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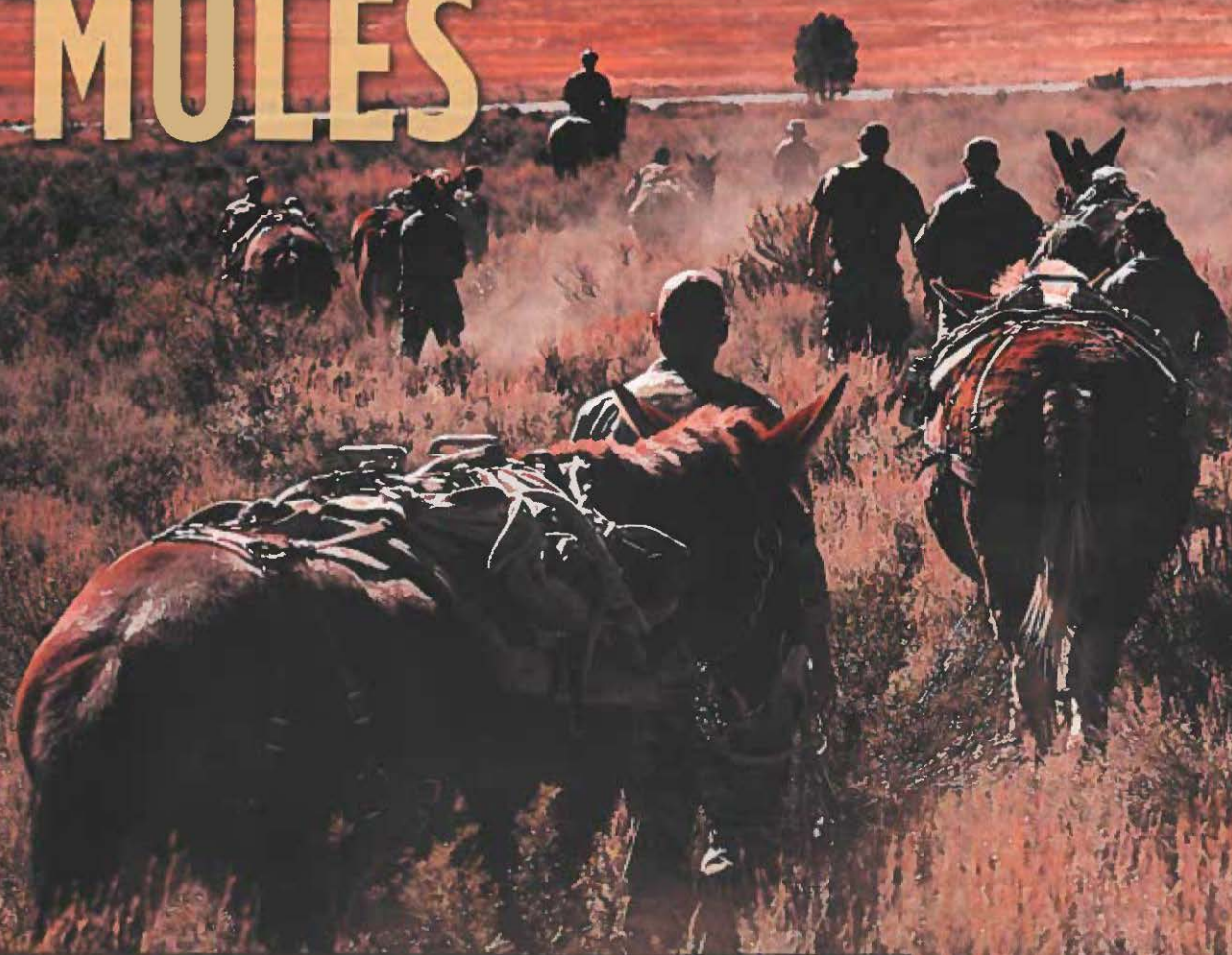


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MARINES NEED A FEW GOOD MULES



It's a question of what animals can offer

BY CAPTAIN WALKER D. MILLS, U.S. MARINE CORPS, AND CHRISTOPHER BOOTH

In *Force Design 2030*, Marine Corps Commandant General David H. Berger made clear he was dissatisfied with the service's readiness to sustain expeditionary advanced base operations. The concept envisions small groups of Marines and sailors dispersed across East Asian littorals as "inside forces" able to support a maritime campaign through reconnaissance, counter-reconnaissance, and fires during "sustained operations."¹ But the logistics plan—the concept for how these forces would be sustained and supplied—presumably is still in the works.

General Berger's conclusions were consistent with those outlined in *Sustaining the Force in the 21st Century*—a functional concept for installations and logistics that found the Marine Corps "is not postured to sustain the future fight defined by the *National Defense Strategy*."² Marines at all levels have delved into this problem with a range of innovative ideas, such as narco-inspired semisubmersibles, Jack Ryanesque "sleeper cell logistics," amphibious aircraft, and even civilian fishing vessels.³

All these proposals eventually may play a role in an overarching concept for contested maritime logistics; however, they are primarily focused on getting fuel, munitions, or other supplies to an island or beach and not with moving them or distributing them ashore. They all beg the question: If Marines can get ashore with their gear, then what? How will they maintain their mobility with a light footprint and an as-small-as-possible observable signature? Ground vehicles require fuel and roads and can be found by airborne radars. Helicopters are even more logistically intensive and vulnerable, likely only to be based at sea. Runway-dependent aircraft are a nonstarter. And finally, while Marines are trained to march under heavy loads, that will not be enough.

Left: Army and Marine Corps special forces hike with their mules during a special operations horsemanship course. If pack animal courses were offered to Marines during regular training rotations, the animals could become part of the solution to expeditionary force logistics and sustainment problems.

One potential answer to the mobility ashore question is pack animals. Pack animals can reliably carry hundreds of pounds of water, fuel, munitions, or equipment over terrain that is too difficult for wheeled or tracked vehicles. In many situations they can survive off local water and forage, and they have much lower signatures—optically, on radar, and infrared—than vehicles. Pack animals also have a long history of successful service in the U.S. military and around the world.



A LITTLE HISTORY

Historically, the U.S. military has turned to pack animals when faced with operations in mountainous or jungle terrain inaccessible by tactical vehicles. This practice was made famous in Afghanistan by the "horse soldiers" of Operation Detachment Alpha 595, but the Army also used mules in the mountains of Haiti during Operation Uphold Democracy in the 1990s. During the Korean War, the Army made extensive use of pack animals—usually mules or Mongolian ponies captured from Chinese forces.⁴ Marines might remember the famous Sergeant Reckless, a horse of Mongolian lineage purchased by her lieutenant in Korea that made 51 solo trips carrying recoilless rifle rounds under fire.

Mules and pack animals gave Lieutenant General Chesty Puller's Marines and local forces a significant mobility advantage in the mountains of Haiti.

Allied forces made good use of mules in the Mediterranean theater in World War II, during which rough and mountainous terrain limited the use of vehicles in Tunisia, Sicily, and other regions of Italy. In Sicily, the Army used 4,000 pack animals, and in Italy proper the 10th Mountain Division required more than 7,000 mules and a further 500 replacements per month to sustain operations in the rugged Apennine Mountains.⁵ Mules and pack animals were critical to Lieutenant General Chesty Puller's counter guerrilla operations during the Marine Corps' small wars because they gave U.S. and local government forces a significant mobility advantage in the rugged mountains of Haiti. Dan Daly earned his second Medal of Honor in Haiti after his horse- and mule-mounted patrol was ambushed during a river crossing.

Marines might be surprised to learn that in the Wehrmacht's infantry divisions, "two-thirds of the vehicles were drawn by horses."⁶ According to historian Jobie Turner, the war on the Eastern Front was much more of a *pferd krieg*, or horse war, than a *blitzkrieg*.⁷ At the beginning of Operation Barbarossa—the invasion of the Soviet Union—German logistics were powered by the muscle of more than 600,000 horses.⁸ But relying on muscle power was not limited to the Eastern Front. Pack animals were so critical to German logistics that planners expected to use them during amphibious operations. Operation Sealion—the planned German invasion of Britain—called for 4,200 horses to land on the beaches in the first wave, with 7,000 more landing in the second wave.⁹ In 1945, the infamous Panzer units—mythologized as fast-moving, mechanized juggernauts—were reorganized to include horse-drawn transports to supplement deficiencies in fuel.¹⁰

THE BURMA CAMPAIGN: MULES IN THE JUNGLE

Most relevant to future EABO logistics is the extensive use of pack animals by the British and U.S. forces fighting the Japanese in Burma. The Burma campaign was, according to British Field Marshall William Slim, "above all, a supply and transport problem."¹¹ The terrain in central Burma was some of the worst in the war—so bad that, at the start of the conflict, no roads or rail lines existed between British forces in Burma and their supply bases in India. And for six months of the year, the network of trails that were primary supply routes were

made impassable by heavy monsoon rains. Major operations had to be sustained by air or riverine transport. In this way, logistics were more like a maritime than a land-based theater. The British Long-Range Penetration Groups, whose members were called "Chindits," were brigades trained in jungle warfare and organized by British Brigadier Orde Wingate to penetrate deep behind Japanese lines and disrupt supply lines or attack the Japanese from the rear—not unlike the role for inside forces envisioned by today's Marine Corps.

During Operation Longcloth—the Chindits' first operation—the brigade inserted on foot with mules and was supplied completely by airdrop. This was the first time the Allies had planned an operation of this size in which all resupply was by air. Slim tasked the air forces with delivering supplies "like Father Christmas, down the chimney."¹²

Their second operation, Operation Thursday, was more ambitious and involved three brigades, all of which would be resupplied by air and two of which would be inserted by air—glider or parachute drop. Once inserted, some of them had to construct entire airfields behind enemy lines so that supplies could be flown in and wounded flown out. But absolutely critical to the plan were the more than 2,500 mules and 350 horses flown into the improvised jungle airstrips.¹³ The Chindits knew that if aircraft could insert them deep behind enemy lines and sustain them, they could use mules for tactical mobility in the mountains and jungles of Burma.¹⁴

The Chindits also were innovative in their care and employment of the mules—whether it was using rubber assault boats as improvised troughs or having unit veterinarians surgically alter the mules' larynxes to keep them quiet when the Chindits were operating close to Japanese forces.¹⁵ And they became adept at river crossings with mules, which either swam or were towed with the choice "depending largely on the temperament of the individual animal."¹⁶

The Chindits were not the only forces in Burma with pack animals. When U.S. forces arrived, they modeled their organization, the 5307th Composite Unit, which included the famous Merrill's Marauders, after the Chindits and relied extensively on pack animals for logistics. The successor to the 5307th, the 5332nd Brigade, also known as the Mars Task Force, incorporated elements of the mule-using Marauders and added even more

Across the Burma theater, mules were critical . . . because they allowed the units to move faster, go farther, and operate longer.

units reliant on pack animals.¹⁷ Among them were two field artillery battalions and the 124th Cavalry Regiment, which brought pack animals into theater—after swapping their horses for mules.¹⁸ Across the Burma theater, mules were critical to both U.S. and British Long Range Penetration Groups because they allowed the units to move faster, go farther, and operate longer.

'AFFORDABLE AND PLENTIFUL . . .'

Properly handled and cared for, mules are resilient. They have been called the AK-47s of logistics for their rugged utility.¹⁹ Veterans of the Burma campaign reported that mules would usually survive falls even hundreds of feet

jungle terrain, and some animals, such as mules and donkeys, are better than others at subsisting on locally available forage.

Relying on pack animals and muscle-power logistics also eliminates the need for spare parts and costly maintenance. Service leaders have repeatedly called for acquiring platforms that are simple, cheap, and effective and do not need a decade to be designed and tested. The humble pack animal is exactly that. But instead of simple and rugged solutions to logistics problems, the services are looking to new platforms that are exquisite and expensive, including robotic mules and tactical resupply drones.²³



and be able to return to the trail.²⁰ At only a few thousand dollars each, mules also are much more affordable than vehicles such as the Joint Light Tactical Vehicle (JLTV) that costs between \$300,000 and \$400,000.²¹

In addition, organizing inside or stand-in forces to rely on pack animals instead of platforms such as the JLTV would dramatically reduce fuel consumption. A Defense Science Board report estimated that as much as 70 percent of supplies needed to sustain Army operations is fuel by tonnage, and U.S. forces in Afghanistan were using as much as 22 gallons of fuel per person, per day.²² Reducing fuel consumption will be an operational necessity in distributed operations. Pack animals need forage and water, but these exist in abundance in forested or

U.S. soldiers, attached to the Mars Task Force in Burma during World War II, lead pack mules through a swift river. Both British and U.S. forces relied on extensive use of pack animals to transport supplies over Burma's rugged terrain.

PACK ANIMALS FOR ANY CLIME AND PLACE

Though mules are the clear choice for most environments, other types of pack animals are well suited for specific environments. The 2004 version of the Army manual *Special Forces Use of Pack Animals* covers not only horses, mules, and donkeys but also llamas, camels, dogs, and elephants.²⁴ Historical examples also make clear the case for nontraditional pack animals in certain environments.

During World War II, the Wehrmacht replaced tens of thousands of its German horses with Russian steppe ponies that were much better suited to the harsh climate of the Eastern Front and “absolutely indispensable,” according to one German officer.²⁵ During the Vietnam War, North Vietnamese Army units used pack elephants on the Ho Chi Minh Trail because they were well adapted to jungle terrain and could carry large loads.²⁶

The U.S. military also is no stranger to using exotic animals to support operations. In one particularly strange case, the U.S. Army imported dozens of Middle Eastern camels to provide transportation for a “Camel Corps” in the southwestern United States. The animals were ill-suited to the riding style of U.S. cavalry troopers but proved to be excellent for long-range desert operations. Unfortunately, their success was overshadowed by the outbreak of the Civil War, and further camel cavalry development was not pursued after the war because its primary proponents had been Confederates—Jefferson Davis and Robert E. Lee among them.²⁷

TRAIN TODAY, FIGHT TOMORROW

Despite the clear utility of pack animals for EABO, there is only one place where Marines can learn how to employ and care for pack animals—at the Marine Corps’ Mountain Warfare Training Center in Bridgeport, California. And most of the students there are not Marines, but Army special forces. The courses are rarely offered to individual Marines or units even though units regularly train in Bridgeport during service-level exercises. Normally, the Mountain Warfare Training Center runs exercises for six infantry battalions each year, meaning any battalion can expect to have the opportunity to train in Bridgeport once every four years. If pack animal care, handling, and employment were offered and emphasized during these regular training rotations, those skills would percolate through the force. But a more aggressive solution would be to stand up a detachment equipped for pack animal logistics in Hawaii as part of the new Marine littoral regiment. This would allow pack animals to be part of ongoing experimentation and war gaming with the new regiment.

With a large question looming over sustainment and logistics for EABO and inside forces, pack animals could be part of the solution. They are hardy, resilient, low-signature, and even lower-tech. Inserted by sea or air, they could give inside forces tactical mobility in the worst jungle and mountain terrain—just as they have for U.S. and Allied forces in the past. While a single solution will not solve the complex EABO logistics and sustainment problems, the Marine Corps should experiment and war game with pack animals.

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