In mid-October 2006 the news media reported that New Orleans’s devastated Ninth Ward could finally expect potable water supplies. Well over a year after Katrina, crews continued to restore basic services. Numerous authors of commentaries made at the one-year anniversary of Hurricane Katrina’s landfall observed that this seemed a ridiculously slow response. Yet, for those not able to watch the rebuilding effort up close, several important points should be kept in mind when assessing the pace of recovery.

First, the extent of damage was truly underappreciated. As one drives across the neighborhoods near the Lake Pontchartrain waterfront, there are still countless neighborhoods with fewer than 10 percent of the houses occupied. Much of this territory was subject to pre-storm subsidence and is some of the lowest ground in the city. When the flood protection barriers gave way that August, water stood highest and longest in these neighborhoods. A huge area with tens of thousands of homes was evacuated, and the infrastructure ripped apart by roots of toppling trees. Seeking out craftspeople to make repairs was next to impossible, since there aren’t enough roofers, plumbers, or drywall hangers to meet the demand; to say nothing of securing permits and the like considering that flooding destroyed many personal documents and even city records pertaining to home ownership.

Second, uncertainty extended many delayed returns. Immediately following the storm, many residents of the devastated neighborhoods made loud commitments that they would return and restore their damaged properties immediately. But in the absence of utilities, with no coordinated planning for rebuilding, uncertainties about insurance payouts and future hurricane protection, many people settled into what had originally been temporary residences outside the flooded zones. Consequently, the August census indicated that the city’s population had grown to only 187,000—well below the pre-storm 460,000. Neighboring suburban Jefferson Parish, which sustained much less flood damage, is now at over 95 percent of its pre-storm population. For the urban area, progress has been uneven and much faster in areas that suffered less.

Nonetheless, when compared to the 1906 San Francisco earthquake, the first phase of restoration is proceeding at a comparable pace according to a recent study published in the Proceedings of the National Academy of Sciences, which I co-authored. The infusion of massive amounts of federal dollars for various programs—absent after the 1906 California quake—in large measure accounts for the initial recovery efforts. New Orleans has a long way to go, and it may never become the San Francisco of the Gulf Coast, but something resembling a recovery is underway.

The Great Wall of China
Martin V. Melosi, Ph.D.
University of Houston

The Great Wall of China may be the most magnificent public works project ever made. It is, at least, the world’s largest structure made by humans. The wall became a UNESCO World Heritage Site in 1987, and rightly so, and stands as probably the most important symbol for connecting modern China with its past.

Intended as a fortification to keep out Hunnic, Mongol, Turkic and other tribes raiding China from Mongolia and Manchuria, several walls were constructed between the 5th century BC and the 17th century. It was not until the Qin Dynasty under Emperor Qin Shi Huang (who unified China in 214 BC) that the separate walls were connected between 220 and 200 BC. The present Great Wall near Beijing is a remnant from the Ming Dynasty (1368–1644), and is further south than the wall constructed under Emperor Qin Shi Huang.

Original portions of the wall were constructed from earth (sometimes with gravel inside), stone, and wood. During the Qin Dynasty mostly earth was utilized, but during the Han Dynasty (202–220 AD) earth and stones were commonly employed. Under the Ming Dynasty, brick was used more typically along with tiles, lime, and stone. The advantage of brick was that it could be carried more easily in the rough terrain of North China, although stone held up better. Consequently, stones were cut for the foundation, inner and outer brims, and gateways.

Unfortunately, today many areas along the wall are in serious disrepair. According to China Daily (June 12, 2006), “Parts of the Great Wall may collapse and disappear in the near future unless protection efforts are improved…” The China Great Wall Society, a non-government organization, estimated that only 20 percent of the wall is in “reasonable shape,” 30 percent is in ruins, and the remainder “has disappeared permanently.” What parts of the wall are left are “in danger of collapse because of weathering, erosion, and human actions,” stated Dong Yaohui, secretary-general of the society. Human damage includes graffiti, vandalism, and active dismantling. For example, in Fugu County in Northwest China’s Shaanxi Province, villages dug coal mines under the wall. In a village in Hebei’s Qianxi County, pigsties and henhouses are constructed from bricks taken from the wall. Restoration efforts by amateurs, although with good intentions, often do not follow the original design or acquire approval for the work. Parts of the Great Wall in rural areas especially receive no attention whatsoever, and there are no laws to punish violators there.

While the Chinese central government planned to inspect the Great Wall and measure its exact length in 2006, no overall plan for restoration and maintenance has been implemented. Supporters of maintaining the Great Wall’s physical integrity hope for more publicity to highlight their cause. It remains to be seen if this extraordinary public works icon will survive for the next generation of Chinese and the many visitors who wonder at its imposing scale and beauty.
History and Consequences of the Interstate

Public Works Historical Society presents Interstate Town Hall Meeting during Congress

Becky Wickstrom
Manager of Media Affairs
APWA Washington Office

Creation of a transcontinental road system altered the American landscape. Connecting cities and towns, the Interstate System of Highways also connected people and opened up passageways through largely unseen and rugged landscapes. According to Bruce E. Seely, Professor of History at Michigan Technological University and featured speaker during the Public Works Historical Society (PWHS) Town Hall Meeting held at the 2006 Congress, the impact of the Interstate stretches far beyond the roads on which we travel.

During his presentation, Seely discussed the long political process involved in creation and construction of the Interstate. He also examined some of the consequences of the massive infrastructure system, including lessons learned from this showpiece highway network about big public works projects, situations where Interstate planning missed the mark, and changes and unanticipated consequences of the Interstate.

The importance of the 1956 legislation funding for the largest public works project in this country’s history cannot be minimized. The following excerpt appeared in The States and the Interstates, an extensive study of the Interstate performed by PWHS for the American Association of State Highway and Transportation Officials (AASHTO):

“In 1956, the United States Congress approved the construction of the Interstate system, ‘the most ambitious public works program since the Roman Empire.’ Through the creation of the Highway Trust Fund, federal aid for highway construction was doubled. The legislation pledged completion of the 41,000-mile Interstate system in 14 years, with anticipated costs of $27.8 billion. The 1956 Act committed the federal government to pay 90 percent of the bill for each Interstate project—signifying its priority in the federal-aid program and its perceived importance to the national defense.”

Lessons Learned from the History of National Disasters

Teresa Hon
PWHS Staff Liaison

The Public Works Historical Society-sponsored session at the APWA Congress in Kansas City, “Lessons Learned from the History of Natural Disasters,” was a panel discussion moderated by Howard Rosen, of the University of Wisconsin-Madison.

Larry Lux of Lux Advisors in Plainfield, Illinois, opened the discussion with the background and case for lessons learned. He provided a brief history of FEMA and the organization of the Department of Homeland Security.

In looking at recent and past natural disasters, Lux cited debris collection, removal and disposal as one of the two major failures. Evacuation was the second major failure. Recognizing that responsibility lies at all levels, Lux pinpointed what he felt were the failures at the local, state and federal levels.

Referencing three government reports, Lux summarized the common points in all. A recurrent statement in all reports is that there was a failure to heed past lessons learned from Hurricanes Pam and Andrew and from TOPOFF3.

Brian Usher, from Mt. Zion, Illinois, presented the local perspective and began by looking at historic areas of concern: communication, training and exercising, plan components, knowledge of emergency operation and procedures, and knowledge of the role of public works. However, there are historic areas of success in that public works:

• “Gets it done”
• Works well with others
• Knows its resources
• Understands the concept of mitigation and planning

Brian concluded his comments by outlining what he considered the hits and misses of the 2004 and 2005 hurricane seasons.

Dr. Martin Reuss, now retired from the Army Corps of Engineers, provided some historical reflections. Communication, coordination, logistics support and unused plans are things we need to think about. Reuss felt that a perennial problem surrounds contracting in answering the questions: Why? With whom? For what? When? How long? and Who monitors?

Dr. Reuss concluded by identifying what he felt are key national issues:

• The appropriate federal role
• Defining the federal interest
• The appropriate level of risk

This well-attended session wrapped up with a question and answer period where there was good interaction and discussion between the panel and attendees.
Once upon a time, Minnesota elected a professional wrestler as its governor. (Strange but true—and he wasn’t really that bad.) A product of orderly Minneapolis, Jesse Ventura had a hard time navigating his way around St. Paul because the streets were not laid out in an orderly grid that he was used to, as he had explained on the David Letterman Show. St. Paul is a hilly city. We have the Mississippi River bluffs, a few other hills, and a lot of creek gullies that survived development. Hard to fit a rectilinear grid on top of all this. And, St. Paul includes a collection of former villages whose border streets didn’t always match. Some of this knowledge is from the book. Part comes from a lifetime spent (so far) in St. Paul, including a half lifetime working for the St. Paul Public Works Department. I once thought I knew all the streets in the city. Mr. Empson’s book convinces me I don’t.

The book, subtitled *A Guide to the Place Names of St. Paul*, provides over a thousand place descriptions of streets, parks, and other public spaces. Each entry offers a bit of city history, organized by alphabet rather than time, providing a choppy but rather complete history of St. Paul’s development. This may not be a book to read cover to cover, but it is much more than a street naming reference, particularly if you live in or around St. Paul, or did, or wish you did.

The Foreword, Preface, and Acknowledgments contain fascinating lore. The pictures are great. Mr. Empson writes with dry humor, very appealing to St. Paul folks who must cope with cold winters and the Minnesota State Legislature. It is also fun to read entries with a Public Works Department street map handy.

The book is an update of a 1975 edition. This one even names major sewers—a great quality improvement. And, while Empson points out that street names in St. Paul, like those of most cities are “common, predictable and without humor,” there is unique, unexpected and witty information here:

- Capitol Hill was originally called “Angst and Bang” (Fear and Anxiety). Named by German settlers, not Hunter S. Thompson.
- Archbishop John Ireland once proposed combining Minneapolis and St. Paul into one city...named Paulopolis.
- Xee Phaus is the Hmong name for St. Paul.
- A mayor penned a poetic tribute to the demolition of a historic brothel to make way for the city morgue. The poem is in the book.
- Sections within a township are “numbered in a boustrophedon sequence.” Wikipedia and probably all English-speaking surveyors already know this.
- There is a short history of city street paving, entitled “The Bedraggled Harlot.” Read the book to find out why.

For me, reading this book was great fun. But what is here of compelling interest (i.e., worth $19.95) for someone in another city, like for instance, St. Paul, Nebraska, or St. Paul, Texas? How about inside information about a terrific place to visit...as long as you’re coming up anyway to shop at the Mall of America? Or, Garrison Keillor fans might get an idea of what Lake Woebegon might look like if it developed into a bigger city. And, it’s a great way to get to know the host city for the 2007 North American APWA Snow Conference in April.

TOM EGGM, P.E., is former Director of Public Works and City Engineer for St. Paul, Minnesota, and a senior consultant with TKDA, a St. Paul-based engineering, planning, and architectural firm. He is also an APWA Life Member.

Joseph Stromberg
University of Houston

David P. Billington, Donald C. Jackson, and Martin V. Melosi’s *The History of Large Federal Dams: Planning, Design, and Construction in the Era of Big Dams* is a study of large dam construction in the United States sponsored by the U.S. Army Corps of Engineers, the Bureau of Reclamation, and the National Park Service, and published by the Bureau of Reclamation, Department of Interior. The book relates the important history of various dam projects and narrates the history of federal water management through these constructions. The book adds another perspective to the growing historiography of water issues in the United States.

The authors lay out the book in nine large chapters. Most of the information deals with specific projects, but chapter one and chapter nine, both written by Melosi, offer a wider view of the history. Billington and Jackson wrote the remaining chapters. The first chapter discusses the evolution of river improvements spanning the colonial era through the progressive period. The second chapter covers the highly technical engineering history behind dam theory and construction. Chapters three through eight offer case studies of specific dams or regions, mainly in the West. Included in the narrative are Boulder/Hoover Dam, Glen Canyon, Bonneville and Grand Coulee dams, various earthen dams on the Missouri River, the Central Valley Projects, and studies of other large projects in the East. The final chapter offers an environmental overview and critique of the impact of dam construction.

Melosi explains in the first chapter the changing perceptions of water usage. Various demands for water gave way to legal battles over water rights. He describes the differences between riparianism and prior appropriation and their significance to different regions. The courts in the humid regions of the East favored riparianism while in the arid western regions litigators tended to adopt prior appropriation as their standard. Within this discussion Melosi also describes the rise of the Corps of Engineers and the Reclamation Service. He explains that part of the Bureau of Reclamation’s initial responsibility was to irrigate the arid West, and like the majority of the book, chapter one covers mainly the experiences of the western United States more than other regions.

Much of the information within the book is technical. The second chapter, “Theories and competing visions for Concrete Dams,” is the most prevalent example. The chapter discusses the various engineering perspectives surrounding dam construction in detail. It is an important section that helps establish the vocabulary and various techniques that engineers have considered. That information becomes even more useful when applied to the technical discussions in the subsequent case studies. The individual case studies cover strategies employed by engineers to overcome the various pressures associated with dam construction. In the examination of earthen dams on the Missouri, Billington and Jackson use the technical data to show how a specific technology failed.

The case studies make up the majority of the book. I found the case studies on the Boulder Dam and the Central Valley Project enlightening. Both these sections include significant discussions on water rights and the debate surrounding multi-use projects. The Boulder Dam discussion includes a considerable treatment on how the battles over water rights in California, the rise of the American Canal, and other large private interests made the project a reality. The jurisdictional battles between the Corps of Engineers and Reclamation become apparent during the authors’ discussion of the Central Valley Project. This project was a battlefield for the two agencies and over definitions and implementations of multiple-use.

The final chapter ponders the environmental repercussions of large dam projects. Melosi provides the conceptual voice as he argues that an important part of the history of the Bureau of Reclamation and the Corps of Engineers is the environmental damage from dams. The author explains how the rise in resistance to such projects leads to the curtailment of Reclamation’s power. By the 1960s federal agencies could no longer build projects without environmental oversight. People inside and outside government had begun to question the wisdom and need for continued large dam construction. Melosi describes the negative environmental impact of dams on various watersheds, including a decline of fish populations, salinity, silting, and more bucolic considerations. All of these issues were important determinants in limiting further dam construction.

The authors present a useful narrative that covers not only dam construction, but also the politics, debates, and impact of hydraulic development in the United States. *The History of Large Federal Dams* should be useful to any historian of technology, the American West, the Progressive era, environmental history, as well as to engineering scholars.

JOSEPH STROMBERG is an instructional assistant at the University of Houston and is pursuing a doctorate degree in history.
The 4th International Round-Table on European Urban Environmental History in the 19th and 20th Centuries met in Paris November 16-18, 2006. The title for this year’s meeting was Milieu, Material and Materiality of European Cities in the 19th-20th Centuries. According to the program copy: “This year, we have chosen, in the footsteps of Fernand Braudel, to address the question of urban materiality—material that is circulating and undergoing transformation, the built-up environment, infrastructures—and associated practices, whether erudite or profane.”

The event was sponsored by Le Centre d’Histoire des Techniques et de l’Environnement, Conservatoire National des Arts et Métiers (CNAM) and Le Laboratoire Théorie des Mutations Urbaines Centre National de la Recherche Scientifique and Université de Paris 8. Sabine Barles and Andre Guillerme, both experts in urban infrastructure and city services, were the hosts.

Previous Round-Table meetings on urban environmental history were held in Clermont-Ferrand, France (2000), Leicester, England (2002), and Siena, Italy (2004). The next Round-Table will convene in Munich, Germany, in 2008. Past meetings have resulted in proceeding volumes such as Le Demon Moderne/The Modern Demon: La pollution dans les sociétés urbaines et industrielles d’Europe/Pollution in urban and industrial European societies, edited by Christoph Bernhardt and Genevieve Massard-Guilbaud (2002). All of the meetings are conducted in French and English.

As stated in the program, “The conference wishes to be a laboratory for European and therefore international cooperation between researchers and research teams from various disciplines in the field of historical science.”

Several participants at this Round-Table meeting, and at all the previous meetings, have given papers focusing on public works, infrastructure, and city services in European as well as American cities. The meeting in Paris attracted three PWHS members: Joel Tarr, Harold Platt, and Martin Melosi.

Presentations were wide-ranging. Two papers discussed the “urban metabolism” in Vienna and in Paris. Another set focused on the material exchange between urban and rural areas. For example, Andrea Gaynor (Australia) talked about suburban food production in Perth and Melbourne; Dorothee Brantz (USA) discussed meat production in urban areas, and Frank Uekoetter (Germany) analyzed the city as an agricultural resource. More typically linked to public works history were papers on the functions of urban rivers in Québec (Dany Fougères and Stephane Castonguay), and Dieter Schott’s (Germany) fascinating paper on the use of urban bridges in shaping the urban environment; water supply and flooding issues in Barcelona and Florence; sewer problems in France and Italy; and a variety of nuisance questions related to solid wastes. Harold Platt and Peter Thorshelm (USA) approached various aspects of urban planning, as did Gerard Jigaudon (France). One of the most interesting sessions focused on questions of urban sound and urban noise. Olivier Balay and Andre Guillerme (France) looked at urban sound from opposing perspectives, the former attempting to determine changes in urban sounds over time, and the latter focusing on the noise nuisance. Michael Toyka-Seid (Germany) looked at similar issues in Germany.

The opportunities to look at urban environmental issues across national borders is a rare opportunity for historians and other researchers interested in a wide array of issues related to the urban environment. All participants came away with some new ideas and new challenges. Some of the work also may have some real-world applications to current environmental problems.
Public Works History Call for Articles

Contributions to the newsletter are welcome from our members and other readers. The society is looking for articles which focus on topics of interest to both historians and practitioners, such as:

- Historical/preservation activities articles from government agencies, private-sector companies, associations, and individuals with a shared interest in public works history.
- Feature articles on public works events and people of historical interest.
- Reports on projects to preserve historical public works structures and infrastructure.

Feature articles should be 500 to 1,000 words and written in newspaper style (Associated Press Style Book). News briefs should be limited to 100 words or less. All material should be typewritten with a preference for electronic format (Microsoft Word). Authors receive byline recognition for published articles; however, the Society does not generally provide financial compensation for published material. Public Works History is copyrighted by the Public Works Historical Society.

If you are interested in contributing, potential authors can submit articles to: Martin V. Melosi, University of Houston, Dept of History, Houston, TX 77204-0111, e-mail mmelosi@uh.edu.

Announcements APWA Winter 2007

Conferences:

April 22–25, 2007: The 2007 APWA North American Snow Conference will be held at the RiverCentre, St. Paul, Minnesota. For further information please visit www.apwa.net/snow.

June 5–9, 2007: European Society for Environmental History (ESEH) will be held at the Vrije Universiteit (Free University) in Amsterdam. For more information please contact eseh2007@mccm.nl.

October 18–21, 2007: The Society for the History of Technology (SHOT) will hold its annual meeting in Washington, D.C. This is part of SHOT’s two-year fiftieth anniversary celebration and will launch its second half-century around the theme “Looking Back, Looking Beyond.” For further information please go to www.historyoftechnology.org.

September 9–12, 2007: The 2007 APWA International Public Works Congress & Exposition will be held at the Henry B. Gonzales Convention Center in San Antonio, Texas. For further information visit www.apwa.net/congress.

Announcements

Encyclopedia of American Environmental History

Kathleen Brosnan, associate professor of history and research director of the Center for Public History at the University of Houston, is the editor-in-chief of the forthcoming Encyclopedia of American Environmental History to be published by Facts On File in early 2008. Martin Melosi, the Distinguished University Professor, and Joseph Pratt, the Cullen Chair of History and Business, both at the University of Houston, are associate editors.

In four volumes and more than 800 entries, the Encyclopedia of American Environmental History will tell more traditional political, social, and economic narratives from an environmental perspective, while making issues traditionally viewed solely as environmental subjects central to the framework of U.S. history.

The encyclopedia encompasses a broad range of topics and the editors are still seeking contributors to the encyclopedia. Interested parties should send inquiries to eah@mail.uh.edu.
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