

# FIRES AND FLOODS

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Preparing for and recovering from natural disasters



Camp life unfolds in some of the most serene settings. But these havens can quickly become anything but peaceful when a wildfire threatens or severe weather hits.

Photo courtesy of Glen Eyrie Conference Center



“It can happen in minutes,” says Derek Strickler, director of operations for Glen Eyrie, a Colorado conference and retreat center known for its beauty and rich history. ►

# After a devastating fire near Glen Eyrie, Derek Strickler recalls someone telling him, “You survived the fire; now flooding is going to be your biggest nightmare.”

Fire and flooding are common threats to Glen Eyrie, which sits at the base of a canyon at the edge of Colorado Springs, Colorado. In 2012, an 18,000-acre fire that destroyed more than 350 homes led to an evacuation of the 700-acre historic property. The blaze eventually skirted Glen Eyrie and appeared to pose no further danger — at least, initially.

In the aftermath of such devastation to his community, Strickler sought advice on what to do next. What he heard turned out to be quite prophetic. He recalls

someone telling him, “You survived the fire; now flooding is going to be your biggest nightmare.”

The Waldo Canyon fire, one of the most destructive in Colorado history, left hillsides with dead trees and scorched earth. Intensely hot flames stripped slopes of vegetation — roots and all — leaving hills nothing to hold on to when storms came through. Toasted trees toppled over, charred rocks began to roll and within minutes a black wave of debris could hurtle down the canyon.



Photo courtesy of Glen Eyrie Conference Center

Concerns over rainfall runoff led Glen Eyrie to respond in two ways. The first required some physical and financial heavy lifting in the months and years following the fire. Peace of mind comes at a price. Since 2012, Glen Eyrie has invested several millions into drainage control and landscape improvements. But Strickler is grateful to donors, whose generous contributions helped ease the financial strain.

Something had to be done to prevent fast-moving, dangerous debris from reaching Glen Eyrie and its neighbors downstream. Two 21-foot-high metal nets, made of interlocking rings and posts, were constructed to catch large objects in a flood. The twin structures, which span the length of the canyon and stand about a quarter-mile apart, are flexible enough to absorb the impact of crashing trees and boulders. Water still gets through, but the build-up of debris helps to slow its flow.

To protect its iconic castle and buildings from rising waters, Glen Eyrie deepened and widened the channel that runs through its property and fortified its banks with rocks.

Bridges and roads that once spanned the narrower channel had to be rebuilt, but the improved channel can now handle four times the water capacity.

While the first part of Glen Eyrie's preemptive measures hinged on new and improved infrastructure, the second part pivots on people. Should waters rise, a flood response team is ready to go.

Safeguarding people always comes first, Strickler stresses. Saving property is secondary. "It's life protection," he explains.

Strickler can now breathe a bit easier when the rains come, but he still doesn't take anything for granted. From May to October, the staff vigilantly monitors weather patterns and constantly communicates when the clouds roll in.

The vegetation is beginning to grow back on those scarred hillsides, although it could be decades before the canyon returns to normal. "We're seeing a little improvement every year," he says. "It's not as stressful as those first couple years. But it's a big part of our reality."

One of the unexpected benefits borne out of such trials has been the relationships Glen Eyrie now maintains with different government agencies and private organizations.

"Get to know your local officials ahead of time," Strickler advises. ►



Before



Photo courtesy of Camp Dixie

### Hurricanes Hit

Fortunately, no campers were on site the first and second time Camp Dixie (Fayetteville, North Carolina) faced massive flooding within two years.

In Camp Dixie's neck of the woods, hurricanes swell rivers, not post-fire runoff. When Hurricane Matthew spawned torrential rains along the East Coast in the fall of 2016, nearly 17 inches fell at the camp.

The first thing to go was the camp's "Blob" stand. The inflatable remained afloat, but an earthen section of the dam gave way. "It left a big, gaping hole," Ronnie LaFevers, executive director at Camp Dixie, says.

Floodwaters also washed out a road leading to additional lodging and meeting space for rental groups. But thanks to the generosity of supporters, the dam and the road were rebuilt in time to welcome back campers for summer 2017.

The relief was only temporary. Fifteen months later, LaFevers and his staff once again found themselves in the path of a hurricane.

"We laced up our boots and went to work again," LaFevers shares. The second time around, everyone assumed the worst and took extensive measures to prevent erosion, flooding and damage to the waterfront, buildings and other recreational areas. Floodwaters reached the camp's main building during the first hurricane, so power was cut to the facility and items removed or stored high before damaging rains arrived. Potential logjams were removed from an outflowing creek. Waterfront equipment was stored, and the lake was drained. ►

Within approximately two years, Camp Dixie experienced two floods of biblical proportions — one was described as a 1-in-500-year event and the other a 1-in-1,000-year event.

During



Aftermath



Photos courtesy of Camp Dixie

# The staff kept their chins up, “but it was just as devastating emotionally,” LaFevers explains. “You have to experience it to understand the magnitude of flooding.”



Photos courtesy of Camp Dixie

But then the hurricane slowed to a crawl over the Carolinas, and rain relentlessly pounded the property. Camp Dixie received more than 20 inches of rain the second time around. The reconstructed dam held, but all that rain had to go somewhere. The flooded lake overflowed, seeped through the main building and eventually took out the road.

The staff kept their chins up, “but it was just as devastating emotionally,” LaFevers explains. “You have to experience it to understand the magnitude of flooding.”

He stressed preparation and taking precautions that may not seem necessary when camps are sitting high and dry, such as flood insurance. Within approximately two years, Camp Dixie experienced two floods of biblical proportions — one was described as a 1-in-500-year event and the other a 1-in-1,000-year event.

One of LaFevers’ staff told him that now makes him “older than Methuselah.” It helps to keep a sense of humor in the midst of life’s messes. And gratitude goes a long way, too.

Dixie’s donors stepped up in a big way to help defray the cost of reconstruction after both storms. “I like to say we’re blessed,” LaFevers says. “But that doesn’t mean people that went through those things and didn’t recover aren’t blessed. We are very fortunate.” ■

*Danie Koskan is always on the run, whether it’s squeezing in a few miles between camp and family life or sprinting to keep up with her ski- and ball-loving boys. She and her husband, Tracy, delight in raising their three little men-in-the-making and shepherding the hearts of their staff at Camp Judson in the Black Hills of South Dakota. You can reach Danie at [runningphreak@yahoo.com](mailto:runningphreak@yahoo.com).*



# Protecting with Permaculture

*How sustainable, long-term ecosystems benefit your camp and the planet*

■ by Diane Stark

Church Mutual offers recommendations on how to protect against wildfires, including clearing debris from roofs and around buildings and removing dead trees or shrubs from the property. Another way to help mitigate the risk of fire spreading or controlling erosion that could lead to flooding is through a practice called *permaculture*. While permaculture may not be able to eliminate all the risks associated with wildfires or flooding, it can help, and it's also a practice that helps protect the environment.

Permaculture, which means permanent agriculture, is the development of ecosystems that are designed to be sustainable long-term.

Mile High Pines Camp (Victor, California) deals with the risk of wildfires. "We know that oak trees are fire-resistant," director Rosemary Valencia says. "We know that the forest's understory has plants that would slow a fire. We can also use plants that control erosion." Their choices of vegetation used in their landscaping can help protect their property should a fire occur.

Because Mile High Pines also deals with drought problems, a lot of their environmental practices involve the conservation of water. The camp has changed to biohealthy laundry detergent so they can reuse that water to nourish trees on their property.

Permaculture can include water harvesting, organic farming, composting and a host of other practices that save and protect our planet's resources.

Mile High Pines runs a science camp that teaches kids how to take care of the environment. "We want to use nature to teach kids about God's creation," Valencia explains. "God has called us to be good stewards of this world He gave us."

Valencia understands the importance of being environmentally friendly, but she also acknowledges its challenges. "Going green is definitely more expensive," Valencia said. "Compostable products cost more. Biodegradable paper goods are more expensive. We can get there though. It will just be a little more expensive."

For camps that are trying to become more environmentally friendly, Valencia advises starting with three things: worm farms, biodigesters and composting.

To start a worm farm, layer waste like leaves, paper and fresh kitchen scraps in a large container like a horse trough. The red wiggler worms decompose this waste and produce organic soil. A biodigester can decompose food product waste in just 24 hours, turning it into organic manure. Composting is similar, but it takes much longer for the waste to break down.

Valencia encourages people to think outside the box to solve the problems that occur at their camps. "Do an online search for the problem you're having with the word 'permaculture,'" she says. "You'll find solutions for drought, soil erosion and flat land. You will find solutions to any problem your camp is facing."



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