CRITFC is using ESRI products to build online interactive mapping applications for the display of general spatial and tabular data or for specific projects. The applications are built with Flex viewer on a GIS Server with many of ESRI’s basemaps used with CRITFC’s or project data.

The Northwest Power and Conservation Council (NPCC; formerly the Northwest Power Planning Council) led a 2001-2004 effort to develop comprehensive subbasin plans throughout the Columbia River Basin. Please see the Subbasin Plans and information at the NPCC web site for further information on the effort (http://www.nwcouncil.org/fw/subbasinplanning). This mapping application was built to combine and visually display the four most significant aquatic limiting factors (LF) information from the plans.

*NOTE* – different web browsing applications and versions, Firefox, IE, Google Chrome, etc., may display the mapping application and the reports differently; hopefully functionality is the same. If you are having issues with performance, try another browser.
The map design is very similar to many other interactive maps on the web today. Many of the navigation tools should look very similar.

**Overall Layout:**

View of map when mapping application is first opened.
**Map Name:** Display of map name.

**Navigation Tools:** This tool set, including several types of zooming and panning tools. These tools should look very similar to other web interactive mapping applications.

- Panning Tools - move the map automatically in increments when tool is clicked. Includes Full Extent, Pan in several directions, and Next and Previous Extent.
- Slider Bar for Zooming Tool - moves at predetermined scales of zoom.
- Pan Hand - manual panning after the tool is clicked and hand/mouse is used to move the map.
- Zoom Tools - manual zooming after the tool is clicked, draw a box with tool/mouse to zoom in or out in a selected area.

<table>
<thead>
<tr>
<th>Panning Tools</th>
<th>Panning Tools</th>
<th>Panning Tools</th>
<th>Slider Bar Zoom</th>
<th>Pan Hand</th>
<th>Zoom Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Full Extent" /></td>
<td><img src="image2.png" alt="Pan right" /></td>
<td><img src="image3.png" alt="Next Extent" /></td>
<td><img src="image4.png" alt="Zoom In" /></td>
<td><img src="image5.png" alt="Pan" /></td>
<td><img src="image6.png" alt="Zoom in" /></td>
</tr>
</tbody>
</table>

**NOTE:** If your mouse has a roller it can be used for zooming in and out of the map.
Layer List: This window shows the different layers of spatial data on any map. The complete layer list is not visible when this window opens. To expand the layer list, click arrow button # 2. The window can be placed anyway on the map by dragging it with the mouse.

1. The window launches in this form. The window can be placed anyway on the map by dragging it with the mouse, by the light green header bar.

2. Just these two buttons to Minimize or Close the window.

3. Click the to display the different layers of the map.

4. Grab this corner with the mouse to resize the window.

The window in Minimize form.

4. — Click the icon to Maximize the window again.

If the window has been closed the same icon at the top of the map will reopen it.

5. The window with all layers visible. Remember the window can be adjusted to any size.

5. — Scoll bar appears when window is too small for all the layers to be displayed.

6. A set of layers already available when the map is launched. All of these layers turn on and off at predetermined scales. But they can be turned off and back on by clicking the check-box.

6. — Layers that will not be visible until the check-box is on.
**Activity Tools:** These tools are found on the top of the map in the center and include: Print, Legend, Identity Tool, Layer List, as defaults. Other tools specific to project may be available.

- **Print**
- **Legend**
- **Identity Tool**
- **Layer List**

**Print**

When the Print icon is clicked this print window appears.

**Legend**

When the Legend icon is clicked this window appears and displays the symbology of the layers turned on in the Layer List.

**ID Tool**

When the ID Tool icon is clicked this window appears. Use the ID Tool (Arrow Curser) to click the object of interest in the map.

**Layer List**

When the Layer List icon is clicked it will open the Layer List Window if the Layer List has been closed.

Once the ID Tool is used on an object the Identify window appears with information about the object. If there are other data or reports available a symbol/link is provide (circle with lightning bolt) and will open other windows with the information or reports.

**Lightening Bolt**

Clicked this Lightening Bolt icon to view data or reports.
For the Subbasin Plans Limiting Factors mapping application a tool called Draw and Measure is available in the Activity tool set. Once the tool is opened, it allows the user to draw a variety of objects on the map, add text, or measure.

![View of available tools.](image1)

![Once a draw style has been selected, options for font type and color appear. Also note the Show Measurements check box.](image2)

![Once the Show Measurements has been selected more choices of units of measure are available.](image3)

After selecting the tool, colors, fonts, width, and if measuring, the units of measure. Draw on the map and when finished the map can be printed with the objects and text for sharing. If measurement was checked the map will display the measurements on the map.

**Reports generated by clicking the link in the Identify Window.**

Currently this mapping application does not have any report documents associated with the spatial data, therefore the Lightning Bolt symbol will not appear in the Identity Tool’s pop-up window.
**Links**: The word “Link” can be clicked for a list of links that are useful for interacting with the mapping application or data on other related websites. An example it below.

Click to open an email.

Send a message with feedback on information or suggestions for change.

The project may have an Introduction map or page.

Other project specific links may be found here.

Click to close window.
**Basemaps**: A set of “Basemap”(s) that can be access for adding more data or layers to the map. The “Basemap” dropdown window has several basemaps to choose from and each of these will display different kinds of information (towns, roads, national parks). A basemap was chosen for the initial opening of the application mapper, but it can be changed for any other basemap.

Placing the cursor on the “Basemap” button will produce a dropdown of nine basemaps to choose from for the map. The first basemap in this list is enclosed in a black box, this means that it is the map that is open in the application.

- **Imagery with Labels**: Satellite and high-resolution aerial imagery for the world with political boundaries and place names.
- **Imagery**: Satellite and high-resolution aerial imagery for the world.
- **Streets**: Presents highway-level data for the world and street-level data for North America, Europe and more.
- **Topographic**: This topographic map includes boundaries, cities, water features, physiographic features, parks, landmarks, transportation, and buildings.
- **Terrain with Labels**: Features shaded relief, bathymetry and coastal water features that provide neutral background with political boundaries and placenames.
- **Light Gray Canvas**: This map service draws attention to your thematic content by providing a neutral background with minimal colors, labels, and features.
- **National Geographic**: This map is designed to be used as a general reference map for informational and educational purposes.
- **Oceans**: The Ocean basemap includes bathymetry, surface and subsurface feature names, and derived depths.
- **OpenStreetMap**: Is an open collaborative project to create a free editable map of the world. Volunteers gather location data using GPS, local knowledge, and other free sources of information and upload it.