Mesa Verde National Park
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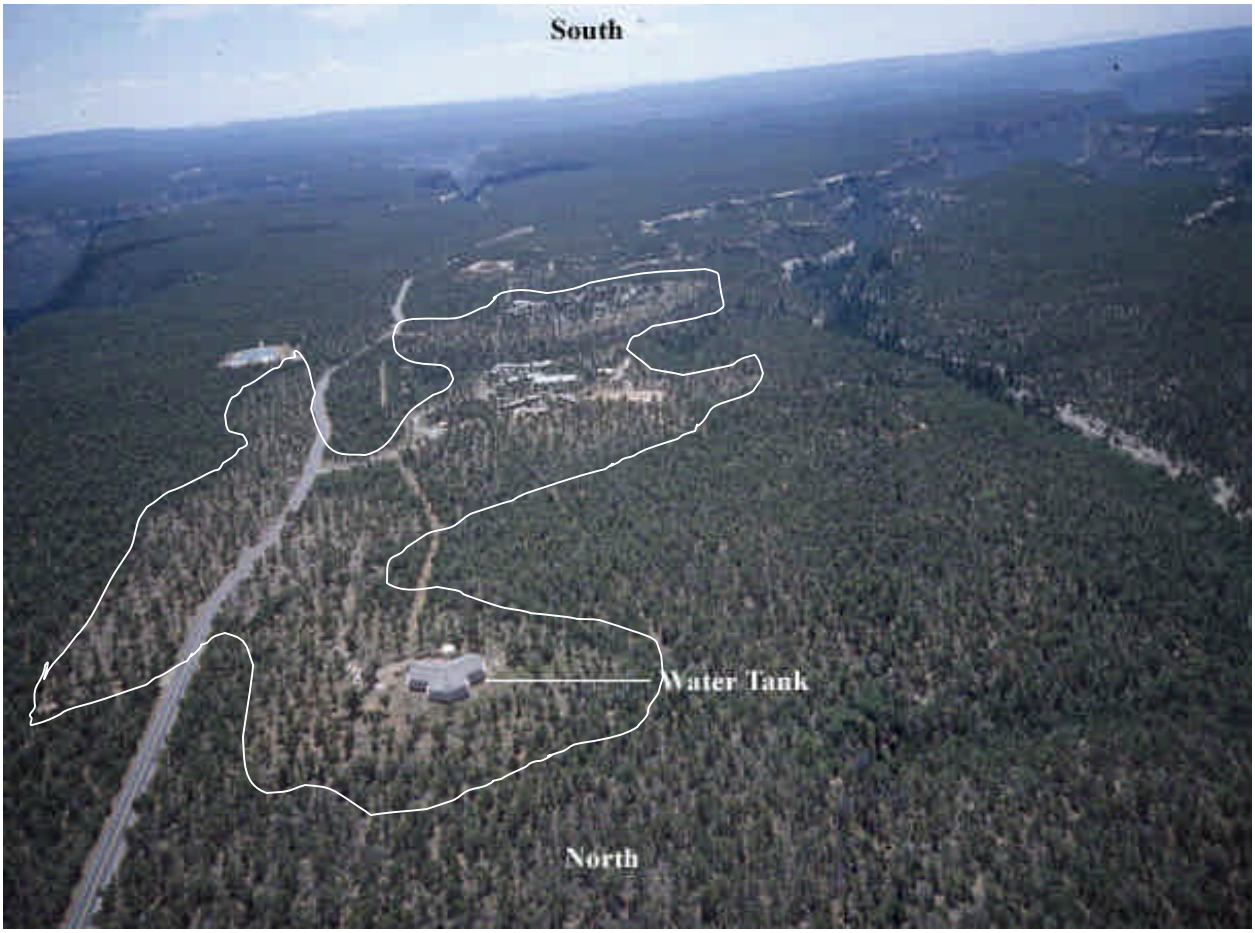
Mesa Verde Fuel Treatments Reduce Impacts of Long Mesa Fire

The Long Mesa Fire moving through the piñon-juniper forest towards the Mesa Verde National Park headquarters and housing areas on the afternoon of July 29. This photo was taken from the water tank, the first structure to be impacted by the fire.

On July 29, a smoldering spark from a lightning strike a few days earlier developed into the Long Mesa Fire and began moving towards the heart of Mesa Verde National Park. Since 1996, Mesa Verde has been tested by three large fires that burned about half of the park, but the Chapin Mesa Headquarters and staff residences had never before faced direct flames.

Over 70 structures were in the path of the fire, but years of hard work, extensive planning, and excellent firefighting came together to save the structures.

The piñon-juniper forest on Chapin Mesa, before (left) and after (right) thinning through fuels reduction projects.



Aerial view before the fire shows thinning in place around the water tank, Research Center, main road, and housing area

The park structures are on fingers of Chapin Mesa extending out to the west towards Spruce Canyon. From north to south, the major areas are:

- The water tank
- The Fire Management Office, Research Facility and historic Civilian Conservation Corps (CCC) buildings
- The housing area and maintenance facilities
- The main visitor area, museum, and Park Headquarters

Each of these areas had been thinned during the previous 10 years and enhanced during 2002 due to the extreme fire danger present in the park. Spacing of trees was reduced from a continuous canopy to at least 20 feet between mature trees with little or no understory fuels. In most cases, the treatment went out 75-100 yards from the structures.

The Park took other steps to complement the defensible space that had been created through fuels reduction. Perhaps the most important was replacing the original wooden shingle roofs of the Civilian Conservation Corps (CCC) buildings with composite fire-resistant shingles.

Sprinklers were also installed throughout the developed area, while hoses and supplies of structural protection foam were placed in strategic locations for quick accessibility.

Air tankers were able to coat the fuel treatment areas.

On the day of the fire, as it headed south, firefighters installed additional sprinklers on rooftops, foamed houses, and set up hose lays throughout the developed areas. The Long Mesa Fire produced an intense shower of flying firebrands, but the combination of new roofs, foam, and sprinklers greatly contributed to successful structural protection.

Another critical element was the evacuation plan developed by Mesa Verde. The plan included visitors, contractors, park employees, and residents. Mock evacuations and refreshers every two weeks were part of the preparations. Before the Long Mesa Fire started moving south, the plan was implemented and all personnel not directly involved in the firefighting effort left Chapin Mesa. This allowed the firefighters to focus on the fire and move freely and safely along the narrow roads.

Firefighters were able to pick up spot fires near the buildings and provide a wet barrier.

As the fire came south on Chapin Mesa towards the developed area, the water tank faced the initial onslaught of the fire. The water tank was left undefended so firefighters could concentrate on the Fire Management Office and research area. Though the area was thinned, embers ignited the wooden support beams, which led to a collapsed roof and contamination of the park's water supply.

Looking south down Chapin Mesa, the Fire Management Office and Research Center are in the front, the housing area is next, and the Headquarters extends on the finger to the top right corner of the photo. This clearly shows the fire broke into two fronts as it hit the fuel treatments around the buildings and on the road. Note the canyon between the Research Center and the housing area.

An unoccupied house is lost to embers as firefighters work to save others. The attic vent is on the other side of the house. This house also fronted a small draw coming up from the side canyon, which may have exposed it to more embers than the other structures. The hose in the center has a sprinkler between the two propane tanks.

Two structures were consumed. The radiant heat did not start other fires in nearby houses because of the preventive measures taken and the actions of the firefighters.

As the west flank of the fire moved off Chapin Mesa, the east flank still posed a threat to the Headquarters area and Spruce Tree House, a major cliff dwelling. Fuel breaks along the main road and a safety zone put in place before the fire provided protection. Retardant drops boosted the protection around the Headquarters' buildings and Spruce Tree House.

Without the fuels reduction effort and effective preparation by Mesa Verde personnel, many invaluable archaeological sites could have been damaged or destroyed.

Fuel treatments along the main road and a 12-acre safety zone helped protect Headquarters and Spruce Tree House. Fire did burn through the fuel treatments in places, but it did not cross the road.

Retardant drops are evident around the main visitor area and Spruce Tree House. The safety zone is at the top of the photo.

Fuels reduction took place around Cliff Palace shortly before the Long Mesa Fire.