



Volpe
National
Transportation
Systems
Center

Volpe Center Highlights

Cambridge, Massachusetts

March 2000

Director's

Notes



Dr. Richard R. John

Volpe Gets Green

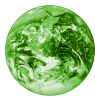
More than 10 years ago on March 24, 1989, the Exxon Valdez ran aground off the coast of Alaska in Prince William Sound spilling 10.8 million gallons of oil and affecting 1,300 miles of shoreline. The effects on wildlife and people in the area were devastating. According to estimates, 250,000 seabirds were killed, along with 2,800 sea otters, 300 harbor seals, 250 bald eagles, and up to 22 killer whales. Billions of salmon and herring eggs were destroyed. The lives of the people who live, work, and play in the areas affected by the spill were completely disrupted.

The spill, the largest ever in U.S. history, brought the potentially negative impacts of transportation to the public's attention in a way that could not be ignored. It was approximately at this time that the Volpe Center first began to see an increased need for support on a wide range of environmental issues. Initially, the needs were addressed through the individual efforts of the Directorates and Divisions, but it soon became apparent that a new business area was developing.

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Focus

Volpe Acoustics Experts Study the Environmental Effects of Hovercraft on Fish and Wildlife in Alaska (USPS)



Could mail delivery in remote parts of Alaska be hurting fish and wildlife? The Volpe Center is supporting the U.S. Postal Service (USPS) by providing environmental services for a three-year demonstration program in which hovercraft are used to transport mail to remote villages in the vicinity of Bethel, Alaska. A comprehensive noise study of the British Hovercraft Corporation Model AP1-88 air cushion vehicle, the craft used for mail delivery, is part of a project being conducted by Dr. Paul Valihura of the Environmental Engineering Division to study the underwater effects of hovercraft operation on fish and wildlife.



The British Hovercraft Corporation Model AP1-88 air cushion vehicle delivers U.S. mail to remote villages in Alaska.

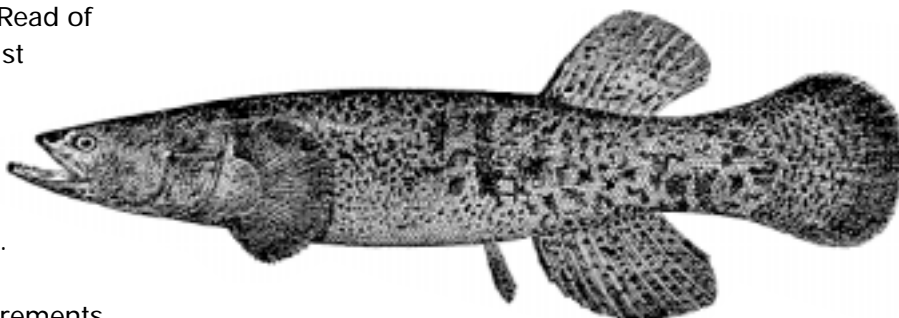
(Photo courtesy of Dr. Paul Valihura)

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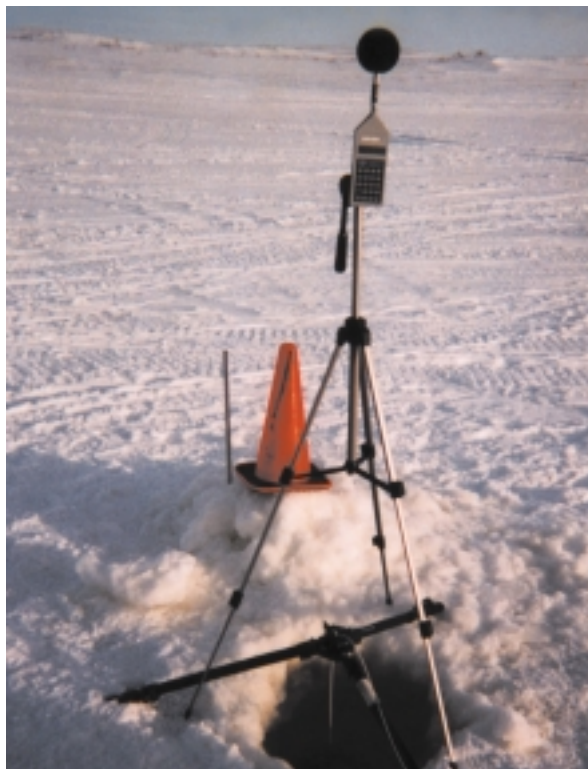
From January 23 to 28, 2000, Mr. Christopher Roof of the Safety and Environmental Technology Division along with Mr. David Read of W. T. Chen and Mr. John Burgess, a biologist with CH2M Hill (both Volpe Center contractors), visited Bethel, Alaska, in order to perform noise measurements of the hovercraft and to study blackfish behavior near the small village of Kasigluk. Blackfish are a primary food



*The Alaska blackfish, *Dallia pectoralis*, are known for their tolerance to cold water and can survive for a few days after complete freezing of parts of the body, including the head.*
(Illustration courtesy of U.S. Fish and Wildlife Service)

source for the local population. The measurements were conducted while the Johnson River was covered with ice in order to evaluate the effects of ice on the underwater noise. In addition to conventional acoustic instrumentation, the team used hydrophones to measure underwater noise levels and specialized video equipment to monitor blackfish behavior. The team also monitored other environmental conditions, and interviewed local fishermen to obtain their day-to-day accounts.

Mr. Roof and his team accomplished their tasks despite numerous obstacles. Unexpected and unusual above-freezing temperatures caused the ice on the Johnson River to start melting. The state road, which is near the river and on which the team planned to travel by truck, had not been plowed. In addition, the team planned to stay in Kasigluk near where the testing would take place, but an electrical outage forced them to stay in Bethel and make the 30-mile trip each way every day to Kasigluk via snowmobiles.



A hydrophone measures noise levels under the ice on the Johnson River.
(Photo courtesy of Mr. Chris Roof)

Sleds were used to transport more than 500 pounds of support equipment, including acoustic instrumentation for measurement in water and air, as well as meteorological and video instruments. One of Mr. Roof's biggest challenges was making certain that all of the electronic equipment worked despite low temperatures, wind, and vibrations from riding on the snowmobiles. Fortunately, extra backup equipment was brought along, as it was needed.

The final summary of the three-year ecological and noise monitoring project, *The Final Ecological Monitoring Summary*, was released on March 20, 2000. The winter underwater noise monitoring and visual observations showed that the hovercraft had little impact on blackfish subsistence gathering by the local Eskimos. It also showed that, after careful observation and repeated testing performed by Volpe staff over the past three years, the hovercraft has had little impact on waterfowl and only a few dead, injured, or stranded fish have been found.

Safety



Promote public health and safety by working toward the elimination of transportation-related deaths, injuries, and property damage.

Volpe Staff Fly Piper Aztec to Demonstrate WAAS Prototype (FAA)

From February 2 to 7, 2000, Mr. Alan Yost of the Operator Performance and Safety Analysis Division and Mr. Jack Giurleo of Bedford Associates participated in the commissioning working group for the Wide Area Augmentation System (WAAS) that was held in Arlington, Virginia, as part of a meeting of the Satellite Operations Integration Team (SOIT). Mr. Yost and Mr. Giurleo flew the Volpe Center's leased Piper Aztec to Virginia to provide demonstration flights of the prototype of the WAAS receiver to the Federal Aviation Administration (FAA) sponsor and to other interested parties. The Satellite Program Office is funding the lease of the Piper Aztec in anticipation of flights later this fiscal year to support the WAAS Operational Readiness Evaluation (ORE).

The ORE will examine the WAAS and its infrastructure, ensuring that it is safe and acceptable for general aviation and air carrier use. The ORE involves a flight scenario that was developed at the Volpe Center. The flight scenario attempts to use as much of the infrastructure of the WAAS as possible. It includes flight planning, departure, en route precision and on precision approaches, holding, arrival, and emergency procedures. As the flight crew flies the scenario, they will fill out a data collection form developed by the Volpe Center that will provide valuable feedback on the WAAS prototype.



The Piper Aztec is a light twin-engine airplane equipped with an air data (AD) computer, dual GPS installation, moving map display, and Avidyne cockpit computer display.

Parametric Studies Support NHTSA Crashworthiness Research (NHTSA)

Dr. Tom Trella of the Vehicle Crashworthiness Division met with Dr. Joseph Kianianthra, Director of the National Highway Traffic Safety Administration's (NHTSA) Office of Vehicle Safety Research, and Ms. Randa Radwan Samaha of NHTSA's Crashworthiness Research Division on January 6, 2000, in Washington, D.C., to discuss the results of recent parametric studies of light truck impacts using finite element models that were conducted at the Volpe Center. Dr. Kianianthra presented the results at a Side Impact Working Group Meeting of the International Harmonization of Research Activities (IHRA) in Madrid, Spain, in early February 2000.

The studies examine driver injuries in side collisions resulting from stiffness, weight, and bumper height changes in the striking light truck. The results showed that driver thorax responses in the struck vehicle increase when the striking vehicle has a higher front-end profile and increased weight. Driver pelvic responses might decrease or stay the same. These responses also were more pronounced when the striking vehicle is stiffer.

The study was carried out using a model of the Ford Taurus as the struck vehicle and a model of a Moving Deformable Barrier (MDB) as the striking light truck. The MDB was configured to represent a Ford Explorer with different combinations of stiffness, weight, and bumper heights. The MDB struck the Ford Taurus at an angle of 90 degrees. The injuries to the Ford Taurus driver, represented by a finite element model of a Side Impact Dummy, were evaluated for a range of values of striking vehicle characteristics.

Volpe Supports Motor Carrier Safety Screening (DOE)

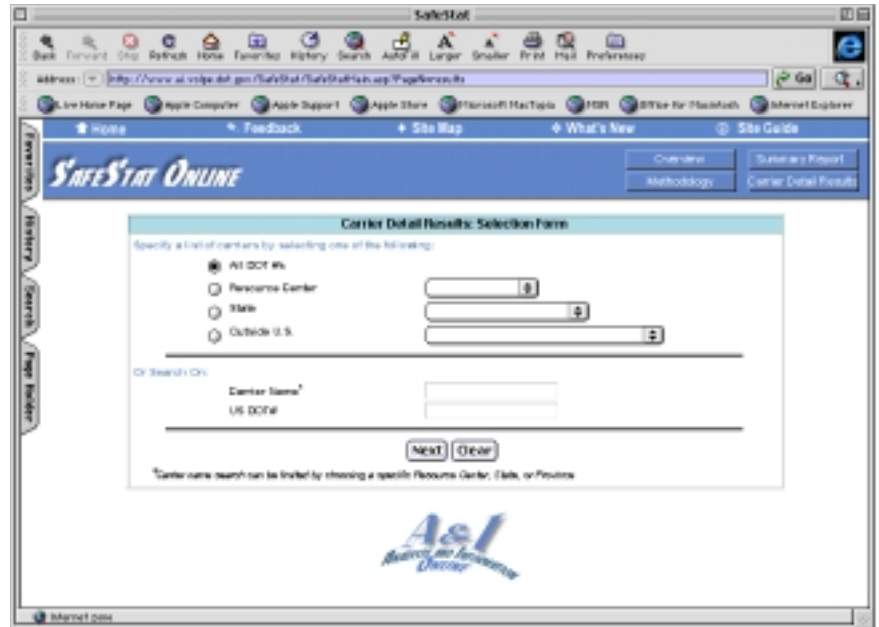
As the major shipper by highway of hazardous materials, including radioactive waste from nuclear energy production site cleanup, the Department of Energy (DOE) requires a rigorous procedure to determine prospective motor carrier contractor eligibility and selection and, in particular, to evaluate motor carrier safety. In 1999, the DOE initiated an interagency agreement with the Volpe Center to define and develop an improved Motor Carrier Evaluation Program (MCEP) process that would take advantage of the Center's expertise in carrier safety-status assessment and that would use a data-driven, automated system (SafeStat) which assesses the safety status of individual interstate motor carriers.

Although SafeStat was developed by the Volpe Center for the DOT's Federal Motor Carrier Safety Administration (FMCSA) to identify and prioritize interstate truck operators for on-site compliance reviews and possible enforcement action, its roots are in another Volpe Center interagency project conducted more than a decade ago for the Department of Defense (DoD). This project was called the Air Carrier Analysis System (ACAS), and it resulted in a safety performance measurement system for air carriers.

In January 2000, the DOE decided to proceed with the development of the improved SafeStat-supported MCEP evaluation process proposed by Mr. Donald Wright and Mr. David Madsen of the Economic Analysis Division. The proposed evaluation process includes initial screening, full evaluation, and monitoring of carriers to be considered as well as those in use. Mr. Wright and Mr. Madsen will develop the new evaluation process in collaboration with the DOE's Hanford site in Richland, Washington, for the DOE's National Transportation Program Office (DOE/NTP) Office in Albuquerque, New Mexico. Also in January 2000, a major milestone was reached in the development of the improved MCEP by linking traffic managers at DOE sites nationwide to SafeStat Online, thereby providing the DOE with Internet access to DOT's motor carrier SafeStat (safety status) evaluations. SafeStat Online now can be accessed on the Internet as a module of the Analysis and Information System (A&I) at <http://www.ai.volpe.dot.gov>.

Volpe Staff Serves as Technical Expert for Arizona Superior Court (NHTSA)

On February 14, 2000, Dr. Arthur Flores of the Safety and Environmental Technology Division served as a technical expert regarding breath tests for suspected drunk drivers at the Mohave County Courthouse in Kingman, Arizona. Currently, Arizona's alcohol testing program has come under fire by a variety of public defenders and other citizens for its accuracy and reliability. Dr. Flores' testimony, which was presented to the Superior Court of the state of Arizona, supported the accuracy and reliability of breath tests and breath test equipment that is being used by Arizona's Department of Public Safety.



SafeStat is a data-driven analysis system that determines the current relative safety status of individual motor carriers.

The Volpe Center has been studying techniques for measuring alcohol on the breath and in the blood of suspected drunk drivers in support of the National Highway Traffic Safety Administration's (NHTSA) Office of Traffic Injury Control Programs. This work includes evaluation of testing procedures and devices for breath alcohol, as well as the practices of national and international law enforcement agencies. The Center also oversees a blood-alcohol proficiency program, which is conducted by 250 independent laboratories across the United States.

In 1998, according to statistics provided by NHTSA, 41,480 people were killed in motor vehicle traffic crashes, 15,935 fatalities were alcohol-related (preliminary estimates). This represents an average of one alcohol-related fatality every 33 minutes. The 15,935 alcohol-related fatalities (38.4 percent of the total traffic fatalities for 1998) were the lowest reported since NHTSA began reporting these statistics in the 1970s. Statistics for 1999 are not yet available.

Mobility



Ensure that the transportation system is accessible, integrated and efficient, and offers flexibility of choices.

Volpe Participates in Institute of Navigation National Technical Meeting

Ms. Karen Van Dyke of the Center for Navigation participated in the Institute of Navigation National Technical Meeting held from January 26 to 28, 2000, in Anaheim, California. The theme of the meeting was "2000: Navigating into the New Millennium." The meeting covered a wide variety of Global Positioning System (GPS) applications and focused on the integration of navigation information in air, land, marine, and space systems. The meeting also covered issues pertaining to GPS integrity, Differential GPS (DGPS), navigation/communications integration, interference issues, and electronic charting.

Papers presented at this conference were related to a number of projects being conducted by the Center for Navigation. Ms. Van Dyke is conducting technical studies for the Federal Aviation Administration (FAA) on GPS availability and integrity coverage and is supporting the Radio Technical Commission for Aeronautics Special Committee-159 in the development of the primary means GPS Minimum Operational Performance Standards for the GPS Wide Area and Local Area Augmentation Systems (WAAS/LAAS). She also is working on upgrading the Department of Defense's (DoD) Notice to Airmen (NOTAM) system to report GPS outages and is involved with the development of a GPS NOTAM system for Airservices Australia, DFS Deutsche Flugsicherung, and the Chilean Aviation Authority.

Ms. Van Dyke, as the Vice President of the Institute of Navigation (ION), also participated in the ION's Council Meeting that was held in conjunction with the conference.

Human and Natural Environment



Protect and enhance communities and the natural environment affected by transportation.



Volpe Investigates Asbestos Problems in Libby, Montana (EPA)

On November 29, 1999, the U.S. Environmental Protection Agency (EPA) Region VIII requested immediate assistance from the Volpe Center in assessing on-going asbestos exposure in Libby, Montana. Two days later, on December 1, 1999, a team of the Center's federal and contract personnel were onsite preparing to conduct sampling activities. Mr. Mark Raney of the Environmental Engineering Division provided lead technical assistance for the technical sampling and analysis protocol during the Phase I assessment. Mr. John McGuiggin also of the Division is the Project Manager.

Adverse health effects in Libby, a town in northwestern Montana, are associated with exposure to asbestos from a former W.R. Grace vermiculite mine located approximately five miles from the center of town on Zonolite Mountain. Vermiculite is a nonmetallic mineral that occurs naturally in large deposits in the Libby area. It is used to manufacture building insulation, and as lightweight concrete aggregates and agricultural soil additives. Vermiculite was mined at the Libby site for more than 60 years until the mine's closure in 1990.

Asbestos exposure resulting from vermiculite mining, processing, and transportation activities has been linked to 192 deaths in Libby and 375 additional cases of asbestos-related disease since 1961, according to the *Post-Intelligencer*, a Seattle, Washington, newspaper. Of those who have contracted asbestos-related diseases, some worked at the mines or were family members of miners. Others had no link to the mine other than living in Libby.



Tremolite-actinolite crystals in raw ore from Zonolite Mountain
(Photo courtesy of U.S. Environmental Protection Agency)

Working through the EPA, the Volpe Center conducted sampling of residential properties, schools, former mining sites, and other potentially impacted areas from December 1999 through March 2000. Analysis of December and January samples showed the presence of tremolite asbestos, a rare form of asbestos present within the mined vermiculite.

The health risk associated with the tremolite asbestos, in part, depends upon the mineralogy and physical characteristics of the fibers. To date, fibers of risk have been identified from air samples taken at residences and at former vermiculite-processing facilities. Asbestos also has been identified in a significant number of soil samples. The EPA is evaluating the sampling results and is preparing to conduct a medical assessment in the spring to identify rates and concentrations of exposure.

The Volpe Center is continuing to provide sampling, site assessment, and analytical support to the EPA in accordance with a 1994 Memorandum of Understanding between the two organizations. The Volpe Center's Environmental Engineering Division has been supporting the EPA's Region VIII since January 1999 in line with DOT's strategic goal in the area of human and natural environment.



Aquatic nuisance species such as the Zebra Mussel, shown here attached to native clams, have been introduced via ballast water and are a threat to native animals.
(Illustration courtesy of U.S. Fish and Wildlife Service)



Volpe Assesses Control of Aquatic Nuisance Species (USCG)

The Volpe Center is supporting the U.S. Coast Guard's (USCG) Research and Development Center by providing marine and environmental engineering expertise in assessing the effectiveness of existing technologies used for the control of invasions of aquatic nuisance species (ANS). Examples of ANS include fish, mollusks, crabs, other invertebrates and many tiny varieties of shrimp and algae, and microorganisms that are introduced into domestic waterways from ballast water discharged from foreign vessels. The impact of ANS has been most dramatic in the Great Lakes and associated river systems

and in San Francisco Bay where new species have proliferated because of a lack of predators and displaced native animals. The Zebra Mussel, a mollusk that is native to the Caspian Sea, is one well-known example. It was first found in Lake St. Clair in 1988 and has spread to each of the Great Lakes. Up to 1 inch in length, it has a striped pattern on its shell and is a threat to native mussels.

On January 25, 2000, Mr. William Halloran of the Environmental Engineering Division traveled to Washington, D.C., to discuss plans to assess existing technologies for controlling ANS. Based on decisions made at the meeting, the Center will review manufacturers' testing protocols and observe actual testing of various technologies. Three of the systems to be tested include both cyclotronic separation of solids and suspended matter from the water, and treatment of the water with ultraviolet light. A fourth system involves filtering water upon intake and then successive oxygenation and de-oxygenation to kill populations of anaerobic and aerobic microorganisms. The Center then will report on the validity of the manufacturers' testing protocol and the effectiveness of the technology at controlling these aquatic nuisance species.



Presentation at Airport Noise and Air Quality Symposia (FAA)

From February 14 to 16, 2000, Mr. Gregg Fleming of the Safety and Environmental Technology Division participated in the "Year 2000 International Airport Noise and Air Quality Symposia" in San Diego, California. He presented a paper entitled "FAA's Aircraft Noise Initiatives in the National Parks." The paper presented an overview of FAA's aircraft noise-related research that has been conducted in the national parks for the past five years. The symposia, sponsored by the University of California at Berkeley and the FAA, addressed noise and air quality issues related to regulatory requirements; aircraft engine design and development; and measurement, modeling, and mitigation. Mr. Fleming's participation in the symposia is part of the Volpe Center's support to the FAA Office of Environment and Energy in the development and maintenance of the Integrated Noise Model (INM), a computer model for airport noise prediction and analysis. This work includes measuring aircraft noise and engine exhaust emissions, and augmenting the FAA's core capability in air quality modeling.



Volpe is performing ambient noise measurements in the national parks, including Everglades National Park shown here.

Volpe Employee Selected as Finalist for NASA's Astronaut Class of 2000

During the week of February 6, 2000, the final group of six groups of prospective astronauts was at the National Aeronautics and Space Administration's (NASA) Johnson Space Center (JSC) for orientation, interviews, and medical evaluations. Mr. Seamus McGovern of the Airport Surface Division was one of 22 prospective astronauts in that group. The selection process, which takes place every two years, began with a total of 3,000 applicants. Approximately 120 applicants out of the total were interviewed for a chance to be among those named as astronaut candidates. These 120 applicants include a mix of military personnel and NASA employees, as well as civilian researchers and scientists. By early summer, 10 to 20 applicants will be selected for the astronaut program. If chosen, Mr. McGovern will spend about two years in training. Following that, the average wait for a space flight is five years.

Mr. McGovern's interest in flying and space exploration began at a very early age. His role models included scientists, military figures, pilots, and explorers. He went on to earn a bachelor's degree in engineering physics and a master's degree in systems and control engineering. At the Volpe Center, he works as a test engineer

designing and conducting evaluations on Federal Aviation Administration (FAA)-sponsored prototype radars, trackers, and other sensors and data processors. Prior to joining the Volpe Center, Mr. McGovern served in the U.S. Navy. Mr. McGovern is designated as both a U.S. Naval Aviator and U.S. Army Aviator with more than 2,800 hours of airplane/helicopter, day/night, instrument, over-water, and low-level military pilot flight time as an operational pilot, an instructor pilot, and a maintenance test pilot. He also served in the U.S. Naval Reserves and is currently a Cobra gunship pilot in the U.S. Army National Guard. In addition, Mr. McGovern currently is enrolled in a graduate certificate program for software engineering. Despite his busy schedule, he still finds time to participate in the Center's volunteer education outreach program known as "Lunch Buddies." As such, he has become a role model for grade school students.



Mr. Seamus McGovern is currently flying the AH-1F Cobra helicopter gunship as a pilot with the U.S. Army National Guard.

Mr. McGovern recognizes that to have progressed this far in the NASA Astronaut selection process is quite an honor. If not chosen for this class, he vows to continue to apply for as long as it takes.



Advance America's economic growth and competitiveness domestically and internationally through efficient and flexible transportation.

Volpe Hosts Meeting Addressing Ground Delays (FAA)

On February 16, 2000, the Volpe Center hosted a Collaborative Decision Making (CDM) Arrival and Departure subgroup meeting. The CDM program is an effort by the Federal Aviation Administration (FAA), airlines, the Volpe Center, and others to improve traffic flow management by increasing collaboration and information sharing between the airlines and the FAA's Air Traffic organization. At the meeting, representatives from the FAA, airlines, the Volpe Center, and private sector research organizations exchanged ideas on how the FAA and airlines can work together to reduce the delays associated with aircraft arrivals and departures. The Arrival and Departure subgroup is particularly concerned with ground delay programs. Ground delays occur when a flight's departure is postponed due to congestion at the destination

airport. The subgroup discussed the progress of the different tools that are being developed by the Volpe Center and other FAA contractors to make ground delay programs more efficient and equitable.

Participation in the CDM program is part of the Automation Applications Division's support to the FAA in the area of traffic flow management. The CDM program is one avenue by which enhancements are added to the Enhanced Traffic Management System (ETMS), the real-time, operational computer system developed and operated by the Volpe Center that the FAA uses to detect and deal with air traffic congestion problems.

Volpe Provides Continuing Support to ONE DOT Initiatives

In support of the ONE DOT Education Initiative, the Volpe Center hosted a Region I ONE DOT Education Forum entitled "Transportation Learning Needs for a Transitioning Twenty-First Century New England" on February 1, 2000. The meeting provided an opportunity for the regional ONE DOT team as well as members of the public, private, and academic sectors to examine work force issues impacting New England, to relate those issues to transportation needs, and to examine ways that the regional DOT partners can work together more closely. A proceedings paper will be published shortly to highlight the outcomes and provide future direction.

In support of the ONE DOT Port Access Initiative, Dr. Bahar Barami of the Policy and Technology Analysis Division delivered a report in early February on the Proceedings of the Listening Session that was held in Portland, Maine, on October 19, 1999. The Listening Session allowed stakeholders, including state and local government officials, civic representatives, and private-sector business leaders to express their concerns and ideas about transportation access issues related to the Seaport of Portland. Dr. Barami's report reviewed the goals and objectives of the ONE DOT Port Access Initiative, related it to the Marine Transportation System Report to Congress, described the audience's comments and responses, and provided a set of recommendations for collaborative federal, state, and regional implementation.

The Listening Session was sponsored by the Access to Ports Committee, which is made up of representatives from the Federal Highway Administration (FHWA), the Federal Railroad Administration (FRA), the Maritime Administration (MARAD), the Research and Special Programs Administration (RSPA), and the U.S. Coast Guard (USCG). Dr. Barami is the RSPA representative to the Access to Ports Committee and her role in this ONE DOT initiative has been to bring together the occasionally divergent modal perspectives and promote an integrated, cross-modal approach to achieving the partner agencies' shared goals. The Access to Ports Committee's mission is to assess whether the federal DOT agencies, working together as ONE DOT, can help state and local officials advance their port access improvements more efficiently.



Advance the Nation's vital security interests by ensuring that the transportation system is secure and available for defense mobility and that our borders are safe from illegal intrusion.

Volpe Supports U.S. Army Watercraft Program (U.S. Army)

The Volpe Center continues to support the U.S. Army's Watercraft Program and Logistics Over the Shore (LOTS) missions with engineering, life cycle, and logistics support. One key component of the Program is the Modular Causeway System (MCS), which is used for carrying wheeled and tracked vehicles and containers from vessels anchored offshore to the beach. Rolling cargo from a sealift ship is off-loaded via its ramp to Roll-On/Roll-Off Discharge Facilities (RRDF). The rolling cargo then is transferred to smaller vessels for movement to the beach or floating causeway.

On January 24, 2000, the Volpe Center performed rail impact testing of MCS containers at the DOT's Transportation Technology Center in Pueblo, Colorado. The Center's team included Mr. Barry Mickela and Mr. Ross Gill of the Advanced Vehicles Technology Division and Mr. Rodney Cook of the Technology Applications and Deployment Division. Other participants included: Mr. Jim Schriefer of the U.S. Coast Guard (USCG); Mr. Gunars Spons of the Federal Railroad Administration (FRA), who is the Site Manager; and Mr. William Lundberg of the FRA, who is the Project Manager.

The tests were designed to verify the structural integrity of the MCS containers to ensure the safety of internal components when the containers are shipped by rail. The containers carry all the components, parts, and accessories that are used to assemble and operate the MCS. A total of ten 20-foot and 40-foot ISO-certified (International Organization for Standardization) containers were impact-tested. Acceleration data was collected for each. The impact tests stem from the policies of the Military Transportation Management Command and were the last in a series of tests for these containers prior to their shipment to Hythe, England, where they will be up-loaded to a Military Sealift Command vessel.

During the week of February 7, 2000, Mr. Michael Buonopane of the Technology Applications and Deployment Division conducted testing of Roll-On/Roll-Off Discharge Facility (RRDF) and Floating Causeway (FC) components for the U.S. Army's Tank-Automotive and Armament Command's (TACOM) Watercraft Systems Management Office at the U.S. Coast Guard Yard in Baltimore, Maryland. The RRDF are floating platforms that are used as the landing platforms for the cargo ramps of sealift ships.

In light of these developments, the Volpe Center made and continues to make a concerted effort to develop the expertise and tools needed to address a wide range of client concerns about the environment and other business areas. Volpe employees are offered a number of opportunities and programs to enhance their professional capabilities and effectiveness. The Volpe Center Fellows Program allows employees to pursue graduate level study in areas of concern, including the environmental field. In addition, we encourage staff to develop invaluable on-the-job experience by working on a variety of projects.

The Volpe Center has received much publicity for its work in remedial actions, but preventing environmental problems from occurring in the first place is our foremost concern. Our work on Environmental Assessments (EA) and Environmental Impact Statements (EIS) has guided the development of many "green" transportation projects, including the Federal Railroad Administration (FRA)/Amtrak Northeast Corridor Improvement Project and the U.S. Postal Service's (USPS) Alaska Hovercraft operation, which is the *Focus* article in this issue.

We continue to work on new technologies such as electric and alternative fuel vehicles and on studies of other ways to reduce greenhouse gases from transportation, which contribute to global warming. We are committed to sustaining the natural environment and resource management as illustrated by our support of the National Oceanic and Atmospheric Administration's (NOAA) fisheries protection program.

The Volpe Center also conducts assessments of the processes and practices that could adversely affect the environment. Hundreds of environmental compliance audits for facilities are conducted under programs for the Postal Service, the U.S. Coast Guard (USCG), and the Federal Aviation Administration (FAA), and we have performed scientific risk characterizations of aquatic environments from the Midway Islands to Puget Sound where batteries containing small amounts of mercury have been disposed. In addition, the Center develops information systems that are critical for tracking compliance and performance measures.

We have provided an overview of imports and exports of hazardous materials for the Research and Special Programs Administration (RSPA), as well as identified the modes of transportation and types of hazardous materials being transported. We support the development of an extensive training program on hazardous materials in the mail stream for the Postal Service, and have addressed safety performance for the Office of Pipeline Safety and examined the transport of nuclear waste for the Nuclear Regulatory Commission (NRC).

The Volpe Center also supports site remediation for the FAA including contaminated site restoration and removal or upgrade of underground fuel storage tanks from Buck's Harbor, Maine, to Hawaii. The Center also has just completed remediation of residential sites contaminated by lead mining in Stockton, Utah (see the Winter 2000 issue of the *Volpe Journal*), and currently is engaged in sampling and analysis for the Environmental Protection Agency (EPA) in Libby, Montana, a site contaminated from asbestos mining operations that has the potential to be one of the largest projects in EPA history. The Libby story is featured in this issue of *Highlights*.

We all know that innovation in transportation is vital to a healthy economy. However, transportation at the expense of the environment does nothing to improve the quality of life of our citizens. The Volpe Center continues to recognize the importance of environmental protection and is helping to make a better world now and for future generations. We are committed to preventing another Exxon Valdez.

On a lighter note, don't forget that in recognition of the 30th anniversary of Earth Day, DOT has designated the entire month of April as "Earth Month." This issue of *Highlights* is just one of the many activities that the Volpe Center has planned to celebrate the event. Mark your calendars now!



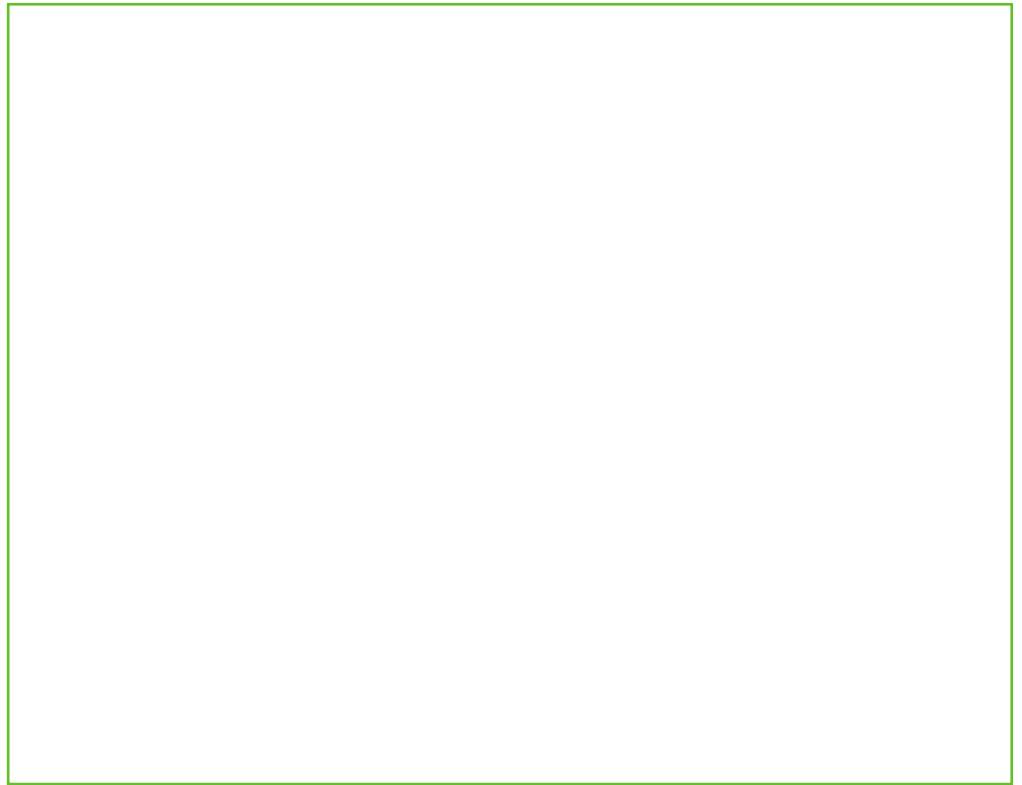
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In This Issue... Volpe Acoustics Experts Study the Environmental Effects of Hovercraft on Fish and Wildlife in Alaska.

