

VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY AND  
VIRGINIA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES

# VIRGINIA'S SMALL ANIMAL FEEDING OPERATIONS (AFO) EVALUATION AND ASSESSMENT STRATEGY

A COOPERATIVE STRATEGY

July 23, 2012

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# VIRGINIA'S SMALL AFO EVALUATION AND ASSESSMENT STRATEGY

## I. BACKGROUND

The Virginia Department of Environmental Quality (DEQ) Animal Waste Program regulates animal feeding operations (AFOs) by using both the Virginia Pollution Abatement (VPA) Permit Regulation and the Virginia Pollutant Discharge Elimination Permit (VPDES) Regulation. More specifically, AFOs or concentrated animal feeding operations (CAFOs) which do not discharge to state waters are regulated under the VPA Permit Regulation 9VAC25-32-10, *et seq.*, the VPA General Permit Regulation for Animal Feeding Operations (AFOs) 9VAC25-192-10, *et seq.*, and the VPA Regulation and General Permit for Poultry Waste Management 9VAC25-630-10, *et seq.* CAFOs which discharge to state waters are regulated under the VPDES Permit Regulation 9VAC25-31-10, *et seq.*

### Defining AFOs and CAFOs

An AFO is defined as follows:

*An animal feeding operation means a lot or facility (other than an aquatic animal production facility) where the following conditions are met:*

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

A CAFO is defined as follows:

*A concentrated animal feeding operation means an AFO that is defined as a Large CAFO or as a Medium CAFO or that is designated as a Medium CAFO or a Small CAFO. Any AFO may be designated as a CAFO by the director in accordance with the provisions of 9VAC25-31-130 B. (also see Section XVI).*

*Note: 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 the disposal of wastes.*

AFOs which confine more than 300 animal units of livestock and handle liquid manure are required to obtain coverage under a VPA General Permit for AFOs. Poultry AFOs which confine more than 200 animal units of poultry (20,000 chickens or 11,000 turkeys) must register for coverage under the VPA Regulation and General Permit for Poultry Waste Management.

## Small AFOs

Small AFOs are those operations that fall below the current animal number thresholds which require the DEQ VPA permit coverage as described above. It is estimated that there are approximately 800 small dairy and poultry AFOs in Virginia alone; however, as this number does not account for other livestock, equine or exotic/non-traditional agricultural animal operations it is expected that the actual number of Small AFOs will be determined as DEQ and VDACS progress through the process outlined in this Strategy.

Due to the nature of Small AFOs and the problem of appropriate management of nutrients related to the operation or produced by the confined animals; the operation of a Small AFO may present risks or may impact water quality in a manner which requires the implementation of additional control measures that will significantly reduce or eliminate the risk/impact. The DEQ and the Virginia Department of Agriculture and Consumer Services (VDACS) have collaborated on the development of this Strategy by which Small AFOs will be evaluated for site specific risks/impacts to surrounding water quality.

## DEQ and VDACS

The DEQ Animal Waste Program staff and the VDACS Agricultural Stewardship Act (ASA) Program staff currently have a successful working relationship to handle complaints and subsequent investigations of agricultural operations not covered by a DEQ permit, including the coordination of jurisdictional issues involving Small AFOs. Typically, ASA staff have led responses to environmental issues at Small AFOs with DEQ involvement in certain cases. This process has proven to be effective in resolving water quality issues found at unregulated facilities. In order to increase the effectiveness of this approach, DEQ and VDACS (or the Agencies) are partnering to enhance the relationship between the existing DEQ - Animal Waste Program and the VDACS - ASA Program. The development of the Small AFO Evaluation and Assessment Strategy is a proactive measure to compliment the regulatory-based Animal Waste Program and the complaint-based ASA Program. Integral to this Strategy, a Memorandum of Agreement (MOA) between the two Agencies will be developed to detail the partnership between the two Agencies. The MOA will allow both Agencies to better utilize their existing programs and resources for these operations.

Furthermore, DEQ and VDACS are seeking assistance from agricultural organizations, agricultural commodity groups, local governments, the Virginia Cooperative Extension (VCE), Soil and Water Conservation Districts (SWCDs), the United States Department of Agriculture - Natural Resources Conservation Service (USDA-NRCS) and others interested in water quality issues, to increase in education and outreach efforts. The goal is to enhance the awareness among their respective memberships and stakeholders regarding this Strategy, the Chesapeake Bay Watershed Implementation

Plan (WIP), utilization of the ASA, water quality protection and preservation, and the importance of implementing conservation practices.

In addition, a self assessment tool will be available to the owners or operators and its use encouraged through these outreach efforts. The goal of this tool is to assist these parties in determining if their operation is an AFO and if water quality risks/impacts are present at their operation prior to being contacted by Agencies' staff (**also see Section IV**).

### Virginia's Watershed Implementation Plan

Virginia's Phase I Watershed Implementation Plan for the Chesapeake Bay submitted to the Environmental Protection Agency (EPA) in November 2010 includes the following timeline for the development of a strategy to address water quality concerns at Small AFOs:

1. Finalize further details regarding a strategy to address water quality concerns at Small AFOs by mid 2011;
2. Develop an MOA between DEQ and VDACS in early 2012;
3. Evaluate existing DEQ and VDACS program protocols and procedures and where appropriate make changes in order to facilitate a more efficient and effective implementation of the MOA;
4. Complete evaluations of those AFOs which are not regulated by a permit, by early 2015.

## **II. PURPOSE**

The purpose of this document is to establish procedures that will be used to identify, evaluate and assess Small AFOs for any risks/impacts to water quality that the operation may generate and to address the identified risks/impacts. It also details the criteria by which decisions will be made regarding the evaluation and assessment of the AFOs, the appropriate corrective measures to address risks/impacts identified and the ultimate resolution of the water quality issues or risks/impacts.

This approach will supplement the existing complaint driven VDACS - ASA Program and the DEQ Animal Waste Program by incorporating a proactive evaluation and on-site assessment of Small AFOs for water quality risks/impacts posed by AFOs.

### III. INTRODUCTION

#### Strategy Components

The Small AFO Evaluation and Assessment Strategy establishes the following:

- Methods by which the AFOs will be identified;
- Criteria by which the identified AFOs will be prioritized and evaluated;
- Operator Self Assessment Tool
- On-Site Assessment procedures including identifying water quality risks/impacts;
- How to address site specific water quality risks/impacts;
- Options for the AFOs, where additional measures to eliminate risks/impacts are determined to be necessary.

The value of good communication is well understood by both the DEQ and the VDACS. The Agencies are committed to communicate throughout the multiple step process established in this document. Decisions related to the prioritization and evaluation process in this Strategy will not be made unilaterally. However; each Agency under its specific statutory authority is required to make its own programmatic decisions regarding the steps to be taken to eliminate the risks/impacts from certain operations as discussed in **Section XIII**. Initially, the Agency jurisdiction will be determined based on information gathered during the evaluation process except in cases where a complaint is received by one of the Agencies (**also see Section VII**). In addition, the Agencies will make decisions regarding jurisdiction throughout the process.

#### Agencies Statutory Authority

[§3.2-400 et. seq.](#) of the Code of Virginia provides the VDACS the authority to implement the ASA Program. Once a complaint has been filed, VDACS uses this authority to investigate allegations of water quality pollution related to agricultural activities. If the agricultural activity is found to be causing, or will cause water pollution, the owner operator must submit a plan that includes the necessary measures to address the water pollution. The plan must then be implemented within a specified time frame. If the owner or operator fails to implement those measures and the water pollution continues to occur, enforcement action is taken. Subsequent site visits take place to ensure compliance.

[§62.1-44.15.\(5\)](#) and [§62.1-44.17](#) of the State Water Control Law provides the DEQ, under the direction of the State Water Control Board, the authority to permit the management of pollutants at animal feeding operations which do not otherwise meet the criteria stipulated in [§62.1-44.17.1](#) or [§62.1-44.17.1.1](#) which mandate the owners or operators of certain animal feeding operations to obtain coverage under a VPA permit. DEQ uses this authority to regulate operations which fall outside the mandated VPA criteria, or operations which DEQ determines are inappropriate to be regulated through the general permit. In addition, DEQ can make such permit determinations for Small

AFOs using the designation procedures outlined in [9VAC25-32-250 B.](#); these procedures include on-site inspections used to identify various site specific factors contributing to potential or actual water pollution.

#### **IV. OPERATOR SELF ASSESSMENT TOOL**

A self assessment by the owners or operators will be encouraged so as to assist these parties in determining if their operation is an AFO and if water quality risks/impacts are present at their operation. The use of a self assessment tool will allow the owner or operator to begin planning and/or implementing adjustments to the operation which will minimize or eliminate risks/impacts prior to being contacted by the Agencies' staff.

#### **V. IDENTIFYING THE AFO**

##### Resources to Use

The operations will first be identified by DEQ or VDACS staff using the following resources:

- a. Windshield surveys
- b. Staff knowledge of operations
- c. Complaints
- d. County/Locality websites
- e. Geographical Information System (GIS) resources
- f. Resources identified by the Agencies and their stakeholders

#### **VI. EVALUATION OF THE IDENTIFIED AFOs**

It must be determined that the identified operation meets the definition of an AFO. If the operation is not an AFO, it cannot be evaluated under this Strategy. Each of the identified AFOs will be evaluated to determine whether an on-site assessment is necessary using the criteria found below in this section. It is possible as the identified AFOs are evaluated, that a determination will be made that an operation poses little or no risk to water quality and therefore would not require an on-site assessment by the Agencies' staff.

##### Prioritization

In order to address the highest water quality risks/impacts in the most effective and efficient manner each identified operation will be prioritized for evaluation. The findings, based on the criteria numbered four through seven below, will determine the priority ranking of the AFO to be evaluated. A higher priority ranking may be assigned to a Small AFO for which a complaint is received. If the AFO is associated with a permitted operation or a permittee then the site will be evaluated under the DEQ Animal Waste Inspections Program. If the operation is presently or was in the past subject to an ASA investigation, the priority for evaluation will be based on information provided by VDACS regarding the outcome of the investigation and whether there has been any follow-up.

## Criteria

1. Is the operation an AFO? (Can the operation be defined as an AFO?)
2. Is the AFO associated with another operation which is regulated by a permit or is the AFO owned or operated by a party which holds a permit for another operation?
3. Is the site or operation presently or has it in the past been subject to an ASA investigation?
4. What is the proximity of the operation to surface waters?
5. Do the confined animals have access to surface waters in the production area?
6. Are nearby surface waters impaired?
7. Is waste storage present at the operation?

## **VII. PROCEDURES FOR PERFORMING THE ON-SITE ASSESSMENTS**

DEQ Animal Waste Program staff will perform the on-site assessments with periodic assistance by VDACS - ASA staff. In cases where a water pollution complaint related to a Small AFO is received by VDACS, VDACS - ASA staff will perform the on-site assessments when applicable. The Agencies' staff will confer prior to conducting the on-site assessment.

For the purpose of scheduling the on-site assessment, efforts will be made to contact the owner/operator via telephone, letter or email. If attempts to contact the owner/operator are unsuccessful, staff will visit the operation so as to schedule the on-site assessment. In order to obtain accurate information, it is necessary to have the owner or operator or their designee present during the on-site assessment.

## **VIII. ON-SITE ASSESSMENT CATEGORIES**

When it is determined that an on-site assessment is necessary, the Agencies' staff will complete assessments of all sites associated with the AFO, in order to gather information related to the categories listed below. Staff will be trained to use the more specific **On-Site Assessment Checklist** located in the **Appendix A**.

1. Owner and operator of the AFO
2. Animal types and operation size
3. Production Area details:
  - a. Animal waste production, waste handling and waste storage
  - b. storm water management
  - c. mortality management
4. Nutrient management and land application details
5. Ambient water sampling and analysis data (where necessary)

## **IX. FIELD DETERMINATIONS - WATER QUALITY RISKS/IMPACTS**

Since each operation is unique and when it is determined that a potential risk to water quality is posed by the operation, the site must be assessed using the **On-Site Assessment Checklist (located in Appendix A)** in order to make a determination of the actual presence of water quality risks/impacts.

In addition, it may be necessary to collect and analyze ambient surface water samples in order to determine if there is an impact to water quality associated with the operation.

## **X. DETERMINING WHETHER THE AFO WILL NEED FURTHER MEASURES**

When an on-site assessment concludes that there are water quality risks/impacts related to the AFO, the Agencies' staff will make a determination of whether corrective action is needed by the owner/operator of the AFO in order to address water quality risks/impacts. This determination will be based on the findings of the on-site assessment and a joint decision by both Agencies. For cases where it is determined that VDACS is the appropriate Agency to address the required measures, then the case will be officially referred to VDACS in the form of a complaint.

## **XI. STEPS TO BE TAKEN TO ADDRESS THE SITE SPECIFIC WATER QUALITY RISKS/IMPACTS**

Following each individual on-site assessment where water quality risks/impacts are found, the most appropriate remedy to solve environmental issues will be utilized. See **Section XII** for details regarding appropriate measures to address site specific water quality risks/impacts. The Agencies' staff will confer prior to making any determinations related to which measures and options are best suited for the operation. The owner/operator will be encouraged to seek technical assistance from the local SWCD, USDA-NRCS or another third party. Options to address the water quality risks/impacts will be discussed with the owner/operator of the AFO prior to final determination of the option to be utilized to ensure the risks/impacts are fully addressed.

## **XII. APPROPRIATE MEASURES**

It is the intention of the Agencies to be flexible when addressing site specific water quality risks/impacts. Multiple measures will be available to owners and operators to allow them to address water quality risks/impacts in the most effective and efficient manner while keeping in mind their goals for the AFO. The measure or suite of measures will be discussed with the owner/operator prior to a determination being made as to which measure or measures will be used to address the water quality risks/impacts.

Examples of measures that could be used to address site specific water quality risks/impacts include the following:

- Changing a management (routine) practice, such as:
  - moving a livestock feeding area away from surface waters
  - relocating manure/ nutrient stockpiles which are stored outside and adjacent to surface waters
- Implementing a best management practice (BMP), such as:
  - Installing a fence to exclude livestock from surface waters and creating a vegetated buffer to filter nutrients and sediment
  - Improving nutrient management practices

### **XIII. OUTCOMES**

The outcomes are the methods used to implement the measures which will address the water quality risks/impacts identified by the on-site assessment. Any of the following outcomes may be chosen to address identified water quality risks/impacts. If the Agencies determine that the initial outcome chosen is not adequate then one of the other outcomes can be chosen to address the water quality risks/impacts.

The following factors will be considered when determining the most appropriate outcome:

- How quickly can the water quality risk be addressed?
- Is the owner or operator cooperating?
- What is the degree of water quality impact?

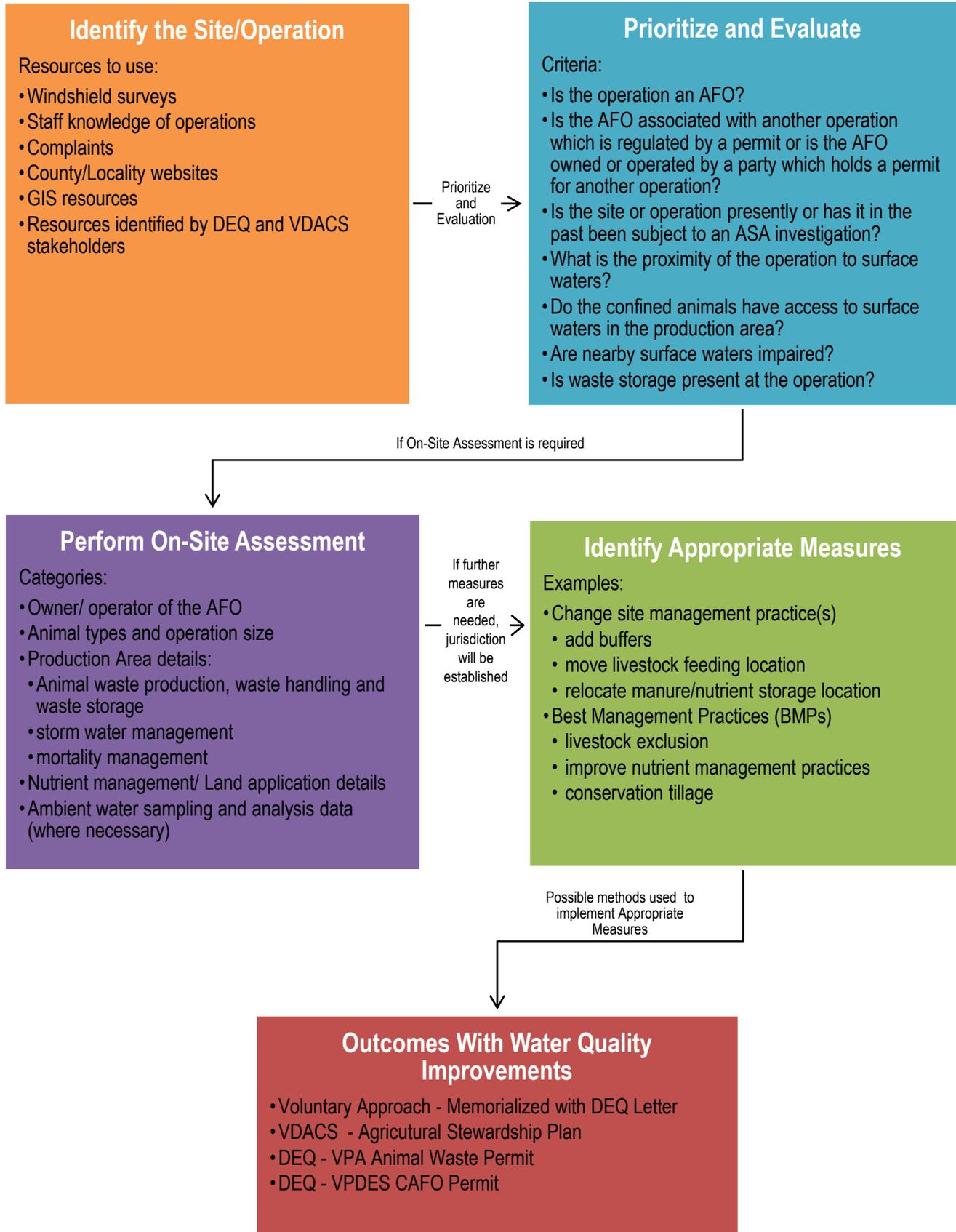
In addition, the following will be considered when determining whether a DEQ permit is necessary:

- Does the owner/operator of the AFO require more than self-monitoring such as routine inspections by DEQ staff in order to comply with State Water Control Law?
- Is a discharge of pollutants to state waters occurring and can the owner/operator implement corrective action within 180 days to eliminate the discharge?

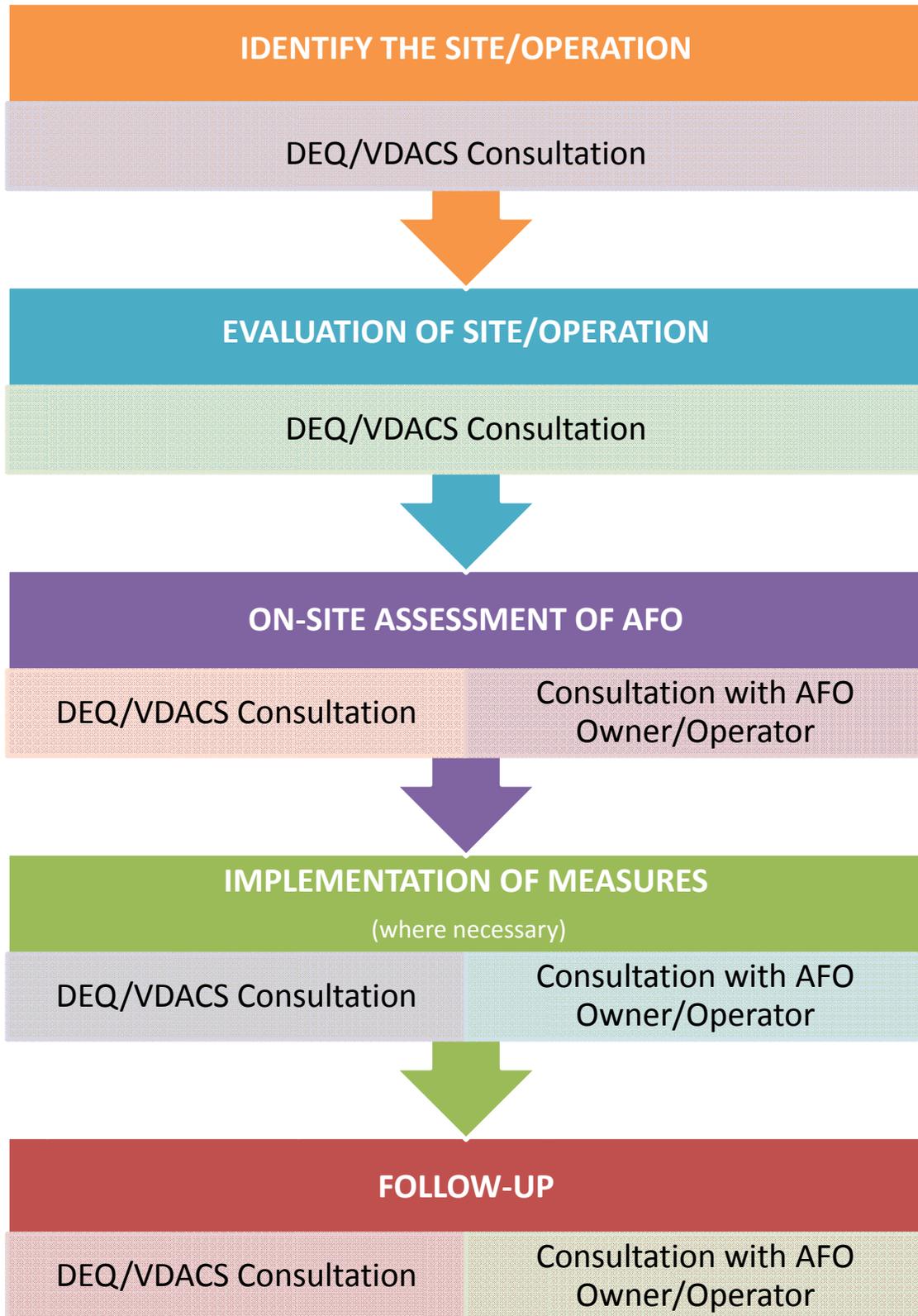
The Outcomes include:

- Voluntary Approach - Memorialized With A DEQ Letter:
  - The owner will seek technical assistance through the local SWCD, NRCS or another third party; and/or
  - The owner/operator will install or implement appropriate best management practices (BMPs) to address the water quality risk/impact; and/or
  - The owner/operator will change or implement appropriate management (routine) practices to address the water quality risk/impact; and/or
  - The owner/operator will implement the practices outlined in a Resource Management Plan.
  - A DEQ letter will memorialize the changes to be made to address the water quality risk/impact.
  
- VDACS – Agricultural Stewardship Plan:
  - Upon the completion of a VDACS - ASA investigation, a determination will be made whether an Agricultural Stewardship Plan (Agricultural Stewardship Plan as defined in Section XV.) will be required.
  - An Agricultural Stewardship Plan is developed and submitted to the Commissioner of Agriculture for approval.
  - The owner/operator will implement the measures outlined in the Stewardship Plan by the specified deadline
  
- DEQ - VPA Animal Waste Permit:
  - The DEQ will determine the requirement for VPA permit coverage; or
  - The owner/operator can decide to request coverage under the VPA general or individual permit; and
  - The owner/operator will apply for, obtain and comply with the VPA permit.
  
- DEQ - Designation Under The VPDES CAFO Program:
  - The DEQ will designate the AFO as a significant contributor of pollutants thereby considering the operation a Small CAFO and requiring the owner/operator to apply for the VPDES CAFO permit; and
  - The owner/operator will apply for, obtain and comply with the VPDES CAFO permit.

## XIV. FLOWCHART: STRATEGY PROCESS



**XV. FLOWCHART: AGENCIES COMMUNICATION PROCESS**



## XVI. GLOSSARY OF TERMS AND ACRONYMS

### Agencies

means, for the purposes of this document, the Virginia Department of Agriculture and Consumer Services and the Virginia Department of Environmental Quality.

### Agricultural Stewardship Plan (VDACS - ASA Program)

means a site-specific plan for an agricultural activity to manage, through use of stewardship measures, one or more of the following: soil, water, plants, plant nutrients, pest controls, wastes, and animals.

### Animal Feeding Operation

**AFO**

means a lot or facility (other than an aquatic animal production facility) where the following conditions are met:

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

### Concentrated Animal Feeding Operation

**CAFO**

means an AFO that is defined as a Large CAFO or as a Medium CAFO or that is designated as a Medium CAFO or a Small CAFO (see table below). Any AFO may be designated as a CAFO by the DEQ director in accordance with the provisions of 9VAC25-31-130 B.

Note: 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 the disposal of wastes.

Animal Type	Number of Animals (stabled or confined as indicated below)		
	Large	Medium <sup>1</sup>	Small <sup>1,2</sup>
Mature Dairy Cattle	700 or more	200 to 699	Less than 200
Cattle or cow/calf pairs	1,000 or more	300 to 999	Less than 300
Veal calves	1,000 or more	300 to 999	Less than 300
Swine (weighing over 55 pounds)	2,500 or more	750 to 2,499	Less than 750
Swine (weighing less than 55 pounds)	10,000 or more	3,000 to 9,999	Less than 3,000
Turkeys	55,000 or more	16,500 to 54,999	Less than 16,500
Laying hens or broilers (liquid manure handling systems)	30,000 or more	9,000 to 29,999	Less than 9,000
Chickens other than laying hens (other than a liquid manure handling systems)	125,000 or more	37,500 to 124,999	Less than 37,500
Laying hens (other than a liquid manure handling systems)	82,000 or more	25,000 to 81,999	Less than 25,000
Horses	500 or more	150 to 499	Less than 150
Sheep or Lambs	10,000 or more	3,000 to 9,999	Less than 3,000
Ducks (other than a liquid manure handling systems)	30,000 or more	10,000 to 29,999	Less than 10,000
Ducks (liquid manure handling systems)	5,000 or more	1,500 to 4,999	Less than 1,500
<p>1 Either one of the following conditions are met:</p> <p>(A) Pollutants are discharged into surface waters of the state through a man-made ditch, flushing system, or other similar man-made device; or</p> <p>(B) Pollutants are discharged directly into surface waters of the state that originate outside of and pass over, across, or through the facility or otherwise come into direct contact with the animals confined in the operation.</p>			
<p>2 Must be designated by the Department as a significant contributor of pollutants to surface waters.</p>			

## Surface Waters:

1. All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which 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, 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;
  - b. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
  - c. Which are used or could be used for industrial purposes by industries in interstate commerce.
4. All impoundments of waters otherwise defined as surface waters under this definition;
5. Tributaries of waters identified in subdivisions 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 subdivisions 1 through 6 of this definition.

## Watershed Implementation Plan

## WIP

means a plan to reduce pollutant loads (nutrient and sediment) by source sector at the watershed scale to achieve water quality standards. The plan includes reductions to both regulated and non-regulated sources. Specific best management practices are a type of water pollution control.

## APPENDIX A: Categories/ questions for On-Site Assessment Form

At a minimum the following questions and categories will be covered during an on-site assessment and recorded on a supplied form. Staff will complete the on-site assessment form by observing the site and discussing the operation with the owner/operator.

### General Information

- Owner/Operator Name
- Owner Address
- Farm Name and Address
- Document any others which are present during the On-Site Assessment
- Complete the box labeled "For Staff Use Only"

### Farm Information

- Is the AFO associated with a permitted operation or permittee? Document the permit number.
- Briefly describe the farm (e.g. *Dairy cattle operation and associated beef cattle operation located across the state road*)

Animal Type and Number Confined at Farm:

- How many animals are confined at the AFO? (e.g. *130 milkers*)
- What types of animals are confined? (e.g. *dairy cattle*)
- What type of confinement is used? (e.g. *The milk cows, when they are not in the parlor, are confined in the barn half the day and in the paddock the other half.*)

### Production Area

Waste Handling and Storage:

- What type of waste is generated by the animals and the operation?
  - Manure
  - Bedding and manure
  - Process wastewater (e.g. *parlor waste, storm water that has come into contact with nutrient or waste sources such as feed or manure*)
  - Litter
- In what form(s) is the waste handled?
  - Liquid
  - Semi-solid
  - Solid
- Describe how the different forms or types of waste are handled {from generation or the time it comes to the operation until it is stored or used} (e.g. *The manure is scraped to earthen lagoon and the parlor and tank room wastewater is piped to a tank and then pumped to the lagoon.*)
- Describe any BMPs related to waste handling that are being implemented.
- Is waste storage present at the operation?
  - What type of storage is present?
    - *Earthen: lagoon, pit*
    - *Fabricated: concrete structure, concrete tank, metal stave tank, shed or building*
    - *Other: outside storage site*
  - Approximately how many days of storage are available?
  - Does all waste generated by or transferred to the operation go to storage?
  - Is the storage capacity adequate to avoid spreading during times when crop or weather conditions pose environmental risk?
  - Describe the condition of the storage by commenting on the following items, if applicable:
    - What is the freeboard?
    - Area around the storage facility or site including the berms - Is grass maintained? Are trees or rodents present? Do livestock have access? Is there visible erosion?

- Is the storage covered?
- Are there visible leaks or seeps?
- Does storm water pass through or onto the storage facility or site?

#### Other Nutrient Sources (e.g. feed, commodity) Handling and Storage:

- *Nutrients can come from: manure, process wastewater, feed, byproducts used for feed, mortalities, and commercial fertilizer.*
- Describe the handling and storage practices related to the following sources of these nutrients:
  - milking parlors,
  - milk tank rooms,
  - commodity storage facilities,
  - manure handling areas, and
  - mortality handling and disposal areas.

#### Storm Water Conveyances / Separation from Sources of Pollutants:

- *Nutrients can come from: manure, process wastewater, feed, byproducts used for feed, mortalities, and commercial fertilizer.*
- Describe the storm water conveyances / separation from the following sources of these nutrients:
  - livestock,
  - milking parlors,
  - milk tank rooms,
  - manure storage facilities,
  - commodity storage facilities,
  - manure handling areas, and
  - mortality handling and disposal areas.
- Describe any BMPs related to storm water handling and collection that are being implemented.

#### Production Area Proximity to Surface Water:

- Describe the production area(s) and its boundaries.
- What is the condition of the production area(s)?
- What is the proximity of water (streams-intermittent or perennial, groundwater wells and springs) to the feeding, housing, and waste storage and handling areas in the production area?
- Describe where the animal/ livestock feeding areas are located including the proximity to surface water?

#### Animal Access to Surface Water in Production Area:

- Do cattle have access to surface water in the production area(s)?
- Describe the access (if applicable) (e.g. full, limited).

#### Specifics Related to Discharges or Possible Discharges of Pollutants to Surface Waters:

- Are there any pipes, ditches or swales present in the production area which can carry water out of the production area to surface waters? Based on the conditions and management of the production area(s) what is the likelihood that the storm water that travels through the production area(s) will come into contact with the nutrients/sources generated, stored or handled in the production area(s)?
- Based on observation during the on-site assessment: Is the AFO discharging from the production area to surface waters?

#### Mortality Handling:

- How are mortalities handled?
- Observe and describe the mortality disposal or handling area/site?

## **Land Application Area**

- Is any of the waste land applied (e.g. waste that is generated by the activities at the operation or waste that is transferred to the operation)? If yes, how does the owner/operator determine the land application rates? Describe the nutrient management practices (if any) that are implemented by the owner/operator of the AFO? (e.g. soil analysis, manure analysis, setbacks from streams, wells, sinkholes, nutrient management plan)?