Protecting Animals From Dangerous Temperatures 24/7

Being a cold-blooded animal can be tough. Because they rely on external heat sources to warm up their bodies, they are at the mercy of their surroundings. When environmental temperatures fall, so does their body temperature. And, if they get too cold or too hot, they might even die. So it was a close call at the Elmwood Park Zoo when the power and heat stopped working in the middle of a frigid January night.

Saved By Luck and Dedicated Keepers

Elmwood Park Zoo began in 1924 when a local farmer transferred 16 acres and a small collection of animals to the Borough of Norristown, Pennsylvania. Today, owned and operated by the Norristown Zoological Society, Elmwood Park Zoo holds an elite status as one of only 225 institutions in North America accredited by the Association of Zoos and Aquariums. For the last ten years, the animals have been thriving under the care of the zoo's curator, David Wood.

The January blackout occurred overnight, when Wood and his staff weren't on the premises. The power outage damaged the heating system in the Bayou building, which is home to reptiles and amphibians. When the keepers arrived in the morning, the building was dangerously cold, and the lack of heat could have been fatal to the cold-blooded animals. The dedicated caretakers saved the snakes, frogs, toads and turtles by holding them close to their bodies to warm them until the heat came back on.

Previous Alert System Not Up For the Job

The night of the power outage, the temperature alert system failed, which led Wood to consider a better option. When functioning properly, the old system only alerted when the temperature went above and below preset parameters. Wood was never able to see the actual real-time temperature in the building. And, the system didn't alert him when power would crash.

Zookeeper warming a snake after an overnight power failure in January knocked out heat and the zoo's old monitor malfunctioned.

Because temperature is critical to the animals' safety, it's crucial that the staff rectify dangerous situations as soon as possible. A phone call or text notification of a blackout can alert animal handlers of a problem before the temperature has a chance to dip too low.

The old system's inefficiencies included staff having to set it manually with a screwdriver. In addition, when it sensed that the temperature fluctuated beyond the preset numbers, the system sent the notification first through a call center, and then to Wood. When it is so critical to jump into action as quickly as possible, that extra time could mean life or death.

Choosing the Right Monitor

For safety and efficiency, Wood knew that the new system had to include round-the-clock temperature and power monitoring and direct notification. He chose the Sensaphone wireless WSG30 monitoring, alarm and event logging system with temperature and power sensors. If the system detects a problem, alerts are instantaneous and go immediately to Wood and up to 32 members of his staff.

"The power outage alert is important because the temperature might not drop right away, and previously we wouldn't get an alert until it was already too cold. But by getting an alert when the power first goes out, we can act before the temperature dips to a dangerous level for the animals," Wood noted.

The system will watch over areas that house reptiles and monkeys in the Bayou building, as well as the animals used in education programs housed in the Casa Bella building. These animals aren't on display but travel to schools and other venues. Temperature is key in this building, because it houses reptiles and amphibians on the upper level and mammals on the ground floor, each requiring unique settings.

Animal curator David Wood with the new temperature sensor that monitors the golden lion tamarin's living area.

Safeguarding the Animals

With the new monitoring system, Wood can efficiently make adjustments through any web-based device because it is wireless. This was not possible with the old system because it was hard-wired to a designated room. Now he can quickly change temperature settings when an animal is added or leaves a particular area.

"It's safer for the animals because we can now change the temperature immediately. If we remove an arctic animal from an area and bring in a desert animal, we can quickly adjust," Wood said.

Currently the system is programed to send Wood alerts 24/7 and his lead keepers notifications during work hours. He has the option of adding more recipients such as zoo security personnel.

"This new system will definitely give us a much faster response time to a potential problem," Wood added.

Because the zoo is constantly growing as it advances its mission to foster an appreciation for wildlife and conservation, Wood is considering expanding the system throughout the zoo.

The system can include additional sensors such as entry and motion detectors, so it could replace the zoo's current security system. This would eliminate the cost and time of having to go through the current hard-wired system's service call center.

"The zoo is going through an expansion phase, and after surveying the site we decided a WSG30 unit would be an excellent product to grow with their needs," said Robert Fusco, Sensaphone's technical support and service manager. "A single WSG30 unit can support up to 30 wireless sensors, which gives them the flexibility to add sensors easily for future exhibits."