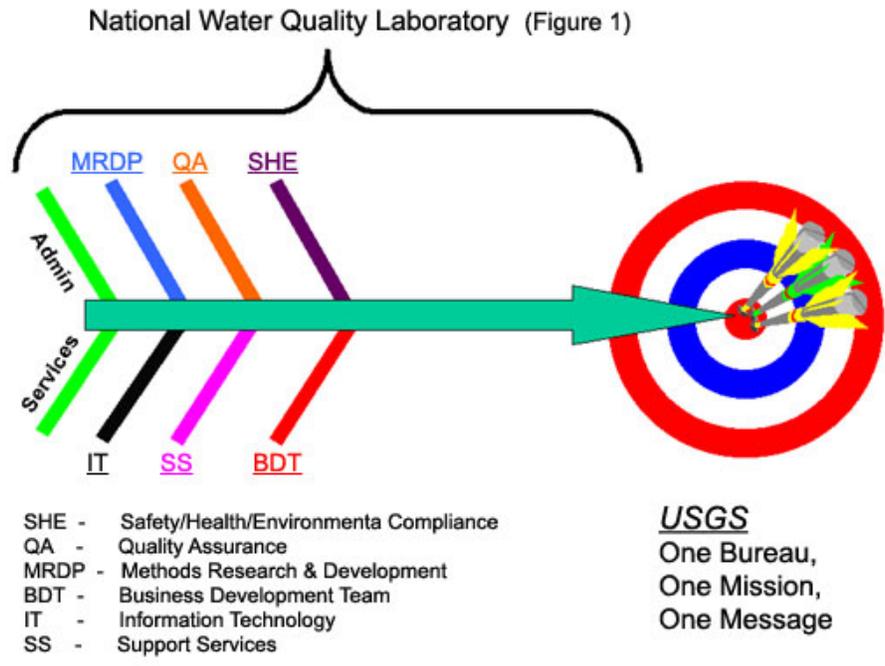


**Laboratory reorganized to enhance core business**

The National Water Quality Laboratory has rearranged its operating units to enhance its core business of providing high-quality analytical services (fig. 1). The most prominent changes involve what were previously called "production" units and the formation of a new Business Development Team. The reorganization was announced by Greg Mohrman, NWQL chief, at a "town hall" meeting October 18.



The new team is a 1-year pilot that consolidates various business elements, such as customer service and communication programs, into a single operation in the same location.

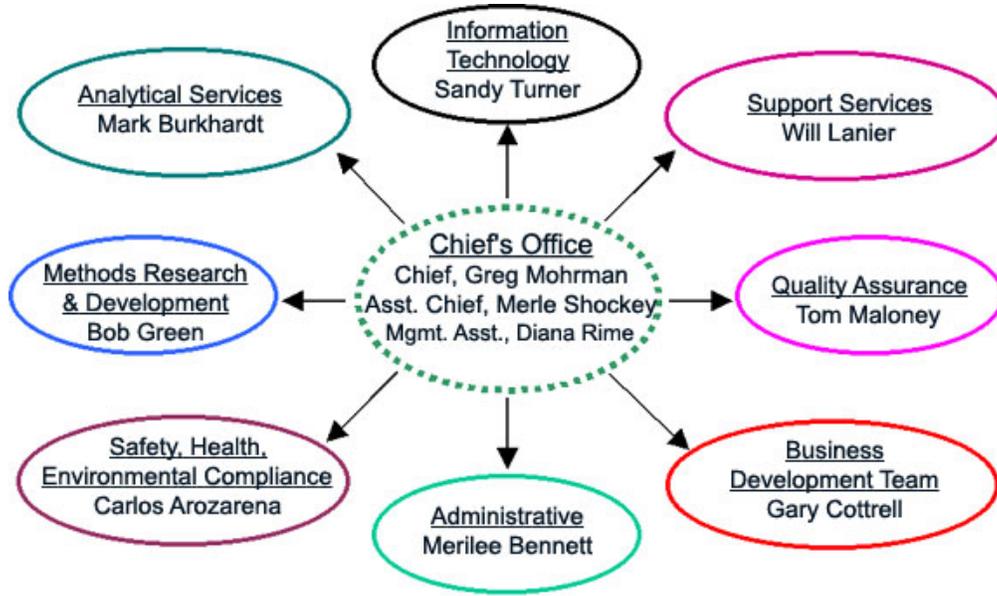
The purpose of this new team above all is to improve customer satisfaction with services offered by the NWQL and to develop effective communication pathways and techniques by consolidating these business elements. The result is intended to be improved focus and consistency.

The Business Development Team is responsible for assisting customers with problems, data tracking, and providing analytical expertise to customers who request assistance in developing project plans. The team will also improve communication through the NWQL Web site and *Newsletter*. The new team was launched October 26. Mohrman is the acting chief of the team. Team members are Patricia Alex, Allison Brigham, Kathleen Bryant, Stephen Glodt, Sherry Oman, Pamela Puleo-Aitken, and Jon Raese.

The other major change involves Inorganic and Organic Chemistry. Inorganic and organic chemistry services, along with the in-house Radiochemical Unit and the Biology Group, have been combined to form a new section called "Analytical Services". Mohrman said he hopes this change will "increase efficiency by cross-training our analysts and providing them with opportunities to diversify their experience and to grow individually."

Mark Burkhardt was named chief of Analytical Services. His phone number is 303-236-3250. The Analytical Services concept will run concurrently with the 1-year evaluation of the Business Development Team.

In the NWQL chief's office, Merle Shockey will continue to serve as a assistant chief with specific responsibilities relating to the continued development of the pricing model and its validation, project tracking, and custom proposal development. A new organization chart that shows the various operating units and their respective managers is shown in figure 2.



**ORGANIZATION CHART** (Figure 2)

### Ocala and Denver Labs establish joint project team

The Ocala Water Quality and Research Laboratory in Florida and the National Water Quality Laboratory in Denver have set up a Joint Project Team to address improvements in overall customer service. A charter was developed to focus team responsibilities on enhancing customer access to field supplies provided by both laboratories.

Taking part in the new team are John McKenzie and Bill DeAngelo (Ocala), and Tom Maloney and Will Lanier (NWQL). Greg Mohrman, NWQL chief, and Michael Meyer, Ocala chief, said the partnering effort should enhance overall operational efficiencies and lead to closer working relations between the two labs.



**VIP TOUR**— Michael Meyer (far right), new chief of the Ocala Water Quality and Research Laboratory in Ocala, Fla., and Carl Goodwin (next to Meyer), chief, Florida District, focus their attention on Dennis Markovchick, physical science technician, during a Lab tour, October 10. Also participating (left to right in background) are Greg Mohrman, chief, NWQL; LeRoy Schroder, chief, Branch of Quality Systems; and Gary Cottrell, supervisory chemist, Nutrients Lab. NWQL and the Ocala Lab have set up a collaborative team to improve customer service.

### FREQUENTLY ASKED QUESTIONS

#### What is the difference between a reanalysis (rerun) and a verification?

A verification involves a review of the unprocessed data whereas a "rerun" is simply a reanalysis of the sample. Not all samples can be reanalyzed, hence the need for verification. For example, if the sample bottle has been discarded or if there is insufficient sample volume for reanalysis, then verification is the only option.

### **When can I expect District-requested reanalysis results?**

Requests for reanalysis are turned around in 2 weeks. If you do not receive reanalysis results within 2 weeks, then send Email to [GS-W-COden.NWQL.DenQC](mailto:GS-W-COden.NWQL.DenQC).

### **Are reanalysis concentrations entered into the NWQL data base so that the Lab and the District data bases are in agreement?**

Results of reanalysis are included in the NWQL data base, but they are not flagged as preferred and transmitted electronically by way of the National Water Information System (NWIS) unless a request is made by the District and sent to [GS-W-COden.NWQL.DenADP](mailto:GS-W-COden.NWQL.DenADP).

### **How do I add lab codes to a sample that I have already submitted to the NWQL?**

Send Email to [GS-W-COden.NWQL.DenADP](mailto:GS-W-COden.NWQL.DenADP) and include the station, date, time, and the lab codes. The NWQL will process the subsequent request if the appropriate bottles are available at the Lab.

### **Where can electronic versions of the new Analytical Services Request (ASR) form be found?**

ASR templates in Microsoft Word and FrameMaker 4 and 5 are available at the NWQL's USGS-visible Website (<http://www.nwql.cr.usgs.gov/USGS/USGS>), Services, Analytical Services Request.

A pad of paper copies can be ordered from the 1stop shopping site at <http://1stop.usgs.gov> by selecting Analytical Supplies (NWQL) and stock number N1040.

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## **Lab tours available**

USGS personnel and their guests visiting the Denver area are invited to arrange for a tour of the National Water Quality Laboratory. As part of his recent presentation at the Conference on Water-Quality Field Activities in New Orleans, Greg Mohrman, Laboratory Chief, invited NWQL customers to visit the Laboratory for a first-hand look at how their samples are processed.

NWQL employees are always willing to guide visitors and explain how the Laboratory operates. Employees are also interested in hearing about customers' specific projects and understanding how NWQL efforts help the customers to meet their needs.

For tour information and arrangements, contact Diana Rime at 303-236-3502.

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## **Training course set for water-quality principles**

The USGS National Training Center in Denver has scheduled the course Water-Quality Principles (QW1022S) from January 30 to February 1 in Atlanta, Georgia. The class is designed as a general introduction to water quality.

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## **Seminars in the news**

Seven NWQL seminars were presented in recent months:

1. Dr. Damia Barcelo, professor at the Institute for Investigation of Environmental Chemistry, Barcelona, Spain, spoke August 1 on the "Application of High-Performance Liquid Chromatography/Mass Spectrometry to the Analysis of Surfactants and Other Compounds Associated with Wastewater."
2. On September 20, Jeff Cahill, NWQL chemist in the Methods Research and Development Program, spoke on "Pharmaceuticals in Surface and Ground Water-Methods and First Results from a National Reconnaissance." Cahill described a sensitive and selective method for identifying and quantifying human pharmaceutical compounds in surface- and ground-water samples by using solid-phase extraction and high-performance liquid chromatography/mass spectrometry. Nonprescription compounds, such as acetaminophen, caffeine, and the nicotine metabolite cotinine, typically were the compounds with the highest concentrations, which ranged up to 98 micrograms per liter.
3. Dr. Emily CoBabe, organic geochemist and adjunct professor at Montana State University, presented a seminar November 7 entitled, "Molecular Paleontology-Using Lipids to Explore Paleodiet."

4. Dr. Thomas Chapin, research associate at the Monterey Bay Aquarium Research Institute, in Moss Landing, Calif., spoke November 9 on "Recent Advances in Long-Term In Situ Monitoring of Nutrients and Metals."
5. Tom Leiker, NWQL chemist in the Methods Research and Development Program, presented a talk November 28 entitled, "Contaminant Levels in Potentially Endocrine-Disrupted Male Carp from Las Vegas Bay, Nevada." Whole-body male carp samples collected in 1999 were analyzed at the NWQL. They were shown to contain abnormal concentrations of sex steroid hormones and higher concentrations of organic contaminants when compared to reference samples from Overton Bay, Nevada. Las Vegas Bay is a major tributary of Lake Mead and receives discharges from several waste-water and sewage-treatment facilities and industrial manufacturing plants.
6. Donald Goolsby, hydrologist with the USGS in Denver, November 29, spoke on the "Long-Term Changes in Concentrations and Flux of Nitrogen in the Mississippi River Basin." He said that current and historical data show a significant increase in the past 100 years. Most of the increase observed in the lower Mississippi River has taken place since the early 1970s and is caused almost entirely by an increase in the use of fertilizers. The current (1980-99) average annual nitrogen (N) flux from the Mississippi Basin to the Gulf of Mexico is about 1,555,500 metric tons per year of which about 62 percent is nitrate-N. This increased supply of nitrogen to the Gulf of Mexico is believed to be partly responsible for the increasing size of a large hypoxic zone that develops along the Louisiana-Texas shelf each summer, said Goolsby. This zone of oxygen-depleted water has doubled in areal extent since it was first measured in 1985. The increase in annual nitrogen flux to the Gulf can be explained, said Goolsby, by three factors: increased fertilizer use, annual variability in precipitation and increased streamflow, and year-to-year variability in the amount of nitrogen available in the soil-ground-water system for leaching to streams. The predominant source areas for nitrogen transported to the Gulf are basins that drain southern Minnesota, Iowa, Illinois, Indiana, and Ohio.
7. Dr. Ivo Raimundo, assistant professor of chemistry at Instituto de Quimica -- UNICAMP, Campinas (near Sao Paulo), Brazil, spoke November 30 on "Monosegmented Flow Analysis Systems- Flowing Microvolumetric Flasks."



**Going with the flow-** Dr. Ivo M. Raimundo (right), shares a light moment with Charles Patton, research chemist in the Methods Research and Development Program. Raimundo, a visiting American Chemical Society Fellow, presented a seminar, November 30. Raimundo and Patton share research interests in continuous flow and analysis and laboratory automation. Prof. Raimundo spent 2 weeks at the NWQL in December, during which time, he and Patton worked on a novel approach to segmented flow analysis and made plans to collaborate on other projects of mutual interest.

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### **New turbidity method effective last October**

The NWQL implemented a new turbidity method effective October 1, 2000. The method requires a 500-milliliter bottle of unprocessed, chilled sample, labeled TBY for Lab Code 2187. Unchilled samples cannot be analyzed by using the new method.

Until June 1, 2001, the NWQL will also be analyzing samples for Lab Code 50 (the existing turbidity method) at no additional charge. Customers should request both lab code 2187 and lab code 50 on the Analytical Services Request form if they would like to compare results between the two methods. Customers must submit two bottles (one TBY for LC 2187 and one TBY for LC 50) in order to get both results.

If LC 50 is requested, an unprocessed, unchilled 250-milliliter sample, labeled "TBY for lab code 50" is also required. For questions, contact Glenda Brown (303-236-3160) or send E-mail (gebrown). Also refer to NWQL Technical Memo at [www.nwql.cr.usgs.gov/Public/tech\\_memos/nwql.00-04.html](http://www.nwql.cr.usgs.gov/Public/tech_memos/nwql.00-04.html).

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### **Arsenic workshop planned in Denver**

A 2-day USGS workshop focused on Arsenic in the Environment is being organized for February 21 and 22, 2001, at the Denver Federal Center. The deadline for final abstracts that require approval is January 31. For more information, check the arsenic Website at <http://www.brr.cr.usgs.gov/Arsenic> or contact the organizers: Kirk Nordstrom (303-541-3037); Martin Goldhaber (303-236-1251); or Robert Wershaw (303-236-3980), the chair of the Arsenic Studies Group steering committee.

## Radiochemical data reporting changes

NWQL radiochemical data received from contract laboratories historically have been censored to the contractual minimum detectable concentration. In addition, in-house gross alpha, gross beta, and radon analyses have been censored. Data were censored on release from the Laboratory Information Management System to the National Water Information System (NWIS). On the basis of negotiations with the Office of Water Quality and the National Water-Quality Assessment Program (NAWQA), the NWQL no longer censors these radiochemical data, effective October 1, 2000, according to an announcement by Tom Maloney, chief of the Quality Assurance Section.

A technical memo is being written by the Office of Water Quality and NAWQA to provide guidance on the interpretation and reporting of these results. Guidance also will be provided regarding the use of the American National Standards Institute procedure that should be applied for assessing significant figures of radiochemical data.

Points of contact for more information are as follows: NWQL, Ann Mullin ([ahmullin@usgs.gov](mailto:ahmullin@usgs.gov)), 303-236-3480; Office of Water Quality, Mike Focazio ([mfocazio](mailto:mfocazio)), 703-648-6808; NAWQA, Dennis Helsel ([dhelsel](mailto:dhelsel)), 303-236-2101, ext. 227.

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**Windows to the world**– Mike Pantea, StarLIMS team leader, is congratulated by Kathryn Clement, USGS deputy director, at the Survey's Honor Awards Ceremony, November 14 at the Denver Federal Center. Pantea, along with other team members, received a Unit Award for Excellence of Service on the Windows 2000 Investigation Team. Pantea, a geologist/systems engineer, is serving a 6-month detail to coordinate and implement the Laboratory Information Management System at NWQL.



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## Furlong coauthors article on toxins from vehicles; Custom method developed by staff to support study

Pollution from traffic congestion in major cities, such as Washington, New York, and Seattle, is getting into waterways, where it is toxic to animal and other aquatic life, according to research presented in a recent issue of *Environmental Science & Technology*, a peer-reviewed journal of the American Chemical Society. USGS scientists Peter Van Metre, Barbara Mahler, and Edward Furlong (NWQL research chemist) coauthored the article.

The study evaluates trends in polycyclic aromatic hydrocarbons (PAHs), a group of contaminants with multiple urban sources. Van Metre says effects caused by vehicle traffic included PAH concentrations in reservoir sediment up to 100 times greater than pre-urban conditions. Sediment-core samples were analyzed from 10 reservoirs and lakes in six metropolitan areas. Sources of PAHs from traffic include soot, asphalt, motor oil, tire and exhaust emissions.

The contaminants can also come from industrial plants or other sources, but the researchers determined the increase, for the most part, was caused by more cars on the highways. The compounds typically are carried to waterways by stormwater.

Sample data for the study were produced by NWQL Analytical Services by using a custom method. The method was developed by Mike Schroeder, Mary Olson, Jana Iverson, and Ed Furlong. The analytical process is being validated for use as an approved USGS method.

The references follow:

Van Metre, P.C., Mahler, B.J., and **Furlong, E.T.**, 2000, Urban sprawl leaves its PAH signature: *Environmental Science and Technology*, v. 34, no. 19, p. 4064-4070. In addition, the published study was briefly reviewed in the weekly Newsmagazine of Science, in an article titled "Sprawl's Aquatic Pollution"; see *Science News*, v. 158, no. 21, Nov. 18, 2000, p. 332.

## StarLIMS enters new development phase

Project team members last month kicked off the follow-on phase of development for StarLIMS, the new Laboratory Information Management System. The StarLIMS team brought together about one-third of key Laboratory personnel and selected National Water Information System (NWIS) participants to serve as primary testers and trainers for the new system. This group will develop test criteria and document test plans and procedures. Hands-on testing is also underway.

The Information Technology Section is providing training and demonstrating the new system to the test team and to NWQL staff. Staff members who previewed StarLIMS have been able to test the special features and capability of the system. For example, Pat Alex, who handles customer relations for the new Business Development Team, was favorably impressed with the power of StarLIMS and the ease of information retrieval, after her preview December 11.

The StarLIMS development team hopes to launch the new system "before workloads increase for the 2001 sampling season," according to Mike Pantea, team leader. A specific date has not been set. Successful completion of the testing, demonstrations, and training phases are expected to accelerate the implementation.



**Holistic Approach**-Tom Bushly (standing with Tootsie Pop in hand), computer engineer with the Information Technology Section, handles questions and answers during a training session to acquaint NWQL staff with StarLIMS. Also shown (counterclockwise) are Mike Pantea, Kathy Lindblom, Nancy Wydoski, and Merilee Bennett.

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## Letters are welcome

Suggestions and questions from our readers are welcome. Please write to us, send E-mail ([jwraese@usgs.gov](mailto:jwraese@usgs.gov)), fax (303-236-3499), or call the Editor (303-236-3464). Do you have questions regarding NWQL processes, activities, and methods, or suggestions for Newsletter articles? If so, kindly drop us a line from time to time; we appreciate your comments.

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