

Recreation

Two Management Styles That Serve the Public Well

The “Tales of Two Management Styles: Recreation Management for the 21st Century” report (0623-1202P-SDTDC) documents the success stories of the recreation programs at the Land Between the Lakes National Recreation Area and the Eldorado National Forest’s Pacific Ranger District. One group of employees used a unique customer- and product-driven management style while the other group of employees implemented a process team approach.

This report includes information about customer service, recreation surveys, team recruitment, strategic planning, partnerships, and much more.

For further information, contact Ellen Eubanks, project leader (phone: 909-599-1267; ext. 225; e-mail: eeubanks@fs.fed.us).

To order the report, contact San Dimas Technology and Development Center (SDTDC) publications (phone: 909-599-1267, ext. 235; e-mail: rschnepp@fs.fed.us).



Wilderness Restoration (Let the Healing Begin)

The “Wilderness and Backcountry Site Restoration Guide” (0623–2815–MTDC) examines human impacts at remote recreation sites. The guide will help you decide whether restoration is appropriate and, if so, will help you develop a site-specific plan that incorporates ecological concepts and addresses human use.

The guide describes site-specific restoration techniques—such as site preparation, soil amendments, planting, and mulching—that don’t rely on motorized tools or mechanized transport.

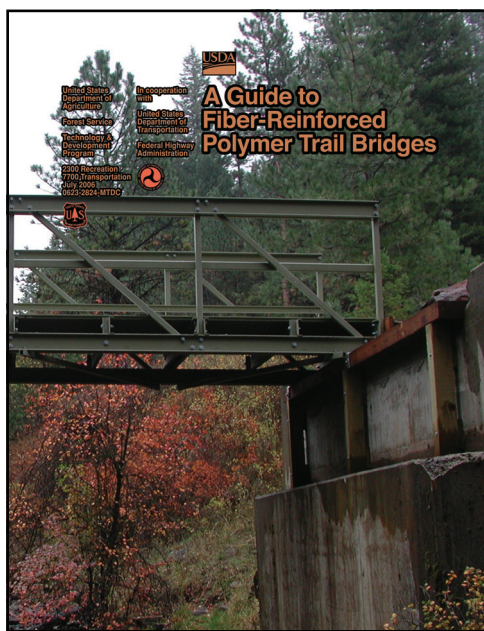
The guide is available electronically, both in HTML and Acrobat formats. It is not available in hard copy.

For more information, contact Mary Ann Davies, project leader (phone: 406–329–3981; e-mail: mdavies@fs.fed.us).



Lightweight Bridges for the Backcountry

Conventional bridge-building materials, such as steel, concrete, or timber, often are too heavy to carry on trails. “A Guide to Fiber-Reinforced Polymer Trail Bridges” (0623–2824–MTDC) discusses the benefits and problems encountered with the use of lightweight, low-maintenance, fiber-reinforced polymer (FRP) trail bridges.



The guide provides background information about FRP composites, along with their benefits and shortcomings when used for trail bridge construction. Case histories are included for five FRP bridges in national forests, along with tips and hints on design, ordering (suppliers are listed), transportation, storage, installation, inspection, and maintenance.

For additional information about fiber-reinforced polymer trail bridges, contact Scott Groenier, project leader (phone: 406–329–4719; e-mail: sgroenier@fs.fed.us).

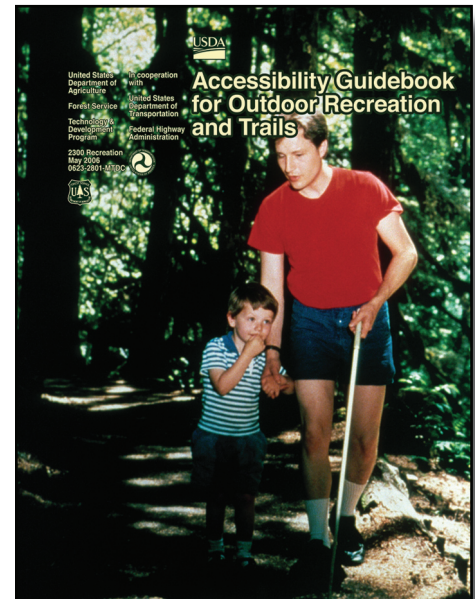
To order the guide, contact Cailen Hegman, Missoula Technology and Development Center (MTDC) publications (phone: 406–329–3978; e-mail: cahegman@fs.fed.us).

Accessibility Guidebook for Outdoor Recreation and Trails

The “Accessibility Guidebook for Outdoor Recreation and Trails” (0623–2801–MTDC) explains how to integrate accessibility into planning, design, construction, and maintenance of outdoor recreation facilities and trails. The guidebook is available online at <http://www.fs.fed.us/recreation/programs/accessibility/htmlpubs/htm06232801/>. It is not available in hard copy.

Forest Service personnel, partners, contractors, and Federal and State agencies cooperating with the Forest Service can use the guidebook to apply the “Forest Service Outdoor Recreation Accessibility Guidelines” and “Forest Service Trail Accessibility Guidelines” to recreation and trail construction and maintenance projects.

For additional information about this guidebook, contact Kathleen Snodgrass, project leader (phone: 406–329–3922; e-mail: ksnodgrass@fs.fed.us).



Accessible Gates and Gate Latches

Opening gates and gate latches can present problems for people with disabilities. The tech tips, “Accessible Gates for Trails and Roads” (0623–2340–MTDC) and “Accessible Gate Latch” (0623–2331–MTDC), provide drawings for accessible gates and information about a gate latch that meets accessibility requirements.



For additional information, contact Scott Groenier, project leader (phone: 406–329–4719; e-mail: sgroenier@fs.fed.us).

To order the tech tips, contact Cailen Hegman, MTDC publications (phone: 406–329–3978; e-mail: cahegman@fs.fed.us).

DVD Training for Wilderness Rangers: The Best Job in the Forest Service

Every field season, wilderness managers must educate new or returning wilderness rangers on the basics of backcountry work. “Wilderness Rangers: Keeping It Wild” (0623-2D02-MTDC) describes the daily backcountry work of the employees who help manage the nation’s wilderness areas.

This 40-minute DVD has five chapters:

♣ **The Meaning of Wilderness**

Learn about the Wilderness Act and the National Wilderness Preservation System.

♣ **Being a Jack-of-All-Trades**

Learn about the wide assortment of skills wilderness rangers need to do their job.

♣ **Meeting Visitors**

Learn how to educate the public and gain compliance with wilderness regulations.

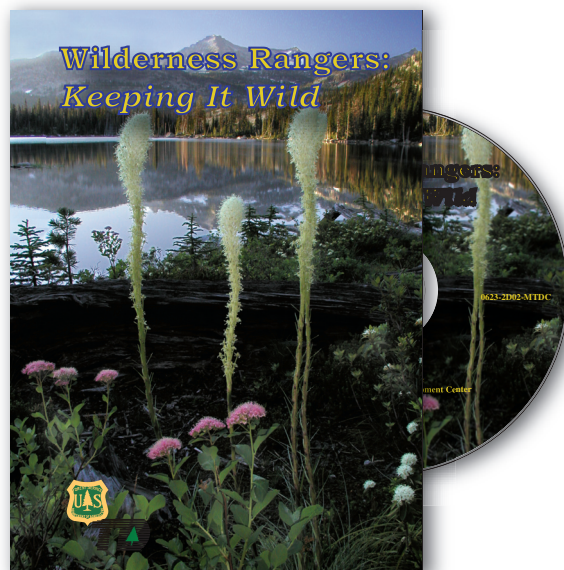
Learn how to protect your personal safety when contacting the public.

♣ **Managing the Wilderness Resource**

Learn about the role wilderness rangers play in maintaining and monitoring wilderness conditions.

♣ **Keeping Yourself Healthy and Safe**

Learn some techniques to avoid getting sick or injured when in the backcountry.



For more information, contact Mary Ann Davies, project leader (phone: 406-329-3981; e-mail: mdavies@fs.fed.us).

To order the DVD, contact Cailen Hegman, MTDC publications (phone: 406-329-3978; e-mail: cahegman@fs.fed.us).

Engineering

Modernization Saves Energy and Money at the Coeur d'Alene Nursery

Forest Service nurseries help sustain, rehabilitate, and improve forests on public lands. Nursery operations are energy intensive and can be hampered by high energy costs.

“Modern Systems Cut Energy Use 80 Percent at the Coeur d’Alene Nursery” (0673–2326–MTDC) explains how the Coeur d’Alene Nursery in northern Idaho modernized refrigeration, lighting, and HVAC (heating, ventilation, and air conditioning) systems, reducing energy usage an astonishing 80 percent. The nursery used third-party financing, a power company financial incentive, and a design-build contract to accomplish the work with comparatively little capital outlay. This tech tip provides information on how to identify potential energy savings for facilities and how to accomplish the work.

For additional information about energy use reduction, contact Kathleen Snodgrass, project leader (phone: 406–329–3922; e-mail: ksnodgrass@fs.fed.us).

To order the tech tip, contact Cailen Hegman, MTDC publications (phone: 406–329–3978; e-mail: cahegman@fs.fed.us).



Road Maintenance Made Simple

Using the “Guidelines for Road Maintenance Levels” (0577–1205P–SDTDC) will help Forest Service road managers, line officers, transportation engineers, equipment operators, and field personnel work together to develop road maintenance plans and determine road management objectives.



The guide’s small size, convenient format, and special paper make it easy for equipment operators to use while they’re maintaining roads. Photos and explanations in the guide will help operators apply road management and maintenance standards consistently.

For further information, contact Leo Ruiz, project leader (phone: 909–599–1267; ext. 258; e-mail: lruiz@fs.fed.us).

To order the guide, contact SDTDC publications (phone: 909–599–1267, ext. 235; e-mail: rschnepp@fs.fed.us).

The Early 20th-Century Materials Tech Tip Series

Innovative building materials developed in the first half of the 20th century were commonly used in Forest Service buildings. MTDC is preparing a series of tech tips to help facilities engineers and managers recognize these materials and properly maintain, repair, and replace them. The first tech tip in the series, “Early 20th-Century Building Materials: Introduction” (0673–2314–MTDC), provides general information on historic preservation and rehabilitation standards.

The second tech tip, “Early 20th-Century Building Materials: Fiberboard and Plywood” (0773–2308–MTDC), describes the history and physical characteristics of plywood and fiberboard. It also explains common causes of deterioration, including moisture, and provides practical tips and techniques for repair.

Each of the other tech tips in this series will provide practical information about a particular group of materials. They will help you identify the materials by describing their history, physical characteristics, composition, and method of manufacture. Each tech tip also will provide guidance on maintenance, repair, and replacement, and will address common problems with specific materials. The third tech tip will examine resilient flooring. Future tech tips will look at siding, roofing, masonry, and other materials.

For additional information, contact Kathleen Snodgrass, project leader (phone: 406–329–3922; e-mail: ksnodgrass@fs.fed.us).

To order the tech tips, contact Cailen Hegman, MTDC publications (phone: 406–329–3978; e-mail: cahegman@fs.fed.us).



Improving Sustainability in Existing Buildings

Sustainability means meeting the needs of the present without compromising the ability of future generations to meet their own needs. “Incrementally Greener—Improving Sustainability Over Time Through Operations and Maintenance”

(0673–2843–MTDC) explains how to improve the sustainability of existing buildings and sites. Making changes in ordinary operations and maintenance work can improve sustainability

without a major capital outlay, can help improve employee satisfaction and service to customers, and can also save money.

For additional information about sustainability, contact Kathleen Snodgrass, project leader (phone: 406–329–3922; e-mail: ksnodgrass@fs.fed.us).

To order the report, contact Cailen Hegman, MTDC publications (phone: 406–329–3978; e-mail: cahegman@fs.fed.us).



Applying the Built Environment Image Guide to Administrative Sites

The “Built Environment Image Guide (BEIG) for the National Forests and Grasslands” was developed to help Forest Service designers and decisionmakers improve the Forest Service image, better serve customers, and produce transportation systems, sites, and structures that portray an appropriate Forest Service image.

The report, “Portraying the Forest Service Image—Applying the Built Environment Image Guide to Administrative Sites” (0773–2807–MTDC) explains how to apply the BEIG to administrative site improvement and maintenance projects.

For additional information about using the BEIG at administrative sites, contact Kathleen Snodgrass, project leader (phone: 406–329–3922; e-mail: ksnodgrass@fs.fed.us).



New and Updated Sections of the Facilities Toolbox



The “Facilities Toolbox,” an online resource, explains how to manage buildings and other facilities effectively (<http://www.fs.fed.us/t-d/toolbox/> Username: t-d, Password: t-d). The changes include:

New Information

♣ “Hantavirus,” part of the “Hazardous Substances in Buildings” section of the Toolbox, provides information about hantavirus, how it is spread, and precautions for working in potentially contaminated areas.

♣ “Hazmat Requirements for Sales and Other Conveyances,” part of the “Hazardous Substances in Buildings” section of the Toolbox, explains the requirements for mitigating hazardous materials before the Forest Service can dispose of buildings it no longer needs.

♣ “Miscellaneous Materials,” part of the “Hazardous Substances in Buildings” section of the Toolbox, explains how to deal effectively with some common hazardous materials in buildings.

♣ “Security” explains how to determine the level of security needed for a building or site and how to achieve that level of security. It also provides information about online security resources and includes a connection to the “Physical Security Toolbox.”

♣ “Sustainability” provides information about “caring for the land” by practicing sustainability and “serving people” by creating more comfortable and healthful spaces. Sustainable developments are more durable and have lower life-cycle costs, reduced energy use, and lower operations and maintenance costs. “Sustainability” also includes information about the Leadership in Energy and Environmental Design Green Building Rating System.

Updated information

♣ “Excess Facilities” now matches the draft Forest Service Handbook 5509.11, Chapter 26—Special Act Sales.

♣ “Value Management” now matches direction in Forest Service Manual 1349, the Value Management interim directive.

♣ “Recreation Enhancement Act” now contains information on this new act that replaced the Recreation Fee Demo program.

Reforestation

Weeds Be Gone, But Leave the Seedlings

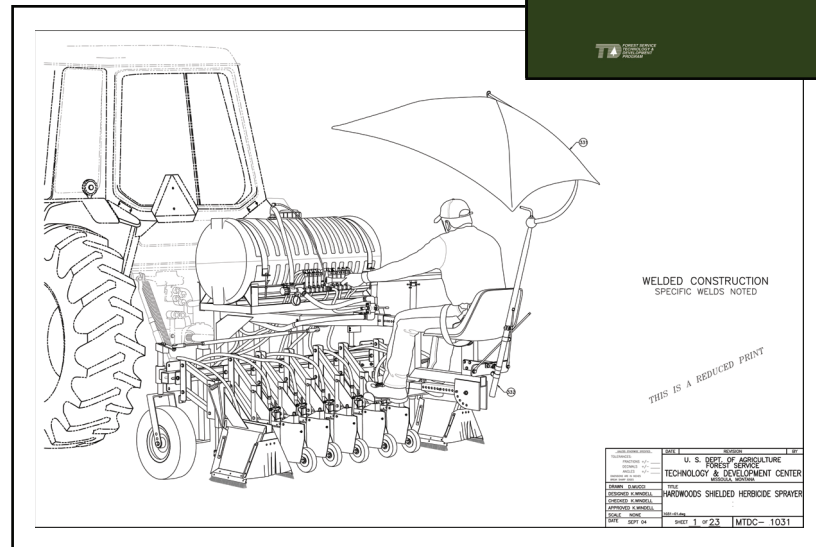
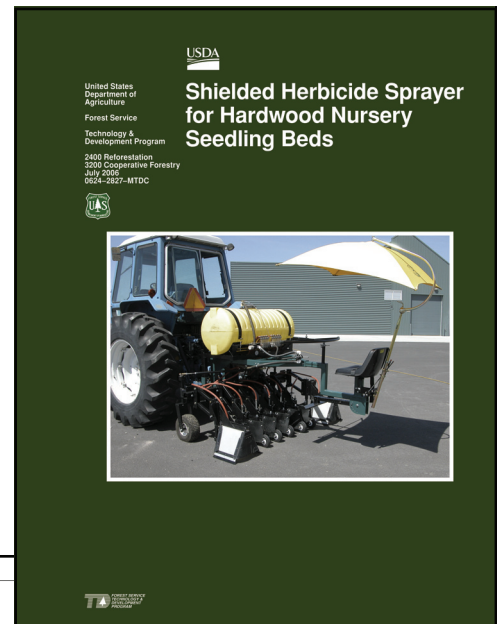
Weed control is essential for producing healthy seedlings at nurseries. Weeds compete for moisture and nutrients, but hand weeding is expensive. Spray applicators use herbicides that kill weeds but also can kill hardwood seedlings.

“Shielded Herbicide Sprayer for Hardwood Nursery Seedling Beds” (0624-2827-MTDC) describes a prototype shielded herbicide sprayer that was developed by MTDC. It applies glyphosate herbicide only on the leaves of weeds between rows and along the edges of four- or five-row hardwood seedling beds.

Shop-quality drawings for the sprayer are available at the “Nurseries Drawings” Web site: <http://www.fs.fed.us/t-d/dwf/nurseries> (Username: t-d, Password: t-d).

For additional information, contact Keith Windell, project leader (phone: 406-329-3956; e-mail: kwindell@fs.fed.us).

To order the report, contact Cailen Hegman, MTDC publications (phone: 406-329-3978; e-mail: cahegman@fs.fed.us).



Help for Selecting Trail Building Equipment

In 1996, SDTDC prepared a catalog of mechanized trail building equipment that could be used for the Forest Service's recreation program. Since then, new equipment has become available. Trail builders and crews still need compact, mechanized equipment.

MTDC, in conjunction with the Federal Highway Administration's Recreational Trails program, conducted a market survey during 2004 and 2005 to determine the trail building equipment that was available.

The Mechanized Trail Building Equipment database is an online resource (<http://www.fhwa.dot.gov/environment/rectrails/equip/>) with information about small equipment for building trails. The database includes mechanized equipment that is less than 60 inches wide, such as compact and mini skid-steers, excavators, track loaders, dozers, haulers, all-terrain vehicles (ATVs), utility vehicles (UTVs), attachments, and some miscellaneous equipment. Images, basic information, and links to manufacturers' Web sites are provided.

For additional information about compact mechanized trail construction or maintenance equipment, contact Keith Windell, project leader (phone: 406-329-3956; e-mail: kwindell@fs.fed.us).

Home Page

Introduction

Welcome to the **Mechanized Trail Building Equipment** Web site, designed to provide useful information about equipment to trail designers, builders, and maintenance personnel. We have defined **small mechanized equipment** to be less than 60 inches (152.4 cm) wide. Included are representative examples of smaller skid-steers, excavators, track loaders, dozers, haulers, all-terrain vehicles (ATVs), utility vehicles (UTVs), attachments, and a variety of miscellaneous equipment. There are also links to useful literature and Web sites for a quick refresher on currently accepted trail construction methods and to help users address specialized problems.

Most equipment is represented by an image, some basic information, and a link to more detailed information on the manufacturer's Web site. In a few cases we link to distributors rather than manufacturers when the manufacturer does not have a direct contact in the United States.

Performance information was taken directly from sources provided by the manufacturer. The **Missoula Technology & Development Center (MTDC)** did not field test any of this equipment. Inclusion here **does not** constitute product endorsements by the USDA Forest Service or the US Department of Transportation. We urge you to check equipment specifications, site conditions, and legal restrictions carefully when considering equipment for your application.

Due to the vast amount of information on the Internet, and limited resources available to gather it, this directory is not a comprehensive listing of all products that may be available. Web sites and equipment change constantly, so you may find broken links or information that is outdated. Contact the company or dealer directly for the most current specifications.

MTDC would like this site to be useful and provide current information. We hope to update it periodically. Let us know about any small mechanized trail construction or maintenance equipment that is not listed, or any errors that you notice. Please contact **Keith Windell, Project Leader**, at kwindell@fs.fed.us about any errors or omissions.

When sending suggestions, please include the following:

- manufacturer's name and contact information
- complete equipment name
- equipment width
- your own contact information

Machines Details

Machine Details--Ditch Witch MX9 Ultra Compact Variable Width Excavator

Company--The Charles Machine Works, Inc.

Equipment Model:
Ditch Witch MX9 Ultra Compact Variable Width Excavator

Height Inches (cm)	Width Inches (cm)	Length Inches (cm)	Weight Lbs (kg)	HP (kW)	Engine Size C.I. (cc)	Load cap Lbs (kg)
	28-34 (71-86)		1,960 (891)	8.4 (6.3)		

Features: MX9 is a variable width undercarriage ultra-compact excavator, 2 speed drive, foot pedals, hydraulic load sensing. The MX series of mini-excavators range in size from .9 to 4.5 metric tons, and feature zero to tight tailswing.

Attachments: Ditch Witch has a full line of attachments such as buckets, blades, backhoe, leveler auger, forks, grapple fork, jackhammer, multi-task tool, disk, log splitter, rock ripper, pressure washer, spade, snow blower, sod layer, wheel compactor, soil cultivator, etc.

Additional Info:

The Charles Machine Works, Inc.
P.O. Box 68
Perry OK 73077
<http://www.ditchwitch.com/>

Phone: 580-336-4402
Toll-Free Number: 800-654-6481
Email: jls@ditchwitch.com

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Length
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Weight
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HP
(kW)

Engine Size
C.I. (cc)

Load cap
Lbs (kg)

Features:

Attachments:

Additional Info:

The Charles Machine Works, Inc.
P.O. Box 68
Perry OK 73077
<http://www.ditchwitch.com/>

Phone: 580-336-4402
Toll-Free Number: 800-654-6481
Email: jls@ditchwitch.com

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Fire and Aviation

Tent Hot, On Fire Not

Sometimes tent stoves used for warmth and cooking cause accidental tent fires. “Shepherd Stove” (0651-1305P-SDTDC) discusses the potential that sparks from these stoves could start fires. Test results explain which size spark arrester screen provides the best balance between reducing embers and allowing optimal stove performance.

For further information, contact Ron Tam, project leader (phone: 909-599-1267; ext. 274; e-mail: rtam@fs.fed.us).

To order the tech tip, contact SDTDC publications (phone: 909-599-1267, ext. 235; e-mail: rschnep@fs.fed.us).



If It's Not Diluted, Retardant Can Unseat SEATS

Aviation
Management
Tech Tips

United States Department of Agriculture
Forest Service
Technology & Development Program
June 2006
5100 0657-1301-SDTDC

Retardant Mixers for SEAT Bases

by
Joe Fleming, Mechanical Engineering Technician
Dan McKenzie, Mechanical Engineer (Retired)



Background
Single engine air tanker (SEAT) usage is increasing. Typically, these aircraft hold 500 to 800 gallons of retardant and require very little runway to operate. SEAT bases can be set up on rural roads or open fields when no airport facilities are available. The retardant mixing and loading equipment for these planes is portable and can be transported to bases by a light-duty truck and trailer.

Normally, wet concentrate fire retardant is used for SEAT base operations because it requires less mixing time and equipment than powdered retardant. Wet concentrate retardants only require dilution with water prior to loading so mixing and preparation time is minimal. Water-to-concentrate blending ratios are typically between 3:1 and 6:1, depending on product type and manufacturer. Until recently, blending and emulsifying systems for SEAT bases were not sophisticated or foolproof. Formerly, base operators blended retardant concentrate and water while loading the aircraft. However, on at least one occasion, a potentially dangerous condition occurred when an aircraft was accidentally loaded with undiluted wet concentrate retardant.

Discussion
Water weighs 8.33 pounds per gallon (Btu/gal). Wet concentrate weighs 12.3 Btu/gal and properly mixed retardant weighs between 5.53 and 9.13 Btu/gal. The AT-400 air tanker, a common SEAT craft, holds 800 gallons and has a useful payload weight (with full fuel) of just over 7,500 pounds. If the aircraft is loaded with pure concentrate it could be about 2,300 pounds over maximum takeoff weight. When operating in hot weather and at high elevations, overloaded conditions become even more dangerous since available power and lift already are reduced. If the aircraft does become airborne the climb rate and obstacle clearance ability will be compromised.

Currently, SEAT base operators are required to blend the retardant and then pump it into a holding tank to reduce the risk of an over-loaded condition. The operator must verify the retardant concentration with a refractometer before pumping it into the aircraft. The extra steps of holding and checking add to the amount of equipment that is needed, the time to set up, and the total mix cycle time. Base operators mix the retardant before the plane lands so it will be ready to load, but if a mission is cancelled after a load has been

For additional information, contact: Aviation Management Program Leader, San Dimas Technology & Development Center, 441 East Bonita Avenue, San Dimas, CA 91773-3108. Phone: 909-599-1267; TDD: 909-599-2577; FAX: 909-599-2599. Lotus Notes: Mailroom WD SDTDC@BKF07EN • Internet (web only): <http://webb.adg.fs.fed.us> • Internet e-mail: mailroom_wd_sdtc@fs.fed.us

Undiluted wet concentrate retardant is heavier than the diluted retardant. If an aircraft is accidentally loaded with undiluted wet concentrate retardant, the additional weight (up to 1,500 pounds), could damage the aircraft or cause it to crash.

Single engine airtankers (SEATs) are often used for fire suppression in rural areas without airtanker bases. Retardant mixing and loading equipment is portable and can be transported by a light-duty truck and trailer. Wet concentrate retardants only require dilution with water, so mixing and preparation time is minimal.

“Retardant Mixers for SEAT Bases” (0657-1301P-SDTDC) describes how a potentially dangerous situation can be eliminated. SDTDC

developed a single pump blending system that is ideal for SEAT operations: it eliminates the safety risk and reduces operational costs.

For further information, contact Joe Fleming, project leader (phone: 909-599-1267; ext. 263; e-mail: jfleming@fs.fed.us).

To order the tech tip, contact SDTDC publications (phone: 909-599-1267, ext. 235; e-mail: rschnep@fs.fed.us).

New Faces

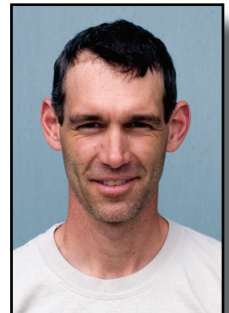
New Faces at SDTDC and MTDC

Nancy O. Geehan joined SDTDC as a natural resources specialist in June 2006. She worked with the Forest Service and privately, as a contractor from October 2005 to June 2006. Nancy worked for the Forest Service from 1990 through 1996 in various policy and management positions, and as a consultant in the private sector with nonprofit and private organizations in conservation of natural resources and science-based private lands management. Nancy attended Arcadia University and received a bachelor's degree in interdisciplinary natural resources management from the University of Wyoming.



Emma Heller joined MTDC in April as an editorial assistant. She will be converting publications to HTML format, and will have other Web site responsibilities. The last two summers Emma worked at Yellowstone National Park, where she used a GPS receiver to record the coordinates of features such as culverts and guardrails. Emma is a sophomore at the University of Montana, studying media arts and studio art. She grew up in Gardiner, MT, at the north entrance to Yellowstone National Park.

John Kovalicky joined MTDC as a smokejumper technical specialist in February. Improving smokejumper equipment and smokejumper aircraft accessories are John's responsibility. He has a bachelor's degree in business finance from the University of Montana. In 1985, he began his Forest Service career on the St. Regis Ranger District fire crew. In 1988, John became a smokejumper and worked as the training foreman, and then as loft foreman at the Missoula Smokejumper Center.

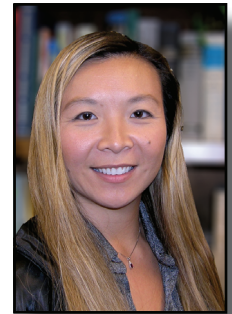


Doug Lausch has been working at MTDC as an engineering technician in the fabrication shop since October 2006. He joined the Forest Service in 1996 as a forestry technician at the Ninemile Ranger District for the Lolo National Forest. He became a full-time seasonal forestry technician in 2000 and a member of the national Missoula helitack crew in 2003. He graduated from MSU-Billings as an autobody technician in 1973.



Theron Miller joined MTDC in 2006 as a social science analyst and has been working on projects in safety and health, fire and aviation, and recreation. He received a Ph.D. in forestry (with an emphasis in natural resources social science) from the University of Montana in 1997. Theron was on the faculty of the College of Forestry and Conservation at the University of Montana where his research and teaching focused on natural resource management, planning, and recreation management.

Ruth Paz has been working as a mechanical engineer for the fire and fuels program at SDTDC since October 2006. She received her bachelor's degree in engineering from Harvey Mudd College in Claremont, CA, and a master's degree in business administration with an emphasis in finance from the University of La Verne. She has 7 years of experience as a mechanical design engineer at Northrop Grumman. While there, Ruth also worked with the U.S. Department of Defense.



Tia Trickey began working at MTDC as an office automation assistant in February. She served as a human resources sergeant in the U.S. Army for more than 7 years. She now works at MTDC's front desk.



On the Web...

- Forest Service and Bureau of Land Management employees—View MTDC and SDTDC documents at:
<http://fsweb.mtdc.wo.fs.fed.us/search>
<http://fsweb.sdtc.wo.fs.fed.us>
- Everybody—View SDTDC documents at:
<http://www.fs.fed.us/eng/pubs/>
- Everybody—View MTDC and SDTDC documents at:
<http://www.fs.fed.us/t-d/>
(Username: t-d, Password: t-d)

Missoula Technology and Development Center (MTDC)

5785 Hwy. 10 West; Missoula, MT 59808–9361

Phone: 406–329–3900 • Fax: 406–329–3719

Forest Service Intranet Web site: <http://fsweb.mtdc.wo.fs.fed.us>

San Dimas Technology and Development Center (SDTDC)

444 East Bonita Ave.; San Dimas, CA 91773–3198

Phone: 909–599–1267 • Fax: 909–592–2309

Forest Service Intranet Web site: <http://fsweb.sdtc.wo.fs.fed.us>

Library Card

Jerry Taylor Wolf. 2007. T&D news: number 1, 2007. Tech. Rep. 0771–2820–MTDC. Missoula, MT: U.S. Department of Agriculture, Forest Service, Missoula Technology and Development Center. 16 p.

This issue of T&D News describes projects that are underway and finished products that are available at the Forest Service's Missoula and San Dimas Technology and Development Centers. Topics in this issue include:

- Two Management Styles That Serve the Public Well
- Wilderness Restoration (Let the Healing Begin)
- Lightweight Bridges for the Backcountry
- Accessibility Guidebook for Outdoor Recreation and Trails
- Accessible Gates and Gate Latches
- DVD Training for Wilderness Rangers: The Best Job in the Forest Service
- Modernization Saves Energy and Money at the Coeur d'Alene Nursery
- Road Maintenance Made Simple
- The Early 20th Century Materials Tech Tip Series
- Improving Sustainability in Existing Buildings
- Applying the Built Environment Image Guide to Administrative Sites
- New and Updated Sections of the Facilities Toolbox
- Weeds Be Gone, But Leave the Seedlings
- Help for Selecting Trail Building Equipment
- Tent Hot, On Fire Not
- If It's Not Diluted, Retardant Can Unseat SEATS
- New Faces at SDTDC and MTDC

Keywords: administrative sites, disabilities, energy conservation, facilities, Forest Service Outdoor Recreation Accessibility Guidelines, Forest Service Trail Accessibility Guidelines, glyphosate, herbicides, maintenance, mechanized equipment, polymers, recreation management, rehabilitation, restoration, retardant mixers, shepherd, spark arresters, stoves, trail building, transportation

Forest Service Technology & Development Program
PROJECT PROPOSAL

Project Name/Title:



Date: _____

Submitted by: _____

Unit: _____

Address: _____

Phone: _____ E-mail: _____

OVERALL PROBLEM/OBJECTIVE STATEMENT *(Describe the problem, how the work is currently being done, and why improvement is needed):*

PROPOSED TECHNOLOGY & DEVELOPMENT WORK *(Describe your concept of the end product, such as a new equipment design, a PowerPoint presentation, a video, a handbook, Web site, CD, DVD, etc.):*

POTENTIAL BENEFITS *(Describe how this project will reduce cost, save time, improve safety, increase efficiency, or improve resource management):*

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**USDA Forest Service
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Missoula, MT 59808-9361**

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