



# FALLON RANGE TRAINING COMPLEX MODERNIZATION

## NINETY DAYS TO COMBAT

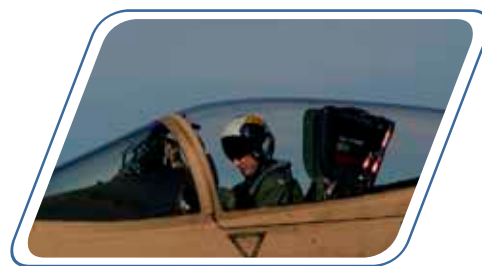
### INTRODUCTION

The Fallon Range Training Complex is the Navy's premier aviation training range, supporting aviation and ground training, including live-fire training. The Navy trains 100 percent of deploying naval aviation and naval special warfare tactical ground mobility units at the Fallon Ranges. The training conducted here is critical for defending and securing the United States and its interests abroad.

To evaluate the Navy's ability to counter evolving current and future threats worldwide, the Naval Aviation Warfighting Development Center, naval aviation's warfare authority, initiated a study to evaluate the effectiveness of existing aviation training requirements and assess the need to reconfigure the Fallon Ranges.

This study, called the *Ninety Days to Combat Required Training Capabilities Study*, identified significant gaps in aviation weapons training. At the same time, the Naval Special Warfare Command (Navy SEALs) identified similar gaps and actions needed to support ground mobility training on the Fallon Ranges. The analysis showed that the current size of the Fallon Ranges severely restricts the extent to which the Navy can use its various weapons systems to train. As a result, aircrews and special operations forces are unable to train in sufficiently-realistic conditions, which compromises their safety and success in combat.

The purpose of this fact sheet is to explain the current gaps in the Navy's ability to train realistically at the Fallon Ranges, both in the air and on the ground, and how the Navy's proposed modernization would reduce those gaps. The Ninety Days to Combat study is available on the Fallon Modernization website at [www.FRTCMmodernization.com](http://www.FRTCMmodernization.com).



## NINETY DAYS TO COMBAT AT THE FALLON RANGE TRAINING COMPLEX

### LEARNING FROM THE PAST

To reduce the potential for the substantial loss of lives of U.S. service men and service women in combat, the Navy continuously analyzes what occurred during past conflicts and makes the changes necessary to improve future warfighting tactics. For example, in 1991, 27 aircraft were lost over a 40-day period during Desert Storm due to heavy anti-aircraft gunfire and missile threats.

Because of these heavy losses, the Navy adjusted its aircraft tactics to fight a “high war” by flying higher and releasing bombs from farther away. New weapons technologies, such as Joint Direct Attack Munitions, have helped improve survivability and resulted in combat success.



### CURRENT VERSUS HISTORIC TRAINING SPACE NEEDS

Current aircraft and weapons require a far greater amount of training space than previous aircraft and weapons required (Figure 1). Historically, older aircraft flew at lower altitudes (10,000 feet from the target), approached targets from close distances (4 to 5 miles away), and required a smaller impact area for weapons. Now, modern aircraft fly at higher altitudes (30,000 feet from the target), release weapons from 10 to 12 miles away, and require a larger impact area during training for weapons safety and containment. Over the years, however, the Fallon Ranges have remained relatively static, while naval aviation, aircraft capabilities, and weapons have significantly improved.

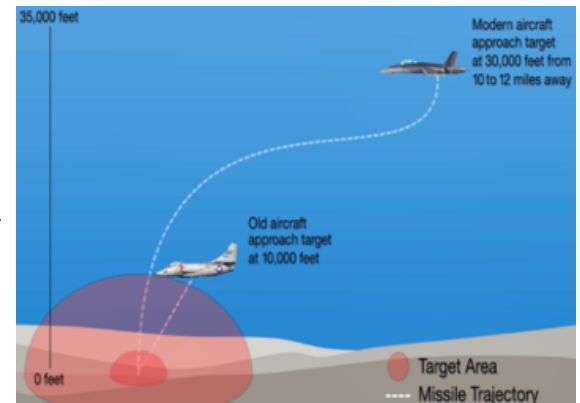


Figure 1. Current and historic training space needs.

### ADDRESSING CURRENT TRAINING CAPABILITY GAPS

Experts at the Naval Aviation Warfighting Development Center continuously evaluate the capabilities of adversaries and update warfighting doctrine in the form of Tactics, Techniques, and Procedures, which form the basis for the requirements Navy personnel must master prior to deployment.

The Navy evaluated the gaps in both air and ground training capabilities against the real-world physical constraints of expanding the Fallon Ranges to meet the full Tactics, Techniques, and Procedures. The evaluation allowed for the development of revised requirements, called “tactically acceptable” parameters, that could support suitable training while considering these constraints. Tactically acceptable parameters do not represent the full capability recommended in the Ninety Days to Combat study, but have been deemed acceptable by the Navy for training purposes.

Figure 2 depicts what the Bravo-17 bombing range would need to look like if training were to be conducted so as to allow for realistic training in accordance with the full implementation of Tactics, Techniques, and Procedures. In this scenario, the weapons danger zones (see box for definition) at Bravo-17 would extend significantly beyond the current controlled range property. To ensure public safety, the Navy therefore currently trains at less than maximum capabilities.

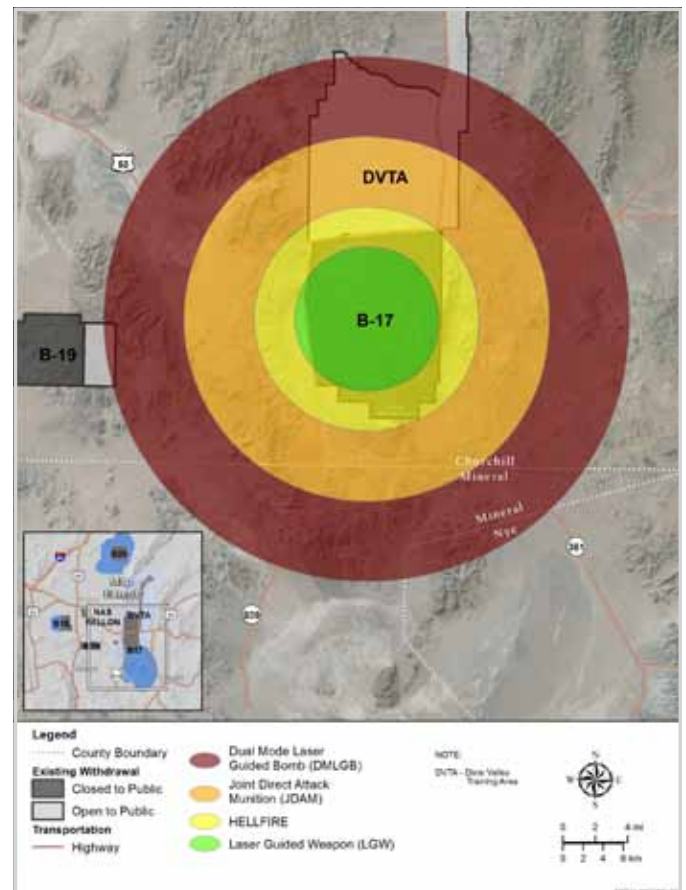


Figure 2. Current Bravo-17 bombing range and weapons danger zones reflecting full training capabilities.

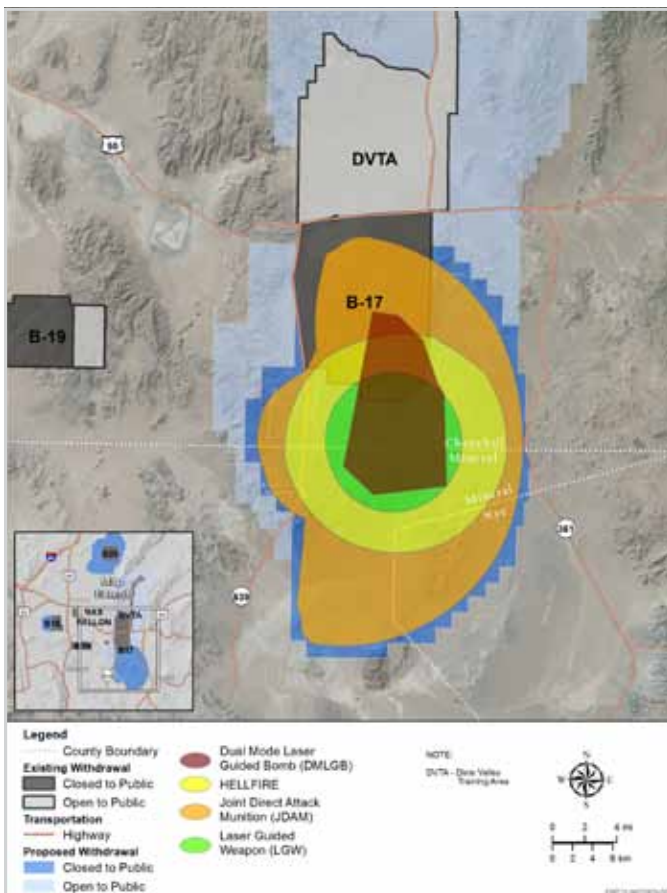


Newer-generation aircraft and weapons have outpaced the current capabilities of the Fallon Ranges. Training is hindered by inadequate land and airspace, leaving aircrews unable to train as they would fight in the real world.

While the Navy continues to train at the Fallon Ranges, the current configuration of the ranges forces the Navy to limit training in the air and on the ground to scenarios that only partially resemble what personnel would experience in actual

combat, to include the extent to which the Navy can replicate enemy capabilities. This self-limitation is necessary largely in order to protect the public from inherent dangers from the Navy's combat training.

To address these training deficiencies, the Navy has proposed to modernize the Fallon Ranges to meet "tactically acceptable" parameters, including at Bravo-17 (Figure 3), by expanding land areas and airspace to provide the more-realistic training capabilities needed while maintaining the safety of local communities.



**Figure 3.** Proposed modernized Bravo-17 bombing range with modified (reduced) weapons danger zones.

## SAFETY REQUIREMENTS

Weapons danger zones and surface danger zones represent the minimum safety requirements for aviation and ground weapons training to protect public health and safety. The sizes of the respective danger zones reflect how much land is needed to ensure safety. The public is not authorized to be within danger zones due to potentially hazardous ordnance activities.

A *weapons danger zone* is a three-dimensional area that encompasses the ground and airspace for the horizontal and vertical containment of projectiles, fragments, or debris resulting from aviation-delivered ordnance. A zone is calculated for each weapon type as delivered by a specific aircraft type to account for accuracy and potential weapon failures.

A *surface danger zone* is similar to a weapons danger zone, but relates to ordnance used during ground training, such as small arms fired weapons.



## PROPOSED MODERNIZATION OF THE FALLON RANGES

### Addressing Current Training Capability Gaps (continued)

Similarly, the current tactical ground mobility training area on Bravo-16 used by Navy SEALs does not have sufficient space to accommodate the firing directions and ranges needed for advanced live-fire and integrated training activities (Figure 4). The training area allows for up to a 60-degree field of fire, instead of a 360-degree field of fire to simulate the real-world probability that enemy gunfire could come from any direction.

As part of the modernization of the Fallon Ranges, the Navy has proposed actions that would support ground mobility training requirements that approach full Tactics, Techniques, and Procedures and allow for realistic and effective 360-degree training (Figure 5).

The Navy has proposed to modernize the Fallon Ranges to address the gaps between current training capabilities and current and future training requirements. Modernization of the ranges would provide the land and airspace necessary to train to tactically acceptable parameters in accordance with the Navy's mission. Range modernization would include the renewal of the Navy's current public land withdrawal, which expires in November 2021, as well as:

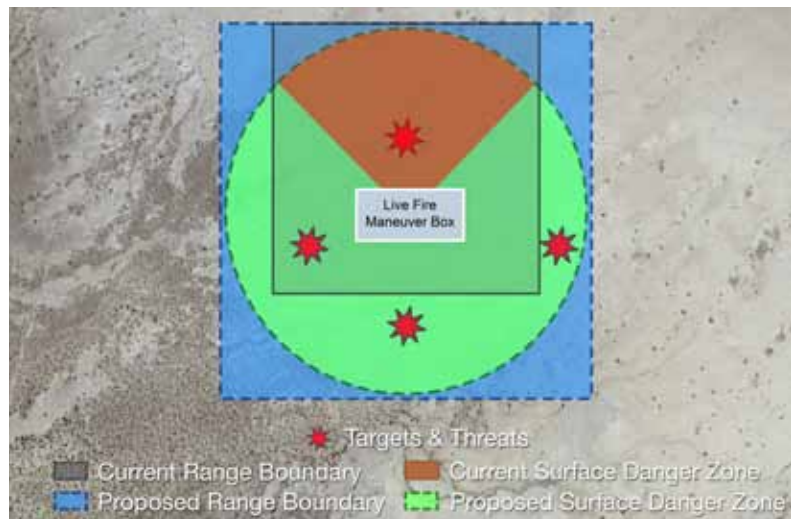
- Expansion of land ranges through the additional withdrawal of public lands and the acquisition of non-federal land
- Airspace modifications

The proposed modernization of the Fallon Ranges would significantly close current training gaps and provide the training to meet current and future requirements.

For more information about this proposal, please visit the Fallon Modernization website at [www.FRTCModernization.com](http://www.FRTCModernization.com).



**Figure 4.** Current Bravo-16 bombing range and surface danger zone.



**Figure 5.** Proposed modernized Bravo-16 bombing range and surface danger zone.

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would provide the realistic training  
capabilities needed to meet  
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