. BPT standards apply to toxic, conventional, and non-conventional pollutants.

b. Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and non-conventional pollutants.

c. Best conventional pollutant control technology (BCT) represents the control from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after considering the “cost reasonableness” of the relationship between the cost of attaining a reduction in the effluent discharge and the benefits that would result, and also the cost effectiveness of additional industrial pretreatment beyond BPT.

d. New source performance standards (NSPS) represent the best available demonstrated control technology standards. The intent of the NSPS guidelines is to set limitations that represent state-of-the-art treatment technology for new sources.

The CWA requires USEPA to develop ELGs representing application of BPT, BAT, BCT, and NSPS. Section 402(a)(1) of the CWA and section 125.3 authorize the use of BPJ to derive technology-based effluent limitations on a case-by-case basis where ELGs are not available for certain industrial categories and/or pollutants of concern. Where BPJ is used, the permit writer must consider specific factors outlined in section 125.3.

2. Applicable Technology-Based Effluent Limitations

a. All Dischargers must comply with the site-specific terms of their individual NMPs. All Dischargers also specifically must not land apply manure, litter, bedding or process water at rates greater than identified in the Discharger’s NMP.

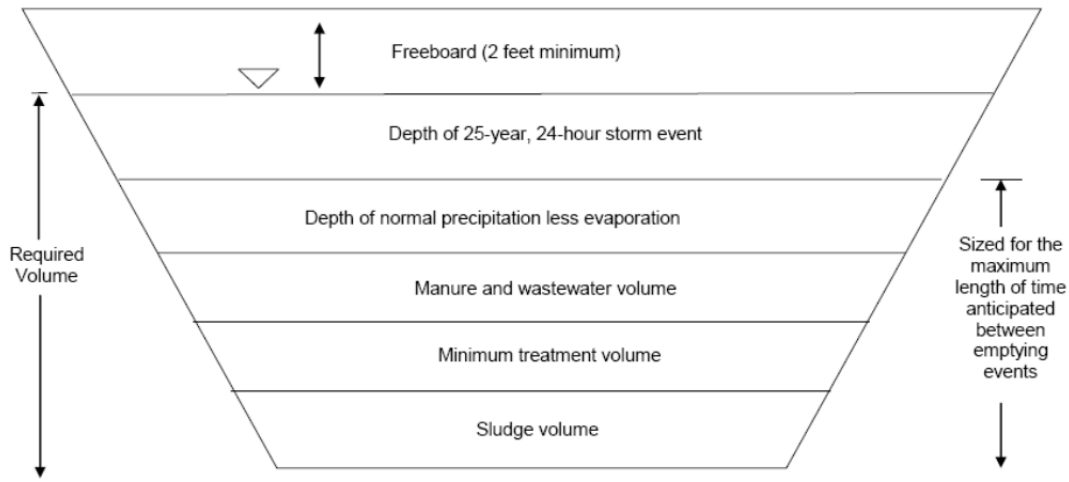
This limitation is applicable to all CAFOs covered under the General Permit. The limitation is based in section 122.42(5) which requires that any permit issued to a CAFO require compliance with the terms of the NMP. This permit limitation is consistent with the court decisions set forth

in the Waterkeeper case: “The court found that the terms of the NMP themselves are “effluent limitations” as that term is defined in the CWA and therefore must be made part of the permit and be enforceable as required under CWA sections 301 and 402.” (73 FR 70420)

b. Existing Facilities. All effluent limitations are based on the applicable ELGs found at section Part 412.

The ELGs at section Part 412 apply to Large CAFOs for most animal categories, except that the ELGs for the duck category also apply to duck operations using other than a liquid manure handling system that may meet the regulatory definition of a Small or Medium CAFO. Given the similarity in the operational characteristics of CAFOs, the Regional Water Board finds that it is appropriate to develop BPJ-based effluent limitations for Medium CAFOs and AFOs that have been designated as CAFOs that are the same as the effluent limitations established in the ELG for Large CAFOs.

The effluent limitation for existing Horse, Sheep, Dairy Cow, Cattle other than Veal Calves, Swine, Poultry and Veal Calf categories requires that the process wastewater, manure, or litter storage structure for the production area is designed, constructed, operated and maintained to contain all process water or manure and the direct precipitation from a 25-year, 24-hour precipitation event. The required storage capacity volume must consider the following: sludge volume, minimum treatment volume, manure and process water volume, the depth of normal precipitation less evaporation, the depth of the 25-year, 24-hour storm event plus a minimum 2 feet of freeboard. The following figure illustrates the design capacity considerations.



Effluent limitations applicable to dairy cow, cattle, swine, poultry and veal calf CAFOs also include a limitation that states require that allowed discharges from a land application area at a CAFO comply with requirements in an NMP and applicable record keeping requirements in the MRP (Attachment E). Such discharges are agricultural storm water discharges that are exempt from NPDES requirements. This effluent limitation is based on Part 412; however it has been made applicable to all CAFOs covered under the General Permit, based on BPJ.

c. New Facilities. All effluent limitations are based on the applicable ELGs found at section Part 412.

The ELGs at section Part 412 apply to Large CAFOs for most animal categories, except that the ELGs for the duck category also apply to duck operations using other than a liquid manure handling system that may meet the regulatory definition of a Small or Medium CAFO. Given the similarity in the operational characteristics of CAFOs, the Regional Water Board finds that it is appropriate to develop BPJ-based effluent limitations for Medium CAFOs and AFOs that have been designated as CAFOs that are the same as those established in the ELG for Large CAFOs.

NSPS requirements for new source swine, poultry and veal CAFOs found at section 412.46 require no discharge of manure, litter, or process wastewater pollutants from the production area. A new source swine, poultry or veal CAFO may request the Regional Water Board to establish site specific BMP effluent limitations designed to ensure no discharge. For any CAFO requesting BMP effluent limitations with an open surface storage structure, the storage structure shall be designed, operated and

maintained in accordance with the BMPs established by the Regional Water Board on a site specific basis to comply with the "no discharge of manure, litter or process wastewater" effluent limitation established by section 412.46. A technical evaluation of the storage structure must be submitted with the request, in accordance with the requirements of section Attachment B of the Order.

d. Additional Measures Applicable to All CAFOs. The additional measures are based on section 412.37 applicable to production area operation for Dairy Cow, Cattle Other than Veal Calves, Swine, Poultry, and Veal Calf categories. The Regional Water Board applied BPJ to require these additional measures for all CAFO categories that are covered under the General Permit, given the similarity in their operational characteristics.

   For those CAFOs covered under the General Permit that are designated as CAFOs by the Regional Water Board, but are not a category of CAFO specifically regulated by the ELGs (e.g., a llama or emu farm), the Regional Water Board will evaluate the nature of operations at the designated farm at the time of application and determine the most appropriate applicable effluent limitations to the designated CAFO.

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

Section 301(b) of the CWA and section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

Regulations at section 122.44(d)(1)(i) mandate that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving

water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

a. **Beneficial Uses**. Beneficial use designations for receiving waters for discharges from CAFOs in the North Coast Region are discussed in finding II.H of the General Permit and section III.C.1 of this Fact Sheet.

b. **Basin Plan Water Quality Objectives**. In addition to specific water quality objectives, the Basin Plan contains narrative objectives for color, tastes and odors, floating material, suspended material, settleable material, oil and grease, biostimulatory substances, sediment, turbidity, pH, dissolved oxygen, bacteria, temperature, toxicity, pesticides, chemical constituents, and radioactivity that apply to inland surface waters, enclosed bay and estuaries. For waters designated for use as domestic or municipal supply (MUN), the Basin Plan establishes as applicable water quality criteria the Maximum Contaminant Levels (MCLs) established by the Department of Public Health for the protection of public water supplies at Title 22 of the California Code of Regulations section 64431 (Inorganic Chemicals) and section 64444 (Organic Chemicals.).

c. **State Implementation Plan (SIP), CTR, and NTR**. Water quality criteria and objectives applicable to the receiving waters of discharges from CAFOs in the North Coast Region are established by the CTR and the NTR. Criteria for most of the 126 priority pollutants are contained within the CTR and NTR.

3. Determining the Need for WQBELs

NPDES regulations at section 122.44(d) require effluent limitations to control all pollutants which are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard.

CAFOs may discharge from production areas and from land application areas. The term “point source” defined in section 502(14) of the CWA specifically states that the term does not include agricultural storm water discharges. NPDES CAFO regulations at section 122.23(e) require that the discharge of manure, litter, bedding or process water to waters of the U.S. from a CAFO as a result of the application of manure, litter, bedding, or process water by the CAFO to land areas under its control is a discharge that is subject to NPDES permit requirements, except where the discharge is an

agricultural storm water discharge. Section 122.23(e) further defines agricultural storm water discharges exempt from NPDES regulation as precipitation-related discharges of manure, litter, bedding or process water from land areas under the control of a CAFO where the manure, litter, bedding or process water has been applied in accordance with the site-specific nutrient management plan practices that ensure appropriate agricultural utilization of the nutrients in the manure, bedding, or process water specified in sections 122.42(e)(1)(vi)-(ix). In other words, CAFOs must develop, prepare and implement NMPs in accordance with the NPDES regulations and technology-based effluent limitations applicable to land application areas.

For production areas, establishment of numeric WQBELs is not feasible because:

(1) the only discharges to surface water or tributaries thereof that are permitted are those from rainfall events that cause an overflow from facilities designed, constructed, operated and maintained to contain all process water plus the runoff and the direct precipitation (that have been commingled with manure) from a 25-year, 24-hour rainfall event;

(2) due to the significant volume of runoff involved from such events, treatment of these discharges to meet numeric effluent limitations would be impractical; and

(3) if the requirements specified in this General Permit are met, water quality of the Region is not expected to degrade as a result of discharges authorized under this General Permit.

If the Regional Water Board determines that additional requirements (e.g., additional effluent limitations, monitoring requirements, etc.) are necessary for a specific Discharger to comply with applicable water quality standards or waste-load allocations established in an approved TMDL, those requirements will be specified in either the written notice of authorization or a subsequent letter from the Regional Water Board to the Discharger. Such additional requirements may be necessary, for example, to protect water quality in surface waters that have been placed on the state's 303(d) list of impaired waters. An additional public notice will not be required to impose those requirements.

D. Final Effluent Limitations

1. Satisfaction of Anti-backsliding Requirements

Antibacksliding requirements are not applicable to the limitations contained in this permit because anti-backsliding requirements apply to renewed, reissued, or modified permits, and this is a new General Permit.

2. Satisfaction of Antidegradation Policy

Regulations at section 131.12 require that the state water quality standards include an antidegradation policy consistent with the federal policy. As discussed above in section III C.5 of this Fact Sheet, the State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of section 131.12 and State Water Board Resolution No. 68-16.

Most CAFOs in the North Coast Region are currently unpermitted; however, five dairies are currently covered under the State Water Board's General Industrial Storm Water Permit. The requirements in the General Permit are more stringent and more comprehensive than applicable to unpermitted facilities or those under the General Industrial Storm Water Permit. Implementation of this General Permit will lead to reduced pollutant dischargers and improved water quality. Therefore, anti-degradation requirements are satisfied by the General Permit.

3. Stringency of Requirements for Individual Pollutants

This General Permit contains narrative technology-based limitations and additional conditions for protection of water quality. Numeric WQBELs are not practicable for CAFOs covered under this General Permit, and BMP requirements of the individual NMPs are expected to appropriately control discharges. The limitations contained in this General Permit are therefore the most stringent applicable requirements, but are no more stringent than required to implement the requirements of the CWA.

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

CWA section 303(a-c) requires states to adopt water quality standards, including criteria necessary to protect beneficial uses of water. The Regional Water Board adopted water quality criteria as water quality objectives in the Basin Plan. The Basin Plan states that "*[t]he numerical and narrative water quality objectives define the least stringent standards that the Regional [Water] Board will apply to regional waters in order to protect the beneficial uses.*" The Basin Plan includes numeric and narrative water quality objectives for various beneficial uses and water bodies. This General Permit contains Receiving Surface Water Limitations based on the Basin Plan numerical and narrative water quality objectives for biostimulatory substances, bacteria, chemical constituents, color, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, sediment, settleable material, suspended material, tastes and odors, temperature, toxicity, and turbidity.

B. Groundwater

1. The beneficial uses of groundwater in the North Coast Region are municipal and domestic supply, industrial service supply, industrial process supply, agricultural supply, and freshwater replenishment to surface waters. Groundwater limitations are required to protect the beneficial uses of the groundwater.

2. Applicable groundwater limitations for this General Permit are the general water quality objectives for groundwater contained in the Basin Plan.

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorize the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP), Attachment E of this General Permit, establishes monitoring and reporting requirements to implement federal and State requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for facilities covered by this General Permit.

A. Influent Monitoring – Not Applicable

B. Effluent Monitoring

Effluent monitoring requirements are established at Discharge Point 001 (production area discharges) and Discharge Point 002 (discharges from land application areas). These monitoring requirements are applicable to all facilities

covered under the General Permit. The Discharger must monitor all discharges from the production area, such as overflows from process water storage structures, whether or not the discharge is authorized by the General Permit. The Discharger must also monitor all discharges, except for agricultural storm water discharges, from land application areas under the CAFO's ownership or control where manure, litter, bedding or process water has been applied. Such discharges that are not agricultural storm water discharges are unauthorized.

Part 412 requires that records of the date, time, and estimated volume of any discharge from the production area or discharges from the land application area that are not agricultural storm water discharges be maintained. Monitoring for nitrate, , ammonia, total Kjeldahl nitrogen, total nitrogen, and total phosphorus in discharges from the production area and the land application area are required for determining the nutrient content of those discharges. Monitoring for pH, total dissolved solids (TDS), electrical conductivity (EC), and total suspended solids (TSS) is required for discharge characterization. Monitoring for pH should be conducted on-site in accordance with standard operating procedures. In addition, monitoring for 5-day biochemical oxygen demand (BOD_5) and fecal coliform is required for existing duck CAFOs for determining compliance with numeric effluent limitations. These requirements are established for all other CAFOs covered under the General Permit for characterization of discharge quality.

C. Watercourse Monitoring

Watercourse monitoring requirements apply only to those Dischargers with a watercourse that flows through the production area, or land application area. Watercourse monitoring requirements include monitoring for TSS, ammonia, total Kjeldahl nitrogen, total phosphorus, pH, and EC as necessary for determining the efficacy of the NMP, potential impacts to surface water quality, and compliance with the Basin Plan.

D. Groundwater Monitoring

Groundwater monitoring requirements apply only to those Dischargers who have determined that groundwater monitoring is required based on the results of the Nitrate Groundwater Pollution Hazard Index, available at http://ucanr.org/sites/wrc/. . If the Hazard Index value is greater than twenty (20), the Discharger is required to develop and implement a groundwater monitoring program. Alternately, the Discharger can evaluate criteria used in calculating the Hazard Index to identify criteria that can be altered to reduce the Hazard Index to less than 20, thereby reducing the potential for leaching on nitrates. Dischargers having a Hazard Index above 20 shall submit a Groundwater Monitoring Plan to the Regional Water Board.

Groundwater monitoring requirements include monitoring for TDS, nitrate, pH, total coliform, and the depth to groundwater, as necessary to determine impacts to groundwater quality and whether degradation of groundwater is occurring.

E. Other Monitoring Requirements

1. Production Area Visual Inspections

This section is applicable to all CAFOs. The Discharger must conduct daily visual inspections of all water lines (including drinking and overflow water lines) and, during the period where rainfall is likely, conduct weekly visual inspections of storm water diversion structures, and storm water to control structures, manure, litter, bedding, and feed storage facilities, and process water impoundments. These requirements are based on requirements established at section 412.37(a).

2. Land Application Area Visual Inspections

This section is applicable to All CAFOs that apply manure, litter, bedding or process water. A Discharger that applies manure, litter, bedding, or process water to land shall inspect application equipment and record any defects and any needed corrective actions a minimum of once each process water application event and/or a minimum of once per year if solid manure is applied. This monitoring requirement is established pursuant to section 412.37(c), and is required for all CAFOs covered under the General Permit that land apply, due to the similarity in operations and processes between CAFOs.

3. Manure, Litter, Bedding, and Process Water Monitoring

This section is applicable to CAFOs that land apply manure, litter, or process wastewater and to cafos that transfer manure, litter, bedding or process water to other persons. Pursuant to requirements established at section 122.42(e)(1)(vii), Dischargers that land apply manure, litter, bedding, or process water must monitor those materials for the constituents specified in the MRP, pursuant to requirements established at section 122.42(e)(1)(vii). CAFOs are expected to use the results to develop rates for applying those materials to land pursuant to their NMP. Also, pursuant to the requirements established at section 122.42(e)(3) the results shall be provided to recipients of such materials that are transferred to third parties.

Monitoring of manure, litter, bedding, and process water includes monitoring for salts and general minerals. Land application of manure contributes salts,

which can be transported to surface water, accumulate in the root zone at levels that inhibit plant growth, or leach to groundwater to groundwater.

4. Soil Monitoring

This section is applicable to CAFOs that land apply manure, litter, or process water. Pursuant to requirements established at section 122.42(e)(1)(vii), Dischargers that land apply manure, litter, bedding, or process water shall monitor soils in the application area(s) for the constituents specified in the MRP,. Dischargers shall use the results of the required analyses for the appropriate calculations in the Discharger's NMP.

F. Recordkeeping Requirements

The MRP specifies the records that must be kept to document implementation of the monitoring and management practices specified in the General Permit. The table below summarizes the regulatory basis for the recordkeeping requirements contained in section X of the MRP.

Table F-1. Regulatory Basis for Recordkeeping Requirements

Record	Regulatory Basis	Note
NOI	section 122.23(h)	NOI Form located in Attachment A)
NMP	section 122.42(e)(1), section 122.23(h)	NMP must be submitted with the NOI and made available for public review.
Documentation demonstrating implementation of the Nine Minimum Elements of the NMP	section 122.42(e)(ix)	---
Annual Report	section 122.42(e)(4)	---
Requirement to maintain documentation for a minimum of five years	section 122.42(e)(2)(i)	NOI documentation needs to be maintained for a minimum period of three years pursuant to section 122.41(j)(2)
Manure transfer recordkeeping	section 122.42(e)(3)	Requirements at section 122.42(e)(3) apply to large CAFOs; this General Permit requires these records to be maintained by all CAFOs covered under the General Permit to record where manure, litter, bedding, and/or process water is being applied or managed.
Production area visual inspections and documentation	section 412.37(a)(1), section 412.43(a)(1)	The General Permit requires visual inspections of the production area for all CAFOs. Daily inspections of all water lines are required; however, the visual

Record	Regulatory Basis	Note
		inspections may be recorded on a weekly basis.[2]
Mortality management practice records	section 122.42(e)(2), section 412.37(b)(4)	Section 122.42(e) requires records demonstrating proper management of mortalities. Section 412.37(a)(4) and the General Permit require CAFOs to prevent disposal of mortalities in any liquid manure or process water system.
Manure or litter, bedding storage structure design documentation	section 122.42(e)(2)	The Discharger is required to maintain documentation that demonstrates there is adequate storage of manure, litter, bedding, and process water. The Discharger can submit engineering documents to satisfy this requirement.
Record of time, date, and estimate of an overflow from a storage structure	section 412.37(b)(6)	The General Permit requires compliance with the additional measures found at section 412.37. The Discharge Reporting Form is located in Attachment G.
Land Application Area Recordkeeping Requirements	section 412.37(c), section 412.47(c)	The General Permit requires compliance with the additional measures found at section 412.37.

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in the General Permit and in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42.

Section 122.41(a)(1) and (b) through (n) establish conditions that apply to all State-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Permit. Section 123.25(a)(12) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with section 123.25, this General Permit omits federal conditions that address enforcement authority specified in sections 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code

[2] Based on guidance from USEPA in its NPDES Permit Writers' Guidance Manual and Example NPDES Permit for Concentrated Animal Feeding Operations (EPA-833-B-04-001).

is more stringent. In lieu of these conditions, this General Permit incorporates by reference Water Code section 13387(e).

B. Regional Water Board Standard Provisions

In addition to the federal standard provisions (Attachment D), the Discharger shall comply with the Regional Water Board standard provisions provided in the sections of the General Permit identified below.

1. The provision in General Permit section VI.A.2.a is based on the regulatory requirements found at section 122.64.

2. The provision in General Permit section VI.A.2.b is based on the regulatory requirements found at section 122.28(b)(3)(i).

3. The provision in General Permit section VI.A.2.c is based on the regulatory requirements found at section 122.28(b)(3)(i)(G).

4. The provision in General Permit section VI.A.2.d is established to ensure that operating personnel are familiar and competent in the requirements of the General Permit.

5. The provision in General Permit section VI.A.2.e is established based on Discharge Prohibition III.B. The Discharger is required to submit a newly completed NOI at least 30 days prior to a material change in the character, location or volume of a discharge. The Regional Water Board must be assured that all authorized dischargers have similarities required by the NPDES regulations and the Water Code for coverage under the General Permit.

6. The provision in General Permit section VI.A.2.f identifies the State's enforcement authority under the Water Code, which is more stringent than the enforcement authority specified in the federal regulations [e.g., sections 122.41(j)(5) and (k)(2)].

7. The provision in General Permit section VI.A.2.g requires the Discharger to notify Regional Water Board staff, orally and in writing, in the event that the Discharger does not comply or will be unable to comply with any requirement of the General Permit. This provision requires the Discharger to make direct contact with a Regional Water Board staff person.

8. The provision in General Permit section VI.A.2.h is based on the regulatory requirements of sections 122.41(l)(3) and 122.61.

C. Special Provisions

1. Reopener Provisions

a. **Standard Revisions** (reference section VI.C.1.a of the General Permit). Conditions that necessitate a major modification of a permit are described at section 122.62, and include the following:

i. When standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision. If revisions of applicable water quality standards are therefore promulgated or approved pursuant to Section 303 of the CWA or amendments thereto, the Regional Water Board will revise and modify the General Permit in accordance with such revised standards.

ii. When new information that was not available at the time of permit issuance would have justified different permit conditions at the time of issuance.

b. **Toxic Pollutant Standard** (reference section VI.C.1.b of the General Permit). If any standard or prohibition is promulgated under Section 307(a) of the CWA for a toxic pollutant which is present in the discharge, and that standard or prohibition is more stringent than any limitation in this General Permit, the Regional Water Board will modify or revoke and reissue the General Permit to conform to the toxic pollutant standard or prohibition.

c. **Reasonable Potential** (reference section VI.C.1.c of the General Permit). This provision allows the Regional Water Board to modify, or revoke and reissue, the General Permit if present or future investigations demonstrate that Dischargers governed by this General Permit are causing or contributing to excursions above any applicable priority pollutant criterion or objective, or adversely impacting water quality and/or the beneficial uses of receiving waters.

d. **303(d)-Listed Pollutants** (reference section VI.C.1.d of the General Permit). This provision allows the Regional Water Board to reopen the General Permit to modify existing effluent limitations or add effluent limitations for pollutants that are the subject of any TMDL action.

e. **Nutrients** (reference section VI.C.1.e of the General Permit). This provision allows the Regional Water Board to reopen the General Permit if

monitoring data indicates a need for effluent limitations for nutrient parameters, or if new water quality objectives for nutrients are established.

2. Best Management Practices and Pollution Prevention

a. **Nutrient Management Plan (NMP).** The requirement for CAFOs to implement a NMP is established at section 122.42(e)(1). A CAFO's NMP must, to the extent applicable, implement the nine minimum measures or controls found at sections 122.42(e)(1)(i) – (ix). The ELGs at section 412.4 specify BMPs for Dairy and Cattle Other than Veal Calves, Swine, Poultry and Veal Calves CAFO categories that must be included in the Dischargers NMP. These BMP requirements have also been required for all CAFOs covered under the General Permit based on the similarities of operations and procedures between all CAFO categories.

Section 412.4(2) requires that CAFOs develop application rates that minimize phosphorus and nitrogen transport to surface waters in compliance with technical standards for nutrient management established by the Director. Technical standards for nutrient management have been included as Attachment C to the General Permit. NMPs shall conform to the specifications of these technical standards. The technical standards for nutrient management are required by section 412.4. The General Permit requires that all Dischargers covered under the General Permit develop NMPs in accordance with the technical standards.

The General Permit requires all CAFOs that develop an application rate based on the linear approach to calculate the maximum amount of manure, litter, bedding and process water to be land applied at least once per year. Regulations at section 122.42 (e)(5)(i)(B) state this requirement applies to large CAFOs. The requirements for the annual calculation is established in the general permit for all CAFOs that choose to use the linear approach for consistency, because of the similarities in operational characteristics for all CAFOs covered under the General Permit.

Section 122.42(e)(5) requires that the NMP include the rate of application of manure, litter, bedding, or process water and that the rate of application be identified as a term of the NMP that will be incorporated in the General Permit as an effluent limitation. The application rate may be expressed in the NMP according to either one of two approaches, linear or narrative rate, as required by section 122.42(e)(5), and must be determined in accordance with the technical standards. The NMP should identify the maximum rate of application, expressed as appropriate for the linear or narrative rate approach. If the Discharger does not plan to apply the maximum rate, the NMP should identify the planned rate of application.

The maximum rate of application will be incorporated as a term of the General Permit. Determination of the application rate in accordance with the technical standards is based on a field-specific assessment of the potential for nitrogen and phosphorus transport from the field that addresses the form, source, amount, timing, and method of application of nutrients on each field to achieve realistic production goals, while minimizing nitrogen and phosphorus transport to surface waters.

Section 412.4(2) requires that the technical standards for nutrient management include a field-specific assessment of the potential for nitrogen and phosphorus transport from the field surface waters. The assessment must address the form, source, amount, timing and method of application of nutrients in each field to achieve realistic production goals, while minimizing nitrogen and phosphorus movement to surface waters. The assessment must include appropriate flexibilities for nutrient management practices to comply with the technical standards, such as consideration of multi-year phosphorus application or phased implementation of phosphorus-based nutrient management.

The technical standards contained in Attachment C are based on the following:

- Information provided by the California Natural Resources Conservation Service (NRCS);
- Conservation Practice Standard Code 590 (Nutrient Management);
- The California Phosphorus Index (CA NRCS Agronomy Technical Note 62);
- Purdue University's Manure Management Planner software tool;
- The Western Fertilizer Handbook;
- The California Dairy Quality Assurance Program;
- University of California Manure Technical Guide Series for Crop Management Professionals;
- The NRCS Agricultural Waste Management Field Handbook; and
- Guidance provided by EPA in May, 2010 on the agency's expectations for the content of state technical standards for nutrient management.

The technical standards contain a phosphorus transport risk assessment that is based on the California Phosphorus Index, but has been modified to apply to all fields. The California Phosphorus Index excludes use of the risk assessment for phosphorus for those lands that are not located in a watershed that has been identified as impaired by phosphorus. This exclusion was modified to prevent phosphorus impacts from over-application of phosphorus to fields with a high potential for transport of phosphorus to surface waters. The Modified California Phosphorus Index includes several factors that address furrow irrigation practices. These practices are not known to be implemented in the North Coast Region; however, they are retained in the Phosphorous Index to allow for the possibility of a new Discharger who may wish to implement furrow irrigation. Factors that do not apply to a specific Discharger should be assigned a score of zero (0) in the Phosphorus Index assessment.

Mortality handling requirements are based on section 122.42(e)(1)(ii), which requires proper management of mortalities to ensure that they are not disposed of in a liquid manure, storm water, or process wastewater storage or treatment system not specifically designed to treat mortalities, and also on section 412.37(a)(4), which requires that mortalities are handled in such a way to prevent the discharge of pollutants to surface water. California regulations found at CCR title 14, division 7, article 8, section 17823.5 require that animal mortalities from CAFOs be collected, stored, and removed from the property to an approved processing facility or disposal site prior to the creation of adverse public health conditions. Section 17855.2 of CCR title 14 prohibits the composting of unprocessed mammalian tissue.

Dischargers are not required to use certified planners to prepare NMPs, but Dischargers are encouraged to work with experts such as the U.S. Department of Agriculture NRCS and University of California Cooperative Extensions for assistance.

Using a grant from the State Water Board, the Central Valley Regional Water Board has developed software for developing NMPs. This software is available at http://www.swrcb.ca.gov/centralvalley/water_issues/dairies/complying_with_general_order/software/index.shtml. Any user can create a login to use the program. Alternately, the Regional Water Board has approved the use of Manure Management Planner software, available at http://www.agry.purdue.edu/mmp/, for development of the Discharger's NMP.

Dischargers may use the planning tools described above or alternate nutrient management planning tools to develop NMPs; however, it is the Discharger's responsibility to ensure that the resulting application rates are in compliance with the General Permit, including the technical standards for nutrient management. For example, the Manure Management Planner software uses a default nitrogen application rate of 1.4 times the crop nitrogen removal. A user may have to override the software's default rate to calculate application rates that comply with their individual NMP. In addition, the user would have to enter site-specific manure analysis results to be used in lieu of the default manure nutrient analyses calculated by the software. Where the software requires user-specified data, the user must ensure that the data sources used are documented in the NMP and are consistent with the requirements of the technical standards for nutrient management.

b. **NMP Review and Terms.** Regulations contained in section 122.42(e)(5) state: "Any permit issued to a CAFO must require compliance with the terms of the CAFO's site-specific nutrient management plan." A finding of the Waterkeeper decision, as provided at 73 Federal Register 70420, was that the terms of the NMP are effluent limitations as that term is defined in the CWA, and therefore must be made part of the permit and be enforceable. The NMP must therefore be reviewed by the Regional Water Board to identify specific terms of the NMP that shall be incorporated into the General Permit. Draft terms will be provided during the public notice period along with the NOI.

c. **Changes to NMP.** When a CAFO operator or owner makes changes to the CAFO's NMP, the revised version of the NMP shall be provided to the Regional Water Board using the cover letter provided in Attachment H. The changes made from the previous version shall be identified in the cover letter. The Regional Water Board will review the NMP, and will determine if the changes made will necessitate revisions to the terms of the NMP that have been incorporated into the General Permit. If revision of the terms is not required, the Regional Water Board will notify the CAFO that the revised NMP may be implemented.

   If revision of the terms is required, the Regional Water Board will determine if the changes are substantial changes. If revisions to the terms of the NMP are not substantial, the revised NMP will be added to the permit record, the terms of the permit will be revised based on the revised NMP, and the Discharger and the public will be notified of any changes to the terms of the permit based on the revisions to the NMP. If the changes are found to be substantial, the Regional Water Board will notify the public

and make the proposed changes and information submitted by the CAFO available for public review and comment for 21 days. The Regional Water Board will respond to all significant comments received during this period, and may require the Discharger to further revise the NMP. The Regional Water Board will notify the Discharger of the revised terms of the permit, once the Regional Water Board identifies and incorporates these revised terms into the General Permit.

Regulations at section 122.42(e)(6) establish requirements for changes to an NMP. The results of revised calculations for determining the rate of application are not changes that require review. Adding land application area not included in the Discharger's NMP, but covered under the General Permit, would not be considered a substantial change to the NMP. Changes to the NMP that are considered substantial include adding land application areas not included in the NMP and not covered under the General Permit; changes to the field-specific annual land application rate (linear approach) or to the maximum amount of nitrogen and phosphorus derived from all sources for each crop (narrative rate approach); addition of any crop or other uses not included in the NMP; and changes to the site-specific components of the NMP, where such changes are likely to increase the risk of nitrogen and phosphorus transport to waters of the US.

3. Construction, Operation, and Maintenance Specifications

a. **Pond Operation and Maintenance**. The minimum freeboard requirement of 2 feet is based on the surface impoundment regulations of CCR title 23, division 3, chapter 15, article 4, section 2548. Other requirements are established to prevent degradation of groundwater quality, to ensure adequate storage pursuant to section 122.42(e)(1)(i), and to prevent breeding of mosquitoes.

4. Other Special Provisions

a. **Transfer of Manure, Litter, Bedding, and Process Water.** Requirements established in the General Permit for the transfer of manure, litter, bedding or process water are based on the requirements established at section 122.42(e)(3) for large CAFOs. These requirements apply to all CAFOs covered under the General Permit.

b. **Supporting Information for Dairy, Cattle Other than Veal Calves, Swine, Poultry, and Veal Calf CAFO Alternate Effluent Limitations.** This provision is applicable to those existing Dairy, Cattle Other than Veal Calf, Swine, Poultry and Veal Calf CAFOs that request the Regional Water

Board to establish permit limitations based upon site-specific alternative technologies that achieve a quantity of pollutants discharged from the production area equal to or less than the quantity of pollutants that would be discharged under the baseline performance standards established by the best practicable control technology. The supporting information described in this provision of the General Permit is the information required to make this request.

c. **Requirements for Open Surface Storage Structure Technical Evaluation.** This provision is applicable to those new source Swine, Poultry or Veal Calf CAFOs that request the Regional Water Board to establish BMP effluent limitations designed to ensure no discharge of manure, litter, or process wastewater based upon a site-specific evaluation of the CAFO's open surface manure storage structure. The supporting information described in this provision is the information required to make this request.

d. **Salt Management.** Salts are present in animal manure and soluble in water. Dissolved, salts are measured as "total dissolved solids" (TDS). Table 3-1 in the Basin Plan for the North Coast Region contains water quality objectives for TDS for specific waterbodies. Including a provision for salt management is a permit is intended to protect surface water and groundwater quality from degradation due to TDS.

VIII. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, North Coast Region (Regional Water Board) is considering the adoption of a waste discharge requirements order / general NPDES permit (the "General Permit") that will serve as a general NPDES permit for CAFOs in the Region. As a step in the adoption process, Regional Water Board staff has developed the draft General Permit. The Regional Water Board encourages public participation in the adoption process for that General Permit.

A. Notification of Interested Parties

The Regional Water Board has notified interested agencies, parties, and persons of its intent to adopt a general NPDES permit for CAFOs and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through posting on the Regional Water Board's Internet site at: http://www.waterboards.ca.gov/northcoast/public_notices/public_hearings/npdes_permits_and_wdrs.shtml on October 24, 2011

B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative general NPDES permit. Comments must be submitted either in person or by mail to the Executive Officer at the Regional Water Board at the address shown on the cover page of the draft General Permit.

To be fully responded to by staff and considered by the Regional Water Board, written comments should be received at the Regional Water Board offices by 5:00 p.m., December 5, 2011.

C. Public Hearing

The Regional Water Board will hold a public hearing on the general NPDES permit for CAFOs during its regular Board meeting on the following date and time and at the following location:

Date: January 19, 2012
Time: 8:30 a.m.
Location: North Coast Regional Water Quality Control Board
5550 Skylane Boulevard, Suite A
Santa Rosa, California 95403

Interested persons are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the general NPDES permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our Web address is http://www.waterboards.ca.gov/northcoast/ where you can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Resources Control Board to review the decision of the Regional Water Board regarding the final general NPDES permit. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

E. Information and Copying

NOIs, related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (707) 576-2220.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the general NPDES permit should contact the Regional Water Board, reference the general NPDES permit for CAFOs, and provide their name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this General Permit should be directed to Lisa Bernard at (707) 576-2677.

ATTACHMENT G – DISCHARGE REPORTING FORM

Discharge Reporting Form	
Facility Name	
Address	
Facility Contact	
NPDES Permit Number	
WDID Number	

If you have a discharge from the production area or land application area(s) to a water of the U.S. that is not in compliance with the effluent limitations and/or conditions of the permit, take the following actions:

1. Call the Governor's Office of Emergency Services (800)-852-7550 and the Regional Water Board's office (707)-576-2677 within 24 hours of the time you become aware of the non-compliant discharge.

2. Keep a record of the approximate date, time, duration, location, description, and volume of the discharge.

3. Conduct discharge monitoring as required by the Monitoring and Reporting Program (MRP) found in Attachment E of the permit.

4. Complete this form and submit it to the Regional Water Board within 5 days of the time the Discharger becomes aware of the non-compliant discharge.

Describe each discharge of manure, litter, bedding, process water, and/or other unpermitted material from the production area and/or the land application area(s) under the ownership or control of the Discharger (except agricultural storm water discharges). Attach additional sheets if necessary.

Date and Time of Discharge	Duration	Location[1]	Description[2]	Volume[3]

[1] Location of discharge to waters of the U.S. Include the name of the waterbody and a specific description of where the discharge entered the waterbody. Include landmarks or other points of reference.

[2] Provide a description of the source or cause of the discharge, composition of the discharge, and any impacts of the discharge observed.

[3] Estimate the total volume in number of gallons or tons of manure, litter, bedding, or process water discharged.

Date and Time of Discharge	Duration	Location[1]	Description[2]	Volume[3]

Provide the analytical results from each discharge that is reported above, or indicate that the sample is still at the laboratory and then submit the analytical results as soon as possible after receipt. Attach additional sheets if necessary.

Parameter	Method Detection Limit (MDL)	Units	Result	Mass Discharged (volume x concentration)
Volume		gallons or tons		
Nitrate – Nitrogen		mg/L		
Total Kjeldahl Nitrogen		mg/L		
Total Phosphorus		mg/L		
TSS		mg/L		
BOD_5		mg/L		
TDS		mg/L		
Fecal Coliform		MPN/100 mL		

Printed Name_____
Signed _____
Title _____
Date _____

Return this form to:
CAFO Program Staff
North Coast Regional Water Board
5550 Skylane Boulevard
Santa Rosa, CA 95403-1072
707-576-2220

ATTACHMENT H – CHANGES TO NMP COVER LETTER

Facility Name	
Address	
Facility Contact	
NPDES Permit Number	
WDID Number	

In accordance with Order No. R1-2012-0001 (/ General NPDES Permit No. CAG011001 for Concentrated Animal Feeding Operations with the North Coast Region, the intent of this letter is to inform the North Coast Regional Water Board of changes to the above Discharger's NMP.

The NMP has been modified, and the newly updated NMP is attached. The following summarizes the changes made from the previously submitted and reviewed NMP. (Attach additional pages if necessary. Please identify the specific location(s) (section and/or page numbers) where modifications were made.)

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

Printed Name_____
Signed _____
Title _____
Date _____

Return this form, with the updated NMP, to:
CAFO Program Staff
North Coast Regional Water Board
5550 Skylane Boulevard
Santa Rosa, CA 95403-1072
707-576-2220

ATTACHMENT I – DEFINITIONS

25-year, 24-hour rainfall event means precipitation events with a probable recurrence interval of once in twenty five years as defined by the National Weather Service in Technical Paper No. 40, "Rainfall Frequency Atlas of the United States," May 1961, or equivalent regional or State rainfall probability information developed from this source.

Animal Feeding Operation (AFO) means a lot or facility (other than an aquatic animal production facility) where the following conditions are met: (1) animals (other than aquatic animals) have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period, and (2) crops, vegetation, forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility.

Application means placement of manure or process water on cropland under controlled conditions.

Arithmetic Mean (μ), also called the average, is the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

Arithmetic mean = $\mu = \Sigma x / n$ where: Σx is the sum of the measured ambient water concentrations, and n is the number of samples.

Bioaccumulative pollutants are those substances taken up by an organism from its surrounding medium through gill membranes, epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

Catastrophic rainfall event means a rainfall event equivalent to the 25-year, 24-hour rainfall event, and includes events like tornadoes, hurricanes or other catastrophic conditions that would cause an overflow.

Chronic rainfall event means a series of wet weather conditions that preclude dewatering of properly sized and maintained manure and process water retention structures.

Clean Water Act (CWA) means the Federal Water Pollution Control Act as amended, which is set forth at 33 USC 1251 et seq.

Coefficient of Variation (CV) is a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

Concentrated Animal Feeding Operation (CAFO) means an AFO which is defined as a Large CAFO or Medium CAFO by sections122.23 (b)(4) and (6), or that is designated as a CAFO. Two or more AFOs under common ownership are considered to be a single AFO for the purposes of determining the number of animals at an operation, if they adjoin each other or if they use a common area or system for disposal of wastes.

Design volume for a liquid storage structure (pond) includes allowances for the volume of manure, process water, and other materials accumulated during the storage period; volume of "normal precipitation" (precipitation other than the design rainfall event) minus evaporation; volume of runoff from the facility's drainage area during normal rainfall events; volume of precipitation from the 25-yr, 24-hr storm event on the storage structure area; volume of runoff from the facility's drainage area for the 25-yr, 24-hr storm event; volume of solids necessary freeboard requirements; and any additional storage requirements, such as to meet management goals, or the minimum treatment volume for anaerobic lagoons.

Discharge means to discard, abandon, or allow runoff or overflow of manure, litter, bedding, or process water in a manner that allows contact with waters of the United States.

Dry Lot means a facility for growing ducks in confinement with a dry bedding floor cover and no access to swimming areas.

Enclosed Bays means indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays in the North Coast Region include, Humboldt Bay, Bodega Harbor, Tomales Bay, and Drake's Estero. Enclosed bays do not include inland surface waters or ocean waters.

Estuaries means waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters included, but are not limited to, the Sacramento-San Joaquin Delta, as defined in Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

Fecal coliform means the bacterial count (Parameter 1) at section 136.3 in Table 1A, which also cites the approved methods of analysis.

Groundwater means water that seeps underground, into pores between sand, clay and rock formations.

Inland Surface Waters are all surface waters of the State that do not include the ocean, enclosed bays, or estuaries.

Land application means the application of manure, litter, bedding, or process water onto or incorporated into the soil for the purpose of supporting pasture or crop production.

Land application area means land under the operational control of an AFO owner or operator, whether it is owned, rented, or leased, to which manure, litter, bedding, or process water from the production area is or may be applied.

Large CAFO means an AFO that stables or confines as many as or more than the numbers of animals specified in any of the following categories: (i) 700 mature dairy cattle, whether milked or dry; (ii)1,000 veal calves; (iii)1,000 cattle other than mature dairy cows or veal calves. Cattle includes but is not limited to heifers, steers, bulls and cow/calf pairs; (iv) 2,500 swine each weighing 55 pounds or more; (v)10,000 swine each weighing less than 55 pounds; (vi) 500 horses; (vii) 10,000 sheep or lambs; (viii) 55,000 turkeys; (ix) 30,000 laying hens or broilers, if the AFO uses a liquid manure handling system; (x)125,000 chickens (other than laying hens), if the AFO uses other than a liquid manure handling system; (xi) 82,000 laying hens, if the AFO uses other than a liquid manure handling system; (xii) 30,000 ducks (if the AFO uses other than a liquid manure handling system); or (xiii) 5,000 ducks (if the AFO uses a liquid manure handling system).

Liquid manure handling system means a system that collects and transports or moves manure with the use of water, such as in washing of pens and flushing of confinement facilities. This would include the use of impoundments for storage and/or treatment of manure and/or process water.

Manure is defined to include litter, bedding, compost, feed, and other non-hazardous materials commingled with manure.

Median is the middle measurement in a set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements (n) is odd, then the median = $X_{(n+1)/2}$. If n is even, then the median = $(X_{n/2} + X_{(n/2)+1})/2$ (i.e., the midpoint between the $n/2$ and $n/2+1$).

Medium CAFO means any AFO that stables or confines as many or more than the numbers of animals specified in any of the following categories: (i) 200 to 699 mature dairy cattle, whether milked or dry cows; (ii) 300 to 999 veal calves; (iii) 300 to 999 cattle

other than mature dairy cows or veal calves. Cattle includes but is not limited to heifers, steers, bulls and cow/calf pairs; (iv) 750 to 2,499 swine each weighing 55 pounds or more; (v) 3,000 to 9,999 swine each weighing less than 55 pounds; (vi)150 to 499 horses, (vii) 3,000 to 9,999 sheep or lambs, (viii) 16,500 to 54,999 turkeys, (ix) 9,000 to 29,999 laying hens or broilers, if the AFO uses a liquid manure handling system; (x) 37,500 to 124,999 chickens (other than laying hens), if the AFO uses other than a liquid manure handling system; (xi) 25,000 to 81,999 laying hens, if the AFO uses other than a liquid manure handling system; (xii) 10,000 to 29,999 ducks (if the AFO uses other than a liquid manure handling system); or (xiii) 1,500 to 4,999 ducks (if the AFO uses a liquid manure handling system) and either one of the following conditions are met (a) pollutants are discharged into waters of the United States through a man-made ditch, flushing system, or other similar man-made device; or (b) pollutants are discharged directly into waters of the United States which originate outside of and pass over, across, or through the facility or otherwise come into direct contact with the animals confined in the operation.

Method Detection Limit (MDL) is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the concentration of the substance is greater than zero (reference title 40 of the Code of Federal Regulations, Part 136, Attachment B, revised as of July 3, 1999.

Multi-year Phosphorus Application means phosphorus applied to a field in excess of the crop needs for that year. In multi-year phosphorus applications, no additional manure, litter, bedding, or process water is applied to the same land in subsequent years until the applied phosphorus has been removed from the field via harvest and crop removal.

Not Detected (ND) are those sample results less than the laboratory's MDL.

Notice of Intent (NOI) is a form submitted by the owner/operator applying for coverage under a general permit. It requires the applicant to submit the information necessary for adequate program implementation, including, at a minimum, the legal name and address of the owner or operator, the facility name and address, type of facility or discharges, and the receiving stream(s). [(section §128.28(b)(2)(ii)].

Ocean Waters are the territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. Discharges to ocean waters are regulated in accordance with the State Water Board's California Ocean Plan.

Overflow means the discharge of manure or process water resulting from the filling of process water or manure storage structures beyond the point at which no more manure, process water, or storm water can be contained by the structure.

Pollution Prevention means any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State or Regional Water Board.

Process Water means water directly or indirectly used in the operation of a CAFO or resulting from any of the following: spillage or overflow from animal or poultry watering systems; washing, cleaning, or flushing pens, barns, manure pits, or other facilities where manure is deposited, direct contact with animals; and any precipitation which comes into contact with any manure, bedding, feed, or other non-hazardous material used or produced at the CAFO, or is a constituent of raw materials, products, or byproducts including manure, litter, feed, milk, eggs, litter or bedding.

Production area means that part of an AFO that includes the animal confinement area, the manure storage area, the raw materials storage area, and the waste containment areas. The animal containment area includes but is not limited to open lots, housed lots, feedlots, confinement houses, stall barns, free stall barns, milkrooms, milking centers, cowyards, barnyards, medication pens, walkers, animal walkways, and stables. The manure storage area includes but is not limited to ponds (i.e., “lagoons” and “impoundments”), storage sheds, stockpiles, under house or pit storages, static piles, and composting piles. The raw materials storage area includes but is not limited to feed silos, silage bunkers, and bedding materials. The process water containment areas include, but are not limited to, ponds, settling basins, conveyances, and areas within berms and diversions which separate uncontaminated storm water. Also included in the definition of production area is any egg washing or egg processing facility, and any area used in the storage, handling, treatment, or disposal of mortalities.

Setback means a specified distance from waters of the United States or potential conduits to waters of the United States where manure, litter, bedding, and process water may not be land applied. Examples of conduits to surface waters include but are not limited to: Open drainage ditches, tile drainage lines, intake structures, sinkholes, and agricultural well heads.

Small CAFO means an AFO that is designated as a CAFO and is not a Medium or Large CAFO.

Source of Drinking Water is any water designated or potentially suitable as municipal or domestic supply (MUN) in a Regional Water Board Basin Plan[1].

Standard Deviation (σ) is a measure of variability that is calculated as follows:

$$\sigma = (\sum[(x - \mu)^2]/(n - 1))^{0.5}$$

where: x is the observed value; μ is the arithmetic mean of the observed values; and n is the number of samples.

Surface water is water that is on the Earth's surface, such as in a stream, lake, river, reservoir or oceans. Surface water includes water in the hyporheic zone, a region beneath and lateral to a stream bed, where there is mixing of shallow groundwater and surface water.

Vegetated buffer means a narrow, permanent strip of dense perennial vegetation established parallel to the contours of and perpendicular to the dominant slope of the field for the purposes of slowing water runoff, enhancing water infiltration, and minimizing the risk of any potential nutrients or pollutants from leaving the field and reaching waters of the United States.

Waste means sewage and any and all other waste, substances, liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any producing, manufacturing, or processing operation, including waste placed within containers of whatever nature prior to, and for purposes of, disposal.

Waters of the State means any surface water or groundwater, including saline waters, within the boundaries of the State of California. Examples of "Waters of the State" include but are not limited to isolated wetlands, coastal wetlands, streams, rivers, lakes, and groundwater.

Waters of the United States means: (1) all waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide; (2) all interstate waters, including interstate wetlands; (3) all other waters such as intrastate lakes, rivers, and streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters: (a) which are or could be used by interstate or foreign travelers for recreational or other purposes; from which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or, which are or could be used for industrial purposes by

---

[1] Link to State Policy on Sources of Drinking Water – http://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/1988/rs1988_0063.pdf

industries in interstate commerce; (4) all impoundments of waters otherwise defined as waters of the United States; (5) tributaries of waters identified in (1) through (4) of this definition; (6) the territorial sea; and (7) wetlands adjacent to waters (other than waters that are themselves wetlands) identified in items (1) through (6) of this definition. [section 230.3(s)]

Wetlands means an area which under normal circumstances: (1) is saturated by ground water or inundated by shallow surface water for a duration sufficient to cause anaerobic conditions within the upper substrate; (2) exhibits hydric substrate conditions indicative of such hydrology; and (3) either lacks vegetation or the vegetation is dominated by hydrophytes. Wetland features that are connected to and run perpendicular to Waters of the United States are treated as conduits to those waters.

Wet Lot means a confinement facility for raising ducks which is open to the environment, has a small number of sheltered areas, and with open water runs and swimming areas to which ducks have free access.