

# NewsNotes from the China Lake Defense Alliance

China Lake Defense Alliance: committed to preserving China Lake as a full-spectrum weapon system RDT&E and training resource for the armed forces of the United States and our allies throughout the free world

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## CHINA LAKE RESEARCH: THE OLD AND THE NEW

Since its earliest days, China Lake has always had a dedicated research component. The base's laboratories are the birthplace of innumerable discoveries and inventions that have contributed to the success of the U.S. military. Many of the products—from high-powered explosives to chemiluminescent light sticks—have also found nonmilitary applications in industrial and consumer products.

Today the Research Department, under the direction of long-time China Laker Frank Markarian, continues to perform fundamental research in areas ranging from aerodynamics and air vehicle design to warheads and terminal ballistics.

“We’re still doing very interesting work in the traditional areas, fields like chemistry, energetics, and nonlinear optical polymers,” says Markarian.

But there’s a lot more going on today in the research laboratories and facilities throughout the base. Experiments are under way in fields that were not even dreamed of in 1943.

“There’s directed energy, high-energy lasers, and high-power microwaves,” explains Markarian. “We’re also doing a lot in nanotechnology. Nanoaluminums, for instance—very, very fine powders—offer greater energy release in energetic materials.”

While China Lake scientists concentrate on fundamental research, it is usually with an eye to how the products of that research will ultimately support defense. The Department’s professional staff of more than 130 scientists and technicians also provide their expertise directly to ongoing programs.

Dr. Dan Harris, for example—the nation’s leading expert on infrared and electro-optical windows for missiles—supports operational systems, like Standard Missile and the Rolling Airframe Missile, as well as developmental programs, like the Joint Common Missile.

Partnerships have always been important to China Lake’s scientific progress. The Research Department has extensive, long-term relationships with many academic institutions, other government agencies (such as the Defense Advanced Research Projects Agency and the National Science Foundation), and industrial and commercial laboratories.

Image and signal processing is another area of growing interest to the China Lake research community. Rapid identification, classification, transmission, and exploitation of imagery from a

host of sensors and platforms is critical to success in the network-centric battlespace.

In an era when even the foot soldiers on the front lines are packing electronic equipment—computers, night vision goggles, communications equipment—dependable, high-capacity energy storage devices are becoming increasingly important. China Lake has been a leader in battery research for decades and is now expanding its research into supercapacitors and hybrid energy-storage devices.

And after many years of DOD drawdowns, the demographic of the Research Department has rebounded. “A number of people have retired,” Markarian said, “But we’ve also been hiring new people. That includes some excellent young PhDs with skills that are unique to the Department.”

Clearly the research program at China Lake is not only alive and well, but also growing in exciting new directions. The talented men and women in the laboratories and research facilities throughout China Lake will continue to work on the cutting-edge of science, providing the components and technologies necessary to build weapons that win wars.

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**EDITOR’S CORNER**

**A Model for BRAC Joint-Service Activity**

Operations in Afghanistan and Iraq have shown that the military services can work together effectively in combat. But sometimes it seems they have a hard time applying the same spirit of

cooperation in the development and testing of new systems.

In research, development, test and evaluation (RDT&E), each service has insisted on maintaining its own complete set of field activities—despite the recommendations of joint-service working groups in BRAC 1995 to consider the consolidation of aircraft and weapons development on either the East or West Coasts.

The Research and Development Working Group didn’t mince words. It recommended that all fixed-wing RDT&E be focused at Edwards Air Force Base, and air-weapons RDT&E be consolidated at China Lake. The services ignored these recommendations from their own experts.

Here in California, however—outside the immediate vicinity of Washington DC—the value of sharing resources and working together is not only recognized, it’s the only way to do business. In the air warfare arena, Edwards, China Lake and Point Mugu have worked closely for many decades. Any project manager in the field who has to deliver a product on a limited budget with a tight schedule recognizes the obvious—if he or she can get quality work done next door without an expensive, time consuming deployment to the other side of the continent, he or she goes next door.

As a result, Edwards Air Force Base comes to China Lake when China Lake has the capability to meet Edwards needs, as is often the case (and China Lake managers make sure that Edwards gets outstanding service at a fair price). Similarly, China Lake has used the Benefield Chamber at Edwards for electromagnetic testing. The cooperative process also goes on routinely between Edwards and Point Mugu.

The best-documented example of interservice cooperation in California is the joint management of the 18,000-square-mile restricted airspace R-2508—the largest airspace in the United States restricted to military use. R-2508 is used by military aircraft from all over California and adjacent states.

By formal agreement, the airspace is jointly managed by the Navy (China Lake), Air Force (Edwards), and Army (Fort Irwin National Training Center), in cooperation with the Federal Aviation Administration. The Commanders of the military bases set policy, and range personnel actively manage the thousands of events that take place each year.

This joint use and management has functioned for as long as the restricted air space has existed, and the joint management structure has been formalized since the 1970s. Although the R-2508 joint-service agreement has a provision for referring issues that can't be resolved at the local level to the service staff level in the Pentagon, the provision has never been used.

At the same time that this model of tri-service/interagency cooperation is functioning smoothly in California, the military services in Washington are struggling to find ways to reduce the cost of base infrastructure and to meet Secretary Rumsfeld's goals of enhancing military efficiency and effectiveness while increasing joint-service activity.

An unbiased look to the West—to the land, sea, and air space, the climate, the broad range of laboratory and range facilities, and the highly competent work force—should impress BRAC decision makers. The long history of effective joint operations among California's Army, Navy, and Air Force bases offers an excellent example of how to meet the Secretary's goals.

## **A LEVEL PLAYING FIELD?**

### **Part Four: Ohio**

California is home to 35 million people (about 12% of the nation's population) and boasts the largest number of military installations in the nation (36 major and 25 minor facilities).

In anticipation of BRAC 2005, California approved an \$800,000 grant program for 2002 and 2003 to help military communities prepare for BRAC. The state also set up the Office of Military Base Retention and Reuse in Sacramento.

Ohio has a population of 11.4 million, or about 4% of the U.S. population. Each year some 38,000 Ohio defense workers pump \$4 billion into the state's economy.

How do Ohio's BRAC-defense efforts compare with California's?

For starters, Governor Bob Taft has established an unambiguously titled All-Ohio Task Force to Save Defense Jobs. The Task Force's high-level leadership team includes three retired Air Force generals.

Ohio has distributed \$2.5 million to six regional development groups to help fight BRAC closures. "The \$2.5 million in state funds we are distributing will help ensure these communities can be prepared to defend Ohio's military jobs," said Taft in announcing the grants.

That money is being leveraged at the local level. City and county governments near the Defense Supply Center Columbus used part of their \$0.5 million share of the state money, along with locally contributed matching funds, and hired The Greentree Group—a professional consulting group with extensive BRAC experience throughout the country—to create "an unassailable business case for the military value at DSCC."

Governor Taft is also taking a strong personal leadership role in Ohio's BRAC defense. Earlier this month he went to Washington to lobby for maintaining Ohio's military infrastructure in BRAC 2005.

Along with his defense and aerospace adviser, Joe Renaud, Taft personally met with James Roche, Air Force Secretary; Lt. Gen. John Bradley, head of the Air Force Reserve; Lt. Gen. H. Steven Blum, National Guard Bureau chief; and other Pentagon officials.

Wright-Patterson, near Dayton, is Ohio's largest base (the second largest in the Air Force) and is responsible for managing more than half of the Air Force's budget. According to the *Dayton Business Journal*, the Air Force calculates the

total economic impact of the base to the Dayton region as more than \$4 billion each year.

In 2002, the Dayton Development Coalition formed Wright-Patt 2010, a group of volunteer community leaders and elected officials dedicated to promoting the base. Thus far the group has raised about \$2 million to ensure that the base picks up new jobs in the BRAC process. The money is being used for lobbying and for trips to Washington, D.C.

Ohioans are acutely aware of their dependence on military bases. Steve Erickson is Economic Development Director for Riverside, the city adjoining Wright-Patterson. "If we have a sniffle at Wright-Patterson, Riverside gets pneumonia," Erickson said. "There's no question we realize the impact."

#### **CLDA FUND-RAISING RESULTS**

The Indian Wells Valley community continues its generosity in supporting the work of the CLDA. During May and June, donations were received from the following individual and corporate supporters:

*Anonymous*  
*Elizabeth Babcock*  
*Ron Carter*

Our goal in *NewsNotes* is to inform you of the BRAC process as it progresses and of how we are doing in supporting China Lake's future. We want *NewsNotes* to be interesting and useful to everyone who has a stake in the continued success of China Lake. Comments and suggestions from readers will be appreciated.

*High Sierra Fly Fisher*  
*Ann Kapernick*  
*Sally Kennedy*  
*L3 Communications Government Services Inc.*  
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*William Fitzgerald*  
*Flint W. Jacobs*  
*Ron and Sharon Kicinski*

All money raised is used to defray costs for travel, postage, and publications and to retain a Washington DC consultant. The many hours of work invested by the CLDA volunteers are entirely voluntary and uncompensated.

If you would like to volunteer time or money to support China Lake in BRAC 2005, please contact Bill Porter at (760) 446-1034, Phil Arnold at (760) 375-6389, or Jan Bennett at (760) 375-8331.

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