

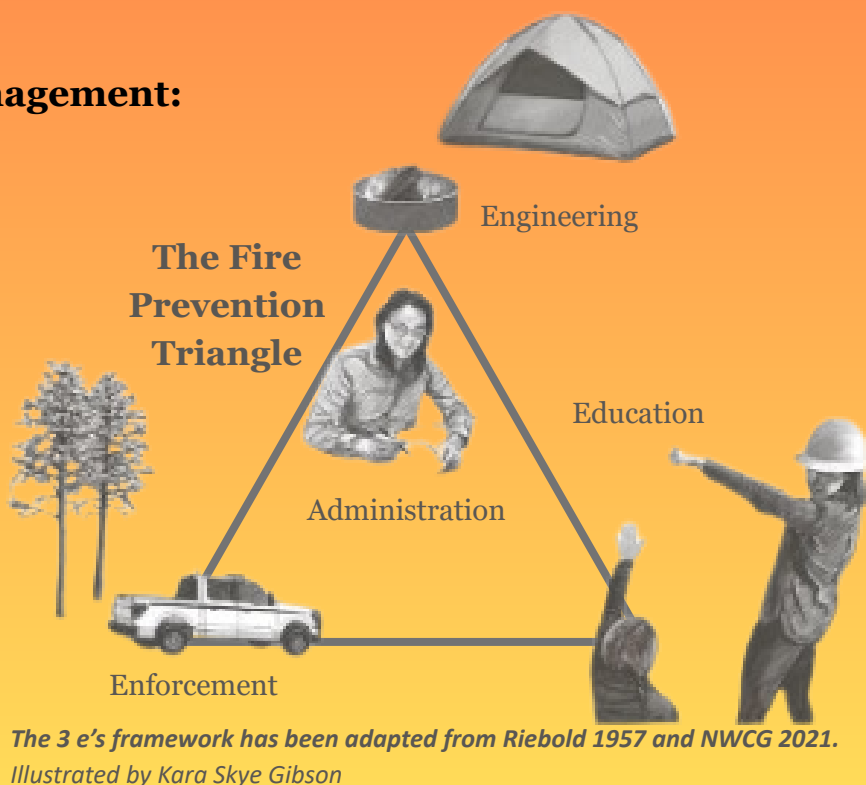


WILDFIRE PREVENTION BEST PRACTICES

Preventing human-caused wildfires relies on four strategic pillars: education, enforcement, engineering, and administration. While gaps in data and evaluation remain, a growing body of research offers clear direction on what makes prevention efforts more effective. These findings emphasize the importance of informed, adaptive management practices that optimize resources and effectively reduce human-caused wildfire ignitions.

7 CALLS TO ACTION to improve wildfire prevention management:

- **Train frontline staff** for consistent, approachable fire prevention messaging.
- **Document and communicate return on investment** for prevention activities.
- **Adapt timing and scale** of programs to local needs.
- **Invest in data systems** to track human-caused ignitions and measure prevention outcomes.
- **Diversify outreach** to reflect different public land user groups and cultural contexts.
- **Strengthen partnerships** to share the work and build community trust.
- **Support research to fill knowledge gaps** and develop smarter, more targeted strategies.



Education best practices: Build knowledge and awareness

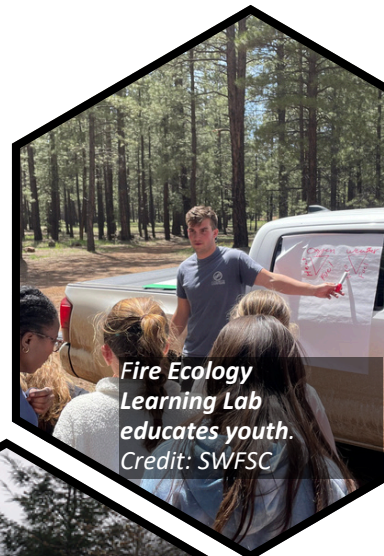
Education is the most researched and widely used prevention strategy, but it must be done carefully. Not all messages are effective and not all audiences are the same.

- **Use multiple approaches:** Combine media, mid-range programs (e.g., school visits), and personal contact (e.g., ranger patrols).
- **Tailor messaging:** Different groups respond to different messengers and formats, and understand different languages.
- **Go beyond Smokey:** Smokey Bear is iconic, but his message doesn't always align with today's fire ecology or diverse users.
- **Start early and repeat:** Messaging should begin before fire season and continue throughout high risk periods.
- **Coordinate messaging across jurisdictions:** Prevent confusion for users who move between agency-managed lands.
- **Focus on personal interaction:** Face-to-face contact with trained staff or volunteers leads to more permanent behavior change.
- **Reach kids and families:** Youth programs can help shift long-term attitudes and influence family behavior at home.
- **Modernize delivery:** Explore new platforms like mobile apps, location-based alerts, and pre-trip online information.

Enforcement best practices: Back rules up with action

Enforcement is essential to wildfire prevention, but it works best paired with education.

- **Increase visible presence:** Rangers or Law Enforcement Officers on the ground deter risky behavior and build rapport with public.
- **Prioritize high-risk times:** Focus patrols and enforcement on holidays, weekends, and during fire restrictions and red flag warnings.
- **Apply fines when necessary:** Legal accountability reinforces the seriousness of violations.
- **Clarify roles:** Ensure the public can distinguish between enforcement staff and others to reduce confusion or mistrust.
- **Improve signage:** Use simpler language and clearer signs to aid understanding (e.g., misunderstanding terms like “stage restrictions”).



Engineering best practices: Design for safety

Engineering solutions reduce the chance of ignition by shaping how people interact with the landscape.

- **Install durable fire features:** Metal or stone campfire rings encourage safe behavior.
- **Add supportive infrastructure:** Access to water, designated shooting areas, and fencing can lower risks.
- **Target high-use areas:** Focus investments where ignitions cluster (e.g., roads, campsites, trailheads.)
- **Design for local needs:** Rural users often support more engineered features (e.g., metal fire rings) than urban ones.
- **Explore underused options:** Consider tools like digital signs, shuttle systems, or spark-safe parking areas.
- **Plan with spatial tools:** Systems like WPSAPS (Wildfire Prevention Spatial Assessment Planning System) help prioritize limited resources.



Administration best practices: Coordinate, evaluate, and adapt

Effective prevention programs depend on thoughtful administration.

- **Staff the right roles:** There are few prevention specialists and they are often reassigned. Dedicated roles and clear priorities matter.
- **Train for public contact:** Effective prevention staff are skilled communicators who know how to engage with the public.
- **Track costs and benefits:** Prevention is underfunded. Agencies should document and share savings.
- **Evaluate efforts consistently:** Improve data entry and align methods to track what works.
- **Be flexible and local:** Tailor efforts to local social, ecological, and recreational conditions.
- **Partner to increase reach:** Collaborate with nonprofits, agencies, and businesses.
- **Explore public support:** Many are willing to pay for prevention if risks and savings are clear.

Read more on the science related to this summary. Edgeley, C.M., Evans, A.M., Devenport, S.E., Kohler, G., Zamudio, Z.M. and DeGrandpre, W.D. (2025). Preventing human-caused wildfire ignitions on public lands: a review of best practices. *Forest Science*, in press.

This fact sheet was created by Gabe Kohler, Annie Elko, and Molly McCormick.

Read this fact sheet online:



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