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MEMORANDUM

DATE: October 18, 2010
TO: MEGIS/OIT
FROM: BPC Staff
SUBJECT: Production of an Internet-based Mapping Application for the Identification of Applicable BPC Pesticide Notification Registry Participants

The following bullets summarize the proposal for the Maine Office of GIS and the Office of Information Technology to jointly develop an Internet-based mapping application that could be used by pesticide applicators as a tool to identify BPC Notification Registry participants who need to notified prior to a pesticide application.

PROJECT OUTLINE

Development of an Internet-based Notification/Mapping System

- Based on BPC Pesticide Notification Registry
- Display property boundaries or address points of registry participants
- Provide pesticide applicators with the ability to draw pesticide application area boundaries or polygons representing a general area of pesticide applications
- Search and identify all registry properties within specified distances from the application boundary
- Provide reports to applicators with e-mail addresses, US postal addresses, and telephone numbers, to enable them to contact registry participants and notify them of pending pesticide applications.
- Mapping application should be completely self contained on the State server, with no download of any software required

PROJECT BUDGET

- Using the Map Server Template viewer, or another, more suitable viewer that currently exists, as the foundation, MEGIS would modify this application to include all of the new functionality detailed in this memo, or otherwise determined through discussion, for an estimated cost to be determined by OIT staff Glenn Angell, Mike Smith, and Christopher Kroot.

SPECIFICS AND APPLICATION FUNCTIONALITY

Initial Disclaimer

It is very important that, before users can access this application, they understand its purpose and its limitations. A short, concise disclaimer will have to be read, accepted, and checked off before anyone can gain access to the notification database and accompanying mapping application. This will be written by the BPC and approved by the assistant attorney general overseeing activities of the BPC. (*See also below, under "Determining Who to Notify."*)

Registry Database

- The registry database, including names, street and e-mail addresses, telephone numbers, and zip codes will be scrubbed for accuracy, to the desired format, and geocoded for map display.

- The BPC will research, correct, and properly format those listings that can't be geocoded, for inclusion in the database.
- MEGIS will provide assistance as needed.
- Map/lot numbers for all listed properties will be beneficial. The BPC will examine the possibility of requiring registry participants to submit the map/lot numbers for their listed properties. With this data, the database will have a direct link to the map parcel data.

Parcel Data

- Where available, all digital property boundaries will be included.
  - Currently, data exists for about 135 out of ~500 municipalities and all unorganized territories.
  - Where property boundary data is not available, the point determined by the address will be used for identification.

Determining Who to Notify

- Tools will be provided that will allow pesticide applicators to search for all properties or points within specified distances.
  - Provide applicators with the ability to draw the boundaries or polygons representing the application areas.
  - Provide ability to query by name, address, town, or zip code.
    - Once query is entered, zoom to location.
    - Provide ability to query multiple towns at the same time.
  - Provide a draw box with a mouse selection tool, to zoom to selected area
  - Based on the type of equipment being used for the pesticide application, applicators will be able to choose one of three "critical distances."
    - The critical distances will be created based on the application polygon, i.e., they will be measured from the polygon boundaries, and will be displayed on the map in red.
  - Properties requiring notification will be those parcels or points falling within the specified critical distance.
    - If any part of a parcel or an address point without parcel data intersects with the critical distance areas, the parcel owner or property owner associated with the point will be added to the list of registry participants needing to be notified.
  - A measure tool will be provided for applicators to add properties or points outside the critical distance area.
    - A prominently placed disclaimer will be included, explaining the inherent inaccuracies of the application and emphasizing inclusion of properties outside the critical distance area, to avoid unintentionally leaving out properties that do actually fall inside the critical distance.
  - The estimated margin of error of about 100 feet over ¼ mile will be built into all three critical distances.
  - An additional "critical distance" area which is longer than the specified distance (actual distance to be determined) will be displayed on the map in yellow to allow the applicator to be sure they have captured all participants within the actual critical distance area, including those address points with no parcel data.

How Notification Will Be Accomplished

- Once property owners within the specified distance are identified, applicators will be able to choose one or more of the following methods of contact:
    - The complete contact information of the property owners that need to be notified, including e-mail addresses, to allow the applicator to send messages from their own computer system. This will be provided in the following formats:
        - Printed directly from the screen, including a map of the area displaying application boundaries, critical distance areas, and parcel and point data of the people to be notified, and a base map.
        - Saved to the user's computer in CSV format.
            - The spreadsheet will include a hyperlink to the map and spatial coordinates for those registry participants being notified.
        - Saved as a PDF file to the user's own system. This will contain a map of the area displaying application boundaries, critical distance areas, and parcel and point data of the people to be notified, and a base map, followed by a table containing the information.

Mapping interface

- Basemap layers
    - Feature map displaying:
        - Roads
        - Topography
        - Political boundaries
        - Hydrography
        - Parcels
    - The NAIP 2009 imagery layer
- Ability to turn layers on and off for display
- Standard navigation tools, zoom, pan, and identify.
- Select from one of three critical distance sizes based on application method and add results to selection list
- Selection tool that enables users to draw a polygon:
    - Representing application area
    - Measure distance from application area and add points (points represent people on the notification list) to be added to the selection list
- Selection tab that provides the ability to enter search criteria and zoom to results
    - Name
    - Address
    - One or more towns
    - Zip code
- Button for printing PDF file of map and table of selection list
- Print screen
- Button for saving PDF file to their own system
- Button for saving CSV file to their own system
- Results tab
- Help tab
    - The mapping application will include a detailed, online Help System, produced by the BPC, to assist pesticide applicators in using the software.

Additional Resources Made Available to Applicators

- The application should allow users to query the registry by town or county and simply produce a list if they don't care for the mapping approach.
- Separate from the mapping application, a simple registry list in CSV and PDF formats will also be available to applicators for downloading.
- The BPC may determine to have an additional version of the application for internal use that would contain additional information and/or tools, such as the ability to upload GPS data.