



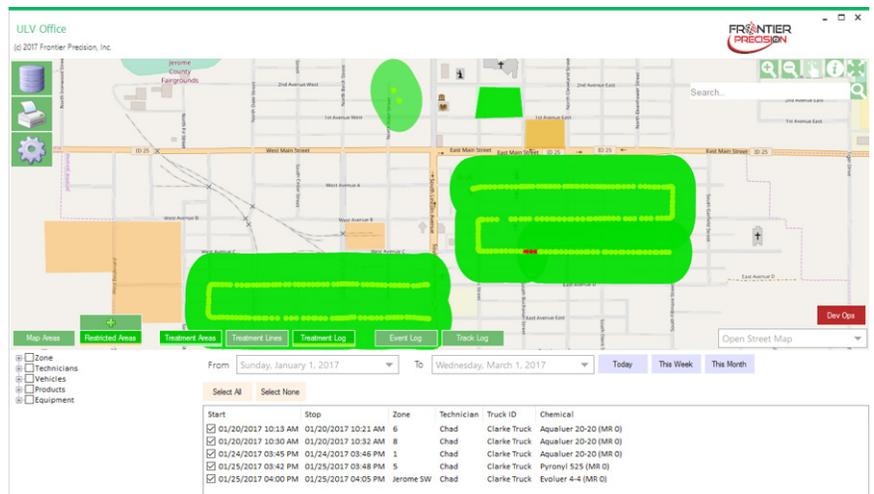
### GENERAL

#### What is Windows ULV?

Windows ULV is office and mobile software for planning, collecting, managing, and reporting on truck spraying activities. The map-based mobile software runs on Windows tablets. It shows the driver their location, what they've sprayed so far, nearby no-spray areas, and a high-visibility street map. It records all the information from the sprayer along with the GPS track second-by-second as the driver does the spraying. It provides configurable warnings near no sprays. It also records treatment lines or areas that are sketched in, for sprayers that don't output data. And, it can record a GPS track even if the sprayer isn't running, as well as miscellaneous point features as Events.

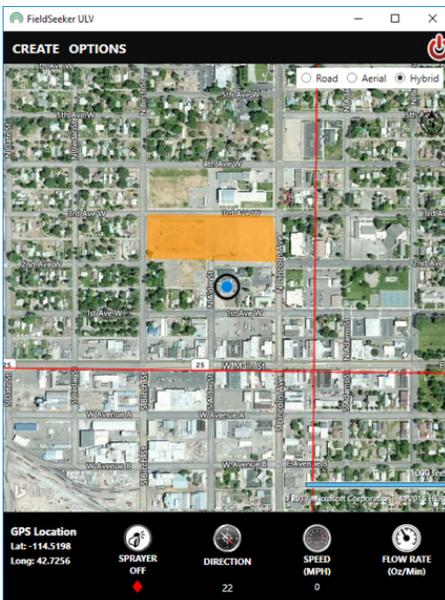
#### What is the ULV Office program?

The ULV Office program is a desktop software for planning and reporting. It provides tools for creating map areas and restricted areas, configuring program settings (drivers, sprayers, products, and other picklists), and running reports. It processes field data from the mobile software and packages map data for use by the mobile software. It also exports data to other formats and syncs data with ArcGIS feature services.



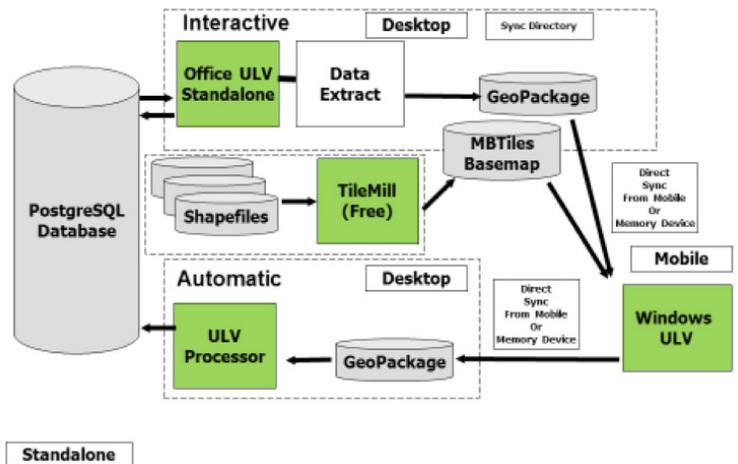
#### What is the field software for Windows ULV?

The field software is built for Windows 10. It's map-based, shows the status of GPS and the sprayer to the driver, warns them when they're near restricted areas, and collects sprayer data, sketched treatment lines or areas, GPS tracklog, and events. The software requires GPS and a serial port on the field tablet.



### How does the Standalone Office ULV manage data?

#### Windows ULV Data Flow



## **Do I have to upgrade to Windows ULV?**

No, but discounts are available for existing FieldSeeker ULV and Sentinel Adulticiding customers. We are encouraging FieldSeeker ULV users to migrate to the new software now, and we are providing a path forward for Sentinel Adulticiding users.

## **What is Open GIS?**

Open GIS is a broad term for free GIS software and data formats.

## **What is PostGIS?**

PostGIS is an Open GIS data storage format built on PostgreSQL, which is an open database server.

## **What is a GeoPackage?**

GeoPackage is an Open GIS data storage format built on open standards. It's a standalone database file similar in concept to SQLite.

## **What is TileMill?**

TileMill is a free and open desktop software used for styling map data and creating a tile package for offline use.

## **What is MBTiles?**

MBTiles is an open format for offline tile packages. It's a way to package up a basemap for use without an Internet connection.

## **Why did you use Open GIS?**

We wanted our truck spray data collection software to appeal to users without any GIS experience or infrastructure. We also wanted to keep the cost of entry low.

## **Does the new software work with Esri at all?**

Yes. The ULV Office supports various Esri basemaps. It not only exports data to shapefile and KML, it also can sync data to an ArcGIS feature service. The GeoPackage data collected by the field software can be processed into Esri geodatabases using our Sentinel GIS Adulticiding tools.

## **Can I do "No Sprays" with the new software?**

Yes, you can create, update, and delete Restricted Areas in the ULV Office program. Each polygon can have a custom warning for the driver to see. When the driver is within a configured distance of the area, they will receive a visible and audible warning so that they can shut off the sprayer or do whatever the warning tells them to do.

## **Can the new software sync wirelessly?**

Yes. The mobile software will sync to a shared folder through Wi-Fi.

## **Can the new software sync from the field?**

This would be possible with a VPN connection, but it does require access to a shared folder. Data sync from the mobile device moves GeoPackage files to a designated folder; sync is not done through a Web service.

## **Will the mobile ULV software work on iPads or Android tablets?**

No. Sprayers output data using a 9-pin RS-232 serial connection, so the new software targets Windows tablets. Professional tablets are available that have high-quality GPS and serial connections built in.

## **Can I use my old mobile devices with the new software?**

Maybe. The new mobile software only runs on Windows 8.1 and Windows 10 devices. But, you can use your old Windows Mobile devices running FieldSeeker Mobile ULV software with the new standalone Office ULV software.

## **Do I have to have ArcGIS Desktop?**

No. However, ArcGIS Desktop-based Sentinel GIS Adulticiding tools will work seamlessly with the new mobile software. This is a benefit if you already use ArcGIS Desktop for other workflows or if you are using other Sentinel modules.

## **Do I have to have ArcPad?**

No.

## What if I still want to use ArcMap?

That's fine, you can use Sentinel GIS Adulticiding seamlessly with the new mobile software. This is a benefit if you already use ArcGIS Desktop for other workflows or if you are using other Sentinel modules.

## If I already have Sentinel Adulticiding or FieldSeeker ULV, do I have to pay for Windows ULV?

Yes, but there is a large discount for existing users. The Windows ULV software does have annual maintenance based on user licenses.

# SENTINEL GIS

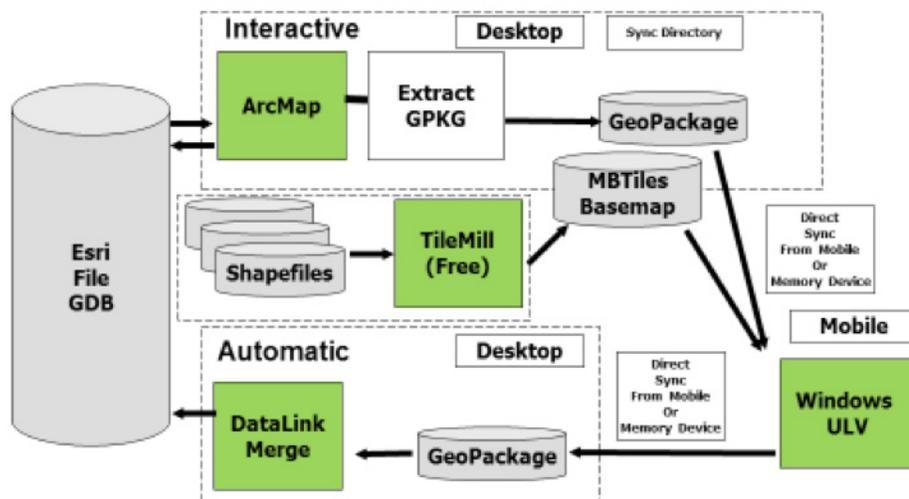
## Does Windows ULV replace Sentinel Adulticiding?

No, although it is available as an upgrade for customers seeking to use Sentinel Adulticiding desktop tools with the new mobile software for Windows tablets. The new mobile Windows ULV software provides a path forward for modern devices that does not rely on ArcPad in the field.

## How do I use Windows ULV with Sentinel Larviciding, Surveillance and Service Request?

The mobile software can be used with the ArcMap-based Sentinel Adulticiding tools, so the supervisor can configure everything in Sentinel Adulticiding, extract a GeoPackage for use in the Windows ULV field software, then process field data into the Sentinel database. Adulticiding data can be viewed and managed along with Larviciding, Surveillance, and Service Request data, and all the reporting can be done using the Sentinel toolbars.

## Windows ULV Data Flow



Sentinel Adulticiding ArcMap Toolbar

## How long will you keep supporting the Sentinel Adulticiding ArcPad-based applet?

The Sentinel Adulticiding ArcPad applet is still available for purchase and our active support plan continues through at least December 31, 2019.

## What features of Sentinel Adulticiding are not in the new software yet?

The Sentinel Adulticiding ArcPad applet will collect data directly from a New Mountain weather station, but the new Windows ULV doesn't support that. The new mobile software has specific map layers for map areas, restricted areas, treatment areas and lines, spray log points, and events, but it doesn't support additional GIS layers. The Adulticiding ArcPad software supports additional GIS layers.

	<b>Windows ULV</b>	<b>Sentinel Adulthood</b>
<b>Desktop OS Compatibility</b>	Windows 7, Windows 10	Windows 7, Windows 10
<b>Mobile OS Compatibility</b>	Windows 10	Windows 7, Windows 10, Windows Mobile 5, 6.x
<b>Native Data Format</b>	PostGIS or Esri file geodatabase (office), GeoPackage (mobile)	Esri file or SDE geodatabase (office), shapefiles (mobile)
<b>Esri Licensing Required</b>	None (Runtime license required for feature service sync)	ArcGIS Desktop, ArcPad
<b>In-Field Map Display</b>	Yes	Yes
<b>Auto-Follow</b>	Yes	Yes
<b>Auto-Rotate</b>	Yes	No
<b>Fogger Support</b>	Clarke SmartFlow, London Fogger, Curtis Dyna-Fog, Target / B&G Phoenix	Clarke SmartFlow, London Fogger, Curtis Dyna-Fog, Target / B&G Phoenix
<b>Turn Sprayer Off</b>	No	No
<b>Visual Display of Sprayer On/Off</b>	Yes	Yes
<b>Visual Display of Treatment Area in Progress</b>	Yes	No
<b>Zones / Spray Areas</b>	Yes	Yes
<b>Additional Map Layers (e.g. Parcels, etc.)</b>	No (only "built-in" layers are included)	Yes
<b>Restricted Area Warnings</b>	Yes	Yes
<b>Draw in Treatment Areas</b>	Yes	No
<b>Record Events (miscellaneous point features)</b>	Yes	No
<b>Weather Station Integration</b>	No	Yes
<b>Wireless Data Transfer</b>	Yes	Yes
<b>Concurrent Data Transfer</b>	Yes	Yes
<b>Multi-user Editing (office)</b>	Yes	Yes, with Esri restrictions
<b>Print Map</b>	Yes (with report)	Yes
<b>Export Data</b>	Yes (KML, shapefile)	Yes (Esri tools)
<b>Feature Service Sync</b>	Yes	No

## What are the limitations of the Office ULV program compared to ArcMap + the Adulthood toolbar?

The Office ULV program does not support creating additional map layers, and the editing tools are limited to creating new features, updating attributes, and deleting features. ArcMap obviously has way more GIS tools than the standalone Office ULV program, and it always will.

## Will all the features of Sentinel Adulthood be in the new software eventually?

We will evaluate interest in the weather station integration as existing customers consider migrating to the new software. But, the new software will evolve based on current users' needs.

## If I already pay for Sentinel GIS Annual Support, do I have to also pay for Software Maintenance for Windows ULV?

If you upgrade to Windows ULV, the software maintenance that you pay for Windows ULV will replace the Sentinel GIS Annual Support. If you also have other Sentinel modules (Larviciding, Surveillance, Service Request), we will evaluate the annual support on a case by case basis and work with you so that the annual maintenance is fair.

## FIELDSEEKER GIS

### Does this replace FieldSeeker ULV?

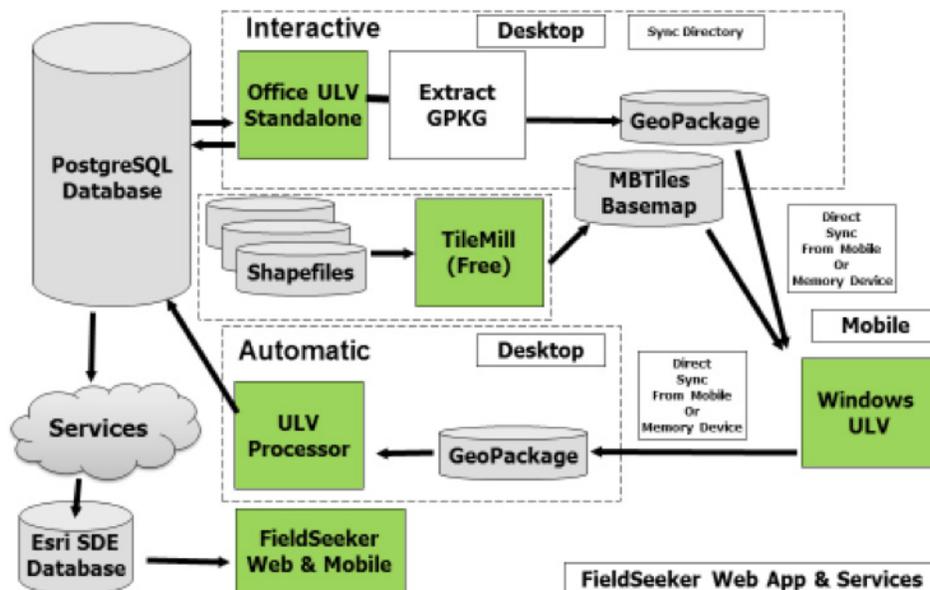
Yes. FieldSeeker ULV for Windows Mobile is no longer available for purchase and has entered the Extended Support phase. During this phase, the software is not for sale to the general public, though additional licenses may be sold to existing customers. Technical support is available to customers on maintenance and support, and online support resources are available. Software patches and hot fixes are provided to customers to resolve significant issues discovered in the product release.

The FieldSeeker Server-Side Processes (FieldSeeker File Server and ULV Processor) and FieldSeeker Web ULV are no longer available for purchase and we are actively replacing them with the new Office ULV software.

### How do I use Windows ULV with FieldSeeker Larviciding, Surveillance and Service Request (Core)?

The standalone Office ULV software will sync selected data with a feature service. What this means is that after data is collected and processed, you can sync treatment areas or treatment lines with FieldSeeker, so that you can see the ULV truck spray data along with the rest of your FieldSeeker data. All the second-by-second spray points will not be synced; those remain in the standalone Office ULV database.

## Windows ULV Data Flow





# MAP, TRACK, AND ATTACK!

## How long will you keep supporting FieldSeeker ULV for Windows Mobile?

FieldSeeker ULV for Windows Mobile is no longer available for purchase and has entered the Extended Support phase. During this phase, the software is not for sale to the general public, though additional licenses may be sold to existing customers. Technical support is available to customers on maintenance and support, and online support resources are available. Software patches and hot fixes are provided to customers to resolve significant issues discovered in the product release. Frontier will not certify major new versions of an operating system or Esri software released during the Extended lifecycle phase. Extended Support is planned through June 2017 after which it will enter the Mature Support phase. During this phase, the software is no longer for sale. Technical support is available to customers current on maintenance and support. Software patches and hot fixes will not be provided, and Frontier will not certify major new versions of an operating system or Esri software released during the Mature lifecycle phase. Mature Support is planned through December 2018.

Product	Release Date	General Availability	Extended Support	Mature Support	Retired
FieldSeeker Mobile (Windows Mobile)	May 2012	May 2012 – June 2016	June 2016 – June 2017	July 2017 – December 2018	December 31, 2018