Abstract: Maritime pine (Pinus pinaster Ait) is a very important forest species in Portugal. Nevertheless, both revenues and timber flows from the pine forests are substantially impacted by forest fires. We present research aiming at the development of a methodology to integrate fire risk in Maritime pine stand-level management optimization in Portugal. The objective is to determine the optimal prescription for a stand where fire risk is related to its structure and fuel load. The study optimizes the thinning treatments and the rotation length, as well as the fuel treatment schedule, i.e., reduction of understory cover during the rotation. Two components of wildfire risk - occurrence and damage - are considered. Fire damage was treated as an endogenous factor depending on the stand management schedule while fire occurrence was considered exogenous. For this purpose, a preliminary model that relates the expected loss to stand features (e.g. basal area) was used. The article demonstrates how a deterministic stand-level growth and yield model may be combined with wildfire occurrence and damage models to optimize stand-level management planning (i.e. to find the optimal prescription). The direct search Hooke-Jeeves method was used to find the optimal prescription. In addition, population-based direct search (e.g. differential evolution or, particle swarm optimization,) methods were used for further testing purposes. Results are presented for Maritime pine stand management in Leiria National Forest in Portugal. They confirm that the maximum expected discounted net revenues decrease with the risk of wildfire. They also confirm that fuel treatments reduce the expected damage.