

## Improvements in Wildlife Detection and Warning Systems

Primary Author: Brian Scott SRF Consulting Group, Inc.

Secondary Author: Mark Gallagher SRF Consulting Group, Inc.

Wildlife Warning Systems continue to evolve, with one of the most advanced being installed in 2009-2010 on US 95, north of Moscow, Idaho. This area was a known migration area for deer, elk and moose, and had a history of crashes, including one fatality. The natural landscape in combination with land use patterns created a natural funnel for wildlife movements. Combined with shortened lines-of-sight due to combinations of vertical and horizontal curves, the location was ideal for an active warning system for motorists. Although the basic mechanisms of wildlife detectors coupled with warning beacons were appropriate for this application, the site presented a number of challenges that required adaptations to be developed quickly and efficiently. The resulting system incorporated new functionality for the warning system. The project site has very narrow or non-existent shoulders and steep grades (or walls) immediately adjacent to the roadway. As a result, the beam-break-based detectors had to “hug” the curves, which were also heavily shaded by mature pine trees. These factors made solar power impractical for many device locations, but a hybrid commercial electric and solar solution was created without impacting the project timeline. The second major challenge arose from a major migration route followed a county road serving approximately 16 residences. The resulting vehicle traffic passing through the beam detectors caused false activations, impairing the perception of effectiveness with the public. In response, a simple inductive-loop-based system to discriminate between wildlife and vehicles was developed and deployed in only six weeks, eliminating the false activations. Idaho has deployed the most advanced, flexible wildlife warning system in use today. The system supplier (SRF Consulting Group, Inc.) continues to refine this concept and add functionality, with additional deployments planned for Minnesota in 2011.