Instructions for using the EIM Data Entry Tool

Draft Version – 14 April 2014

Washington Department of Fish and Wildlife (WDFW) has developed an online tool for entering field data collected during the Ecological Integrity Monitoring (EIM) project. These instructions are designed to help facilitate the data entry process for volunteers.

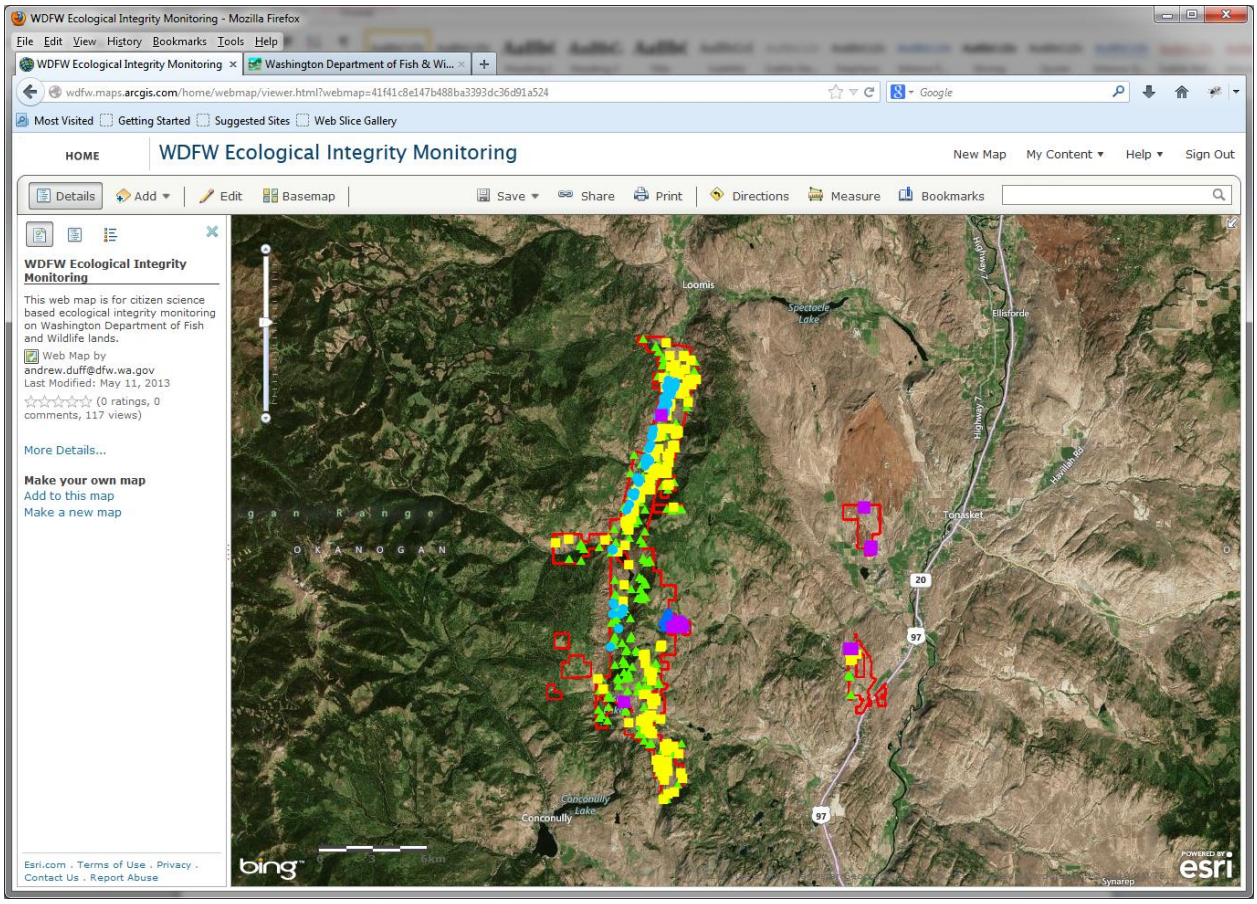
The web map for entering ecological integrity monitoring results can be accessed by navigating to the following web link and entering your username and password*.

https://www.arcgis.com/home/webmap/viewer.html?webmap=d631b2c38aca4c82affe610596913978

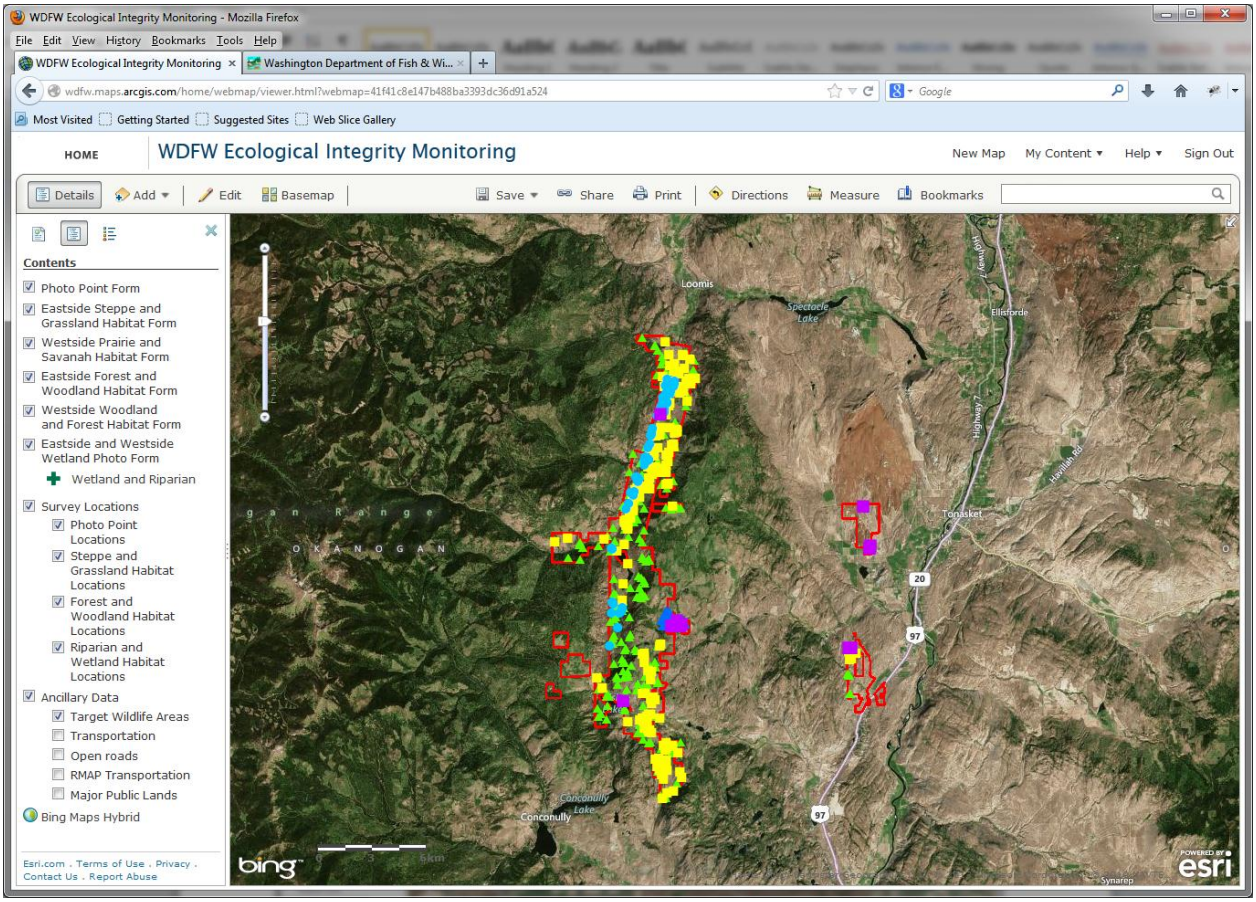
When the map opens up you will be prompted for login credentials. By default we have assigned your username to be the email (all lower case) that you used when you signed up as a volunteer with WDFW. Everyone gets the same default password of WDFW#1A. If you would like to change your password to something that you can easily remember please email andrew.duff@dfw.wa.gov and he will take care of that for you.

*Remember that your username is the email you provided when you registered to volunteer for the project. You password default is WDFW#1A but this can be changed by sending an email to andrew.duff@dfw.wa.gov. Please see the note above regarding temporary passwords.

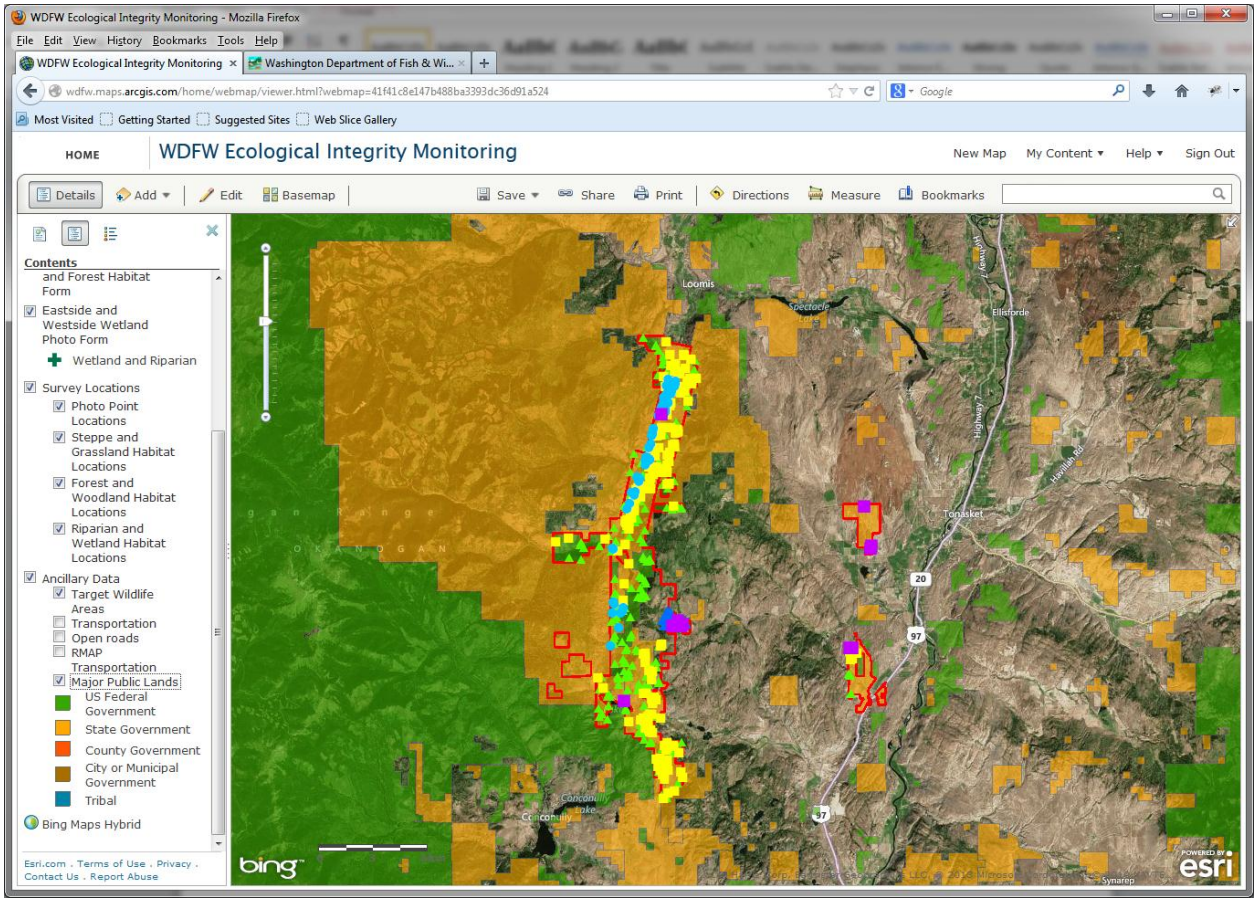
Once you have entered your login information for the ArcGIS web map you will be presented with the map shown below.

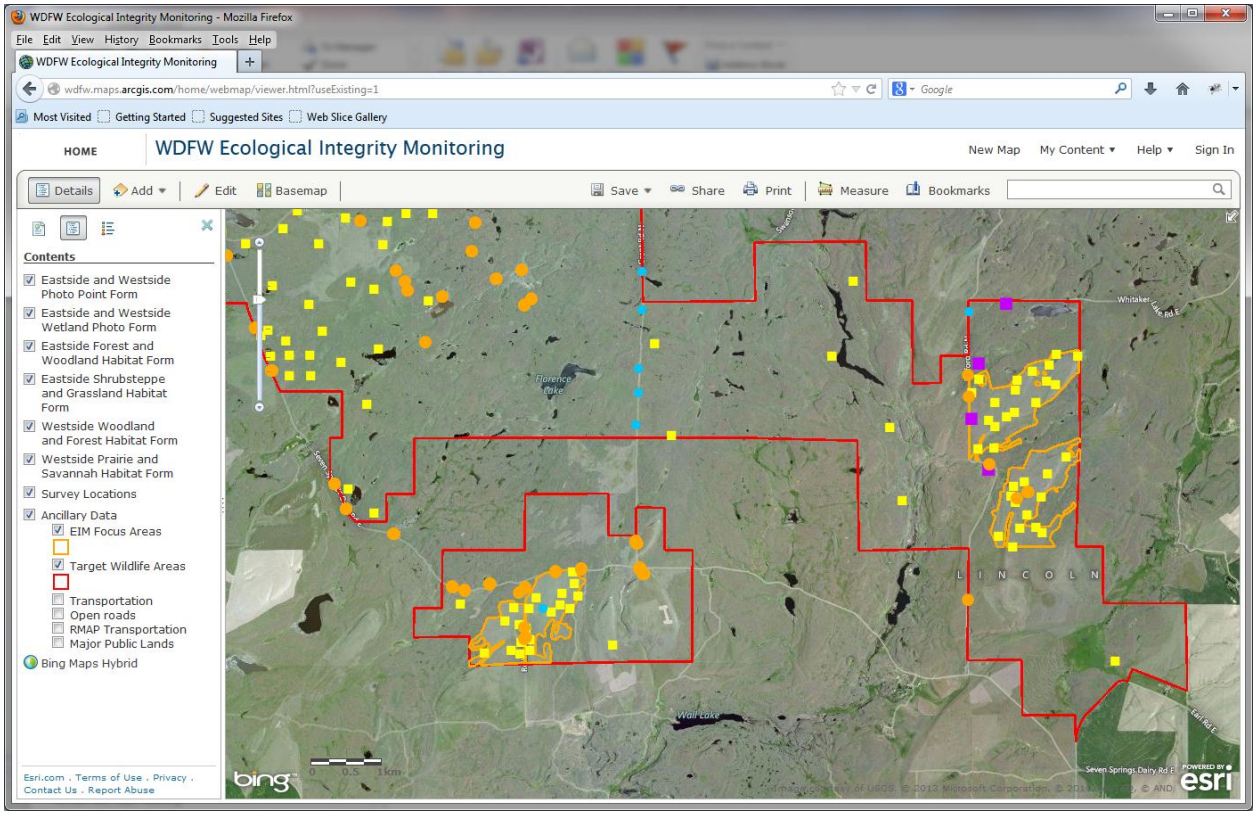


You will notice on the left hand side of the screen there is a details panel which can be shown/hidden by clicking the “Details” button just below the ArcGIS text on the upper left hand side of the screen. You will notice just below the “Details” button there are three icons which allow you to switch to three different views. The default is shown in the previous screenshot where you can see some basic information about the map. If you click the second icon you will see the map table of contents as shown below.

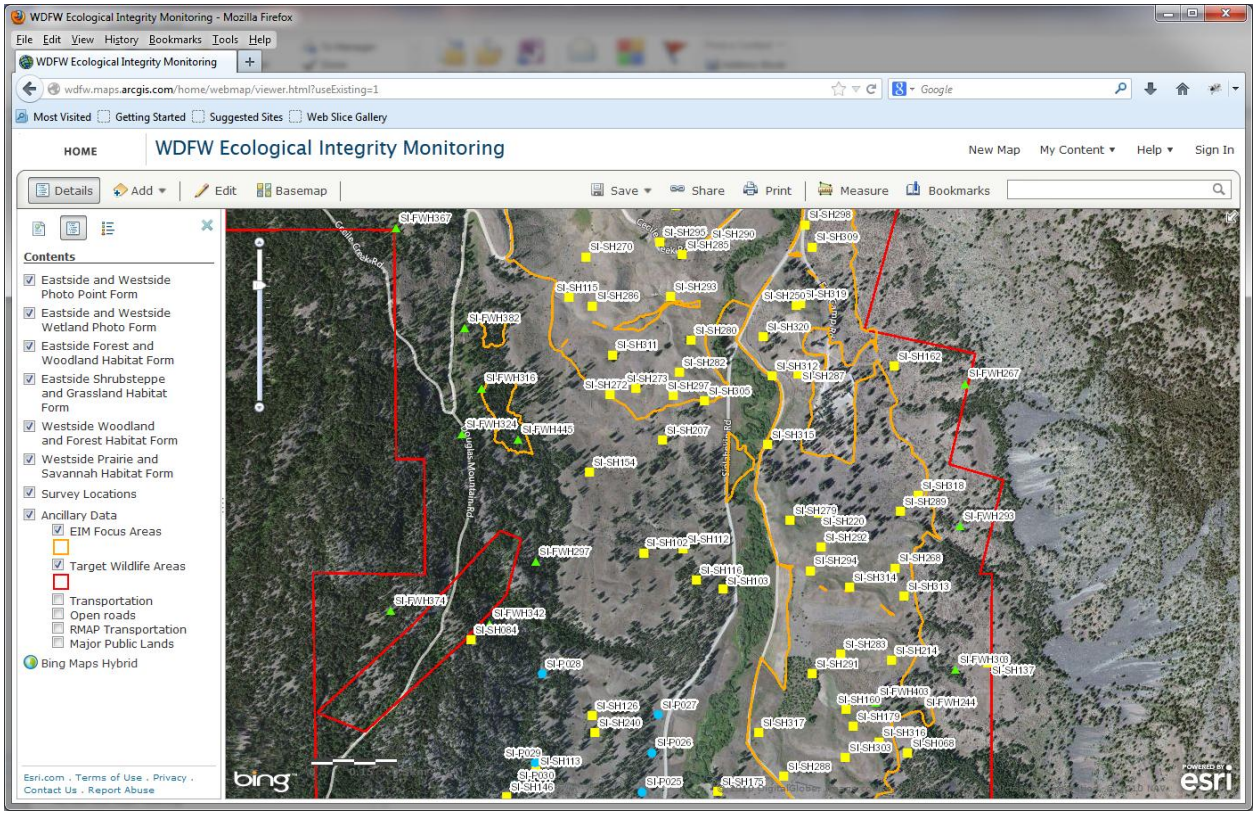


If you click each entry in the table of contents it will expand to show the legend for the map. You have the ability to turn layers on and off by clicking the checkboxes. This might be useful if you are planning to visit only photo points on any given day and want to only show those locations on the map during your trip planning. Also note that although turned off by default, there are several background data layers under “Ancillary Data” which might be useful. Both transportation and major public lands map layers are available for viewing and may aid you in determing access to a site. Another key feature under the “Ancillary Data” group is the EIM focus areas for Sinlahekin and Swanson Lakes WLA’s which are shown as orange polygons on the map. These orange polygons are high priority areas where we would like EIM volunteers to focus their efforts. We would like as many of these points as possible visited during 2013.

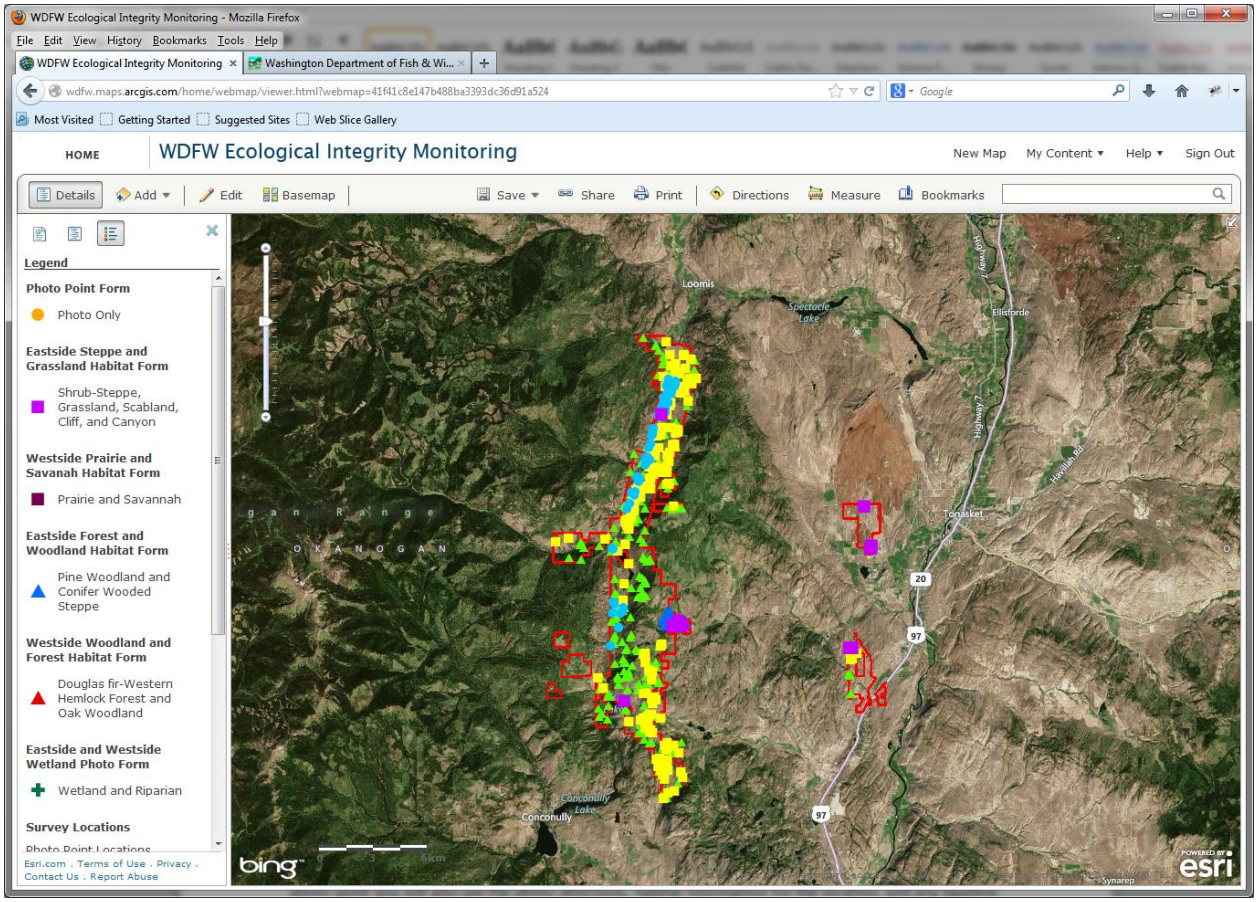




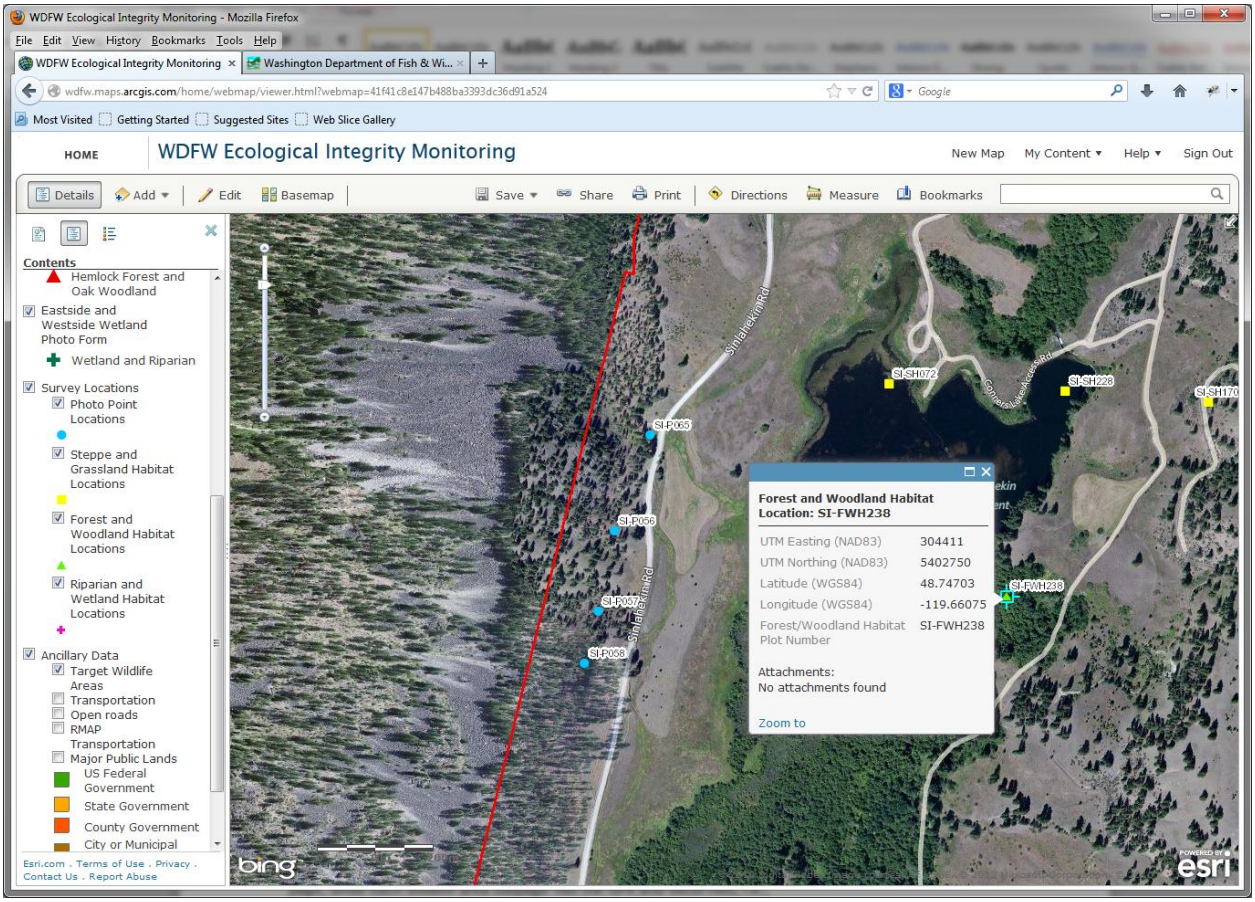
For more information on using the ArcGIS.com application please contact jane.jenkerson@dfw.wa.gov or andrew.duff@dfw.wa.gov.



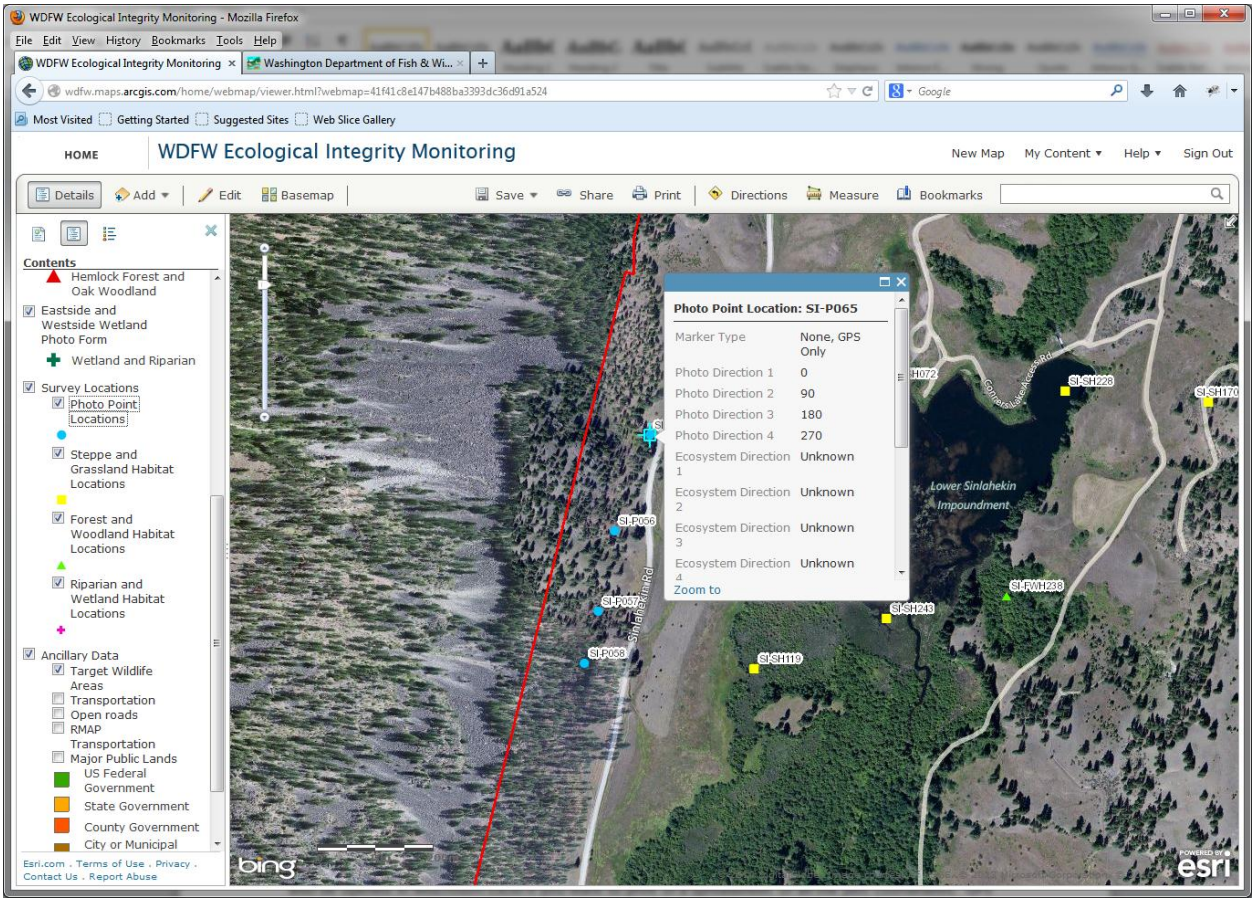
The third icon on the Details Pane allows you to view the map legend. This is a quick way to understand the colors that you see in the mapping layers (see screenshot below).



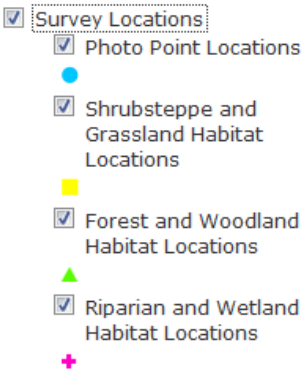
As you use the computer mouse (or the zoom slider in the upper left of the map frame) to zoom around the map you will see that different layers show up at different map scales. When you zoom in closer you will see that the photo points and habitat survey locations are labeled with plot numbers. If you click on one of the points you will be presented with a popup dialog that contains the plot number, UTM map coordinates, and Latitude and Longitude map coordinates. If the location you clicked is a photo point you will also see the photo directions, habitat information for the location, and any baseline photos that may exist. Baseline photos will be shown as attachments in the photo point popup. Clicking the attachment link will open the baseline photo and this might be interesting to compare to your recent observations. All of the information contained in the popups should be useful for planning a data collection excursion onto the wildlife areas. For example if you are planning on visiting photo points you would want to write down the photo compass directions so when you got out to the site you would know what direction to take the picture.



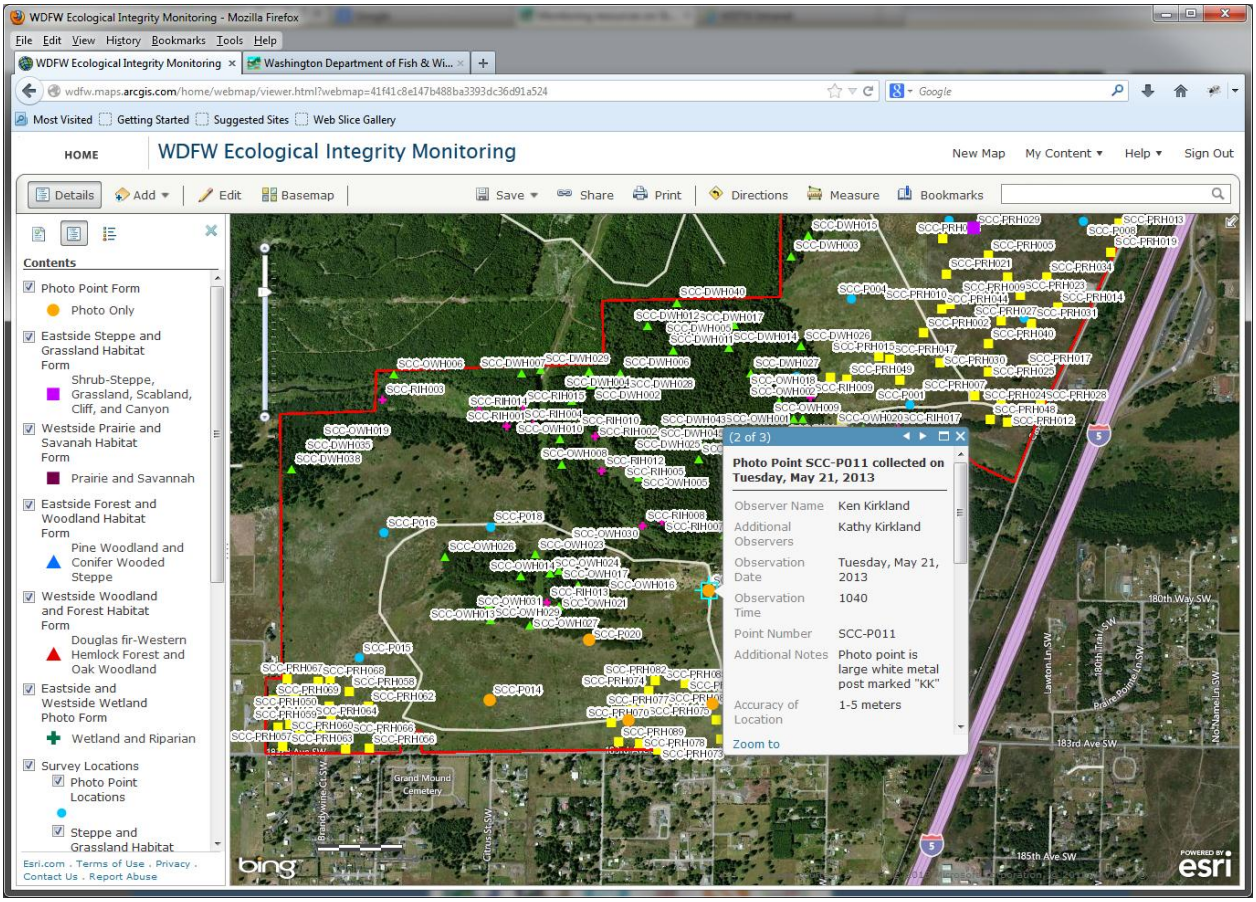
The image above shows the popup for a forest and woodland plot location as well as the plot labels for photopoints, steppe habitat, and forest habitat locations. Note that both Universal Transverse Mercator (UTM) coordinates (Map Datum=NAD83) as well as Geographic Coordinates in Decimal Degrees (Latitude/Longitude, Map Datum=WGS84) are provided for trip planning. In addition to the coordinates available in the web map, both comma seperated files and GPX files containing the all the coordinates are available for download from the EIM website (http://wdfw.wa.gov/conservation/research/projects/wla_monitoring/index.html is the main project page, while each wildlife area subpage has the GPX and excel files, i.e., http://wdfw.wa.gov/conservation/research/projects/wla_monitoring/sinlahekin/). Please note that there are separate files for the EIM focus areas. Programs such as MapSource and Basecamp (from Garmin) and DNR GPS (freely available from Minnesota DNR) allow you to upload these comma seperated or GPS files to your handheld GPS. Comma seperated files can also be opened in Microsoft Excel if you want to print of a spreadsheet of all the plot coordinates. GPS units that are available for project use at the wildlife area should have the plot locations for that wildlife area already installed, but it is probably a good idea to have the coodinates of the sites you intend to visit anyway.



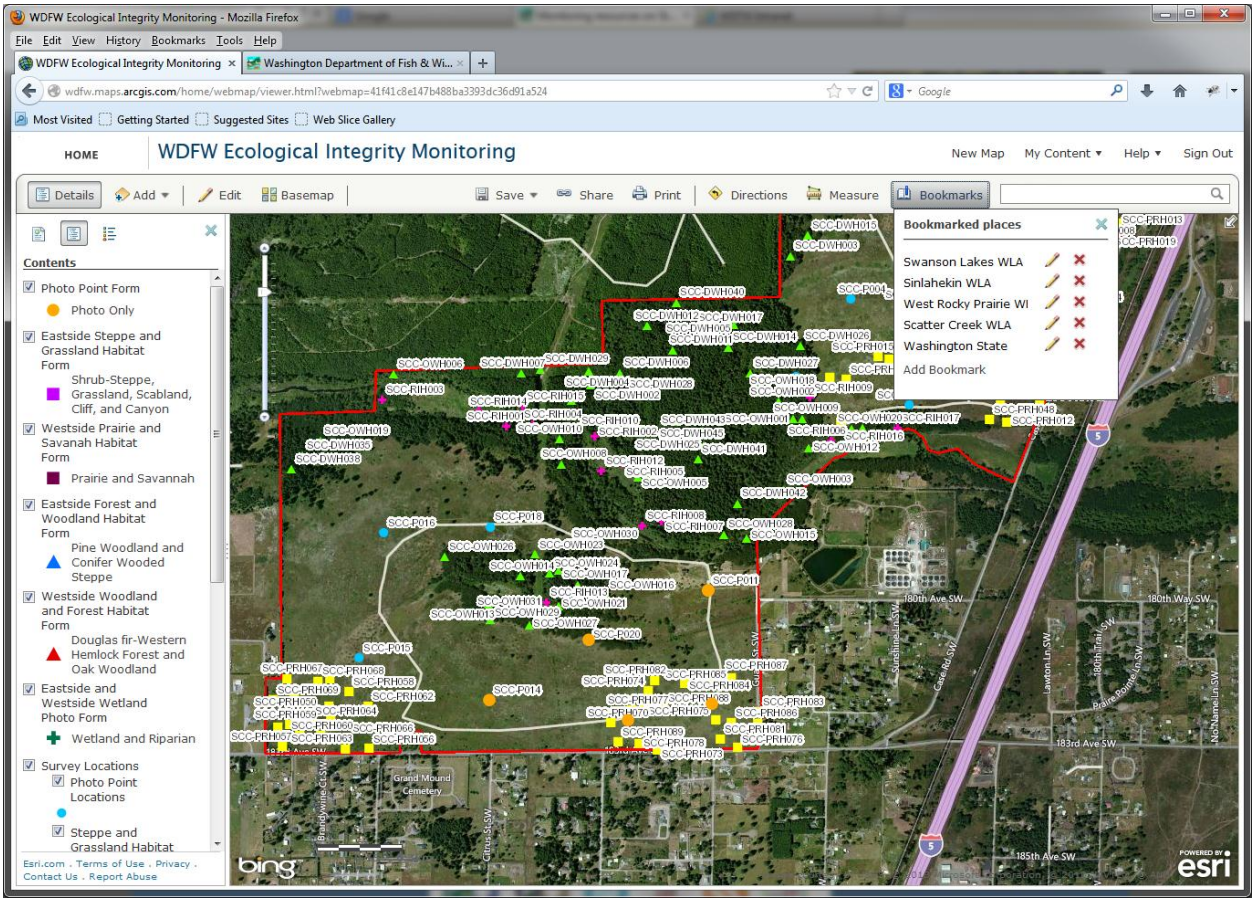
The image above shows part of the Photo Point Location Popup.



Some sites may have been visited by other volunteers. Locations that have already been visted will not have the default color coding (blue circles for photo points, yellow squares for steppe/grassland, green triangles for forest/woodland, pink plus signs for riparian and wetland locations) but will be obscured by larger icons colored by the type of observation that was taken at that site (light purple squares for steppe/grassland, blue triangles for forest/woodland, light orange circles for photo points, and green plus sign for wetland and riparian photo points, dark purple squares for westside prarie and savannah, and red triangles for westside woodland and forest habitat). For example, in the screenshot below you can see that I have clicked on one of the larger orange circles. This location is a photopoint that was visited by a volunteer on May 21st 2013. Note that because there are multiple points at this location, the popup indicates "2 of 3". If you click on the arrow at the top of the popup you will be taken to the third stacked observation which is the original photopoint location with coordinate information on how to access the site. We would encourage you to visit sites that have not previously been visited within the current calender year. As we move into multiple years of the study a wealth of information on the sites will be available to volunteers in the ArcGIS.com application.



You will notice that when you first open the map by default it is centered on Sinlahekin Wildlife Area. To make it easy to switch back and forth between different study areas in the map we have created "Bookmarks" for each wildlife area that is part of the project (see screenshot below). By clicking "Bookmarks" on the toolbar a dropdown will be exposed. From this drop down you can select your wildlife area. Currently we just have bookmarks for five wildlife areas but as the project continues to develop there will be more "Bookmarks" to choose from.



Now that we have spent a little time exploring the map interface and the different ways to access information in the map, we want to work through entering some field data. There are 6 types of data that the application will allow you to enter. Please note that for #5 below there are two different paper forms that apply but for the others only one paper form will apply.

1) Photo Point Data and Photos (All Areas)

2) Wetland Habitat Point Data and Photos (All Areas)

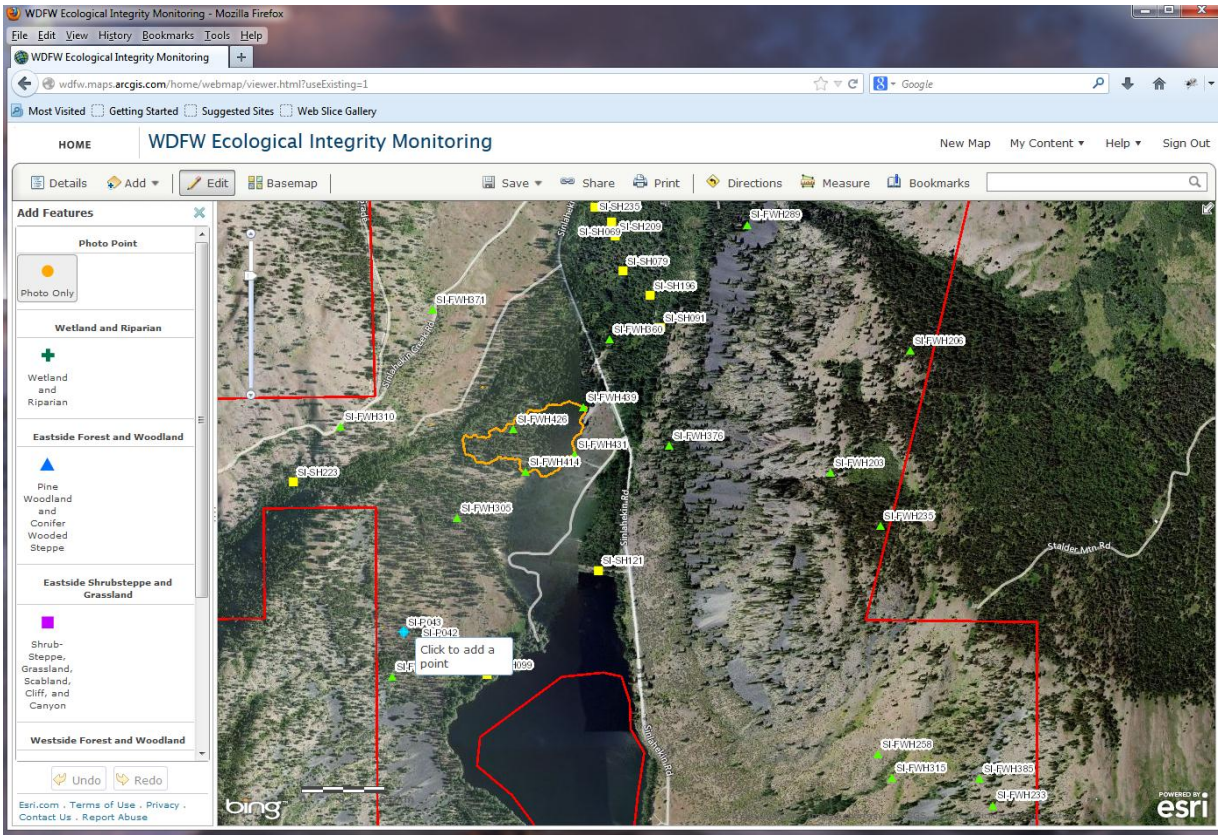
3) **Eastside** Forest and Woodland Habitat Survey Data and Photos

4) **Eastside** Shrubsteppe and Grassland Habitat Survey Data and Photos

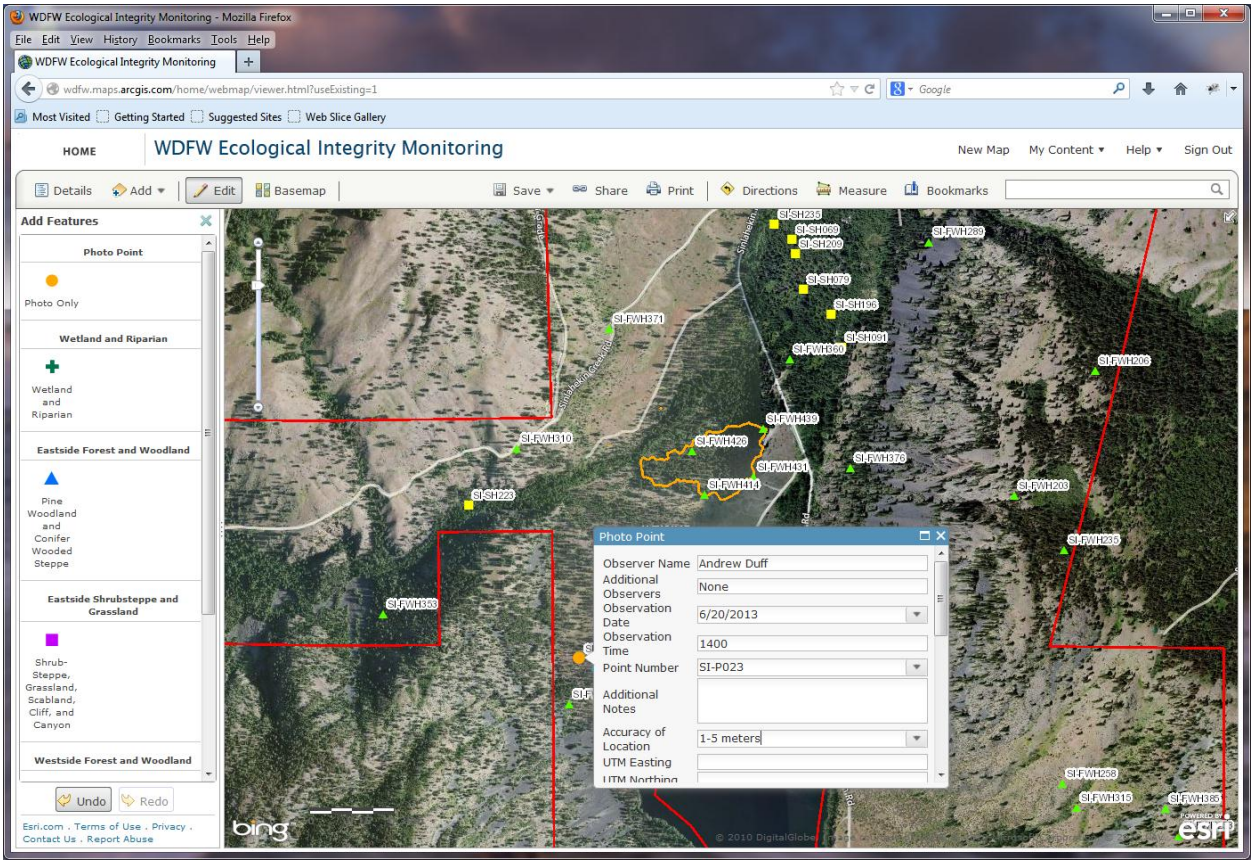
5) **Westside** Forest and Woodland Habitat Form (*NOTE: this online form is applicable for 2 different westside protocols, Douglas fir-Western Hemlock AND Oak Woodland*).

6) **Westside** Prarie and Savanah Habitat Form and Photos

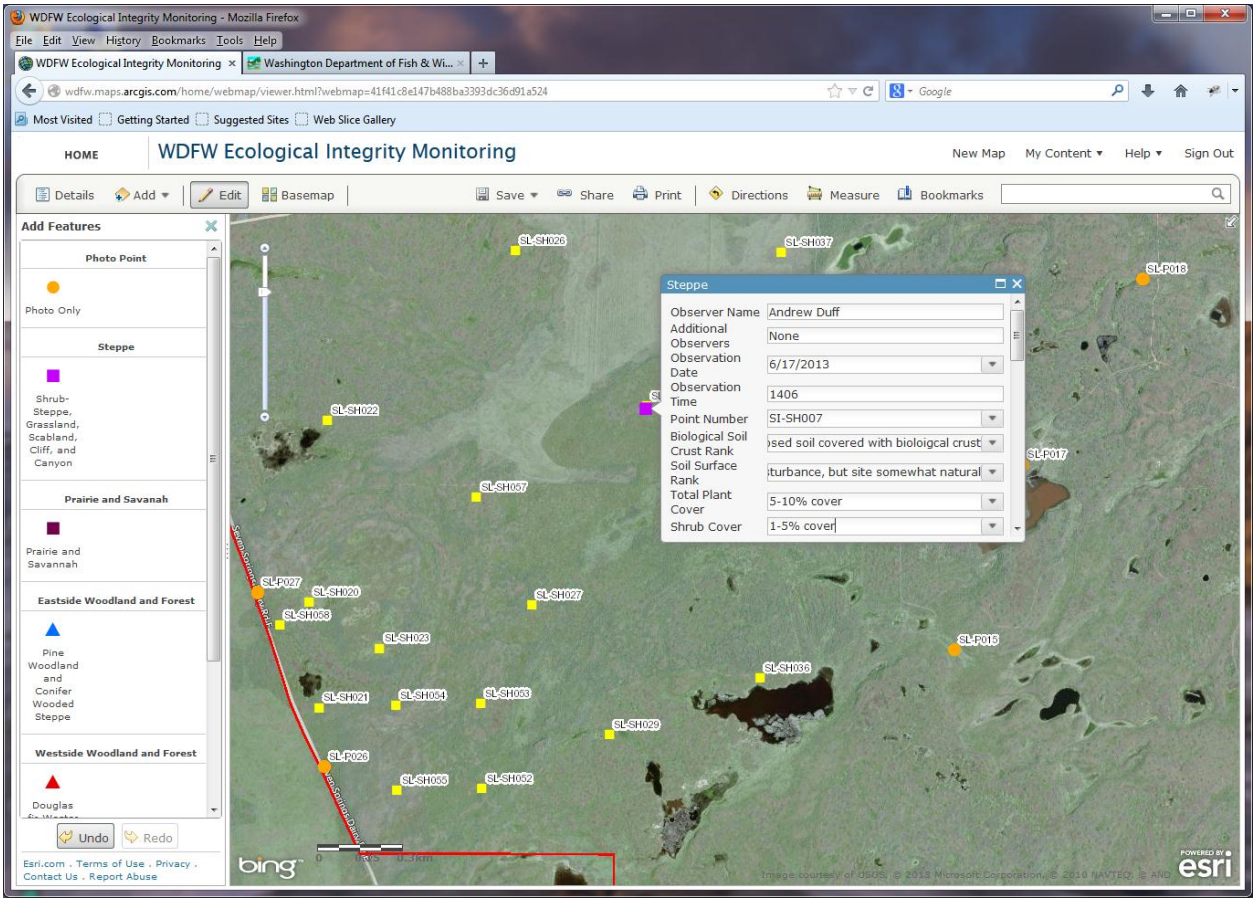
I will start with the Photo Point data capture form. In order to start entering data you must enter "Edit Mode". Edit mode can be started by hitting the "Edit" button on the toolbar. It is located two buttons over from button used to turn the details pane on and off. Once you click "Edit", the details pane will switch to edit mode showing 6 different types of features that can be edited. In order to enter a photo point you must click on the "Photo Only" button in the details pane and then click on the map.



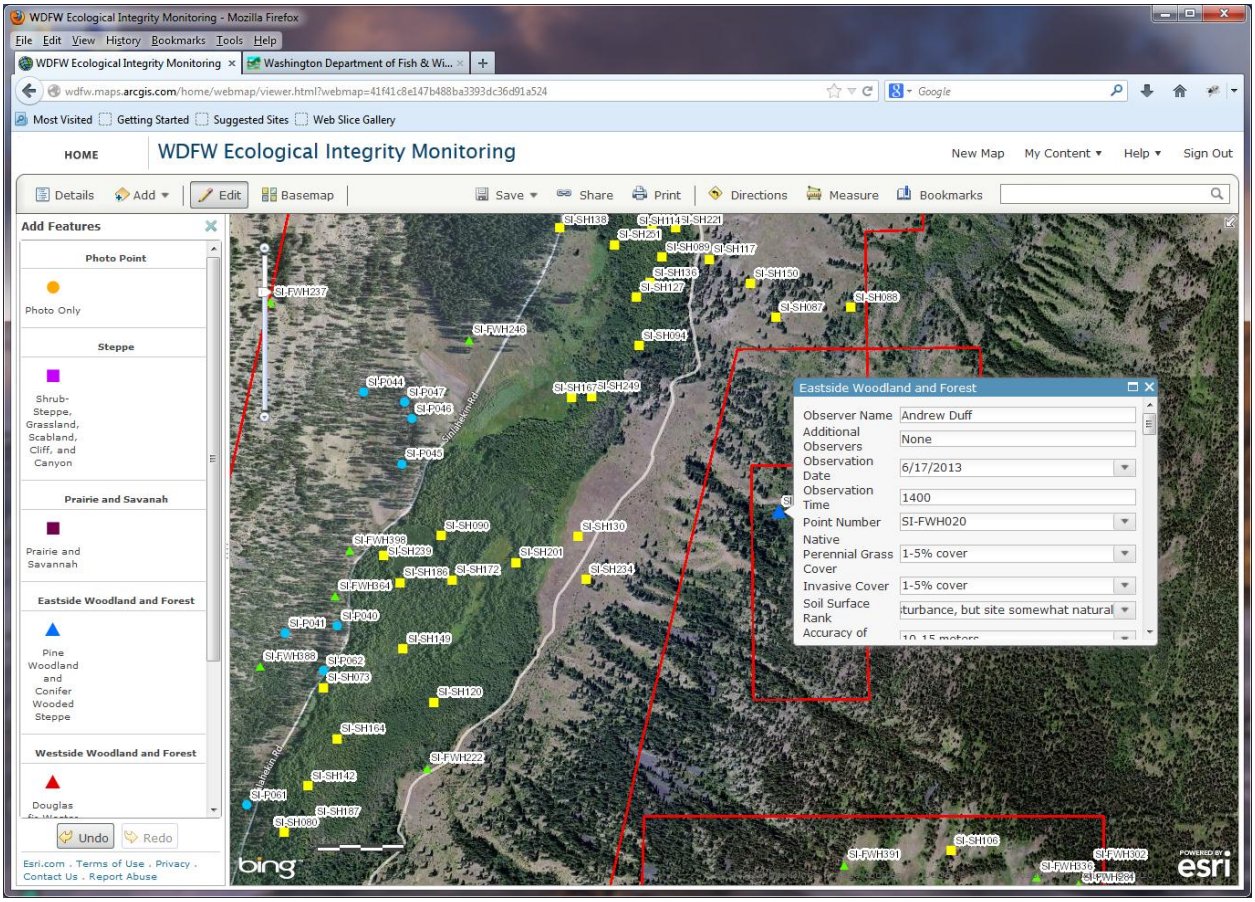
As you can see in the screen shot above, once you click on the "Photo Only" button in the details pane and you scroll around the map screen you will have a popup that lets you know you can click to add a point. The best way to ensure that you place your point right on top of the existing points is to hold "CNTL" on the keyboard. When you hold "CNTL" and are near a point you will notice that the cursor turns into a crosshair placed over the point indicating that you are on top of the exisitng point location. Once you see the crosshair you can place the point. After you click on the map you will see an orange circle placed on the map and a data entry popup will appear that asks for a suite of information.



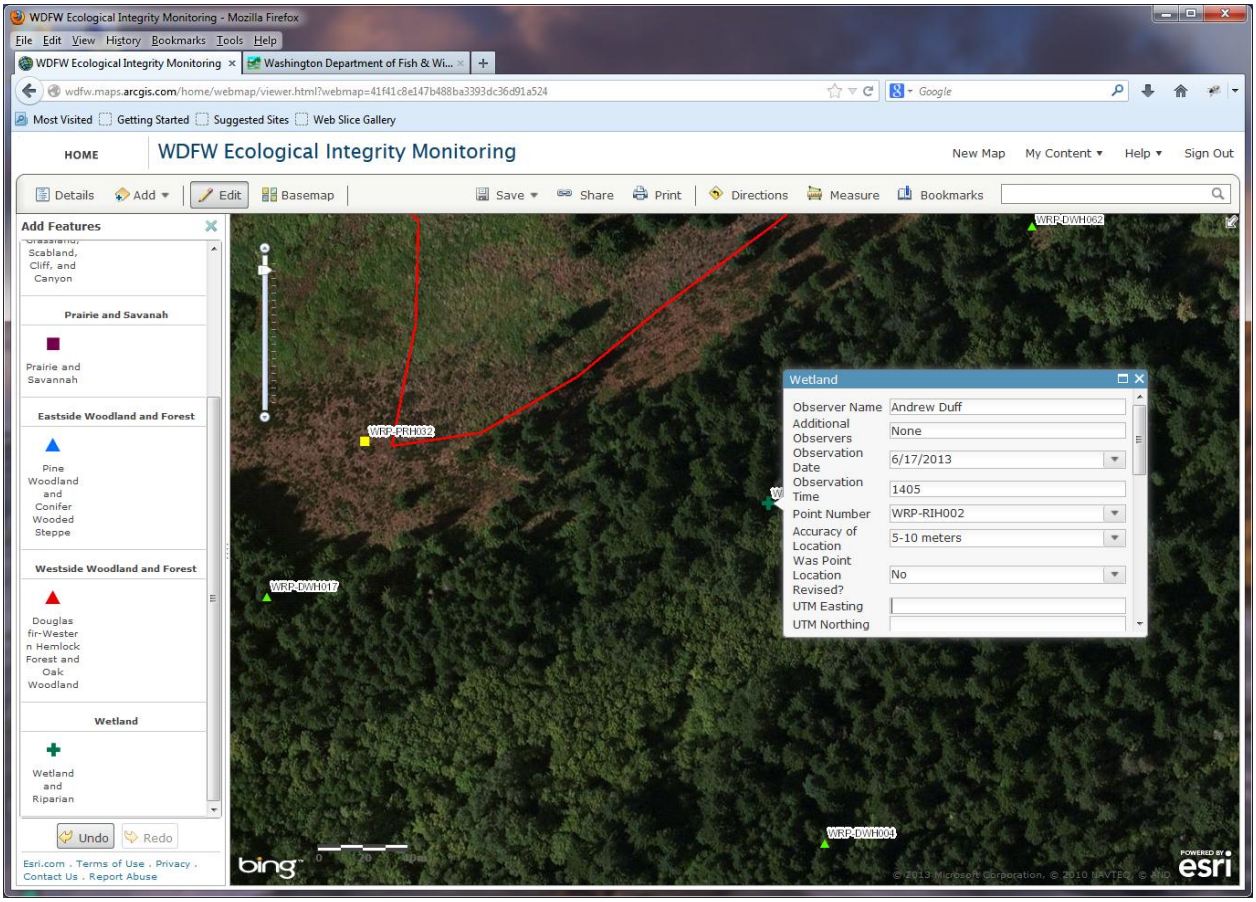
Once you have entered all of your information into the popup at the very bottom you will be able to upload a photo. For photo specific naming conventions please see the protocol documents available on the website. Please only record one photo per photo point observation record. If you take multiple pictures at a given location (for points with multiple bearings) you will need to create multiple new photo points with 1 picture per point. Please note that once you select the photo it may take a 30-60 seconds for it to upload. Please wait until you see the photograph listed in the dialog box before closing the dialog. If you have been waiting for longer than 2 minutes you may need to make the file smaller and try again. During our testing we were able to upload files that were up to 12 MB in size. Unfortunately, the exact size of the photo that you can upload through the ArcGIS.com site depends on the amount of Random Access Memory (RAM) that you have installed on your computer. For most relatively new computers (purchased in the last 1 or 2 years, 2-4 GB of RAM) you should have no problem uploading images up to 6 MB in size. For newer machines with more RAM (4-12 GB), much larger image uploads should be possible.



The next type of feature I will go over is the Steppe and Grassland Habitat Point. These locations appear as purple squares in the application. As with the photo points it is important to use snapping so that you place the habitat point directly on the location where the plot is. The Steppe and Grassland Habitat Point data entry is detailed and will contain a larger number of fields that must be keyed in than photo points alone. We have developed drop down menus to help with entering vegetation measurements and have set default values to optimize data entry. Please make sure that you review the defaults to ensure they are appropriate for your data, they may require editing. We have recently (not shown in screen shots) updated the drop down values to match the codes shows on the form (e. g., 5-10% cover [10], Western hemlock [TSHE]). This should make the process of transcribing data collected on paper forms into the computer much easier.

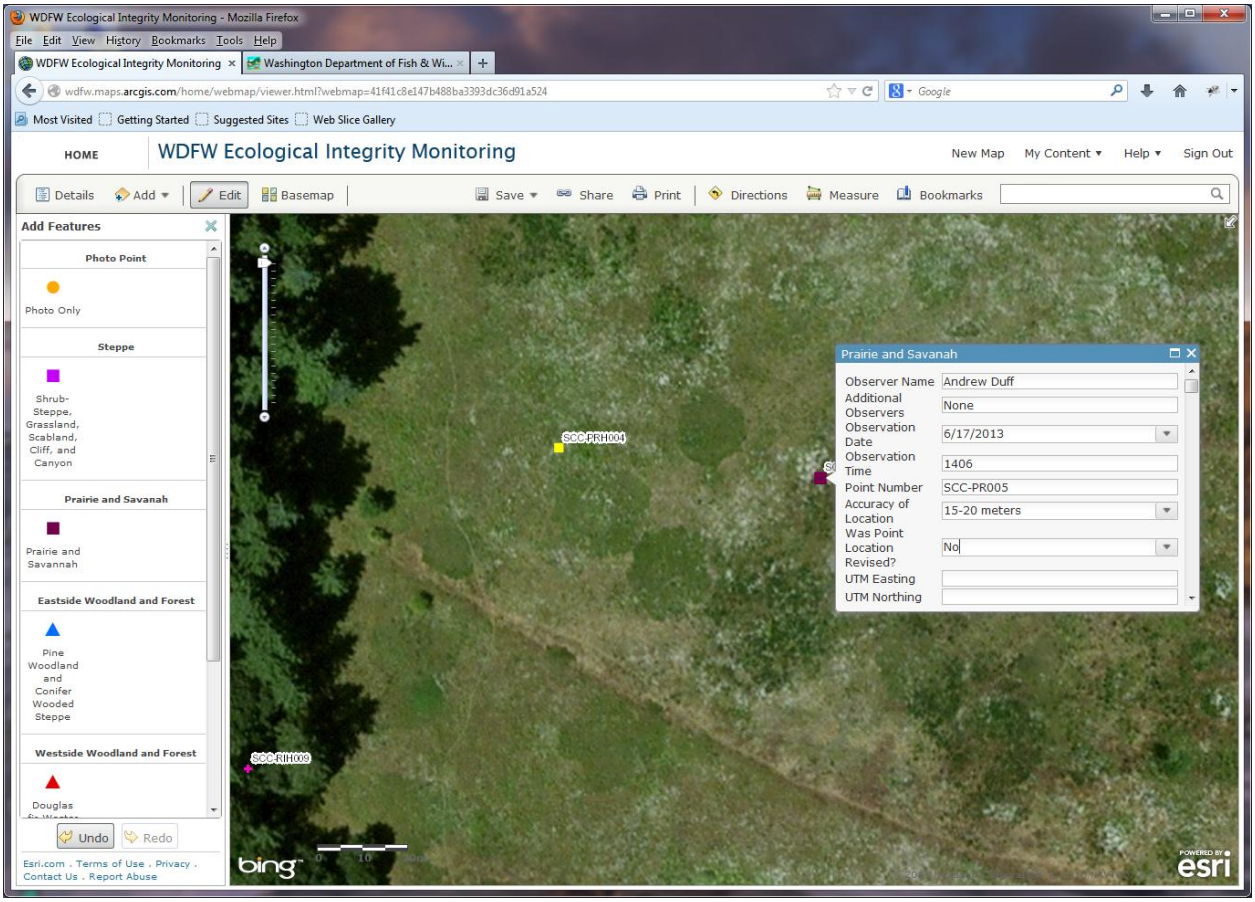


Forest and Woodland observations are similar to Steppe and Grassland observations but because they target different habitat types, they include a different set of vegetation measurements. Please refer to the protocol for the specific details. As with other observation types, we have built drop downs and default values within the application to make data entry simple for the end user.

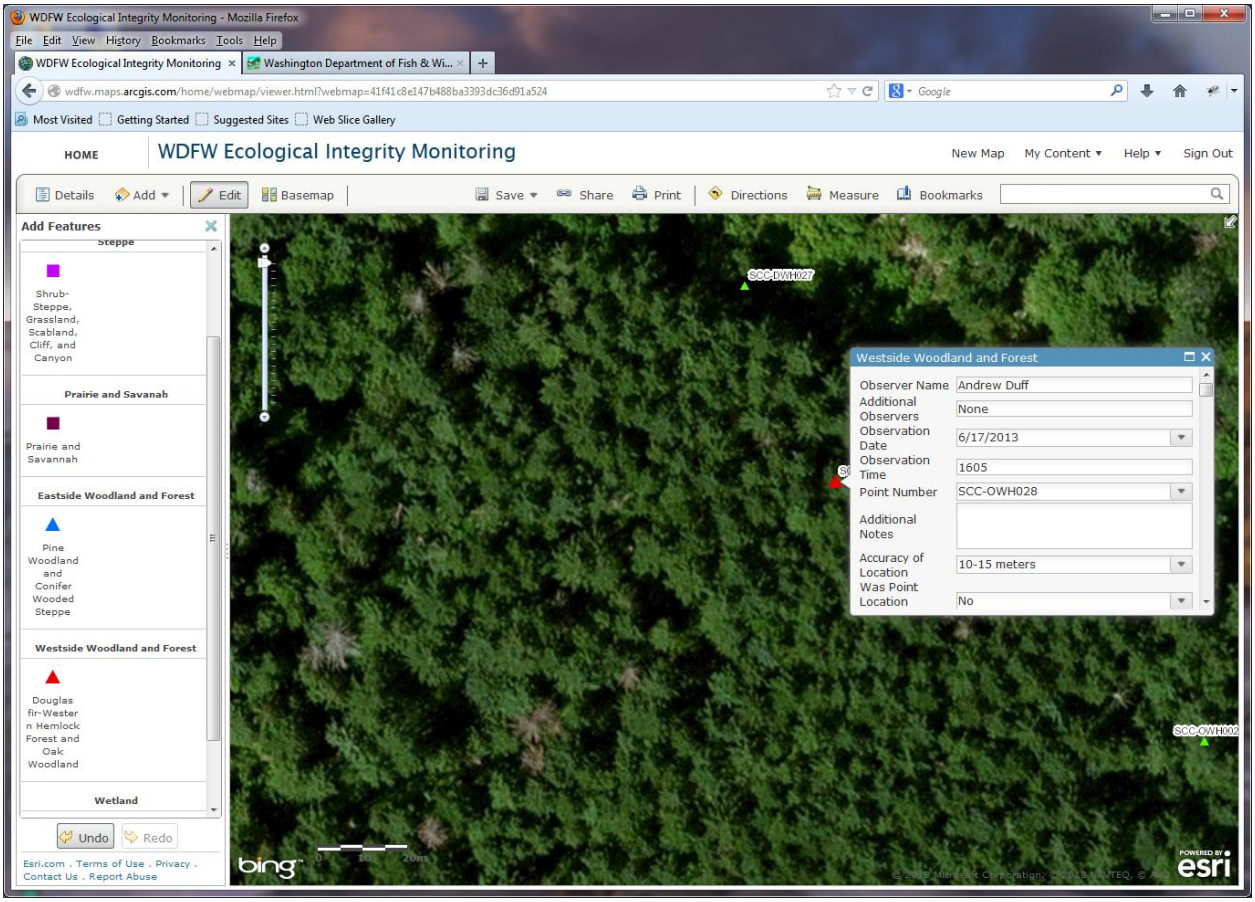


The next type of habitat point is the Wetland Habitat Point. During this pilot year, we will not be collecting habitat information at these locations, but instead will be just collecting some basic observation information as well as a photo. For wetland habitat points it is required that you record the UTM coordinates, Map Datum (NAD83 is the prefered datum setting for your GPS), and UTM zone (always 11 for Swanson Lakes) for your wetland photos if you are establishing a new location or if you had to move the original location. If you take multiple photos at a site, please enter multiple observations so that each observation has the bearing recorded along with the point.

The next type of habitat point is the Westside Prarie and Savannah Habitat Point. Currently these points are for the West Rocky Prarie and Scatter Creek wildlife areas only. These point locations are similar to other habitat points with some minor details that differ from eastside steppe and grassland due to the different protocols in these habitats.



The final type of habitat point is the Westside Woodland and Forest Habitat Point. Currently these points are for the West Rocky Prarie and Scatter Creek wildlife areas only. These point locations are similar to other habitat points with some minor details that differ from eastside forest and woodland due to the different protocols in these habitats. Please note that one digital data capture form (Westside Woodland and Forest Habitat, shown below) applies to two different paper field forms (Douglas fir-Western Hemlock and Oak Woodland). This digital form contains all of the attributes that are captured in both of these paper forms so when you are entering data you will just want to enter the information for the fields which were contained on the paper form.



That completes the overview of the main features of the application. There are a number of features of the ArcGIS.com map viewer that I would encourage you to explore on your own. One thing that might be helpful would be to switch the basemap from aerial photography to a streetmap or topo map in order to help identify locations you visted in the field. This can be accomplished by clicking the "Basemap" button next to "Edit". You may also be interested in using the measure or printing tools. In the measure dialog box there is a way to obtain latitude and longitude coordinates for any location on the map which could be handy if you located a wetland on the map that you would like to visit to photograph.

These instructions are currently in draft form. We welcome any feedback that you might have on how to improve these instructions. Thank you for participating the WDFW Ecological Integrity Project!