

## 2003 Forest Service Engineer of the Year Awards

Congratulations to the following winners of the 2003 Engineer of the Year awards:

- Managerial Engineer William G. Schleining, Black Hills National Forest, Custer, SD.
- Technical Engineer Stephen D. Sichau, Pacific Northwest (R6) Regional Office, Portland, OR.
- Engineering Technician Joseph D. Fleming, San Dimas Technology and Development Center, San Dimas, CA
- Engineering Applications employee Robert A. Gubernick, Tongass National Forest, Petersburg, AK.

The winners, selected from a list of excellent candidates, were honored at the U.S. Department of Agriculture (USDA) 2003 Forest Service Engineer of the Year award luncheon in the Secretary of Agriculture’s Dining Room in Washington, DC. On April 5, 2004, National Forest System Associate Deputy Chief Gloria Manning of the USDA Forest Service welcomed the winners and applauded their achievements. The winners’ families also attended the ceremony. Director of Engineering Vaughn Stokes presented a special plaque and cash award to each winner, commending them for their outstanding contributions. A summary of the winners’ accomplishments appears on the following pages.

Congratulations to the regional candidates for the 2003 USDA Forest Service Engineer of the Year awards. The finalists in all categories included:

<b>2003 Engineer of the Year Awards</b>	
<b>Managerial</b> _____	Paul Stantus, R1; Lou Leibbrand, R3; Doug Macdonald, R6; William Speer, R8; Randall Biller, R9; Brian Goettler, R10; and Alan Yamada, SDTDC
<b>Technical Engineering</b> ____	Brenda Christensen, R1; Michael Lane, R2; Eli Curiel, R3; James Madron, R5; Dave Kissel and Lois Mamak, R9; and Bill Crane, SDTDC
<b>Technician</b> _____	Terry Morton, R1; Ernest Nauman, Jr., R2; Carol Linn, R3; Rodd Kubitz and Terry J. Terry, R6; and Anthony Wilson, R8
<b>Engineering Applications</b> _	Philip Sjursen, R1; Candace Bogart, R3; James Pace, R8; Midewin Demo Team, R9; and Dexter Meadows, SDTDC

## **William G. Schleining, 2003 Managerial Engineer of the Year**

William G. Schleining was the engineering/lands/recreation/heritage/minerals staff officer with the Black Hills National Forest staff in the Rocky Mountain Region (R2). Bill spent his entire professional career working for the Black Hills National Forest in Custer, SD. He retired in January 2004. Throughout his 33 years of service, Bill dedicated himself to helping coworkers rise to their full potential. He excelled at harnessing individuals' skills and abilities to achieve the USDA Forest Service's long-term goals. As a result, he was instrumental in developing an engineering program that supports an annual timber program of 70 million board feet, a \$2.5 million roads program, and a facilities improvement and deferred maintenance program that has averaged \$2 million annually for several years.

Bill's USDA Forest Service career began as a laborer on the construction and maintenance crew. After earning bachelor's and master's degrees in civil engineering at the South Dakota School of Mines and Technology, he returned to the USDA Forest Service. His engineering career includes experience in roads, facilities, hazardous waste, minerals, surveying and landlines, water and wastewater systems, and campground development. From 1999 until 2003, Bill led a staff of 41, including 32 engineers and technicians. He was a member of the Forest Leadership Team and routinely served as the acting forest supervisor.

Bill was instrumental in developing and executing a long-range plan for consolidating district offices, including construction of new office buildings. He helped draft legislation to authorize the sale of excess buildings to fund a portion of the construction costs for consolidated facilities. He completed acquisition of land and contracted for fast-track design of the Mystic District Office buildings.

The region directed additional long-range planning toward developing a recreation strategy. Bill led the effort for future development and capital improvement with an emphasis on sustainable development and service to the public.

Bill was a key supporter on the Forest Leadership Team for increasing tribal consultation and for a cost-share partnership with four tribal governments in South Dakota to support a Tribal Youth Conservation Corps Program.

He helped establish the Black Hills National Forest as the regional leader in responding to compliance issues regarding special-use recreation residence evaluations. He was also instrumental in drafting a supplement to standardize special uses administration.

Bill fostered professional development for the forest's engineering staff, initiating recruitment efforts at area universities and vocational/technical schools and with other agencies and private firms. These efforts resulted in placing several high-quality entry-level candidates. Bill's support of the Cooperative Education Program landed several program candidates in leadership positions on other forests. These individuals' fresh perspectives and unique experiences created a more professional, diverse, highly productive engineering organization.

As manager of the largest engineering program in the Rocky Mountain Region, Bill encouraged his employees to pursue professional registration. Six were registered



William G. Schleining,  
2003 Managerial  
Engineer of the Year

as professional engineers and four as land surveyors. Bill is a registered engineer in the State of South Dakota. All of the young engineers have passed the Engineer-in-Training exam and are continuing their professional development.

During his career, Bill fostered staff training to take advantage of technological advances. He dedicated key staff positions to managing new technologies, including software programs such as AutoCAD, Infra, ArcView, Lumberjack, and RoadEng. Bill's ability to lead discussions, to understand the needs of every resource involved in the project, to consider unique and varied aspects of projects, and to develop innovative well-integrated solutions to meet the full range of resources proved invaluable in training his staff. As an advocate for continually monitoring and improving employee morale, Bill provided timely and positive job performance review, and actively supported career enhancement through training or career advancement opportunities.

His extensive knowledge of procurement regulations and strategies helped Bill achieve cost-effective streamlined contracting and procurement of services, supplies, and construction contracts. He and his staff used Indefinite Delivery Indefinite Quantity (IDIQ) contracts, additive bid items, requests for proposals, and other tools effectively.

Bill was known for his timely review of issues and documents and thorough sharing of information. He set the example and strongly encouraged his staff to keep communication flowing. For example, he kept employees thoroughly informed of the process and significant data collection and analysis steps during the Competitive Sourcing Maintenance Studies.

An exceptionally good relationship with the South Dakota Department of Transportation helped Bill to resolve a long-standing difference of opinion with a county road department. He implemented regular meetings to resolve mutual issues and problems as they arose. Cooperation with these organizations is imperative for providing a seamless transportation system, fire suppression, public safety, and landowner and visitor access.

His relationships with the South Dakota Department of Game, Fish, and Parks in developing the 114-mile Mickelson Trail Rails-To-Trails project enabled forest engineering staff to improve skills in bridge design and trail construction and maintenance. These individuals also advised other rails-to-trails project teams. Bill guided final resolution of rights-of-way and land management issues along the trail.

Bill also had a pivotal role in the forest's land consolidation program. He led staff in working closely with Rocky Mountain Elk Foundation and The Nature Conservancy to identify and acquire key parcels of land within the forest's boundary. He recently directed a large acquisition of properties owned by Homestake Mining Company.

His leadership skills also encompassed community roles. Bill has served as Chief of the Custer Volunteer Fire Department and as Director for Custer All Drug, a drug and alcohol education program. He also served as President of the Rocky Knolls Golf Association.

William G. Schleining affirmed repeatedly that the greatest asset of an organization is its people. He leaves a cadre of well-trained USDA Forest Service employees to continue his efforts.

### **Stephen D. Sichau, 2003 Technical Engineer of the Year**

Stephen D. Sichau is the regional electrical engineer for the Pacific Northwest Region (R6) in Portland, OR. Steve is known for his ability to distill his knowledge and experience into practical engineering guidance, especially in the realms of electrical design, operation and maintenance, and water and wastewater systems. He strives unceasingly to equip the wide variety of engineers throughout the USDA Forest Service with access to new and effective technology and tools. He offers his troubleshooting expertise to resolve urgent problems 365 days a year.



Technical Engineer of the Year for 2003, Stephen D. Sichau.

From 1998 to 2000, Steve served on a national workgroup to oversee and administer the Year 2000 conversion analysis for all potentially affected systems and equipment. Under tight time constraints, he developed and administered the contract and led the selection team for the consultant for assessments and corrections to control systems that were adopted nationally. He was recognized as a national expert during the Year 2000 assessments, both for his technical ability and practical approach to the process. He received the Presidential Award for the Year 2000 conversion project.

His national awards include a special performance award for involvement and extra effort with the environmental engineering group in troubleshooting for water and wastewater control systems and training operators in engineering in 2002, an award for supplying technical assistance in developing specifications for Global Information System (GIS) hardware and Local Area Network (LAN) technology advice for the geometronics group leader, and an award for developing computer-aided drafting and design use in facility designs in 1987.

At the regional level, Steve was recognized for his outstanding contributions to planning and implementing the regional office's relocation in 1992, as Pacific Northwest Region Technical Engineer of the Year in 1994, and for negotiating a direct graphics communication linkage to the University of California to develop a spatial disaggregation model for forest planning in 1990. Steve earned a 1988 cash award for outstanding customer service to the Oregon Department of Education.

Steve also received formal recognition from the Job Corps director in 1990 for technical assistance in specifications, timely service, and exceptional assistance in completing a Job Corps dining hall electrical design.

Numerous phone messages and written expressions of gratitude chronicle his timely responses to critical problems. He was commended for:

- Developing a temporary solution to maintain temperature control in a seed storage facility after a fire destroyed a nursery building and power supply
- Solving a water system failure which had temporarily shut down a major visitor center
- Providing a recommendation to correct a safety hazard (generator wiring) and to get the system running
- Keeping the electrical engineering Web site up-to-date with current information and easily understood drawings
- Outstanding willingness to share information and answer questions

Time and time again, Steve has demonstrated his ability to master cutting-edge technology, especially in the realms of electrical controls and computer technology. For example, he used stainless steel submersible level (pressure) transducers and set point controllers to monitor water levels and control pumping cycles in water storage tanks. The transducer eliminates the need for float switches containing mercury that could harm water quality.

After alerting the Oregon Department of Environmental Quality that its sewage lift station requirements did not meet the National Electrical Code, Steve provided information and assistance to help the department revise its design requirements. He also worked with the State electrical inspector to help define the hazards associated with electrical wiring in wet wells.

In 1983, Steve wrote a 600-page manual, *Electrical Design, Operation and Maintenance*, that included information on a wide variety of electrical engineering topics commonly found in USDA Forest Service facilities. This reference for project

design, operations, and maintenance of systems was tailored to civil engineers with a limited knowledge of electrical systems. Steve revised this manual in 2002 and prepared and posted an electronic version (<http://www.fs.fed.us/database/acad/elec/greenbook/greenbook.htm>) on the USDA Forest Service's Internet Web site.

In 2003, Steve wrote a second manual, *Control Systems Operation: Maintenance and Reference Manual for Water and Wastewater Systems*, for systems operators. It includes design tables, cut sheets, photographs, specifications, vendor lists, and a troubleshooting guide.

In coordination with the Oregon Department of Environmental Quality and the State electrical inspector, Steve developed standards for designing sewage pump stations in accordance with the National Fire Protection Association 820 standard for fire protection in wastewater treatment and collection facilities and with State wastewater disposal requirements.

Steve initiated use of computer-assisted drawings (CAD) in the Pacific Northwest Region during 1986 when he administered a \$375,000 contract to convert the region's standard engineering paper drawings into electronic versions, and establishing the CAD regional library. He developed regional CAD drawing standards for all disciplines, including roads, trails, recreation development, and mechanical, electrical, and civil engineering. Steve transferred the entire CAD library to the Internet in 1995. Engineers from around the world access the library.

Another pioneering effort was Steve's development of the first USDA Forest Service engineering Web site, which is heavily used by USDA Forest Service engineers. He continues to maintain this site and his electrical engineering Web site (<http://www.fs.fed.us/database/acad/elec/electrical.htm>), which contains software he created for electrical design analysis, construction inspection, condition surveys, and operation and maintenance assistance.

Steve established and maintains a library of all regional office project designs from 1972 to the present. He converted drawings created before 1972 to Autocad, indexed all the drawings, and placed them on the Intranet to allow field engineers remote access.

Steve developed the Pacific Northwest Region standards for installing wiring and protection systems for the Data General and IBM system computers, including computer rooms and building wiring associated with computer installations. Many other regions now employ these standards.

In conjunction with electrical engineers from the Intermountain and Eastern regions, Steve developed the first national policy direction for electrical engineering standards in the USDA Forest Service *Electrical Engineering Manual*, FSM 7600, in 1995.

To provide emergency troubleshooting coverage on water and wastewater system controls, Steve voluntarily obtained a pager and a cell phone, allowing him to be reached after office hours, 365 days a year. He often diagnoses problems over the phone and talks operators through procedures to get systems running. His dedication and troubleshooting skills have eliminated many safety problems and saved tens of thousands of dollars in repair costs.

Patience, understanding, and encouragement characterize Steve's approach to training students and new employees, some with diverse backgrounds. He participates in several annual sessions to train operation and maintenance personnel in facilities, drinking water systems, and wastewater treatment plants. Steve works to ensure that all regional operations and maintenance people have the tools to do their jobs efficiently. He handles operator training in electrical safety, control system condition surveys, reading electrical control panel diagrams, and troubleshooting, isolating, and correcting problems.

Steve was a member of the design team for the \$22 million Coldwater-Johnston Ridge Observatory visitor complex at the Mount St. Helens National Volcanic Monument from 1990 through 1995. The \$4 million, 25-mile, 25,000-volt buried power line is the longest of its kind in North America. Many of the animated display controls and the automated building control systems in this world-class, state-of-the-art facility are direct results of Steve's ingenuity and guidance. A 1993 special performance award recognized his expertise in the planning, design, and inspection of the visitor center complex.

The design and construction of the \$2 million, state-of-the-art, Multnomah Falls Wastewater Treatment Plant in the Columbia River Gorge National Scenic Area was another project in which Steve played a key role. The plant meets the Oregon Department of Environmental Quality discharge requirements and serves as a treatment plant prototype.

Steve is the primary reviewer of the \$2.3 million Quinault Sewage Treatment Plant project on the Olympic National Forest, one of the largest treatment plants in R6. The contractor relied heavily on Steve for designing the electrical control systems.

In his community, Steve has devoted much of his time to the Boy Scouts of America. For more than 12 years as assistant scoutmaster of one of the largest troops in the Portland, OR, area, Steve provided logistical support for outings, a computer donation and training effort, newsletter production, a database roster, and many other functions. He accompanied scouts on as many as 30 overnight trips in 1 year. As a member of the Cascade Pacific Council facilities committee, Steve produced as-built drawings and electrical condition surveys and corrected serious electrical violations at many scout camps in the Pacific Northwest.

Steve organized a scouting exchange program with a military youth group in eastern Russia. He accompanied the troop to Russia and helped establish an ongoing program for Russian students to visit the United States.

To satisfy his intellectual curiosity, Steve attends schools sponsored by vendors and voraciously reads trade journals and research documents on the Internet. He freely shares computer innovations and new technology with his colleagues and has written articles for professional journals.

Stephen D. Sichau continues to earn the respect of his peers inside and outside the USDA Forest Service by striving to share practical engineering guidance, improve project quality, and respond thoroughly, effectively, and quickly to requests for assistance with electrical design, operation and maintenance, and water and wastewater systems.

## Joseph D. Fleming, 2003 Engineering Technician of the Year

Joseph D. Fleming is a mechanical engineering technician for the San Dimas Technology and Development Center (SDTDC), San Dimas, CA. Joe's many awards testify to his long history of innovative engineering designs that are widely used throughout USDA Forest Service programs:



Engineering Technician of the Year for 2003, Joseph D. Fleming stands by the patented hose winding device he designed and built. The device helps fire crews wind fire hose.

- Extra effort award (2002) for the Burned Area Emergency Response project on the Prescott National Forest. Joe suggested using a whole tree chipper to apply ground cover using native materials. The project used a test site where fire had ravaged a pine forest. Silt fences captured runoff from four adjacent test plots where wood chips were compared to straw mulch, palletized straw, and an untreated control plot. The forest leadership also wanted to chip the remaining 15 acres to protect the watershed that provides residential water in the area. Joe traveled to and from Prescott weekly to keep the equipment running through the weekends. The project was completed on time. So far, results from the test plots indicate that chipping can be an effective, economical alternative to straw mulch.
- Spot award (2002) for extra effort in facilitating completion of tests for a wye valve that was critically needed by the National Interagency Cache Center.
- Extra effort award (1998) for developing a new air purification system for central tire inflation systems. Joe also provided technical expertise for high-level personnel at



the General Services Administration so trucks equipped with central tire inflation systems could be available under the standard contract.

- Special act (1994) for assistance developing hardware that facilitated implementation of laser survey technology. Joe designed and built portable reflector targets with strobe lights to assist surveyors in sighting targets.
- Special act (1992) for assistance to the SDTDC roads program for providing outstanding support on the Commensurate Share/Environment Effects field studies in the Pacific Northwest Region, including repair and maintenance of large trucks used in the test, and driving a log truck day after day in adverse conditions for 2 months without returning home.
- Cash award (1990) for superior performance supporting all SDTDC programs. Joe was instrumental in developing a central tire inflation system with internal-drive axle seals. He gave professional system demonstrations at equipment shows throughout the Western United States and assisted with video production, while keeping project work running, organized, and on schedule.

Joe first demonstrated his technical engineering ability on USDA Forest Service projects in 1982 while working for Foster Miller, Inc., a private engineering company. While there, Joe worked independently to design an anchor for yarding equipment guy lines. At that time, tree stumps were used as anchors. His design was the simplest, most reliable, most economical, and handled the largest loads most consistently.

Leadership comes naturally to Joe as he initiates project solutions, interfaces with other disciplines, staffs, and external groups, and shares his knowledge and skills with all interested parties. He communicates regularly with all levels of the USDA Forest Service, routinely providing technical project support and hands-on training to demonstrate and implement new technologies.

Some additional accomplishments include:

- Patented hose-winding device (2003). U.S. Patent No. 6,622,957. Joe designed and built an innovative hose-winding device with an easy, reliable release mechanism that allows the hose to be removed after winding (photo).
- Fire hose jacket adhesion test fixture (2003). Working from verbal instructions, Joe designed and fabricated an improved test fixture for fire hose jackets.
- Osborne Firefinder (2002 to 2003). Joe worked with a private tooling company to create new casting patterns and parts for replicas of the firefinder most commonly used in fire lookouts. The firefinder had been out of production for more than 20 years.
- Backpack archeology screen (2002). Joe designed and fabricated a portable archeologist's screen that can be collapsed to fit in a backpack.
- Repair and improvement of central tire inflation systems. As the project leader for correcting deficiencies in preproduction prototype systems that were installed on heavy USDA Forest Service fleet vehicles, Joe coordinated work with forests throughout the United States and with manufacturers to provide and implement solutions. Several of his innovations provided a cleaner, more reliable air system.

- Development of an improved fire retardant mixing system. Joe assisted with developing, testing, delivering, installing, and training for a high-shear mixing system installed at the West Yellowstone Airtanker base in 1999. After five successful fire seasons, the prototype is now the model for future fire retardant mixers. The fire management staff required a nonproprietary fire retardant mixing system capable of mixing all known commercially manufactured and anticipated new products for use at airtanker bases.
- Log-load accountability strapping system. Joe worked with an engineering firm to meet a forest management staff request for an economical alternative to log branding and painting that would provide accountability for logs harvested from national forest lands. Together, they developed a sealed strap adjusting mechanism to provide adequate tension around the load that could be retensioned enroute and could not be released until the load was ready to be scaled. The Intermountain and Pacific Northwest Regions are currently using the mechanism.
- Remotely activated structure protection pump (2001). Joe developed this pump technology, which has been deployed on several fires. A private company will produce similar systems based on Joe's prototypes.
- Portable noxious-weed wash system. Joe worked with environmental consultants and water treatment system manufacturers to develop and test a prototype lightweight, affordable, portable wash system suitable for road engineering, recreation construction, and firefighting applications. The Williams, AZ, prototype was successfully tested in August 2003 and awaits further field testing.
- Pump endurance test lab (1999). Joe led an effort to restore and upgrade the fire pump endurance test lab at SDTDC. The lab is used regularly now.
- Expanding-axle utility trailer (1997). Joe designed and built a two-position axle for utility trailers. The axle could be shortened so that the trailer's width was narrow enough for trail work or lengthened so that the track width was wide enough for stability. The axle was developed for trailers used to transport archeologists' hardware to remote locations.
- High-volume air drying system (1996). Joe contributed heavily to developing a successful, effective air-drying system for trucks with high-volume air systems.
- Testing a locomotive spark arrester (2002). To meet the requirements of the Maine Department of Conservation, Joe prepared hardware (often creating parts from scratch) and procedures for performing a "hot" test of a locomotive spark arrester in accordance with established standards. Based on the test results, the spark arrester's substandard performance was determined to be the cause of several fires over the previous 2 years. It has been replaced with a compliant arrester.

Over the past 10 years, Joe has worked with other members of the American Bikers Aimed Toward Education of California, a motorcyclist organization that sponsors charity rides throughout the year, to plan, promote, and administer events that provide underprivileged children with toys for Christmas and needy families with food. He also participates in similar events run by other chapters and organizations.

Joseph D. Fleming's long history of contributions to technical engineering breakthroughs has earned the respect of his coworkers and peers within the USDA Forest Service, with other agencies, and throughout the private sector.

### **Robert A. Gubernick, 2003 Engineering Applications Employee of the Year**

Robert A. Gubernick is the Alaska Region (R10) engineering geologist responsible for the Tongass National Forest Aquatic Organism Passage program in Petersburg, AK. With more than 20 years of USDA Forest Service experience, Bob is a premier fish passage design specialist. He applies sound engineering and effective contracting to achieve state-of-the-art fish passage design while he continues to refine and communicate his knowledge and skills to engineers and biologists throughout the USDA Forest Service and to external agencies.



Engineering Application Employee of the Year for 2003, Bob Gubernick (right) and a contractor prepare to work on fish passage design in Alaska's Chugach and Tongass National Forests.

In January 2001, Bob assisted with the organization and presentation of a Water/Road Interaction workshop, sponsored by the hydrology and engineering staffs of the Alaska Region and the San Dimas Technology and Development Center. He helped develop and disseminate the Fish-Xing software. Bob strives to equip every engineer on the Tongass National Forest staff, and others, to use the software for sound culvert design. The center gave him a cash award for his efforts.

Bob was asked to participate in the San Dimas center's aquatic organism passage project, which included writing a national USDA Forest Service fish passage crossing manual. His work with the center produced a state-of-the-art method for culvert design to provide passage for fish.

Efforts by Bob to incorporate research and experience into this standard have generated overwhelming acceptance of the Tongass National Forest fish passage protocols within the Alaska region, throughout the USDA Forest Service, and by agency partners and cooperators. He also was instrumental in developing the Alaska Region's unified approach to the design and construction of fish crossing structures. In cooperation with fish biologists and engineers from the USDA Forest Service and the Alaska Department of Fish and Game, Bob worked to negotiate the objectives of the Title 16 concurrence required for installing stream-crossing structures for road construction and reconstruction. He also continues to work with the Pacific Northwest Research Station on habitat valuation criteria.

Bob receives high praise for sharing his fish passage expertise throughout the USDA Forest Service. The fish passage improvement projects have included:

- Analysis of the road condition survey data to determine how to identify crossings that need improvement.
- Working with fish biologists and engineers to develop economically viable crossing structures. To best use deferred maintenance money dedicated to project construction, Bob developed a contract that provided biologists to perform upstream habitat assessments.
- Planning Alaska Region annual projects to support and track accomplishments of a \$2-million-per-year fish passage improvement program. About 50 sites per year are designed and constructed across the Tongass National Forest.
- Developing contracts in various survey/design/build combinations that are crucial to accomplishing the program of work. Bob is also training architectural engineering firms in developing and implementing fish passage design.
- Serving as designer of record and COR (Contracting Officer's Representative) for riverbank stabilization projects, and as designer/COR on numerous bridge replacement projects.
- Training USDA Forest Service engineers at the forest and district level to design and install fish passage structures that meet design requirements.
- Serving as engineering liaison to external agencies on geomorphic, geologic, and hydrologic assessments for roads, all hydraulic engineering, fish passage, and channel restoration projects, and remote sensing issues. The Alaska Department of Fish and Game and the U.S. Department of the Interior, Fish and Wildlife Service and Bureau of Indian Affairs, rely on Bob for technical support and review on the proposed Alaska Department of Transportation (DOT) fish passage project.

Bob assisted in developing the National Inventory and Assessment Protocol, served as lead technical member in the development of the stream simulation design guide (under development), and lectured all over the country about fish passage at USDA Forest Service and external agency-sponsored workshops. He is the primary author of the geomorphic assessment chapter of the *Stream Simulation Design and Site Assessment Guidelines* and coauthor of other sections.

Throughout Alaska, Bob has worked as a geologist and project/design engineer for the Tongass and Chugach National Forests. He has administered contracts on trail, bridge, and channel restoration projects.

Bob provided technical assistance in many remote Alaskan sites for large and costly (from \$2 to \$7 million) construction projects, reducing cost overruns and claims by implementing sound engineering techniques and effective contract administration. Bob developed the methodology/equation on calculating the fish passage flow for southeastern Alaska that is used by the Alaska DOT and the Department of Natural Resources Habitat Division. He helped craft the memorandums of understanding between agencies.

For the last 3 years, Bob has managed and served as the COR for the \$2.5 million contract for the acquisition, processing, and development of products from Lidar, a laser-based sensor used to collect extensive (more than 1,300 square miles) data on spatial ground elevations and structural forest characteristics of the Tongass National Forest. In conjunction with forest and regional office specialists and vendors (URS Corp. and Spectrum Mapping), Bob and his associates have overcome many technical obstacles. Bob developed the methodology to define road prisms using the Lidar data. He developed training for forest and regional personnel on using and applying Lidar data for timber sale layout, karst delineation studies, and more recently for forest highway preliminary design work. He teaches Lidar applications along with URS Corp. instructors.

Bob is a member of the forest and interagency technical team that is assessing the impacts of potential closure of the Hubbard Glacier and its effects on the Situk River and the city of Yakutat. Bob collected and assessed Lidar data in the area, pursued geophysical investigation on the terminal moraine, and worked with the State of Alaska on the flood plain assessment.

Although Bob grew up in Brooklyn, NY, and Trenton, NJ, he developed a passion for outdoor activities—hunting, trapping, and fishing—and a fascination for remote places in Alaska and the Western United States. From 1988 to 1995, he was a part-time sport fishing guide and a commercial fisherman for halibut and salmon on weekends and during vacations, using his own 36-foot commercial fishing boat.

For many years, Bob has taught rifle safety, trapping, and outdoor survival skills to local youth. He had a stint as a disc jockey at a local public radio station and even did a father and son show.

Bob received a bachelor's degree in geology from Utah State University in 1983. During 1996 and 1997, he spent a year working with the Pacific Northwest Research Station while conducting graduate research in geomorphology and remote sensing at the University of Washington. His research focused on monitoring a management-induced landslide propagating through the North Fork of the Bradfield River in central southeast Alaska. The study used time-series analysis and analytical photogrammetry to measure morphologic changes in the river to determine sediment slug position.

Bob is a registered geologist in the state of Washington and is working to become registered in Alaska.

Robert A. Gubernick has made long-lasting contributions to achieving state-of-the-art fish passage design through applying sound engineering, mastering technological innovations, practicing effective contract administration, and sharing those concepts and practical applications with engineers and biologists throughout the USDA Forest Service and external agencies.