

## Eartag Technology Helps Protect Riparian Areas



A new technology, similar in function to the “electric dog fence,” can keep livestock away from sensitive riparian areas such as streams and streambeds. The technology provides an economical alternative to fences.

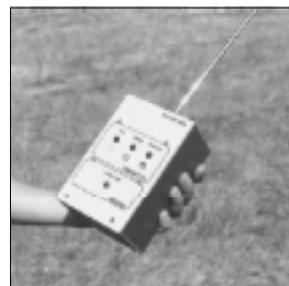
The inventors, Thomas M. Quigley, Arthur R. Tiedemann, and Jack W. Thomas of the USDA Forest Service Pacific Northwest Research Station, say the sole purpose of the eartags is to limit livestock access by attaching a small electronic device to the animal. When the animal nears a restricted area, the device emits an auditory signal followed by a small electric charge, which conditions the animal to avoid approaching the restricted area. Restricted areas are usually those sensitive to livestock impacts, such as riparian areas, where repeated animal encroachment can cause streambank erosion, sedimentation, and non-point-source pollution of streams and creeks. The device eliminates the need for fences and gates, which can be cost prohibitive.

The device consists of a receiver that hangs from the animal’s ear and portable battery-operated transmitters that are placed around the perimeter of the restricted area. Unlike the familiar electric dog fence, which relies on a buried wire, this device can be moved from location to location. The transmitter’s signal propagates in a circular pattern and acts as a barrier to prevent livestock entry into the protected area.

The technology has been licensed to an electronics firm, which is continuing the development of this research. Testing is underway to evaluate the effect of this technology on livestock—information essential to ranchers and farmers before they use such devices. A field study is planned for fall 2000 to determine the effectiveness of the device and its effect on livestock



*The eartag in this animal’s left ear contains the electric device that emits the audible signal.*



*The transmitter is small enough to be held in one hand.*

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