



The Environmental Quarterly

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March 2005

LETTER FROM THE EDITOR

Dear Environmental Colleague, I hope you enjoy this first edition of the *Environmental Quarterly* and you look forward to subsequent issues. Contained within these pages you will find information on best practices, the state-of-the-practice, and advancements in the environmental area. As one might expect, the newsletter will be issued quarterly. If you have News or Best Practices to share throughout our community please contact us.

Sincerely, Don Cote
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First National Roadside Vegetation Management Workshop by Jerry Barkdoll, Environmental Program Specialist

The Virginia Department of Transportation (VDOT) and the FHWA Resource Center's Environmental Technical Service Team co-hosted the first-ever **NATIONAL ROADSIDE VEGETATION MANAGEMENT WORKSHOP** in Norfolk, VA, December 1-3, 2004. This was the sixth such workshop to be held on this subject in the Mid-Atlantic region, and marks the first time all 52 State DOT and FHWA Division vegetation program managers were invited. Over 100 specialists from both management and operations ranks came together from ten States to confront problems and constraints faced by public works agencies throughout the United States and to look for solutions and technologies available to address them.

"It was good to hear how other States handle similar problems."
T.O.M., Fredericksburg, VA



FHWA Virginia Division Administrator Roberto Fonseca-

Martinez, delivering the program opener, was followed by FHWA's Bonnie Harper-Lore. Bonnie provided a **National Perspective on Roadside Management in the United States** and laid the foundation for subsequent discussions on invasive plant species, a.k.a. weeds, that are becoming major problems along our Nation's highway corridors.

DOT Roadside Partnerships by the Maryland State Highway Administration's (MSHA's) Leroy Jonas included information on ways to engage members of organizations who are interested in roadside ecology and aesthetics. Jonas shared many success stories and pictures of beautiful roadsides.

"... presentation on DOT partnerships -- very impressive ... what can be accomplished with teamwork to save money, work more efficiently, educate public and beautify roadway."
Anonymous, participant evaluation

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New Jersey Workshop on Indirect and Cumulative Effects

by Brian Smith, Biology/Water Quality Specialist

On January 25, 2005, Federal and state agencies participated in an Indirect and Cumulative Impacts workshop in Trenton, New Jersey. On hand were the New Jersey Division of FHWA, USEPA, U.S. Army Corps of Engineers, New Jersey DOT and New Jersey Department of Environmental Protection. The Resource Center was represented by Brian Smith who presented the workshop. The resources agencies also provided their perspectives and regulations on indirect and cumulative impacts.

Identification of indirect and cumulative effects is a key process for initiating effective environmental stewardship strategies. During the workshop the USEPA encouraged the FHWA and State DOTs to seek opportunities to implement innovative mitigation measures for direct and indirect effects that would provide the best overall benefit for the environment and provide a leadership role in directing other stakeholders to aptly consolidate mitigation efforts within the community and natural environment. The USEPA does not expect the FHWA and State DOTs to mitigate for cumulative effects.

The Corps primarily focuses on the aquatic environment and predicts cumulative effects on the aquatic environment to the "extent predictable and reasonable". The overall level of effort expended by the Corps on cumulative effects is directly influenced by functions and values of the

aquatic resources and the flexibility afforded by the Section 404 (b)(1) Guidelines.



The Corps instructed that their level of effort could be influenced by the project size and the extent of changing condition(s) affecting the aquatic resources.

The NJDEP Historic Preservation Office examines the effects on the integrity and character of individual historic resources and historic districts. The NJDEP also shared its definition of indirect effects and their charge to pursue appropriate mitigation for indirect effects.

The workshop produced several rallying points for the participating agencies including early coordination, sharing the NJDEP GIS database, and improving the perception of Federal projects. Projects that consider local agencies and stakeholders of localized ecological, economic, and social factors and advice in developing mitigation measures receive more public involvement. Providing assistance and outreach to local agencies and stakeholders improves the public's perception of highway projects.

Next steps for New Jersey Division will be the Linking Planning to NEPA workshop and possibly the GIS for Environmental Streamlining workshop. The GIS Workshop is intended to share information on how GIS is being used within existing environmental programs to support environmental streamlining and stewardship initiatives. Nice move, New Jersey Division.

Nevada NEPA Process Review Nears Completion

by Mary Ann Rondinella

The FHWA Nevada Division Office and the Nevada Department of Transportation (NDOT) have undertaken a NEPA Process Review with the assistance of the FHWA Resource Center Environmental Technical Service Team. The goal of the review was to find ways to improve the NEPA process for Nevada transportation projects. The review team was composed of Hannah Visser, FHWA Division Office Environmental Program Coordinator, Mary Ann Rondinella, FHWA Resource Center Environmental Program Specialist, James Souba, currently NDOT Maintenance Division Chief, and Ruedy Edgington, NDOT Associate Director for Engineering.

The team conducted a literature review, interviewed a diverse group of stakeholders, and performed case studies of six Nevada projects that had recently completed the NEPA process. The projects that were selected included both urban and rural projects. Some of the projects selected went through the

NDOR and Nebraska Division Complete Review of Sediment and Erosion Control Program

Edited by David Sullivan from NDOR's report

The Nebraska Department of Roads (NDOR) and the FHWA's Nebraska Division Office recently completed a review of the Sediment and Erosion Control Program statewide. Teams from the NDOR and the FHWA reviewed specifications and plans; interviewed project managers, inspectors, and contractors; and performed field visits to document the performance of different control measures. The initial review and interviews identified some issues that needed immediate correction--specifically payment, the development of specifications, and training on how to implement and maintain control measures. To assist in the effort, Brian Smith and David Sullivan from the FHWA Resource Center's Environment TST conducted a series of ½- and 1-day workshops over a 2-month period to train NDOR's field personnel from across the State on the basis of sediment and erosion control. During the con-

struction season of 2004, the team also performed several construction inspections, specifically reviewing temporary erosion control measures.

During these reviews, additional improvement areas were noted. These needs consisted of further training, enhancement of material and method applications, and additional support. The Roadside Development Unit of NDOR's Design Division has agreed to lead in further refining the use of temporary erosion and sediment control measures. The measures to be implemented by NDOR with help from the Division include:

- Continue monitoring experimental temporary measures and disseminate information.
- Continue reviewing temporary measures and disseminating information from construction inspections.

- Review and upgrade special provisions to enhance the cost effectiveness of these temporary measures.

- Update and edit design manual to current industry and NDOR standards.

- Work with NDOR's Approved Product List for possible listing of temporary and permanent measures.

- Develop field design and installation guides for temporary and permanent measures.

- Continue to administer training events focused on proper installation and performance of temporary measures.

A report on this review was completed. For a copy, or to discuss the findings, please contact NDOR's Construction Division Office or Dan Briggs (Transportation Engineer) or Bryan Cawley (Operations Team Leader) both of FHWA's Nebraska Division Office at (402) 437-5521.

NEVADA PROCESS *from Page 2*

NEPA process expeditiously, in the opinion of the stakeholders while others experienced delays. The team concluded that, overall, the NEPA process in Nevada works well, with average document completion time below the national average. The stakeholders praised the knowledge and capability of the NDOT and FHWA environmental staff. The project case studies show that the keys to success were strong commitment, adherence to project milestones, early involvement of stakeholders, and good internal communication within NDOT. Delays were caused by poorly defined or changing scope, lack of funding, changing developer commitments, and staff turnover. Environmental issues were not a major cause of delay for any of the projects.

Over 40 recommendations in the categories of environmental, project development and organizational have been formed. The environmental recommendations include NEPA training for NDOT and local agency project delivery staff, development of an environmental procedures manual, implementation of a tracking and reporting system, and training on Native American consultation and administrative record building.

The team completed its report and briefed NV Division and NDOT management on January 21, 2005. The report includes a proposed action plan to implement the recommendations. For more information, please contact Mary Ann Rondinella, (720) 963-3207, email MaryAnn.Rondinella@fhwa.dot.gov



Roadside from Page 1

Don Smith of North Carolina Department of Transportation (NCDOT), spoke of **North Carolina's Roadside and On-going/Future Challenges**. North Carolina is famous for the magnificent wildflower displays along its roadsides, but officials there have the same overall vegetation problems as all other States, namely, more work to be done than people or money to do it.

John Mason of Texas Department of Transportation (TXDOT) discussed **Texas' Vegetation Management Program**. TXDOT is also world famous for those splendid displays of blue bonnets along their roadsides each spring. However, since Texas is such a large State, crews have found that by *keeping it simple*; e.g., limiting choices to a few regional-specific determinants, such as, grass varieties, seed supply, equipment design, etc., they are better able to accomplish their mission. With contractual assistance from the Texas Transportation Institute (TTI), TXDOT has assumed a lot of the necessary program responsibilities in-house, such as, designing equipment, production of seed, etc.

Chris Glazier of Utah Department of Transportation opened the second day of the workshop

"I liked the GIS – Great potential for VDOT; also the Texas Sediment Lab." Infrastructure Management, NOVA

with a presentation on **GIS Applications** in Utah, making it clear that the GIS technology is only 5% of the overall effort. Good data and knowledgeable roadway crews are critical ingredients for such a successful program.

John Mason of TXDOT then shared information about a pooled-fund vegetation / sedimentation research study he oversees at the **TXDOT/TTI Hydraulics & ESC Laboratory**.



Attendees also learned about Virginia's **Senate Bill 260** from Jim Carr, Assistant Secretary of Transportation for VDOT. Senate Bill 260 allows private interests to finance the design, implementation, and long-term maintenance of gateway vegetation displays. VDOT must approve and will ultimately oversee the implementation of the designs, so they took advantage of this Workshop as a Forum for determining the criteria that State DOTs should apply.

"SB 260 – It is one of the best roadside initiatives we've seen in recent years." Anonymouse, from participant evaluation

A valuable suggestion came from the workshop floor that a list of Virginia-specific invasive plants be distributed Statewide as soon as it is completed, listing species that should never be considered for these designs. Unfortunately some suppliers and landscape architects are still recommending invasive species for current plantings. Such a list could be published as a State DOT specification, thus negating the need to continuously veto poor selections when designs are submitted. It was also suggested that designs using

native plant species should be encouraged, or even promoted, since the survival history of native species is better and they require less irrigation and maintenance.

Vic Merullo of Merullo, Reister, & Swinford Co., an attorney who has specialized in the **law of trees**, began his presentation by educating the group on the sources and weight of law; e.g., legislative law, case law, common law, and basic rights. Attendees then looked at some case studies where suits were brought over alleged damage caused by trees. An understanding of negligence, duty, and injury was necessary for the continuation of his presentation on **DOT Applications in Arboriculture Law**, presented the next day.



Bonnie Harper- Lore's luncheon remarks entitled "**Weeds Across the Borders**," meaning international borders, helped the workshop participants better appreciate the scope and importance of this *invasive plant species*. Many of the attendees were surprised to learn that Mexico is the leader in a number of ways amongst the "big three" North American jurisdictions, engaged in these conversations; e.g., the United States, Canada and Mexico.

GIS and Adirondack Park Invasive Plants Project

presented by John Falge, of the New York Department of Transportation, showed how a low-tech application of GIS can be very successful to control invasive plants.



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Roadside from Page 4

Being carriers of West Nile Fever and other diseases, mosquitoes can also be our nemeses, reported David Gaines, Virginia Dept. of Health, in his talk--**Mosquito Management**.

He described how ponded water on highway rights-of-way may provide a perfect incubator for mosquitoes, depending upon rain patterns. Attendees learned that you must know and understand the local mosquito species and effective control measures for these local species in order to develop an effective eradication effort.



"Alternative Use of Native Plants/It made me aware of plants I had no idea were invasive"

**Engineering Technician, VDOT*

Cole Burrell, of Native Landscape Design & Restoration, presented a talk on **Alternative Use of Native Plants**. His gorgeous slideshow of attractive plant species currently identified as "invasive," captured and held the audience's attention. He followed by displaying native plants that have much the same appearance and function and can be used in place of the invasive variety. VDOT employees who care for our roadsides have grown to love the Virginia plants and were totally engaged in this late-hour lesson in botany.

Phillip Shucet, VDOT Commissioner, welcomed participants on Day 3. And, Vic Merullo continued his presentation on **Aboriculture**

Law--then presenting Virginia case studies involving damages related to trees. It was sobering to learn the liabilities associated with the trees on the right of way.

Three research faculty members at Virginia Tech then took the floor to share what they have learned from their applied research studies for VDOT in areas of **Turf Management** and **Weed Management**.

Participants eagerly took advantage of the ample opportunities for Q&A's after each talk, with conversations continuing wherever participants went. Speakers also provided a large amount of pertinent printed materials and resources to attendees, VDOT, and the FHWA.

Interest was so great there were no copies of any of the publications left on the table at the conclusion of the meeting.

Brian Waymack of VDOT Asset Management and Jerry Barkdoll of the FHWA Resource Center were the prime planners of the event. For information call: Brian at (804) 371-6801, or Jerry at (410) 962-0051.

"Require" DA's, DME's and at least (1) employee in upper level residency management to attend (for each Residency) in the State . . . Overall, good conference and thank you so very much for holding this conference! I hope this type of conference will occur at least once every two years."
Roadside Manger, Staunton, VA

Three New Members Join the TST-ENV Team

The FHWA Resource Center Environment Technical Service Team (TST-ENV) is pleased to announce the arrival of three new staff members. These experienced and highly qualified technical specialists are welcome additions to the team-- two of them are also new to the Agency. Allow us to introduce:

David Grachen—Atlanta

On January 23rd, David joined the resource center's TST-ENV Team as an Environmental Specialist.

He is a graduate of the University of Maryland with a B. S. in Civil Engineering.

David joined the FHWA in 1987 and has served

in various environmental, project development, and construction positions in several locations during his career. Most recently, David served as the Project Development Manager for the FHWA Georgia Division and directed a staff having oversight for the environmental, preliminary design, and right-of-way activities associated with Georgia's one (1) billion dollar/year Federal-aid Highway Program. In addition to his Division responsibilities, David has also served as a nationwide instructor for both the Basic NEPA and the Introductory Public Involvement courses delivered by the National Highway Institute for the past several years. He plans to continue such service at the Resource Center. Last year, Dave was instrumental in assisting Georgia DOT in completion of an award winning project that developed advanced mitigation of transportation impacts to a Native America cultural district in north



Continued on Page 6

NEW TEAM MEMBERS *from Page 5*

Georgia and produced a video documentary of the tribal consultation process. He also led a multi-agency wetland and stream mitigation banking effort that was recognized with an FHWA Exemplary Ecosystem Award in 2004. Feel free to contact David at (404) 562-3652, and, at David.Grachen@fhwa.dot.gov, for technical assistance or training in these environmental areas.

Kimberly Majerus—Olympia Fields, IL



Kimberly Majerus opted to join our staff after departing a Program Coordinator position in the Project Management Branch, Chicago District, U.S. Army Corps of Engineers, accepting a position with the FHWA, Resource Center—Olympia Fields, TST-ENV Team as a Biology/Water Quality Specialist. In her most recent position with the Corps, Kimberly was responsible for coordinating projects involving restoration of ecosystems and natural habitats, stream bank stabilization, flood control, and environmental enhancement. In previous assignments with the Corps, Kimberly led teams responsible for implementation of several types of federal projects. This project work included planning for, and maintenance of compliance with the environmental requirements concerning NEPA, threatened and endangered species, wetlands, water quality, and, conservation and preservation of natural and cultural resources. Her project management experience turned on her responsibility for scope, schedule and budget for these projects. In addition to experience with the Corps, Kimberly served for three years as Head of the Environmental Studies Unit for District One of the Illinois Department of Transportation. Kimberly earned both her B. S. in Natural Resource Conservation and her M. S. in Forest Ecology from the University of Illinois. Kimberly can be reached for assistance by either email at kimberly.majerus@fhwa.dot.gov or telephone at (708) 283-3500.

Kevin Moody—Atlanta, GA



Also on January 23rd, Kevin Moody joined the FHWA Resource Center as an Environmental Protection Specialist. Kevin was most recently the Regional Environmental Coordinator for the Southeast Region of the U.S. Fish and Wildlife Service. In that position, Kevin coordinated NEPA activities for the Southeast Region; provided technical assistance and support on NEPA-related matters, including internal compliance consultations and reviews of planning documents from other agencies. He worked with counterparts in other agencies to resolve NEPA-related conflicts and served as one of two NEPA course instructors for the Service. He previously held positions in NEPA compliance and habitat restoration with the Bureau of Reclamation in California. Kevin graduated from Clark University in Worcester, MA with a B. S. in Environment and Technology. Kevin can be reached by email at kevin.moody@fhwa.dot.gov or telephone at (404) 562-3570.

Where Rubber Meets the Road: Tire/Pavement Noise Strategic Planning

by Mike Roberts, Biology/Water Quality Specialist, and Mary Ann Rondinella, Environment Program Specialist

On September 14-17, 2004, the **Institute for Safe, Quiet, and Durable Highways at Purdue University** hosted an exciting workshop on this rapidly evolving topic. Sponsored by the FHWA, the workshop brought together attendees from State transportation agencies, consultants, academia, and tire manufacturers, as well as FHWA Headquarters Noise Team and field office representatives. *The FHWA Resource Center was represented.*

Dr. Bob Bernhard of Purdue University and Bob Armstrong (just before retiring from FHWA Headquarters) gave welcoming remarks. They were followed by excellent technical presentations on the mechanisms of tire noise generation and techniques to measure and analyze tire noise. Bob Armstrong gave an overview of the FHWA Quiet Pavement Pilot Program and explained that current policy does not recognize the use of pavement type for noise abatement. The pilot program is intended to evaluate the effectiveness of quiet pavement strategies. Once the pilot studies are completed, FHWA will evaluate the results to determine if policy changes are needed.

Chris Corbisier of FHWA Headquarters presented the results of the FHWA international scan tour of quiet pavement technologies. Several European nations are using pavement type as part of an

Continued on next page



“I know that noise came from somewhere.”

Members of Purdue University's Class of 2025 eagerly study what makes tires tick (and squeal, and whine, and clap....)

overall noise abatement strategy. Some nations also regulate the amount of noise tires are allowed to generate. The first day concluded with a tour and demonstration of Purdue University's tire/pavement noise test apparatus.

On the second day, representatives from the Arizona, Florida and California DOT's gave presentations on their experiences with quiet pavements. Each of the agencies began with different approaches. In Florida, the use of open graded friction courses was prompted by the desire to improve safety, not reduce noise. Arizona DOT was prompted to strive for quieter pavement under pressure from elected officials. Caltrans recognized that public awareness of quiet pavements is increasing, and sound walls have limitations and drawbacks. Caltrans has studied pavement and bridge deck noise at several locations. While all three agencies measured noise reductions, some of the empirical data they collected contradicted earlier data.

Possible reasons include the lack of standard tire noise measurement methodology, and lack of a standard way to characterize pavements. Breakout sessions on design, construction, maintenance, research, analysis and policy were conducted to identify current and desired levels of practice and expertise. After identifying gap areas in all six topic areas, the attendees voted to prioritize the six lists into one set. The highest priority gap areas were in policy, maintenance, design

(including noise test procedure) analysis and research. optimization of pavement types, and noise measurement methodologies for U.S. applications.

The FHWA has published the proceedings of the workshop (FHWA-HEP-05-007). The proceedings include the Roadmap to Quieter Highways, which outlines near term and long term activities to address the gaps identified during the workshop.



What's Going On?

Here are a few of the upcoming events of interest to the environmental community:

April 3-6, 2005
AASHTO Geospatial Information for Transportation Symposium
Lincoln, NE

Visit: www.gis-T.org or
Contact: Mark Sarmiento, FHWA,
at (202) 366-4828 or
mark.sarmiento@fhwa.dot.gov, or
Ben Williams, FHWA Resource Center,
at (404) 562-3671, or
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April 10-12, 2005
MSI Engineering Sustainability
Conference
Philadelphia, PA

April 16-19, 2005
NAEP 30th Annual Conference:
Inspiring Global Environmental
Standards and Ethics
Alexandria, VA

April 18-22, 2005
AASHTO Standing Committee on
Environment Meeting
Chicago, IL
Contact: Trindal About at (202) 624-3696,
or taboud@aaashto.org

May 24 - May 26, 2005
4th National Environmental Conflict
Resolution Conference
Tucson, AZ
Visit: www.ecr.gov/new.htm

June 04, 2005

National Trails Day

Visit: www.americanhiking.org/events/ntd/index.html

What's News?

Late Winter Developments 2004-2005

- 2/23/05 States take initiatives on Global Warming and Greenhouse Gases; © Stateline.org; <http://www.stateline.org/stateline/?pa=issue&sa-showIssue@id=231844>
- 2/23/05 NY & NJ rated No. 1 and 2 in elevated cancer risk from diesel engine, © Alexander Lane, The Star-Ledger (Newark) www.nj.com/news/ledger/jersey/index.ssf?/base/news-8/1109140365158440.xml
- 2/13/05 Climate Chaos: Hottest Summer and costliest hurricane season on record, bears wake early from hibernation, Australia suffers its worst drought in 100 yrs, multiple hurricanes hammer FL., Algeria had its worst snow in 50 yrs. © CNN.com, www.cnn.com/2005/TECH/science/02/11/kyoto.advance.reut/index.html
- 2/2/05 EPA announces availability of Review of the National Ambient Air Quality Standards for Particulate Matter: Policy Assessment of Scientific and Technical Information (Second Draft Paper) ; www.epa.gov/fedrgst/EPS-AIR/2005/February/Day-02/a1933.htm
- 1/31/05 Notice of first external review draft for public review and comment: Draft Air Quality Criteria for Ozone and Related Photochemical Oxidants E-Document No. ORD-2004-0015; www.epa.gov/fedrgst/EPA-AIR/2005/January
- 1/4/05 Endangered and Threatened Species: Notice of Public Hearings on Proposed Designation of Critical Habitat for Seven evolutionary Significant Units of Pacific Salmon (*Oncorhynchus tshawytscha*) and Steelhead (*O. Mykiss*) in California www.epa.gov/fedrgst/EPA-AIR-2005/Januray/Day-04/a083.htm
- 1/4/05 Options for PM2.5 and PM 10 Hot-Spot Analysis in the Transportation Conformity Rule Amendments for the New PM2.5 and Existing PM10 National Ambient Air Standards; Extension of Comment Period; www.epa.gov/fedrgstr/EPA-AIR/20050January/Day-04/a083.htm
- 12/17/04 EPA publishes DRAFT Method of Analysis of Selenium in Fish Tissues for Support of Water Quality Criteria; www.water.epa.gov/seleniumcriteria

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