

***Bioterrorism and Other Public Health Emergencies  
Tools and Models for Planning and Preparedness***

**Emergency Preparedness Resource Inventory  
(EPRI)**

**A Tool for Local, Regional, and State Planners**

***Part 2. Technical Manual***

**Prepared for:**

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# 1. Introduction

With funding from the Agency for Healthcare Research and Quality (AHRQ), Abt Associates and Geisinger Medical Systems, together with the Web development firm RelyonMedia, created and pilot tested (in an eight-county area of eastern Pennsylvania) a Web-based tool named Emergency Preparedness Resource Inventory—A Tool for Local, Regional, and State Planners (EPRI) for compiling an inventory of healthcare and other emergency resources. Organizations that control these resources can log on to EPRI and enter and update information on their resources. These organizations, as well as emergency response planners and other government officials, can also run a variety of reports from the inventory that provide detailed and summary information on available resources. System administrators can customize EPRI—for example, by specifying what resources are included in the system and what specific reports users can (and cannot) run.

To use EPRI, jurisdictions must download it from the AHRQ Web site and then install it on a Web server. That is, jurisdictions cannot go to an existing Web site and start using EPRI immediately.

This manual is a technical description of EPRI and is intended primarily for system administrators charged with installing, customizing, and hosting EPRI. Following this introductory section, the manual contains six sections and an appendix:

- Section 2 summarizes the *installation* process and system requirements. Step-by-step installation instructions are in the appendix.
- Section 3 discusses the EPRI *customization* process.
- Section 4 describes the *user registration* process.
- Section 5 summarizes *inventory data entry* procedures.
- Section 6 shows how *access to reports* is controlled.
- Section 7 explains procedures for *monitoring data quality* and *communicating with users*.
- The Appendix contains detailed *installation instructions*.

In addition to this technical manual, the project produced two other reports:

- An “Implementation Report”, intended for project managers overseeing implementation and use of EPRI, provides an overview of the system and describes the EPRI pilot test and the lessons learned from it.
- An “Appendix”, which includes the list of resources, location types, and resources by location type developed during the pilot test.

## 2. Installation

### Requirements

EPRI was developed using the Microsoft .NET platform. Therefore, you must install EPRI on a Web server that includes:

- Windows 2000 Server
- SQL Server 2000
- .NET Framework (Version 1.1).

In addition, sites hosting EPRI need:

- SMTP Server (for sending out-going Email from EPRI)
- SSL Certificate (for encrypting data transmitted between EPRI and Web browsers).

Persons who access EPRI must have Web browsers that meet the following specifications:

- Internet Explorer V5+ or Netscape V4.7+
- JavaScript Enabled
- Cookies Enabled.

### Downloading EPRI

EPRI is available for downloading at the AHRQ Web site ([www.ahrq.gov/browse/bioterbr.htm](http://www.ahrq.gov/browse/bioterbr.htm)). While EPRI can be downloaded at no cost, it is copyrighted and cannot be re-sold.

The application and database are packaged into a single zip file. The zip file contains:

- The EPRI source code (including a Microsoft Visual Studio project file)
- The compiled Web application
- Scripts for creating the EPRI databases.

### Installation Overview

Step-by-step instructions for installing EPRI on a Web server are contained in the appendix of this technical manual.

There are some important points to remember about the installation process:

- Both a “live” database (that your jurisdiction will use to enter inventory information) and a “demo” database (that can be used for test or demonstration purposes) are installed. The schema of these databases are identical.
- When you download EPRI from the AHRQ Web site, both the live and demo databases will contain the list of resources we developed during the pilot project (see the separate Appendix for a list of the resources). This list can be customized, as discussed in Section 3.

- Default system administrator login/passwords are as follows:
  - Live database – login admin; password admin.
  - Demo database – login demoadmin; password demo.
  
- The live and demo databases are separate databases, with one important exception. The live database includes three login accounts that, when used, automatically transfer the user to the demo database. The three accounts are:

<b>Login</b>	<b>Password</b>	<b>Purpose</b>
demoadmin	demo	The system administrator account that is used to customize the demo database
demomanager	demo	Shows the features and capabilities available to an organization's data manager (see Section 4.3)
demoentry	demo	Shows the features and capabilities available to an organization's data entry person (see Section 4.3)

### 3. Setup and Customization

After you install EPRI, and before you start collecting any inventory data from organizations in your area, you need to customize the inventory structure for your jurisdiction. By customizing the inventory structure, you will populate various drop-down lists and list boxes that appear on data entry and reports screens.

There are five customization steps:

1. Define the Resource Types (click 'Manage Resource Types' on Home Page)
2. Define the Resources (click 'Manage Resources' on Home Page)
3. Define the Location Types (click 'Define Location Types' on Home Page)
4. Assign Resources to Location Types (click 'Define Locations Types' on Home Page)
5. Import a list of towns, zip codes, counties, and states into the database

As explained in this section, the first four items can be accomplished using EPRI Web pages that are accessible to EPRI's system administrator (i.e., you must log into the system as the system administrator to do the customization). There are no Web pages for entering the geographic information—a database administrator is expected to import this information into EPRI's database.

The Resource Types, Resources, Location Types, and Resource / Location Type assignments we used in the pilot project are included in both the "live" and "demo" databases. In addition, these data are listed in the Appendix volume.

#### Resources and Resource Types

EPRI has a three-tiered approach to categorizing resources of interest — resource class, resource type, and resource:

- There are four pre-defined *resource classes* — facilities/equipment, personnel, supplies, and yes/no. Resource classes are fixed; they can only be changed by modifying EPRI's computer code.
- The EPRI system administrator can define as many *resource types* as desired. Each resource type belongs to one (and only one) resource class.
- Once resource types are defined, as many *resources* as desired can be assigned to each resource type.

The table below illustrates this three-tiered approach. For each resource class, two resource types are listed, and for each resource type, two resources are listed:

<b>Resource Class</b>	<b>Resource Type Examples</b>	<b>Resource Examples</b>
Personnel	Physicians	<ul style="list-style-type: none"> <li>• Trauma Surgeons</li> <li>• Radiologists</li> </ul>
	RNs	<ul style="list-style-type: none"> <li>• Pediatric RNs</li> <li>• Internal Medicine RNs</li> </ul>
Supplies	Antibiotics	<ul style="list-style-type: none"> <li>• Oral cipro 500MG Doses on Hand</li> <li>• IV Penicillin Doses on Hand</li> </ul>
	Antidotes / Antitoxins	<ul style="list-style-type: none"> <li>• Botulinum Antitoxin 10ML Vials on Hand</li> <li>• Mark-2 Injector Kits on Hand</li> </ul>
Facilities / Equipment	Beds	<ul style="list-style-type: none"> <li>• ICU Beds</li> <li>• Burn Unit Beds</li> </ul>
	Transportation	<ul style="list-style-type: none"> <li>• Helicopters</li> <li>• Buses</li> </ul>
Yes/No	Emergency Response Capability	<ul style="list-style-type: none"> <li>• HAZMAT Response</li> <li>• Bomb Squad</li> </ul>
	Communications Capability	<ul style="list-style-type: none"> <li>• 24-Hour Television Programming</li> <li>• Web site</li> </ul>

The broad diversity of resources in the above table demonstrates why the ability to customize data entry pages for each location type is important—there is no point, for example, in asking any facility other than a hospital how many ICU Beds they have.

The Appendix volume contains the entire resource list; in addition, the resource list is included in the EPRI download package from the AHRQ Web site.

## Resource Class

The resource class determines the specific questions (i.e., data entry fields) on the inventory data entry pages. These questions are grouped into two categories — non-emergency and emergency. During our pilot project, we found this distinction useful for limiting the amount of data that organizations controlling resources had to provide: we told organizations to answer only non-emergency questions and that they would be asked to answer emergency questions only in the event of an actual emergency.

As shown in the table below, the questions also depend on the resource class to which the resource belongs:

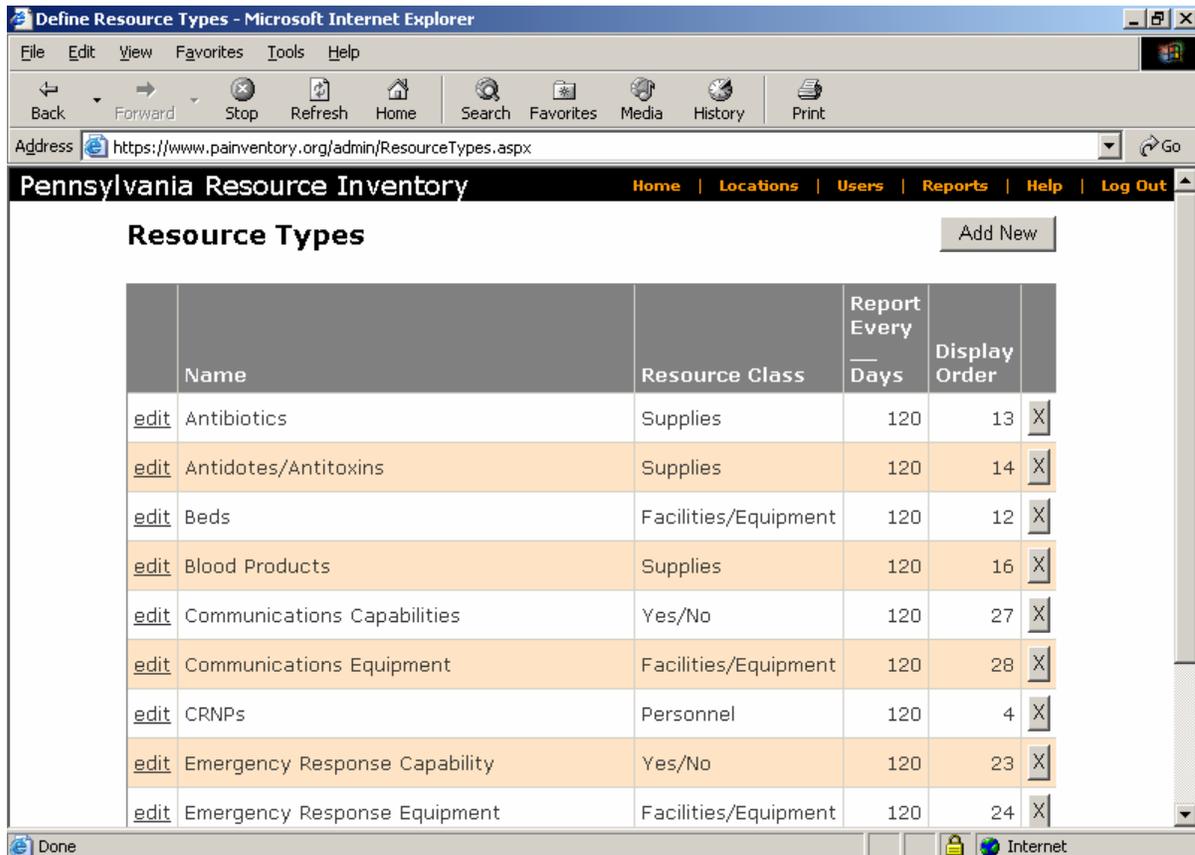
Resource Class	Questions Asked for Each Resource	
	Non-Emergency	Emergency
Facilities/Equipment	<ul style="list-style-type: none"><li>• Total</li><li>• Average Daily Census</li></ul>	<ul style="list-style-type: none"><li>• Total Now</li><li>• Total in 24 Hours</li><li>• Total in 48 Hours</li></ul>
Personnel	<ul style="list-style-type: none"><li>• Total Full Time</li><li>• Total Part Time</li></ul>	<ul style="list-style-type: none"><li>• Available Now</li></ul>
Supplies	<ul style="list-style-type: none"><li>• Total</li></ul>	<ul style="list-style-type: none"><li>• N/A</li></ul>
Yes/No	<ul style="list-style-type: none"><li>• Yes/No</li></ul>	<ul style="list-style-type: none"><li>• N/A</li></ul>

If a system administrator creates a new *resource type*, the resource type must be assigned to one of the above four resource classes.

The distinction between the supplies and facilities/equipment resource classes may not be immediately apparent. We based our decision on whether a resource type belonged to supplies or facilities/equipment on the speed with which the resource could be re-supplied. In general, supplies represent resources that are easily replaceable in a short time period. Bandages, for example, can be ordered and shipped overnight to a hospital; by contrast, delivery time for fire engines is much longer.

## Resource Type

Resource types are groups of similar resources. Resource types are defined on the Resource Types Page (login as the system administrator and click ‘Define Resource Types’). The diagram below shows the Resource Type Page.



	Name	Resource Class	Report Every Days	Display Order	
<a href="#">edit</a>	Antibiotics	Supplies	120	13	X
<a href="#">edit</a>	Antidotes/Antitoxins	Supplies	120	14	X
<a href="#">edit</a>	Beds	Facilities/Equipment	120	12	X
<a href="#">edit</a>	Blood Products	Supplies	120	16	X
<a href="#">edit</a>	Communications Capabilities	Yes/No	120	27	X
<a href="#">edit</a>	Communications Equipment	Facilities/Equipment	120	28	X
<a href="#">edit</a>	CRNPs	Personnel	120	4	X
<a href="#">edit</a>	Emergency Response Capability	Yes/No	120	23	X
<a href="#">edit</a>	Emergency Response Equipment	Facilities/Equipment	120	24	X

Attributes of each resource type are:

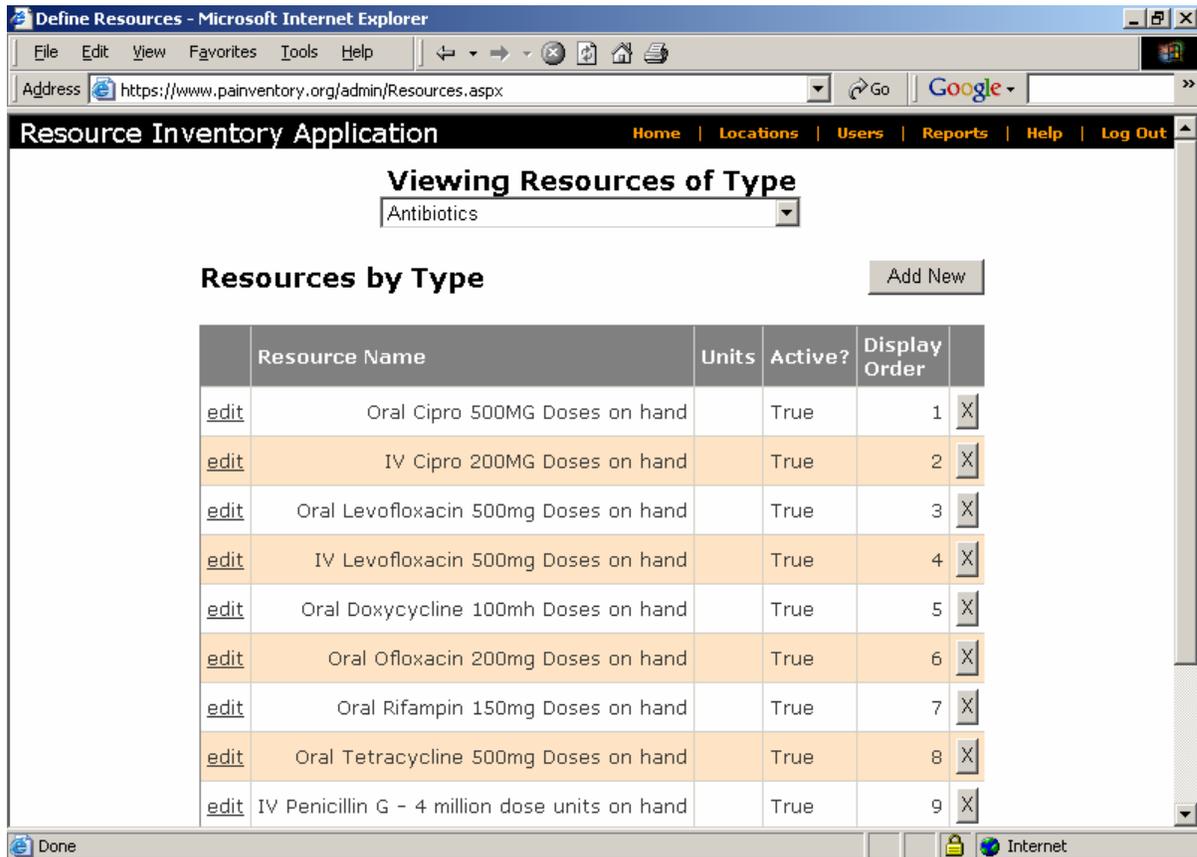
- Name.
- Resource Class. The resource class to which the resource type belongs.
- Report Every \_\_\_ Days. The reporting frequency is used to determine when data are “out of date.” Such data are highlighted on the Location Inventory Report (see Section 6).
- Display Order. The integer in this field controls the ordering of the resource types on the inventory data entry Page for each location.

We defined 29 resource types; as part of the customization process, system administrators can edit, delete, or add to this list.

- Clicking the ‘edit’ link on the far left part of each line enables the system administrator to change the displayed information for the corresponding resource type.
- Clicking the ‘X’ at the far right part of each line deletes the corresponding resource type; this method of deleting objects holds for several other EPRI screens.
- Clicking ‘Add New’ allows the system administrator to add a new resource type.

## Resource

EPRI includes several hundred specific resources (see the Appendix volume for a complete listing of the resources). Resources are defined by selecting ‘Manage Resources’ on the system administrator’s home page. To see the resources defined for a particular resource type, select the desired resource type from the drop down list. The diagram below shows some of the resources assigned to the resource type “antibiotics”:



The screenshot shows a web browser window titled "Define Resources - Microsoft Internet Explorer" displaying the "Resource Inventory Application". The page title is "Viewing Resources of Type" with a dropdown menu set to "Antibiotics". Below this is a table titled "Resources by Type" with an "Add New" button. The table has five columns: "Resource Name", "Units", "Active?", and "Display Order". Each row includes an "edit" link, the resource name, the units (all listed as "on hand"), the active status (all "True"), and the display order (1-9). Each row also has an "X" icon for deletion.

	Resource Name	Units	Active?	Display Order	
<a href="#">edit</a>	Oral Cipro 500MG Doses on hand		True	1	X
<a href="#">edit</a>	IV Cipro 200MG Doses on hand		True	2	X
<a href="#">edit</a>	Oral Levofloxacin 500mg Doses on hand		True	3	X
<a href="#">edit</a>	IV Levofloxacin 500mg Doses on hand		True	4	X
<a href="#">edit</a>	Oral Doxycycline 100mh Doses on hand		True	5	X
<a href="#">edit</a>	Oral Ofloxacin 200mg Doses on hand		True	6	X
<a href="#">edit</a>	Oral Rifampin 150mg Doses on hand		True	7	X
<a href="#">edit</a>	Oral Tetracycline 500mg Doses on hand		True	8	X
<a href="#">edit</a>	IV Penicillin G - 4 million dose units on hand		True	9	X

As shown in the diagram, the attributes of each resource are:

- Resource Name.
- Units (not currently used in EPRI).
- Active. If the status is ‘False’, the resource will not appear on any inventory data entry page.
- Display Order. The integer in this field controls the ordering of the resources on the Inventory data entry page for each location.

System administrators can add a new resource to the current resource type by clicking “Add New”, edit the attributes of the resource by clicking ‘edit’, delete a resource by clicking ‘X’, or select a different resource type from the drop down list.

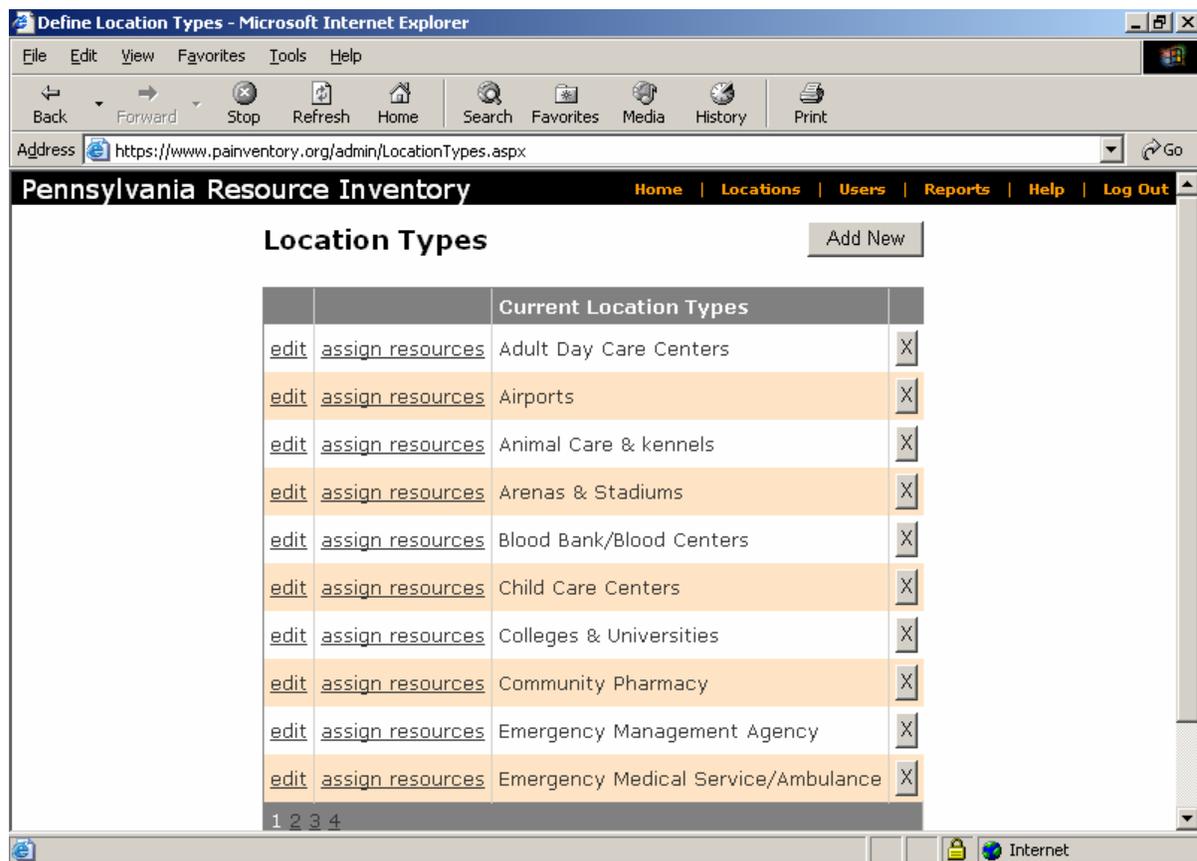
System administrators can view, download to Excel, or print all the resource types and resources by selecting the ‘Resource List’ report on the Reports Page.

## Location Types

Specific locations (i.e., facilities) that control resources are grouped into *location types*. The significance of a location type is that you can create custom data entry pages for specific location types, but not for individual locations (see Section 3.3).

The 33 location types we used in our pilot project are in the Appendix volume. Examples include hospitals, police departments, and emergency management agencies.

The system administrator defines location types by selecting ‘Define Location Types’ on the home page and then clicking “Add New”:



Attributes of each Location Type are:

- Name.
- Assigned Resources. As explained in Section 3.3, clicking the Assign Resources link enables the system administrator to specify the resources that will appear on the inventory data entry pages for all locations that belong to the particular location type.

Location types can be deleted by clicking the ‘X’ to the right of the particular location type.

## Assignment of Resources to Location Types

The Resources by Location Type page is where the system administrator assigns resources to location types, thus creating a custom inventory data entry page for each location type. Without this capability, the data entry pages for each location would list all the resources in the database.

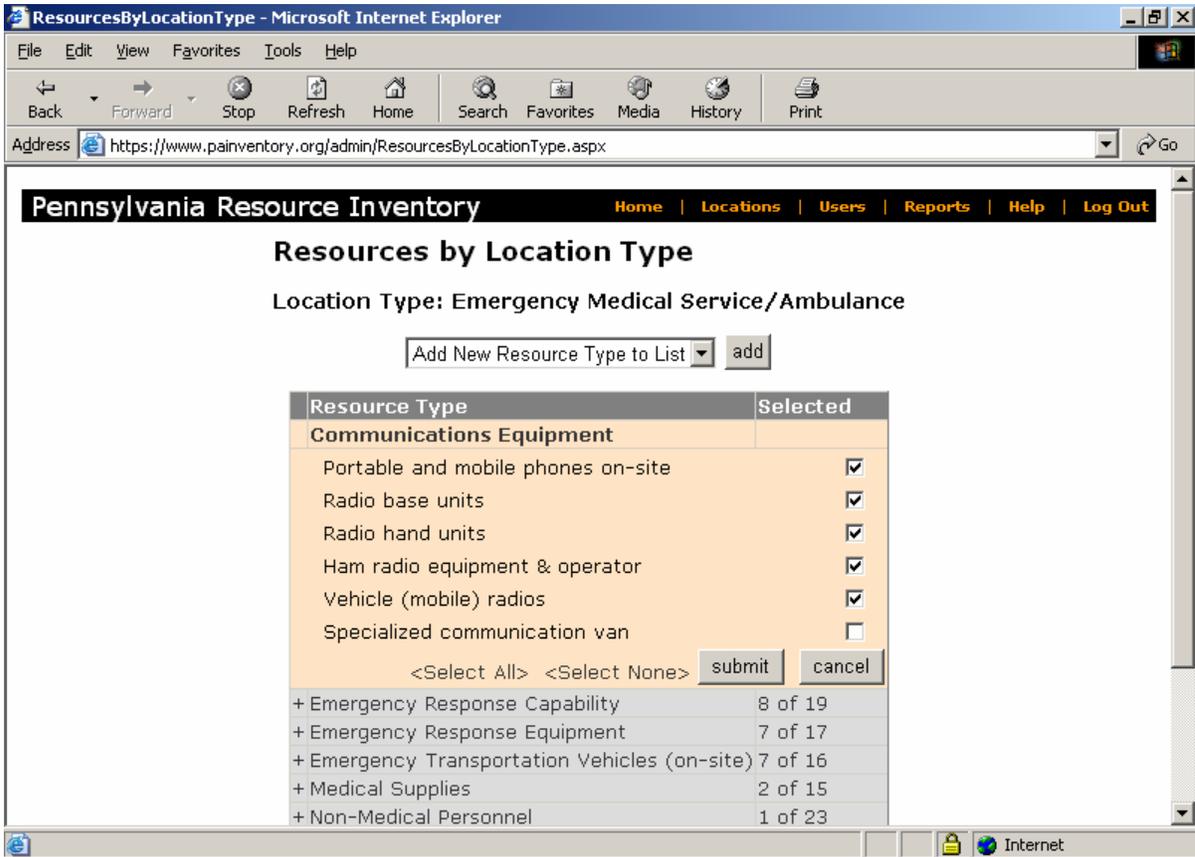
The Resources by Location Type page lists the resource types, as well as the number of specific resources within each resource type, that are currently assigned to the indicated Location Type. For example, the diagram below shows the resource types currently assigned to the location type “Emergency Medical Service / Ambulance,” as well as the number of resources within each resource type that are assigned (e.g., 5 of the 6 resources within the Communications Equipment resource type are assigned to this location type).

The screenshot shows a web browser window titled "ResourcesByLocationType - Microsoft Internet Explorer". The address bar shows the URL: <https://www.painventory.org/admin/ResourcesByLocationType.aspx>. The page content includes a navigation menu with links for Home, Locations, Users, Reports, Help, and Log Out. The main heading is "Resources by Location Type" and the sub-heading is "Location Type: Emergency Medical Service/Ambulance". Below this is a form with a dropdown menu labeled "Add New Resource Type to List" and an "add" button. A table displays the following data:

Resource Type	Selected	
+ Communications Equipment	5 of 6	X
+ Emergency Response Capability	8 of 19	X
+ Emergency Response Equipment	7 of 17	X
+ Emergency Transportation Vehicles (on-site)	7 of 16	X
+ Medical Supplies	2 of 15	X
+ Non-Medical Personnel	1 of 23	X
+ Other Medical Personnel	1 of 9	X
+ Paramedics & EMTs	2 of 2	X
+ Transportation	5 of 14	X

Additional resource types can be assigned to the location type by selecting the desired resource type from the drop down list and clicking 'Add'.

Clicking the plus (+) sign next to a resource type displays all the resources assigned to the resource type and whether or not each resource has been assigned to the location type. For example, clicking the plus sign next to the “Communications Equipment” resource type shows the following screen:



The diagram shows the specific resources within the Communications Equipment resource type that have been assigned to Emergency Medical Service/Ambulance location type.

Examples of the location type / resource assignments we used in the pilot test are contained in the Appendix volume.

## Geography

Part of the customization process involves specifying the cities, counties, states, and zip codes in the area for which inventory information are being collected (i.e., the target area). EPRI uses this geographic information in two ways. When a new location is entered (see Section 4.2), the location's city, county, state, and zip code is selected from pre-populated (via the customization process) drop down lists. In addition, the list of cities is used to generate a report that shows resources within a certain distance of a city (see Section 6).

The system administrator must obtain and import directly into EPRI's SQL database specific information about cities, counties, states, and zip codes located in the target area (e.g., in our case, an eight-county area of east central Pennsylvania). The figure below shows the structure of the tables in the SQL database that contain this imported geographic information.

Table Name	Column Name	Data Type	Comment
City	id	Integer (4 bytes)	Primary Key
	Name	Character (50 bytes)	This name will appear in EPRI drop down lists
	Population	Integer (4 bytes)	Not currently used
	SquareMiles	Float (8 bytes)	Not currently used
	Latitude	Float (8 bytes)	Must be in decimal degrees (e.g., 40.807142). A city's latitude and longitude is used in EPRI reports that show where resources are located within a specified distance of a city.
	Longitude	Float (8 bytes)	Must be in decimal degrees (e.g., -71.451875)
County	id	Integer (4 bytes)	Primary Key
	Name	Character (50 bytes)	This name will appear in EPRI drop down lists
	Code	Character (10 bytes)	The two digit State FIPS code followed by the three digit county FIPS code (e.g., "42080") <sup>1</sup> . This code is required to implement EPRI's mapping feature (see Section 3.5).
	Stateid	Integer (4 bytes)	A link to the id field in the states table. Populate the State table first in order to get the value for the Stateid field.
	Population	Integer (4 bytes)	Used to compute per-capita calculations in county-based reports
	SquareMiles	Float (8 bytes)	Not currently used
	Latitude	Float (8 bytes)	Not currently used
	Longitude	Float (8 bytes)	Not currently used
	Minx	Float (8 bytes)	Filled in automatically by EPRI
	Maxx	Float (8 bytes)	Filled in automatically by EPRI
	Miny	Float (8 bytes)	Filled in automatically by EPRI
	Maxy	Float (8 bytes)	Filled in automatically by EPRI

<sup>1</sup> A list of FIPS codes, by county, is at <http://www.itl.nist.gov/fipspubs/co-codes/states.htm>

Table Name	Column Name	Data Type	Comment
State	id	Integer (4 bytes)	Primary Key
	Name	Character (50 bytes)	This name will appear in EPRI drop down lists
Zip Code	code	Character (10 bytes)	Primary Key; name will appear in EPRI drop down lists
	Population	Integer (4 bytes)	Not currently used
	SquareMiles	Float (8 bytes)	Not currently used
	Latitude	Float (8 bytes)	Must be in decimal degrees. By default, a location's latitude and longitude (see Section 4.2) is set equal to the latitude and longitude of the zip code assigned to the location.
	Longitude	Float (8 bytes)	Must be in decimal degrees

Of these data, the most problematic to obtain are lists of cities and zip codes, together with their latitudes and longitudes.<sup>2</sup> There are three major sources of these data.

- System administrators should first check with *agencies within their state* (e.g., a state planning agency) to determine if they can provide these data.
- Another data source is *commercial GIS (geographic information system) software*. Latitude and longitude data for cities, counties, and zip codes are routinely included with commercial GIS packages (e.g., those from ESRI or MapInfo) and can be easily exported to a format (e.g., ASCII) that in turn can be imported into EPRI's SQL database (assuming, of course, that this is consistent with the GIS package's licensing agreement).
- Finally, these data are available on-line, free of charge from the *U.S. Census Bureau*, as described on the next page.

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<sup>2</sup> In EPRI geographic calculations, cities and zip codes are represented as "point objects" – their latitudes and longitudes should therefore correspond to the latitude and longitude of their centroid.

## Obtaining Geographic Data from the Census Bureau Web Site

The steps for obtaining EPRI geographic data from the U.S. Census Bureau are explained below via a series of screen shots taken from the Census Bureau's Web site.

Note that the Census Bureau also makes these geographic data available on CD and DVD. The CDs generally cover one state at a time and cost \$50 each; alternatively, one DVD includes the entire country and costs \$70. See the Census Bureau Web site for more information on ordering "Census 2000 Summary File 1" data.<sup>3</sup>

**Step 1:** Go to the Census Bureau's main data page at <http://factfinder.census.gov>

**Step 2:** On the left hand side of the main data page, click 'Data Sets', which displays the 'Data Sets' Web page shown below.

On this Web page:

- Select 'Census 2000 Summary File 1 (SF-1) 100-Percent Data'
- Click 'Custom Table' on the right hand side of the page. This displays the 'Select Geography' page (see Step 3).

**Data Sets - American FactFinder - Microsoft Internet Explorer**

Address: [http://factfinder.census.gov/servlet/DatasetMainPageServlet?\\_program=DEC&\\_lang=en&\\_ts=...](http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=DEC&_lang=en&_ts=...)

**U.S. Census Bureau American FactFinder**

Main Search Feedback FAQs Glossary Site Map Help

**Data Sets**

You are here: [Main](#) > [All Data Sets](#) [Load Query](#) | [Clear all selections](#)

Select a program

**Decennial Census** Decennial Supplementary Survey American Community Survey Economic Censuses and Surveys Population Estimates

The Decennial Census occurs every 10 years, in years ending in zero, to count the population and housing units for the entire United States. Its primary purpose is to provide the population counts that determine how seats in the U.S. House of Representatives are apportioned. [more...](#)

**Other Resources**

- [Census 2000 Gateway](#)
- [Census 2000 Release Schedule](#)
- [Census 2000 Notes and Errata \(PDF - 3.0 MB\)](#)
- Download data sets via [FTP](#)

**2000**

**Census 2000 Summary File 1 (SF 1) 100-Percent Data**

Summary File 1 presents counts and information [age, sex, race, Hispanic/Latino origin, household relationship, whether residence is owned or rented] collected from all people and housing units.

**Census 2000 Summary File 2 (SF 2) 100-Percent Data**

Population and housing characteristics iterated for many detailed race and Hispanic or Latino categories, and American Indian and Alaska Native tribes.

[SF 2 Thresholds](#)

Select from the following options:

- [Detailed Tables](#)
- [Geographic Comparison Tables](#)
- [Quick Tables](#)
- [Thematic Maps](#)
- [Reference Maps](#)
- [Custom Table](#)
- [Enter a table number](#)
- [List all tables](#)

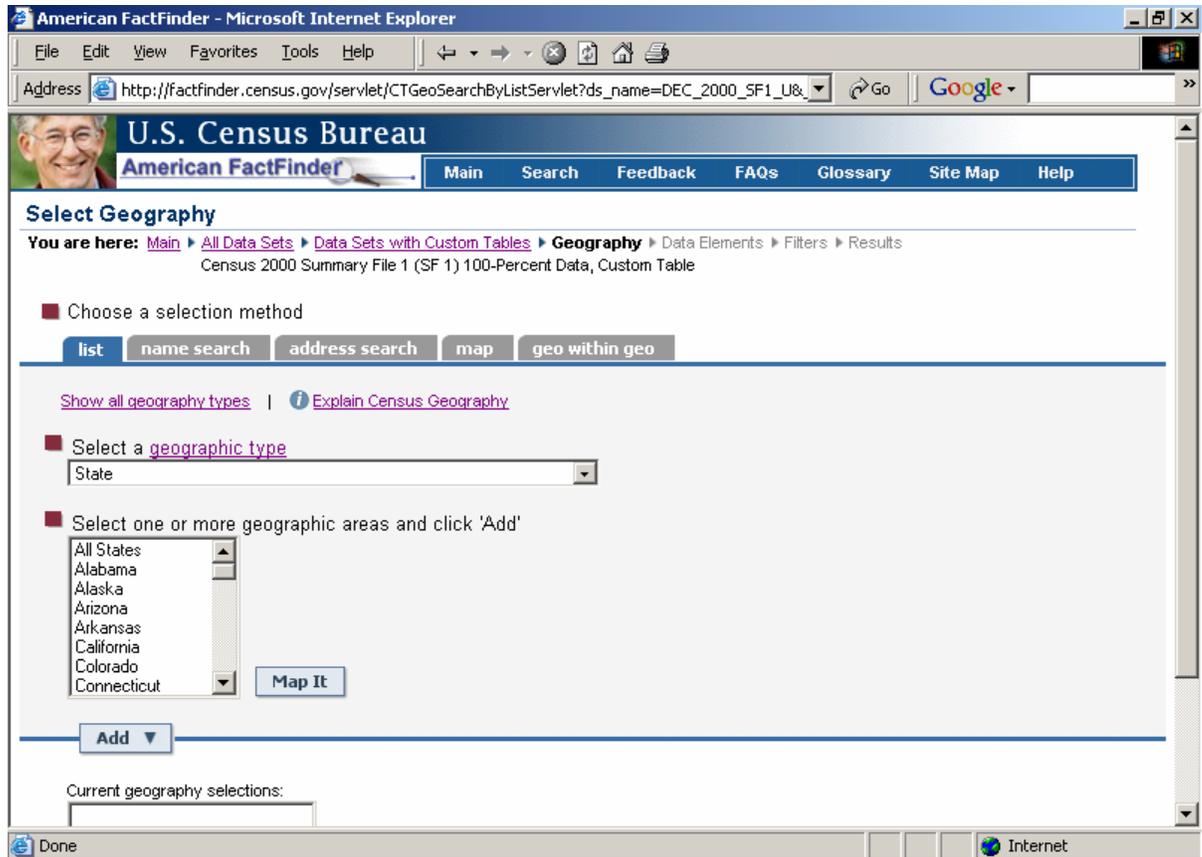
javascript:gotoPage('CTGeoSearchByListServlet', 'DEC\_2000\_SF1\_U')

<sup>3</sup> <http://www.census.gov/mp/www/Tempcat/SF1.html>

**Step 3:** The 'Select Geography' Web page, shown below, is used to select the type of geographic information and the specific geographic areas desired.

On the Select Geography Web page:

- Select 'County Subdivision' from the 'Select a geographic type' dropdown to obtain city information. Alternatively, select '5-digit zip codes' to obtain zip code information.
- Selecting 'County Subdivision' adds two more drop down lists to the Select Geography Web page (see Step 4).



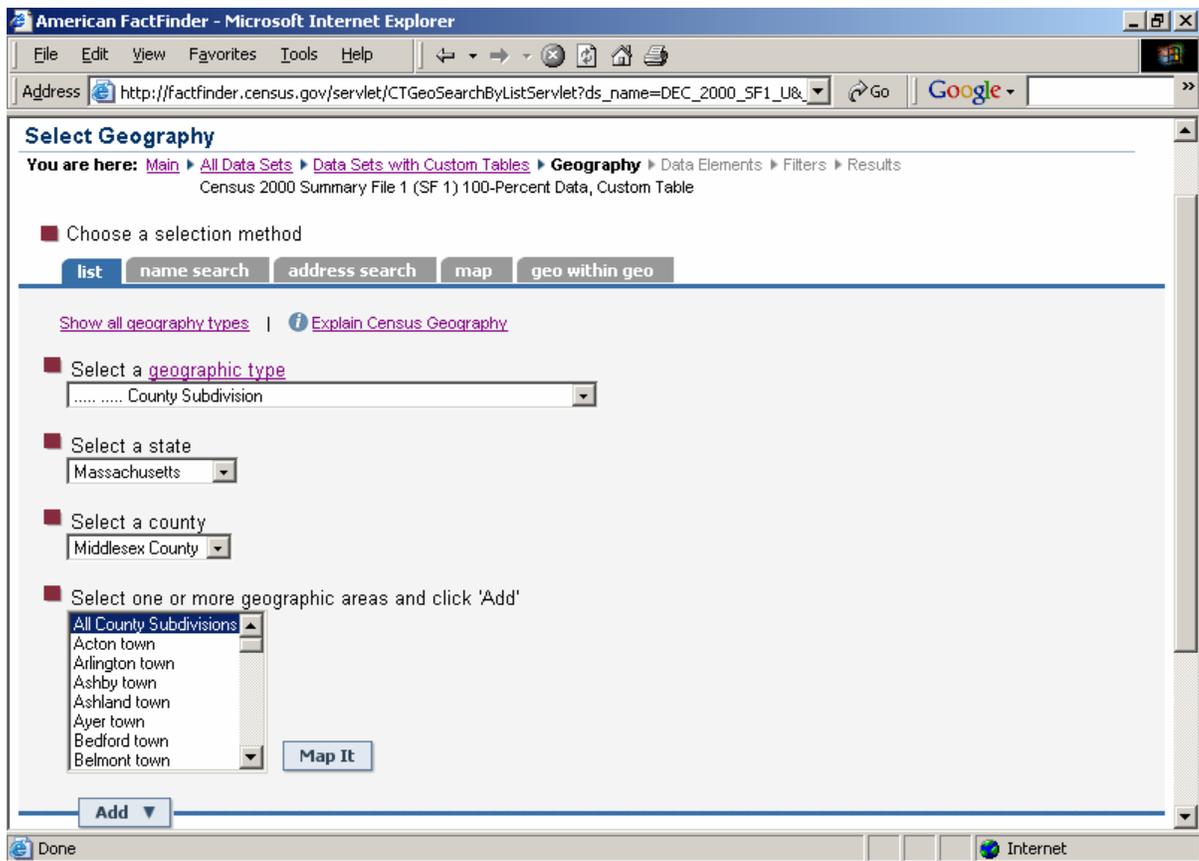
**Step 4:** On the ‘Select Geography’ Web page, continue specifying the geographic area of interest by:

- Selecting a state
- Selecting a county
- Selecting ‘All County Subdivisions’
- Clicking ‘Add’

**Note:** More than one county (in the same state or a different state) can be selected—after clicking ‘Add’ for the first county, select another county, then select ‘All County Subdivisions’, and then click ‘Add’ again.

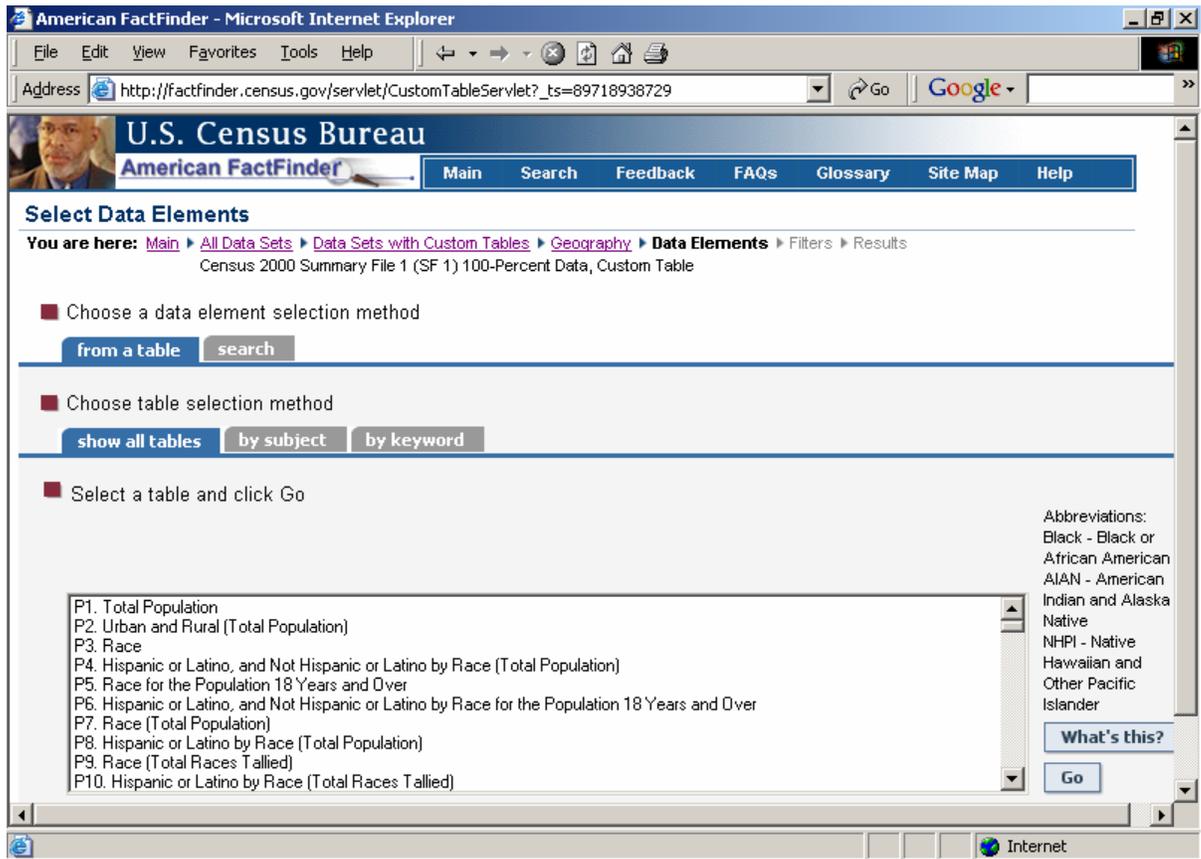
After you have selected the desired County Subdivisions:

- Click ‘Next’ at the bottom of the Select Geography Web page. This displays the ‘Select Data Elements’ Web page (see Step 5).

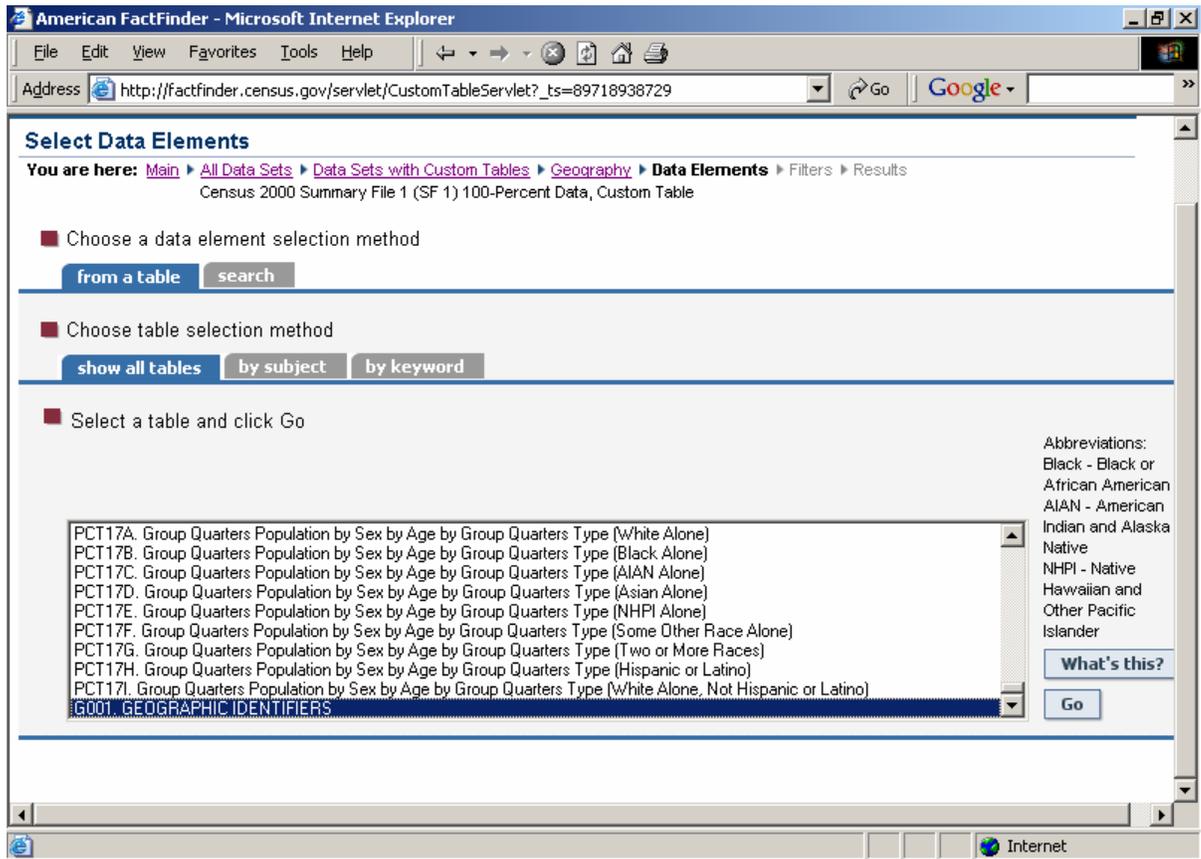


**Step 5:** The ‘Select Data Elements’ Web page is used to select the specific data elements you want (i.e., the name, latitude, and longitude).

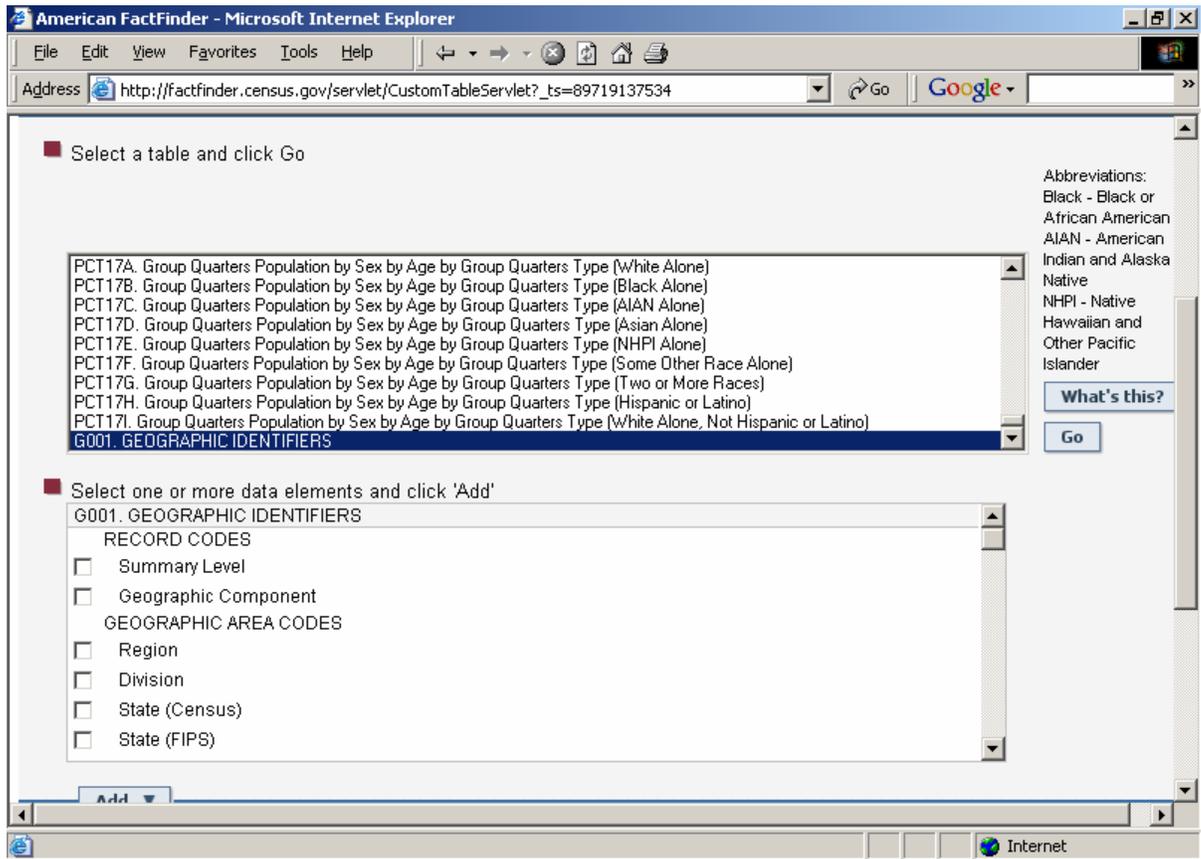
On the Select Data Elements Web Page, scroll to the bottom of the list of tables and select ‘G001. Geographic Identifiers’ (see Step 6).



**Step 6:** On the ‘Select Data Elements’ Web page select “G001. Geographic Identifiers” at the bottom of the list and then click ‘Go’ (see Step 7).

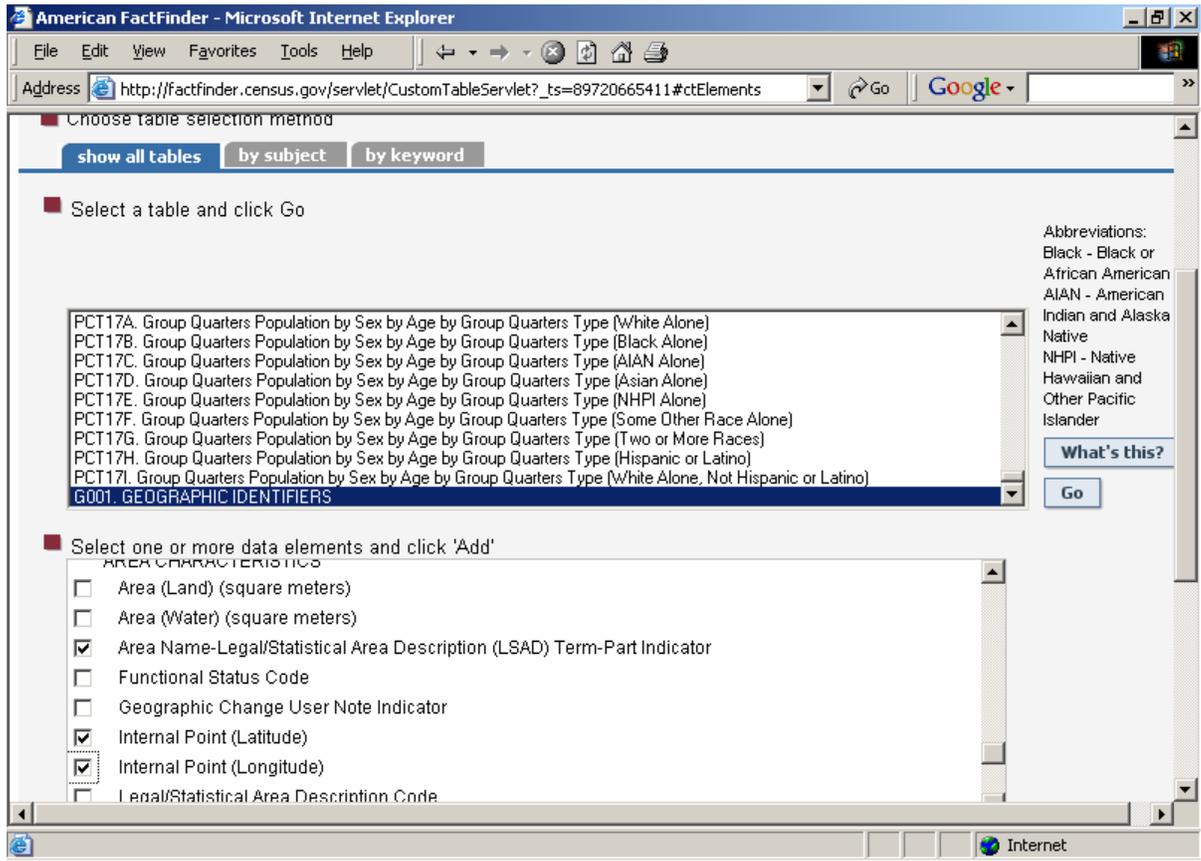


**Step 7:** Clicking 'Go' at the bottom of the 'Select Data Elements' Web page (Step 6) opens another scroll list below the list of tables which shows the specific data elements for the selected table.

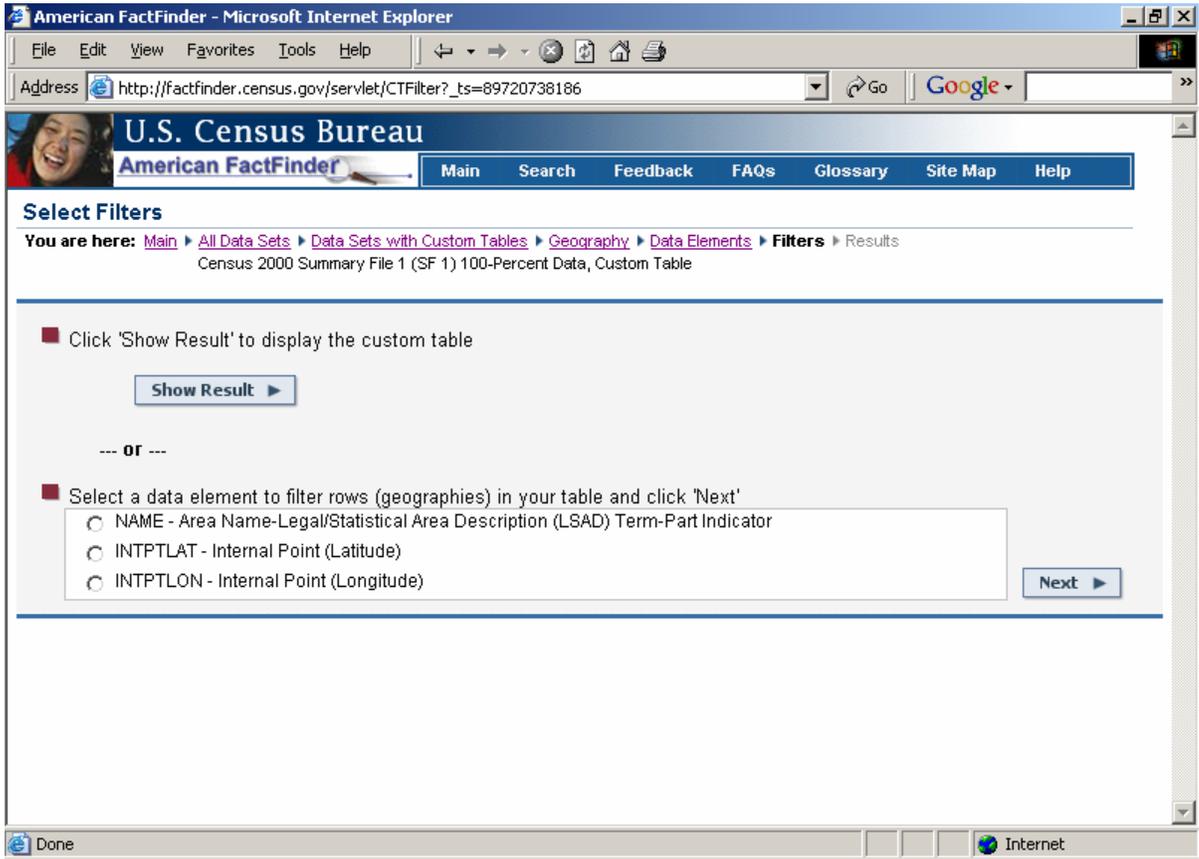


**Step 8:** Scroll down the ‘Select one or more data elements’ list and

- Select ‘Area Name’, ‘Internal Point (Latitude)’ and ‘Internal Point (Longitude)’ (i.e., the items needed for EPRI’s ‘City’ table)
- Click ‘Add’ (underneath the ‘Select one or more data elements’ list)
- Click ‘Next’ in the bottom right corner of the page. This displays the ‘Select Filters’ Web page shown in Step 9.



**Step 9:** On the Select Filters Web page, click 'Show Result'. This displays the page shown in Step 10.



**Step 10:** The 'Custom Table' Web page shows the requested data. To export these data, select 'Download' from the Print/Download menu bar. This displays the page shown in Step 11.

**Custom Table - American FactFinder - Microsoft Internet Explorer**

Address: [http://factfinder.census.gov/servlet/CTTable?\\_lang=en&\\_ts=89720759036](http://factfinder.census.gov/servlet/CTTable?_lang=en&_ts=89720759036)

**U.S. Census Bureau**  
American FactFinder

Main Search Feedback FAQs Glossary Site Map Help

**Custom Table**

You are here: [Main](#) > [All Data Sets](#) > [Data Sets with Custom Tables](#) > [Geography](#) > [Data Elements](#) > [Filters](#) > [Results](#)

Use the links above to change your results | **Options** | **Print / Download**

Data Set: [Census 2000 Summary File 1 \(SF 1\) 100-Percent Data](#)

Result contains 54 rows.

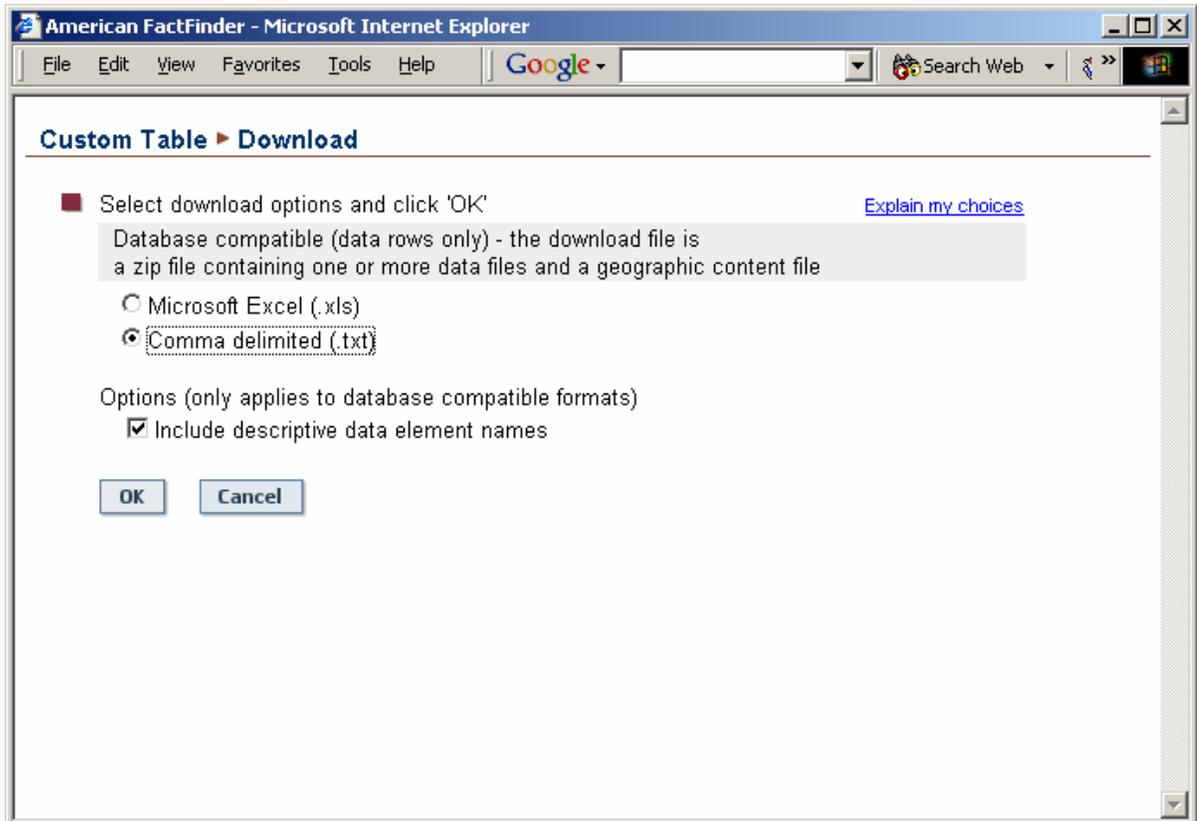
rows **1-54**

	NAME	INTPTLAT	INTPTLON
	Area Name-Legal/Statistical Area Description (LSAD) Term-Part Indicator	Internal Point (Latitude)	Internal Point (Longitude)
Acton town, Middlesex County, Massachusetts	Acton town	+42477142	-071442205
Arlington town, Middlesex County, Massachusetts	Arlington town	+42417896	-071165722
Ashby town, Middlesex County, Massachusetts	Ashby town	+42672005	-071813707
Ashland town, Middlesex County, Massachusetts	Ashland town	+42257956	-071458867
Ayer town, Middlesex County, Massachusetts	Ayer town	+42559006	-071576106
Bedford town, Middlesex County, Massachusetts	Bedford town	+42496679	-071275046
Belmont town, Middlesex County, Massachusetts	Belmont town	+42391546	-071174712

javascript:openDownloadWindow('CTDownload','\_lang=en') | Internet

**Step 11:** At this point, you have the option of saving the data in either Excel or comma delimited format.

When you click ‘OK’ on the Download page, the data are downloaded to your PC in a zip file, which actually contains two data files — labeled “geo” and “data.” The “data” file contains the three requested data elements (Name, Latitude, and Longitude), in addition to three other identifiers that are automatically added (and can be discarded). Prior to importing these data into the EPRI SQL database, you will need to transform the latitude / longitude figures from integer format (e.g., 42477142) to decimal degree format (e.g., 42.477142) by dividing the values by 1,000,000.



## Mapping Setup

Users who want to display the location of resources entered into EPRI on digital maps have two options.

The first option is to use a commercial mapping package (separate from EPRI), such as ArcView or MapInfo. Using these packages, you can either link directly to EPRI's SQL database or export the SQL database to Microsoft Access and then link to the Access database. To do the latter option, you can run the "Export Access Database" report available on the Reports Menu (see Section 6) to create the Access database. With this option you must provide the maps (e.g., street, county, state) on to which the resource locations are plotted.

The second option is to use EPRI's mapping capabilities. As explained more fully in Section 6.2, with EPRI you can:

- Create a map showing the location of resources within a certain distance of a town.
- Overlay demographic data on a map of the location of resources, so that you can study the relationship between resource locations and, say, population.
- Obtain a map showing the route between a town and a location housing a particular resource.
- Obtain driving directions between a town and a resource location, including the estimated travel time.
- Create a map showing the relative resource levels by county.

You do not have to supply any digital base maps (e.g., street, county, state) of your area to use the EPRI mapping features. Based on the parameters specified by the user on EPRI's map Web pages, EPRI retrieves the appropriate maps from an external Web site hosted by ESRI ([www.esri.com](http://www.esri.com)), a leading supplier of geographic information systems software and data.<sup>4</sup>

EPRI can only retrieve the base maps (and obtain other map services, such as geocoding and driving directions) from ESRI if EPRI's ESRI account listed in the EPRI configuration file (see the installation instructions in the Appendix) is active. At a minimum, this account will be active for all EPRI sites until November 2004. Visit the AHRQ web site ([www.ahrq.gov/browse/bioterbr.htm](http://www.ahrq.gov/browse/bioterbr.htm)) or contact Abt Associates for the status of this account after that date. Individual sites using EPRI can also purchase their own ESRI subscription after November 2004; in Spring 2004, a one-year subscription (or 100,000 transactions, whichever comes first) costs \$1,250.<sup>5</sup>

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<sup>4</sup> To do this, EPRI uses the FIPS code of the counties in your target area; these codes are listed in the County table of the EPRI SQL database, as explained in Section 3.4.

<sup>5</sup> For more information see <http://www.esri.com/software/arcwebservices/developers/index.html>.

## 4. User Registration Process

Before explaining in Sections 4.3 and 4.4 how to provide authorized users with access to EPRI, two EPRI constructs must be explained: organizations (Section 4.1) and locations (Section 4.2). In brief:

- There is a many-to-one relationship between locations and organizations (i.e., an organization can have multiple locations associated with it; a location is associated with one and only one organization)
- There is a many-to-one relationship between users and organizations (i.e., an organization can have multiple users associated with it; a user is associated with one and only one organization)

Various organization / location / user configurations can be set up in EPRI.

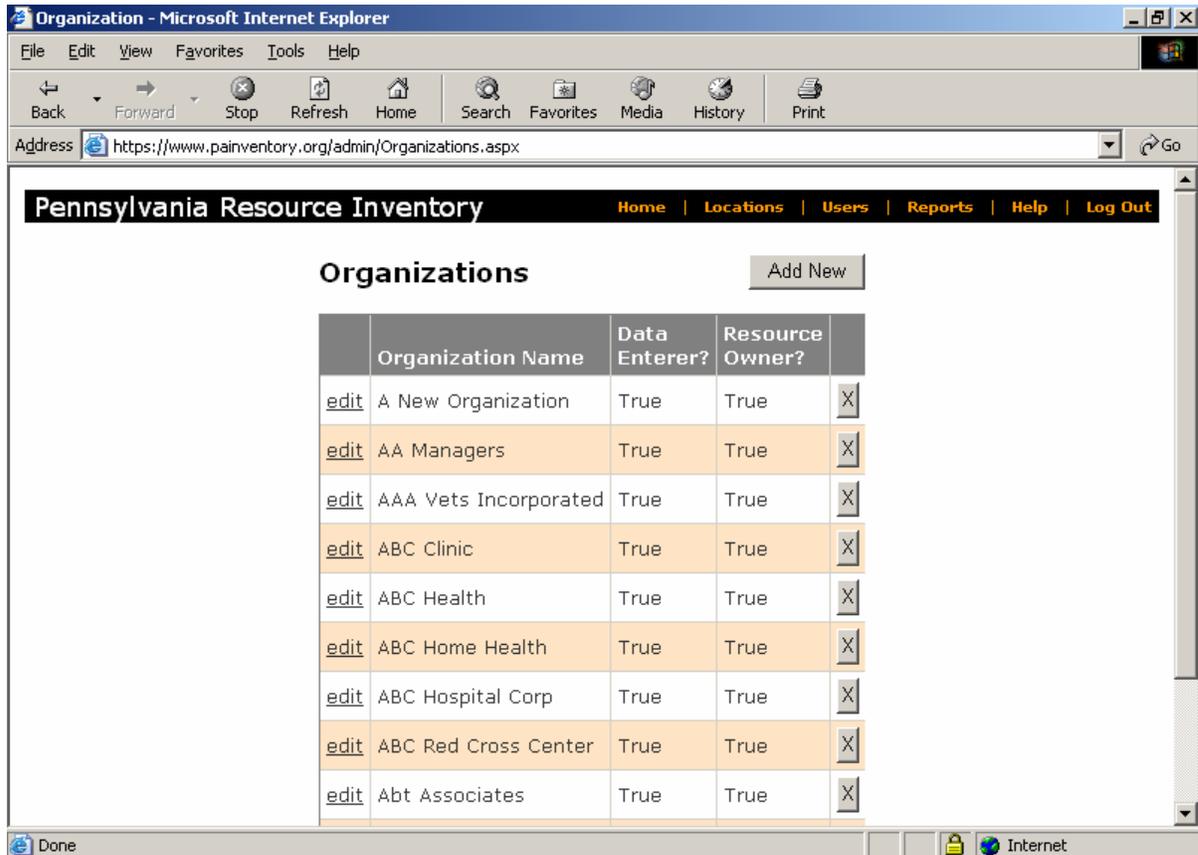
- An organization can control resources at a single location and have one user responsible for entering inventory data. This is the most common circumstance.
- An organization can control resources at multiple locations and have one user responsible for entering inventory data for all the locations. For example, a fire department may have three fire stations, but one person at the main headquarters enters data for all three.
- An organization can control resources at multiple locations and have multiple persons with data entry responsibility. To continue the example, each of the three fire stations may instead designate their own data entry person.
- An organization can control resources at one (or multiple) locations but not have any users of the system. In this case, the organization administering EPRI will do data entry for this organization. If none of the fire stations has Internet access, data forms will need to be faxed out; EPRI staff will do the data entry upon receiving the faxes back from the fire stations.
- An organization does not control any resources; users associated with this organization only run reports. For example, the director of planning for a state office of homeland security may wish to run reports, but his/her office building (location) has no resources to offer for emergency response.

Organizations, locations, and users can be added to EPRI in two different ways:

1. There are separate Web pages for organizations, locations, and users. Each Web page has an 'add and delete' function.
2. In the case of an organization that has a single location and a single user (a common situation in our pilot project), the system administrator can use a "registration wizard" to add the new organization, location, and user (see Section 4.4).

## Organizations

The system administrator can add (by clicking “Add New”) and delete (by clicking an ‘X’) organizations on the Organization Page, which is accessible by clicking ‘Manage Organizations’ on the system administrator’s home page<sup>6</sup>:



The attributes of each organization are:

- Organization Name.
- Data Enterer? A Yes/No field indicating whether the organization will be entering data on the resources they control. In our pilot project, some organizations controlling resources did not have Internet access, so we entered data for them.
- Resource Owner? A Yes/No field indicating whether the organization controls resources. As noted earlier in this section, an organization may have users that only access reports.

<sup>6</sup> All organization, location, and user names in the screen shots are fictitious.

## Locations

After an organization has been defined, locations associated with the organization can be entered. Location information can be entered by using either:

- The Location page (accessible by clicking “Locations” on the top menu bar or by clicking “Manage Locations” on the system administrator’s home page)
- The registration wizard (accessible by clicking “New Location/User Wizard” on the system administrator’s home page). The wizard is discussed in Section 4.4.

System administrators can add new locations. In addition, the Data Manager associated with an organization (see the discussion of “Input Roles” in Section 4.3) can add a new location that is associated with his/her organization.

The system administrator can see a list of all locations that have been entered on the Location Page:

The screenshot shows the 'Locations' page in a Microsoft Internet Explorer browser. The address bar shows 'https://www.painventory.org/common/Locations.aspx'. The page title is 'Pennsylvania Resource Inventory'. Below the title, there are navigation links for 'Home' and 'Locations'. A search bar is present with 'Location Type' and 'County' dropdown menus, both set to 'No Filter', and a 'Results per page' dropdown set to '10'. A 'submit' button is next to the search bar. Below the search bar is a table with the following data:

Enter Inventory	Name	Location Type	Organization	City	County	Active	% complete*		
Inventory	<a href="#">A Bee Sees</a>	Animal Care & kennels	AAA Vets Incorporated			True	71.4%	X	<input type="checkbox"/>
Inventory	<a href="#">AA Nursing Home</a>	Nursing Home	AA Managers	Montoursville borough	Lycoming	True	0%	X	<input type="checkbox"/>
Inventory	<a href="#">AAA Health care</a>	Home Health Agency	ABC Health	Lafin borough	Luzerne	True	0%	X	<input type="checkbox"/>
Inventory	<a href="#">AAA Police Department</a>	Law Enforcement	A New Organization	Kelly township	Luzerne	True	0%	X	<input type="checkbox"/>
Inventory	<a href="#">AAA Vet Clinic</a>	Animal Care & kennels	AAA Vets Incorporated	Montoursville borough	Lycoming	True	0%	X	<input type="checkbox"/>
Inventory	<a href="#">ABB Vet Clinic</a>	Animal Care & kennels	AAA Vets Incorporated	Montoursville borough	Lycoming	True	0%	X	<input type="checkbox"/>
Inventory	<a href="#">Abbot Vet Clinic</a>	Animal Care & kennels	AAA Vets Incorporated	Madison township	Montour	True	0%	X	<input type="checkbox"/>

The attributes of each location are:

- Name.
- Location Type. The drop down list contains all the location types entered on the Location Type Page (see Section 3.2).
- Organization Entering Data. Typically, this is the same as the organization that controls the resources, but another organization can also be specified (e.g., if an organization does not

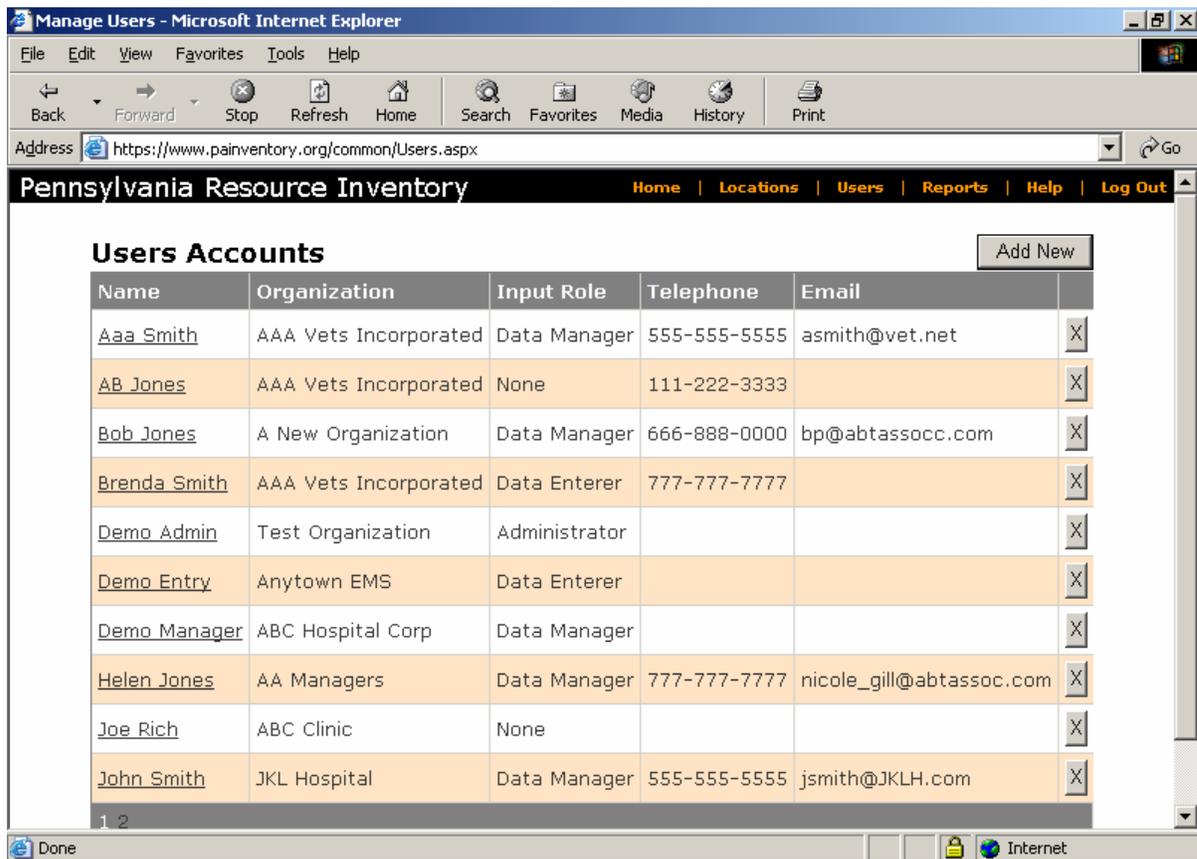
- have Internet access, the system administrator's organization would likely be specified as the Organization Entering Data). When logged in as the system administrator, the drop down list contains all the organizations entered on the Organization Page (see Section 3.1); when logged in as an organization's data manager (see Section 4.3), the drop down list only contains the data manager's organization.
- Organization Controlling Resources. When logged in as the system administrator, the drop down list contains all the organizations entered on the Organization Page (see Section 3.1); when logged in as an organization's data manager (see Section 4.3), the drop down list only contains the data manager's organization.
  - Address.
  - City. The drop down list contains all the cities imported into the database (see Section 3.4).
  - State. The drop down list contains all the states imported into the database (see Section 3.4).
  - Zip Code. The drop down list contains all the zip codes imported into the database (see Section 3.4).
  - County. The drop down list contains all the counties imported into the database (see Section 3.4).
  - Latitude / longitude. The latitude and longitude fields can be specified in three different ways:
    - If EPRI's subscription account with the Web Services vendor ESRI is active (see Section 3.5), ESRI will return the latitude and longitude associated with the location's address (assuming it is a valid address) when the user clicks the "Get Latitude and Longitude" button.
    - If EPRI's ESRI account is not active, but, as part of the setup and customization process, latitude and longitude data were imported into the zip code table (see Section 3.4), the latitude and longitude values of the location are set equal to the latitude and longitude of the location's zip code once the user clicks the "Get Latitude and Longitude" button.
    - If more precise latitude and longitude values are known for the location, the user can enter these values directly on the Location page.
  - Emergency Contact Name / Phone / Fax / Email. Each location can have an emergency contact person. In our pilot project, this person was typically not a user of EPRI, but rather someone who could be contacted on short notice at the location.
  - Active? Indicates whether the location is currently active in EPRI. This field is not currently used.
  - % complete. The Location Page contains a computed field that equals the percentage of non-emergency data entry fields filled in divided by the total number of non-emergency data entry fields for this location.
  - Check box. At the end of each line on the Location Page is a check box that is used to select locations to which to send an Email (see Section 7.1).

## Users and User Roles

After an organization has been defined, users associated with the organization can be entered. User information can be entered by using either:

- The User page (accessible by clicking “Users” on the top menu bar or by clicking “Manage Users” on the system administrator’s home page).
- The registration user (accessible by clicking “New Location/User Wizard” on the system administrator’s home page — see Section 4.4).

The system administrator can display a list of all users that have been entered on the User Page:



Name	Organization	Input Role	Telephone	Email	
<a href="#">Aaa Smith</a>	AAA Vets Incorporated	Data Manager	555-555-5555	asmith@vet.net	X
<a href="#">AB Jones</a>	AAA Vets Incorporated	None	111-222-3333		X
<a href="#">Bob Jones</a>	A New Organization	Data Manager	666-888-0000	bp@abtassoc.com	X
<a href="#">Brenda Smith</a>	AAA Vets Incorporated	Data Enterer	777-777-7777		X
<a href="#">Demo Admin</a>	Test Organization	Administrator			X
<a href="#">Demo Entry</a>	Anytown EMS	Data Enterer			X
<a href="#">Demo Manager</a>	ABC Hospital Corp	Data Manager			X
<a href="#">Helen Jones</a>	AA Managers	Data Manager	777-777-7777	nicole_gill@abtassoc.com	X
<a href="#">Joe Rich</a>	ABC Clinic	None			X
<a href="#">John Smith</a>	JKL Hospital	Data Manager	555-555-5555	jsmith@JKLH.com	X

The majority of the attributes of each user are self-explanatory, including name, Email address, telephone, fax, mailing address, city, state, and zip code. Attributes of particular note are:

- Username. The username can be up to 20 characters in length.
- Password. The password can be up to 16 characters in length. Note that the password is stored in an encrypted form in the SQL database. If a user forgets their password, the system administrator must create a new password for them, tell them (by phone or Email) what the new password is, and ask them to log in to the system and change their password.
- Organization. When logged in as the system administrator, the drop down list contains all the organizations entered on the Organization Page (see Section 3.1); when logged in as an

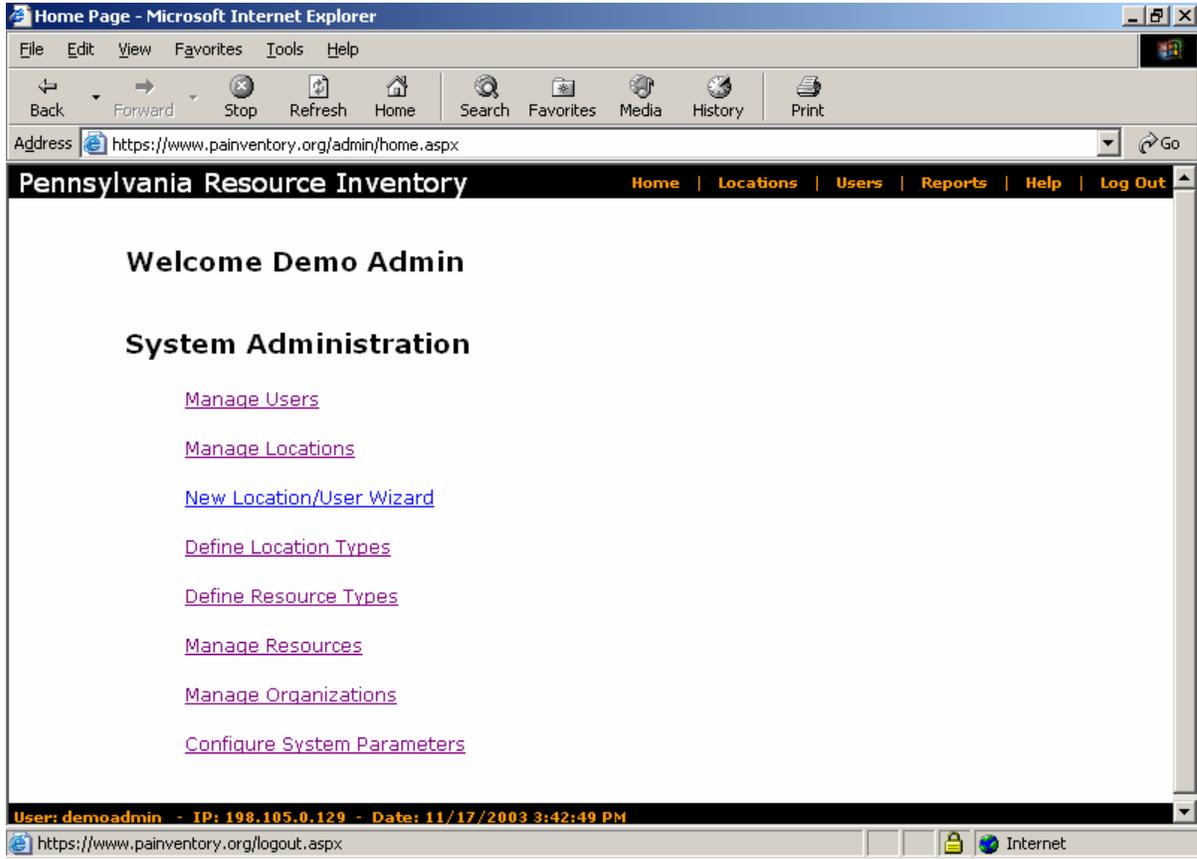
organization's data manager, the drop down list only contains the data manager's organization.

- **Input Role.** The input role controls the user's access to EPRI's data entry functions. There are four input roles:
  - *Administrator.* The system administrator has access to all data entry functions — i.e., they can add, edit, and delete resources, resource types, location types, locations, organizations, users, and inventory levels.
  - *Data Manager.* Each organization has one data manager. The data manager can add, edit, and delete locations and users associated with their organization, as well as inventory data for any of the organization's locations.
  - *Data Enterer.* Data entry staff for an organization can only enter inventory data for locations associated with their organization.
  - *None.* A user — particular persons who will only be running reports — can be denied access to all data entry functions
- **Output Role.** The output role controls the user's access to reports. There are five output roles — Levels 1 thru 4 and 'None.' A Level 4 output role means that the user has access only to those reports that the system administrator has defined as Level 4 reports; a Level 3 output role provides access to Level 3 and 4 reports, and so on. In our pilot test, only the system administrator had Level 1 access. Procedures for controlling access to reports are discussed in Section 6.

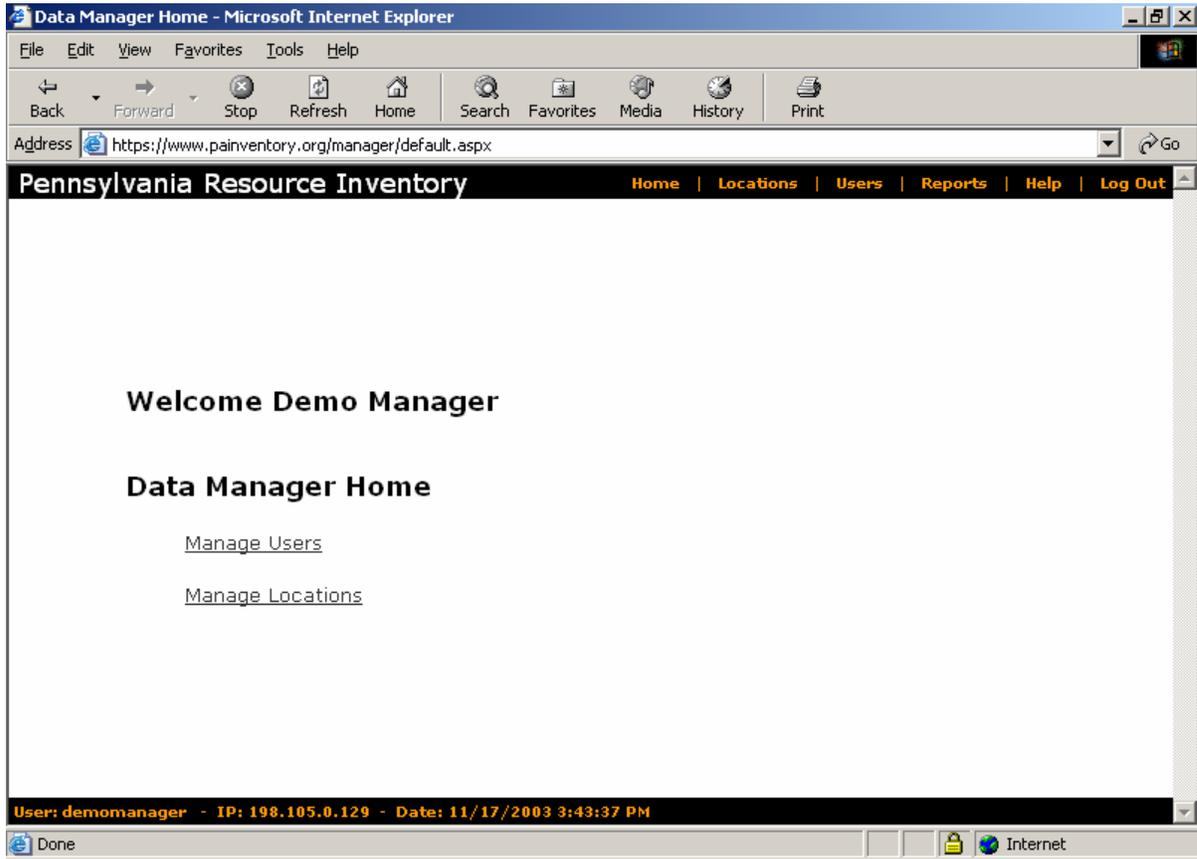
## Home Page

After a user logs into the system, the links on the Home Page reflect the user's access privileges.

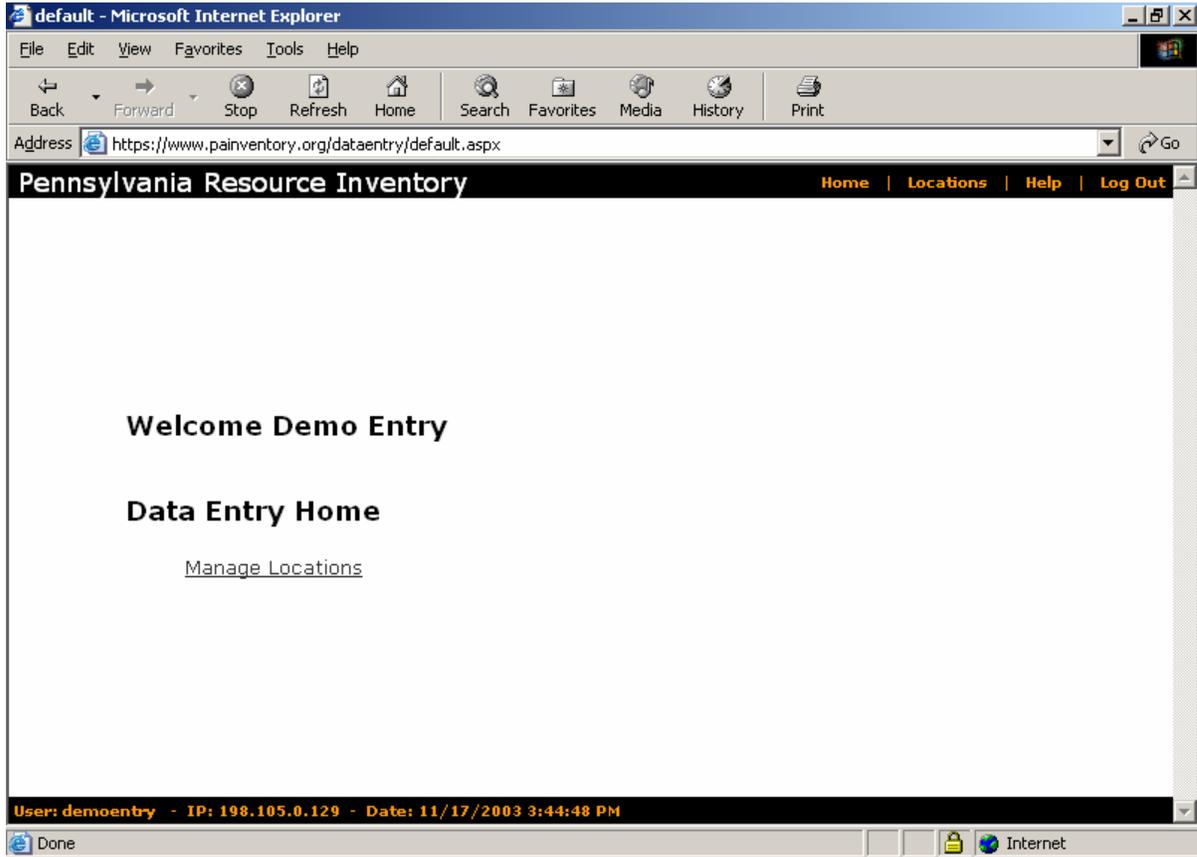
The system administrator's home page contains links to all system features:



By contrast, the home page of an organization's data manager has links to only the User, Location, and Reports Pages.



Finally, a Data entry person's home page only has a link to the Location and Help page:



## Location Page

The contents of the Location Page varies accounting to the user's Input Role.

The system administrator's Location Page shows all locations (across all the organizations) entered in EPRI. They can also add a new location for any organization, edit and delete information on any location, and add, edit, or delete inventory information for any locations:

The screenshot shows the 'Locations' page of the Pennsylvania Resource Inventory system. The browser window title is 'Locations - Microsoft Internet Explorer'. The address bar shows 'https://www.painventory.org/common/Locations.aspx'. The page header includes navigation links: Home, Locations, Users, Reports, Help, and Log Out. Below the header, there are filters for 'Location Type' (No Filter) and 'County' (No Filter), and a 'Results per page' dropdown set to 10. A 'submit' button is next to the filters. The main content is a table with the following data:

Enter Inventory	Name	Location Type	Organization	City	County	Active	% complete*		
<input type="button" value="Inventory"/>	<a href="#">A Bee Sees</a>	Animal Care & kennels	AAA Vets Incorporated			True	71.4%	<input type="button" value="X"/>	<input type="checkbox"/>
<input type="button" value="Inventory"/>	<a href="#">AA Nursing Home</a>	Nursing Home	AA Managers	Montoursville borough	Lycoming	True	0%	<input type="button" value="X"/>	<input type="checkbox"/>
<input type="button" value="Inventory"/>	<a href="#">AAA Health care</a>	Home Health Agency	ABC Health	Lafin borough	Luzerne	True	0%	<input type="button" value="X"/>	<input type="checkbox"/>
<input type="button" value="Inventory"/>	<a href="#">AAA Police Department</a>	Law Enforcement	A New Organization	Kelly township	Luzerne	True	0%	<input type="button" value="X"/>	<input type="checkbox"/>
<input type="button" value="Inventory"/>	<a href="#">AAA Vet Clinic</a>	Animal Care & kennels	AAA Vets Incorporated	Montoursville borough	Lycoming	True	0%	<input type="button" value="X"/>	<input type="checkbox"/>
<input type="button" value="Inventory"/>	<a href="#">ABB Vet Clinic</a>	Animal Care & kennels	AAA Vets Incorporated	Montoursville borough	Lycoming	True	0%	<input type="button" value="X"/>	<input type="checkbox"/>
<input type="button" value="Inventory"/>	<a href="#">Abbot Vet Clinic</a>	Animal Care & kennels	AAA Vets Incorporated	Madison township	Montour	True	0%	<input type="button" value="X"/>	<input type="checkbox"/>

The data manager's Location Page shows only locations associated with their organization:

**Locations for ABC Hospital Corp**

Location Type:  County:  Results per page:

Enter Inventory	Name	Location Type	Organization	City	County	Active	% complete*		
<input type="button" value="Inventory"/>	<a href="#">ABC Clinic</a>	Free Standing Clinics/surgi-centers	ABC Hospital Corp	Danville borough	Montour	True	0%	<input type="checkbox"/>	<input type="checkbox"/>
<input type="button" value="Inventory"/>	<a href="#">ABC Home Health Inc.</a>	Home Health Agency	ABC Hospital Corp	Bloomsburg town	Columbia	True	36.8%	<input type="checkbox"/>	<input type="checkbox"/>
<input type="button" value="Inventory"/>	<a href="#">ABC Hospital</a>	Hospital	ABC Hospital Corp	Hazleton city	Luzerne	True	72%	<input type="checkbox"/>	<input type="checkbox"/>
<input type="button" value="Inventory"/>	<a href="#">XYZ Hospital</a>	Hospital	ABC Hospital Corp	Tamaqua borough	Schuylkill	True	39.4%	<input type="checkbox"/>	<input type="checkbox"/>

1

\* Percentaae of non-emergency question that have a non-null answer.

The data enterer's Location Page also shows only locations associated with their organization, but, unlike the data manager and system administrator, data enterer cannot add new locations or delete, edit or send Email to existing locations:

The screenshot shows a Microsoft Internet Explorer browser window displaying the 'Locations for Anytown EMS' page on the Pennsylvania Resource Inventory website. The browser's address bar shows the URL: https://www.painventory.org/common/Locations.aspx. The page title is 'Locations for Anytown EMS'. Below the title, there are filters for 'Location Type' and 'County', both set to 'No Filter', and a 'Results per page' dropdown set to '10'. A 'submit' button is located to the right of these filters. The main content area features a table with the following data:

Enter Inventory	Name	Location Type	Organization	City	County
<input type="button" value="Inventory"/>	Anytown EMS	Emergency Medical Service/Ambulance	Anytown EMS	Danville borough	Montour
<input type="button" value="Inventory"/>	County Rescue and Fire	Emergency Medical Service/Ambulance	Anytown EMS	Danville borough	Montour

Below the table, there is a '1' indicating the current page number. At the bottom right of the main content area, there is a button labeled 'Current Inventory Report'. The footer of the page displays the user information: 'User: demoentry - IP: 198.105.0.129 - Date: 11/17/2003 3:45:31 PM'. The browser's status bar at the bottom shows 'Done' and 'Internet'.

## Registration Wizard

New users can be added to EPRI in two different ways. As explained earlier in Section 4, the system administrator can directly enter new organizations, locations, and users on their respective Web pages.

In addition, a “registration wizard” was developed to streamline registration of (what was for us) the most common configuration—an organization that has a single location and a single user. Thus, rather than separately displaying and entering data in the Organization Page, then the Location Page, and then the User Page, the wizard guides the user through this process. It should be emphasized that the wizard is intended to handle only the special case of a single organization, single location, and single user. If an organization has other locations and users, this information will have to be entered outside of the wizard.

The wizard has three steps, as displayed below.

The first screen asks for location information:

**New Location Wizard - Microsoft Internet Explorer**

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites Media History Print

Address <https://www.painventory.org/admin/NewLocationWizard.aspx> Go

**Pennsylvania Resource Inventory** Home | Locations | Users | Reports | Help | Log Out

### Add New Location Wizard

This wizard simplifies the process of adding a new location, organization (optional) and user. Please note that no information will be saved until you select "save" on the third page of the wizard.

If you are adding a user to an existing organization, go to the Users page instead.

#### Location Info (Step 1 of 3)

Location Name

Location Type

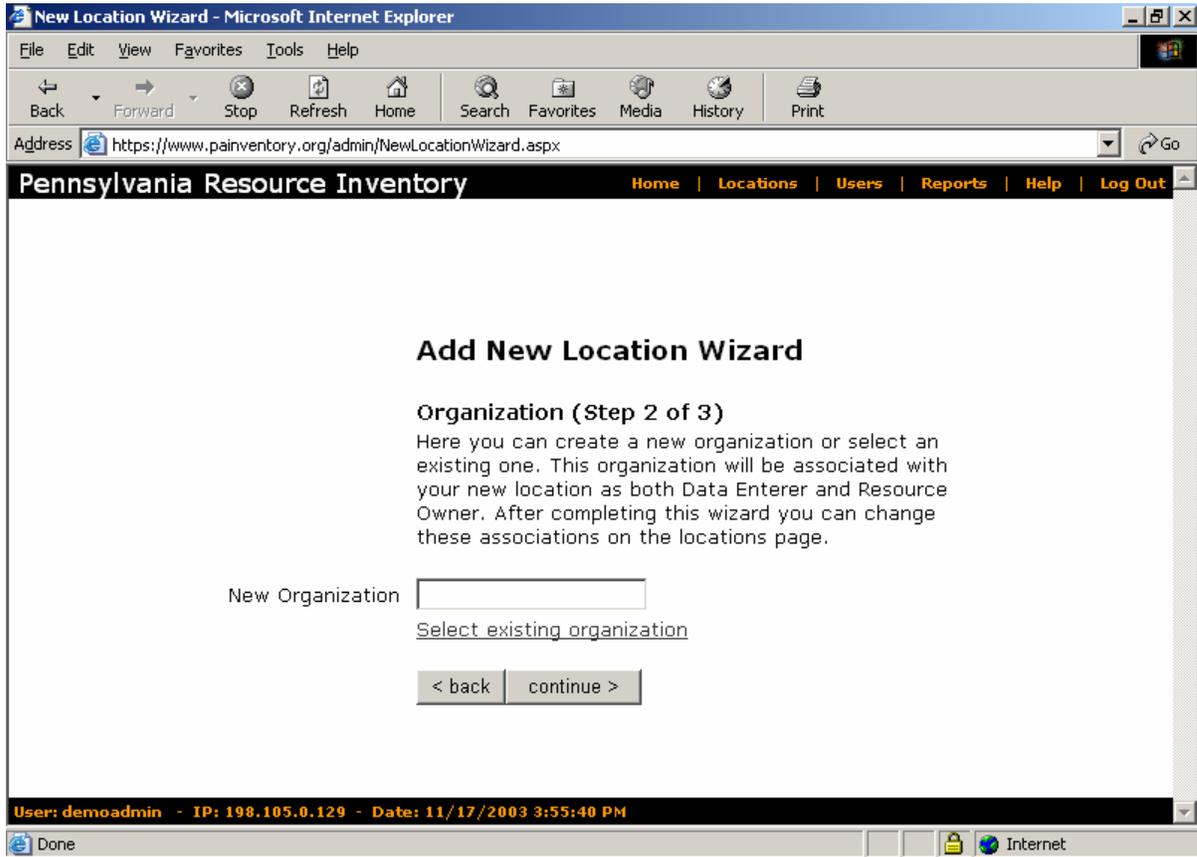
Address

City

State

Done Internet

The second screen asks for organization information. The administrator can either select an existing organization or create a new one.



Finally, user information is provided:

**New Location Wizard - Microsoft Internet Explorer**

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites Media History Print

Address <https://www.painventory.org/admin/NewLocationWizard.aspx> Go

**Pennsylvania Resource Inventory** Home | Locations | Users | Reports | Help | Log Out

### Add New Location Wizard

**User (Step 3 of 3)**

On this page you will create a new user. This user will be associated with the organization you specified on the previous page. After completing this wizard you may change this association on the users page.

User's Full Name

Email

Telephone

Fax

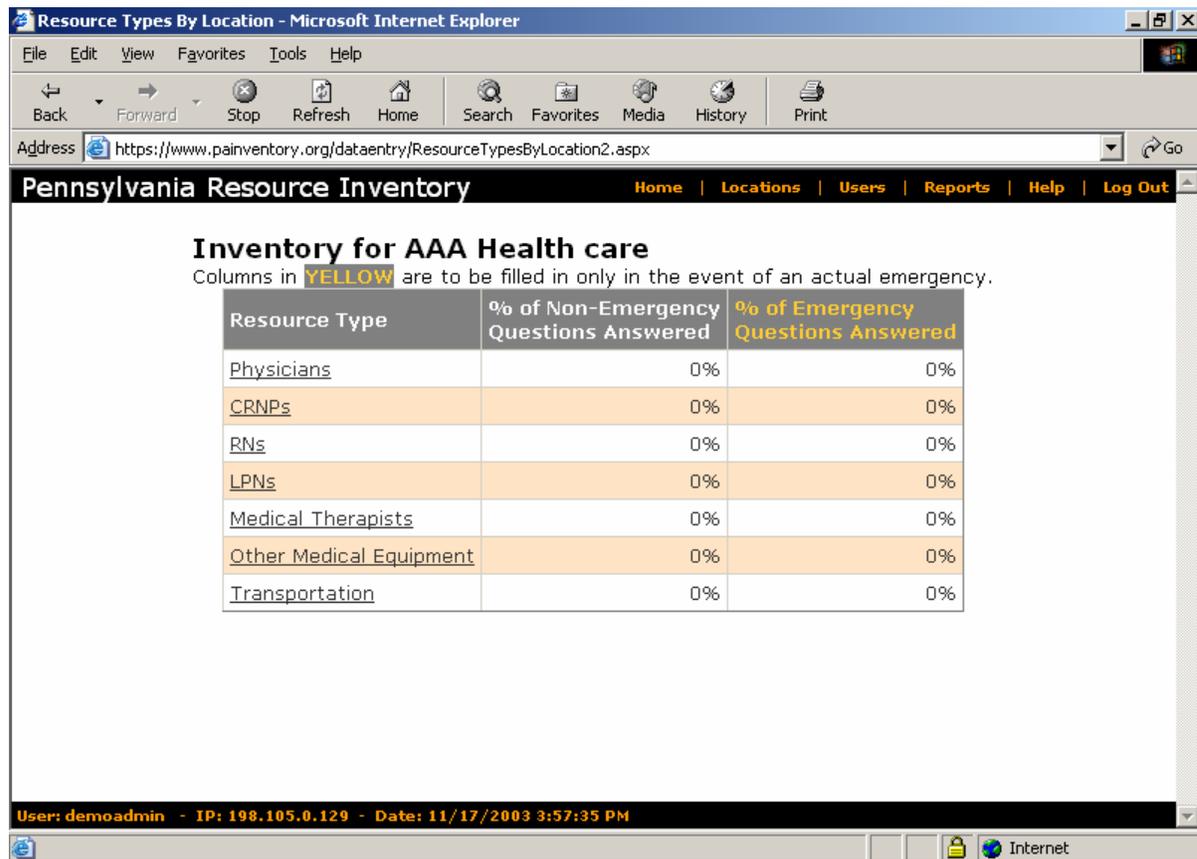
Mailing Address

City

Done Internet

## 5. Entering Inventory Data

The inventory data are entered (either by each location's data entry staff or, in instances when an organization doesn't have Internet access, by the system administrator's organization) by first displaying the Location Page and then clicking the 'Inventory' button for the desired location. This action displays a page that summarizes the data entry status for the location:



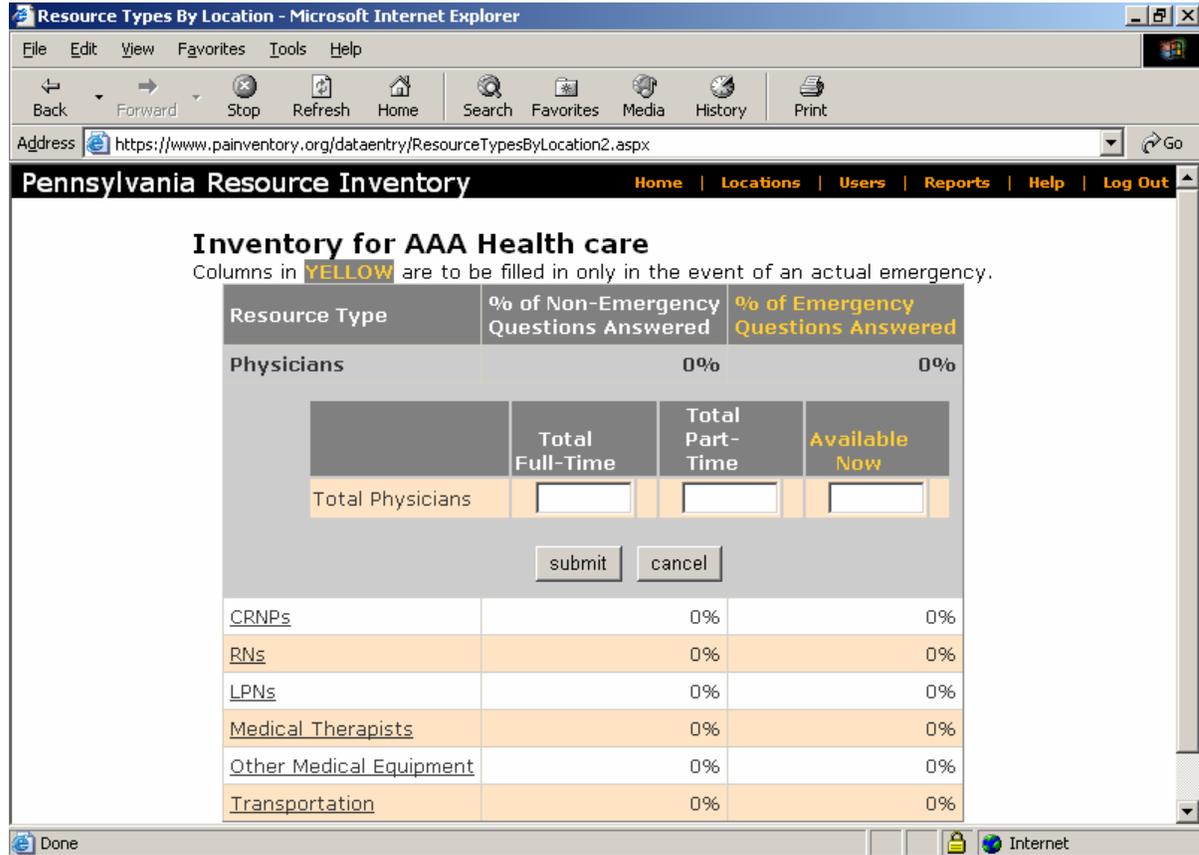
**Inventory for AAA Health care**  
Columns in **YELLOW** are to be filled in only in the event of an actual emergency.

Resource Type	% of Non-Emergency Questions Answered	% of Emergency Questions Answered
Physicians	0%	0%
CRNPs	0%	0%
RNs	0%	0%
LPNs	0%	0%
Medical Therapists	0%	0%
Other Medical Equipment	0%	0%
Transportation	0%	0%

User: demoadmin - IP: 198.105.0.129 - Date: 11/17/2003 3:57:35 PM

This Page lists all the resource types assigned to the location and the percentage of emergency and non-emergency questions that have been answered (i.e., that have a non-blank value). As noted earlier in the manual, we found this distinction useful for limiting the amount of data that we asked organizations to provide: we told organizations only to answer non-emergency questions and that they would be asked to answer emergency questions only in the event of an actual emergency.

Clicking on any of the links for resource types displays Pages containing the data entry fields:

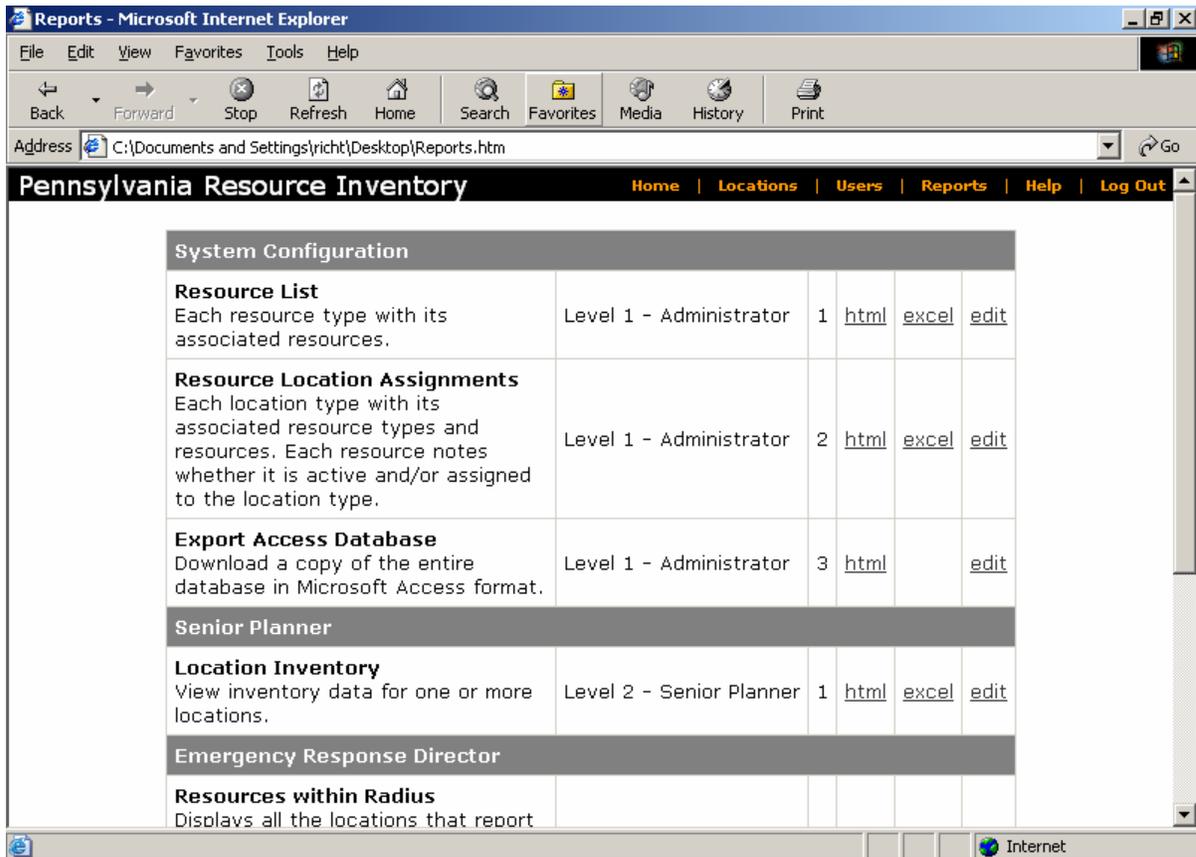


The system administrator can re-set all the emergency data to 'blank' (e.g., once the emergency has passed and the data are no longer needed) by clicking 'Configure System Parameters' on the Home Page.

## 6. Reports

### Controlling Access to Reports

Several reports have been developed that display inventory information (including location-, resource-, and area-specific summaries) and system configuration information (e.g., the resource list). The available reports are displayed on the Reports Page (click 'Reports' on the menu bar). The contents of the Reports Page depends on the user's Output Role, as explained below. The screen below shows a partial Reports Page for a user that has access to all the reports:

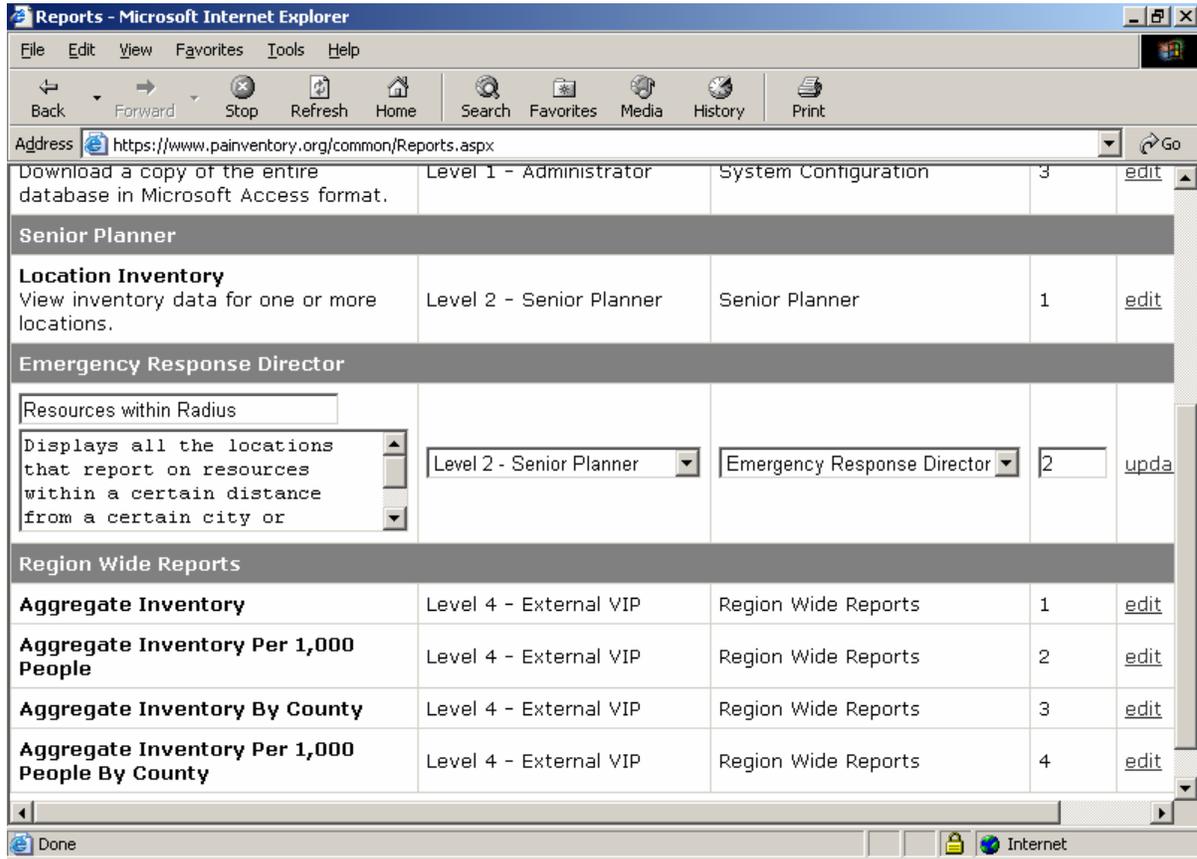


The screenshot shows a Microsoft Internet Explorer window displaying the 'Pennsylvania Resource Inventory' website. The browser's address bar shows the path 'C:\Documents and Settings\richt\Desktop\Reports.htm'. The website's navigation menu includes 'Home', 'Locations', 'Users', 'Reports', 'Help', and 'Log Out'. The main content area is titled 'System Configuration' and contains a table of reports. The table has columns for report name, description, user level, and export options (html, excel, edit).

System Configuration			
<b>Resource List</b> Each resource type with its associated resources.	Level 1 - Administrator	1	<a href="#">html</a> <a href="#">excel</a> <a href="#">edit</a>
<b>Resource Location Assignments</b> Each location type with its associated resource types and resources. Each resource notes whether it is active and/or assigned to the location type.	Level 1 - Administrator	2	<a href="#">html</a> <a href="#">excel</a> <a href="#">edit</a>
<b>Export Access Database</b> Download a copy of the entire database in Microsoft Access format.	Level 1 - Administrator	3	<a href="#">html</a> <a href="#">edit</a>
Senior Planner			
<b>Location Inventory</b> View inventory data for one or more locations.	Level 2 - Senior Planner	1	<a href="#">html</a> <a href="#">excel</a> <a href="#">edit</a>
Emergency Response Director			
<b>Resources within Radius</b> Disolavs all the locations that report			

Note that some of the reports can be exported to Excel, in addition to being displayed in a Web browser.

To control access to the reports, the system administrator sets (by clicking one of the ‘edit’ links on the Reports Page) the “Level” of each report:



In the above screen, the report level for the selected report is currently “Level 2 — Senior Planner”, but could be changed to Level 1 — System Administrator, Level 3 — Response Director, or Level 4 — External VIP. When a user logs in to the system and displays the Reports Page, the specific reports shown will depend on the user’s Output Role (see Section 4.3) and the assigned report level, as indicated in the table below. An ‘X’ means that the user has access to all reports assigned to that level:

User’s Output Role	Report Level			
	Level 1	Level 2	Level 3	Level 4
Level 1	X	X	X	X
Level 2		X	X	X
Level 3			X	X
Level 4				X
None				

Thus, for example, a user with Output Role Level 1 (typically, only the system administrator) can run any of the reports; a user with Output Role Level 4 can only run Level 4 reports.

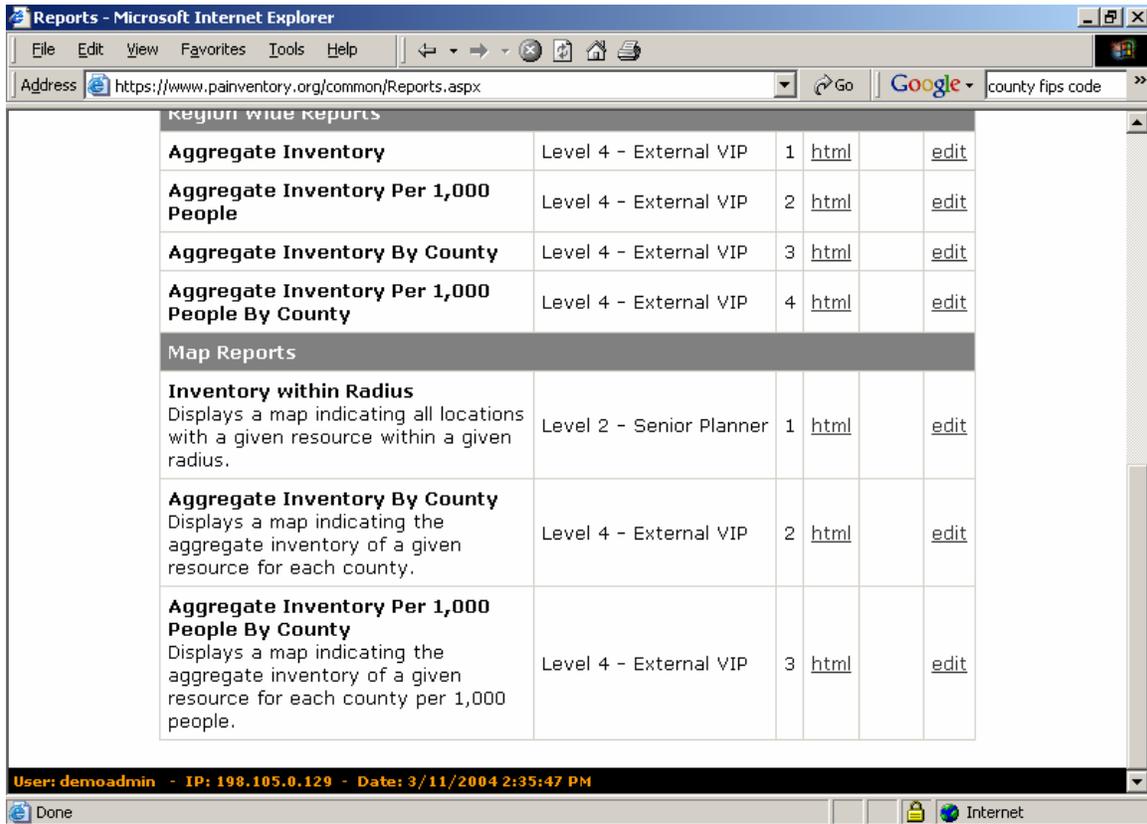
The table below lists the available reports, summarizes their output, and shows the report level that we assigned to the report during our pilot project:

<b>Report Name</b>	<b>Description</b>	<b>Level</b>
Resource List	Shows all the resources (by resource type) that have been entered in EPRI (see Section 3.1). The resources we used in the pilot project are displayed in the separate Appendix volume.	Level 1 — System Administrator
Resource Location Assignments	Shows the resources that have been assigned to each location type (see Section 3.3). Examples of the resource-location assignments we used in the pilot project are displayed in the separate Appendix volume.	Level 1 — System Administrator
Export Access Database	Copies all the entered data from the SQL database to an Access database.	Level 1 — System Administrator
Location Inventory	Displays all the entered data for one or more locations in a printer-friendly format.	Level 2 — Senior Planner
Multiple Resources within Radius	Displays information (e.g., amount and contact person) about all the locations that have specified resources in a specified geographic area (one or more counties or a specified distance from a town). In the case of a specified distance from a town, computations are made based on the latitude/longitude associated with (1) the town and (2) the location's zip code.	Level 2 — Senior Planner
Aggregate Inventory	Computes the total amount of specified resources in a specified geographic area (one or more counties or a specified distance from a town or latitude/longitude).	Level 4 — External VIP
Aggregate Inventory Per 1,000 People	Computes the total amount of specified resources, per 1,000 people, in specified counties.	Level 4 — External VIP
Aggregate Inventory by County	Computes the total amount of specified resources, by county, in a specified geographic area (one or more counties or a specified distance from a town or latitude/longitude).	Level 4 — External VIP
Aggregate Inventory by County Per 1,000 People	Computes the total amount of specified resources, by county and per 1,000 people, in specified counties.	Level 4 — External VIP
Inventory within Radius (Map)	Displays on a map the locations of a specified resource that are within a specified distance of a town. Demographic data can be overlaid. Driving directions to the location from the town are also provided.	Level 2 — Senior Planner
Aggregate Inventory by County (Map)	Depicts the level of a specified resource in the counties by color coding a county map.	Level 4 — External VIP
Aggregate Inventory by County Per 1,000 People (Map)	Depicts the level of a specified resource (per 1,000 persons) in the counties by color coding a county map.	Level 4 — External VIP

While no Level 3 reports were defined in the pilot project (and are therefore not shown in the table above), other jurisdictions implementing EPRI may decide to define one or more Level 3 reports.

# Mapping

EPRI's mapping capabilities are accessible at the bottom of the Reports Page, as shown below:



## Inventory within Radius Map

When the Inventory with Radius link is clicked on the Reports Page, a screen appears where the user can enter various parameters. In the screen below, the user has asked to see what locations within 40 miles of the town of Ashley have Oral Cipro.

AggregateInventoryByCountyMap - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <https://www.painventory.org/analysis/InventoryWithinRadiusMap.aspx> Go Google

**Resource Inventory Application** Home | Locations | Users | Reports | Help | Log Out

**Resource**  
Oral Cipro 500MG Doses on hand

**Type of Data**  
Total

**Radius**  
within 40 miles of

**Location - switch to point**  
Ashley borough

**Demographic Information**  
none

Draw Map

User: demoadmin - IP: 198.105.0.129 - Date: 3/10/2004 1:55:22 PM

Done Internet

When the user clicks the “Draw Map” button, both a map display and a tabular display are shown on the map shown on the next page.

- The map display shows (1) a circle centered at the specific town and of the specified radius, (2) the locations that have the specified resource (the red triangles), (3) a label next to each location that references the tabular display below the map and shows the level of the resource at the location, (4) a detailed map legend, and (5) additional map layers (e.g., major highways and landmarks) that help orient the user. Also shown are check boxes for the various map layers; this enables the user to control what is displayed on the map
- The tabular display below the map shows additional details on each location that has the specified resource, including the name of the location, contact information (name and telephone number), distance from the specified town, and the amount of the resource.

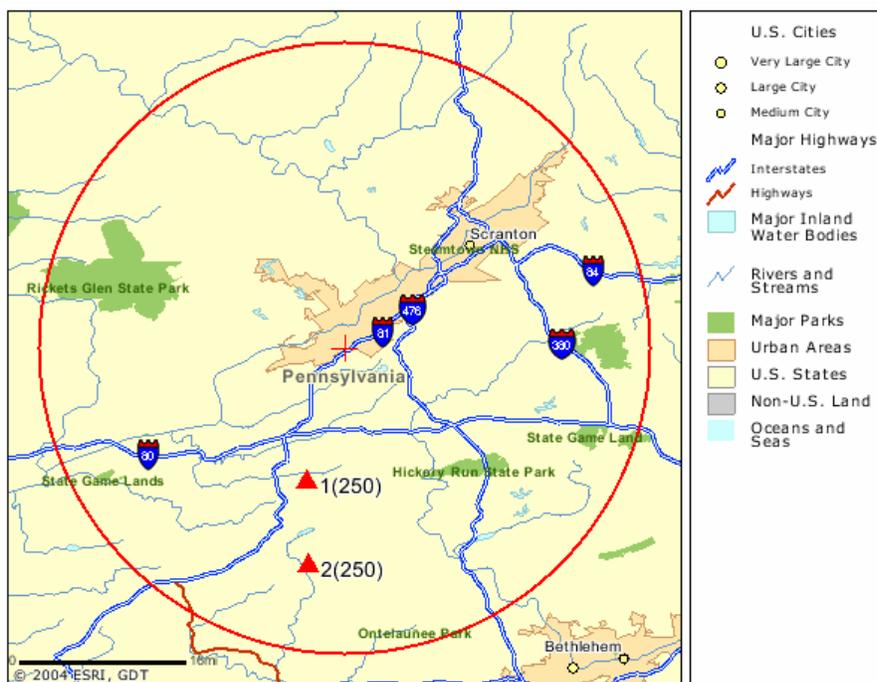
**Resource**  
 Oral Cipro 500MG Doses on hand

**Type of Data**  
 Total

**Radius**  
 within 40 miles of Ashley borough

**Demographic Information**  
 none

Draw Map



- Map Layers**
- U.S. Cities
  - US MSA Boundaries
  - Rivers and Streams
  - Urban Areas
  - Non-U.S. Land
  - Major Highways
  - Major Inland Water Bodies
  - Major Parks
  - U.S. States
  - Oceans and Seas

**Matching Locations - click name for driving directions**

	Name	Contact	Telephone	Approx. Distance	Total
1.	▲ <a href="#">ABC Hospital</a>	Anne Hospital	555-5555	21.6	250
2.	▲ <a href="#">XYZ Hospital</a>	Dr. Jones, CEO	555-222-4242	32.5	250



Demographic data can also be shown on the map, thus enabling planners to study the correlation between demographic information and resource locations. The map below shows total population (by census tract) in the specific region, along with the locations of Oral Cipro:

AggregateInventoryByCountyMap - Microsoft Internet Explorer

Address: <https://www.painventory.org/analysis/InventoryWithinRadiusMap.aspx>

**Resource Inventory Application** Home | Locations | Users | Reports | Help | Log Out

**Resource**: Oral Cipro 500MG Doses on hand **Type of Data**: Total

**Radius**: within 40 miles of **Location - switch to point**: Ashley borough

**Demographic Information**: 2000 Total Population Draw Map

Center point: Ashley borough - lat/long: 41.214182/-75.899387

**Map Layers**

- U.S. Cities
- Major Highways
- Rivers and Streams
- County Boundaries
- State Boundaries
- Non-U.S. Land
- Oceans and Seas

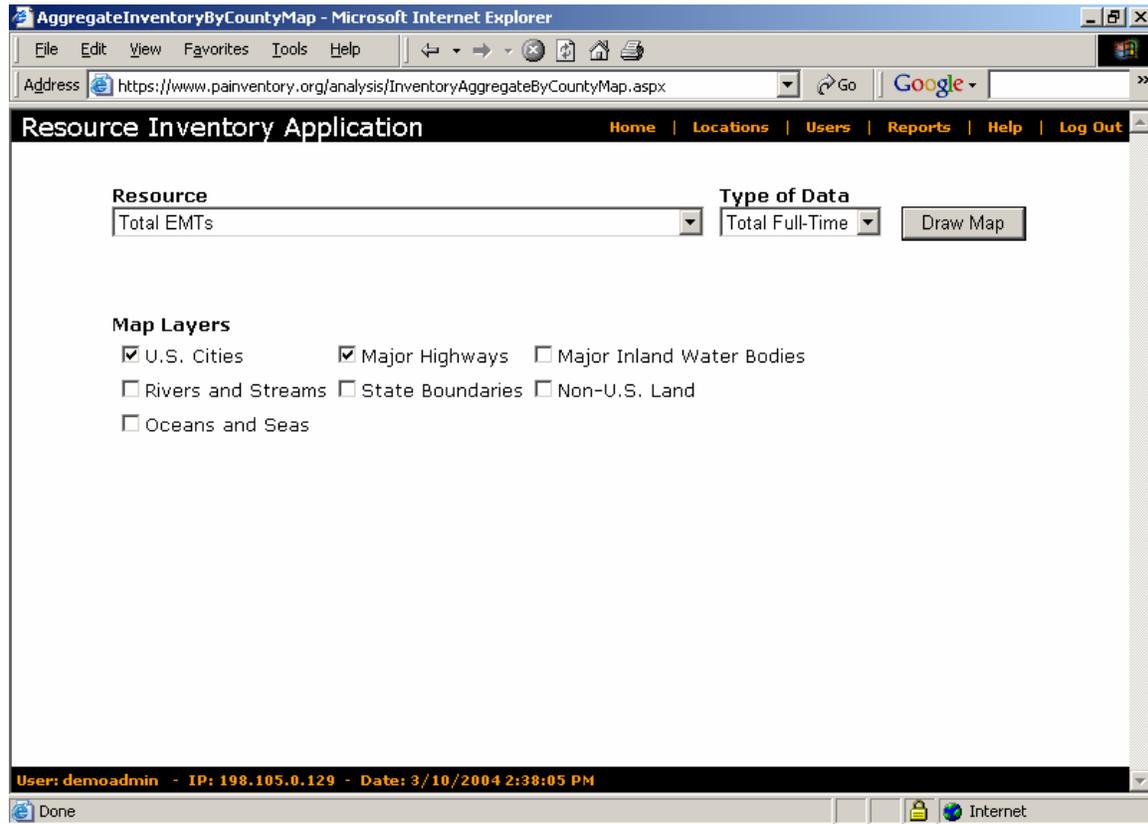
**Matching Locations - click name for driving directions**

	Name	Contact	Telephone	Approx. Distance	Total
1.	<a href="#">▲ ABC Hospital</a>	Anne Hospital	555-5555	21.6	250
2.	<a href="#">▲ XYZ Hospital</a>	Dr. Jones, CEO	555-222-4242	32.5	250

User: demoadmin - IP: 198.105.0.129 - Date: 3/15/2004 12:29:58 PM

## Aggregate Inventory by County Map Report

When the Aggregate Inventory by County link on the Reports menu is clicked, the screen appears that enables the user to select a resource. (the Aggregate Inventory by 1000 People by County report is identical in format.) In the screen below, the user has asked for map showing the number of full-time EMTs by county.



When the user clicks 'Draw Map', a map of the catchment area appears, with each county shaded along a green color spectrum (counties with none of the specified resource are shaded gray). The legend below the map shows the values associated with each color. A table also appears that gives the precise numerical value for each county.

AggregateInventoryByCountyMap - Microsoft Internet Explorer

Address: https://www.painventory.org/analysis/InventoryAggregateByCountyMap.aspx

**Resource Inventory Application** Home | Locations | Users | Reports | Help | Log Out

Resource: Total EMTs Type of Data: Total Full-Time Draw Map

**Map Layers**

- U.S. Cities
- Major Highways
- Major Inland Water Bodies
- Rivers and Streams
- State Boundaries
- Non-U.S. Land
- Oceans and Seas

**Legend**

0
1 - 14
15 - 28
29 - 41
42 - 55

County	Total EMTs - Total Full-Time
Columbia	34
Luzerne	3
Lycoming	10
Montour	55
Northumberland	15
Schuylkill	3
Snyder	0
Union	0

User: demoadmin - IP: 198.105.0.129 - Date: 3/15/2004 1:32:56 PM

Done Internet

## 7. Monitoring Data Quality and Communicating with Data Providers

EPRI contains several features for monitoring data quality and communicating via Email with users.

### Sending Email to Users

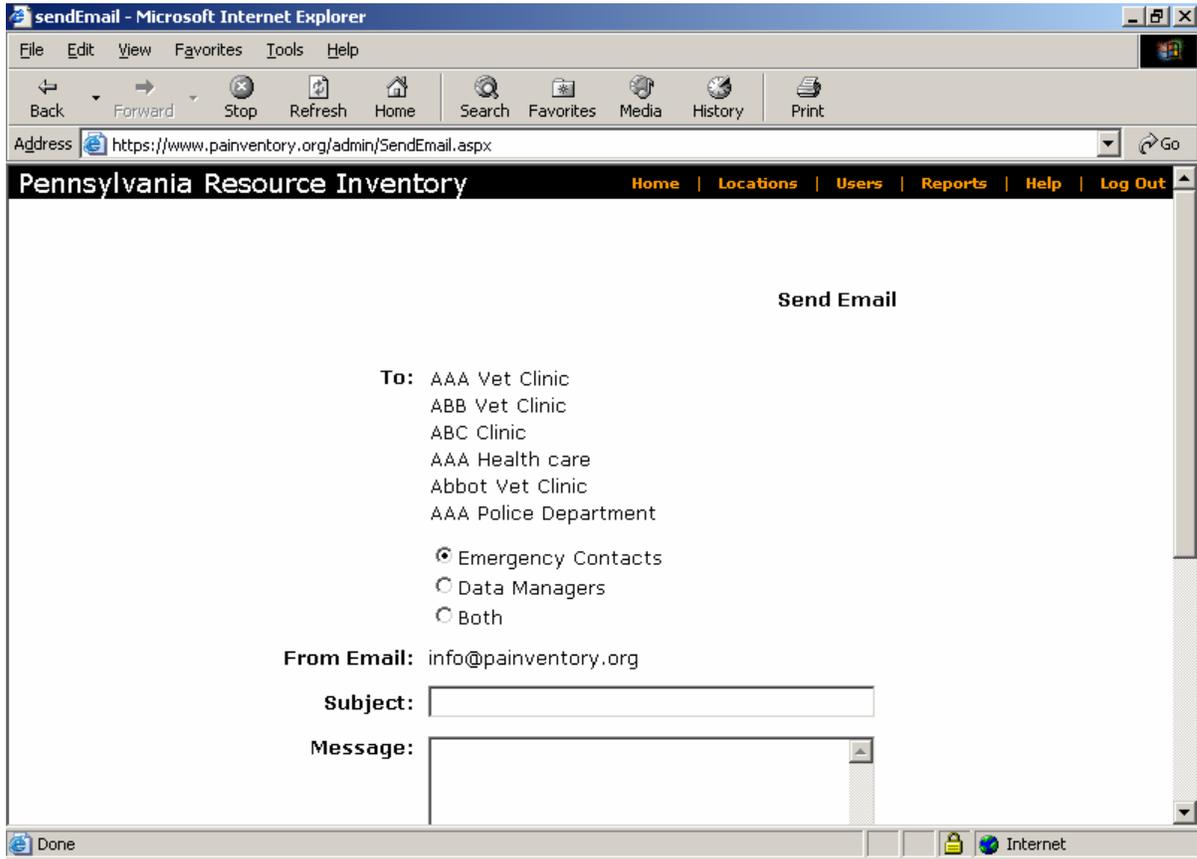
The system administrator's Location Page contains a button labeled "Send Email to Selected Locations." To use this feature the system administrator first clicks in the box on the right hand side of the page for locations to be Emailed. In the screen below, six locations that have not entered any data (as indicated by the 0% figure next to the check box) are selected:

The screenshot shows a Microsoft Internet Explorer browser window displaying a table of locations. The table has columns for Inventory, Name, Type, Organization, Location, State, Status, Data Entry Percentage, and Selection Controls. Six rows are highlighted in orange, indicating they are selected. The selection controls for these rows include an 'X' icon and a checked checkbox. The 'Send Email to Selected Locations' button is visible at the bottom of the table.

Inventory	Name	Type	Organization	Location	State	Status	Data Entry Percentage	Selection Controls
Inventory	AAA Health care	Home Health Agency	ABC Health	Lafin borough	Luzerne	True	0%	X <input checked="" type="checkbox"/>
Inventory	AAA Police Department	Law Enforcement	A New Organization	Kelly township	Luzerne	True	0%	X <input checked="" type="checkbox"/>
Inventory	AAA Vet Clinic	Animal Care & kennels	AAA Vets Incorporated	Montoursville borough	Lycoming	True	0%	X <input checked="" type="checkbox"/>
Inventory	ABB Vet Clinic	Animal Care & kennels	AAA Vets Incorporated	Montoursville borough	Lycoming	True	0%	X <input checked="" type="checkbox"/>
Inventory	Abbot Vet Clinic	Animal Care & kennels	AAA Vets Incorporated	Madison township	Montour	True	0%	X <input checked="" type="checkbox"/>
Inventory	ABC Clinic	Free Standing Clinics/surgi-centers	ABC Hospital Corp	Danville borough	Montour	True	0%	X <input checked="" type="checkbox"/>
Inventory	ABC Clinic	Free Standing Clinics/surgi-centers	ABC Clinic	Danville borough	Montour	True	100%	X <input type="checkbox"/>
Inventory	ABC Fire Dept.	Fire Station	Anytown Fire Dept.	Bloomsburg town	Columbia	True	100%	X <input type="checkbox"/>

Buttons: Add New, Send Email to Selected Locations

Clicking the ‘Send Email to Selected Locations’ button displays the Email page with the “To” line automatically filled in with the selected locations:



Note that the system administrator has the option of emailing just data managers (i.e., users whose “Input Role” is Data Manager), just Emergency Contacts (see Section 4.2), or both.

In order for Email to actually be sent, the system administrator needs to make sure the Web server is configured for Email. In addition, the system administrator needs to configure the ‘To’, ‘From’, and ‘bcc’ values for Email. As explained in the installation instructions in the Appendix, this involves editing a single text file.

## Missing Data

An important task for the system administrator will be to determine the extent to which organizations have entered data and, as appropriate, followup with users to encourage timely data entry. To facilitate this process, the Location Page shows the “% complete” (i.e., the percentage of non-emergency fields that are not empty) for each location.

To send an Email to data managers for locations that have a low % complete figure, do the following:

1. Go to the Location Page.
2. Change the Results Per Page drop down to ‘All’ and click Submit.
3. Click the heading “% Complete” so that it orders the list of locations by this value (the default sort order is by location name).
4. Place a check mark in the boxes on the right-hand side for all locations that you want to contact (e.g., the ones with the lowest % Complete figures).
5. Click ‘Send Email to Select Locations’ at the bottom on the Page.
6. On the Send Email Page, select ‘Data Manager’ in the ‘To’ field, fill in the Subject and Message fields, and then click ‘Send.’

## Out-of-Date Data

The system administrator will also need to determine when data are “old” and need to be updated. As discussed in Section 3.1, each resource type has a ‘Report Every \_\_\_ Days’ attribute. Using this attribute, the Location Inventory report (see Section 6) flags each out of date data item — these items are colored red and have asterisks on either side.

Based on a review of the Location Inventory reports, Emails can be sent to the appropriate data managers to remind them to update their data. Alternatively, you can simply broadcast an email to all data managers reminding them to update their data.

Note: to signal the system that data values have not changed and “old” data remain accurate, users can simply click “Submit” on the Inventory data entry pages.

## Switching to Emergency Mode

As noted in Section 3.1, questions (i.e., data entry fields) about resources are grouped into two categories — emergency and non-emergency. If the system administrator is instructed to switch to ‘emergency mode’, s/he should send an Email to all data managers instructing them to complete the ‘Emergency’ questions on the inventory data entry pages.

Emergency data are viewable on the Resources within Radius and the Inventory Location reports (see Section 6).

When the emergency has ended, the system administrator should re-set all the emergency data fields to ‘blank’. To do this:

1. Click ‘Configure System Parameters’ on the Home Page
2. Click ‘Delete All Emergency Records’

## Appendix — Installation Instructions

EPRI can be downloaded from the AHRQ Web site ([www.ahrq.gov/browse/bioterbr.htm](http://www.ahrq.gov/browse/bioterbr.htm)). All the EPRI files are packaged into a single zip file containing:

- The source code (including a Microsoft Visual Studio project file)
- The compiled Web application
- Scripts for creating the live and demo databases.

### Terms and Conditions

By installing EPRI you agree to the following terms and conditions:

Abt Associates, Geisinger Clinic/Geisinger Medical Center, and Relyon Media created the Emergency Preparedness Resource Inventory (EPRI) under Contract No. 290-00-0003 from the Agency for Healthcare Research and Quality (AHRQ), U.S. Department of Health and Human Services. Copyright 2003(4) by Abt Associates, Geisinger Clinic/Geisinger Medical Center, and Relyon Media. Contact Andrea Hassol (617-349-2488) for more information on EPRI.

AHRQ makes EPRI available under the following conditions:

- EPRI may be downloaded for specific individual applications by organizations and for personal use, providing the copyright notice and terms/conditions are included.
- EPRI or any modifications or adaptations may not be reproduced, sold, or used for commercial purposes without the specific permission of the copyright holders.

EPRI is provided “as is,” without warranty of any kind, either express or implied, including but not limited to implied conditions or warranties, statutory or otherwise, of merchantability, fitness for a particular purpose, title and non-infringement. Abt Associates, Geisinger Clinic/Geisinger Medical Center, and Relyon Media shall have no liability to any user of EPRI or related documentation, or to any third party, for any claim, loss or damage of any kind, including but not limited to lost profits, business interruption, loss or destruction of data, punitive, incidental, consequential or special damages, arising out of the use or inability to use EPRI or any related documentation, even if Abt Associates, Geisinger Clinic/Geisinger Medical Center, or Relyon Media has been advised of the possibility of such damages.

### Step 1: Installing the Databases (Restoring the EPRI databases to SQL Server using Enterprise Manager)

The EPRI Install folder contains a folder called **MS SQL-Server 2000 Databases**. Using Enterprise Manager, you can create these databases in your SQL server using the RESTORE option as described below:

1. Open Enterprise Manager.

2. Expand a server group, and then expand a server.
3. Right-click **Databases** folder, select **All Tasks** and then click **Restore Database**.
4. In the **Restore as database** box, type the new name of the database. For instance, you could name your database: EPRI. It doesn't matter what you call it, as you will specify the database name in the Web.config file later.
5. Click **From device**, and then click **Select devices**.
6. Under **Restore from**, click **Tape** or **Disk**, and then click **Add** to add an existing backup device.
7. In the box for **File name**, enter the path to the **EPRI\_Database\_to\_Restore.BAK** file which is located in the **MS SQL-Server 2000 Databases** folder of the unzipped **EPRI Install** folder. (you can click the ... to select this file with the dialogue box).
8. Click **OK**
9. Click **OK**
10. Click on the **OPTIONS** tab at the top. Note: this procedure sometimes crashes if you do not select the **OPTIONS** tab before clicking OK.
11. Click **OK**

To install a demo version of EPRI, follow steps 3-11 and choose the **EPRI demo\_Database\_to\_Restore.BAK** file which is located in the **MS SQL-Server 2000 Databases** folder of the unzipped **EPRI Install** folder. This will create a second database (you will have to give it another name, for instance EPRIDEMO) that the demo user accounts will populate and use.

## **Step 2: Install the Web Application**

1. Copy the **Web Application** directory to your Web server. You may rename the directory if desired.
2. Use the Internet Information Server management console to configure the directory as a Web application.
3. Change permissions for **analysis/downloads** directory in the web application folder installed on your web server. Add the ASPNET user and give it **Full Control** of this directory. This allows the web application to create new copies of the Access database for export/download ability. Also, make sure the **blank.mdb** file is not read only.
4. Import local City, County, State, and Zipcode data into the respective tables using Enterprise Manager (see Section 3.4). This data will limit your locations to your catchment area.

5. Edit **Web.config**. There are several application settings in the Web.config file that you will need to set for your environment. They are commented in the file. The relevant portion of Web.config is reproduced below. Be sure to change only the value attributes and not the key attributes.

```

<appSettings>
<!-- APPLICATION NAME
Sets the name that appears in the headers for all pages and reports -->

<add key="applicationName" value="Resource Inventory Application" />

<!-- DATABASE CONNECTION STRINGS
Sets the connection strings to the live and demo databases for your
EPRI web application. Once you restore the databases from the install
database folder, you can define these for your system. -->

<add key= "connString"
    value= "data source=YourSQLServerName;
            initial catalog=Your EPRI DBName;
            user id=YourDBLogin;
            password=YourDBPassword;
            persist security info=True;
            packet size=4096" />

<add key = "demoConnString"
    value= "data source=YourSQLServerName;
            initial catalog=YourEPRIDEMODBName;
            user id=YourDBLogin;
            password=YourDBPassword;
            persist security info=True;
            packet size=4096" />

<!-- ESRI Settings
This setting enables the GIS ESRI Mapping Reports and Locator Functions.
To use the mapping, set this value to "true" and make sure you have a valid
username and password to access the ESRI system. -->

<esriSettings>
    <add key="useEsri" value="true"></add>
    <add key="username" value="trich"></add>
    <add key="password" value="EPRI"></add>
</esriSettings>

<!-- FORCE SSL
Setting this to true will redirect all http requests to https.
See ResinPage.cs, login.aspx.cs, and logout.aspx.cs
Set to TRUE for a production server with an SSL certificate installed -->

<add key="forceSSL" value="False" />

<!-- EMAIL SETTINGS
Used by admin/SendMail.aspx.cs -->

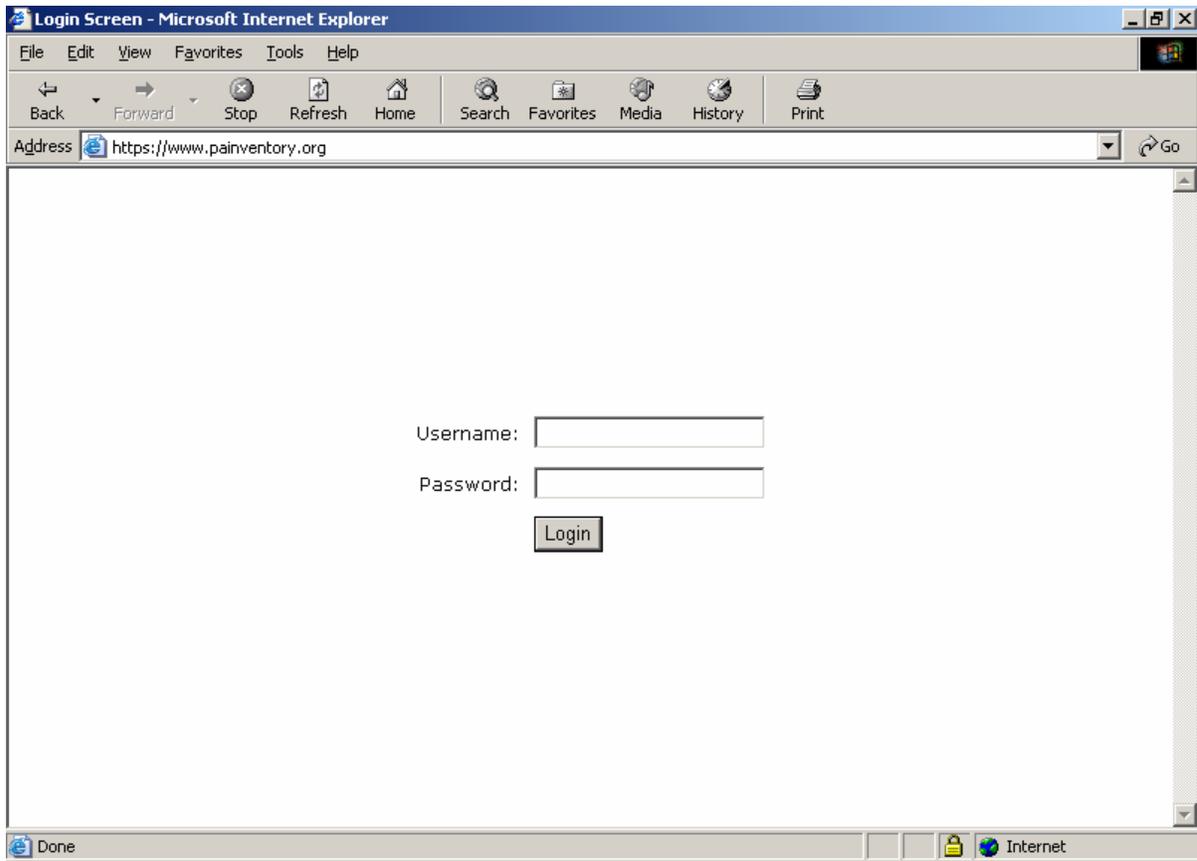
<add key="smtpServerName" value="Your SMTP Server URL or IP" />
<add key="defaultFromEmail" value="The FROM address for sent email" />
<add key="defaultBccEmail" value="The BCC address for email sent by EPRI" />
<add key="defaultAppUrl" value="The URL of your EPRI application" />

</appSettings>

```

### Step 3: Confirm EPRI works

Point your browser to EPRI. A simple login screen should appear:



Default system administrator login/passwords are as follows:

- Live database – login admin; password admin.
- Demo database – login demoadmin; password demo.