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# Lake Roosevelt Forum

# NEWSletter

SUMMER 2003

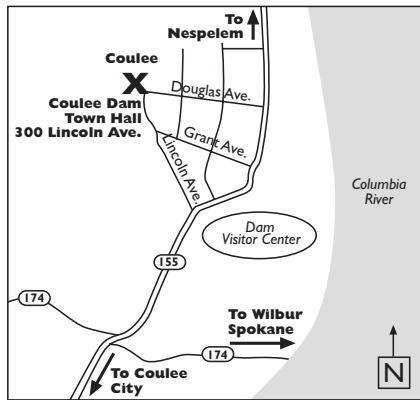
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## Forum Open House and Steering Committee Meeting



**November 12, 2003**  
**Coulee Dam Town Hall**  
**Open House 3pm**  
**Steering Committee Meeting 4pm**

employees questions about lake levels; or have the National Park Service fill you in on progress with the Personal Watercraft Environmental Assessment and rule making process.

At the same time, the Forum can tell you more about specific initiatives. For example, the aerial photography that is now available through the GIS project, visitor and environmental information that will be available via the web site we will be launching soon, participation in Student Discovery Week, and outcomes from the spring conference.

The Open House will be directly followed by a Forum steering committee meeting. At this time of the year, the Forum begins to prioritize initiatives and activities for 2004. Public meetings are a good example. What topics should be addressed? How often should we hold such meetings? What types of meeting formats are possible?

Remember, you are all members of the Forum and anyone who wants to participate in steering committee meetings is most welcome. Says Deral Bolenus, Lincoln County Commissioner and the Forum's Board President, "The Forum exists to help keep people informed and engaged, as well as encouraging folks to work together. Before we jump to conclusions about how best to do that, we want to ask folks what they think."

We hope you come out and join us on November 12th. Your input will help assure the Forum's continued success in 2004. For more information, contact us at (509) 535-7084, or [info@lrf.org](mailto:info@lrf.org).

THE LAKE ROOSEVELT FORUM WOULD LIKE TO INVITE COMMUNITY MEMBERS to an open house and steering committee meeting on November 12th.

This is an important opportunity for you to give the Forum feedback on what we've been doing, and provide input and suggestions for upcoming initiatives.

The open house will begin at 3:00 p.m. You will be able to meet with steering committee members in an informal setting that allows you to ask questions about the Forum's 2003 initiatives and other Lake Roosevelt topics. For instance, you can talk with local fishery project managers about hatchery and net pen operations; ask Bureau of Reclamation em-

# GETTING TO KNOW SUE KAHLE

Sue Kahle is a rock hound.

Says Sue, “It started when my dad took a rocks and minerals class and I got to tag along on the field trips. Then I had a great middle school earth science teacher, Mr. Buck.”

So what do rock hounds do when they grow up? Some go to work for the United States Geological Survey (USGS), or at least that’s what Sue did.

The USGS is a federal agency which provides scientific research and information “about the Earth, its natural and living resources, natural hazards, and the environment.” The agency prides itself on being a non-regulatory, unbiased source of scientific information. Specific to Lake Roosevelt, the 1990s saw USGS conduct early and important sediment and fish tissue studies that explored environmental concerns stemming from upstream mining, milling and pulp operations.

Sue is a hydrologist in the Water Resources Division of the USGS, based in Tacoma, WA. For a couple of reasons, however, she spends much of her time in the Lake Roosevelt area. First, there is her work with the WRIA 59 Colville River Watershed Planning Unit, which is located in Stevens County. USGS and the Planning Unit are cooperatively studying the hydrogeology and water resources of the area. For rock hounds like Sue, this means studying where the aquifers and confining units are, how water moves between these units and surface water, and where bedrock occurs.

A second part of the USGS work in Stevens County involves developing a computer ground-water flow model that will help the local community and agencies assess their ground and surface water resources and plan for the future. In a world where water is a finite resource facing ever greater struggles to keep up with demand, the work being done is critical.

For Sue, it also shows how federal agencies can work hand and hand with local communities in a supportive manner. Says Sue, “Nearly all of the WRIA 59 participants

*Sue Kahle works for  
the United States  
Geological Survey.*



are volunteers from the local community. Even though they have diverse interests, the group holds together because they recognize the need to do so. They want good science because they want to make sound water resource decisions for their community. Their commitment and knowledge levels are really high.”

And best of all, when she goes to meetings in Colville she often gets a home cooked meal. “I grew up in Spokane, and my parents moved to Colville where they are now retired. It’s been an added bonus to get to visit them and other family members more often.”

Sue is also the Washington District contact for the USGS air monitoring study [see this issue’s sediment contamination article] being conducted on Lake Roosevelt. Comments Sue, “The technical USGS lead is in California. So to make sure we can effectively meet with people and use our time wisely, I help serve as an intermediary or interface between USGS and local stakeholders.”

As with the WIRA 59 group, Sue is also impressed with those concerned with Lake Roosevelt’s water quality and sediment issues. “People are dedicated. In the case of sediment contamination, I think the study work is on the right track. I recognize that it’s difficult for people to be patient and await the outcome of future studies. The Lake Roosevelt system is extremely complex and the area is large. I doubt there are any quick and simple answers.”

And when not studying the hydrogeology of the area, what does Sue do? Take rock explorations, of course. For the Kahle’s, it’s a family affair. After graduating from Western Washington University, she married a geologist. Two children later, family vacations often have a prehistoric theme.

This summer, for instance, they traveled to Alberta’s Dinosaur Provincial Park. Says Sue, “The fossil beds were incredible... sharks, fish, and dinosaurs. We loved it.” ✱

# Sediment Contamination Reviews of Lake Roosevelt Continue

Seven Bays  
air monitoring  
station.



FEDERAL, STATE AND LOCAL GROUPS are continuing to review and consider options for addressing sediment contamination in Lake Roosevelt.

As documented in reports from the Environmental Protection Agency (EPA), the United States Geologic Survey (USGS) and the Washington Department of Ecology (WDOE), sediment contamination in Lake Roosevelt stems largely from past mining and milling operations, smelting operations and pulp and paper production. Discharges from Canadian industries into the Columbia River contributed significantly to what is now in the soil and sand of Lake Roosevelt.

## SUPERFUND LISTING

In November of 2002, EPA released a draft site investigation report to help determine if Lake Roosevelt is eligible for possible inclusion on its National Priorities List (NPL), commonly called the “Superfund” list. In 2003, EPA’s Management Review Team received and considered comments from agencies, tribes and the public regarding this report.

Based on EPA’s findings and input, staff recommended development of a Remedial Investigation Feasibility Study (RIFS) for Lake Roosevelt. The purpose of an RIFS is to determine what, if any, human health and ecological risks are occurring as a result of sediment contamination. If such risks are found, the RIFS would suggest appropriate remedies.

Development of an RIFS work plan is an extensive process. Cami Grandinetti, an EPA Superfund Project Manager, notes that “Development of the RIFS would include all the stakeholders and would involve technical discussions and negotiations about how to characterize the site, how to assess risk ... and then select, if necessary, appropriate cleanup actions.” How long it will take to complete an RIFS will become clearer once the work plan is developed.

Funding for an RIFS can be pursued either through a superfund listing or through a parallel process without a listing – Superfund Alternative Guidance. Currently, EPA staff is in discussions with Tech Cominco, the owner of a Canadian smelter, and others to help determine what course will be taken. Says Dave Croxton, site cleanup and brownfield manager for EPA, “We’re pursuing a number of avenues and see Tech Cominco as an important part of achieving an alterna-

tive process. But one way or another, we will need to secure the resources to get the job done.” An RIFS work plan would not be implemented until funding sources are identified and a listing decision made.

## AIR MONITORING

While these actions are being considered, USGS has continued with its air monitoring studies. USGS is monitoring the trace element concentrations in air and comparing those concentrations with available air-quality standards. The study is being conducted in order to determine if contaminated sediments exposed during annual winter/spring draw downs of Lake Roosevelt are resulting in elevated trace element concentrations in air.

A 2003 report by USGS, which was part of establishing base line data for the air monitoring work, did determine that contaminants are present in the fine-grains of exposed beach, bed and bank sediments along the length of Lake Roosevelt. The report can be found on line at <http://water.usgs.gov/pubs/wri/wri034170/>.

It is not known whether contaminated sediment exposure and movement into the air via wind blown dust results in human health concerns. To determine if such a link may exist, three air monitoring stations were set up beginning in 2002 at Seven Bays, Inchelium and Kettle Falls. In 2003, the same monitoring was conducted; however, the Kettle Falls station was moved to Marcus. Samples were taken for a suite of trace elements including arsenic, cadmium, copper, lead and zinc.

All samples were well within ranges considered acceptable for human health using airborne contaminant standards guidelines established by EPA and the California Environmental Protection Agency. Comments Mike Majewski, Research Chemist for USGS, “While these results are encouraging, several more years of sampling and continued data analysis are needed to determine an accurate picture.”

## NEXT STEPS

To become more directly engaged in tracking sediment contamination issues or assuring your perspective is heard, there are two community groups you may wish to contact.

There is the Lake Roosevelt Water Quality Council, which is coordinated by the Colville Confederated Tribes. For further information, contact Patti Stone at [patti.stone@colvilletribes.com](mailto:patti.stone@colvilletribes.com). There is also the Upper Columbia Working Group for Responsible Stewardship, which is being coordinated by county commissioners from the area. For further information, contact Merrill Ott at [mott@co.stevens.wa.us](mailto:mott@co.stevens.wa.us). ✱

# Lake Roosevelt Managers Making Use of New GIS Data

IN THE SPRING OF 2002, A SMALL WHITE PLANE GUIDED BY GPS (Global Positioning System) followed very precise north/south flight lines over Lake Roosevelt. Was the plane spying? No. Was it taking pictures others could use? Yes. Here's how all of us benefit.

GIS, which stands for Geographic Information Systems, has become a critical component of land, water and facilities planning. Simply put, aerial photographs can be put into a digital database. With this information, planners and resource managers can more efficiently and accurately record critical information like parcel data, electric and water utilities, and well locations. When combined with an additional process called orthographic rectification, it's also possible to use this imagery for mapping. When considering transportation, property setbacks and similar needs, this information is critical.

In the case of Lake Roosevelt, available GIS data was outdated and hindering the ability of managers from several agencies to be as effective as they'd like. As a result, the Forum was asked to create an ad hoc GIS group that could collaborate on solving the problem. The result was a group that includes the National Park Service, the Bureau of Reclamation, the Bonneville Power Administration, the Colville Confederated Tribes, the Spokane Tribe, the Bureau of Indian Affairs, Lincoln County, Stevens County and Grant County.

Working together, they pooled their resources to conduct a GIS flyover and produce orthorectified images. After reviewing contracting options, the group chose to have the Washington Department of Transportation conduct the flyover. Yakima County was then asked to orthorectify the images.



*Geographic Information Systems makes this digital image of Keller possible.*

The area covered includes Lake Rufus Woods, Lake Roosevelt and a two mile land buffer around it, and the Spokane Indian Reservation. Additional imagery of northern Lincoln County and Colville were also taken. In total, this represented 1,365 square miles (or 875,000 acres).

"The amount and quality of imagery is astounding," said Greg Behrens, geographer/geologist for the Bureau of Reclamation. "Technically, we say its true color, 0.5 meter resolution. We can't read your license plate with that, but we sure can see cars and parking stripes in your parking lot clearly."

For those who like to think in bits and bytes, that's over 192 gigabytes of imagery that could fill 300 CD-ROMs.

Already, managers are putting the data to good use. For instance, Ray Depuydt, Archaeologist with NPS, has been working with area tribes, BPA and the Bureau of Reclamation to develop a common database of known cultural resource sites. With GIS, those sites are now mapped. So, says Ray, "When I get calls asking if project work can be done in a potentially sensitive cultural area, I just fire up my computer and within a few minutes can see

how the cultural site is situated on the landscape. The combination of accurate GPS receivers, digitized facility maps, and up-to-date aerial photography has greatly facilitated the management of cultural resources in the reservoir."

Likewise, Nate Krohn, Landscape Architect with NPS, uses this data for multiple types of resource planning. "We are using the aerial photos for everything from overlaying utility and facility data to determining grazing permit acreages. This imagery provides an excellent cartographic base to overlay associated data." Most recently, Nate has been using

# Lake Being Raised in the Fall to Help Resident Fisheries

WHEN LAKE ROOSEVELT'S LAKE LEVELS CHANGE to assist fisheries, it's usually done to help downstream fisheries. In particular, the ESA listing of salmon and the need for NOAA Fisheries (formally called NMFS) to develop a Biological Opinion has changed Lake Roosevelt's operational flows at different times of the year.

For instance, this year the lake level was reduced to 1278 in late August to assist fall Chinook in their upstream migration. As importantly, however, regional managers then try to raise the level to at least 1283 feet by the end of September. This is to assist with Lake Roosevelt's kokanee fishery, specifically brood stock collection and assuring their access to tributaries.

Says Craig Sprankle, ESA Coordinator for the Bureau of Reclamation, "It's a difficult balancing act. But we're certainly committed to trying to meet the needs of resident as well as downstream fisheries."

Deanne Pavlik, Program Manager for the Lake Roosevelt Fisheries Evaluation Program, stresses the importance of working with agencies to meet these local needs. Says Deanne, "The Spokane and Colville Tribes have been



*Adjusting lake levels to aid in sustaining and developing natural habitats.*

working closely with the Washington Department of Fish and Wildlife and others to sustain and develop the kokanee fishery. For the tribes, this fishery is also an important cultural resource because the salmon that used to migrate to this area from the Pacific were blocked by the building of Chief Joseph and Grand Coulee dams."

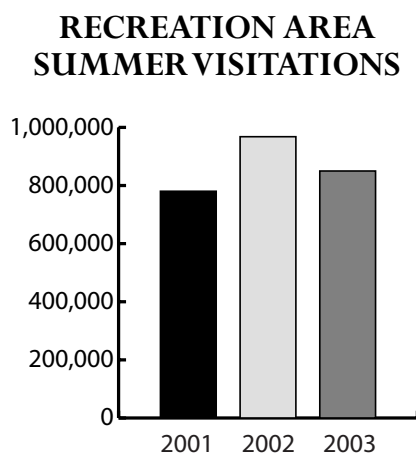
With funding from BPA's Fish and Wildlife Program, great strides have been made to assist the kokanee fishery. Since 1990, the harvest rate for kokanee has been over 13,000 annually. Based on this investment and the cultural needs, Deanne summarizes the situation by saying "To not do everything possible to help the kokanee when they need to migrate into tributaries for spawning would be counterproductive, to say the least. We've taken the issue to the Northwest Power Planning And Conservation Council and the federal agencies. Thankfully, they're working with us to address the need." \*

## Recreation Area Visitations Declined This Summer

WHILE 2002 SAW A RECORD NUMBER of visitations to the Lake Roosevelt National Recreation Area (LRNRA), this year saw a decline of 12% from 2002.

The National Park Service reports that at least part of this decline is being attributed to the uncertain global situation and higher gas prices. Nationally, for instance, public use of the park system declined by 6.2% during the first half of 2003.

In addition, this year LRNRA installed new and more accurate traffic counters. \*



GIS, CONTINUED FROM PAGE 4

the GIS data to support the Lake Roosevelt weed control project.

"When we developed a contract for noxious weed management, we used GIS data to prioritize and create mapping for spraying. It was critical to be precise in the contract because there were only enough funds to serve a certain amount of acreage. The aerial photos were vital to accomplishing that goal."

Nate went on to talk about the weed control project with the University of Idaho. Here, a team was brought in to inventory and map weeds in particular areas. When they did this, they also used GPS technology to record the precise locations of particular weeds. This information is then combined with GIS data to provide very precise coordinates for

GIS CONTINUED ON PAGE 6

# Lake Roosevelt Forum

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## GIS, CONTINUED FROM PAGE 5

mapping. As importantly, it makes inventory and monitoring much more precise next year. Putting the information together, says Nate, “allows us to monitor park resources while providing a common framework for sharing data with local agencies.”

Jason Guthrie, the GIS Planner with Lincoln County, considers GIS a real asset in working with the public. In Lincoln County, eighty percent of new development is occurring on lots that oversee or are near Lake Roosevelt. Many of these lots are sold to retirees and others not fully familiar with the area. “If you’re a new landowner, you’ll probably be visiting us soon enough to try and site your well or septic tank. Or maybe you’re trying to figure out how close you can build to your neighbor’s property line. They come in expecting to see an old Platte map. Instead, they see a beautiful aerial picture of their property with all the proper property lines laid in, so they’re pretty impressed. Knowing we have great information and want to help improves our relationships with everyone. Some folks even like to get aerial copies they can send relatives.”

Notes Greg Behrens, “From monitoring erosion to helping with vegetation studies, we’ve just scratched the surface of

what this data helps us with. It’s also a great example of how the Forum helps make things possible. It’s really been smooth sailing.”

For more information about available GIS imagery, contact the Forum at [info@lrf.org](mailto:info@lrf.org). ✨

## Feedback

1-800-279-6375 OR EMAIL: [info@lrf.org](mailto:info@lrf.org)  
Please share your questions and comments with us. Let us know what you’d like more information about or would like to see featured in future issues. We will provide you with a response or additional information.

## Get On The List

The Lake Roosevelt Forum Newsletter is a free publication. If you’d like to be added to our quarterly mailing list, please call us toll-free at 1-800-279-6375 or write us at the address listed above. Be sure to spell out your name and street address. Don’t forget to include your zip code.