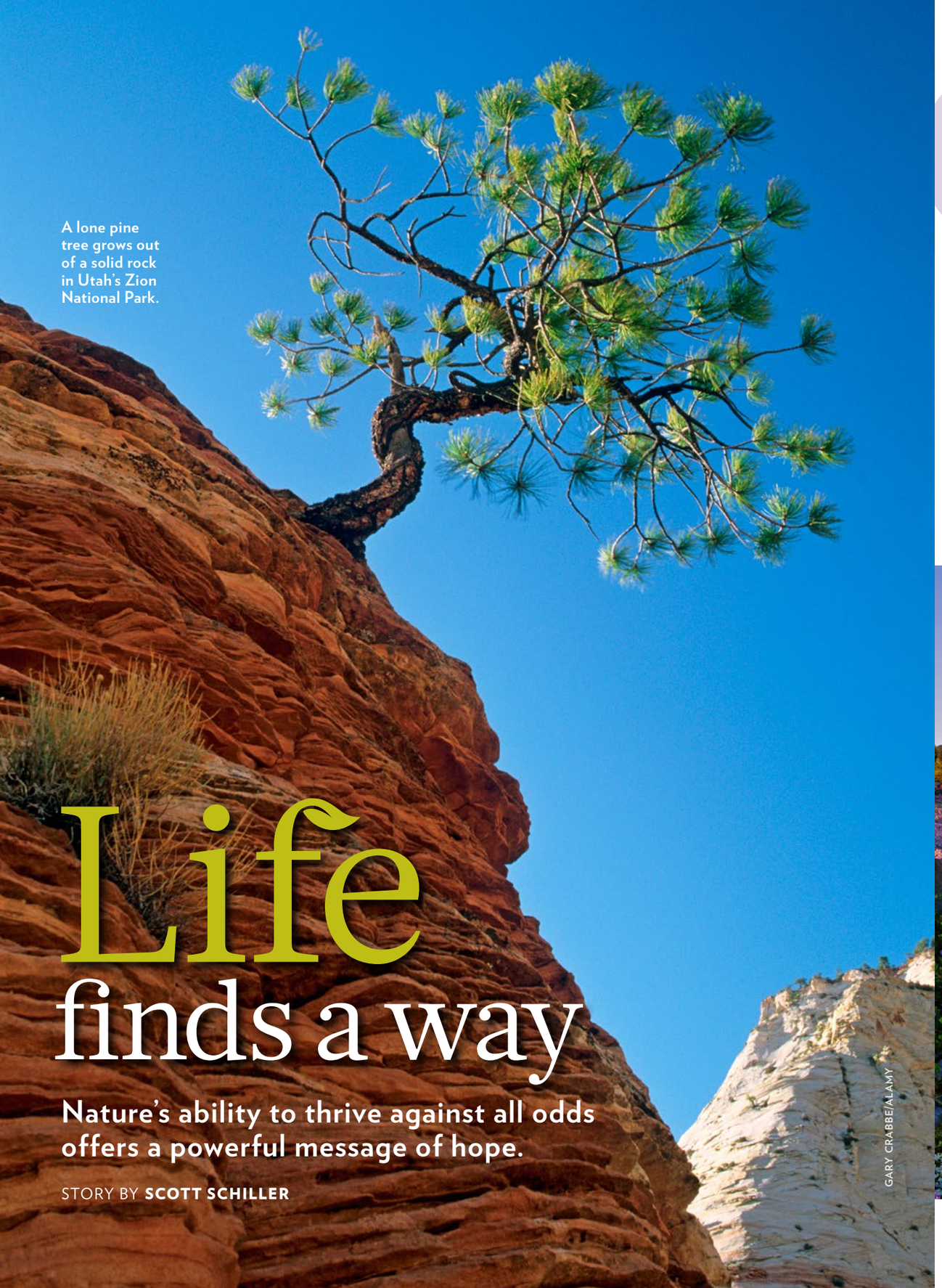

A lone pine tree grows out of a solid rock in Utah's Zion National Park.

GARY CRABBE/ALAMY

Life finds a way

Nature's ability to thrive against all odds offers a powerful message of hope.

STORY BY **SCOTT SCHILLER**

On the morning of May 18, 1980, Mount St. Helens erupted in a stupendous cataclysm of ash, gas and rock. The volcanic blast leveled more than 200 square miles of forest and meadow in southwestern Washington, transforming a once lush environment into a seemingly barren wasteland.

But even in the blast zone's most decimated areas, "life returned within minutes," observes U.S. Forest Service research ecologist Charlie Crisafulli. He explains that it began with birds, spiders, insects and windblown seeds. And less than a year after the eruption, Crisafulli found small flowering plants growing from the sterile blanket of smothering rock and ash.

"Seeds of the prairie lupine were most likely carried by the wind from the other side of the mountain," he says. The lupine's roots contain bacteria that manufacture vital nitrogen. The lupine, in turn, give the bacteria food and a safe place to live. As the plants grew, they attracted insects and small mammals. When the plants eventually died, they left essential nutrients that fed the next generation of plants and animals. Such plants are called pioneer species, for their ability to recolonize devastated environments.

In the tinderbox summer of 1988, wildfires scorched more than 1.2 million acres of Yellowstone National Park's pristine wilderness. But no sooner had the embers cooled than bright pink flowers began emerging from the charred remains. It was another pioneer species, a plant aptly named fireweed.

"The fireweed's robust underground stems enable it to survive the fire. Its seeds also travel on the wind and rapidly colonize burnt areas where there's little competition for light, food and water," Crisafulli explains. Like the fabled phoenix, new life arises from the ashes.

Inspiring stories of plants and animals that survive in inhospitable conditions certainly

Life thrives again on thousands of acres of wilderness decimated in Mount St. Helens' 1980 eruption (inset).

MARY LIZ AUSTIN; EVERETT COLLECTION INC/ALAMY (INSET)

Fireweed sprouts from burned logs after a forest fire (inset).

aren't limited to natural disasters. We've all witnessed weeds sprouting up through sidewalk cracks and wondered: How and why did this plant decide to grow there? The fact is, it had no choice. A seed blows into a crack and makes the best of its situation. The seedling sends down roots that find just enough moisture and nutrients there to grow. The roots exert pressure to widen and deepen the crack, which in turn collects more moisture and more bits of organic material.

The process continues, and since the seedling doesn't have to share its little corner of the world, it thrives. And before you know it, you've got a dandelion growing in the sidewalk or a plucky little juniper sprouting from a sheer rock cliff.

Likewise, when most of us imagine the most desolate, uninviting place to live, we think of the desert. But when you visit Arizona's Sonoran Desert or the White Sands National Monument in New Mexico, you'll find a great diversity of lush plant life. Cacti and yucca plants that thrive there have developed shallow root systems that can quickly absorb the brief, infrequent desert rainfall. In fact, yuccas gather moisture so efficiently that they leave none for neighboring plants. So they tend to sit all alone in a patch of barren sand, looking all the more miraculous.

The natural world never fails to amaze with its ability to flourish against all odds, to prosper in the most unexpected places and to rebound after catastrophe. As Crisafulli affirms about life's return to Mount St. Helens, "It's empowering, really. It's a story about resiliency, about overcoming obstacles. It's about hope."

MARVIN DEMBINSKY PHOTO ASSOCIATES/ALAMY; EVGENY DUBINCHUK/SHUTTERSTOCK.COM (INSET); DOUGLAS KNIGHT/SHUTTERSTOCK.COM (OPPOSITE)

"The natural world never fails to amaze with its ability to flourish against all odds."

A soaptree yucca plant grows out of sand dune in White Sands National Park, New Mexico.