

# Wildlife Burned in California Fires Get Fish Skin Bandages

Two bears and a cougar cub are recovering with their wounds wrapped in tilapia skin



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After roaring to life in December 2017, the Thomas Fire incinerated nearly 282,000 acres in southern California and destroyed thousands of structures. But as Elaina Zachos reports for National Geographic, humans weren't the only ones who suffered.

Rescuers found two adult bears and a cougar cub in Los Padres National Forest, a mountainous region north of Los Angeles. The bears were severely wounded, suffering third-degree burns on all of their paws, which left their paw pads red and raw, reports Ellen Knickmeyer for the Associated Press. The cougar cub was also in poor shape, suffering second-degree burns. The rescuers brought the creatures to the state Department of Fish and Wildlife for treatment. There, Zachos reports, the animals recovered from the harrowing experience with their wounds wrapped in fish skin.

Treating wild animals is far from easy, says Jamie Peyton, veterinarian at UC Davis who is assisting in their care. The creatures must be sedated for every treatment and bandage change, and as Peyton tells Knickmeyer, "you can only anesthetize them so many times." Even more problematic, accidentally swallowed bandages (a common hazard when wrapping anything around a wild animal's paw where it is likely to be gnawed) can cause intestinal blockages. So the vets got creative.

Inspired by a Brazilian practice, the team decided to use sterilized tilapia skin sutured over the wounds as a temporary second-skin. But as Zachos reports, the tilapia bandages can't be imported. Instead, Peyton and her husband bought live tilapia at a local fish market, skinned the fish (while eating the meat themselves), then cold-sterilized the skin over several days using a technique more commonly used for human skin grafts. Along with protecting the wounds, the collagen-rich skin aids healing.

After stitching these bandages onto the creature's paws, the vets wrapped their feet in rice paper and corn husks for extra protections, writes Knickmeyer. "We expected the outer wrapping to eventually come off, but we hoped the tilapia would keep steady pressure on the wounds and serve as an artificial skin long enough to speed healing of the wounds underneath," Peyton says in a statement from the California Department of Fish and Wildlife. Peyton and the team anesthetized the bears every ten days or so to switch out the dressings to prevent the tilapia skin from drying out and getting too leathery, Zachos writes. At the same time, the animals received pain treatment in the form of acupuncture, chiropractic treatment and cold-laser therapy.

The five-month-old cougar cub was too young to return to the wild, according to the AP's Knickmeyer. The creature will be sent to a care facility in Northern California for care next week.

As the bears were nearing their release date, the team discovered that one of the creatures was pregnant. "We aren't really set up to have a birth at the lab holding facilities, and we knew there was a high probability that she could reject the cub, due to all the stress she was under," says CDFW Senior Wildlife Veterinarian Deana Clifford. "We needed to get her back into the wild as quickly as possible."

But the creature's original homes had burned, and the team worried about releasing them into another bear's territory with no den to survive the winter. So the scientists created artificial dens for the creatures, placing them deep in the wild and away from burned areas. The pair was tranquilized and tucked into the dens January 18.

The team will now rely on satellite tracking collars and nearby trail cameras to watch what happens next.