

Liane Russell – Oak Ridge icon, world renowned biologist and lover of wilderness

(As published in The Oak Ridger's Historically Speaking column on September 30, 2008)

The Atomic Energy Commission, on January 1, 1947, officially took responsibility for the nation's atomic energy program from the Manhattan Project's General Groves and Colonel Nichols. This change resulted in Oak Ridge being changed from the central location for managing the entire atomic energy programs to being a smaller field office. Yet, Oak Ridge remained central to nuclear energy research.

However, the momentum built up in Oak Ridge while helping to win World War II was slowing. Many of the scientific staff members were leaving. A small group of University of Tennessee professors and Oak Ridge scientists were attempting to keep the scientific brain trust at the Clinton Laboratories built during that amazing world changing period.

While working to establish increased credibility by creating a national laboratory in Oak Ridge, the leaders of Clinton Laboratories were expanding into new and exciting fields of study. The first major accomplishment came from the medical isotope program that was a collaboration of the calutrons at Y-12's Building 9731 Pilot Facility and the Graphite Reactor at the Clinton Laboratories.

One of the next major advances came when Bill and Liane Russell were convinced by Alexander Hollaender to come to Oak Ridge and start a research project that resulted in one of the world's most prestigious mouse-genetics programs. Ultimately, a census of some 250,000 mice was maintained at the "Mouse House" at Y-12.

The "Mouse House" at Y-12 has been closed and the research moved to a new facility on the western portion of the main campus at the Oak Ridge National Laboratory appropriately named, the William L. and Liane B. Russell Laboratory for Comparative and Functional Genomics. While Lee has retired in 2002 and Bill died in 2003, their legacy lives on and at present she remains on guest assignment at ORNL.

The ORNL Review reports that "under Hollaender, Bill and Liane Russell started a large-scale mouse-genetics project in 1947. They began to build up special mouse strains for study of the effects on offspring born to parents exposed to radiation. The mouse-genetics program eventually would accommodate a steady-state census of 250,000 mice."

The ORNL Review continues, "The Russells also initiated a project to study radiation effects on development. In 1950, Liane Russell reported that specific types of birth defects resulted from radiation exposure during 'critical periods' in embryonic development. In 1952, the Russells jointly informed the medical community that the stage of prenatal development at which radiation is introduced strongly influences the amount and type of damage to the human embryo and fetus. They made specific recommendations on avoiding risks to unsuspected human pregnancies from diagnostic X rays that were adopted worldwide."

At the age of 71, Russell received the Enrico Fermi award "for her outstanding contributions to genetics and radiation biology, including her discovery of the chromosomal basis for sex determination in mammals and her contributions to our knowledge of the effects of radiation on the developing embryo and fetus. Her findings have been the benchmark for the study of mutations in mammals and genetic risk assessment worldwide."

Born in Vienna, Austria, she became a U.S. citizen in 1946. She earned her B.A. from Hunter College in New York City and her Ph.D. from the University of Chicago. She and her husband, Bill, came to the Oak Ridge National Laboratory in 1947. In addition to the Enrico Fermi Award, her many honors include the international Roentgen Medal (1973), Hunter College Hall of Fame (1979), and the Environmental Mutagen Society's EMS Award (1993). Additionally, Dr. Russell was elected to the National Academy of Sciences in 1986.

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Although she has many awards and has been recognized, along with her husband, Bill, for their illustrious technical career, I think it is safe to say she is equally proud of their accomplishments in the preservation of our natural resources. She and Bill were instrumental in forming a volunteer advocacy group that was then and still is second to none in effectiveness.

In political circles Liane's second career as a volunteer activist for the protection of wild and natural lands and rivers in Tennessee and the Nation may have brought her and Bill even more renown. With her late husband, William (Bill) Russell, she helped to found the Tennessee Citizens for Wilderness Planning (TCWP) in 1966.

Bill and Liane's efforts have led, among other things, to the designations of the Obed National Wild and Scenic River and the 125,000-acre Big South Fork National River and Recreation Area. She has received the prestigious Marjorie Stoneman Douglas Award of the National Parks and Conservation Association.

On the main page of their web site, the following statement best describes her passion for preservation of wild lands and what makes this organization unique in the world of advocacy groups: "TCWP's strength lies in researching information pertinent to an issue, informing and educating our membership and the public, interacting with groups having similar objectives, and working through the legislative, administrative, and judicial branches of government on the federal, state, and local levels."

Recently Lee presented an overview of the history and successes of the TCWP to the 43 Club. I was pleased to attend and found her presentation rewarding and most interesting. She used a 35 mm slide projector and showed some color slides of beautiful locations in the areas where the TCWP has been instrumental in preserving.

She spoke about the early campaigns of TCWP as being:

1. Defeat the proposed dam on the Big South Fork river
2. Pass key state laws preserving rivers, trails and natural areas
3. Regulate strip mining
4. Stop destructive dams proposed for Little Tennessee and Duck Rivers
5. Protect wilderness in national forests

Early efforts of the TCWP were enormously successful – beyond the wildest dreams of those early founders:

1. The dam on the Big South Fork was defeated AND the area was protected through gaining national park status
2. The dam on the Obed River was defeated AND the area was protected through national wild and scenic river status

Other early efforts were also successful:

1. The Smoky Mountain National Park trans-mountain road was defeated – one of the two reasons the organization was initially formed, the other was the threat of the dam on the Obed
2. State laws were passed to create
 - a. Scenic Rivers System (1968, first in nation)
 - b. Natural Areas System (1971, 50+ areas now protected)

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- c. Trails System (1971)
- 3. Passed strip mine laws (state 1972; federal 1977)

Locally the TCWP is active in many areas:

- 1. Maintenance of North Ridge Trail
- 2. Care of Worthington Cemetery
- 3. Conduct annual clean up of Oak Ridge Cedar Barrens
- 4. Maintain Whites Creek Trail (TVA area)
- 5. Maintain the Nemo portion of Cumberland Trail
- 6. Hold annual March for Parks
- 7. Produce environmental films for schools
- 8. Conduct environmental lectures

Political action is integral to TCWP activities:

- 1. Publish an annual Political Guide
- 2. Encourage TCWP members to contact key legislators and government agencies
- 3. Provide pre-election information to identify candidates environmental record and/or platform
- 4. Support the lobbying arm of Tennessee's environmental movement

The mission of the TCWP is to protect natural lands and waters with a focus on the Cumberland Plateau and Appalachian regions. Some of the strengths of the organization are the meticulous research of pertinent information on a given issue, informing their members and the public, interacting with others who share their concerns and working through all branches of government.

One of my favorite trails for hiking is the eight-mile Oak Ridge North Ridge Trail. It was developed by TCWP and has subsequently been designated both a state and national recreation trail. It is literally within a mile of most of Oak Ridge and easily accessible in at least three well marked locations and even more if you know where to drop off the north side of Black Oak Ridge.

Lee Russell is an Oak Ridge treasure! She is unique, multi-talented, entertaining, exciting and energetic. We need more "Lee's" and we need more "Bill's." When Alexander Hollaender convinced them to come to Oak Ridge in 1947, he sure did us all a favor.

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Lee Russell wearing a pendent that her late husband carved from sumac...it is beautiful piece and one she treasures