



COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20549

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AUG 30 1973

The Honorable Bill Chappell
House of Representatives

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Dear Mr. Chappell:

In response to your June 22, 1973, letter we have looked into the Navy's bombing practices at the Pinecastle Electronic Warfare Range in the Ocala National Forest, Florida. You requested that we obtain information on the frequency of bombing runs, use of live weaponry, damage to property or wildlife, effects on the forest, and danger to human life.

We reviewed pertinent records and interviewed Navy officials responsible for operating and maintaining Pinecastle and Forest Service officials of the Seminole Ranger District Office, Ocala National Forest. We also interviewed area residents to obtain their views about hazards from these bombings. We discussed our findings with you on July 12, 1973.

Some hazards from the Navy's use of the forest as a bombing range include fires, stray bombs, aircraft crashes, and tremors; but the hazards have not caused any civilian injuries or deaths or major damage to private property. The Navy has instituted several measures to minimize these hazards. It has also considered several alternatives to continued use of the range but has not found any of them to be acceptable.

BACKGROUND

The Army Air Corps used areas within the Ocala National Forest as a bombing range during World War II. After the war, the Air Force and later the Navy used the forest for practice bombings. The Forest Service issued the Navy a permit in 1951 which allowed the Navy to use 5,760 acres in Marion County as a bombing range. The permit has no expiration date and can be terminated by either the Forest Service or the Navy.

A road circling the Pinecastle range is open to traffic. There is no fence around the area, but public access is restricted by signs along the perimeter road and by military personnel patrolling the area.

A hiking trail and two recreational areas are about 3 miles from the outer boundary of the range. Several small

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communities and recreational sites are within 12 miles of the range.

Targets at the Pinecastle range include a simulated airfield for live bombing, a simulated surface-to-air missile launch site, a bullseye, strafing banners, vehicle hulks, and moving target drones. Three spotting towers are used to determine the accuracy of training exercises.

The Navy's facilities and equipment at the range include an electronic scoring device to predict accuracy for simulated bombings, administrative facilities for the 180 men needed to operate the range, and electronic equipment to simulate a hostile environment during bombing runs.

The Navy estimates its facilities and equipment are worth \$50 million. About \$42.5 million, or 85 percent, is for radar, computers, data processing equipment, and displays. Most electronic equipment is mounted in trailers and can be transported. The Navy plans to spend more than \$10 million to update this equipment during the next 4 years. Operating costs for fiscal year 1973 were about \$1.4 million.

Pinecastle is used by attack, fighter, attack reconnaissance, and patrol aircraft from Navy, Marine Corps, Air Force, National Guard, and Reserve squadrons located throughout the Southeast and by aircraft from Atlantic Fleet carriers.

Ordnance dropped at Pinecastle includes 250-, 500-, and 750-pound live bombs and 2.75- and 5-inch live rockets. However, 750-pound live bombs are rarely dropped. Inert ordnance and recoverable bomb dummy units are also dropped. Aircraft also fire machine guns and cannons at strafing banners.

FREQUENCY OF BOMBING RUNS

Pinecastle is used daily from 7:30 a.m. to 11:00 p.m., including weekends and holidays. The range is closed for about 3 days every 6 weeks for target maintenance and sanitization. During 1972 the range was used 297 days, or about 81 percent of the time, and 8,031 bombing runs were made, an average of about 27 a day. During the 5 months ended May 1973, the range was used 130 days, or about 86 percent of the time, and 3,135 bombing runs were made, an average of about 24 a day.

USE OF LIVE WEAPONRY

Since October 1971 only about 3 percent of all bombs dropped at Pinecastle were live. Live ordnance was dropped on 35 days during 1972 and on 5 days during the first 5 months of 1973. No live ordnance was dropped during some months, and the most frequent live bombings occurred in March 1972 when live bombs were dropped on 11 days.

A total of 1,136 live bombs were dropped in 1972, and 218 live bombs were dropped in the first 5 months of 1973. On the days when live ordnance was used, an average of 35 live bombs were dropped. The most live 500-pound bombs dropped in a single day was 128 on February 16, 1973. (See enc. I.)

RANGE HAZARDS

Some hazards associated with the bombings at Pinecastle include fires, stray bombs, aircraft crashes, and tremors but these hazards have not resulted in any deaths or injuries to civilians, and damage to private property has been minimal. Noise from low flying aircraft and bomb explosions has bothered some area residents and users of the forest.

Fires

The Forest Ranger believes that the most significant bombing hazard is forest fires. Between 1968 and 1972 there were 344 forest fires which destroyed about 2,464 acres in the district where Pinecastle is located. Forest Service records show that 13 of the fires were caused by bombings. These destroyed 1,246 acres, or 28 more acres than the 331 fires started by other causes. This indicates that fires caused by bombs may be more intense and more difficult to control than other fires. (See enc. II.)

The Forest Ranger told us that one problem associated with fighting fires caused by bombs is unexploded ordnance in and near Pinecastle. Outside of Pinecastle, there are four areas totaling about 4,600 acres where unexploded ordnance, dropped during World War II, is thought to be buried. Fires occurring in these areas cannot be fought with equipment such as plows and bulldozers due to the danger of exploding this buried ordnance. All fires within the outer boundary of Pinecastle are handled by the Navy.

No information is available from the Forest Service on the total value of the forest destroyed by fires started by bombs. But for two of the larger fires, the Forest Service estimated the value of the timber lost at \$39,000.

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Stray bombs

The Navy does not have complete records on the number of bombs dropped outside the range area. By examining Navy records and newspaper articles, and by talking with area residents, we determined that some bombs have missed the target area.

We obtained information on three incidents involving damage caused by stray bombs. The first occurred in January 1968 when an inert practice bomb dropped within 2 feet of a grocery store about 8 miles from Pinecastle. Although the building was not significantly damaged, a newspaper article describing the incident stated that someone was standing on the other side of the wall when the bomb hit. The second incident occurred in June 1969 when five small inert rockets hit Camp Ocala, a youth camp about 4 miles from the range. About 100 people were at the camp at the time. One of the rockets damaged a propane gas tank, but no one was injured. The incident occurred at night and the pilot apparently mistook the camp for the target. The third incident occurred in May 1973 when an inert 500-pound bomb was dropped about a mile from a recreational area which was occupied at the time. This bomb started a small fire that burned about an acre of trees.

We observed several craters just outside the Pinecastle perimeter road which appear to have been caused by stray live bombs. The officer-in-charge of the range told us that to his knowledge no live ordnance had been dropped since 1967 outside the Pinecastle range boundary.

Tremors

Navy records showed only one instance where tremors damaged property. On February 16, 1973, 128 live 500-pound bombs were dropped at Pinecastle. The Navy received 17 complaints about this bombing, and 10 claims for damages were filed. The Navy investigated these claims and determined that damage in nine cases may have been caused by bombings. The Navy estimated that these claims could be settled for about \$3,800.

Aircraft crashes

Forest Service records show that five aircraft have crashed in the forest since 1951. Navy officials said none of these crashes injured area residents or damaged private property.

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Noise

Noise from low flying aircraft and live bombs has bothered some area residents and users of the forest. About 15 percent of the bombing runs require aircraft to maneuver at altitudes as low as 200 feet. These runs are made over several houses in the area and residents have complained about the noise. Also, Navy records show that residents have complained about the noise from live bombs.

Danger to humans and wildlife

We found no evidence that bombings at Pinecastle killed or injured humans. The Forest Ranger said it was difficult to measure the impact the bombings have on wildlife. But he pointed out that the fires caused by bombings destroy wildlife habitat and this could have an effect on the wildlife population. Most of the area residents interviewed did not believe that the bombings had had any major effect on wildlife. However, one resident believed that some deer had been killed by bombs.

ACTION TO MINIMIZE BOMBING INCIDENTS

The Navy has instituted some measures at Pinecastle to minimize these hazards. Some of the more significant measures taken by the Navy are discussed below.

Fire hazards

In 1972, when two major fires were started by live bombs, the Navy and Forest Service agreed to cancel live bombings when the fire danger was high. The Forest Service provides a daily report on the degree of fire danger to the Navy. In addition, the Forest Service is training Navy personnel to combat forest fires and the Navy has acquired additional fire fighting equipment.

Stray bombs

After rockets were fired into Camp Ocala in 1969, the Navy required that all aircraft make one pass over the target area to positively identify the target before dropping any bombs. However, to simulate realistic combat conditions, the Navy waives this requirement when coordinated air strikes are made on the target. (As many as eight aircraft simultaneously bomb with live ordnance.) Only those pilots who have had previous experience in dropping inert ordnance at Pinecastle are permitted to participate in coordinated air strikes or to drop live bombs. Live bombs cannot be dropped after sundown.

Tremors and noise

Navy officials told us that tremors and noise were greater under certain atmospheric conditions. They said that these conditions existed on February 16, 1973, when the coordinated air strike resulted in complaints and claims for damage. We were told that the Navy had developed a method of predicting when these atmospheric conditions will occur and that it would cancel live bombings during those periods. Also, the Navy acted to reduce by 75 percent the number of live bombs simultaneously dropped during a coordinated air strike. This action would have reduced from 128 to 32 the live bombs dropped on February 16 and would have reduced noise and vibration during this strike.

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We asked Navy officials whether they had considered discontinuing using Pinecastle as a bombing range and using Eglin Air Force Base, Florida, or Fort Stewart, Georgia, instead. They said that Eglin was a research and development (R&D) facility and that use of the base would not be practical because of the cost to remove the special R&D projects that would be jeopardized during routine practice bombings. They also said that Fort Stewart was a training center used extensively during the summer and, therefore, would not be available for practice bombings between May and September each year.

In 1972 the Navy studied the environmental impact associated with the use of the Pinecastle range and considered alternatives to the continued use of the bombing range. Some of the alternatives were (1) discontinuing use of live ordnance, (2) using sea targets, (3) using existing range facilities at other locations, and (4) developing new range facilities at another location along with relocating Pinecastle's largest user, the Naval Air Station, Cecil Field, Florida.

The study showed that all alternatives were considered unacceptable by the Navy because:

1. Pinecastle is the only facility on the east coast which permits live ordnance deliveries in coordination with a simulated hostile environment.

2. Sea targets are extremely expensive, cannot be adequately substituted for all training requirements that are being supported by land targets, and are not sufficiently developed for measuring bombing accuracy.

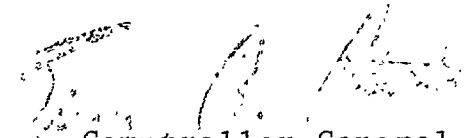
3. Other military facilities are too distant, too near populated areas, or too small.

4. Developing new facilities and relocating the Naval Air Station would be too costly and would require additional restricted airspace which is difficult to obtain.

The Forest Service was requested to comment on the Navy study. It said that continued use of Forest Service land as a bombing range is incompatible with the approved forest management plan. The comments also indicate that the Forest Service believed the study was primarily concerned with cost and economics and alternatives were not fully explored.

As agreed during our meeting on July 12, 1973, we have not given the Navy or Forest Service an opportunity to review and comment on this report. Also as agreed with you, we do not plan to distribute this report further unless you agree or publicly disclose its contents, except that we are forwarding a similar report to another Member of Congress who has expressed an interest in this matter.

Sincerely yours,



Comptroller General
of the United States

Enclosures - 2

LIVE BOMBS DROPPED AT PINECASTLE RANGEJANUARY 1972 TO MAY 1973

TABLE

<u>Month</u>	<u>Days</u>	<u>Number of</u>	
		<u>250-pound</u> <u>bombs</u>	<u>500-pound</u> <u>bombs</u>
January 1972	3	0	36
February	0	0	0
March	11	0	421
April	0	0	0
May	2	0	104
June	1	0	18
July	3	0	51
August	7	242	38
September	3	0	76
October	2	0	110
November	1	0	4
December	<u>2</u>	<u>0</u>	<u>36</u>
	<u>35</u>	<u>242</u>	<u>894</u>
January 1973	0	0	0
February	2	0	196
March	1	0	8
April	2	0	14
May	<u>0</u>	<u>0</u>	<u>0</u>
	<u>5</u>	<u>0</u>	<u>218</u>
Total	<u>40</u>	<u>242</u>	<u>1,112</u>

FIRES ATTRIBUTED TO BOMBS IN
OCALA NATIONAL FOREST

<u>Year</u>	<u>Number</u>	<u>Acres burned</u>
1968	5	11
1969	1	2
1970	1	3
1971	2	5
1972	4	^a 1,225

^aIncludes 2 fires on March 25 and 27 that burned a total of 1,220 acres and 1 fire on May 25 and 1 fire on June 28 that burned a total of 5 acres.