

Science You Can Use!



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Changing Forests... Enduring Values

Science You Can Use: Where Scientists & Managers Connect

Overall Purpose: To connect scientists and managers...

- by providing scientific information to people who make and influence decisions about managing land...
 - while harvesting and delivering the ideas, perspectives, and needs of the land management community to the scientific community.
1. Academy – website that seeks to foster dialogue/collaboration
 2. Bulletin – bi-monthly e-publication that synthesizes the science on a relevant/challenging land management issue



From Death Comes Life: Recovery and Revolution in the Wake of Epidemic Outbreaks of Mountain Pine Beetle 



The loss of mature pine trees to mountain pine beetles in sensitive watersheds raised fears that influxes of nutrients and sediment might threaten key sources of drinking water. (Photo credit: Karl Melnikov)

SUMMARY

Changing climatic conditions and an abundance of dense, mature pine forests have helped to spur an epidemic of mountain pine beetles larger than any in recorded history. Tens of millions of forested acres have been heavily impacted, experiencing extreme rates of tree mortality and raising fears that the death, desiccation, and decomposition of the overstory could have dramatic and negative consequences for affected ecosystems. Compromised water quality, increased fire danger, and losses in timber production are among the primary concerns of what could lie ahead for beetle-stricken landscapes.

Researchers at the Rocky Mountain Research Station have been studying the current outbreak since its inception in hopes of shedding light on what the future might hold after the waves of mountain pine beetles recede. Through ongoing studies focused on the water, vegetation, fuels, and management practices employed in infested forests, they are beginning to piece together a picture of the long-term change that surging beetle numbers impart on the land.

Results from these studies indicate that understory plant communities respond vigorously following the death of the canopy, dampening the influx of runoff and nutrients into sensitive watersheds. By surviving trees in cut and intact stands alike ensures the rebound of affected forests following beetle outbreak.

To stand witness to a wave of mountain pine beetles sweeping across a favorite landscape or to view the staggering aftermath is an exercise in humility. Like other forces of nature, these eruptions remind us of the tendency for natural systems to operate beyond our control. Halting an outbreak of pine beetles with available management tools is as hopeless as stopping the tide with a bucket.

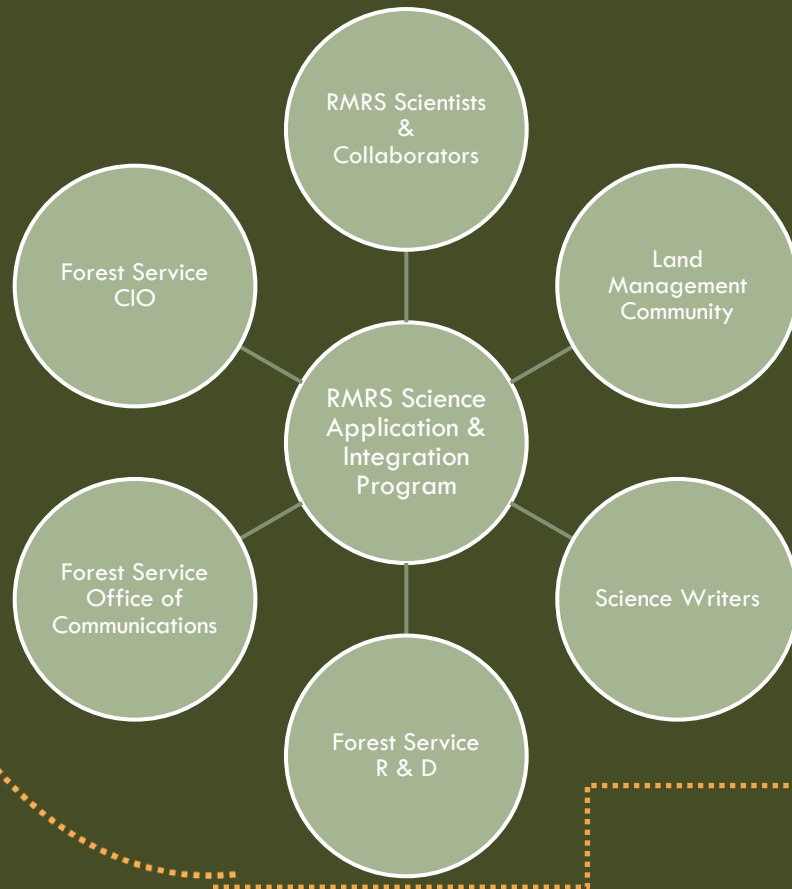
The transformation of forested pine slopes from verdant to withered is a change that follows infestation with surprising speed, and the consequences of an outbreak as large and intense as that observed in the past two decades are not yet fully understood. The spatial extent and extreme rates of tree mortality characteristic of the current epidemic are simply unprecedented in recorded history.

In hopes of better understanding the repercussions of beetle infestation on the landscapes of western North America, researchers have been studying the phenomenon since its outset. Their findings are beginning to reveal the patterns of response in afflicted ecosystems post beetle-attack, and stand to guide management decisions in the dramatically altered forests pine beetles leave in their wake.

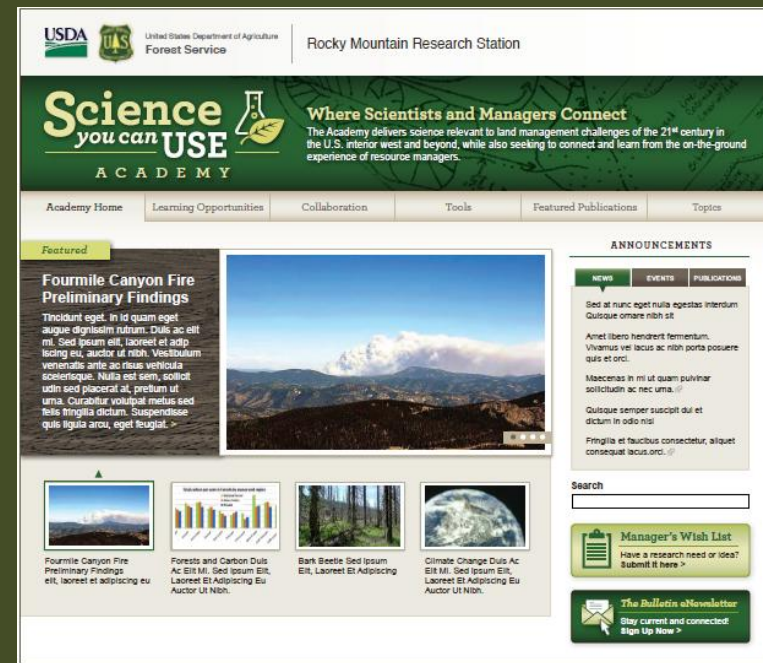
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Role of Partners



The Science You Can Use Academy will be an “early adopter” of new web technology, and thus we’ve extended our network to involve other partners necessary for buy-in, specialized support, etc.



Who Benefits

- Land Managers are more informed, with little extra time/effort to wade through the fire hose of information
- Scientists get credit for delivering their science, and get new ideas for future science... Bonus: science is synthesized and delivered in a highly useful format
- The US Forest Service as an organization looks better to Congress, etc., when we work together, efficiently, to improve outcomes
- The general public benefits through better land management decisions through improved communication & integration of efforts that tax dollars support



Agreements

- Mostly informal, though some contracts were involved
 - ▣ Science writers
 - ▣ Website developers
 - ▣ Should we have formalized more agreements, or does some of our current strength lie in our flexibility and adaptability within an uncertain/changing corporate environment?

**WCF Work Order
U90GH0-12**

between

**TEAMS Enterprise
USDA Forest Service**

and

Rocky Mountain Research Station

THIS AGREEMENT is hereby made and entered into by and between TEAMS Enterprise (TEAMS) and Rocky Mountain Research Station, hereinafter referred to as "Unit"; collectively referred to as the "Partners."

WHEREAS, services will begin on or about September 15, 2012 and will be completed on or about January 31, 2014 hereinafter referred to as the "Term."

Modification of services described herein may be made as agreed upon by both partners, in an amendment to this Agreement, at rates specified herein unless otherwise agreed to by both partners.

Additional days or portions thereof, may be added as available and agreed upon by both partners in an amendment to this Agreement, at rates specified herein unless otherwise agreed to by both partners.

WHEREAS, this Agreement will remain in full force and effect for the above Term unless written notification by any one of the above partners is issued to each of the other partners in this Agreement. Any modification or amendment to this Agreement must be signed by all of the above partners.

NOW, THEREFORE, in consideration of the above premises, the partners hereto agree that TEAMS Enterprise will complete the:

SocioEconomic Support

Descriptive Statement of Work and/or Deliverables begins on page 6.

- This service will be provided on a time and materials basis as described in the attached statement of work. The estimated total cost is \$75,000 based on Fiscal Year 2012 TEAMS billing rates. Services will not exceed this amount without amendment of this agreement. This cost includes anticipated labor, travel, and supplies. Upon approval of this WCF Work Order, the Albuquerque Service Center (ASC) will obligate funds in this amount and provide to the benefiting unit a copy of the obligating document recording this transaction. Should work extend into fiscal year 2014 or beyond, increased labor costs will be assessed, reducing the amount of labor hours accordingly. In that event, TEAMS will provide a new estimate of the hours that can be provided for the remaining funds which will be documented through amendment to this agreement.



Best Practices

- Political savvy/consensus building – if they're not against you, they're for you!
- Remain committed to goals while allowing the partnership to influence creation of objectives
 - ▣ Goal: improve science delivery & science-manager connections
 - ▣ Objectives: create website in new drupal environment and beta-test new WO style guidelines, prototype a model of R&D science delivery for all research stations
- Work Flows work wonders...



Lessons Learned

- Under-promise, over-deliver?? (big change takes big time)
- Managing by network can help get 'ir done!
- Entrepreneurship – this is just the beginning, and there's lots of creativity within the network!

