Dragon Wildland Fire Use Incident GIS & GPS Support Grand Canyon National Park July, 2005

The Departments of Interior and Agriculture, together with tribal governments, states, and other jurisdictions, have responsibility for protection and management of natural and cultural resources on public and Indian Trust lands in the United States.

Three Kinds of Wildland Fire Exist: Wildfire, wildland fire use, and prescribed fire. (National Fire and Aviation Executive Board 2005a).

Use of Wildland Fire: Wildland fire will be used to protect, maintain, and enhance resources and, as nearly as possible, be allowed to function in its natural ecological role. Use of fire will be based on approved fire management plans and will follow specific prescriptions contained in operational plans.

The Dragon Complex was established on June 26, 2005 after a lightning storm ignited three fires, Dragon, Marble and Basin on the North Rim of Grand Canyon National Park in Arizona. Although mechanical thinning and prescribed fire had been used to reduce the build up of hazardous fuels in the vicinity if these fires, natural fire would better accomplish the "fire return interval" needed to restore the fire regime for the area.

After receiving permission from the park Superintendent to manage the fires for resources benefit, the Fire Management Officer called a National Fire Use Management Team (FUMT) to manage the fires. FUMTs specialize in all aspects of managing an incident such as planning, operations, logistics, safety, public information, and finance. They also provide in depth analysis on current and predicted fire behavior (spread rate, direction, and size). Using spread prediction models such as FARSITE and RERAP, they manage risk to firefighters, the public, sensitive resources, and structures, while still allowing the fire to spread naturally on the landscape.
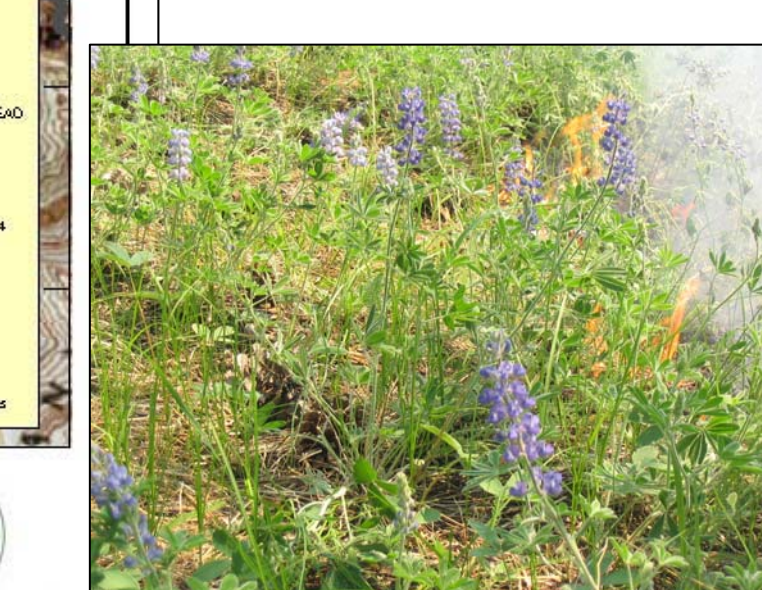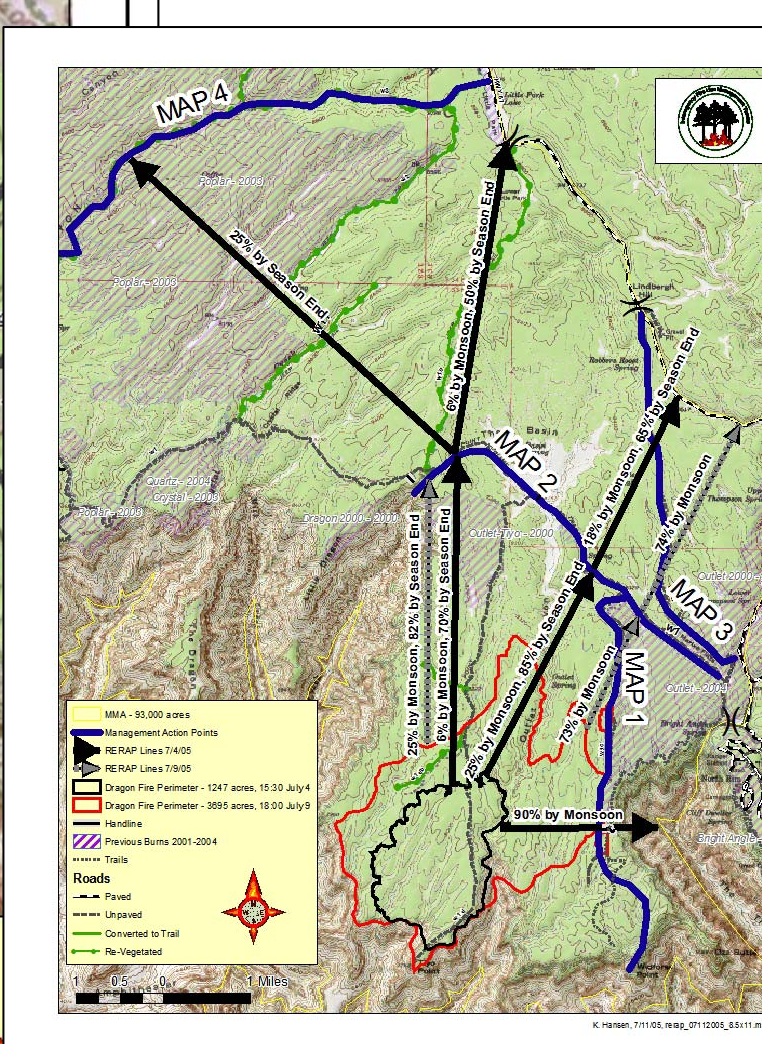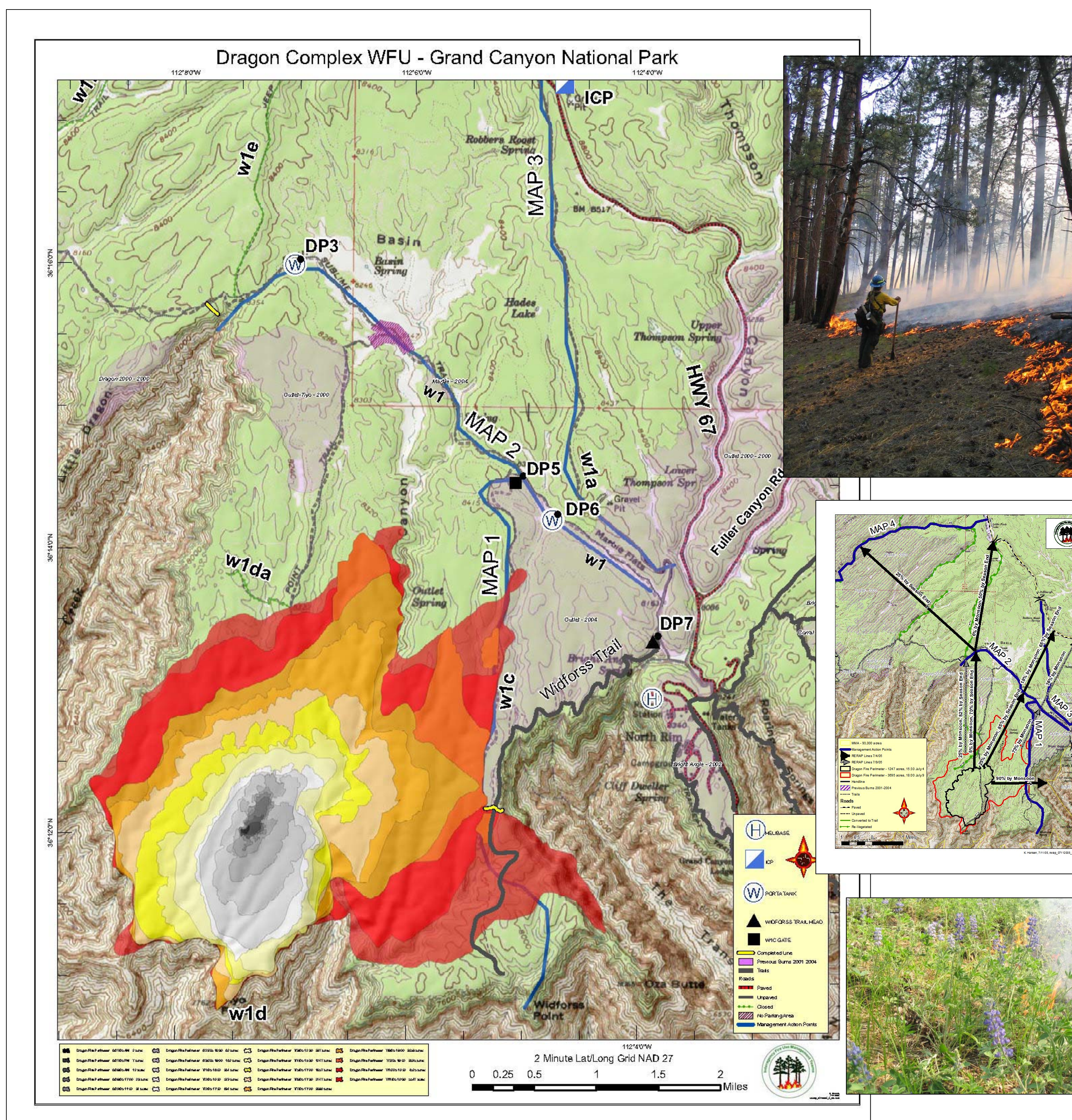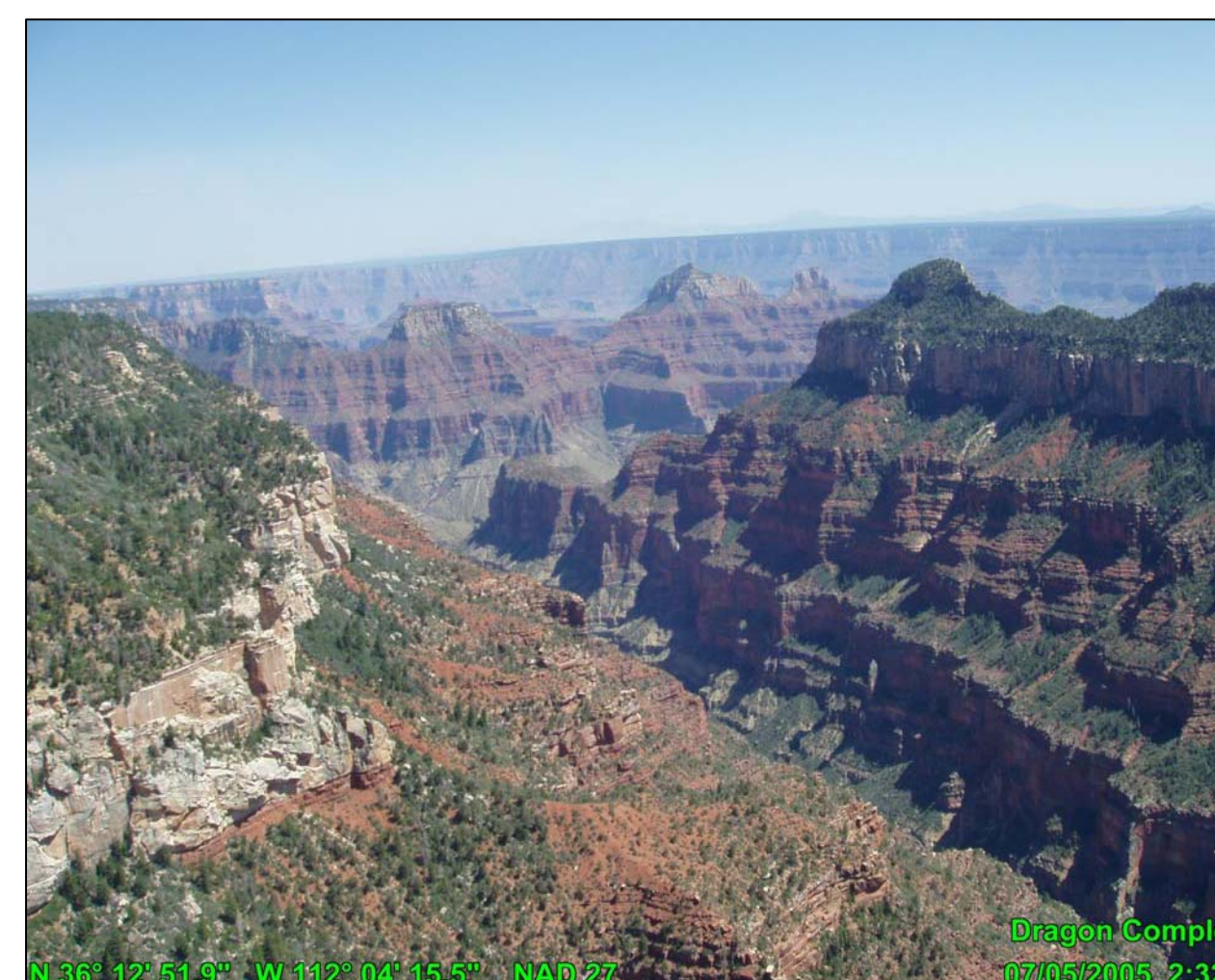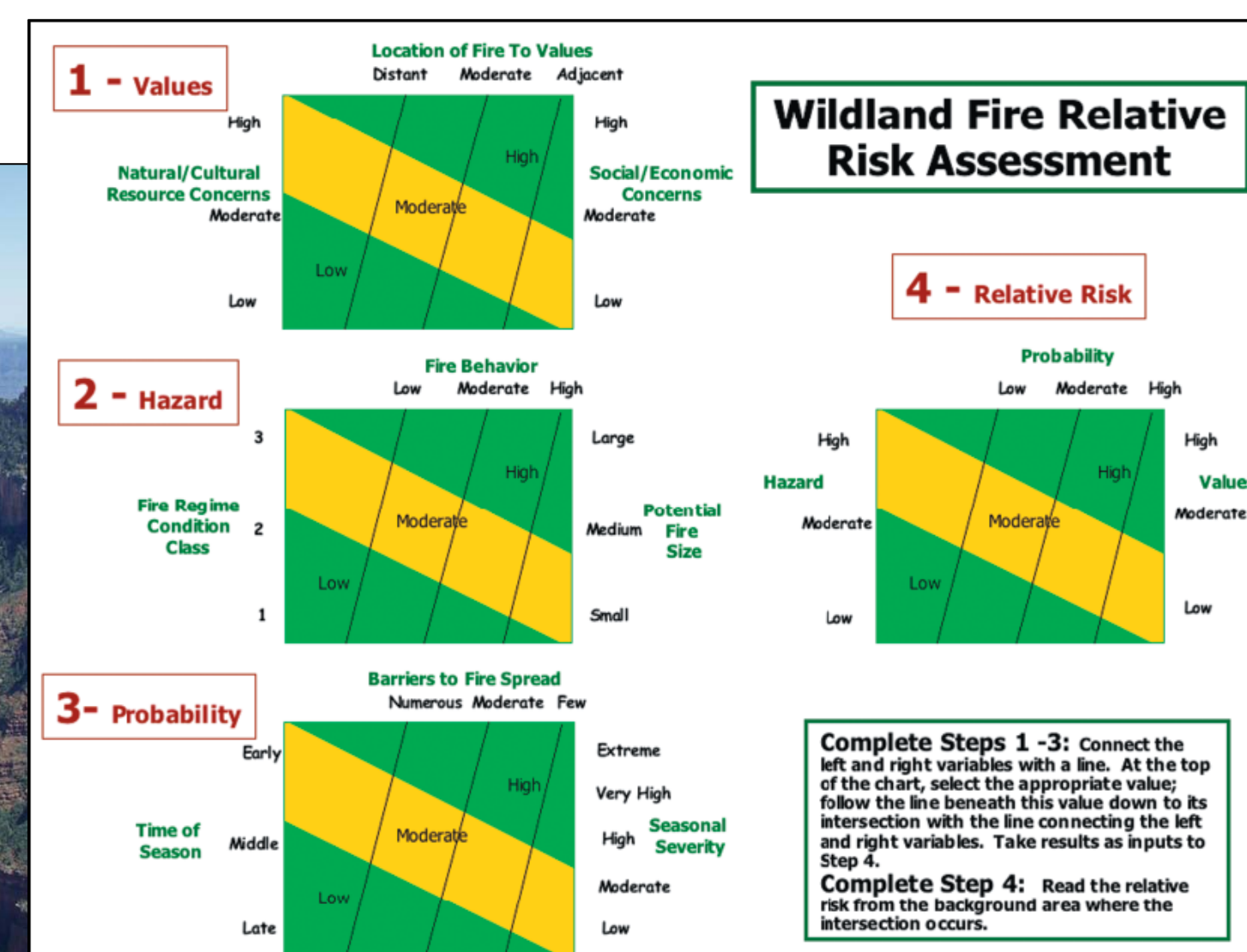
GIS and GPS on the Dragon Complex was mission critical. GPS was used to collect locations of drop points, helispots, water sources (dip sites), and access roads. GPS was also used daily to collect the fire perimeter, both from the ground and from the air by helicopter. GIS (ESRI ArcGIS 9.0) was used to combine incident operations specific data and base data (park boundary, roads/trails, fire fuels, topographic maps, and orthoimagery) to create maps for planning, fire behavior, public information, and tactical daily firefighter operations.

Wildland Fire Relative Risk Assessment

Fire Area Simulator Model (FARSITE) Output Dragon Wildland Fire Use Grand Canyon, NP

Legend
FARSITE Projection, 7/1 - 7/15
1 Day Perimeter Growth
Fire Behavior Fuel Models

Dragon Complex WFU - Grand Canyon National Park