National Pollutant Discharge Elimination System (NPDES) Permit Program

F A C T S H E E T

Regarding an NPDES Permit To Discharge to Waters of the State of Ohio
for the **Ohio Feedlot**

Public Notice No.: 10-10-009
Public Notice Date: October 5, 2010
Comment Period Ends: November 5, 2010

OEPA Permit No.: **1IK00001*BD**
Application No.: **OH0132314**

Name and Address of Applicant:

Ohio Feedlot
Cattle Production Systems, Inc.
1770 Promontory Circle
Greeley, CO 80634

Name and Address of Facility Where Discharge Occurs:

Ohio Feedlot
11000 Huntington Road
South Charleston, OH 45368
Clark County

Receiving Water: **Upper Little Miami River**

Subsequent Stream Network: **Ohio River**

Introduction

Development of a Fact Sheet for NPDES permits is mandated by Title 40 of the Code of Federal Regulations, Section 124.8 and 124.56. This document fulfills the requirements established in those regulations by providing the information necessary to inform the public of actions proposed by the Ohio Environmental Protection Agency, as well as the methods by which the public can participate in the process of finalizing those actions.

This Fact Sheet is prepared in order to document the technical basis and risk management decisions that are considered in the determination of water quality based NPDES Permit effluent limitations. The technical basis for the Fact Sheet may consist of evaluations of promulgated effluent guidelines, existing effluent quality, instream biological, chemical and physical conditions, and the relative risk of alternative effluent limitations. This Fact Sheet details the discretionary decision-making process empowered to the Director by the Clean Water Act and Ohio Water Pollution Control Law (ORC 6111). Decisions to award variances to Water Quality Standards or promulgated effluent guidelines for economic or technological reasons will also be justified in the Fact Sheet where necessary.

Procedures for Participation in the Formulation of Final Determinations

The draft action shall be issued as a final action unless the Director revises the draft after consideration of the record of a public meeting or written comments, or upon disapproval by the Administrator of the U.S. Environmental Protection Agency.

Within thirty days of the date of the Public Notice, any person may request or petition for a public meeting for presentation of evidence, statements or opinions. The purpose of the public meeting is to obtain additional evidence. Statements concerning the issues raised by the party requesting the meeting are invited. Evidence may be presented by the applicant, the state, and other parties, and following presentation of such evidence other interested persons may present testimony of facts or statements of opinion.

Requests for public meetings shall be in writing and shall state the action of the Director objected to, the questions to be considered, and the reasons the action is contested. Such requests should be addressed to:

Legal Records Section
Ohio Environmental Protection Agency
Lazarus Government Center
P.O. Box 1049
Columbus, Ohio 43216-1049

Interested persons are invited to submit written comments upon the discharge permit. Comments should be submitted in person or by mail no later than 30 days after the date of this Public Notice. Deliver or mail all comments to:

Ohio Environmental Protection Agency
Attention: Division of Surface Water
Permits and Compliance Section
Lazarus Government Center
P.O. Box 1049
Columbus, Ohio 43216-1049

The OEPA permit number and Public Notice numbers should appear on each page of any submitted comments. All comments received no later than 30 days after the date of the Public Notice will be considered.

Citizens may conduct file reviews regarding specific companies or sites. Appointments are necessary to conduct file reviews, because requests to review files have increased dramatically in recent years. For requests to copy more than 250 pages, there is a five-cent charge for each page copied. Payment is required by check or money order, made payable to Treasurer State of Ohio.

Background

The National Pollutant Discharge Elimination System (NPDES), created under the Clean Water Act of 1972, provides a means for monitoring, tracking, and preventing discharges of pollutants to waters of the states. Section 301 of the Clean Water Act and 40 CFR 122.1(b) requires NPDES permits for the discharge of pollutants from any point source into waters of the State. Pursuant to Section 502(14) of the Clean Water Act and 40 CFR 122.2, a Concentrated Animal Feeding Operation (CAFO) is listed in the definition of a point source. A discharge can be considered any addition of any pollutant or combination of pollutants to water of the United States. This includes runoff from feedlots, stock piled manure, silage bunkers, overflow from storage ponds, overflow from animal watering systems, and runoff from fields on which manure is not applied in accordance with proper agricultural practices.

Waters of the United States not only include rivers, streams, intermittent streams and lakes, but also irrigation ditches, laterals, canals, etc. which eventually flow into rivers, streams, and lakes.

Other federal regulations require concentrated animal feeding operations to acquire an NPDES permit. These include, but are not limited to the following:

- 40 CFR 122.3: Establishes concentrated animal feeding operations as "point sources subject to the NPDES permit program".

- 40 CFR 122.21: States that all CAFOs that discharge or propose to discharge have a duty to seek coverage under an NPDES permit.

- 40 CFR 122.23: Details the fact that CAFOs are point sources that require NPDES permits for discharges or proposed discharges. Once an operation is defined as a CAFO, best management practices for CAFOs apply to all animals in confinement at the operation and all manure, litter and process wastewater generated by those animals or the production of those animals, regardless of the type of animal.

Based on 40 CFR 122.23, Ohio Feedlot meets the definition of a large CAFO and is required to maintain coverage under an NPDES permit. Cattle Production System, Inc.'s Ohio Feedlot facility is currently permitted under the Ohio Department of Agriculture, Livestock Environmental Permitting Program (ODA, LEPP) for 9,800 beef cattle. Ohio Feedlot had a manure contaminated discharge to waters of the State in 2001 from a large uncovered stockpile of manure at the facility.

This permit does not allow a discharge of manure except under extreme circumstances as specified in Part I, A of the permit. An extreme weather related discharge is defined as an overflow due to a 25-year, 24-hour (or greater) storm event or a chronic rainfall that is deemed excessive by the Ohio EPA. In the event of a severe storm and a discharge occurs, Ohio Water Quality Standards may not be violated by any discharge from the production area. Storm water associated with industrial activity may be discharged as long as the discharge meets Ohio Water Quality standards.

There are several pollutants associated with discharges from CAFOs, including: nutrients (particularly nitrogen and phosphorus), organic matter, solids, pathogens, and odorous/volatile compounds. Additional pollutants also include salts and trace elements and to a lesser degree antibiotics, pesticides, and hormones. These pollutants can enter the environment through a number of pathways, including: surface runoff and erosion, overflows from lagoons, spills and other dry-weather discharges, leaching into soil and groundwater,

and volatilization of compounds and subsequent redeposition to the landscape. These discharges of pollutants can originate from animal confinement areas, manure handling and containment systems, manure stockpiles, and cropland where manure is applied. However, the NPDES permit will generally prohibit discharge of these pollutants to waters of the State.

Location of CAFO/Receiving Water Use Classification

Ohio Feedlot is located on Huntington Road near South Charleston, Ohio in Clark County (Madison Township). The nearest stream to the facility is the Little Miami River (LMR), which is identified by Ohio EPA River Code 11-001 and USEPA River Reach Number 05090202-010. The facility is bracketed by River Miles 106.4 through 106.8. The subsequent stream network includes the Ohio River.

The Little Miami River (LMR) is located in southwestern Ohio in the Ohio River Basin. Ohio Feedlot is located in the Little Miami River Basin (OAC 3745-1-18) and its use designation is as follows: Warmwater Habitat, Agricultural Water Supply, Industrial Water Supply, and Primary Contact Recreation. The Little Miami River is also designated under OAC 3745-1-05 as an Outstanding State Water based on exceptional ecological values.

The Little Miami River flows westward through the southern boundary of Ohio Feedlot. A culvert at the southwest corner of the property conveys the LMR under Huntington Road. Figure 1 shows the approximate location of the facility and the surrounding area as depicted by the USGS Florence Quadrangle. Ohio Feedlot is located in the Eastern Corn Belt Plains (ECBP) Ecoregion.

Figures 1 and 2 show the stream network in the Upper LMR watershed near Ohio Feedlot. Figure 3 represents the facility layout.

Facility Description

Ohio Feedlot is a large CAFO that has a series of eight barns that are designed to house a total of 9,800 slaughter cattle for the purpose of beef production. Six of the barns are freestall barns and two of the barns are hoop barns. Each freestall barn at Ohio Feedlot is roughly 60 feet wide by 1500 feet long and can hold approximately 1400 slaughter cattle. Each hoop barn can contain approximately 600 slaughter cattle. Combined, the eight barns total approximately 16 acres in size. Manure is stored in each barn until such time as it is removed and stored in a roofed manure storage structure until it is brokered to customers or to the Paygro composting facility.

Runoff from the feedlot that is directed between buildings eventually ends up in a series of culverts or open swales/ditches that drain the facility. Figure 3 is a general facility layout that depicts each of the outfalls/stations that represent culverts.

Outfall 001 represents culvert WW1N which is located at the northeast portion of the property. Culvert WW2NW is represented by Station 002 and is located to the west of outfall 001. Station 003 represents WW1S which is located on the southwestern portion of the property. This culvert drains the western portion of Ohio Feedlot and potentially portions of the Paygro Composting Facility that is located to the north of Ohio Feedlot. Station 004 is east of Station 003 and it represents a 36-inch diameter culvert that is currently known as WW2S. Station 005 is located east of station 004 and it represents a 36-inch diameter culvert that is currently referred to as WW3S.

Stations 003, 004, and 005 each drain directly into the Little Miami River. Due to the potential of these culverts to convey high concentrations of ammonia, phosphorus, and other oxygen demanding pollutants into the headwaters of the LMR, monitoring at each station for the parameters listed in Table 3 will be required. The discharge of storm water associated with industrial activity is authorized under the NPDES permit if the effluent maintains Ohio Water Quality Standards.

Description of Land Application Procedures and Available Land

Annual manure production from the 9,800 head of cattle is approximately 53,500 tons. The current operation manages its cattle manure with a pen pack bedding system, where manure is removed periodically from the housing pens and stored in a separate manure storage barn. The housing pens and manure storage barn provide the facility with 1,500,000 cubic feet of manure storage, which is approximately 232 days of storage based on annual manure production records. The cattle barns are figured to store a maximum of one foot of manure and bedding material. The manure storage barn measures 540 feet long by 154 feet wide with an estimated average storage depth of 12 feet. Most of the manure generated at the facility is gifted or sold to the neighboring composting facility, Paygro. Manure may also be gifted or sold to local farmers for land application on fields that are not managed by Ohio Feedlot.

Ohio Feedlot currently has a manure management plan developed through the Ohio Department of Agriculture in accordance with their permit to operate. This plan is available by contacting Ohio EPA. Public comments should be submitted to Ohio EPA. Please note that a portion of the manure management plan conditions become effective upon permit coverage, such as monitoring and inspection requirements, setbacks, timing restrictions, etc. See Section "Additional Effluent Limitations and Monitoring Requirements" below. As stated in Part II, J, Ohio EPA can notify Ohio Feedlot at any time that the plan does not meet the minimum requirements of the permit and request plan modifications, which are required to be completed within 30 days of notification. It should be noted that comments regarding manure management plan requirements contained in the permit conditions should be made during this public notice.

Manure shall be managed and transported in such a fashion as to prevent leaks, spills, and runoff. If manure is sold/gifted to another party, the recipient must be notified of nutrient properties contained in the manure as determined from laboratory manure analysis. Storm water runoff discharges are allowed from land application fields to surface water provided the manure is applied in accordance with the MMP and conditions of the permit.

Receiving Water Quality / Environmental Hazard Assessment

The Little Miami River watershed was included on the 1998 303(d) list of Impaired Waters based on an assessment conducted in 1993. Ohio EPA conducted the most recent detailed chemical and biological water quality survey of the watershed in 1998 with results listed in the Technical Support Document, *1998 Biological and Water Quality Study of the Little Miami River Basin, OEPA Technical Report MAS/1999-12-3.* Ohio EPA finalized a Total Maximum Daily Load (TMDL) report for the upper Little Miami River in April 2002. The primary causes of impairment in the upper Little Miami River watershed were listed as nutrient enrichment, low instream dissolved oxygen, sedimentation, and habitat degradation. The TMDL was developed for phosphorus and sediment. Ohio Feedlot was identified in the TMDL as a potential source of impairment to the Little Miami River.

Table 2 shows the use attainment status as well as the QHEI (habitat) score of the sampling sites in the headwaters of the Upper Little Miami River basin located near Ohio Feedlot. Ohio Feedlot is located at

approximately River Miles 106.4 through 106.8 of the Little Miami River.

Outfall Information and Parameter Selection

The following excerpts from the Ohio Administrative Code (OAC) give the Ohio EPA the right to require monitoring of specific parameters in NPDES permits:

- OAC 3745-33-08(D): The director may include in an Ohio NPDES permit any other terms or conditions he finds reasonable and appropriate for the prevention and abatement of pollution.

- OAC 3745-33-07(A)(3): Pollutant monitoring of pollutants in groups one, two, or three of the pollutant assessment may be specified by the director.

The most commonly recognized pollutants associated with Concentrated Animal Feeding Operations include biochemical oxygen demand (BOD), total suspended solids (TSS), organics, bacteria, and nutrients. Typically these nutrients are in the form of various nitrogen and phosphorus compounds. These pollutants have the potential to impair water quality and fall within groups 2 or 3 of the pollutant assessment.

It is the intent of the NPDES permit to ensure that these substances do not impair water quality. Therefore, the permit has been set up in such a way as to monitor sites or sampling stations that cause, or have the potential to cause, water quality violations. Figure 3 is a general facilities schematic that was submitted to the Ohio EPA by Ohio Feedlot. The three digit station numbers appearing on the schematic represent the general location of the sampling stations that are listed in the NPDES permit and described in more detail in this fact sheet. The sampling stations are described as follows:

Stations 001-005
Stations 001 through 005 are described in the Facility Description section discussed previously. The intent of these monitoring stations is to determine if the culverts located at Ohio Feedlot are conveying pollutants to the Little Miami River. Water samples taken from these points will provide information pertaining to the level of possible pollutants in the storm water. These stations provide Ohio EPA with information concerning Ohio Feedlot housekeeping procedures and will be used over time to determine if the recommendations in the TMDL to decrease phosphorus loads are being met.

Additional Effluent Limitations and Monitoring Requirements

Effluent limitations and monitoring requirements contained in Parts II and VII of the permit are based on 40 CFR Parts 122, 123, 412, OAC Chapters 901:10-2, United States Department of Agriculture Natural Resources Conservation Service (USDA-NRCS) Practice Standards, and best professional judgment.

The NPDES permit requires the development of a manure management plan (MMP). The MMP shall address the form, source, amount, timing, agronomic rate, and method of application of nutrients to each field to achieve compliance with Part I, A of the permit, assure appropriate agricultural utilization of the nutrients, and minimize movement of pollutants to surface waters.

The NPDES permit requires the submission of an annual report to Ohio EPA in Part II that shall include at a minimum the following information:

1. The number and type of animals confined in the previous year.
2. Estimated amount of manure generated in the previous year in gallons or tons.
3. Total amount of manure removed from the facility for land application and/or distribution or utilization in gallons or tons.
4. Total number of acres for land application covered by MMP.
5. Total number of acres under the control of the permittee that were used for land application in the previous year.
6. Manure distribution and utilization records.
7. Summary of the number of discharges from the production area and the number of discharges from land application areas that were not composed of agricultural storm water runoff for the past year, including date, time and approximate volumes.
8. Information on any non-compliance not previously reported to Ohio EPA. The written submission shall contain a description of the noncompliance and its cause; the period of 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.
9. A statement indicating if the MMP was developed by a certified manure management planner.
10. A copy of the training/seminar attendance documentation as required by Part II, G of this permit.
11. The actual crop(s) planted and actual yield(s) for each field, the actual nitrogen and phosphorus content of the manure, the results of calculations conducted in accordance with Part II, J, 4, and the amount of manure applied to each field during the previous twelve months.

The NPDES permit requires specific monitoring and inspection requirements. The following table from Part VII of the permit contains the requirements along with the justification for inclusion of the requirements in the permit. The NPDES permit includes manure land application requirements in Part VII. These requirements include the development of a total nutrient budget for the operation, determination methods for appropriate manure application rates, record keeping requirements, application restrictions, and application timing restrictions.

Table 1. Monitoring and Inspection Requirements

Action	Frequency	Record Keeping Requirements	Justification
Grab samples shall be taken of all discharges from the production area. Clean storm water that has been diverted does not need to be sampled.	Each time they occur	Date and time of sample, results of analysis, and the information required in Part III, 5 and 6.	Best Professional Judgment – To ensure compliance with Part I, A of the permit.
All discharges from the production area and land application area shall be recorded in the operating record.	Each time they occur	Cause, volume, and duration of discharge and any corrective actions needed and the dates those actions were taken.	40 CFR Part 122.42 and 40 CFR Part 412.37 requires these records to be maintained.
In accordance with Part VII, B, 5 of this permit, grab samples shall be taken of discharges from land application areas where manure was applied on frozen and/or snow covered ground.	Each time they occur	Date and time of sample, results of analysis, and the information required in Part III, 5 and 6.	Best Professional Judgment – To ensure compliance with Part I, A and Part VII of the permit.
Representative samples of the manure to be land applied shall be taken from each source (e.g. each lagoon, storage tank, or permanent stockpile area must be sampled).	1/year	The information required in PART III, 5 and 6.	40 CFR Part 412.4 and 40 CFR Part 412.37 requires the sampling and records to be maintained.
Representative soil samples of the manure land application fields.	Every 3 years	The information required in Part III, 5 and 6.	40 CFR Part 412.4 and 40 CFR Part 412.37 requires the sampling and records to be maintained.
Monitor operating level of all manure storage or treatment facilities.	1/week	Date and time of observation, manure level in each structure.	40 CFR Part 412.37 requires the inspections and record keeping.
Inspect manure storage or treatment facilities, including devices channeling contaminated storm water to the manure storage or treatment facility for evidence of erosion, leakage, animal damage or discharge.	1/week	Date and time of inspection, structural integrity, vegetation condition, and any corrective actions needed and the dates those actions were taken.	40 CFR Part 412.37 and Best Professional Judgment require the inspections and record keeping.
Inspect storm water diversion devices or runoff diversion structures.	1/week	Date and time of inspection, observations of flow quantity and color, structural integrity (e.g. signs of cracks, sparse or stressed vegetation, erosion, etc.), any corrective actions needed and the dates those actions were taken.	40 CFR Part 412.37 and Best Professional Judgment require the inspections and record keeping.
Inspect drinking and cooling water lines that are located above ground, readily visible or accessible for daily inspection.	Daily	Date and time of inspection, number of leaks, any corrective actions needed and the dates those actions were taken.	40 CFR Part 412.37 requires the inspections and record keeping.
Monitor forecast at the CAFO location.	Every land application event	Date, weather conditions (including percentage chance of rain) 24 hours prior to application, at the time of application, and 24 hours after application.	40 CFR Part 412.37 and Best Professional Judgment require the monitoring and record keeping.
Inspect land application fields.	In accordance with MMP	Date and signs of discharge or runoff into surface waters and/or conduits to surface waters of the State.	Best Professional Judgment requires the monitoring and record keeping to document compliance with 40 CFR Part 412.4.
Inspect land application equipment.	In accordance with MMP	List of equipment, date of inspections, corrective actions, calibration dates.	40 CFR Part 412.4 and Best Professional Judgment require the inspections and record keeping.

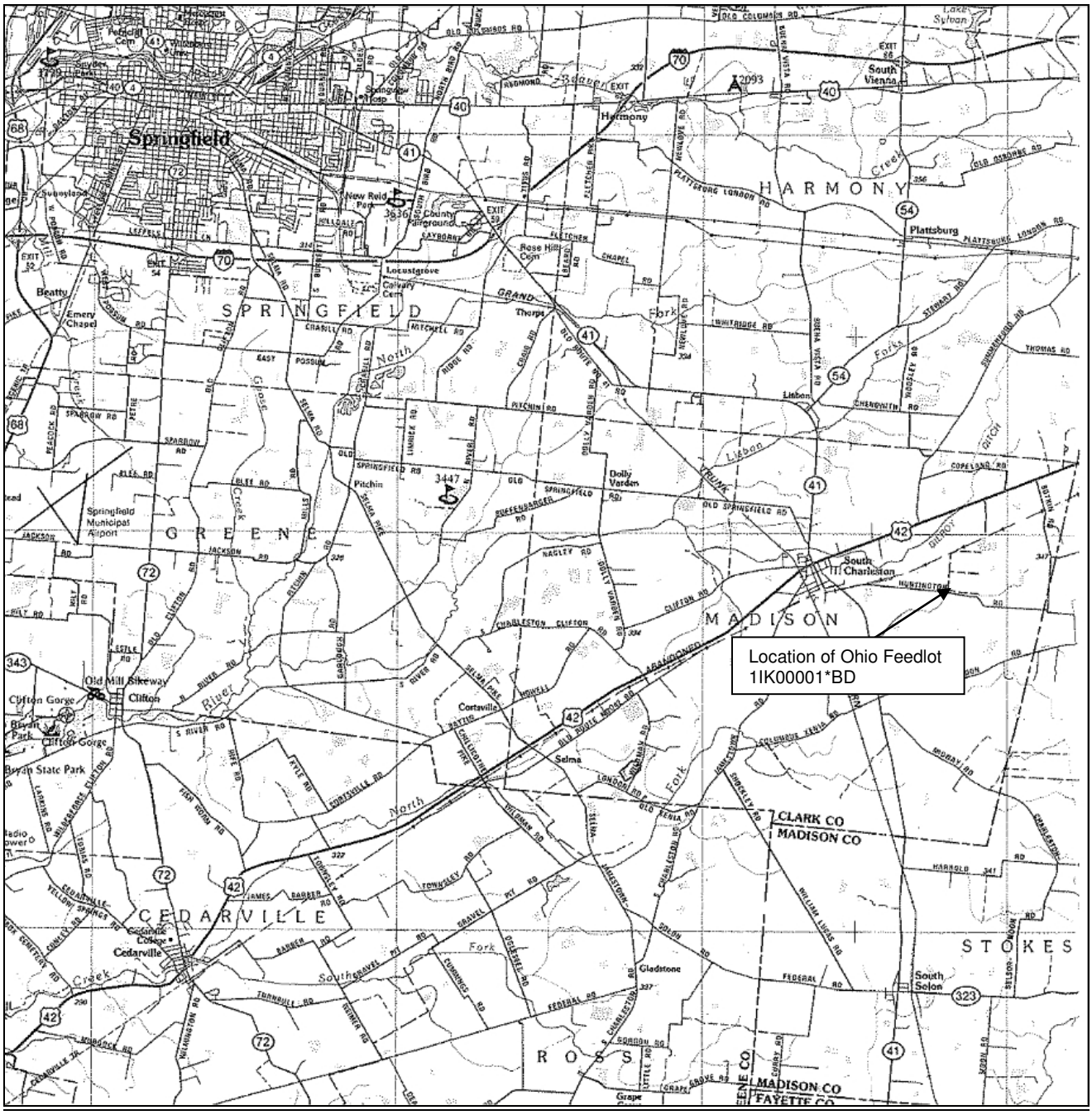

Figure 1. Approximate location of Ohio Feedlot

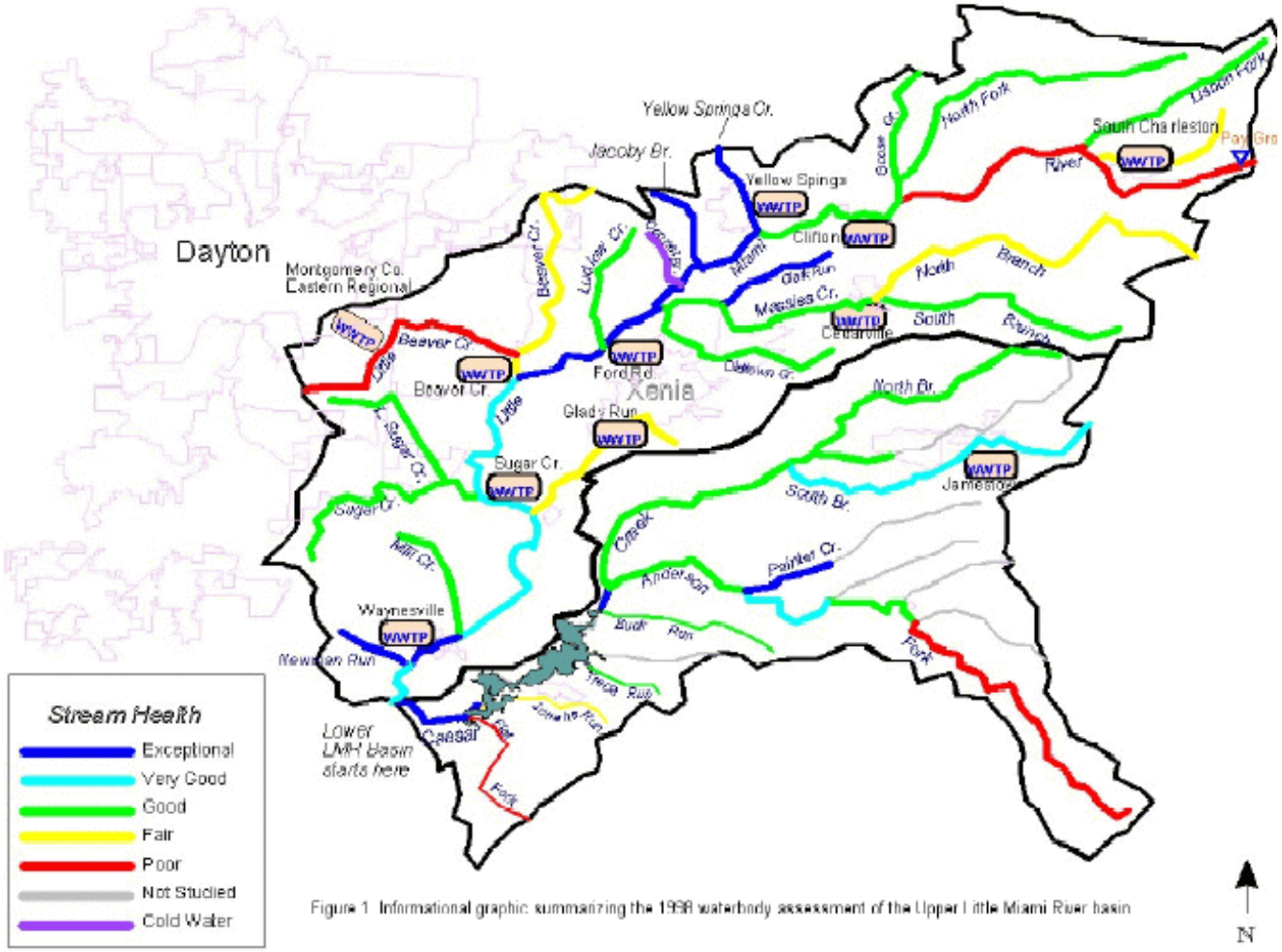

Figure 1 Informational graphic summarizing the 1998 waterbody assessment of the Upper Little Miami River basin

Figure 2. Graphic of Little Miami River Watershed

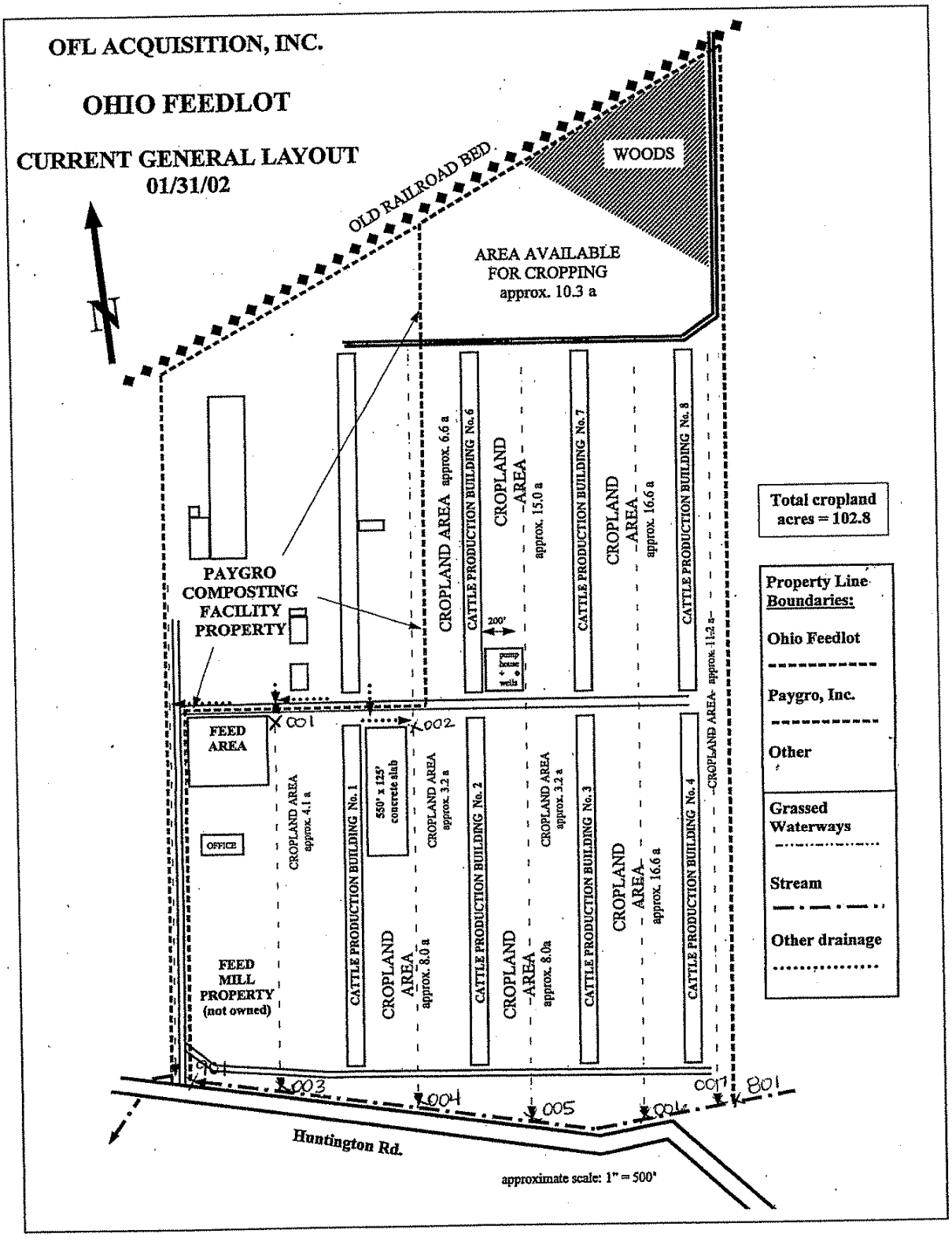

Figure 3. Ohio Feedlot Layout

Table 2. Little Miami River Watershed Use Attainment Status

Table 4. Aquatic life use attainment status for stations sampled in the Little Miami River basin July-September, 1998. The Index of Biotic Integrity (IBI), Modified Index of well being (MIwb), and Invertebrate Community Index (ICI) are scores based on the performance of the biotic community. The Qualitative Habitat Evaluation Index (QHEI) is a measure of the ability of the physical habitat to support a biotic community. This data was not available in time for the 1998 303(d) list.

River Mile Fish/Invert.	IBI	MIwb[a]	ICI[b]	QHEI	Attainment Status[c]	Comment
Little Miami River (11-001)						
Eastern Corn Belt Plain EWH (existing)/WWH proposed						
--/106.8	--	--	P*	--	(NON)/(NON)	Ust Pay Gro (Garick Corp.)
104.9	28*	NA	P*	47.5	NON/NON	Dst Pay Gro (Garick Corp.)
101.3/101.8	41*	NA	18*	44.5	NON/Partial	Dst Pay Gro/ Ust Gilroy D
98.3/98.8	37*	7.6*	44ns	54.0	Partial/Partial	Dst Gilroy Ditch

	Biological Criteria					
	Eastern Corn Belt Plains (ECBP)			Interior Plateau (IP)		
Index-Site Type	EWH	WWH	MWH	EWH	WWH	MWH
IBI-Headwaters	50	40	24	50	40	24
IBI-Wading	50	40	24	50	40	24
IBI-Boat	48	42	24	48	38	24
MIwb-Wading	9.4	8.3	6.2	9.4	8.1	6.2
MIwb-Boat	9.6	8.5	5.8	9.6	8.7	5.8
ICI	46	36	22	46	30	22

a The Modified Index of Well-being is not applicable (NA) to headwater site types.
b A qualitative narrative evaluation used when quantitative data were not available or unreliable due to current velocities less than 0.3 fps flowing over the artificial substrates (P = Poor, F = Fair, MG = Marginally Good, G = Good, VG = Very Good, E = Exceptional).
c Use attainment status based on one organism group is parenthetically expressed.
A Boat sampling method
D Wading method
* Indicates significant departure from applicable biocriteria (>4 IBI or ICI units, or >0.5 MIwb units). Underlined scores are in the Poor or Very Poor range.
ns Nonsignificant departure from biocriteria (≤4 IBI or ICI units, or ≤0.5 MIwb units).
d Modified Warmwater Habitat criteria for channel modified habitats.

Table 3. Monitoring requirements for Ohio Feedlot outfalls (e.g., culverts/drain tiles at the facility) 1IK00001001, 1IK00001002, 1IK00001003, 1IK00001004, and 1IK00001005 and the basis for their recommendation.

		Effluent Limits				
		Concentration		Loading (kg/day)		
Parameter	Units	30 Day Average	Daily Maximum	30 Day Average	Daily Maximum	Basis[a]
Precipitation	inches	- - - - - - - - - - - -	Monitor	- - - - - - - - - - - - - - -		RP
BOD_5	mg/l	- - - - - - - - - - - -	Monitor	- - - - - - - - - - - - - - -		RP
Ammonia-N (NH_3-N)	mg/l	- - - - - - - - - - - -	Monitor	- - - - - - - - - - - - - - -		RP
Phosphorus, Total (P)	mg/l	- - - - - - - - - - - -	Monitor	- - - - - - - - - - - - - - -		RP

[a] Definitions: RP = Reasonable Potential for requiring water quality-based effluent limits and monitoring requirements in NPDES permits (3745-33-07(A)).