

Exchange Network User Perspective

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NHDES Use of Exchange Network

Existing Data Flows

- Facility Registry System
- Beach Notification/Advisory Data
- Drinking Water Data
- Hazardous Waste - RCRA

Future Flows

- Water Quality Exchange
- Air Quality
- Homeland Security
- Drinking Water Reports (lab data exchange with ME)
- GoMODP Exchange

Why do we participate?

- EPA grant requirements
- Eliminates need to have 2 data systems – ours and theirs
- Opens up data sharing opportunities
- Map data once and reuse
- Get \$\$ to do work through competitive grant program

Experience so far

- Data quality can be an issue – particularly old data
- Takes time to implement but once developed, resource time is little
- Difficult to maintain staff at state level
- Lots of assistance available from other states, EPA, contractors etc.
- Lots of possibilities for data sharing

GoMODP and the Exchange Network

- NHDES applied for an Exchange Network grant in Nov 2006 on behalf of the GoMODP
- Grant awarded Oct 2007 - \$465,097
- Nine partners formally involved in grant
 - GoMOOS, NHDES, Tufts, GoMC, USC (NOAA, NERRS, SEACOOS), UNH, Northeast Fisheries Science Center (NFSC-NOAA), USEPA-Atlantic Ecology Division, Centre for Marine Biodiversity
 - All partners welcomed to participate in project as their time and resources allow
- Still wrangling through NH approval process to accept and expend monies
- Expect to start work in earnest in next couple of months
- Grant completion date = July 2010

Exchange Network Grant Major Points

- GoMOOS develops host node
- Other partners use node clients
- NHDES already has own node
- Develop data exchange schema using the Water Quality Exchange (WQX) schema and data standards as a guide
 - Include biological data
- Crosswalk schema to Environment Canada and IOOS (if existed) schemas
- Develop trading partner agreements
- Flow data
- Develop web application to query and display monitoring data

Why is GoMODP participating in Exchange Network?

- Recommended exchange protocol in technical guidance
- Sharing opportunities – states, EPA, tribes on board
- Allows non-regulatory flows
- Has established data standards and protocols
- Proven technology
- Bridge NOAA and EPA worlds
- Got \$\$

Data Standards

Let's look at some data standards relative to our Exchange Network project

In particular the Environmental Sampling Analysis and Results (ESAR) data standards

- Project
- Monitoring Location
- Analysis and Results
- Field Activity

<http://www.exchangenetwork.net/standards/listing.htm>

Data Exchange Template - WQX

- Describes the data elements in schema: order, type, size, whether required, domain list exists etc.
- All documents related to WQX on the Exchange Network web site:

<http://www.exchangenetwork.net/exchanges/water/wqx.htm>

WQX Schema

Here is an example of what data would look like using the WQX schema:

http://www.exchangenetwork.net/schema/WQX/1/WQX_XMLExample_v1.0.xml

Example Web Application

Pacific Northwest Water Quality Exchange:

<http://deq12.deq.state.or.us/pnwwqx/Search.aspx>

Wrap-up

- Exchange Network has established data standards and protocols – and flexibility
- It's usage is much broader than just handling regulatory flows
- Any data quality issues become readily apparent
- Our project could be a great test case bridge between the ocean and terrestrial worlds
- Please participate in grant project
 - Schema development
 - Web application development