Transportation, Recreation Tech Tips

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Replacing Signs Is Cheaper Than Tracking Them

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The U.S. Department of Agriculture Forest Service installs and maintains thousands of signs. Each year, many of these signs are vandalized or stolen. Signs are expensive to replace. While they are damaged or missing, forest visitors aren't receiving important information, including information that is essential to their safety.

Managing sign programs to reduce the long-term costs of theft and vandalism requires careful analysis of each situation. Random incidents of theft and vandalism should be dealt with differently than recurrent violations.

While little can be done to stop or deter random criminal acts, repeated destruction or theft can be evaluated and changes can be made to reduce or eliminate the problems.

Each sign that is stolen repeatedly needs to be evaluated to determine:

- Why is this sign attractive to thieves and vandals?
- Can it be changed to make it less attractive?
- Can the sign be made out of less expensive materials?
- Can the sign be mounted differently or in a different location to deter theft?

Highlights...

- Vandalism and theft of signs is a serious problem for the Forest Service.
- Although devices could be installed to allow stolen signs to be tracked and recovered, the devices are so expensive that it doesn't make sense to install tracking devices routinely.

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In addition to these questions a short economic analysis is needed to determine the true cost of replacement compared to the cost of making changes to the sign and the cost to the public if the sign was not replaced.

When all other actions have been evaluated, the options may include the high-tech options considered by this tech tip.

The Forest Service's Technology and Development Program was asked to investigate ways to track stolen signs, allowing them to be recovered.

GPS tracking devices, such as one made by LoJack (*http://www.lojack.com*), use small radio-frequency transceivers hidden in the object to be tracked. When a theft is reported to law enforcement authorities, they activate the tracking system, which allows them to track the object. This system is relatively expensive. The transceivers can cost $300 to $1,000 or more and could only be used for engraved or routed wooden signs that were large enough to hide the transceiver.

Radiofrequency ID (RFID) tags are much cheaper. If they were hidden in signs and antennas to read the tags were installed at forest access points, some signs might be recovered. While the RFID tags are inexpensive, a monitor would have to be stationed at the Forest access points to confront suspects and recover signs.

Other Options

When the Technology and Development Program investigated this topic, one suggestion was to mount signs using antitheft screws and hardware that require special tools to remove, such as the types of screws used in public restrooms.

Another suggestion to discourage signs from being stolen was to spray them with a solution that would give them an unpleasant odor.

One company produces signs that appear to have been damaged by a shotgun blast. The idea is that vandals would be less likely to shoot a sign that has been damaged already, a sort of "beat them to the punch" approach.

Conclusions

While the technology to track stolen signs exists, it's too expensive to use routinely to protect inexpensive items. Sign managers can make it more difficult or less attractive to steal signs or damage them, but at this time it may be cheaper to replace stolen signs than it is to try to recover them.

Sign managers may wish to contact regional law enforcement and ask for assistance with technical investigative equipment or other solutions.

Notes

About the Authors

Martha Willbee, outdoor recreation planner, joined the recreation program at the San Dimas Technology and Development Center in 2002 after serving the center many years as administrative assistant. She worked in banking and insurance before joining the Forest Service in 1991. She has a bachelor's degree in recreation administration from Chico State University in California.

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Library Card

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This tech tip discusses technologies that could be used to track signs stolen from the national forests. The high-tech devices that would allow the signs to be tracked effectively are so much more expensive than the signs that it doesn't make sense to install tracking devices routinely.

Keywords: law enforcement, theft, vandalism

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Forest Service and Bureau of Land Management employees can search a more complete collection of MTDC's documents, videos, and CDs on their internal computer network at: *http://fsweb.mtdc.wo.fs.fed.us/search/.*

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