



KYTC District 8 Pesticide Discharge Management Plan

2015

for KPDES Permit KYG99



Developed by:
Kentucky Transportation Cabinet,
Division of Maintenance
and the Division of
Environmental Analysis



Pesticide Discharge Management Plan (PDMP)

For KPDES KYG99

KYTC District 8

State Maintained Highways and Rights-of-Way in Adair, Casey, Clinton, Cumberland, Lincoln,
McCreary, Pulaski, Rockcastle, Russell, and Wayne Counties

1660 South US 27
Somerset, KY 42502

Decision-maker(s):

KYTC District 8

Bruce Neely, Chief District Engineer

1660 South US 27
Somerset, KY 42502
606-677-4017

PDMP Contact(s):

KYTC District 8

Jeff Pettyjohn, Roadside Environment District Administrator

1660 South US 27
Somerset, KY 42502
606-677-4017

PDMP Preparation Date:

November 2015

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SECTION 1: OPERATOR INFORMATION

1. Provide a brief description of the Pest Management Area(s).

The Pest Management Areas for District Eight are the state maintained highways and rights-of-way in Adair, Casey, Clinton, Cumberland, Lincoln, McCreary, Pulaski, Rockcastle, Russell, and Wayne counties. These are shown in **Exhibit 1, *Map of Kentucky*** and **Exhibit 2, *District Map***.

2. Identify the Pesticide Use Patterns for this Pest Management Area that triggers the requirement to develop a Pesticide Discharge Management Plan. (Check all that apply).

NOTE: Decision-makers, that are a large entity, are required to develop a PDMP.

- | | | | |
|-------------------------------------|--|--------------------------|---------------------|
| <input type="checkbox"/> | Mosquitoes and Other Flying Insect Pests | <input type="checkbox"/> | Animal Pests |
| <input checked="" type="checkbox"/> | Weeds and Algae | <input type="checkbox"/> | Forest Canopy Pests |

3. Operator Type (check one):

- Federal government
- State government
- Local government
- Mosquito control district (or similar)
- Irrigation control district (or similar)
- Weed control district (or similar)
- Other (provide brief description of type of Operator):

SECTION 2: PDMP TEAM

1. **Decision-maker:** *Any entity with control over the decision to perform pesticide applications including the ability to modify those decisions.*

Company or Organization Name: KYTC District 8
Name: Bruce Neely
Address: 1660 South Highway 27
City, State, Zip Code: Somerset, KY 42502
Telephone Number: 606-677-4017
Email Address: Bruce.Neely@ky.gov
Fax Number: 606-677-4013
Area of Control (if more than one Operator at site):

2. **PDMP Contact:** *Person(s) who should be contacted regarding PDMP questions.*

Company or Organization Name: KYTC District 8
Name: Jeff Pettyjohn
Address: 1660 South Highway 27
City, State, Zip Code: Somerset, KY 42502
Telephone Number: 606-677-4017
Email Address: Jeff.pettyjohn@ky.gov
Fax Number: 606-677-4013
Area of Control (if more than one Operator at site):

See District PDMPs.

3. **PDMP Preparer:** *Person(s) responsible for developing and revising the PDMP.*

Company or Organization Name: KYTC Division of Maintenance and Division of Environmental Analysis
Name: Mike A. Smith, Roadside Environment State Administrator
Address: 200 Mero Street
City, State, Zip Code: Frankfort, KY 40622
Telephone Number: 502-564-4556
Email Address: MikeA.Smith@ky.gov
Fax Number: 502-564-3532
Area of Control (if more than one Operator at site):

See District PDMPs.

SECTION 2: PDMP TEAM

4. Please include any additional team members and their responsibilities.

Team Member Name(s)	Individual Responsibilities
Jeff Pettyjohn	Roadside Management and Administration
Jami West	Environmental Coordinator
Roy Epperson	Roadside Superintendent
Roadside Environmental District Administrator (REDA)	Assures compliance with permits is maintained during all aspects of selection, storage, handling and application of pesticides.
Central Office (CO) Division of Environmental Analysis	Produces the <i><u>KYTC Environmental Handbook for Maintenance of Highways and Transportation Facilities (Environmental Handbook)</u></i> that contains basic information regarding pesticide storage and handling at facilities and guidance in the event of a spill and fact sheets for proper storing, handling, delivery and use of pesticides.
CO Division of Maintenance Roadside Environment Branch	Develops statewide roadside vegetation management programs, develops contracts for pesticide materials and pesticide application services, develops specifications for pesticide application equipment, supervises the UK Vegetation Management Research Program, conducts pesticide test trials, and provides pesticide recommendations and other technical expertise for the REDAs.
David Cornett	Assistant Director of Maintenance and State Roadside Manager; supervises District Liaisons.
Roadside State Administrator	Responsible for establishing guidelines and procedures for storing, handling and using pesticides for Vegetation Management (See the Kentucky Transportation Cabinet (KYTC) <u>Pesticide Manual</u> and <u>Maintenance Manual</u>).

SECTION 2: PDMP TEAM

Mike A. Smith	Roadside Environment Branch District Liaison for Districts 5, 6, 10 and 12.
John Mucci	Roadside Environment Branch District Liaison for Districts 3, 4, 7, and 9.
Steve Kempf	Roadside Environment Branch District Liaison for Districts 1, 2, 8, and 11.

Exhibit 1 shows a [map of Kentucky](#) with the 12 district offices and their counties and depicts how the KYTC is organized geographically. **Exhibit 2** is a [map of the district](#) being addressed in this particular PDMP and more clearly shows the counties and the significant roadways.

SECTION 3: PROBLEM IDENTIFICATION

3.1 PEST PROBLEM DESCRIPTION

1. Provide a brief summary of the pest problem in the table.

SUMMARY OF THE PEST PROBLEM		
TARGET PEST(S) <i>Note: Use Common Name</i>	SOURCE OF THE PEST PROBLEM	DATA SOURCE <i>(e.g. Survey Conducted in 2010)</i>
Noxious Weeds Nuisance Weeds Exotic Invasive Plants Trees and Brush	Statutory Requirement Highway Safety Highway Construction and Maintenance Highway Beautification	Historical Pests Integrated Roadside Vegetation Management Plans (IRVM) Pesticide Field Reports Windshield Surveys Citizen Complaints Exotic Plant Invasions Early Detection & Distribution (EDD) Maps

2. Provide a brief description of the pest problem.

Noxious weeds, nuisance weeds, exotic invasive plants, and trees and brush are all pests targeted by the Kentucky Transportation Cabinet. The Noxious Weed Law [KRS 176.051](#) requires KYTC to control the following eleven designated weed species on highway rights-of-way:

- Nodding (Musk) Thistle
- Canada Thistle
- Johnson Grass
- Giant Foxtail
- Multi-Flora Rose
- Poison Hemlock
- Common Teasel
- Kudzu
- Amur Honeysuckle
- Maretail
- Japanese Knotweed

Nuisance weeds are defined as any plant species whose presence is incompatible with the right-of-way vegetation management zone where it is located. Since it is theoretically possible for any plant species to be considered a nuisance weed in a given setting, it would not be practical to list all nuisance weeds.

Exotic invasive plants are not native to Kentucky. They have been documented to reproduce and spread aggressively into both natural and disturbed areas including highway rights-of-way where they invade and displace desirable vegetation and whose presence is a threat to biological diversity and environmental quality. See **Exhibit 3**, the official [***Kentucky Exotic Pest Plant List***](#).

SECTION 3: PROBLEM IDENTIFICATION

3.1 PEST PROBLEM DESCRIPTION

Trees and brush encroaching onto highway rights-of-way reduce motorist visibility, may become hazardous and fall into the roadway, damage bridges and embankments, limit the effectiveness of deicing chemicals, and are obstacles in roadway recovery zones.

Since there are hundreds of species of trees and brush that can encroach on highway rights-of-way, it is not practical to list the species.

Guidelines for weed & brush control are shown in **Exhibit 4, MAIN-703, Roadside Agronomy Program**.

SECTION 3: PROBLEM IDENTIFICATION

3.2 ACTION THRESHOLD(S)

1. Provide a brief summary of the action threshold(s) in the table.

SUMMARY OF ACTION THRESHOLD(S)	
TARGET PEST(S)	ACTION THRESHOLD(S)
Noxious Weeds Nuisance Weeds Exotic Invasive Plants Trees and Brush	These are based upon prior surveys and experience to properly maintain the KYTC maintained highways for safety, usability & aesthetics.

2. Provide a brief description of the action threshold(s).

- **Pest Management Objective:** Safety, highway usability and aesthetics.
- **Target Pest:** See the list in **Section 3.1**.
- **Action Threshold:** See statement in table above.
- **Basis for the action threshold:** Line of sight is one basis for vegetation along roadside and rights-of-way.
- **Method to determine when the action threshold has been met:** Test drive the road to confirm line of sight improvement and compliance.

SECTION 3: PROBLEM IDENTIFICATION

3.3 GENERAL LOCATION MAP

A general location map for District Eight is presented in **Exhibit 1, *Map of Kentucky*** and **Exhibit 2, *District Map***.

SECTION 3: PROBLEM IDENTIFICATION

3.4 WATER QUALITY STANDARDS

There are five Tier 3 Waters per our review of the Environmental Protection Agency (EPA) provided listing. Kentucky has Special Use Waters that must be protected from all pollution including pesticides. Both Tier 3 Waters and Special Use Waters of the Commonwealth are delineated in 401KAR 10:026 and 10:030.

There are no waters of the Commonwealth that are impaired for the pesticides used or their degradates.

The location of the waters of the Commonwealth, including wetlands that could reasonably be impacted by our application of pesticides as depicted in **Sections 3 and 4** are illustrated in **Exhibit 5, Pulaski County Pesticide PDMP Waterways Map** and are stored electronically for each of the counties at the following KYTC location:

S:\Projects\Enviro\DEA_Share\PesticidePermit\COUNTIES.

These Waters are also shown in Projectwise which may be accessed at:

ProjectwiseExplorer>KYTC-Main>Documents>CentralOffice>EnvironmentalAnalysis>KYDPES KYG99>CountyMaps>District 1-12.

Central office and district team members may request electronic access to the location maps through the CO Division of Environmental Analysis.

Location maps for Outstanding National Resource Waters, Outstanding State Resource Waters (OSRW) and other Special Use Waters may also be found on the Kentucky Division of Water website.

SECTION 4: PEST MANAGEMENT OPTIONS EVALUATION

1. **Provide a brief description of the pest management options (include impact to water quality, impact to non-target organisms, feasibility, cost effectiveness and any relevant previous Pest Management Measures).**

- **Target Pest:** Noxious Weeds, Nuisance Weeds, Exotic Invasive Plants, Trees and Brush
- **No Action:** Due to the statutory requirement, this is not an option regarding noxious weeds, but there are circumstances where no action is taken to control nuisance weeds, exotic invasive plants, and trees and brush. Factors which may influence this decision are availability of effective controls, funding, staffing, local acceptance of pesticide use, target species prioritization, traffic control requirements, and level of infestation. The impact to water quality and non-target organisms of taking no action is not necessarily nominal. Uncontrolled spread of noxious weeds, nuisance weeds, and exotic invasive plants may completely alter the ecosystem to the point where soil erosion may occur and critical habitat is lost. This option may be feasible in the short-term for these species, but much greater costs will be incurred in future years once infestations are established. There are examples of such experiences in the history of KYTC where a short-term pause in vegetation management had detrimental effects.

Policies governing the KYTC roadside vegetation maintenance program including the pesticide, mowing, tree and brush, and pesticide training programs and sprayer equipment operation are covered in **MAIN-700**.

KYTC Districts are required to submit an annual plan for maintenance of all vegetation. See **MAIN-702, *Vegetation Management: Planning* (Exhibit 6)** and ***Sample Vegetation Management Plan* (Attachment A)**.

- **Prevention:** This is an important component of KYTC's integrated roadside vegetation management program which includes several measures to prevent the spread of noxious weeds, nuisance weeds, exotic invasive plants, trees and brush. Proper maintenance of a healthy roadside turf through the use of timely mowing, fertilization, seeding, and herbicide application is the best prevention for spread of noxious weeds, nuisance weeds, exotic invasive plants, trees and brush. Contract mowing sanitation requirements, use of cellulose fiber mulches instead of straw, use of pre-emergence herbicides, and use of high quality seed for vegetation establishment are all preventative controls used by the Department. Preventative measures can be very cost effective with little to no impact on water quality and non-target organisms and have historically been successful.
- **Mechanical/Physical Methods:** Right-of-way mowing is KYTC's primary mechanical method of weed control. Tillage and cultivation are used to a very limited extent, but only on wildflower establishment sites. Mechanical methods such as right-of-way mowing are the most expensive, may encourage soil erosion, disrupt both plant and animal non-target organisms and are the least sustainable of all control methods.

SECTION 4: PEST MANAGEMENT OPTIONS EVALUATION

- **Cultural Methods:** The use of KY 31 Tall Fescue, a vigorous and aggressive turfgrass species along with a good fertilization program is KYTC's primary cultural control method. Cultural methods have moderate impact on water quality, non-target species, are moderately expensive and have a long history of success.
- **Biological Control Agents:** KYTC has facilitated the release of insect biological agents for both nodding thistle and purple loosestrife. The effectiveness of these varies from location to location, but they have made a significant impact on reducing nodding thistle populations. These are very low cost methods that have a low impact on non-target species with no impact on water quality and a history of good success.
- **Pesticides:** Pesticides are a moderately expensive, cost-effective control method that when used properly have minimal impact on water quality and non-target species with a history of good success. Guidance on the administration, use, and application of pesticides and MSDS sheets for all pesticides KYTC utilizes in its vegetation management program may be found at on the [CO Division of Maintenance Roadside Environment Branch website](#).

2. Provide a summary of Pest Management Measures that will be or are implemented to meet the technology-based effluent limitations.

Target Pest: Noxious Weeds

Pest Management Measures: The use of strategically-timed mechanical mowing, mowing equipment sanitation, use of weed-free seed in turfgrass establishment, insect biological control, mechanical ditch maintenance, and policies are all measures utilized by KYTC to minimize the need for herbicide applications.

Target Pest: Nuisance Weeds

Pest Management Measures: The use of strategically-timed mechanical mowing, mowing equipment sanitation, use of weed-free seed in turfgrass establishment, insect biological control, mechanical ditch maintenance, and policies are all measures utilized by KYTC to minimize the need for herbicide applications.

Target Pest: Exotic Invasive Plants

Pest Management Measures: The use of strategically-timed mechanical mowing, mowing equipment sanitation, use of weed-free seed in turfgrass establishment, insect biological control, mechanical ditch maintenance, and policies are all measures utilized by KYTC to minimize the need for herbicide applications.

SECTION 4: PEST MANAGEMENT OPTIONS EVALUATION

Target Pest: Trees and Brush

Pest Management Measures: The use of strategically-timed mechanical mowing, mechanical removal methods, mowing equipment sanitation, use of weed-free seed in turfgrass establishment, insect biological control, mechanical ditch maintenance, proper right-of-way tree species selection, and policies are all measures utilized by KYTC to minimize the need for herbicide applications.

SECTION 5: RESPONSE PROCEDURES

5.1 SPILL RESPONSE PROCEDURES

Spill Containment

Spill containment shall follow the procedures as prescribed in the [KYTC Environmental Handbook, MAIN-700 of the Maintenance Guidance Manual](#) and Exhibit 7, *Spill Response Plan* includes parts (A), *Pesticide Spill Emergency Contacts List*, (B) *Spill Response Fact Sheets*, and (C) *Spill or Pollution Documentation and Reporting*.

KYTC applicators are properly trained and certified in compliance with the [Federal Insecticide Fungicide, and Rodenticide Act \(FIFRA\)](#). Pesticide manufacturer labels as well as the Material Safety Data Sheets (MSDS) are used to determine proper use of personal protective equipment (PPE) and apparel, how to properly apply the pesticide, how to detect a spill or Adverse Incident (AI), and how to apply the absorbent materials provided in our spill kits to mitigate any environmental damage due to a spill. Spill response and cleanup would be contracted out to qualified contractors if the Office of Safety and Health Administration (OSHA) trained HazMat responders are required to handle pesticides with hazardous “active ingredients” listed. In general, the following thresholds shall be used to determine when a HazMat spill cleanup contractor that meets all applicable regulatory requirements, including the OSHA 29CFR1910.120 training requirements, should be called in to cleanup a pesticide spill. These thresholds are: (1) All pesticide tank mix spills greater than 25 gallons, and (2) all pesticide concentrate spills greater than 5 gallons. As always, the information provided in the Label and MSDS for each pesticide should be followed prior to responding to a spill to prevent it’s discharging into the Waters of the Commonwealth and prior to cleanup and remediation of the contaminated materials associated with the spill.

The Spill Response Team will consist of the applicator, County Superintendent I or II, REDA, Section Supervisor (or designee) and the Section Engineer. Each district has a Facility Maintenance Environmental Coordinator (FMEC) that may be appointed to this team. Each district Section Supervisor has three to four counties within their district. The *Spill Response Plan* for each district will incorporate the procedures set forth in the above referenced documents (Exhibit 7). The Applicators that apply various pesticides under the auspices of the Section Supervisor and the REDA are trained on how to and when not to respond when OSHA trained HazMat responders are required. Notification and containment procedures should be specific to how the pesticide operation in each county is organized and how this fits into the overall organization of the district and how the districts are organized in KYTC Department of Highways.

All of the critical elements for spill response procedures and a description of our pesticide spill kits are included in one of the KYTC training programs entitled *Pesticide Spill Response* (Exhibit 8).

Spill Notification

Districts should use the *Pesticide Spill Emergency Contacts List, Exhibit 7 (A)* to notify personnel of pesticide spills. Each district shall follow the guidelines shown in Exhibit 7 (B), *Spill Response Fact Sheets* (5.1, 2005 edition and 5.3, 2008 edition) of the [KYTC Environmental Handbook](#).

SECTION 5: RESPONSE PROCEDURES

5.1 SPILL RESPONSE PROCEDURES

For pesticide spills exceeding reportable quantities (See 40 CFR 302 and the *Pesticides Reportable Quantities List, Exhibit 9*) or into or next to the Waters of the Commonwealth, the Applicator (or witness) will first attempt to prevent or minimize the spill's entrance to or impact on the waterway, if they can safely do so then immediately contact the Spill Response Team to provide the details of the spill as well as other information required by FIFRA.

SECTION 5: RESPONSE PROCEDURES

5.2 ADVERSE INCIDENT RESPONSE PROCEDURES

Responding to an Adverse Incident

An Adverse Incident (AI) is defined as a spill that includes toxic or adverse effects on non-target species due to improper application of a pesticide or an accidental incident.

An AI involving the toxic or adverse impact on the surface waters shall follow the same procedures as described in **Section 5.1**.

All AIs shall be documented and reported in accordance with the FIFRA, Section 6(a) (2), Clean Water Act (CWA), and 40CFR part 159. All AIs shall be submitted to the appropriate Kentucky Division of Water (KDOW) Regional Office within thirty days of the incident.

Notification of an Adverse Incident

Notification of an Adverse Incident (AI) shall follow the procedure as described in **Section 5.1**. (See **Exhibit 7(A), Pesticide Spill Emergency Contacts List**).

SECTION 6: DOCUMENTATION TO SUPPORT ELIGIBILITY CONSIDERATIONS UNDER OTHER FEDERAL LAWS

This is not required by the Kentucky Division of Water (KDOW) Kentucky General Permit (KYG99). (See Attachment B, *KYG99 Pesticide KPDES Permit*)

SECTION 7: SIGNATURE REQUIREMENTS

See *Delegation of Authority (Attachment C)* and *Subcontractor Certification (Attachment D)*.

SECTION 8: PDMP PLAN MODIFICATIONS

Please see **Exhibit 10, *Annual Reports and Other Record Keeping***, **Exhibit 11, *Corrective Action Log*** and **Exhibit 12, *PDMP Amendment Log***.

SECTION 9: PDMP AVAILABILITY

The Pesticide Discharge Management Plan is available by contacting the Roadside Administrator and Environmental Coordinator in the District Office or the Division of Maintenance and the Department of Environmental Analysis in Central Office.

TABLE OF EXHIBITS

<u>Exhibit Number</u>	<u>Exhibit Title</u>	<u>Plan Reference (pg. #)</u>
Exhibit 1	Map of Kentucky (12 Districts)	3, 6, 10
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Exhibit 4	MAIN-703, <i>Vegetation Management: Roadside Agronomy Program</i>	8
Exhibit 5	County Map	11
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Exhibit 7	Spill Response Plan (A) Pesticide Spill Emergency Contacts List	15, 16
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ATTACHMENTS

Attachment A..... D-8 Vegetation Management Plan

Attachment B..... KYG99 Pesticide KPDES Permit

Attachment C..... Delegation of Authority

Attachment D.....Subcontractor Certification

KENTUCKY TRANSPORTATION CABINET HIGHWAY DISTRICTS

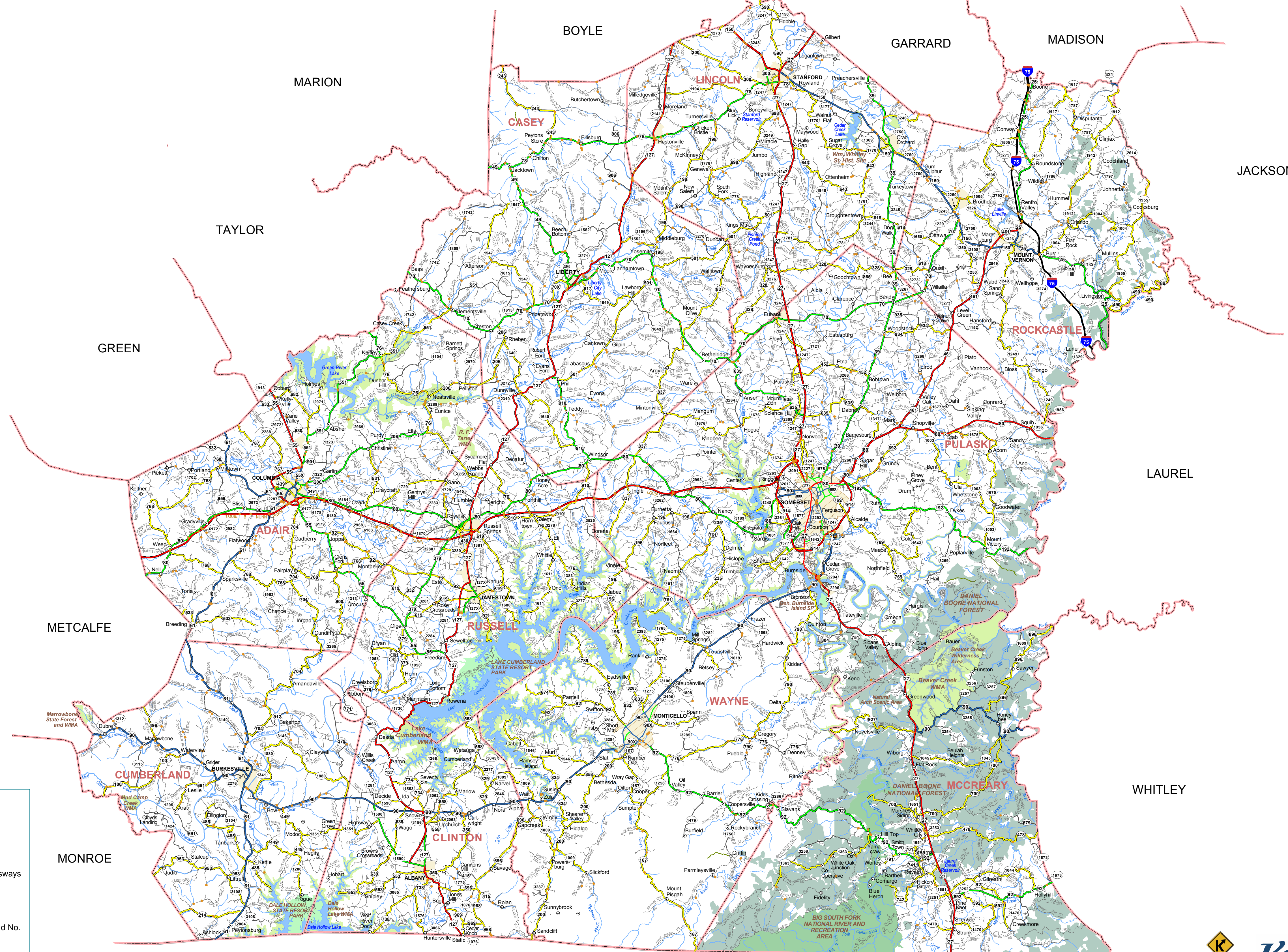
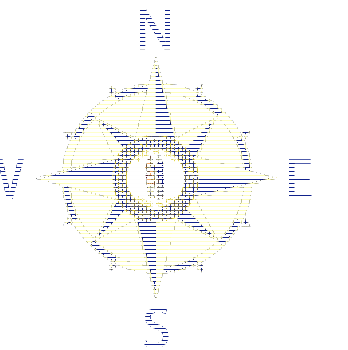


District Office locations in red



Division of Planning

EXHIBIT 2: DISTRICT MAP



- Functional Classification**
- Rural Interstate
 - Rural Principal Arterial
 - Rural Minor Arterial
 - Rural Major Collector
 - Rural Minor Collector
 - Urban Interstate
 - Urban Freeways & Expressways
 - Urban Principal Arterial
 - Urban Minor Arterial Street
 - Urban Collector Street
 - Rural & Urban Local
 - CS-0000 Functionally Classified Road No.
 - Bridge
 - Railroad
 - Stream
 - City/Town
 - Federal Aid Urbanized Area 2000
 - Incorporated Area
 - Lake
 - State Park
 - National Park or Recreation Area
 - Defense Facility
 - Wildlife Area
 - Geological Area
 - State, National, or Private Forest

The Kentucky Transportation Cabinet does not warrant that the information contained on this map is accurate or complete. The Kentucky Transportation Cabinet states that all attempts are made to ensure the correctness of road network portrayal and it is based on the best available information at a given time but disclaims any and all representations and/or warranties made with respect to this map by any contributing source as to its contents, whether expressed, implied, or statutory, including, but not limited to, warranties of title, merchantability, and fitness for a particular purpose. Incorporated area boundaries are based on KRS 91A.470 filings recorded in the Kentucky Secretary of State's Office.

TENNESSEE

Division of Planning

Functional Classification

HIGHWAY DISTRICT 8

4 2 0 4 8 Miles

Last map revision: FEBRUARY 2013

Road centerlines collected using GPS technology
Kentucky State Plane Coordinate System (NAD83)
transportation.ky.gov/planning



(New additions and changes are in bold)

1. Severe Threat

Exotic plant species which possess characteristics of invasive species and spread easily into native plant communities and displace native vegetation; includes species which are or could become widespread in Kentucky.

***Achyranthes japonica* - Japanese chaff flower**

Ailanthus altissima - tree-of-heaven

Alliaria petiolata - garlic mustard

***Ampelopsis brevipedunculata* - porcelain berry**

***Arthraxon hispidus* - hairy jointgrass (moved from 2)**

Carduus nutans - musk thistle

Celastrus orbiculatus - oriental bittersweet

***Cirsium arvense* - Canada thistle (moved from 2)**

***Clematis terniflora* - leatherleaf clematis**

Conium maculatum - poison hemlock

Coronilla varia (= *Securigera varia*) - crown vetch

Dioscorea polystachya - Chinese yam

Elaeagnus umbellata - autumn olive

Euonymus alatus - burning bush

Euonymus fortunei - wintercreeper

Festuca arundinacea (= *Lolium arundinaceum*) - Kentucky 31 fescue

***Glechoma hederacea* - ground ivy (moved from 2)**

Lespedeza cuneata - sericea lespedeza

***Lespedeza stipulacea* (= *Kummerowia*) - Korean lespedeza (moved from 2)**

Ligustrum sinense, *L. vulgare* - privet

Lonicera japonica - Japanese honeysuckle

Lonicera maackii, ***L. fragrantissima***, ***L. standishii*** - bush honeysuckles

***Lysimachia nummularia* - moneywort**

Lythrum salicaria - purple loosestrife

Melilotus alba - white sweet clover

Melilotus officinalis - yellow sweet clover

Microstegium vimineum - Japanese stiltgrass

Miscanthus sinensis - Chinese silver grass

Paulownia tomentosa - princess tree

Phragmites australis - common reed

Polygonum cuspidatum - Japanese knotweed
Pyrus calleryana - callery pear
Pueraria lobata - kudzu
***Ranunculus ficaria* - lesser celandine**
***Rhamnus cathartica* - European buckthorn**
Rosa multiflora - multiflora rose
Sorghum halepense - Johnson grass
Stellaria media - chickweed

2. Significant Threat

Exotic plant species which possess some invasive characteristics, but have less impact on native plant communities; may have the capacity to invade natural communities along disturbance corridors, or to spread from stands in disturbed sites into undisturbed areas, but have fewer characteristics of invasive species than #1 rank.

***Agrostis stolonifera* - weeping love grass**
Akebia quinata - akebia
Albizia julibrissin - mimosa
***Alternanthera philoxeroides* - alligatorweed**
Berberis thunbergii - Japanese barberry
Bromus inermis - smooth brome
***Bromus tectorum*, *B. japonicus* - cheat grass**
***Cardiospermum halicacabum* - balloon vine**
Centaurea biebersteinii - spotted knapweed
Chrysanthemum leucanthemum - ox-eye daisy
***Cirsium vulgare* - bull thistle**
Daucus carota - Queen Anne's lace
Dipsacus sylvestris, ***D. laciniata* - common teasel, cutleaf teasel**
***Echinochloa crus-galli* - barnyard grass (moved from 3)**
Eleusine indica - goose grass
***Galium pedemontanum* - cleavers (moved from 3)**
Hedera helix - English ivy
***Hemerocallis fulva* - day-lily (moved from 3)**
***Humulus japonicus* - Japanese hops**
***Hydrilla verticillata* - hydrilla**
Lespedeza bicolor, ***Lespedeza thunbergii* (moved from 3) - bicolor lespedeza and shrubby lespedeza**
Lespedeza striata (= *Kummerowia*) - Kobe lespedeza
***Medicago lupulina* - black medic (moved from 3)**
Mentha x piperata - peppermint
Morus alba - white mulberry
Mosla dianthera - miniature beefsteak
***Najas minor* - water nymph**
Ornithogalum umbellatum - star-of-Bethlehem

***Pastinaca sativa* - wild parsnip**
***Perilla frutescens* - beefsteak**
***Poa compressa* - Canada bluegrass (moved from 3)**
Poa pratensis - Kentucky bluegrass
Polygonum cespitosum - bunchy knotweed
Polygonum persicaria - lady's thumb
Populus alba - white poplar
***Potamogeton crispus* - curlyleaf pondweed**
***Rhodotypos scandens* - jetbead**
Rorippa nasturtium-aquaticum - water-cress
***Rubus phoenicolasius* - wineberry**
***Schedonorus pratensis* - meadow fescue**
Setaria faberi - giant foxtail
Setaria viridis - green foxtail
Spiraea japonica - Japanese spiraea
***Thlaspi alliaceum* - garlic peppergrass (moved from 3)**
***Tussilago farfara* - coltsfoot**
***Typha xglacua* - cattail**
***Ulmus pumila* - Siberian elm**
***Verbascum thapsus* - common mullein**
Vinca minor - lesser periwinkle

3. Moderate Threat

Exotic plant species which seem to principally spread and remain in disturbed corridors, not readily invading natural areas; also some agronomic weeds.

***Agropyron repens* - quack grass**
***Allium vineale* - field garlic**
***Arctium minus* - common burdock (moved from 2)**
Arenaria serpyllifolia - thyme-leaf sandwort
Barbarea vulgaris - yellow rocket
***Bromus arvensis*, *B. catharticus*, *B. hordeaceus*, *B. racemosus* - field bromes**
***Buddleja davidii* - orange-eye butterfly bush**
***Carduus acathoides* - spiny plumeless thistle**
***Chenopodium album* - lamb's quarters**
Cichorium intybus - chicory
Commelina communis - dayflower
Convolvulus arvensis - field bindweed
Duchesnea indica - Indian strawberry
***Duetzia scabra* - fuzzy deutzia**
***Elaeagnus angustifolia*, Russian olive**
***Eleusine indica* - goose grass**
***Fatoua villosa* - hairy crabweed**
***Hesperis matronalis* - Dame's rocket**

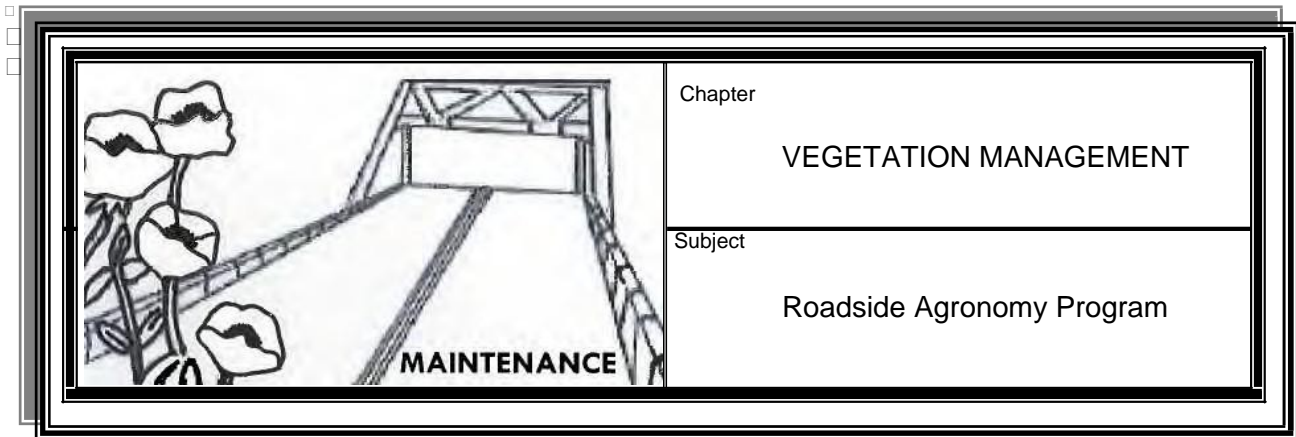
Holcus lanatus - velvet grass
Hypericum perforatum - common St. John's-wort
***Ipomoea hederacea* - ivy-leaved morning-glory (moved from 2)**
***Ipomoea purpurea* - purple morning-glory (moved from 2)**
Iris pseudoacorus - pale yellow iris
***Lamium purpureum* - purple deadnettle**
Lamium amplexicaule - henbit
Lithospermum arvense - corn-gromwell
Lolium multiflorum - Italian rye
***Lonicera xbella*, *L. morrowii*, *L. tartarica* - bush honeysuckle (New- bella, moved from 1 - morrowii and tartarica)**
***Lotus corniculatus* - birdsfoot trefoil**
***Mahonia bealei* - leatherleaf mahonia**
***Mentha spicata* - spearmint**
Nepeta cataria - catnip
Oxalis stricta (= *O. europea*) - common yellow wood-sorrel
***Paspalum dilatatum* - dallisgrass**
***Phyllostachys aurea* - golden bamboo**
Poa annua - speargrass
Potentilla recta - sulphur five-fingers
***Prunus mahalab* - Mahalab cherry**
Ranunculus bulbosus - bulbous buttercup
Rumex acetosella - sheep sorrel
Solanum dulcamara - bitter nightshade
Thlaspi perfoliatum - field cress
***Torillis arvensis*, *T. japonica* - hedge parsley**
***Wisteria sinensis*, *W. floribunda*, *W. xformosa* - exotic wisterias**

4. Watch List

Exotic plant species that have either not been observed or well-documented in Kentucky, but have invaded native plant communities in neighboring states.

Acer platanoides - Norway maple
Allium sativum - garlic
Alnus glutinosa - European alder
Artemisia vulgaris - mugwort
Arundo donax - giant reed
Broussonetia papyrifera - paper mulberry
Didymosphenia geminata - rock snot
Egeria densa - Brazilian elodea
Eichhornia crassipes - water hyacinth
Eragrostis cilianensis - lovegrass (moved from 3)
Eragrostis curvula - weeping lovegrass

Euphorbia esula - leafy spurge
Hibiscus syriacus - rose of Sharon
Koelreuteria paniculata - golden raintree
Lactuca saligna - willowleaf lettuce (moved from 3)
Lamium maculata - spotted deadnettle
Nandina domestica - heavenly bamboo
Phellodendron amurense - Amur corktree
Polygonum perfoliatum - mile-a-minute vine
Polygonum sachalinense - giant knotweed
Quercus acutissima - sawtooth oak
Rhamnus frangula - alder buckthorn
Rubus bifrons - Himalayan berry
Setaria verticillata - bur-foxtail
Sonchus asper - spiny sowthistle
Sonchus oleraceus - annual sowthistle
Trifolium campestre, *T. pratense*, *T. repens* - clovers
Ulmus parvifolia - lacebark elm
Viburnum opulus var. *opulus* - European highbush cranberry
Vicia cracca - bird vetch
Vicia sativa - common vetch
Vicia villosa subsp. *Villosa* (= *V. dasycarpa*) - winter vetch
Zelkova serrata - zelkova



**LANDSCAPE PLANT
MAINTENANCE**

The Department of Highways shall maintain landscape plantings on all roads that are the responsibility of the Department.

Any landscape plantings placed on the right of way through a permit shall be the responsibility of the permittee.

A landscape maintenance program shall include the following:

- Designation of areas where work will be performed and approximate time work will be done
- Determination of type work to be performed
- Selection of pesticides, if needed
- Determination of equipment needs and availability

Landscape plants shall be periodically fertilized. The Division of Maintenance may recommend the proper rates of fertilizer and approximate times of application.

All pesticides used by the Department shall be approved by the Division of Maintenance before use in the districts. The Division of Maintenance will provide the districts with proper recommendations on specific pesticides before actual application. The following pesticides may be used:

- Insecticides—In areas where insects are damaging plants, insecticides shall be applied for control.
- Fungicides—In areas where fungus diseases are damaging landscape plants, fungicides shall be applied for proper control.
- Herbicides—Where applicable, herbicides may be used around plants and in shrub beds to control weed growth. Personnel shall carefully observe proper chemical application rates so as to not injure landscape plants.

**LANDSCAPE PLANT
MAINTENANCE
(CONT.)**

Where practical, mulching material may be used around landscape plants, so as to retard weed growth and preserve soil moisture.

All tree stakes shall be removed during the second year of establishment. Dead plants on all projects accepted for maintenance should be removed as soon as possible.

Plants should be pruned, where needed, to ensure proper growth and development. Proper pruning techniques shall be applied as recommended by the Division of Maintenance.

**SEEDING,
PROTECTION,
& FERTILIZATION**

The Department shall perform proper seeding and protection techniques on roadside areas where grass or other vegetative ground cover is lacking and the potential for soil erosion is imminent. The Department may also perform proper maintenance practices to provide adequate fertility for established grass turf and other vegetative ground cover.

These seeding and protection techniques and the application of fertilizers to roadsides shall comply with the Kentucky Department of Highways' "Seeding and Protection and Fertilization Program Chart" ([Exhibit MAIN 9033](#)).

**WILDFLOWERS &
NATIVE GRASSES**

The Department may choose to seed wildflowers or native grasses at selected locations on highway roadsides to enhance the aesthetic value of the roadside landscape and promote habitat for pollinator species.

All wildflower and native grass species shall be approved by the Division of Maintenance before planting or seeding.

**WEED & BRUSH
CONTROL**

The Department shall use Integrated Roadside Vegetation Management (IRVM) to control weeds and brush on highway rights-of-way.

Once the target pest has been identified, all methods of control to include mechanical (mowing), cultural (seeding and fertilization), biological, and pesticides shall be considered. The use of pesticides shall comply with the [Federal Insecticide, Fungicide, and Rodenticide Act](#) (FIFRA); with the Kentucky Department of Agriculture Pesticide Use and Application Act ([KRS 217B](#)); with the Clean Water Act (CWA) and Endangered Species Act (ESA); and as dictated by the Kentucky Department of Highways' "Pesticide Program Chart".

Each division shall coordinate the application of pesticide products to highway roadsides with mowing operations scheduled to be performed on the same areas.

When using pesticides to control roadside brush, maintenance personnel shall take care to allow for a minimum of discoloration. Excessive discoloration of brush should be avoided.

**NOXIOUS WEED
CONTROL**

The Department shall perform proper techniques to control the following noxious weeds on all highway rights-of-way in accordance with [KRS 176.051](#):

- Nodding (Musk) Thistle
- Canada Thistle
- Johnson Grass
- Giant Foxtail
- Multi-Flora Rose
- Japanese Knotweed
- Common Teasel
- Kudzu
- Amur Honeysuckle
- Poison Hemlock
- Marestalk

Upon written request from abutting property owners engaged in the eradication of these noxious weeds, the Department will cooperate with such abutting property owners by controlling such noxious weeds from abutting state rights-of-way.

Also, in accordance with [KRS 176.051](#), the Department shall no later than the first week in March of each year advertise in each county, pursuant to the provisions of [KRS Chapter 424](#), that the noxious weed control program is available. The Department shall stipulate in these advertisements the place and manner in which an interested property owner may make a written request for inclusion in the noxious weed control program.

Upon notice that a county fiscal court declares their specific county a thistle eradication area, the Department, in accordance with [KRS 249.183](#), shall comply with the [Department of Agriculture](#) by eradicating the thistle from the highway rights-of-way in that county.

**SELECTION OF
PESTICIDES**

The Division of Maintenance shall select and recommend approved pesticides for each type of application as noted in the Kentucky Department of Highways' "Pesticide Program Chart." The Division of Maintenance will provide the districts with an updated copy of the "Pesticide Program Chart" as needed.

The Division of Maintenance will prepare a [Pesticide Manual](#) available to all maintenance personnel trained in the use and handling of pesticides.

**SELECTION OF
PESTICIDES
(CONT.)**

Maintenance employees involved in the storage, handling, use, and disposal of all pesticides and their containers shall retrieve the Label and Material Safety Data Sheet (MSDS) of each approved pesticide product from the Roadside Environment Branch website:

<http://transportation.ky.gov/Maintenance/Pages/Pesticide-Labels.aspx>

The storage, use, handling, and disposal of pesticides and their containers shall conform to the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and to KRS 217B.

**RESTRICTIONS OF
PESTICIDE USE**

Maintenance personnel shall not apply pesticides (used for control of weeds and brush on roadsides) to the following:

- Fence rows not on state right of way
- National forest areas, unless by permit from the [National Forest Service](#)
- Areas adjacent to susceptible crops
- Areas of standing or moving water

**APPLICATION OF
PESTICIDES**

Pesticide applications shall comply with federal label regulations and shall not be made until the personnel actually doing the spraying have been well informed as to the pesticide product, its mode of action, and the correct method of its application.

Before applying pesticides, the district shall adequately plan each application to assure effective control giving consideration to the stages of vegetative growth and types of vegetation present. The district shall use the "Pesticide Program Chart" to select pesticides to be used and to determine the method, rate, and timing of applications.

Maintenance personnel shall not apply pesticides when wind velocity would move the product off target.

Each division shall coordinate spraying operations with mowing activities when both are to be performed on the same area during the year. Before undertaking mowing operations, maintenance personnel shall allow sufficient time following pesticide applications for the pesticide to be effective. If the proper amount of time cannot be allowed following an application, maintenance personnel shall mow the area first and apply the pesticide product to the vegetative regrowth when adequate growth is present.

**APPLICATION OF
PESTICIDES (CONT.)**

Bare ground product applications shall not deviate from the "Pesticide Program Chart" as to rates and application. Maintenance personnel shall keep the use of hand applicators to a minimum. When using hand applicators, maintenance personnel shall take care when applying to areas such as pavements, sealed shoulders, sealed traffic islands, and sign posts to prevent the product from moving off target through other applications.

Maintenance personnel shall apply pesticides for weed control as directed by the "Pesticide Program Chart". Pesticides can control woody vegetation that is 30 inches or less in height in accordance with procedures outlined in the "Pesticide Program Chart" under the Broadleaf Weed Control Section.

The control of brush with the application of selective pesticides shall be limited to those areas where brush encroachment on roadsides creates a safety sight distance problem or impedes roadside drainage. Maintenance personnel can make these applications between August 1 and the time of normal leaf drop in the fall.

Caution will be taken in the selection and application of pesticides for a minimum discoloration of brush. Excessive discoloration of brush shall be avoided.

In areas where brush is removed from roadsides by mechanical or hand cutting methods, maintenance personnel shall treat stumps with the pesticide product recommended by the "Pesticide Program Chart" to prevent resprouting.

**GROWTH REGULATOR
PESTICIDES**

Maintenance personnel shall apply plant growth regulators:

- In selected areas for height control of grasses and to prevent the emergence of a seed head on those grasses
- In the spring when the grasses are in an active stage of growth prior to the time of seed head emergence
- On well established grasses and not to newly seeded grass areas
- Only one time to any area during any one growing season

Areas to be considered when applying plant growth regulators are:

- Vegetative areas 10—15 feet behind guardrails where mowing is difficult or unsafe
- Vegetative shoulder areas between pavement and guardrails
- Narrow vegetated raised medians

**GROWTH REGULATOR
PESTICIDES (CONT.)**

- Slopes where grass height needs to be controlled and the areas are difficult or unsafe to mow
- Areas heavily landscaped where mowing is difficult
- Interchange ramps, islands, and other areas where mowing is difficult or unsafe and grass height must be controlled
- Under guardrails where the use of bare ground products is not available.

PESTICIDE REPORTS

The crew superintendent shall:

- Complete daily a TC 71-108 form, Pesticide Field Report ([Exhibit MAIN-9021](#))
- Sign and date the TC 71-108
- Submit the TC 71-108 to the Division of Maintenance where it will be filed

The Operations Management System (OMS) maintains a monthly inventory of pesticide materials in stock.

PESTICIDE LABEL The pesticide label is the legal document dictated by federal and state laws and regulations that specifies the proper and correct method for storing, using, and disposing of a pesticide and its container.

Maintenance personnel shall adhere to label directions at all times. Maintenance personnel shall contact the [National Pesticide Information Center](#) (NPIC) if they cannot locate a label for a pesticide.

**STORAGE OF
PESTICIDES**

Maintenance personnel shall store pesticides:

- In an area separate from the office and from seed and fertilizer storage areas

Note: A sign shall be posted on the storage building stating “Pesticide Storage”.

- In their original container as labeled

Note: If a pesticide product’s packaging becomes deteriorated due to shipping damage or extended storage life, maintenance personnel shall contact the [Division of Environmental Services](#) in the Department of Agriculture.

**STORAGE OF
PESTICIDES (CONT.)**

Their instructions on repackaging the pesticide product and any necessary cleanup shall be followed explicitly.

**MIXING OF
PESTICIDES**

Maintenance personnel shall mix pesticides in accordance with label directions. The Kentucky Department of Highways’ [Pesticide Manual](#) includes specific directions for mixing pesticides.

Maintenance personnel shall wear the following protective equipment when mixing a pesticide:

- Chemical resistant gloves
- Chemical resistant hat
- Goggles or face shield to protect the eyes
- Chemical resistant apron

**DISPOSAL OF
PESTICIDE
CONTAINERS**

Maintenance personnel shall:

- Triple rinse empty pesticide containers with the rinse solution (rinsate) being poured into the spray tank
- Crush or puncture the containers
- Recycle the containers through the KDA Rinse & Return Program

PESTICIDE SPILLS

A pesticide spill is an accidental release of a pesticide product concentrate or tank mix outside of its intended container.

Always follow the Pesticide Discharge Management Plan (PDMP).

- **Minor Spill**—Condition where 5 gallons or less of a pesticide concentrate or 25 gallons or less of a tank mix have been spilled. Non-Hazardous pesticides may be cleaned up by using spill kit absorbent materials, but Hazardous pesticides should be cleaned up by the designated spill response contractor .
- **Major Spill**—Condition where quantities of pesticide spilled exceed a minor spill. In the event of a spill of this type, onsite district personnel shall:
 1. Keep people away.
 2. If possible, take steps to safely stop or contain the spill.
 3. Call 911.
 4. Contact the Roadside Environment District Administrator.
 5. Contact the Division of Maintenance's Roadside Environmental Branch staff.
 6. Contact the designated spill response contractor.
 7. Report the spill to the Kentucky Division of Water.
 8. Monitor the site for adverse incidents.

**INSECTICIDE
APPLICATION**

The Division of Maintenance shall preapprove all insecticides applied on highway rights-of-way including rest areas.

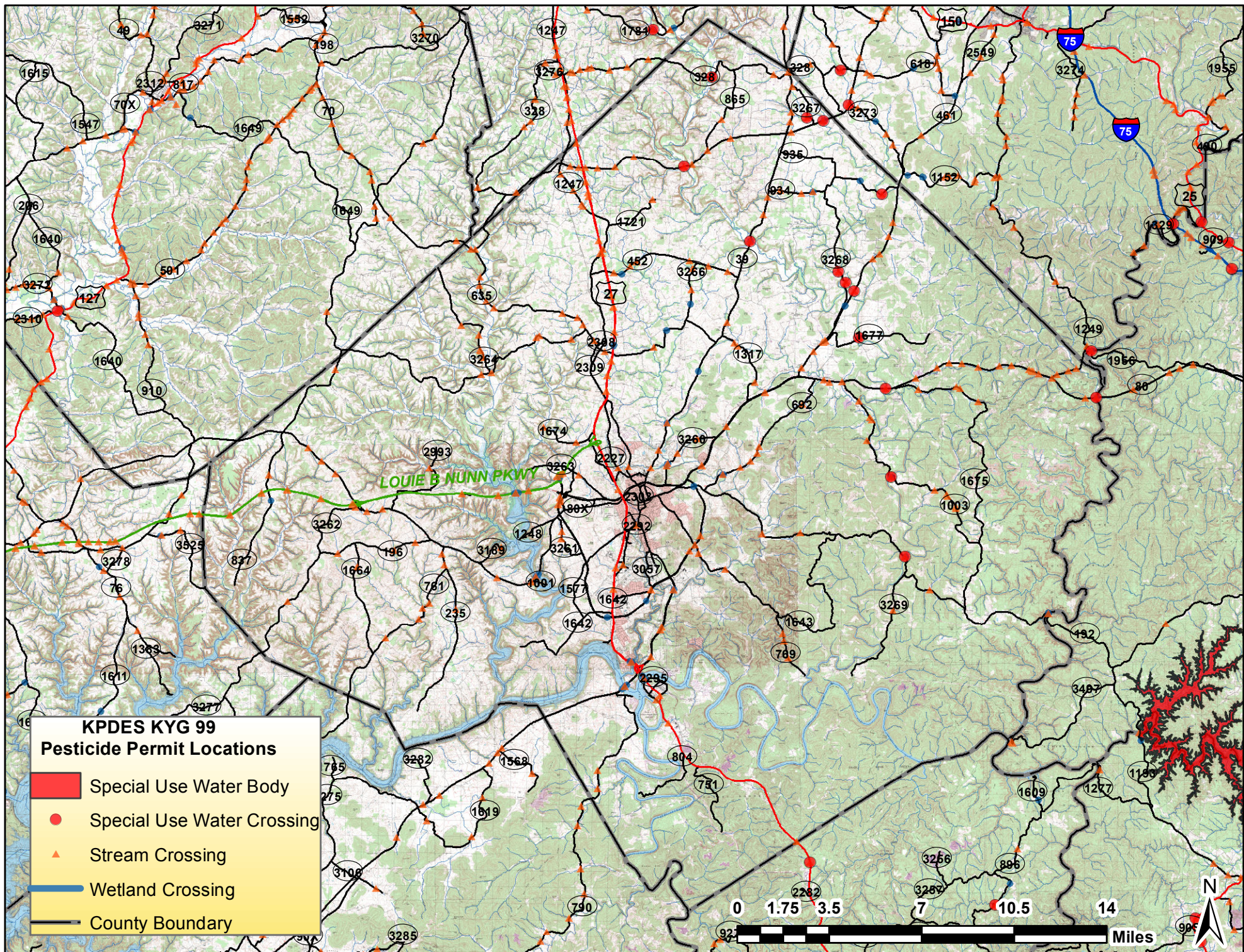
The method and rate of application of the insecticide shall conform to the pesticide label.

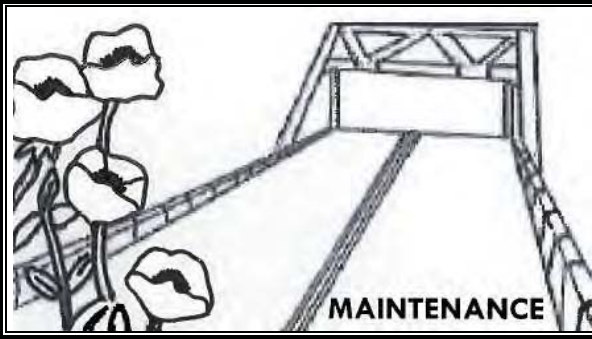
When applying an insecticide, the Materials Safety Data Sheet shall be available to and in the presence of the applicator.

Also the applicator shall wear all personal protective equipment required by the Label.

Before applying an insecticide, the applicator shall refer to the [Pesticide Manual](#) concerning pesticide overexposure.





	<p><i>Chapter</i></p> <p>VEGETATION MANAGEMENT</p>
	<p><i>Subject</i></p> <p>Planning</p>

POLICY

The roadside environment district administrator (REDA) for each district shall develop an annual planned program for the management of vegetation along the highway roadsides. This plan shall include, but not be limited to:

- Mowing
- Landscape plant maintenance
- Seeding and protection
- Fertilization
- Weed and brush control
- Planting and maintaining wildflowers
- Hazardous tree removal

A copy of the plan shall be submitted to the Division of Maintenance for review.

In order to have an effective program, the REDA shall:

- Make a survey of the vegetation of all areas
- Determine approximate time for work activities to be performed
- Determine the types and amounts of materials needed
- Determine equipment needs
- Determine the type and number of personnel required



Exhibit 7 (A)

SPILL RESPONSE PLAN: PESTICIDE SPILL EMERGENCY CONTACTS LIST

District No. 8
District Name Dept. for Highways - Somerset

FACILITY PERSONNE

Bruce Neely, CDE	Office:	606-677-4017
	Mobile:	606-305-5086
Conley Moren, TEBM	Office:	606-677-4017
	Mobile:	606-416-4722
Jeff Pettyjohn, REDA	Office:	606-677-4017
	Mobile:	606-802-6291
Jami West, DEC	Mobile:	606-875-7566 270-585-0109

ENVIRONMENTAL ANALYSIS

O'Dail Lawson KYTC - DEA	Office:	502-564-7250
	Mobile:	859-576-0001
Pecco, Inc. Scotty Perdue - Owner Nicholasville, KY		859-887-5508 877-543-9590
Eco-Tech, LLC Jason Lewis 606-309-2811 London, KY		606-890-7888 606-864-3013

AGENCY PERSONNEL

Fire Department	Emergency	911
County Local Emergency Planning Committee (LEPC)	606-677-0528 KYEM 12	
KY Emergency Response Team	24-hr 24-hr Emergency Spill Hotline	(800) 928-2380
KY Division of Water (Columbia Regional Office)	270-384-4734	
National Response Center	24-hr Hotline	(800) 424-8802

Exhibit 7 (A)

Spill Response Plan: Pesticide Spill Emergency Contacts List

5.1. KYTC SPILL RESPONSES



Do

- ✓ Treat spills of products or wastes that are flammable, toxic, reactive or corrosive as hazardous spills.
- ✓ Refer to the Material Safety Data Sheet (MSDS) for spill response procedures and personal protective equipment needs.
- ✓ Isolate the area.
- ✓ Safely **stop the release** if possible and protect streams, sewers and other waterways.
- ✓ **Report all releases** that are larger than a routine spill to DEA; call **911 or local emergency responders when warranted.**
- ✓ If the spill exceeds reportable quantities on the “List of Lists” (40 CFR 302) or enters a Water of the Commonwealth, call the Environmental Response Team **(800) 928-2380** or **(502) 564-2380** and call the National Response Center.
- ✓ **Clean up** the spilled material.
- ✓ **KyTC personnel** - Coordinate any cleanup involving removal of soil with DEA.
- ✓ **Local government** should use an environmental consultant to oversee clean up of spills involving removal of soil.
- ✓ **Manage the waste**- store absorbent in drums and conduct a waste determination if a hazardous spill is known or suspected.
- ✓ Use appropriate absorbent pads or socks for cleanup – oil only for oil or universal for non-oil.
- ✓ Review emergency response actions after an incident to highlight appropriate responses and needed improvements.
- ✓ Fill out the spill form and make reports

Don't

- ✗ Don't risk injury to yourself or co-workers.
- ✗ Don't panic, respond calmly and quickly.
- ✗ Don't stop the release if it is hazardous to do so.

Materials & Waste Management

- ▲ Store contaminated materials so they do not further contaminate the environment.
- ▲ Dispose in accordance with the waste determination.

Relevant Environmental Programs

- Air Quality
- 401/404/WQC
- KPDES
- Facilities Pride
- GWPP
- Pesticides
- SPCC
- Waste Mgt



The spill kit contains protective equipment and absorbent materials for emergency use. Locate spill kits near where materials are stored and used.

Factsheet Checklist

- Check product and waste storage areas for leaks, spills and housekeeping **WEEKLY.**
- Check hazardous waste storage areas for leaks, spills and housekeeping **WEEKLY.**
- Check spill kits **QUARTERLY** and promptly restock after use.
- Check spill response and cleanup procedures **ANNUALLY.**
- Check for the presence of copies of MSDS sheets for all products handled at the facility **ANNUALLY.**

Tips & Tricks

- ! Reportable quantities are 25 gallons or more of a petroleum product within a 24-hour period and 75 gallons or more of diesel fuel in a 24-hour period or any amount that creates a visible sheen released to a stream or lake.
- ! EPA's “List of Lists” document, which identifies reportable chemicals, can be downloaded from: <http://yosemite.epa.gov/oswer/lol.nsf/homepage>
- ! Wring oil absorbent pads into a bucket to collect spilled material for reuse or disposal.

If...Then

- If the materials that are cleaned up can be reused, place them in a suitable container and label them.

Training: 1 per Year **Season:** Winter

Review All MSDS sheets as part of this training

KYTC FOG Reference M140

5.3. HAZARDOUS OR UNKNOWN WASTES OR SPILLS ON THE RIGHT-OF-WAY (ROW)



Do

- ✓ **Immediately call 911 or local emergency response team** if the waste is known or suspected to be hazardous, petroleum spill or any leaking materials due to an accident. (See **Appendix 9**).
- ✓ Then call the Environmental Response Team **(800) 928-2380** or **(502) 564-2380**.
- ✓ Report any unknown wastes found in the right of way (ROW) to the Environmental Response Team.
- ✓ Request that the emergency responders move the materials from the driving lane and place it behind a guardrail or barrier for traffic safety.
- ✓ Only trained, directly authorized KyTC personnel may investigate and handle hazardous or unknown materials on the ROW.



Don't

- ✗ Don't approach or come into contact with hazardous or unknown materials on the ROW.

This spill requires immediate attention!

If...Then

- If necessary and directed by an emergency responder, the facility may provide:
 - A crew to provide traffic control until the area is safe.
 - Sand and/or equipment.
 - If the owner or responsible party is unknown or if immediate cleanup is needed, provide the name of person who discovered the waste, route number, mile point, type of container, markings or labels, contents and source of drum or spill to the Operations Engineer, District Environmental Coordinator, Central Office Division of Operations and Division of Environmental Analysis.
- The Environmental Coordinator will contact the Division of Waste Management's Superfund Branch to investigate the incident and arrange for cleanup.
- If the District Maintenance Engineer cannot be reached, the Superintendent may call the Environmental Response Team directly.

Materials & Waste Management

- ▲ If the material is confirmed non-hazardous, contact the Division of Environmental Analysis for disposal instructions.

Factsheet Checklist

- Ensure that staff are adequately trained regarding emergency procedures.

Tips & Tricks

- ! After the emergency is over, the responsible party is required to obtain traffic encroachment permits to complete the cleanup and restoration.
- ! As a last resort, the foreman may call a Waste removal company before approval has been given by the area engineer.
- ! If emergency response is required and the response unit exceeds the district's authorization level for expenditure, the Division of Purchases must be contacted as soon as possible for emergency guidance.

Relevant Environmental Programs	<input type="radio"/> Air Quality	<input type="radio"/> GWPP
	<input type="radio"/> 401/404/WQC	<input type="radio"/> Pesticides
	<input type="radio"/> KPDES	<input type="radio"/> SPCC
	<input type="radio"/> Facilities Pride	<input checked="" type="radio"/> Waste Mgt

Training: 1 per Year **Season:** Winter

KYTC FOG Reference M140

Exhibit 7 (C)

SPILL RESPONSE PLAN: SPILL OR POLLUTION DOCUMENTATION & REPORTING

LOCATION	FACILITY NAME AND NUMBER or HIGHWAY ROUTE AND MP		DATE	TIME		AM PM	
	NEAREST CITY		COUNTY				
	DISTRICT		TELEPHONE NUMBER AT FACILITY				
Fire was involved	DATE AND TIME OF INCIDENT						
	TYPE OF MATERIAL DISCHARGED, IF A PESTICIDE, LIST THE TANK MIX						
	ESTIMATED QUANTITY OF DISCHARGED MATERIAL						
	SOURCE OF DISCHARGE						
	EXTENT OF THE SPILL: CHECK ALL THAT APPLY <input type="checkbox"/> IT OCCURRED ONLY ON PAVEMENT OR CONCRETE (AN IMPERVIOUS SURFACE) <input type="checkbox"/> IT OCCURRED ON OR IMPACTED SOIL OR GRAVEL, <input type="checkbox"/> IT IMPACTED A STREAM OR LAKE <input type="checkbox"/> IT DISCHARGED INTO A CITY SEWER <input type="checkbox"/> IT IS BEYOND KYTC PROPERTY <input type="checkbox"/> IT IMPACTED A STORM SEWER OR DRAINAGE DITCH <input type="checkbox"/> THERE WAS A FIRE AS PART OF THIS SPILL Make a sketch of the site and approximate limits of the spill on the back of this form.						
	CAUSE OF THE DISCHARGE						
	ANY DAMAGE OR INJURY						
	ACTIONS USED TO STOP OR REMOVE AND MITIGATE EFFECTS OF THE DISCHARGE						
	EVACUATION NECESSARY (EXPLAIN)						
	<input type="checkbox"/> SUPERVISOR NOTIFIED		DATE TIME	<input type="checkbox"/> DIST. BRANCH MGR NOTIFIED		DATE TIME	<input type="checkbox"/> CDE NOTIFIED
<input type="checkbox"/> ENVIRON. COORDINATOR NOTIFIED		DATE TIME	NAME OF INDIVIDUAL TAKING REPORT				DATE TIME
Local Fire Dept. Notified	NAME OF FIRE DEPT.		NAME OF INDIVIDUAL TAKING REPORT		Rept.#	Date	Time
GOVT. AGENCIES NOTIFIED (when applicable)	NATIONAL RESPONSE CENTER (1-800-424-8802)		NAME OF INDIVIDUAL TAKING REPORT		Rept #	Date	Time
	STATE ERT (1-800-928-2380)		NAME OF INDIVIDUAL TAKING REPORT		Rept #	Date	Time
	<input type="checkbox"/> City <input type="checkbox"/> COUNTY <input type="checkbox"/> SEWER AUTHORITY		NAME OF INDIVIDUAL TAKING REPORT		Rept #	Date	Time
Incident Description, Action Taken, General Comments							
Prepared by			TITLE	DATE	PHONE		

Note: Follow the guidance from the material(s) MSD Sheet for appropriate action, personal protection and handling of spill materials. Copy this report to: KYTC Division of Environmental Analysis.

Revised: 11/21/2008

EXHIBIT 8 □ □

PESTICIDE SPILL RESPONSE

TRAINING

EDWARD MCCRACKEN

KYTC

DIV. ENVIRONMENTAL ANALYSIS

PESTICIDE SPILLS

- **SMALL SPILLS**
- **MEDIUM SPILLS**
- **LARGE SPILLS**

CONTINGENCY SPILL PLAN

- **PROBABLE SPILLS**
- **PRIORITIZED ACTIONS**
- **PREPARATION TO BE READY**
 - **SAFETY ISSUES**
- **REGULATORY COMPLIANCE**
 - **COST EFFECTIVENESS**

PROBABLE SPILLS

- **TRUCK ACCIDENTS**
- **POLY-TANK FAILURES**
 - **HUMAN ERRORS**
 - **OVER FILLING**
- **INTENTIONAL DUMPING**

PRIORITIZED ACTIONS

- **DISCOVERY AND NOTIFICATION**
- **IMMEDIATE RESPONSE ACTIONS**
- **SECONDARY ACTIONS**
- **CLEANUP AND DECON ACTIONS**
- **CONTAINERS AND DISPOSAL**
- **DOCUMENTATION AND COSTS**

PREPARATIONS TO BE READY

- **TRAINING FOR HANDLERS/DRIVERS**
 - **PERSONAL PROTECTIVE GEAR**
 - **KNOW YOUR PRODUCT: MSDS**
 - **WRITTEN ACTIONS PAGE**
 - **KNOW YOUR SPILL KIT**
 - **KNOW WHAT NOT TO DO**
 - **COMMUNICATION MEANS**

SAFETY ISSUES

- **TRAINED RESPONDERS ONLY**
- **KNOW YOUR POTENTIAL HAZARDS**
 - **BE CALM AND BE SAFE**
 - **FIRST DON SAFETY APPAREL**
 - **ALWAYS USE BUDDY SYSTEM**
 - **ALWAYS APPROACH UP-WIND**
- **DUFFING AND HYGIENE WINDUP**

REGULATORY COMPLIANCE

- FIFRA IS THE MAIN REGULATION**
- OSHA 29CFR1910.120 MAY ENTER**
- KY REGULATIONS MAY CONTROL**
- EPA 40CFR260's FOR HW SPILLS**
- PESTICIDE COMPONENTS ARE OILS**
- OTHER LOCAL, STATE, FED. REGS.**
- WILLFUL VIOLATIONS ARE SERIOUS**

COST EFFECTIVENESS

- **IMPORTANT BUT NOT #1**
- **COST CONSIDERED AT ALL STEPS**
- **PREPLANNING SAVES BIG BUCKS**
- **CHOOSE EFFECTIVE SPILL KITS**
- **SAFETY SAVES LIVES & MONEY**
 - **COMPLIANCE AVOIDS FINES**

BASIC SPILL RESPONSE STEPS

- PROPER SPILL NOTIFICATION**
- CORDON SPILL: CONES & TAPE**
- IF RESPONSE, DON PPE & SAFETY**
- APPROACH UP-WIND: STOP LEAKS**
- APPLY SPILL KIT ABSORBENTS**
- USE SOILS TO HELP DAM SPILL**
- CALL FOR BACKUP CLEANUP CO.**

MORE CLEANUP STEPS

- PROTECT RUNOFF RECEPTACLES**
- SPENT SORBENTS IN DISP. BAGS**
- MEDIUM/LARGE SPILL AMELIORATE**
 - LEAVE SITE CLEAN & SAFE**
- DOCUMENT THOROUGHLY: RECORD**
- MEDICALLY EXAMINE EXPOSURES**





RIGHT TO KNOW
INFORMATION
STATION

MATERIAL
DATA

SAFETY
SHEETS

FOR

HAZARDOUS MATERIALS







DESPERDICIOS
CONTAMINADOS

MANUFACTURED BY: G. C. W. INC.



CAUTION:



CONTAMINATED
DISPOSABLES

DESPERDICIOS
CONTAMINADOS

2004
Emergency
Response
Guidebook

STORAGE

SPILL
Response Kit



JUSTRITE®
OVERPAC
28001
② 1H2/Y/318/S/USA/M4339
SALVAGE DRUM









Exhibit 9

PESTICIDES REPORTABLE QUANTITIES

COMMON NAME	ACTIVE INGREDIENT	REPORTBLE QUANTITY	REPORTABLE PRODUCT AMOUNT
2, 4-D AMINE	DI-METHYLAMINE	100 POUNDS	26 GALLONS
2, 4-D IVM DRY	DI-METHYLAMINE SALT	100 POUNDS	103 POUNDS
POLARIS AC COMPLETE	IMAZAPYR	NONE	
BASIL OIL PREMIX	TRICLOPYR ESTER, IMAZAPYR		CALL DEA
DORMANT STEM PREMIX	2, 4-D ESTER; 2-4 DP ESTER; DICAMBA; T	100 POUNDS	163 GALLONS
ENDURANCE	PRODIAME	NONE	
ESCORT	METSULFURON	NONE	
FUSION	FLUAZIFOP & FENOXAPROP	100 POUNDS	1,300 POUNDS
GARLON 3A	TRICLOPYR (AMINE)	5,000 POUNDS	
GARLON 4 ULTRA	TRICLOPYR (ESTER)	NONE	
KRENITE S	FOSAMINE SALT	NONE	
MILESTONE	AMINOPYRALID	NONE	NONE
MSMA	METHANEARSONATE	1 POUND	4.5 POUNDS
OUTRIDER	SULFOSULFURON	NONE	
OVERDRIVE	SALTS OF DIFLUFENZOPYR & DICAMBA	1,000 POUNDS	2,000 POUNDS
PAYLOAD	FLUMIOXAZIN	NONE	
PENDULUM (WDG)	PENDIMETHALIN	NONE	
PLATEAU	PYDINECARBOXYLIC	NONE	
ROUNDUP PRO	GLYPHOSATE SALT	NONE	
SAHARA	IMAZAPYR & DIURON	100 POUNDS	161 POUNDS
STRONGHOLD	AMMONIUM SALT OF IMAZETHAPYR, IMAZA	NONE	
TELAR DF	CHLORSULFURON	NONE	
TRANSLINE	CLOPYRALID	NONE	
OUST EXTRA	SULFOMETURON & METSULFURON	NONE	
PERSPECTIVE	AMNOCYCROPYRACHLOR & CHLORSULFURON	NONE	
STREAMLINE	AMNOCYCROPYRACHLOR & METSULFORON	NONE	
VIEWPOINT	AMNOCYCROPYRACHLOR & METSULFORON & IMAZAPHYR	NONE	
OPENSIGHT	AMINOPYRAUD & METSULFURON	NONE	

Exhibit 10

ANNUAL REPORTS AND OTHER RECORD KEEPING

Visual Inspections

When possible, visual inspections are routinely conducted as part of KYTC pesticide applications for both immediate and observable water quality related adverse incidents. Because most herbicides kill the target vegetation slowly over a period of days and weeks, there may be no immediate water quality effects short of an actual spill, and adverse incidents resulting from oxygen depletion caused by decaying vegetation may not be evident for the same lengthy period. Inspections may not always be possible due to extremely dense vegetative cover that obscures the treatment area. Post-application inspections are routinely conducted to determine effectiveness of pesticide applications and are more likely to detect water quality adverse incidents.

Corrective Actions

KYTC will take specific actions to correct the situation and to prevent reoccurrence if any of the following situations occur:

1. A pesticide application causes the water in question to not meet technology based effluent limitations.
2. A pesticide application causes the water in question to deviate from a narrative water quality standard.
3. A pesticide application causes a water quality related adverse incident.

KYTC will take corrective action before the next pesticide application or as soon as possible. The Department shall document any event and all pertinent information that triggers a corrective action within 30 days of the event and shall maintain a copy of the corrective actions at the district office.

Record Keeping

KYTC documents all pesticide applications on form TC 71-108 form, [Pesticide Field Report](#) and maintains these records for a period of three years at the district office in accordance with [KRS 217B.150](#).

Activity Summary

The Department shall prepare an annual summary of pesticide application activity for each calendar year including the applicator's name, common name of the pesticide used, EPA registration number, application method and quantity applied. The summary shall also include a brief outline of any water quality related adverse incidents and corrective actions taken. These records shall also be maintained at the district office.

Master Code	District	Admin Unit	Material	Usage
M34001 (ounces)	8	D8 ROADSIDE	Escort (ounces)	-80.00
M34003 (gallons)	8	D8 ROADSIDE	2-4-D Formula 40 (gallons)	-835.00
M34007 (gallons)	8	D8 ROADSIDE	Garlon 3A (gallons)	-315.00
M34011 (gallons)	8	D8 ROADSIDE	MSMA (gallons)	-322.50
M34012 (ounces)	8	D8 ROADSIDE	Oust (ounces)	-300.00
M34016X (gallons)		CASEY	Roundup ProMax (gallons)	-3.00
M34016X (gallons)		D8 ROADSIDE	Roundup ProMax (gallons)	-37.50
M34016X (gallons)		RUSSELL	Roundup ProMax (gallons)	-1.25
M34016X (gallons)	8		Roundup ProMax (gallons)	-41.75
M34046 (ounces)	8	D8 ROADSIDE	Esplanade (ounces)	-1500.00
M34054 (gallons)	8	D8 ROADSIDE	Nu-Film IR (gallons)	-57.28
M35100 (gallons)		LINCOLN	Basil Bark Stump (gallons)	-2.50
M35100 (gallons)		PULASKI	Basil Bark Stump (gallons)	-2.50
M35100 (gallons)	8		Basil Bark Stump (gallons)	-5.00
M35104 (gallons)	8	D8 ROADSIDE	Glyphosate (gallons)	-57.50

Exhibit 11

CORRECTIVE ACTION LOG

Project Name:

PDMP Contact:

Date	Description of Problem Triggering the Corrective Action	Corrective Action Needed (including planned date/responsible person)	Date Action Taken/ Responsible person

Exhibit 12

PDMP AMENDMENT LOG

Project Name:

PDMP Contact:

Amendment No.	Description of the Amendment	Date of Amendment	Amendment Prepared by [Name(s) and Title]

ATTACHMENT A: Sample Vegetation Management Plan

The District 8 vegetation management plan incorporates the following integrated pest management (IPM) measures:

Right-of-Way Mowing: The use of precisely timed right-of-way mowing is the primary mechanical weed control method employed by KYTC District 1 to completely control some annual weeds and interrupt the reproductive cycle of both annual and perennial weeds thereby limiting their spread by wind, water, and soil movement. Although perennial weeds are not controlled by mowing, the vigor of those weeds is reduced, making them more vulnerable to other control measures.

Fertilization: Fertilization of roadside turfgrass is one of KYTC's cultural weed control methods which improves its ability to outcompete weedy species for water, nutrients, and sunlight thereby reducing weed populations.

Seeding & Protection: Seeding and protection of grass seed in disturbed areas, bare soil, and thinning stands of roadside turfgrass are another important cultural weed control method utilized by KYTC.

Landscape Plant Maintenance: KYTC roadside landscape installations and rest area landscapes are maintained using a similar IPM program.

Wildflowers: Planting and maintenance of wildflowers is an optional cultural weed control method utilized by KYTC depending on priorities and funding. A successful wildflower planting may reduce weed populations and the need for right-of-way mowing and other control methods.

Hazardous Tree Removal is not a component of the IPM program, but is another job responsibility of the Roadside Environment District Administrator.

Chemical Weed and Brush Control: The use of chemical pesticides to control roadside weeds and brush is an essential part of the KYTC IPM program. Herbicides control existing weeds or may prevent the germination of weed seed in areas desired to be weed free. This also includes the use of plant growth regulating chemicals used to reduce the growth of roadside turfgrasses.

The following plan lists route information and prioritization for various chemical weed and brush activities and roadside turfgrass fertilization. Priorities are based on the road classification system using the following acronyms: SS (State Secondary), SP (State Primary), RS (Rural Secondary), SU (Supplemental), PW (Parkway), and INT (Interstate).

Attachment A:
SAMPLE VEGETATION MANAGEMENT PLAN

Pulaski	9008, 769, 80, 1225, 3091, 1674, 692, 39 1956, 2292, 2301, 27, 804, 2295, 1003, 751	2/15/2015	All	Oust Esplanade Glyphosate	1oz 5oz 32oz	6/15/2015
Rockcastle	461, 1152, 2/15/2015 3273, 1326, 1250, 70, 1650, 150, 2250, 25, 1786, 1787, 1505	2/15/2015	All	Oust Esplanade Glyphosate	1oz 5oz 32oz	6/15/2015
Russell	9008, 127, 430, 619, 379, 1730, 3280, 55, 80, 910, 379, 76, 92, 1383, 1680, 1729	2/15/2015	All	Oust Esplanade Glyphosate	1oz 5oz 32oz	6/15/2015
Wayne	90, 1275, 776, 790, 92, 696, 1009, 3287, 1576, 834, 200, 167, 3106	2/15/2015	All	Oust Esplanade Glyphosate	1oz 5oz 32oz	6/15/2015

Attachment A:
SAMPLE VEGETATION MANAGEMENT PLAN

County	Route Number	Date	Vegetation Controlled	Materials Used	Rate/Acre	Completion
Adair	9008, 0055, 6177,	2/15/2015	All	Oust	1oz	6/15/2015
	530, 682, 633, 2972,			Esplanade	5oz	
	767, 439, 61, 768,			Glyphosate	32oz	
	1702, 2287, 0061,					
768, 533, 704						
Casey	0070, 837, 501, 198,	2/15/2015	All	Oust	1oz	6/15/2015
	3270, 817, 1547, 127,			Esplanade	5oz	
	1742, 910, 3272, 49,			Glyphosate	32oz	
	78, 243, 906, 2313					
Cumberland	90, 61,	2/15/2015	All	Oust	1oz	6/15/2015
	3140, 2064, 100, 496,			Esplanade	5oz	
	3115, 2276, 1312, 953,			Glyphosate	32oz	
	1424, 214, 485, 449,					
	379, 704					
Clinton	2063, 558, 2546,	2/15/2015	All	Oust	1oz	6/15/2015
	1009, 2063, 3062,			Esplanade	5oz	
	734, 639, 1266, 1351,			Glyphosate	32oz	
	553, 738, 1576, 3156					
Lincoln	78, 127, 300, 198, 39,	2/15/2015	All	Oust	1oz	6/15/2015
	150, 1247, 501, 1770,			Esplanade	5oz	
	3177, 1150, 698, 70,			Glyphosate	32oz	
	2141, 3246, 643					

Attachment A:
Sample Vegetation Management Plan

<u>County</u>	<u>Route Number</u>	<u>Date</u>	<u>Vegetation Controlled</u>	<u>Materials Used</u>	<u>Rate</u>	<u>Completion</u>
Adair	0531, 2289,	6/16/2015	Broadleaf Weeds,	2,4-D	64oz	9/22/2015
	2970, 1742		Johnsongrass,	MSMA	32oz	
	533, 80, 92,		Kudzu	Nu-Film	8 oz	
	704, 2968,					
	76, 206, 900					
Casey	70X, 49, 501,	6/16/2015	Broadleaf Weeds,	2,4-D	64oz	9/22/2015
	837, 198, 551,		Johnsongrass, Kudzu	MSMA	32oz	
	639, 1640, 127			Nu-Film	8oz	
	3272, 1552					
Cumberland	90, 61,	6/16/2015	Broadleaf Weeds,	2,4D	64oz	9/22/2015
	3140, 2064,100,		Johnsongrass, Kudzu	MSMA	32oz	
	2064, 496, 1312,			Nu-Film	8oz	
	2276, 953, 485, 1424, 449					

Sample Vegetation Management Plan

County	Route Number	Date	Vegetation Controlled	Materials Used	Rate	Completion
Clinton	2063, 558, 734,	6/16/2015	Broadleaf Weeds, Johnsongrass, Kudzu	2,4D	64oz	9/22/2015
	1009, 2063, 90,			MSMA	32oz	
	639, 1266, 553			Nu-Film	8oz	
Lincoln	2141,3246, 78	6/16/2015	Broadleaf Weeds, Johnsongrass, Kudzu	2,4D	64oz	9/22/2015
	127, 27, 1770,			MSMA	32oz	
	501, 698, 150,			Nu-Film	8oz	
	1150, 3177					
Pulaski	9008, 769,80,	6/16/2015	Broadleaf Weeds, Johnsongrass, Kudzu	2,4D	64oz	9/22/2015
	1225, 3091, 39,			MSMA	32oz	
	1674, 1956, 27,			Nu-Film	8oz	
	1003, 751					
Rockcastle	461, 1152, 70	6/16/2015	Broadleaf Weeds, Johnsongrass, Kudzu	2,4D	64oz	9/22/2015
	3273, 150, 300,			MSMA	32oz	
	1650, 2250, 27,			Nu-Film	8oz	
	1786, 1787					
Russell	9008, 127, 430,	6/16/2015	Broadleaf Weeds, Johnsongrass, Kudzu	2,4D	64oz	9/22/2015
	619, 379, 1680,			MSMA	32oz	
	910, 76, 92, 80			Nu-Film	8oz	

Sample Vegetation Management Plan

County Route Number Date Vegetation Controlled Materials Used Rate Completion

Wayne	90, 1275, 776,	6/16/2015	Broadleaf Weeds,	2,4D	64oz	9/22/2015
	92, 696, 1009,		Johnsongrass, Kudzu	MSMA	32oz	
	200, 167, 834,			Nu-Film	8oz	
	3287, 3106					

Attachment A:
Sample Vegetation Management Plan

<u>County</u>	<u>Route Number</u>	<u>Date</u>	<u>Vegetation Controlled</u>	<u>Material Used</u>	<u>Acre/ Rate</u>	<u>Completion</u>
Adair	80, 9008, 55	9/22/2015	Brush, Trees, Poison-hemlock	2, 4D MSMA Nu-Film	64oz 32oz 8oz	10/16/2015
Casey	837, 70, 127	9/22/2015	Brush, Trees, Poison-hemlock	2, 4D MSMA Nu-Film	64oz 32oz 8oz	10/16/2015
Cumberland	953, 1880, 1424, 214, 379, 3146	9/22/2015	Brush, Trees, Poison-hemlock	2, 4D MSMA Nu-Film	64oz 32oz 8oz	10/16/2015
Clinton	639, 558, 350, 968, 558, 969	9/22/2015	Brush, Trees, Poison-hemlock	2, 4D MSMA Nu-Film	64oz 32oz 8oz	10/16/2015
Lincoln	27, 643, 1770, 328, 78	9/22/2015	Brush, Trees, Poison-hemlock	2, 4D MSMA Nu-Film	64oz 32oz 8oz	10/16/2015

Sample Vegetation Management Plan

County	Route Number	Date	Vegetation Controlled	Materials Used	Acre/ Rate	Completion
Pulaski	192, 1003, 80, 1675, 3263	9/22/2015	Brush, Trees, Poison-hemlock	2, 4D	64oz	10/16/2015
				MSMA	32oz	
				Nu-Film	8oz	
Rockcastle	1004, 1912, 1797, 490	9/22/2015	Brush, Trees, Poison-hemlock	2, 4D	64oz	10/16/2015
				MSMA	32oz	
				Nu-Film	8oz	
Russell	127, 1058, 379	9/22/2015	Brush, Trees, Poison-hemlock	2, 4D	64oz	10/16/2015
				MSMA	32oz	
				Nu-Film	8oz	
Wayne	834, 1009, 200, 90, 92, 674	9/22/2015	Brush, Trees, Poison-hemlock	2, 4D	64oz	10/16/2015
				MSMA	32oz	
				Nu-Film	8oz	

ATTACHMENT B - KYG99 PESTICIDE KPDES PERMIT



STEVEN L. BESHEAR
GOVERNOR

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
200 FAIR OAKS LANE
FRANKFORT, KENTUCKY 40601
www.kentucky.gov

LEONARD K. PETERS
SECRETARY

FACT SHEET

General Permit for Pesticide Application

KPDES No.: KYG990000

AI No.: 35050

Permit Writer: Ronnie Thompson

Date: March 30, 2012

Public Notice Information

Public Notice Start Date: February 10, 2012

Comment Due Date: March 13, 2012

Information concerning the public notice process may be obtained on the Division of Water's Public Notice Webpage at the following address:

http://dep.gateway.ky.gov/eSearch/Search_Pending_Approvals.aspx?Program=Wastewater&NumDaysDoc=30

Comments may be filed electronically at the following e-mail address: DOWPublicNotice@ky.gov

Or, by sending written comments to:

Division of Water
Surface Water Permits Branch
200 Fair Oaks Lane
Frankfort, Kentucky 40601

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FACT SHEET

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT TO DISCHARGE INTO WATERS OF THE COMMONWEALTH GENERAL PERMIT FOR PESTICIDE APPLICATION

1.0 BACKGROUND

1.1 Introduction

Pesticides were first regulated in the United States when Congress passed the Federal Insecticides Act in 1910. Because the sale of ineffective products was common at the time, the purpose was to try to protect farmers from fraudulent products and misleading claims. The law set manufacturing standards for insecticides and fungicides and provided for the seizure of adulterated substances. The number of agricultural pesticides grew, and in response to concern over their widespread use, Congress passed the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) in 1947. The law required all pesticides to be properly registered through the United States Department of Agriculture (USDA) and established guidelines for product labeling. The focus of pesticide regulation began to shift from protecting consumers to protecting public health and the environment when the effects of indiscriminate pesticide use came into question. The responsibility for regulating pesticides was given to The Environmental Protection Agency (EPA) when it was created in 1970. FIFRA was re-written in 1972 and EPA now regulates the sale, distribution and use of pesticides through the current law. EPA uses product labeling to ensure that pesticides will not pose an unreasonable risk to human health or the environment when used in accordance with the instructions. It is illegal under federal law to use a registered pesticide in a manner inconsistent with its labeling.

Over the past ten years, several courts have addressed the question of whether or not a National Pollutant Discharge Elimination System (NPDES) permit is required by the Clean Water Act (CWA) to apply pesticides. The cases have had conflicting outcomes as to whether or not pesticides are considered pollutants and when a permit is actually required. On November 27, 2006, EPA issued a final rule clarifying that an NPDES permit is not required when pesticides are applied directly to or over water, providing that the application is consistent with FIFRA requirements. The rule became effective on January 6, 2007. However, environmental and industry interest groups quickly challenged the rule. On January 7, 2009, the U.S. Sixth Circuit Court of Appeals vacated the EPA rule in *National Cotton Council of America v. EPA*, stating it was not a reasonable interpretation of the CWA. The court held that biological pesticides and chemical pesticides that leave a residue fall within the CWA definition of "pollutant" and an NPDES permit is required for the discharge of either of these pollutants if discharged from a point source for which NPDES permits are required. However, the court did not define what constitutes a pesticide residual. EPA assumes that all chemical pesticides will in fact leave a residue once the product has performed its intended purpose and that any means of application constitutes a point source, such as the discharge from the nozzle of a spray system.

The court later issued a two-year stay until April 2011 at the request of EPA, after which NPDES permits will be required for discharges to waters of the United States of biological pesticides and chemical pesticides that leave a residue. On November 2, 2009, the U.S. Supreme Court was petitioned to review the Sixth Circuit Court decision. The Supreme Court denied the request to hear the case, which left the April 2011 date to require NPDES permits unchanged. On March 28, 2011, a motion filed by EPA to stay the mandate until October 31, 2011 was granted by the Sixth Circuit Court of Appeals. NPDES permits are required as of this new date for discharges related to pesticides.

States delegated by EPA to implement the provisions of the CWA must develop the appropriate permits that satisfy the regulatory requirements of the NPDES program and that adequately protect water quality. Therefore, the Kentucky DOW is issuing a Kentucky Pollutant Discharge Elimination System (KPDES) general permit that authorizes the discharge of pollutants occurring from applying liquid pesticides under circumstances that make contact with surface water either intentional or unavoidable. A general permit is being issued because it is appropriate when multiple operations within a specific industry perform similar activities that can be addressed by a single set of permit conditions.

This permit regulates discharges from using liquid pesticides in general terms. It does not include any requirements that apply to a specific pesticide, a particular pesticide product, or a certain pollutant. This permit does not address terrestrial pesticide applications made to control pests on agricultural crops. This permit does not address other terrestrial pesticide applications unless there is an unavoidable discharge to surface water due to proximity. Applications to grounds where no surface water exists, including applications to temporarily dry intermittent streams and ditches do not constitute a point source discharge. This permit does not address the issue of off target spray drift.

Granular, powdered or other dry pesticides are not considered liquid or waterborne industrial waste and are therefore not required to obtain a wastewater discharge permit under the KPDES program, unless mixed with water or some other liquid before application. This permit does not address pesticide applications made with foggers. Because cold and thermal foggers produce a suspended mist and not a measurable liquid flow, applications of this type do not constitute a point source discharge. Storm water runoff from agricultural land, silviculture activities, orchards, cultivated crops, pastures, rangelands, forestlands and irrigation return flows are also exempt from coverage, even if the discharge is known to contain pesticides. In 1987, Congress amended the CWA to exempt these types of discharges from NPDES permitting requirements.

Because the date after which discharges related to pesticides are legally required to be permitted has passed, coverage under this permit will be automatic. That means coverage is available without a permit application and approval process. As such, an operator is authorized to discharge under the terms and conditions of this permit without notifying the DOW or receiving correspondence from the DOW. Any pesticide user must comply with all applicable FIFRA requirements, regardless of coverage under this permit. This permit includes additional requirements that do not contradict FIFRA requirements.

1.2 Selected Definitions

Action Threshold is the point at which pest control action must be taken because pest populations, or environmental conditions caused by pest populations, can no longer be tolerated. The action threshold can vary by pest, location, and season. Often, the action threshold is expressed as the number of pests per unit area. The action threshold can also represent a zero or near zero tolerance level.

Active Ingredient means the component of a pesticide meant to prevent, destroy, repel or mitigate a pest, or that functions as a plant regulator, desiccant or defoliant. The term generally refers to all but the inert portion of a pesticide.

Agricultural Land is distinctive land that is cultivated and specifically used for the production of crops or any other plant produced commodity.

Antidegradation is a policy developed and adopted as part of the state's water quality standards that ensures protection of existing water uses and maintains the existing level of water quality where that water quality exceeds levels necessary to protect both fish and wildlife propagation and recreation in and on the water.

Application or applying means the placing of a pesticide for effect, including mixing, loading and transport.

Applicator refers to a person, group or organization that applies pesticides and is not involved with any of the functions of an operator. Any given facility cannot have an applicator without also having an operator.

Best Management Practices means a schedule of activities, prohibitions of certain practices, maintenance procedures and other management practices designed to prevent or reduce surface water pollution. The term also includes treatment requirements, operating procedures, and practices that control plant site runoff, spills or leaks, sludge or waste disposal, or drainage from raw material storage.

Biological Pesticides include microbial pesticides, biochemical pesticides and plant-incorporated protectants (PIPs). Microbial pesticides are pesticides that include a microbial agent intended for preventing, destroying, repelling or mitigating any pest or that is used as a plant regulator, defoliant or desiccant. A microbial agent is a eukaryotic microorganism, a prokaryotic microorganism or a parasitically replicating microscopic element and may include protozoa, algae, fungi, Eubacteria, Archaeobacteria and viruses. Biochemical pesticides are pesticides that are a naturally occurring substance, or structurally similar and functionally identical to a naturally occurring substance, that has a history of exposure to people and the environment, has demonstrated minimal toxicity, and has a non-toxic mode of action on target pests. PIPs are substances intended to be produced and used in a living plant or its produce and in the genetic material necessary to produce the substances. PIPs include any inert ingredients contained in the plant or its produce.

Chemical Pesticides are any pesticides not classified as biological pesticides. The definition includes phosphorus inactivation chemicals such as aluminum sulfate, if used as a pesticide or pesticide aid.

Cold Water Aquatic Habitat means surface water and associated substrate capable of supporting indigenous aquatic life or self-sustaining or reproducing trout populations on a year-round basis.

Control Measures include management practices, operating procedures, application techniques, storage methods, maintenance schedules or other steps taken to reduce or eliminate pesticide discharges.

Declared Pest Emergency Situation is an event defined by the public declaration of a pest emergency by a federal, state or local governmental agency. The public declaration of a pest emergency may be based upon significant risk to human health, substantial economic loss or the threat to an endangered species.

Exceptional Water is generally a unique water of the Commonwealth. The term may include waters that contain a fish community that is rated as "excellent" by the Index of Biotic Integrity; waters that contain a macro invertebrate community that is rated as "excellent" by the Macro invertebrate Bio-assessment Index; or waters that are in the Cabinet's reference reach network. The term automatically includes any water identified as Outstanding State Resource Water.

Facility means an area in which an activity takes place, in this case the application of liquid pesticide, with a point source discharge that is subject to regulation under the KPDES program. It is the area under control of the operator.

Habitat is the place where a pest is usually found. It is the natural environment of a particular species of plant, animal or other type of organism. A species' environment includes the water, land and air in which it lives or may be sustained.

High Quality Water means surface water not listed as Outstanding State Resource Water, Exceptional Water or as Impaired Water. This is therefore the default category for any surface water not assessed by the Cabinet.

Impaired Water means surface water that assessed by the Cabinet as not fully supporting one or more of its designated uses and has been listed in the latest approved Integrated Report to Congress.

Inert Ingredient is a substance or group of structurally similar substances, other than an active ingredient, that is intentionally included in a pesticide product. Inert ingredient also means any substance, such as a selectable marker, used to confirm or ensure the presence of the active ingredient, and includes the genetic material necessary for the production of the substance, if genetic material is intentionally introduced into a living plant in addition to the active ingredient.

Large Operation means any facility not meeting the qualifications of a small operation.

Minimize means to reduce and/or eliminate. As used in this permit, the term also means to maintain a minimum level without allowing an unnecessary increase.

Operator refers to a person, group or organization that provides financing for pesticide applications, that makes the decision to apply pesticides, that performs the activities that are necessary to ensure compliance with this permit or that has authority over those whom perform the activities that are necessary to ensure compliance with this permit. Any given facility must have an operator, but not necessarily an applicator, as an operator can also perform the function of an applicator.

Outstanding State Resource Water is generally a unique water of the Commonwealth. The term may include waters that are part of a relatively undisturbed watershed that can provide basic scientific data and possess outstanding water quality characteristics; waters that support a diverse or unique native aquatic flora or fauna; waters that provide exceptional aesthetic or ecological value; waters that are part of a unique geological or historical area; or waters that possess physical or chemical characteristics that provide an unusual aquatic habitat within a physiographic region. The term automatically includes waters identified under the Kentucky Wild Rivers Act, the Kentucky Nature Preserves Act, the Federal Wild and Scenic Rivers Act and waters that support endangered or threatened species.

Permittee is a term used to describe the permit holder. The term has the same meaning as “operator”, except that an operator is only a permittee while having coverage under this permit. Requirements made of permittees by this permit do not necessarily have to be carried out by the operator, but it is the ultimate responsibility of the permittee to ensure compliance with the requirements of this permit.

Pest means any unwanted organism. The term may include rodents, insects, weeds, spiders, snails, moss, algae, mussels or fungus. The target pest is that particular pest for which a pesticide is intended to work.

Pest Management Area is the region, zone or locale for which pest management activities are being conducted, such as a city, a watershed, a wildlife refuge or a county. A pest management area may include one or possibly many treatment areas.

Pesticide includes any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, and any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant, or any nitrogen stabilizer.

The term does not include:

- any article that is a “new animal drug” within the meaning of Section 201 of the Federal Food, Drug and Cosmetic Act (FFDCA) that has been determined by the Secretary of Health and Human Services not to be a new animal drug by a regulation establishing conditions of use for the article, or that is an animal feed within the meaning of Section 201 of the Act bearing or containing a new animal drug.
- liquid chemical sterilant products (including any sterilant or subordinate disinfectant claims on those products) for use on a critical or semi-critical device, as defined in the FFDCA. For purposes of the preceding sentence, the term “critical device” includes any device that is introduced directly into the human body, either into or in contact with the bloodstream or normally sterile areas of the body and the term “semi-critical device” includes any device that contacts intact mucous membranes, but that does not ordinarily penetrate the blood barrier or otherwise enter normally sterile areas of the body.

The term applies to insecticides, herbicides, fungicides, rodenticides, and various other substances used to control pests. The definition encompasses all uses of pesticides authorized under FIFRA, including uses authorized under Section 3 (registration of pesticides), Section 5 (experimental use permits), Section 18 (emergency exemptions), Section 24(c) (special local needs), and Section 25(b) (exemption of pesticides from FIFRA).

Note: Drugs used to control diseases of humans or animals (such as livestock and pets) are not considered pesticides; those drugs are regulated by the Food and Drug Administration. Fertilizers, nutrients, and other substances used to promote plant survival and health are not considered plant growth regulators and thus, are not pesticides. Biological control agents, except for certain microorganisms, are exempted from regulation as pesticides under FIFRA. (Biological control agents include beneficial predators such as birds or ladybugs that eat insect pests, parasitic wasps, fish, etc).

This permit uses the term “pesticide” when referring to a substance as applied. When referring to the portion of a substance with pesticidal qualities, the permit uses the term “active ingredient.”

Pesticide Research and Development refers to creative work undertaken on a systematic basis to gain new knowledge, and to use this new knowledge to develop new or improve products or procedures.

Point Source is any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel, or other floating craft from which pollutants are or may be discharged. The term does not include return flows from irrigated agriculture or agricultural storm water runoff. As used in this permit, the term describes both stationary and mobile sources as “points.”

Pollutant means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into water. In regards to pesticide use, a biological pesticide is considered a “biological material,” and any pesticide residue resulting from use of a chemical pesticide is considered a “chemical waste.”

Sewage System means individually or collectively those constructions or devices used for collecting, pumping, treating and disposing of liquid or waterborne sewage, industrial waste or other waste.

Small Operation refers to the activity of a private enterprise that does not exceed the Small Business Administration (SBA) size standards found in Title 13 of the Code of Federal Regulations (13 CFR), 13 CFR 121.201, or a local government that serves a population of 10,000 people or less. The DOW realizes that the SBA defines small as serving less than 50,000 persons, but has adopted EPA’s lower threshold of 10,000 persons.

Surface water means waters having well-defined banks and beds, either constantly or intermittently flowing; lakes and impounded waters; marshes and wetlands; and any subterranean waters flowing in well-defined channels and having a demonstrable hydrologic connection with the surface. Lagoons used for waste treatment and effluent ditches that are situated on property owned, leased, or under valid easement by a permitted discharger are not considered surface waters of the Commonwealth. As used in this permit, the term describes only those features where water is present at the time of the activity.

Toxicity is the property of a pesticide, or some other substance, that causes any adverse physiological effects on a living organism. Pesticides with this property are considered to be toxic.

Treatment Area means the area where pesticides are actually applied and any extended area where applied pesticides are present and are intended to act. If pesticides are applied at a single location, such as through a drip line into a canal for example, the treatment area is the entire area intentionally affected by the pesticide. The treatment area is usually a portion of a larger pest management area.

Warm Water Aquatic Habitat means surface water and associated substrate capable of supporting indigenous warm water aquatic life.

Water Quality Related Adverse Incident is an event when a person, domesticated animal, plant or any other non-target organism suffers an unexpected toxic or adverse effect because of contact with surface water that has been affected by the use of pesticides. Toxic or adverse effects may include distressed, lethargic, floating or dead fish and wilted or discolored vegetation. An unexpected toxic or adverse effect from using a pesticide that is not due to contact with surface water is an “adverse incident”, but is not related to water quality and is therefore not a water quality related incident.

Water’s Edge is the land sloping toward and immediately bordering surface water. Land application of pesticides to this area may result in unavoidable pesticide contact with surface water. The term is used in this permit to describe an area where due to its shape a linear annual treatment area threshold expressed in miles is used instead of an annual treatment area threshold expressed in acres.

1.3 Area of Coverage

This permit covers all facilities located wholly or in part within the Commonwealth of Kentucky.

1.4 Covered Facilities

Any facility with an eligible discharge shall have automatic coverage under this permit. All eligible discharges are authorized upon the effective date of this permit. All facilities with an eligible discharge shall abide by the terms and conditions of this permit upon the effective date. Facilities with ineligible discharges shall have an individual KPDES permit.

1.5 Eligible Discharges

All discharges created by applying liquid pesticides directly to surface water and all non-agricultural land applications where pesticide contact with surface water is either intentional or unavoidable, except those excluded discharges.

Eligible discharges may include: applying pesticides directly to surface water to manage aquatic animals or submersed, emersed or floating vegetation in the water; or applying pesticides over surface water to manage flying insects that breed and live in or close to water; or applying pesticides to a utility right-of-way or a forest canopy to manage invasive vegetation where surface water exists within the right-of-way or below the canopy.

Only those initial discharges to surface water due to the use of pesticides are required to have coverage under this permit. For instance, using pesticides to clear unwanted vegetation in a catch basin does not require permit coverage, even though storm water runoff may cause the catch basin to discharge pesticides to surface water during a rainfall. The same holds true for hatchery ponds, which may be drained to surface water.

1.6 Excluded Discharges

Discharges created by applying pesticides to agricultural land are excluded from coverage under this permit. However, this permit makes no judgment as to whether a KPDES permit may actually be required by the CWA.

The following discharges are excluded from coverage under this permit and must be authorized by an individual permit:

- Designated as Cold Water Aquatic Habitat (CAH) or as Outstanding State Resource Water (OSRW) as listed in 401 KAR 10:026, Section 5.
- Categorized as Outstanding National Resource Water (ONRW) or as Exceptional Water (EW) as listed in 401 KAR 10:030, Section 1.
- Listed in the most recent Integrated Report to Congress on Water Quality in Kentucky (303(d) and 305(b) report) as impaired for the specific pesticide being used, or any of its constituents. For instance, applying the pesticide copper sulfate to surface water impaired for either copper or sulfate would not be eligible because copper sulfate can degrade into these two substances.

Surface water designations and categorizations are available at:

<http://www.lrc.state.ky.us/kar/401/010/026.htm> and <http://www.lrc.state.ky.us/kar/401/010/030.htm>

The 303(d) and the 305(b) Integrated Reports to Congress are available at:

<http://water.ky.gov/waterquality/pages/integratedreports.aspx>

The DOW may exclude any discharge from coverage under this general permit if it determines that an individual permit would better address the discharge.

1.7 Receiving Waters

This permit authorizes discharges to surface water:

- Classified as Warmwater Aquatic Habitat (WAH), Primary/Secondary Contact Recreation (PCR/SCR) and Domestic Water Supply (DWS) as listed in 401 KAR 10:026, Section 5.
- Listed in the most recent Integrated Report to Congress on Water Quality in Kentucky (303(d) and 305(b) report) as impaired, if the impairment is not for the specific pesticide that is being used, or any of its constituents.
- Categorized as High Quality as listed in 401 KAR 10:030, Section 1, provided the discharge complies with the additional controls as specified in this permit.

1.8 Permitting Action

This is the first issuance of a KPDES general permit for discharges resulting from the use of pesticides.

2.0 PROPOSED TECHNOLOGY BASED EFFLUENT LIMITATIONS

Pursuant to Title 40 of the Code of Federal Regulation (40 CFR), 40 CFR 122.44(a)(1), as incorporated by 401 KAR 5:065, Section 2(4), each NPDES permit issued by a delegated state shall include conditions that meet technology based effluent limitations and standards. Those conditions shall be based on the effluent limitations and standards promulgated under Section 301 of the CWA, or on the new source performance standards promulgated under Section 306 of the CWA, or on effluent limitations determined on a case-by-case basis under Section 402(a)(1)(B) of the CWA, or on a combination of the three, in accordance with 40 CFR 125.3(c)(3).

40 CFR 125.3(a)(2), as incorporated by 401 KAR 5:080, Section 2, establishes the minimum level of control that must be imposed in permits issued under Section 402 of the CWA. Permits for discharges other than those from a Publicly Owned Treatment Works (POTW) shall contain the following technology based treatment requirements in accordance with the following statutory deadlines: the best practicable control technology currently available (BPT) for all pollutants by March 31, 1989; the best conventional pollutant control technology (BCT) for conventional pollutants by March 31, 1989 and the best available technology economically achievable (BAT) for toxic or non-conventional pollutants by March 31, 1989.

However, EPA has not promulgated an effluent limitation guideline (ELG) for discharges associated with the application of pesticides for any of these three treatment levels. When EPA-promulgated effluent limitations are inapplicable, permit limitations may be based on a case-by-case Best Professional Judgment (BPJ) interpretation in accordance with 40 CFR 125.3(c)(2). The permit writer shall consider the appropriate technology for the category or class of point sources of which the applicant is a member, based upon all available information and shall consider any unique factors relating to the applicant.

40 CFR 122.44(k)(2) allows for Best Management Practices (BMPs) to be used in lieu of numeric limitations when numeric limitations are infeasible. Biological pesticides use microbial agents, most commonly based on a strain of *Bacillus thuringiensis*. Biological materials of this nature do not contain conventional pollutants for which numeric limits could be established. In the case of discharges from chemical pesticides, the time at which a numeric effluent limitation would apply is not clear, since a residue only comes into existence at some point after the actual discharge. A sample of the pesticide mixture that was applied could not be measured against an effluent limitation, since the mixture would have been diluted to varying degrees by surface water before the limit would apply.

Therefore, only non-numeric effluent limitations will be used in this general permit in accordance with a BPJ evaluation of the eligible discharges listed in Section 1.4. In accordance with the CWA and 40 CFR 122.44(k), as incorporated by 401 KAR 5:065, Section 2(4), this general permit includes narrative conditions (BMP effluent limitations incorporated through certain control measures instead of numeric effluent limitations) to reduce both the quantity of pesticide discharges and the likelihood of unintentional pesticide discharges because numeric limitations are infeasible, and the practices are reasonably necessary to carry out the purposes and intent of the CWA.

2.1 Minimizing Pesticide Discharges

The following control measures shall be used to minimize pesticide discharges:

1. The permittee shall use no more than the necessary amount of pesticide, no more frequently than necessary to control the target pest and shall apply the pesticide in suitable weather conditions, in accordance with the label.
2. The permittee shall keep application equipment in proper operating condition by calibrating, cleaning and performing maintenance on a regular basis and by making repairs when necessary.

Before making the first pesticide application covered by this permit and once per calendar year afterwards (before making the first pesticide application for that calendar year) the permittee shall:

1. Determine the basis of the pest problem, such as impeded land or water uses like fishing and recreation, increased health risks and the propagation of disease or utility interference.
2. Analyze surveillance data from the previous year to help identify the cause of the problem, to determine if the problem is reoccurring or if there are new sources that are contributing to the problem. If data from the previous year for the specific pest management area is not available, older data or data from a similar location may be used.
3. Establish pest size or population density to serve as an action threshold.
4. Identify the current pest distribution and estimate the distribution potential without the use of pesticides.

5. Identify specific pest species to target and develop species-specific management strategies based on species development and behavior.
6. If applicable, identify flying insect breeding sites so that larva control programs can be implemented.
7. If applicable, identify factors causing or contributing to weed or algae problems such as excessive nutrients.
8. If applicable, identify factors causing or contributing to aquatic animal problems such as accidental introduction of exotic species.

Before making every pesticide application covered by this permit, the permittee shall:

1. Conduct surveillance to determine if the action threshold has been met.
2. Determine if the current climate would be able to support populations beyond the threshold and evaluate the method and timing of applying pesticides to reduce any possible affects on the environment and on non-target organisms.
3. Evaluate using pesticides against the most susceptible stage of pest development.

Control measures are required only to the extent that they are applicable to the type of pesticide product being used and its intended function. For example, pesticides are sometimes used as a preventative measure. When pre-emergent herbicides are used in order to prevent seed germination, action thresholds or surveillance data may not be relevant. If the discharges covered by this permit are due to the application of a pesticide that is being used solely for the purpose of research and development, then control measures only have to be implemented to the extent that they do not compromise research results.

Coverage under this permit does not relieve the permittee from the requirement to follow FIFRA labeling. If it is determined that a pesticide has been applied at a higher rate than specified by the manufacturer's directions, either through error or poorly calibrated equipment, then the permittee is in violation of this permit because pesticide discharges are not being minimized. The requirement to minimize pesticide discharges does not suggest that the permittee must use less than the recommended application rates specified by the product label.

2.2 Water Quality Related Adverse Incident Reporting

In order to provide an opportunity for the Cabinet to respond, if necessary, this permit contains a notification requirement when the permittee become aware that a water quality related adverse incident has occurred.

The permittee shall provide a written account of a water quality related adverse incident caused by a liquid pesticide discharge to the appropriate DOW Regional Office as listed in Attachment A within thirty days of the incident. This requirement is in addition to the reporting requirements of FIFRA, Section 6(a)(2) and 40 CFR Part 159.

The report must contain the following information:

1. The name of the surface water affected and any changes in appearance such as color, sheen or clarity.
2. The name of the affected species and an estimate of the amount and size of any dead or distressed organisms.
3. The size of the affected area, such as stream distance, lake area or terrestrial acreage.
4. The name of the pesticide, application rate, application method, active ingredient and EPA registration number.
5. A habitat description and the circumstances under which the incident occurred.
6. An identification of what actions will be taken to correct, remedy, cleanup or otherwise address the incident and prevent the incident from reoccurring.
7. How and when the incident was discovered.
8. If biological tests or water sampling were conducted, provide a summary of the test results within thirty days of the results becoming available.

Reporting a water quality related adverse incident occurring to non-target pests that are similar in kind to the target pest is not required. For example, if a different species of fly is affected by the application of a pesticide intended for black flies only, then a report is not required.

Water quality related adverse incidents do not include those occurring to terrestrial organisms, unless the incident was caused by contact with surface water affected by a pesticide. For instance, brown vegetation caused by foliage having a direct contact with a pesticide is not considered a water quality related adverse incident, and a report is not required.

If a federally listed threatened or endangered species or its federally designated critical habitat is adversely affected by the use of a pesticide, then the permittee must immediately notify the U.S. Fish and Wildlife Service (FWS).

Additional information on federally listed threatened or endangered species and federally designated critical habitat is available at: www.fws.gov

2.3 Visual Inspections

Although visual inspections may be subjective by nature, they can be used in a practical manner to determine compliance with this permit. Visual monitoring is required as a means of identifying instances of harmful impact to non-target organisms related to the use of pesticides in a given area.

The permittee shall:

1. Conduct visual inspections while applying pesticides for immediate and observable water quality related adverse incidents. This requirement only applies when visual inspections are possible. For instance, visual inspections may not be possible during nighttime applications or when the treatment area is inaccessible.
2. Conduct post-application visual inspections in and around the treatment area for observable water quality related adverse incidents. This requirement only applies if the operator performs surveillance or effectiveness checks as part of their normal pest management program.

2.4 Corrective Actions

A corrective action requirement is included to help document and eliminate environmental problems associated with pesticide use and to promote compliance with permit requirements.

If any of the following situations occur, the permittee shall take specific actions to correct the situation and to prevent reoccurrence.

1. Failure to meet the technology based effluent limitations.
2. Pesticide applications are causing or contributing to an excursion of a narrative water quality standard.
3. Pesticide applications cause a water quality related adverse incident.

Corrective action shall be taken before the next pesticide application or otherwise as soon as possible. In addition, the process of considering and selecting discharge control measures must be evaluated for effectiveness. The permittee shall document any event that triggers a corrective action within thirty days of the event. The documentation must include a description of the event, the date the event took place, the date the permittee learned of the event and how the event was discovered. The permittee shall summarize any corrective actions taken, including date begun, date complete, or the anticipated completion date. The permittee shall document what measures are taken to prevent a reoccurrence of the event. The permittee shall maintain a copy of corrective actions at the operator's business address and shall make the records available upon request to Cabinet personnel.

2.5 Recordkeeping

The permittee shall keep a record of those items identified in (a) through (j) of the recordkeeping requirements for agricultural pest control within the Kentucky Department of Agriculture administrative regulation, 302 KAR 27:020, Section 1(3). The permittee shall maintain a copy of records at the operator's business address and shall make the records available upon request to Cabinet personnel.

2.6 Activity Summary

Permittees shall prepare a summary of activity for each calendar year. The summary shall contain the permittee name and the applicator name(s). The common name of any pesticide used during the year must be included, with the registration number(s), application method and quantity applied. The summary shall include a brief outline of any water quality related adverse incidents that occurred during the year and any corrective actions taken. The summary shall be completed by February 15 of each year. The permittee shall maintain a copy of the summary at the operator's business address and shall make the summary available upon request to Cabinet personnel.

3.0 PROPOSED WATER QUALITY BASED EFFLUENT LIMITATIONS

3.1 Applicable Water Quality Standards

Pursuant to 40 CFR 122.44(d)(1), as incorporated by 401 KAR 5:065, Section 2(4), each NPDES permit issued by a delegated state shall include conditions that meet water quality standards and state requirements. Those conditions shall be in addition to or more stringent than an ELG promulgated under Sections 301, 304, 306, 307, 318 or 405 of the CWA when necessary to achieve water quality standards established under Section 303 of the CWA, including state narrative criteria for water quality. 40 CFR 122.44(d)(1)(i) stipulates that limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic) that the Director determines 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, including state narrative criteria for water quality.

The stated purpose of a pesticide is to control an unwanted organism. Biological pesticides have a non-toxic mode of action and by definition, discharges from their application will not have the reasonable potential to cause an excursion of a water quality standard. Chemical pesticides are toxic to the target species and it is possible that they contain substances that could degrade surface water. However, only after a chemical pesticide has completed its intended purpose is it considered a pollutant for which this KPDES permit is required. Therefore, it is not possible to determine if their application will have the reasonable potential to cause an excursion of a water quality standard since the actual residue typically cannot be measured. Attempting to establish a numeric water quality based effluent limitation for a particular pollutant based on some type of in-stream or surface water monitoring is difficult because the origin of elevated pollutant levels could not be traced back to the actual discharge. Therefore, only state narrative criteria for water quality apply to the discharges covered by this permit.

401 KAR 10:031, Section 2(1) establishes the minimum criteria that apply to all surface waters. This section states that surface waters shall not be aesthetically or otherwise degraded by substances that:

- Settle to form objectionable deposits
- Float as debris, scum, oil, or other matter to form a nuisance
- Produce objectionable color, odor, taste, or turbidity
- Injure, are chronically or acutely toxic to or produce adverse physiological or behavioral responses in humans, animals, fish, and other aquatic life
- Produce undesirable aquatic life or result in the dominance of nuisance species
- Cause fish flesh tainting

Any discharge that causes or contributes to an excursion of a narrative water quality standard is prohibited and is a violation of this permit.

3.2 Antidegradation

The CWA requires each State to develop an antidegradation policy and associated implementation procedures for the protection and maintenance of a water body's existing water quality. Kentucky's antidegradation policy is found in 401 KAR 10:029, Section 1. The antidegradation policy implementation methodology is contained in 401 KAR 10:030.

The purpose of 401 KAR 10:026 through 10:031 is to safeguard the surface waters of the Commonwealth for their designated uses, to prevent the creation of new pollution of these waters, and to abate existing pollution. Where the quality of surface water exceeds that necessary to support propagation of fish, shellfish, wildlife and recreation in and on the water, that quality shall be maintained and protected unless the Cabinet finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the Cabinet's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located.

The procedure for implementing antidegradation requirements in general permits is found in 401 KAR 10:030, Section 1(3)(b)2. The Cabinet may introduce permit conditions to satisfy antidegradation requirements and must describe in the Fact Sheet how the general permit complies with antidegradation requirements.

Regarding antidegradation and lowering water quality, the application of pesticides does not necessarily have a negative affect, depending on the specific pesticide that is being used. In some cases, the use of a pesticide improves

water quality. If a pesticide prevents the growth of algae for instance, the dissolved oxygen level of surface water will not be depleted by subsequent algae decay.

It has already been determined that any pesticide registered for use under the FIFRA will not pose a risk to the environment if used in accordance with its labeling. This permit requires pesticides to be used in accordance with their label through technology based effluent limitations. In addition, the discharges covered by this permit are inherently different from typical wastewater discharges. Pesticides are deliberately purchased and used with a beneficial intention. Most other discharge permits are issued as a means to dispose of an unwanted wastewater.

However, in an effort to further protect high quality waters the DOW has decided to include within this permit additional requirements that provide alternatives to the use of pesticides. In some instances, the need to use pesticides can be reduced or virtually eliminated by using alternative strategies for pest control. Therefore, operators of permitted facilities with a direct discharge into surface water categorized as high quality water shall investigate the possibility of using the following methods of pest control instead of using pesticides:

- **Mechanical Removal Method**

This option involves physically removing the pest from the area. Examples include pulling, mowing, cutting, burning and trapping. Appropriate best management practices have to be used to minimize any environmental disturbances caused by using this method.

- **Habitat Alteration Method**

This procedure consists of increasing pest mortality by altering the pest habitat to make it less suitable to produce and sustain the pest species. Alterations may include eliminating standing water to control mosquito breeding grounds or using pond dyes to inhibit algae growth.

- **Biological Control Method**

This technique makes use of organisms such as herbivores, predators, parasites and pathogens to combat pests. The mosquito fish (*Gambusia affinis*) feeds on mosquito larvae and is an example of using biological control as an alternative to using pesticides.

The permittee shall evaluate these options prior to each pesticide application covered by this permit, considering their impact on water quality, impact to non-target organisms, effectiveness and feasibility versus those of applying a pesticide. If practical, one or more of these alternatives shall be used instead of applying pesticides that lead to a discharge to high quality water. If an alternative method is successful in eradicating a pest, the permittee shall consider taking steps to prevent the pest species from being reintroduced into the pest management area. The implementation of these requirements shall be documented by the permittee in the Pesticide Discharge Management Plan (PDMP) and are in addition to the standard PDMP requirements that apply. If the permittee is not required to develop a PDMP, then the implementation of any alternative methods of pest control shall be documented and kept on file with the other records as required by the recordkeeping section of this permit.

These requirements clarify the DOW's expectation of permittees to meet all applicable antidegradation requirements. The specific goal of these requirements is to prevent any lowering of water quality of those surface waters categorized as high quality. In addition to protecting high quality waters, this permit also protects impaired waters because coverage under this permit is not available for discharges to waters impaired for the specific pesticide being used, or any of its constituents.

Therefore, the conditions of 401 KAR 10:029, Section 1 and 401 KAR 10:030, Section 1 have been satisfied by this permit action. If DOW determines that additional controls or requirements beyond those contained in this permit are necessary to meet antidegradation requirements, then the operator shall be required to obtain an individual permit.

4.0 PDMP REQUIREMENT FOR LARGE OPERATORS

The DOW has adopted EPA's criteria for large and small designations to determine which permittees must develop a Pesticide Discharge Management Plan (PDMP). Therefore, the following requirements are applicable only to those facilities that meet the definition of a large operation.

The permittee shall develop and implement a PDMP for their facilities covered by this permit. The plan shall be complete at the time pesticide application commences. The permittee shall maintain a copy of the PDMP at the operator's business address and shall make the plan available upon request to Cabinet personnel. The plan may incorporate by reference any other documents that may also be used to comply with the requirements of this permit.

The plan shall include the following items:

1. Pesticide Discharge Management Team

The plan shall list a qualified discharge management team, including each member's name, responsibility and contact information. The list must include the name of a person who performs each of these specific tasks: making pest management decisions, making pesticide applications, performing visual inspections, taking corrective actions, detecting or responding to a leak or spill and developing the PDMP. The team may include as many or as few members as necessary to fulfill the requirements of this permit.

If the pesticide applicator is unknown when the team is established, indicate when the applicator can be identified. Include any written agreements between the permittee and another operator or pesticide applicator that specify the separation of responsibilities regarding the requirements of this permit.

2. Pest Management Area Description

The plan shall describe the management area in detail, including an explanation of the pest problem, an identification of the target pest, an explanation of the action thresholds and how they were determined, and the probable cause of the pest problem. If surveillance data from the previous year was not used to identify the cause of the pest problem, then include an explanation of how the cause was determined. If data from another location is used, as allowed by this permit, then explain how that data is relevant.

3. Pest Management Area Map

The plan shall include a map (topographical, city, county or other appropriate map) of the management area and treatment area(s).

4. Discharge Control Measures Description

The plan shall describe what control measures are being used to minimize pesticide discharges in accordance with permit requirements. The plan shall list the pesticide application frequency and rate and how they were determined. An evaluation of the affect the pesticide's active ingredients will have on the environment shall also be included. The plan must describe how weather data such as temperature, wind speed and rainfall is gathered, including an explanation of how that information is evaluated to determine if conditions are favorable for applying pesticides.

5. Water Quality Related Adverse Incident Procedures

The plan shall contain procedures for identifying, documenting and responding to a water quality related adverse incident, including protocols for notifying the appropriate personnel, emergency response organizations and regulatory agencies.

6. Visual Inspection Scheduling and Procedures

The plan shall include a schedule for when visual inspections will be conducted, including an explanation of the inspection procedures and protocols.

7. Spill Response Procedures

The plan shall contain procedures for stopping, containing and cleaning up leaks or spills, including protocols for notifying the appropriate personnel, emergency response organizations and regulatory agencies. Individuals that may cause, detect or respond to a leak or spill must be trained in the correct spill response procedures and must have the necessary spill response equipment available to them.

8. PDMP Modifications

The PDMP shall be modified when a change in the facility significantly alters the type, frequency or volume of pesticides discharged, or anytime the permittee takes corrective action. Modifications must be made within 90 days of the change or the corrective action.

9. Implementation of Antidegradation Requirements

If alternative pest control methods are used because of the antidegradation requirements of this permit, then the plan shall contain a description of those methods.

Small operations and any facility making an application exclusively in response to a Declared Pest Emergency Situation are not required to develop a PDMP.

5.0 NOI REQUIREMENTS

Coverage under this permit is automatic. This initial issuance of KYG990000, DOW has elected not to require the submission of a Notice of Intent (NOI) during this initial issuance due to a number of administrative factors. The requirement to submit an NOI shall be addressed in the reissued KYG990000.

6.0 AUTHORIZATION TO DISCHARGE

Facilities with eligible discharges are automatically covered under this permit. Operators are thereby authorized to discharge under the terms and conditions of this permit upon its effective date.

7.0 SCHEDULE OF COMPLIANCE

The permittee shall attain compliance with all requirements of this permit on the effective date of this permit. The requirements of this permit are not tied to submission of an NOI, and therefore must be met from the time discharges begin.

8.0 OTHER INFORMATION

8.1 Permit Duration

This permit has a five (5) year duration and will expire on the date indicated on the signature page. However, existing coverage under an expired general permit continues in effect in accordance with 40 CFR 122.6, as incorporated by 401 KAR 5:060, Section 2(4), until the DOW makes a determination on any proposal to reissue the permit.

8.2 Permit and Public Notice Information

The draft permit, fact sheet and public notice are available on the DOW Public Notice web page and the Department of Environmental Protection's Pending Approvals Search web page at:

<http://water.ky.gov/Pages/PublicNotices.aspx>:

http://dep.gateway.ky.gov/eSearch/Search_Pending_Approvals.aspx?Program=Wastewater&NumDaysDoc=30

Comments may be filed electronically at the following e-mail address: DOWPublicNotice@ky.gov

Or, by sending written comments to:

Division of Water
Surface Water Permits Branch
200 Fair Oaks Lane
Frankfort, Kentucky 40601

8.3 References and Cited Documents

All material and documents referenced or cited in this fact sheet are parts of the permit information as described above and are readily available at the Division of Water Central Office. Information regarding these materials may be obtained from the Division of Water's Open Records Coordinator at (502) 564-3410 or by e-mail at dowopenrecords@ky.gov.

8.4 Certification and License

Pesticide applications must be made by individuals certified in a pesticide use category consistent with the type of application in accordance with Kentucky Department of Agriculture administrative regulation, 302 KAR 27:050. Individuals who sell, distribute or make recommendations for the use of certain pesticides must be licensed to do so in accordance with 302 KAR 27:030.

KPDES



KENTUCKY POLLUTANT
DISCHARGE ELIMINATION
SYSTEM

PERMIT

PERMIT NO.: KYG990000
AI NO.: 35050

AUTHORIZATION TO DISCHARGE UNDER THE KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM

Pursuant to Authority in KRS 224,

facilities that meet the eligibility requirements of this general permit

are authorized to discharge from operations located

wholly or in part within the Commonwealth of Kentucky

to receiving waters identified as

any of the eligible surface waters of the Commonwealth that comprise the Mississippi and Ohio River basins and sub-basins, within the political and geographical boundaries of Kentucky

in accordance with effluent limitations, monitoring requirements and other conditions set forth in this permit.

This permit shall become effective on April 1, 2012.

This permit and the authorization to discharge shall expire at midnight, March 31, 2017.

March 30, 2012

Date Signed

A handwritten signature in black ink, reading "S. L. Gruzesky".

**Sandra L. Gruzesky, Director
Division of Water**

1.0 COVERAGE UNDER THIS PERMIT

1.1 Covered Facilities

Any facility with an eligible discharge shall have automatic coverage under this permit. All eligible discharges are authorized upon the effective date of this permit. All facilities with an eligible discharge shall abide by the terms and conditions of this permit upon the effective date. Facilities with ineligible discharges shall have an individual KPDES permit.

1.2 Eligible Discharges

All discharges created by applying liquid pesticides directly to surface water and all non-agricultural land applications where pesticide contact with surface water is either intentional or unavoidable, except those excluded discharges.

1.3 Excluded Discharges

Discharges created by applying pesticides to agricultural land are excluded from coverage under this permit. However, this permit makes no judgment as to whether a KPDES permit may actually be required by the CWA.

The following discharges are excluded from coverage under this permit and must be authorized by an individual permit:

- Designated as Cold Water Aquatic Habitat (CAH) or as Outstanding State Resource Water (OSRW) as listed in 401 KAR 10:026, Section 5.
- Categorized as Outstanding National Resource Water (ONRW) or as Exceptional Water (EW) as listed in 401 KAR 10:030, Section 1.
- Listed in the most recent Integrated Report to Congress on Water Quality in Kentucky (303(d) and 305(b) report) as impaired for the specific pesticide being used, or any of its constituents. For instance, applying the pesticide copper sulfate to surface water impaired for either copper or sulfate would not be eligible because copper sulfate can degrade into these two substances.

1.4 Receiving Waters

This permit authorizes discharges to surface water:

- Classified as Warmwater Aquatic Habitat (WAH), Primary/Secondary Contact Recreation (PCR/SCR) and Domestic Water Supply (DWS) as listed in 401 KAR 10:026, Section 5.
- Listed in the most recent Integrated Report to Congress on Water Quality in Kentucky (303(d) and 305(b) report) as impaired, if the impairment is not for the specific pesticide that is being applied, or any of its constituents.
- Categorized as High Quality as listed in 401 KAR 10:030, Section 1, provided the discharge complies with the additional controls as specified in this permit.

2.0 TECHNOLOGY BASED EFFLUENT LIMITATIONS

2.1 Minimizing Pesticide Discharges

The following control measures shall be used to minimize pesticide discharges:

- The permittee shall use no more than the necessary amount of pesticide, no more frequently than necessary to control the target pest and shall apply the pesticide in suitable weather conditions, in accordance with the label.
- The permittee shall keep application equipment in proper operating condition by calibrating, cleaning and performing maintenance on a regular basis and by making repairs when necessary.

Before making the first pesticide application covered by this permit and once per calendar year afterwards (before making the first pesticide application for that calendar year) the permittee shall:

- Determine the basis of the pest problem, such as impeded land or water uses like fishing and recreation, increased health risks and the propagation of disease or utility interference.
- Analyze surveillance data from the previous year to help identify the cause of the problem, to determine if the problem is reoccurring or if there are new sources that are contributing to the problem. If data from the previous

year for the specific pest management area is not available, older data or data from a similar location may be used.

- Establish pest size or population density to serve as an action threshold.
- Identify the current pest distribution and estimate the distribution potential without the use of pesticides.
- Identify specific pest species to target and develop species-specific management strategies based on species development and behavior.
- If applicable, identify flying insect breeding sites so that larva control programs can be implemented.
- If applicable, identify factors causing or contributing to weed or algae problems such as excessive nutrients.
- If applicable, identify factors causing or contributing to aquatic animal problems such as accidental introduction of exotic species.

Before making every pesticide application covered by this permit, the permittee shall:

- Conduct surveillance to determine if the action threshold has been met.
- Determine if the current climate would be able to support populations beyond the threshold and evaluate the method and timing of applying pesticides to reduce any possible affects on the environment and on non-target organisms.
- Evaluate using pesticides against the most susceptible stage of pest development.

2.2 Water Quality Related Adverse Incident Reporting

The permittee shall provide a written account of a water quality related adverse incident caused by a liquid pesticide discharge to the appropriate DOW Regional Office as listed in Attachment A within thirty days of the incident. This requirement is in addition to the reporting requirements of FIFRA, Section 6(a)(2) and 40 CFR Part 159.

The report must contain the following information:

- The name of the surface water affected and any changes in appearance such as color, sheen or clarity.
- The name of the affected species and an estimate of the amount and size of any dead or distressed organisms.
- The size of the affected area, such as stream distance, lake area or terrestrial acreage.
- The name of the pesticide, application rate, application method, active ingredient and EPA registration number.
- A habitat description and the circumstances under which the incident occurred.
- An identification of what actions will be taken to correct, remedy, cleanup or otherwise address the incident and prevent the incident from reoccurring.
- How and when the incident was discovered.
- If biological tests or water sampling were conducted, provide a summary of the test results within thirty days of the results becoming available.

2.3 Visual Inspections

The permittee shall:

- Conduct visual inspections while applying pesticides for immediate and observable water quality related adverse incidents. This requirement only applies when visual inspections are possible. For instance, visual inspections may not be possible during nighttime applications or when the treatment area is inaccessible.
- Conduct post-application visual inspections in and around the treatment area for observable water quality related adverse incidents. This requirement only applies if the operator performs surveillance or effectiveness checks as part of their normal pest management program.

2.4 Corrective Actions

If any of the following situations occur, the permittee shall take specific actions to correct the situation and to prevent reoccurrence.

- Failure to meet the technology based effluent limitations.
- Pesticide applications are causing or contributing to an excursion of a narrative water quality standard.
- Pesticide applications cause a water quality related adverse incident.

Corrective action shall be taken before the next pesticide application or otherwise as soon as possible. The permittee shall document any event that triggers a corrective action within five days of the event. The documentation must include a description of the event, the date the event took place, the date the permittee learned of the event and how the event was discovered. The permittee shall summarize any corrective actions taken, including date begun, date complete, or the anticipated completion date. The permittee shall document what measures are taken to prevent a recurrence of the event. The permittee shall maintain a copy of corrective actions at the operator's business address and shall make the records available upon request to Cabinet personnel.

2.5 Recordkeeping

The permittee shall keep a record of those items identified in (a) through (j) of the recordkeeping requirements for agricultural pest control within the Kentucky Department of Agriculture administrative regulation, 302 KAR 27:020, Section 1(3). The permittee shall maintain a copy of records at the operator's business address and shall make the records available upon request to Cabinet personnel.

2.6 Activity Summary

Permittees shall prepare a summary of activity for each calendar year. The summary shall contain the permittee name and the applicator name(s). The common name of any pesticide used during the year must be included, with the registration number(s), application method and quantity applied. The summary shall include a brief outline of any water quality related adverse incidents that occurred during the year and any corrective actions taken. The summary shall be completed by February 15 of each year. The permittee shall maintain a copy of the summary at the operator's business address and shall make the summary available upon request to Cabinet personnel.

3.0 WATER QUALITY BASED EFFLUENT LIMITATIONS

3.1 Applicable Water Quality Standards

Surface waters shall not be aesthetically or otherwise degraded by substances that:

- Settle to form objectionable deposits
- Float as debris, scum, oil, or other matter to form a nuisance
- Produce objectionable color, odor, taste, or turbidity
- Injure, are chronically or acutely toxic to or produce adverse physiological or behavioral responses in humans, animals, fish, and other aquatic life
- Produce undesirable aquatic life or result in the dominance of nuisance species
- Cause fish flesh tainting

Any discharge that causes or contributes to an excursion of a narrative water quality standard is prohibited and is a violation of this permit.

3.2 Antidegradation

Operators of permitted facilities with a direct discharge to surface water categorized as high quality water shall investigate the possibility of using the following alternative methods of pest control instead of using pesticides:

- **Mechanical Removal Method**
This option involves physically removing the pest from the area. Examples include pulling, mowing, cutting, burning and trapping. Appropriate best management practices have to be used to minimize any environmental disturbances caused by using this method.
- **Habitat Alteration Method**
This procedure consists of increasing pest mortality by altering the pest habitat to make it less suitable to produce and sustain the pest species. Alterations may include eliminating standing water to control mosquito breeding grounds or using pond dyes to inhibit algae growth.

- **Biological Control Method**

This technique makes use of organisms such as herbivores, predators, parasites and pathogens to combat pests. The mosquito fish (*Gambusia affinis*) feeds on mosquito larvae and is an example of using biological control as an alternative to using pesticides.

The permittee shall evaluate these options prior to each pesticide application covered by this permit, considering their impact on water quality, impact to non-target organisms, effectiveness and feasibility versus those of applying a pesticide. If practical, one or more of these alternatives shall be used instead of applying pesticides that lead to a discharge to high quality water. If an alternative method is successful in eradicating a pest, the permittee shall consider taking steps to prevent the pest species from being reintroduced into the pest management area. The implementation of these requirements shall be documented by the permittee in the PDMP and are in addition to the standard PDMP requirements that apply. If the permittee is not required to develop a PDMP, then the implementation of any alternative methods of pest control shall be documented and kept on file with the other records as required by the recordkeeping section of this permit.

If DOW determines that additional controls or requirements beyond those contained in this permit are necessary to meet antidegradation requirements, then the operator shall be required to obtain an individual permit.

4.0 PDMP REQUIREMENT FOR LARGE OPERATORS

The permittee shall develop and implement a PDMP for their facilities covered by this permit. The plan shall be complete at the time pesticide application commences. The permittee shall maintain a copy of the PDMP at the operator's business address and shall make the plan available upon request to Cabinet personnel. The plan may incorporate by reference any other documents that may also be used to comply with the requirements of this permit.

The plan shall include the following items:

- **Pesticide Discharge Management Team**

The plan shall list a qualified discharge management team, including the member's name, responsibility and contact information. The list must include the name of a person who performs each of these specific tasks: making pest management decisions, making pesticide applications, performing visual inspections, taking corrective actions, detecting or responding to a leak or spill and developing the PDMP. The team may include as many or as few members as necessary to fulfill the requirements of this permit.

If the pesticide applicator is unknown when the team is established, indicate when the applicator can be identified. Any written agreements between the permittee and another operator or pesticide applicator that specify the separation of responsibilities regarding the provisions of this permit must be included.

- **Pest Management Area Description**

The plan shall describe the management area in detail, including an explanation of the pest problem, an identification of the target pest, an explanation of the action thresholds and how they were determined and the probable cause of the pest problem. If surveillance data from the previous year was not used to identify the cause of the pest problem, then include an explanation of how the cause was determined. If data from another location is used, as allowed by this permit, then explain how that data is relevant.

- **Pest Management Area Map**

The plan shall include a map (topographical, city, county or other appropriate map) of the management area and treatment area(s).

- **Discharge Control Measures Description**

The plan shall describe what control measures are being used to minimize pesticide discharges in accordance with permit requirements. The plan shall list the pesticide application frequency and rate and how they were determined. An evaluation of the affect the pesticide's active ingredients will have on the environment shall also be included. The plan must describe how weather data such as temperature, wind speed and rainfall is gathered, including an explanation of how that information is evaluated to determine if conditions are favorable for applying pesticides.

- **Water Quality Related Adverse Incident Procedures**

The plan shall contain procedures for identifying, documenting and responding to a water quality related adverse incident, including protocols for notifying the appropriate personnel, emergency response organizations and regulatory agencies.

- **Visual Inspection Scheduling and Procedures**

The plan shall include a schedule for when visual inspections will be conducted, including an explanation of the inspection procedures and protocols.

- **Spill Response Procedures**

The plan shall contain procedures for stopping, containing and cleaning up leaks or spills, including protocols for notifying the appropriate personnel, emergency response organizations and regulatory agencies. Individuals that may cause, detect or respond to a leak or spill must be trained in the correct spill response procedures and must have the necessary spill response equipment available to them.

- **PDMP Modifications**

The PDMP shall be modified when a change in the facility significantly alters the type, frequency or volume of pesticides discharged, or anytime the permittee takes corrective action. Modifications must be made within 90 days of the change or the corrective action.

- **Implementation of Antidegradation Requirements**

If alternative pest control methods are used because of the antidegradation requirements of this permit, then the plan shall contain a description of those methods.

Small facilities and any facility making an application exclusively in response to a Declared Pest Emergency Situation are not required to develop a PDMP.

5.0 NOI REQUIREMENTS

Coverage under this permit is automatic. This initial issuance of KYG990000, DOW has elected not to require the submission of a Notice of Intent (NOI) during this initial issuance due to a number of administrative factors. The requirement to submit an NOI shall be addressed in the reissued KYG990000.

6.0 OTHER REQUIREMENTS

6.1 Reopener Clause

In accordance with 401 KAR 5:070, Section 6(1) [40 CFR 122.62(a)(7)], a permit may be reopened for modification or revoked and reissued when required by the reopener conditions of 401 KAR 5:065, Section 2(4) [40 CFR 122.44(b)]. A permit shall be modified, or alternatively revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved in accordance with 401 KAR 5:050 through 5:080, if the effluent standard or limitation so issued or approved:

- Contains different conditions or is otherwise more stringent than any effluent limitation in the permit
- Controls any pollutant not limited in the permit

- This permit may be reopened to implement the findings of a reasonable potential analysis performed by the DOW. A permit shall be modified, or alternatively revoked and reissued, if the DOW determines surface waters are aesthetically or otherwise degraded by substances that:
 - Settle to form objectionable deposits
 - Float as debris, scum, oil, or other matter to form a nuisance
 - Produce objectionable color, odor, taste, or turbidity
 - Injure, are chronically or acutely toxic to or produce adverse physiological or behavioral responses in humans, animals, fish, and other aquatic life
 - Produce undesirable aquatic life or result in the dominance of nuisance species
 - Cause fish flesh tainting

6.2 Standard Conditions

This permit has been issued under the provisions of KRS Chapter 224 and regulations promulgated pursuant thereto. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits or licenses required by this Cabinet and other state, federal, and local agencies.

All conditions of 40 CFR 122.41 (401 KAR 5:065, Section 2(1)) are hereby incorporated by reference as conditions of this permit. For existing manufacturing, commercial, mining and silvicultural discharges the conditions of 40 CFR 122.42 (a) (401 KAR 5:065, Section (2)) are hereby incorporated as conditions of this permit.

6.3 Schedule of Compliance

The permittee shall attain compliance with all requirements of this permit on the effective date of this permit. The requirements of this permit are not tied to submission of an NOI, and therefore must be met from the time an eligible operator begins discharging.

Attachment A

<p>Bowling Green Regional Office 1508 Westen Avenue Bowling Green, Kentucky 42104 (270) 746-7475</p> <p>Allen Edmonson Logan Simpson Barren Grayson Ohio Warren Butler Hart</p>	<p>London Regional Office 875 South Main Street London, Kentucky 40741 (606) 330-2080</p> <p>Bell Jackson Leslie Rockcastle Clay Knox McCreary Whitley Harlan Laurel Owsley</p>
<p>Columbia Regional Office 2751 Campbellsville Road Columbia, Kentucky 42728 (270) 384-4734</p> <p>Adair Green Metcalfe Russell Boyle Larue Monroe Taylor Casey Lincoln Nelson Washington Clinton Marion Pulaski Wayne Cumberland</p>	<p>Louisville Regional Office 9116 Leesgate Road Louisville, Kentucky 40222-5084 (502) 429-7122</p> <p>Breckinridge Hardin Meade Shelby Bullitt Jefferson Oldham Spencer</p>
<p>Florence Regional Office 8020 Veterans Memorial Drive, Suite 110 Florence, Kentucky 41042 (859) 525-4923</p> <p>Boone Carroll Henry Pendleton Bracken Gallatin Kenton Trimble Campbell Grant Owen</p>	<p>Madisonville Regional Office Madisonville State Office Building 625 Hospital Drive Madisonville, Kentucky 42431-1683 (270) 824-7529</p> <p>Caldwell Daviess Hopkins Todd Christian Hancock McLean Union Crittenden Henderson Muhlenberg Webster</p>
<p>Frankfort Regional Office 200 Fair Oaks Lane, 3rd Floor Frankfort, Kentucky 40601 (502) 564-3358</p> <p>Anderson Fayette Jessamine Powell Bourbon Franklin Madison Scott Clark Garrard Mercer Woodford Estill Harrison Nicholas</p>	<p>Morehead Regional Office 525 Hecks Plaza Drive Morehead, Kentucky 40351 (606) 783-8655</p> <p>Bath Fleming Mason Morgan Boyd Greenup Menifee Robertson Carter Lawrence Montgomery Rowan Elliott Lewis</p>
<p>Hazard Regional Office 233 Birch Street, Suite 1 Hazard, Kentucky 41701 (606) 435-6022</p> <p>Breathitt Knott Magoffin Pike Floyd Lee Martin Wolfe Johnson Letcher Perry</p>	<p>Paducah Regional Office 130 Eagle Nest Drive Paducah, Kentucky 42003 (270) 898-8468</p> <p>Ballard Fulton Livingston McCracken Calloway Graves Lyon Trigg Carlisle Hickman Marshall</p>



STEVEN L. BESHEAR
GOVERNOR

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
200 FAIR OAKS LANE
FRANKFORT, KENTUCKY 40601
www.kentucky.gov

LEONARD K. PETERS
SECRETARY

March 30, 2012

Re: Pesticides General Permit
KPDES No.: KYG99000
AI No.: 35050
Pulaski County, Kentucky

Dear Commenter:

Your comments concerning the above-referenced draft permit have been reviewed and responses prepared in accordance with Kentucky Pollutant Discharge Elimination System (KPDES) regulation 401 KAR 5:075, Section 12. The comments have been briefly described below and our responses to the comments follow:

- COMMENT 1:** Because of legal responsibility issues with Clean Water Act compliance, several comments pertain to the thresholds for which coverage under the general permit is not required. Smaller operations should have the protection of permit coverage to avoid litigation.
- RESPONSE 1:** The draft permit has been revised to require coverage for all eligible facilities regardless of size of the treatment area.
- COMMENT 2:** The phrase “near surface water” is unclear and cannot be quantified. Are terrestrial treatments with a 50-foot setback from surface water exempt from coverage?
- RESPONSE 2:** The word “near” has been removed from the draft permit. Any terrestrial discharge is exempt unless the treatment causes an unavoidable discharge to surface water. The distance necessary to avoid a discharge to a surface varies depending on the type of pesticide being used, the application method, weather conditions, terrain and other factors.
- COMMENT 3:** How should large organizations divide themselves to create the correct number of permittees?
- RESPONSE 3:** This issue is largely up to the organization in question. The DOW recommends making no changes to the entity’s pesticide decision-making structure.
- COMMENT 4:** The draft permit contains an overly broad requirement for the permittee to comply with water quality standards. This deprives the permittee of the reasonable expectation that if they fully comply with the terms and conditions of the permit they will not be subject to enforcement action for an unintended and unknown excursion of a water quality standard. The requirement should be deleted.

RESPONSE TO COMMENTS

KPDES No.: KYG990000

AI No.: 35050

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- RESPONSE 4:** 40 CFR 122.44(d)(1) as incorporated by 401 KAR 5:065, Section 2(4), requires every KPDES permit to include conditions to meet state water quality standards.
- COMMENT 5:** Are powdered herbicides that must be mixed with water before application covered under this permit?
- RESPONSE 5:** Yes. Additional clarification has been added to the draft permit concerning this issue.
- COMMENT 6:** Are artificially controlled water bodies, such as catch basins or hatchery ponds covered under this permit? Do discharges to ephemeral streams require a permit?
- RESPONSE 6:** In most cases, no. Additional clarification has been added to the draft permit concerning this issue.
- COMMENT 7:** Utility providers are concerned about the height of woody vegetation in the right-of-way. Any effort to estimate pest density would be an unnecessary expense. Please add utility right-of-way maintenance as an example in Section 1.4.
- RESPONSE 7:** Pesticide use on a utility right-of-way has been added as an example of a type of eligible discharge.
- COMMENT 8:** The direct/indirect discharge designations are unclear and unworkable. The definition of "Indirect Discharge" is not reasonable.
- RESPONSE 8:** This concept has been removed from the permit. Any discharge to a special use water, now requires an individual permit.
- COMMENT 9:** The draft permit should expressly exclude agricultural pesticide applications.
- RESPONSE 9:** The statement regarding eligible discharge types has been revised to indicate that terrestrial applications are more specifically "non-agricultural land applications".
- COMMENT 10:** There is a concern that the requirement to minimize pesticide discharges means reducing levels to below what is allowed by FIFRA.
- RESPONSE 10:** Additional clarification has been added to the draft permit concerning this issue.

Any person aggrieved by the issuance of a permit final decision may demand a hearing pursuant to KRS 224.10-420(2) within thirty (30) days from the date of the issuance of this letter. Any demand for a hearing on the permit shall be filed in accordance with the procedures specified in KRS 224.10-420, 224.10-440, 224.10-470, and the regulations promulgated thereto. The request for hearing should be submitted in writing to the Energy and Environment Cabinet, Office of Administrative Hearings, 35-36 Fountain Place, Frankfort, Kentucky 40601 and the Commonwealth of Kentucky, Energy and Environment Cabinet, Division of Water, 200 Fair Oaks Lane, Frankfort, Kentucky 40601. For your record keeping purposes, it is recommended that these requests be sent by certified mail. The written request must conform to the appropriate statutes referenced above.

RESPONSE TO COMMENTS

KPDES No.: KYG990000

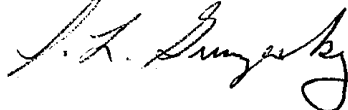
AI No.: 35050

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If you have any questions regarding this response, please contact Ronnie Thompson, Surface Water Permits Branch, at (502) 564-3410, extension 4925.

Further information on procedures and legal matters pertaining to the hearing request may be obtained by contacting the Office of Administrative Hearings at (502) 564-7312.

Sincerely,

A handwritten signature in black ink, appearing to read "S. L. Gruzesky". The signature is written in a cursive style with a large, looping final letter.

Sandra L. Gruzesky, Director
Division of Water

SLG:JMB:rt

ATTACHMENT C

DELEGATION OF AUTHORITY

I, _____ (name), hereby designate the person or specifically described position below to be a duly authorized representative for the purpose of overseeing compliance with environmental requirements, including the KPDES Pesticide General Permit, KYG99 for the _____ project. The designee is authorized to sign any reports, or documents required by the permit.

(name of person or position)
(company)
(address)
(city, state, zip)
(phone)

By signing this authorization, I confirm that I meet the requirements to make such a designation as set forth in Standard Permit Conditions and that the designee above meet the definition of a "duly authorized representative".

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 gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the pest management area, 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.

Name: _____

Company: _____

Title: _____

Signature: _____

Date: _____

ATTACHMENT D

SUBCONTRACTOR CERTIFICATION

Project Number: _____

Project Name: _____

Decision-maker(s): _____

As a subcontractor, you are required to comply with the KPDES Pesticide General Permit, KYG99, and the Pesticide Discharge Management Plan (PDMP) for any work that you perform for the above designated project. Any person or group who violates any condition of the PDMP may be subject to substantial penalties or loss of contract. You are encouraged to advise each of your employees working on this project of the requirements of the PDMP. A copy of the PDMP is available for your review.

Each subcontractor engaged in pesticide activities in the pest management area that could impact Waters of the United State must be identified and sign the following certification statement.

I certify under the penalty of law that I have read and understand the terms and conditions of the PDMP for the above designated project.

This certification is hereby signed in reference to the above named project.

Company: _____

Address: _____

Telephone Number: _____

Type of pesticide application service to be provided:

Signature: _____

Title: _____

Date: _____