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10. The ABC's of Accessing Conservation Information

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I. Introduction

The Louisiana Department of Natural Resources (DNR) is responsible for the management of oil and gas resources within the state and management and restoration of the state's vast coastal area. The DNR Offices responsible for oil and gas development in the state are the Offices of Conservation and Mineral Resources. The DNR Office of Conservation (OC) is responsible for permitting and monitoring all oil and gas wells in the state, on state-owned or private land or water bottoms. The DNR Office of Mineral Resources (OMR) is responsible for the leasing of state-owned land and water bottoms for mineral extraction and management of subsequent state income from lease rentals and petroleum royalties which amount to an average of \$375,000,000 per year over the last ten years.

DNR's most important oil and gas data management tool is the Strategic Online Natural Resources Information System (SONRIS, pronounced "sunrise"), a Web-based combination of Oracle database software technology, FileNet-managed electronic document images, and an ESRI Web-enabled geographic information system (GIS). This system delivers all of DNR's Oracle data, several million documents, and more than 200 GIS feature layers and custom mapping functionality to DNR staff and the public. DNR created SONRIS in 1999 to upgrade the department's ability to manage computer data and link it to document images and the GIS.

II. LDNR Internet Information

The content of DNR Internet pages consists of critical information concerning DNR general information, resources, current activities, public notifications, oil and gas and coastal data, document access, and mapping functionality, <http://dnr.louisiana.gov/>. The two types of content are static (information and activities) and dynamic (database driven - SONRIS).

The static information consists of the LDNR Office/Division main pages, information about the agency, business and consumer services, contacts, events, links to other agencies, newsletters, news releases, rules, search function, site map, strategic plan, and much more.

III. SONRIS Oil and Gas Database

The SONRIS oil and gas database consists of millions of Oracle records of oil and gas and injection well data and mineral leasing data.

On the SONRIS Main Page under Database Access, four data access methods are listed. SONRIS Classic searches and reports (not specifically named in list), which were the original SONRIS Internet data access method, are listed under Conservation and Minerals headings. This is an Oracle Forms application and slightly more complex to use than SONRIS Lite, but more powerful. In SONRIS Classic, many search parameters can be entered when searching for specific data. Users must remember to use Enter Query to prepare the screen, enter the search criteria, then use the Execute Query. Users wanting to capture data from the SONRIS Classic screens can only do this with a "print screen" function.

SONRIS Lite is the HTML version of the SONRIS Classic reports and searches. SONRIS Lite was designed for users who do not have high speed Internet connections. SONRIS Lite does not have the search power of SONRIS Classic, but does not require JInitiator download which has caused problems for those with slow Internet connections. SONRIS Lite only allows one search criteria to be entered as compared to SONRIS Classic which allows the entry of many search criteria. Any data in SONRIS Lite screens can be copied and pasted into an Excel spread sheet. This cannot be done in Classic.

The General Reports are PDF reports either generated by the user when making the request or pre-run by DNR staff. The reports listed under General Reports are also listed in the Conservation and Minerals reports lists.

A new user unfamiliar with SONRIS should start at SONRIS Help and review the information completely. Links in red text will take the user to additional information about each of the sections of SONRIS, including a glossary and frequently asked questions (FAQ) section. This page also contains an e-mail link to the DNR Help Desk, the primary DNR contact in case a user has questions or problems using SONRIS.

Custom SONRIS oil and gas data reports can be manually programmed and run by DNR IT staff for users outside DNR. A fee is charged depending upon the amount of work required.

Some of the most common questions that are asked about the SONRIS oil and gas database are:

How do I find wells by section, township and range? Answer: SONRIS Lite/Well Information/Wells by Section, Township, Range.

How do I find all the wells in a particular field? Answer: SONRIS Lite/Well Information/Wells by Field.

How do I find well information by serial number? Answer: SONRIS Lite/Well Information/Wells by Serial Number.

How do I find lease unit production? SONRIS Lite/Well Information/Wells by Serial Number.

This same information may be acquired using SONRIS Classic.

One of the most questioned issues with the DNR oil and gas database is that oil and gas production is not done by well but by lease or unit. Production can also be retrieved by field, but keep in mind that some leases or units could be split field or split parish leases or units.

As with any large volume computer data operation, especially containing historic data records, there are problems with some of the data. There are missing or incorrect data in some of the data sets created by DNR. DNR is striving to improve this data. If you see an obvious problem with DNR data with which you are working, contact the DNR Help Desk and report it.

One very important fact about the oil and gas database is the data is available immediately on SONRIS when entered into the SONRIS Oracle system.

IV. Document Access

DNR estimates that there are approximately 50 million pages of documentation in DNR, both historic and current. This includes paper files, microfiche, microfilm, and recently added, electronic documents in Excel, Word, and WordPerfect. At this point, DNR has captured approximately 10 million pages and has several contracts for historic documents and has set up several document imaging workstations in DNR for current document imaging.

DNR has selected FileNet as the main document image management software. To make the system work on your computer, the FileNet IDM Viewer must be downloaded to your computer from the DNR Web site. This is a simple process. Since Microsoft's Internet Explorer Version 7 (IE 7) has been introduced, there have been problems so FileNet updated their viewer to work with IE 7. You must download the viewer again if you have upgraded to IE 7.

To locate a document, press the Search link on the Document Access Main Menu and the Search Screen will be displayed. This screen gives the user the ability to choose from various document types, such as *Office of Conservation Field Orders and Production Cards*. Over time, more file sources are being scanned and made available to the user. Drop-down menu items allow the user to select the DNR Office and the Document Type the user wants to find and view. Once the user has specified that information, the indexes available will shorten depending on the Document Type the user has selected. If the user knows more information, such as a Field Code or Date, the user may specify those items. This will speed the search and provide a better "hit list" of available documents.

Several companies in the oil/gas industry have requested large numbers of well logs. DNR has developed a process to make these available for a fee which depends on the number of logs requested.

V. Interactive Maps

DNR has been using Geographic Information System technology since the early 1980's beginning in the Coastal Management Division. DNR implemented its first oil and gas GIS Web site in 1998 under the guidance of the Office of Conservation. The Web site consisted of approximately 150,000 well locations, 1,700 oil and gas field center points, and USGS base maps at 1:100,000 and 1:24,000. The GIS Web site was significantly upgraded in 2001 with the addition of Office of Coastal Restoration and Management data and significant additional mapping functionality and has continually been upgraded since then with new data and functionality. The GIS Web sites are currently at Version 15 soon to be upgraded to Version 16.

SONRIS Interactive Maps users can make and print their own maps using DNR Oracle data and other reference base maps such as USGS maps, aerial photography, and satellite imagery. Using the 23 available standard and custom GIS tools, users can build a completely custom map for their applications utilizing approximately 60 data layers on the SONRIS public Web site.

DNR is now operating seven mapping Web sites: Public and internal SONRIS Interactive Maps, public and internal Coastal Use Permitting sites, an internal Office of Mineral Resources site, a password protected oil/gas related disaster recovery site, and a special purpose demonstration Web site for the State Land Office. The purpose of the internal sites is the protection of DNR's and other state agencies' proprietary (non-public) data which DNR uses for day-to-day decision making. DNR also offers a GIS oil and gas well data download site from which Oracle/GIS well data and locations for the entire state or for an individual parish can be downloaded in GIS format. Also available on this site are oil/gas field center points. Soon to be added to this site are the Coastal Use Permit data. This data is downloadable in shapefile format, which is a universal GIS data sharing format. Downloads directly from Interactive Maps are also allowed for a single Active Layer visible in the Map View.

If you are a new Interactive Maps user, it is extremely important to read the New User Help Window (window opens the first five times you open the site), the General Instructions, What's New, and Frequently Asked Questions (FAQ) in the Tutorial which can be accessed on the SONRIS Main Page (www.sonris.com) below GIS ACCESS/ Interactive Maps or below the map view on the Interactive Maps page. The first instruction in the New User Help Window is to turn off all popup blockers. Interactive Maps uses popup windows for many functions. Interactive

Maps cannot be used as it was intended if any popup blockers are functional.

With the introduction of Microsoft's XP operating system and IE 7, several access problems have been introduced with the upgraded security. To avoid these, make Interactive Maps a Trusted Site in the security settings in Internet Options. There are several other possible simple security changes which may have to be made for making maps and downloading data to your computer. Some of these suggested changes are listed in the New User Help Window. Contact the DNR Help Desk for a complete list of these changes or for help in implementing them.

To learn about the GIS Tools at the top of the Map View, click on the Tool Help tool (first tool on left), then click on another tool and the Tutorial will open to that tool giving you detailed instructions for using it. Be sure to click again on the Tool Help tool again to turn it off before starting to use the tools. To obtain information on the feature layers (example: oil/gas wells), make a feature layer active by clicking on the textual name of the layer in the layer list in the left column, then click on the Layer Info button below the Map View on the Interactive Maps page to view GIS Metadata (information about that particular GIS data set) for each layer. Unfortunately, metadata is not available at this time for several DNR-created GIS data sets or for GIS data sets from other sources. The DNR IT GIS Section is working toward correcting this situation. In most cases, a contact person for a GIS data set with no metadata is provided in the incomplete metadata record.

DNR has a large number of GIS data sets, some created in-house and many from other sources. DNR receives many questions about the accuracy and/or resolution of these GIS data sets. The answer is that the accuracy and/or resolution of the GIS data sets are highly variable. Generally, they are the best which DNR can make available to the public. If improvements are made in GIS data sets which DNR uses in Interactive Maps, the GIS data sets will be updated with the improved data set.

Another question frequently asked is about the currency of the data. DNR's GIS data or Oracle data transformed to GIS format is updated for the GIS on a regular basis depending on the frequency of update done by the DNR divisions or sections or other agencies responsible for the data maintenance. Oil and gas well data is updated for Interactive Maps on a daily basis. Mineral leases are updated monthly or whenever changes are made. Other layers may be updated daily to monthly with some of the more static GIS data layers updated upon request.

Interactive Maps is a very dynamic and rapidly changing and improving system. Some improvements occur as a result of software upgrades, but most of the significant improvements have come from suggestions from users and subsequent programming changes made by the DNR IT GIS section. If you have a suggestion for a functionality im-

provement or addition of a new GIS layer, please contact the DNR Help Desk with your suggestion.

For those SONRIS oil and gas industry users who use their own desktop GIS software, much GIS reference data is available for Louisiana. One excellent source of this data is the LSU Atlas Web site, <http://atlas.lsu.edu/>. It provides downloads for most of the important GIS data sets in Louisiana including the latest aerial photographs. Another valuable GIS resource has been a series of GIS data CDs and DVDs produced at LSU for the Louisiana Oil Spill Coordinator's Office. The May 2005 Louisiana GIS DVD is still available from the LAGIC Web site, <http://lagic.lsu.edu/>. Another set of two 2007 GIS DVDs is being created with all the data which had been on the previous CDs and DVDs. This DVD set will be available this summer (2007). For more Louisiana Internet GIS resources, contact the DNR Help Desk.

VI. *Demonstrations and Training*

DNR has hosted many free SONRIS workshops and demonstrations in Louisiana and Texas. These events occur several times per year. The events in Baton Rouge are announced on the DNR Internet Home Page. Persons interested in events in other cities should call the DNR Help Desk to inquire about the scheduled workshops.

VII. *LDNR Web site addresses*

DNR Internet Home Page - <http://dnr.louisiana.gov/>

SONRIS Main Page - www.sonris.com

Document Access - http://sonris-www.dnr.state.la.us/www_root/sonris_portal_1.htm

Interactive Maps - <http://sonris-www.dnr.state.la.us/gis/sonris/viewer.htm>

Coastal Permitting GIS - http://sonris-www.dnr.state.la.us/gis/cmdpermit_ext/viewer.htm

VIII. *LDNR Information Technology SONRIS Contact Information*

The best way to get help using SONRIS is to contact the DNR Help Desk which is in the DNR Information Technology Section. If the Help Desk staff cannot answer your question or help you solve your problem, they will contact the IT staff member most knowledgeable in the subject matter of your question. If there is a question regarding data which the IT staff members cannot answer, the Help Desk will refer the question to the proper DNR division or section which creates and maintains the data. To contact the DNR Help Desk, call 225-342-4556 or toll free 888-792-0432 or e-mail HelpDeskDNR@la.gov.

DNR contact links to other DNR offices/divisions/sections can be found on the DNR Internet Home Page.

IX. Conclusion

By creating SONRIS, DNR has made a conscientious effort to make historic and current oil and gas computer data available to the oil and gas industry for simplifying the planning process required for discovering and producing petroleum products in Louisiana. DNR has presented this data via Internet to speed this process of data gathering; however, the DNR Offices of Conservation and Mineral Resources warn that all computer data should be verified with hard copy files or imaged documents and plats when available.

DNR strives to make its SONRIS computer data as accurate as possible, but there are mistakes, especially in the historic data. The DNR Internet Disclaimer states:

The information on this Web site has been carefully prepared from the best available sources of data. It is intended for general informational purposes only and should not be considered authoritative for navigational, engineering, other site-specific uses, or any other uses. The Louisiana Department of Natural Resources (DNR) does not warrant or guarantee its accuracy, nor does DNR assume any responsibility or liability for any reliance thereon.

DNR's SONRIS system is dynamic and undergoes changes and improvements every week. Improvements suggested by DNR staff and the oil and gas industry and the public are acted upon regularly. If you have suggestions for the general DNR Web site, please submit them to the DNR Internet webmaster at WebmasterDNR@la.gov. Suggestions for improvements to the SONRIS Web sites should be submitted to the DNR Help Desk at HelpDeskDNR@la.gov.

Users of the SONRIS system are asked by the DNR IT staff to provide feedback especially when a functionality or data inconsistency problem is noticed.

DNR's SONRIS has been recognized nationwide by several groups:

- National Governor's Association.
- Computer Technology Industry Association Integration Award.
- Smithsonian Institution Innovation Award Nominee.
- Environmental Systems Research Institute Special Achievement Award for GIS.

Articles in National Publications:

- Information Week.
- Government Technology.
- Governing.
- Oracle Magazine.
- Java Report.
- Knowledge Management.

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