

# ***The Antediluvian***

{an · te · dā · lōō · vē · ən: Before the Flood}

## **Ohio's Floodplain Management Newsletter**

**Reduce flood damage and  
protect and promote natu-  
ral functions of floodplains**

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### ***Determined People: How can I be wrong when I know I'm right?***

By Christopher Thoms, CFM—Program Manager

ODNR, Division of Soil and Water Resources—Floodplain Management Program

Knowing a structure's degree of flood risk helps both the owner/renter and their community to better protect the structure from that risk. It is not unusual for property owners to seek in/out determinations from you, their local floodplain official, nor is it unusual for you to provide those determinations. However, their satisfaction with (and successful application of) your answer depends, at least in part, upon which question they're asking and how you qualify your answer.

To further complicate the subject, there are two perfectly appropriate but potentially contrasting constructs from which to consider the in/out determination:

- ◆ *Floodplain Management* New or substantially-altered structures that are in Special Flood Hazard Areas (SFHAs) are subject to local Flood Damage Prevention Regulations (see 44 CFR 60.3).
- ◆ *Flood Insurance* Structures with federally-backed mortgages that are in SFHAs are subject to federal mandatory purchase requirements for flood insurance ([http://www.fema.gov/good\\_guidance/download/10040](http://www.fema.gov/good_guidance/download/10040)).

As a local floodplain manager, you make in/out determinations for all types of development (structural and non-structural) in or near SFHAs to ensure that the appropriate local flood damage reduction standards are applied. Your role in ensuring flood damage reduction for your community is crucial. To accomplish this role, you must:

- ◆ be very familiar with your currently effective *Flood Insurance Study* (FIS) and *Flood Insurance Rate Map* (FIRM), preliminary FIS/ FIRM, Letters of Map Change (LOMCs), and any *best available data* (including surveyors' flood zone determinations) to better inform local development planning,
- ◆ require SFHA-development permits for all SFHA-development based upon the FIS and *best available data* even when the FIRM shows the development to be outside the SFHA.
- ◆ approve compliant development that, based upon the FIS and *best available data* is out of the SFHA even when the FIRM shows the development to be in the SFHA.

Lenders also make in/out determinations (for structures only) to ensure that the loans they control are secured, either in compliance with the federal mandatory purchase requirements for all federally-backed loans or in keeping with the lender's own higher standards that may require flood insurance even when a structure is not touched by an SFHA.

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By federal law, lenders:

- ◆ are not allowed to use local floodplain administrators' or surveyors' flood zone determinations
- ◆ can only rely upon flood determinations based solely upon the currently effective FIRM, and
- ◆ must require flood insurance when the flood determination indicates the insurable building securing the loan is within the SFHA.

Borrowers wanting to contest a lender's requirement to obtain flood insurance should confirm the lender's basis for the requirement. Even if successful in proving the structure is not subject to the federal mandatory purchase requirement, the lender may still legally require flood insurance.

If a lender intentionally requires flood insurance for non-SFHA structures and the borrower chooses to accept the loan, non-SFHA flood insurance should be purchased. Non-SFHA flood insurance is less expensive. Additionally, a non-SFHA structure that has never had a flood damage claim submitted, qualifies for the least expensive type of flood insurance, a *Preferred Risk Policy* (PRP) (see <http://www.fema.gov/pdf/nfip/prodmanual201010/09prp.pdf>). Almost any licensed insurance agent should be able to provide answers about PRP eligibility.

If a lender requires flood insurance for a structure that is shown to be in an SFHA on the currently effective FIRM but not on the preliminary FIRM, they are following federal law that requires flood insurance to be purchased. When (and if) the preliminary FIRM becomes effective, the borrower may have the policy changed (to benefit from the lower rate) or cancelled.

If a lender requires flood insurance based on incorrect information, the borrower may be able to have the determination changed. Most lenders use hazard determination companies to provide these in/out determinations. The lenders then base their decision on the findings in the determination company reports. Many determination companies belong to the National Flood Determination Association (NFDA). The NFDA has established professional standards for their group that can be reviewed at [info@nfda flood.com](mailto:info@nfda flood.com).

The simplest example of an error is when the currently effective FIRM clearly shows the structure to be outside the SFHA. Some lenders mistakenly conclude that the federal mandatory purchase requirement is triggered when a *property* is touched by an SFHA. However, since the requirement only pertains to insurable (federally-backed) mortgaged *structures*, the confusion may be resolved without difficulty. This becomes easier to show with the advent of the photographic layer on the newer countywide FIRMs where, whether the SFHA touches the structure can often be clearly seen. In close calls, where the structure is very close to the SFHA's boundary, the borrower may apply to FEMA for a determination.

A more involved situation is where the currently effective FIRM is in error. However, unlike the local floodplain official, even if the lender knows that the FIRM is in error, they are required to base their determination on the currently effective FIRM. If a preliminary FIRM is in the offing that corrects the error, the borrower may decide to wait for the preliminary FIRM to become effective as discussed above. If no preliminary exists, or the borrower chooses not to wait, errors in the FIRM may be corrected using FEMA's Letter of Map Change (LOMC) process (see <http://www.fema.gov/hazard/map/lomc.shtml>). The appropriate type of LOMC differs with the circumstance and the various LOMC types are a regular feature of articles in *The Antediluvian* (see [http://www.dnr.state.oh.us/Portals/7/pubs/newsltrs/antediluvian/antediluvian\\_XVI\\_2.pdf](http://www.dnr.state.oh.us/Portals/7/pubs/newsltrs/antediluvian/antediluvian_XVI_2.pdf)).

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In either case, you should caution the borrower that the lender may still require flood insurance. Once again, if the borrower chooses to accept the loan, non-SFHA flood insurance should be purchased.

So, while your determination may differ from the lender's, both may be correct. When accurately advising a property owner that their proposed development is incorrectly shown to be touched by an SFHA and therefore not needing a local SFHA-development permit, the lender is accurate in requiring flood insurance. It's smart (and kind) to point out to the borrower how both are correct in their own context.

It's also smart to point out that flood insurance is a benefit rather than an imposition. It benefits:

- ◆ the lenders (which hold security risk in these loans),
- ◆ the Federal Treasury (which insures the lenders),
- ◆ the taxpayers (who fund federal, state, and local disaster assistance), and
- ◆ individual property owners (who are far better off financially than if uninsured and dependant upon disaster assistance).

Finally, regardless of determinations, it's worth pointing out that flood insurance also benefits the property owner/renter of flood prone properties that are near SFHAs. Flood damage is not limited to the regulated flood level (within SFHAs). More than twenty five percent of all flood claims are made for non-SFHA properties ([http://www.fema.gov/plan/prevent/fhm/fmc\\_loma.shtm](http://www.fema.gov/plan/prevent/fhm/fmc_loma.shtm)) and flood insurance may be purchased at lower cost for non-SFHA structures. Knowing a structure's degree of flood risk helps everyone to be better protected from that risk.



### ***Let's Appreciate our Differences: Community Characteristics Should Influence the Selection of Regulatory Standards***

By Kimberly Bitters, CFM—Environmental Specialist

ODNR, Division of Soil and Water Resources—Floodplain Management Program

Ohio floods continue to have the potential for tremendous impacts on people, infrastructure, and the economy. Now is the perfect time to evaluate community vision, needs, and flood risk to determine whether the current regulations and land use plans will provide proper guidance to make the community vision a reality. When it comes to the NFIP, the federal minimum criteria only reduce but do not completely prevent flooding increases. Fortunately, Ohio communities have the authority to adopt higher standards that can prevent advancement of flood stages and reduce the scope of flood damages.

The primary argument against more restrictive regulations is the potential for a negative effect on economic development. When considering the costs and benefits of such regulations, however, both the potential loss of tax base and the long-term economic sustainability gained should be considered. Most "higher standards" continue regulating as opposed to prohibiting development in the floodplain; therefore, the impact should not be considered to significantly reduce land values. Further, adverse impacts to neighboring developments and community and individual savings on avoided damages from increased flood stages should be factored into the analysis. Once all of these factors are considered, it is unlikely that the costs will overshadow the benefits. Don't forget that regulations are only part of the equation for companies determining where they will locate. Ohio communities have the ability to fur-

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ther stimulate growth with economic incentives, training programs to enhance the labor force, and preservation of natural amenities. For these reasons, communities across Ohio have already included a number of higher standards in their flood damage reduction regulations.

To really make a difference, Ohio communities should choose higher standards based on their unique mix of community goals and flood risk. Local officials may already have a pretty good idea of which areas are going to be impacted by flooding. But a more specifically defined risk assessment can help prioritize an action plan and build public support for implementation. To do this we need to both quantify and quantify community flood risk. This means that we need to do some research to identify exactly what and who is at risk including:

**Qualify Risk:**

- ◆ Population
- ◆ Property
- ◆ Business
- ◆ Historic/cultural resources
- ◆ Natural resources
- ◆ Critical facilities
- ◆ Infrastructure
- ◆ Government operations

**Quantify Risk:**

- ◆ # of structures in high risk areas
- ◆ # of lives at risk
- ◆ Cost of potential property damage
- ◆ Probability of occurrence
- ◆ Magnitude of hazard
- ◆ Frequency of hazard

To fully understand who and what is at risk, we will need to consider the unique community characteristics that create flood risk. These characteristics can be defined in five categories: topography, weather patterns, flooding source, flooding history, and development patterns. Some topographic characteristics include high/low gradients, coastal bluffs, and rare features such as karst or sink holes. Weather patterns greatly influence flooding through ice jams and heavy snowmelts. Numerous flooding sources exist in Ohio including riverine, backwater storage, lake, stormwater runoff, sheet flow, and dam break inundation. Flooding history is particularly important to identify and includes information such as historic flood heights; depth and frequency of past floods; location inside or outside of SFHA; and major problem areas such as basements, sewer-backup, or overland flows. Lastly, development patterns should be identified including both the existing state of flooded areas (developed / open space) and suggested future uses for those areas. All of these characteristics together make up the unique community flood risk.

Once the community characteristics have been considered and a solid flood risk assessment has been created, community goals and needs that have been/could be influenced by flood risk should be identified. For example, does the Master Plan call for expanded park space? Revitalize downtown? Attract (and KEEP) large employers? Fill industrial parks? Alleviate flood-based blight? These goals can begin to be addressed both directly and indirectly through more restrictive regulatory standards that proactively or retroactively reduce flood risk and damage.

Since there are numerous regulatory and other mitigation opportunities and limited political support for making changes, prioritization is necessary. The information provided by the risk assessment and community needs/goals should help local officials to identify their specific flooding concerns. These unique flooding concerns will tell us which tools can have the most impact for a specific community. New regulatory standards can be added or existing standards can be modified to account for specific flood risk characteristics. For a detailed discussion of this subject and each of the below higher stan-

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dards, please see Chapter 3 of the *Ohio Floodplain Regulation Criteria* which can be found at <http://www.dnr.state.oh.us/water/tabid/3518/Default.aspx> . The following is a list of higher standards grouped by the main problem that they can begin to remedy. Does your community need to:

A. Protect future structures from increasing flood risk? If so, then consider:

- ◆ Freeboard
- ◆ A Zone Freeboard
- ◆ Future Conditions Mapping
- ◆ Foundation design
- ◆ Cumulative Substantial Damage definition

B. Prevent increases in flood elevation? If so, then consider:

- ◆ Restrictions on Fill
- ◆ Compensatory Storage
- ◆ Stormwater regulations
- ◆ Floodway Rise standard

C. Protect evacuation routes and emergency services? If so, then consider:

- ◆ Dry-land Access
- ◆ 500-year protection of Critical Facilities
- ◆ Subdivision Plat restrictions

D. Protect natural floodplain functions and benefits? If so, then consider:

- ◆ Vegetative Buffer/Setback standards
- ◆ Subdivision requirements (easements)
- ◆ Transfer of Development Rights
- ◆ Restrictions on watercourse alteration

E. Further protect health and safety? If so, then consider:

- ◆ Storage of hazardous materials
- ◆ Erosion/Sedimentation controls
- ◆ Restrictions on Septic Systems and landfills
- ◆ Use restrictions

While regulatory measures can begin to address flooding problems, a more comprehensive approach is recommended. This technique is called No Adverse Impact (NAI) floodplain management. The NAI approach to floodplain management is a strategy to shape development patterns in such a way that avoids adverse impacts. By incorporating NAI principles into these existing community activities, your flood risk can be drastically reduced. The *No Adverse Impact Toolkit* defines seven areas where your community can incorporate the NAI approach including Hazard Identification, Education and Outreach, Planning, Regulations and Standards, Mitigation Actions, Infrastructure, and Emergency Services.

The crucial element of applying the NAI-philosophy is assuming an innovative approach uniquely tailored to your community that strives for plan implementation. To enable the NAI-approach in your community, focus your initial energy on education, comprehensive planning, and regulation updates to enable the necessary change. Educate the public and local decision makers to actively appreciate their power to alter current government spending practices. Such intentional investment can transform our floodplains into profitable amenities.



## ***Development Awareness is Possible in Rural Ohio***

By Sarah Gartland—Floodplain Administrator  
Mahoning County Planning Commission

For many communities, one of the biggest challenges in administering the local floodplain regulations is simply being aware of the development that is occurring. Too often, a shed, house, or even a plaza seemingly appears overnight in a floodplain. Mahoning County often struggles with lack of awareness and “overnight development”. When our community decided to poll other communities on floodplain program fees and administration, I found out that many other communities are struggling with the same problem. I found that just introducing myself as a fellow floodplain administrator made instant friendships and interesting discussions. This article, focuses on methods and systems for development awareness that were relayed to me by other communities over the phone.

The most important step in improving awareness of development is to determine assets available within a community. Our survey of Ohio communities revealed that there are a wide variety of assets available. Some communities have Building Inspection Departments, some have Zoning Departments, and some have neither or both. Almost all communities have some sort of Planning Department for approval of plats, but the other services provided by Planning can vary widely. Road Departments and Engineer’s Offices also provide a basic asset that can be used. In the case of all of these basic community assets, relationships can be established to extend the floodplain administrator’s network of information.

Fulton County has a mix of county zoning, township zoning, and unzoned areas. They have helped fill in the gaps of information by working with township zoning offices. They have also had success by issuing a general permit through the county for any building constructed over 600 square feet, in an effort to track development in unzoned areas. Floodplain maps are available to the townships to increase the effectiveness of their ability to find development in 100-year floodplains. Other counties, such as Lorain and Shelby, have also found it very helpful to visit with townships regularly to remind them about floodplain requirements.

Some communities have gone one step further to create more formalized ways for offices to work together and assure all development is properly permitted before construction begins. Trumbull County has created a digitized system that prevents building permits from being issued until the floodplain maps have been checked and the project has been approved by the floodplain administrator. Their system allows the Building Inspection Department to work with the Planning Commission in a more formalized way, creating digital records for each floodplain review. The City of Athens has a Code Office from which all permits originate, and this code office includes a floodplain check. Should the Code Office determine that a proposed development has floodplain issues, they will not issue a permit until receiving approval from the floodplain administrator.

Assets already available to assist in finding development in Special Flood Hazard Areas may be found in unexpected places. Tuscarawas County Board of Health notifies the county’s floodplain administrator whenever a septic system is proposed near a floodplain. Washington County relies on a weekly printout of new addresses issued by 911, as well as hauling permits issued by the Auditor’s Office to find new manufactured homes.

Cooperation between government agencies is a convenient, ready-made avenue of increasing awareness of local development activity. Another great source of information is private citizens who are educated on the local floodplain regulations. These citizens can be extremely effective defenders of

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floodplain safety. Many times, their concerned phone calls are the fastest source of information. Increasing public awareness is as simple as distributing brochures, having a public presence at community events, getting information online, or sending an occasional letter to the editor in the local paper.

Really creative thinking can produce creative solutions. In some parts of the state, private companies such as electrical contractors or utility companies will readily try to comply with regulations when they are aware of them. Building a relationship with this industry can also lead to receiving reliable information from all parts of the community. Another helpful organization to work with is the local Homebuilders Association, who can help with educating the community as well as keeping officials informed of proposed projects. Even if there is a shortage of other agencies to connect with, there is still the possibility of connecting with property owners. To accomplish this, resources can be placed on file with the local library system. The local county fairs often welcome government agencies looking to educate the public. Grants are available from many sources for advertisements such as billboards or radio commercials. Insurance agents, realtors, and contractors would welcome information regarding state and federal sponsored educational opportunities that discuss the NFIP and how it affects their industry.

Regardless of a community's assets, the key to being aware of floodplain development in your community can be summed up as communication and education. Establishing a presence and relationships throughout the community not only helps increase awareness of unpermitted activity, it minimizes the amount of development that occurs by someone unaware of the proper permits.

### ***Do You Hear Me Now?***

Christopher M. Thoms, CFM Program Manager  
ODNR, Division of Soil and Water Resources—Floodplain Management Program

I enjoy words. I search out the meanings and histories of words, both common and exotic; much like a gourmet chef collects various ingredients. Some words form the basic ingredients of a sentence, the meat of the message. Others are the spices; words that allow the audience to sense the sounds, smell, and textures of the story. Like our diets, our vocabularies reflect personal tastes and backgrounds. There are those, who like the pre-reformed Scrooge, prefer their words few and unadorned, a verbal gruel. There are others, who like Alice passing through the looking glass, consume anything set before them and are found speaking *Jabberwocky*. Happily, most of us fall in between those extremes. A humorous example of the latter comes from the dark ages of my undergraduate days when in a pamphlet, promoting their school, a college complained,

*...that higher education is enmeshed in a congeries of social and political change; the field of the humanities suffers from a surfeit of leeching, its blood drawn out by verbalism, explication of text, Alexandrian scholasticism, and the exquisite preciousities and pretentiousness of contemporary literary criticism; that a formal curriculum of academic substance and sequence should not be expected to contain mirabilia which will bring all the educative ends to pass, and that any formal curriculum should contain a high frangibility factor...*

They went on, but I will not. Very roughly translated, the message was that:  
*in a changing society, education suffers from meaningless explanations but no one course of study should be expected to solve all problems of education.*

Ironically, their complaint about lack of clarity was very unclear because their verbal seasoning overwhelmed the meat of their message. Words can inform or confuse; they can inspire or bore. The words we choose can enable or hinder us in communicating our message and fulfilling our mission. I prefer more verbal seasoning than some, some prefer almost none. Happily, most of us fall in between the extremes.



By Christopher Thoms, CFM—Program Manager  
ODNR, Division of Soil and Water Resources—Floodplain Management Program

We are sad to report that Donald E. Walters (age 62) succumbed to cancer Tuesday, August 17<sup>th</sup> at his home.

For the last twelve years, Don served as Floodplain Manager for the Village of Russells Point, the Logan County village on the southern shores of Indian Lake and west bank of the Great Miami River.

Born in Bellefontaine, Don was a lifelong area resident. He is survived by his step grandson, stepson, stepdaughter and his wife of 30 years, Carol. Don attended Indian Lake High School and was a Navy veteran serving in Vietnam. He was reputed to be an excellent cook and appropriately enough, as the former owner of Honda Harley-Davidson of Bellefontaine, was a motorcyclist. Well-suited to his lakeside community, Don also enjoyed fishing and boating.



Many of you may know Don from his participation with Ohio Code Enforcement Officials Association or through the State Floodplain Management Conference, where he was regularly in attendance. Like many local officials, only after Don took a job as Zoning and Building Inspector did he find out that he was also the village's floodplain administrator. Upon that discovery, he contacted our office for support and training and was an infrequent, but regular caller to our office ever since. Ever a voice for village vitality, Don was a member of the Indian Lake Development Corporation (supporting the Indian Lake State Park) and dogged in his pursuit of compliance with the village's flood safety regulations; often in the face of stiff opposition. In post-flood response training, our office features Don's successful efforts in obtaining flood risk mitigation assistance for village residents through federal buyouts of several repetitive loss properties following the July 2003 flood.

We will all miss Don's unassuming dedication. We extend our deepest sympathies to his family and other friends. You may send condolences via: [condlences@shoffstallfuneralhome.com](mailto:condlences@shoffstallfuneralhome.com).



## Community “Smart Growth” for Floodplains and Wetlands

By Jon Kusler, PhD, Esq.<sup>1</sup>

Association of State Wetland Managers

[Editor’s Note: Below is the abstract from the May 2009 draft white paper published in this newsletter with permission from Dr. Kusler.]

Over the last several decades, communities have adopted a variety of floodplain management measures to reduce flood losses and protect floodplain and wetland natural and beneficial values. However, these efforts have been only partially successful. For “smart growth”, communities need to better safeguard the health and economic well being of their citizens from flood, erosion and related risks. It is not enough to do what was considered satisfactory a decade ago. They need to rethink and reorient their flood loss reduction efforts to simultaneously both reduce flood losses and protect and restore floodplain natural and beneficial functions.<sup>2</sup> Floodplain and wetland natural and beneficial functions continue to be degraded by fills, drainage, water pollution, tree-cutting and other vegetation removal, public infrastructure development, and a broad range of development activities<sup>3</sup>.



Picture of Kalamazoo River in Michigan.  
Picture found on 9/1/10 at <http://www.epa.gov/glnpo/aoc/kalriv.html>

For smart growth, communities need more specifically to:

- ◆ Concentrate development on uplands and keep it out of floodplain, riparian, and wetland areas to reduce flood losses, protect natural and beneficial functions, and achieve infrastructure and other transportation efficiencies.
- ◆ Control urban development including infrastructure consistent with the full range of flood hazard risk factors including those exacerbated by climate change (e.g., sea level rise) not simply depth of water.
- ◆ Address residual flood risks from levees and other structural floodplain management measures.
- ◆ Better coordinate floodplain, wetland, riparian area, and other resource protection and management efforts.
- ◆ Address flooding not only along main stem rivers but other locations throughout a community.
- ◆ Address water quality as well as quantity from nonpoint as well as point sources (e.g., stormwater).
- ◆ Adopt more definitive community goals and standards including a “no adverse impact” flood hazard standard and an explicit no adverse impact floodplain, riparian and wetland ecosystem protection standard.
- ◆ Rethink and reorient ecosystem management efforts to consider not only the acreage but the condition of wetland and floodplain-related ecosystems.
- ◆ Acquire more accurate flood maps tailored to specific community flood threats and reflecting future watershed conditions.
- ◆ Acquire more accurate wetland and riparian maps.
- ◆ Undertake multiobjective land and water use planning with flood loss reduction and ecosystem protection and restoration objectives including pre and post disaster mitigation planning.
- ◆ Construct structural measures such as dams and levees only as a last resort to protect existing development and not to allow new development in the floodplain.
- ◆ Take measures to reduce potential community liability from law suits based upon flooding or ero-

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sion damage. Restore floodplains, wetlands, riparian area.

- ◆ Approach with care the use of wetland, floodplain, and riparian area “mitigation banks”.
- ◆ Address climate change and sea level rise through various low risk measures such as consolidating development on upland areas.
- ◆ Reevaluate and update flood loss reduction and protection of natural and beneficial function efforts over time.

<sup>1</sup>Jon Kusler has a law degree, water resources management master’s degree, and an interdisciplinary Ph.D. from the University of Wisconsin. He was co-founder of both the Association of State Floodplain Managers and the Association of State Wetland Managers. He has worked with these organizations and others as a lawyer, planner, and in a variety of other capacities for three decades.

<sup>2</sup>See Report for Congress by the Task Force On the Natural and Beneficial Functions of the Floodplain (2002), *The Natural and Beneficial Functions of Floodplains, Reducing Flood Losses by Protecting and Restoring the Environment*. See <http://www.fema.gov/library/viewRecord.do?id=1546>. See also the Water Resources Development Act of 2007 (HR 1495) which provides with regard to water resources Principles and Guidelines (Sec. 2031) that (a) ...It is the policy of the United States that all water resources projects should reflect national priorities, encourage economic development, and protect the environment by—

- “(1) seeking to maximize sustainable economic development;
- (2) seeking to avoid the unwise use of floodplains and flood-prone areas and minimizing the adverse impacts and vulnerabilities in any case in which a floodplain or flood-prone area must be used; and
- (3) protecting and restoring the functions of natural systems and mitigating any unavoidable damage to natural systems (emphasis added.)”

<sup>3</sup>See U.S. EPA, Wetlands, Status and Trends 2008 which estimated that “between 1986 and 1997, an estimated 58,500 acres of wetlands were lost each year in the conterminous United States.” See Dahl, (1990) *Wetland Losses in the United States from the 1780’s to the 1980’s. National Wetland Inventory*, U.S. Geological Survey.

## Documentation for 2-Year PRP Eligibility Extension

FEMA is asking local floodplain officials to provide information to property owners to help them find out if they qualify for the new Preferred Risk Policy (PRP) extension. This applies only for those properties that were newly designated as being in a Special Flood Hazard Area (SFHA) as a result of a flood map revision that is effective on or after October 1, 2008. Property owners are encouraged to have their insurance agent use this information to determine if they qualify. If so, property owners should maintain a copy of the prior FIRM.

The required information includes: 1) Property Owner’s name, 2) address, 3) Whether building is residential or nonresidential, 4) Date, 5) Community Number, 6) Panel, 7) Suffix, and 8) Flood Zone (all from the prior FIRM), and 9) Community Official’s name, 10) title, 11) phone, and 12) signature with 13) date signed. Additional comments are optional.

## **Structural Elevation in SFHA: What does it really mean?**

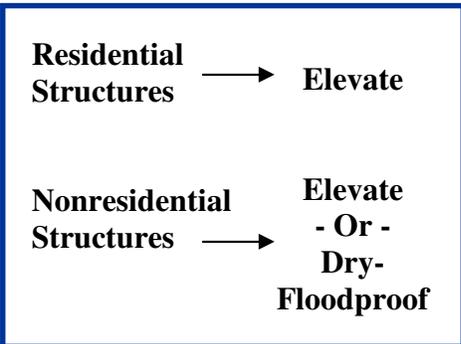
By Kimberly Bitters, CFM—Environmental Specialist  
 ODNR, Division of Soil and Water Resources—Floodplain Management Program

If you ask most Floodplain Administrators in Ohio to pull from memory one of the safety standards required for building a structure in the regulatory floodplain you will often get a quick answer “ELEVATION!” accompanied with a self-assured smile because they feel confident that they got the right answer. And, they did answer correctly. (*I would have also taken anchoring, utility protection, flood-resistant methods and materials, or something along the lines of maintaining carrying capacity or ensuring no increase in base flood elevation in floodways as correct answers.*) However, knowing that this standard exists and understanding the details of how to apply it are not always the same thing. That’s because there are a number of differences in the standard depending on the use and design type of the structure as well as a few complexities based upon the information that has been provided by FEMA for the particular stream reach. Let’s start our discussion with the simplest subject (residential versus Nonresidential standards) and move through the details towards our most difficult subject (identifying the appropriate “lowest floor” elevation).

### **Residential vs. Nonresidential Elevation Standard**

The flood safety standards are identical for residential and nonresidential (industrial, commercial, *etc.*) except for the elevation standard. The difference between these two categories is that the lowest floor of residential structures must be elevated to the flood protection elevation while the lowest floor of nonresidential structures may be either elevated or dry-floodprotected to the flood protection elevation. Please see *FEMA 102*, the guidebook that provides details on FEMA’s expectations for dry-floodproofing design. Manufactured Homes (outside of MH parks) are held to whichever standard is appropriate based upon their primary use and purpose.

*Please note: Nonresidential structures that use dry-floodproofing to meet the elevation standard will receive a penalty flood insurance rate for minimally compliant design. To receive the reduction in premiums commensurate with a structure that had been similarly elevated the structure’s dry-floodproofing must be one foot above the base flood elevation.*



### **Standards for Particular Development Types**

While the residential/nonresidential elevation standard is fairly straightforward, we must move into slightly muddy territory with some additional details for special circumstances of the elevation standard. These special circumstances apply to both residential and nonresidential structures and include three important subjects: Recreational Vehicles, Accessory Structures, and Subdivision and Large Lot Developments.

#### **◆ Recreational Vehicles (RV)**

RVs as clearly defined in these regulations warrant special attention due to the fact that they are sometimes treated differently than trailers and manufactured homes. While trailers and manufactured homes are always expected to meet the elevation or dry-floodproofing standards (depending on whether they are considered residential or nonresidential) RVs can sometimes be exempt. If an RV is located on a site for less than 180 days or it is kept “fully licensed and highway ready” it is considered to be exempt from the elevation requirement. However, if the RV does not meet one or the other of these options then it should be regulated just like any other permanent structure.

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#### ◆ **Accessory Structures**

We normally consider an accessory structure to be any shed or small garage; however, the flood regulations are a bit more specific. To obtain the regulatory relief afforded an accessory structure it must be less than 600 square feet in size, not be used for human habitation, and there must be a principle structure on the same lot. If the structure meets these three tests then it can be given a limited relief to the elevation requirement only. The key here is that the relief is *limited* because the structure must have openings that meet the wet-floodproofing requirements of *Technical Bulletin 1*. That also means that all of the other flood safety requirements including anchoring, utility protection, and flood resistant materials must be met.

#### ◆ **Subdivision and Large Lot Developments**

Any development that includes more than 50 lots or is larger than 5 acres is subject to an additional requirement. This requirement applies only when the Flood Insurance Rate Map does not provide a *Base Flood Elevation (BFE)* for the stream reach in question. If a development falls into this category then the applicant is responsible for generating a BFE and then elevating or dry-floodprotecting the proposed structures to that BFE.

#### **Identifying the Lowest Floor**

Maybe one of the most difficult tasks in applying the elevation requirement is identifying the elevation of the “lowest floor” for a structure. To begin our most difficult subject for applying the elevation standard we’ll need to clarify the definition of a few terms:

##### **Basement:**

**Any area of the building having its floor subgrade (below ground level) on all sides.**

*Please note: This is different than the definition found in building codes because crawl space and any other area that is subgrade on ALL sides is included.*

##### **Lowest Floor:**

**The lowest floor of the lowest enclosed area (including basement) of a structure.**

*Please note: This definition excludes an “enclosure below the lowest floor” which is an unfinished or flood resistant enclosure usable solely for parking of vehicles, building access or storage, in an area other than a basement area, provided that such enclosure is built in accordance with the applicable design requirements specified for enclosures below the lowest floor.*

These definitions clearly tell us all enclosed areas that are subgrade on all sides (even those that we normally call crawlspaces) must be included in our identification of “Lowest Floor” for compliance purposes. So simple designs including slab-on-grade and anything with a sub-grade crawlspace or basement is pretty easy to pick out the “lowest floor.” However, it’s those pesky hybrid designs such as split-levels, those with one side built into a hillside, structures elevated on some type of stilts, and especially the ones that include an *Enclosure Below Lowest Floor* that can get a lot more complex.

An *Enclosure Below Lowest Floor (EBLF)* is an enclosed area that is above-grade on at least one side and is used for parking, access, or storage only. That means that if the enclosure has been “finished” with drywall or some other material to be used as livable area it cannot be considered an *EBLF*.

*(Continued on page 13)*

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To be considered an *EBLF* it must also meet one of two options for design criteria:

- Be designed and certified by a professional engineer to equalize flood forces by entry/exit of floodwaters; or
- Have automatic openings that meet the following (as described by TB 1-93):
  - Located on at least two walls
  - Net area not less than 1 square inch for every square foot of enclosed area
  - Bottom no more than 1 foot above grade

In the event that all of the design and use requirements are met—meaning there is an honest-to-goodness *Enclosure Below Lowest Floor*—then the elevation of the “next higher floor” should be considered to be “Lowest Floor” for compliance purposes. Essentially, the *EBLF* just alters which level is considered lowest floor. To accommodate these differences in design that dictate the appropriate “lowest floor” elevation FEMA has provided a set of diagrams in the *Elevation Certificate* that help us visualize and then document the differences.

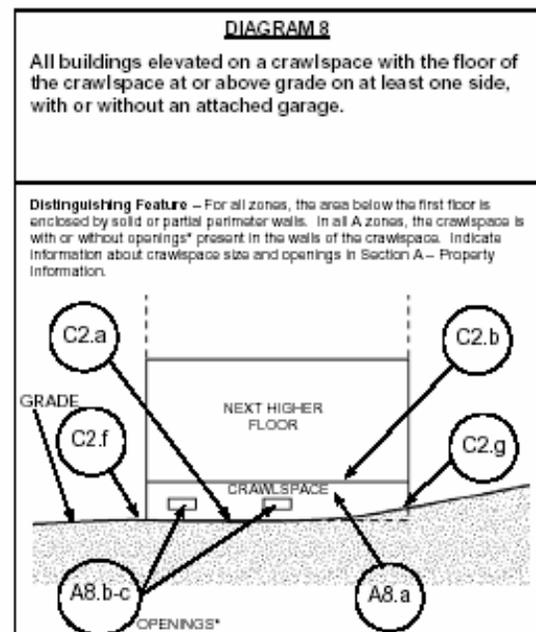
### **Application of the Elevation Requirement**

This brings us to our ultimate goal of applying the elevation requirement. Let’s discuss a straightforward residential example where the base flood elevation is known. We know that the requirement in this situation is for the “lowest floor” to be elevated above the base flood elevation. To determine whether the structure has been built compliantly, we take a look at the Elevation Certificate (EC) and key in on a few items. Assuming that we are looking at the most recent version of FEMA’s EC, we will ask the following questions to get started:

1. Is the Building Diagram Number (found as item A7) appropriate based upon the attached photos?
2. If there are openings indicated (found as item A8 and/or A9), is the number of square inches of openings sufficient for the number of square feet of the enclosure?
3. Are the BFE (found in Section B) and the building elevations (found in Section C) both of the same datum? If not, then what is the conversion factor to be used so that they can be compared?

Once all of the above-noted questions have been cleared up, we use the appropriate building diagram number to determine which level should be considered “lowest floor”. The building diagram levels are denoted by letters that correspond to the elevations provided in Section C2.a through C2.h on the *EC*. In the example building diagram shown here (assuming that the openings are of sufficient size and location) the “lowest floor” for this structure should be the level denoted by C2.b. So, we find the elevation shown on the form that corresponds to C2.b and compare it to the base flood elevation (found as item B9). If the elevation in C2.b (which is now considered our “lowest floor”) is higher than the base flood elevation then the structure has met the elevation requirement. To summarize:

1. Use the building diagram to determine which level is the appropriate “lowest floor” elevation
2. Obtain the lowest floor elevation from the appropriate elevation found in Section C2.a—h.
3. Obtain the base flood elevation from Section B9
4. Determine whether the structure has been properly elevated by comparing the lowest floor elevation to the base flood elevation.



## ***Understanding What Makes an Appropriate Floodplain Variance***

By Matt Leshner, CFM—Environmental Specialist

ODNR, Division of Soil and Water Resources—Floodplain Management Program

Communities approve variances to remove the requirement to comply with some performance standards of the local regulations. In general the issuance of variances may not appear to have much impact on the citizens, businesses and the community as a whole. However, in the National Flood Insurance Program, variances in relief from the floodplain regulations can have much larger ramifications to individuals, businesses and the community. Individuals who apply for variances from the floodplain regulations are seeking an avenue in which not to comply with the regulations. They are knowingly putting themselves at an increased risk to suffer damage from flooding and creating an adverse impact onto the community. If a community has a history of issuing improper variances then participation in the NFIP can be in jeopardy. In order to assist communities in knowing what criteria should be reviewed to determine if a variance is appropriate. FEMA has published variance guidelines. Below is an explanation of the criteria that should be evaluated when a community is reviewing a variance request.

### *Exceptional hardship*

One of the critical components of a variance is an exceptional hardship. Within the NFIP, the term exceptional hardship takes on unique meaning by referring to the physical characteristics of the lot where the development is occurring. An exceptional hardship can only be allowed when the physical characteristics would make it difficult to comply with the floodplain regulations. It is not based on convenience factors for the property owner or financial implications based on the cost to make the development compliant with the floodplain regulations.

### *Good and sufficient cause*

By granting a variance based on good and sufficient cause there is substantial benefit to be achieved by multiple citizens or the community as a whole. Inconvenience, aesthetics, physical handicaps, personal preferences, *etc.*, are not considered good and sufficient causes. In order for a good and sufficient cause to occur there must be evidence of an exceptional hardship, which is based on the physical characteristics of the lot.

### *Threats to public safety*

Variances must not result in additional threat to public safety. The intent of the floodplain regulations is to reduce the risk to people and property. The safety factor should also take into account the emergency service personnel. These individuals are also put at increased risk if they have to attempt to rescue people who are in danger as a result of being granted a variance.

### *Extraordinary public expense*

An example of extraordinary public expense is the repair or replacement of public facilities and infrastructure damaged because the variance was issued. There is also the cost associated with emergency floodproofing measures such as sandbags and temporary floodwalls built with public funds for a structure that receives the variance. In some instances the community endures the cost of demolishing a structure that has been abandoned after a flood, which suffered increased damage due to the variance allowing the lowest floor to be below the flood elevation. This instance should be taken into account when reviewing the possible expense to the public.

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### *Cause fraud on or victimization of public*

When considering a variance request local officials should consider if granting the variance has potential to cause victimization of their citizens who unknowingly are placed at an increase risk to flooding. One example of this would be granting a variance from the elevation or floodproofing requirement for a self-storage facility. Individuals may be unaware their possessions are at risk to flooding in the storage facility and may have no financial recourse if their possessions are damaged from flood waters.

### *Historical structures*

One common request for variances is for historic structures. The NFIP provides special treatment for such structures to ensure they comply with the criteria of the Historic Preservation Act of 1966 while encouraging flood risk reduction. There are two provisions made for structures that are on the National Park Service's ***National Register of Historic Places***.

First, historic structures on the ***National Register*** are not subject to the substantial alteration provisions of local flood damage prevention regulations. As a result, as long as the structure maintains its standing on the ***National Register*** they are only subject to Pre-FIRM standards. They may also obtain less expensive (Pre-FIRM) flood insurance as long as they maintain their designation. Though not mandated, local officials and owners of historic structures should consider flood risk mitigation measures particularly when those structures are rehabilitated or are repaired. All structures and alterations, including additions to historic structures, must comply with the floodway encroachment provisions of 44 CFR §60.3(c)(10) and (d)(3). Finally, if the structure loses its designation, it no longer qualifies for the exemption and may be required to meet local flood damage prevention standards.

Second, though not required, owners of historic structures may choose to meet all or some of the local flood safety standards while maintaining the historic designation. One reason for choosing this second option is to qualify for Increased Cost of Compliance (ICC) coverage. ICC is not available to an historic structure using the first option. ICC coverage helps pay for the cost to comply with local flood damage prevention regulations after a direct physical flood loss up to \$30,000 for the cost to elevate, floodproof, demolish, or relocate the building. However, an exempt structure has no compliance required so ICC is never triggered. If the historic structure goes through the local variance process, ICC is available if the structure is declared substantially or repetitively damaged. The variance is issued for the repair or rehabilitation work so as not to otherwise jeopardize the structure's designation on the National Register.

For more information concerning historic structures see Floodplain Management Bulletin ***Historic Structures*** (FEMA P-467-2 rev. May 2008) at:

[http://search.fema.gov/search?q=May+2008+Historic+Structures&sort=date%3AD%3AL%3Ad1&output=xml\\_no\\_dtd&ie=UTF-8&oe=UTF-8&client=fema&proxystylesheet=fema&site=fema](http://search.fema.gov/search?q=May+2008+Historic+Structures&sort=date%3AD%3AL%3Ad1&output=xml_no_dtd&ie=UTF-8&oe=UTF-8&client=fema&proxystylesheet=fema&site=fema)

### *Dependent use*

Variances can be issued for new construction or substantial improvements for development that is functionally dependent on being near or on the water. Dependent use facilities consist of docking facilities for loading and unloading cargo and passengers, and shipbuilding and repair facilities. However, this does not include long-term storage of materials. Materials and accessory structures must be stored and built in compliance with the local floodplain regulations.

Issuing a floodplain variance can have severe ramifications for individuals as well as the community's participation in the NFIP. Make sure any variance your community issues is in the best interest of your citizens and the betterment of your community. The guidelines mentioned above can be very useful in determining if a variance is an appropriate action for your community.





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However, while a township may regulate floodplains and may even enforce its county's NFIP-compliant permit requirements, the township lacks sufficient *Home Rule* authority to join or leave the NFIP apart from their county. Ohio's Constitution (Article XVIII) recognizes full Home Rule authority for municipalities while the Ohio Revised Code (Chapter 504) offers limited Home Rule to qualified townships. A municipality may do most anything the constitution does not prohibit. By contrast, counties (and subsequently townships) are limited to only what our constitution specifically empowers. The more limited township home rule authority is a creature of the ORC and may be amended or rescinded by the General Assembly. As such, a township participates in the NFIP as part of its county under the county's express authority (ORC [§307.37](#)).

In some states with differently drawn constitutions, townships are provided sufficient authority to independently participate in the NFIP. That is probably why, when (many years ago) some Ohio townships did apply to join the NFIP, FEMA accepted their applications. When the error was discovered, FEMA suspended those townships. This aberration periodically resurfaces and we are usually asked by the local official or property owner to intervene because they are told that they are in a "suspended" township and thereby ineligible to purchase federal flood insurance since they live in a sanctioned community, despite that they live in the unincorporated portion of a participating county. In the end, the property owner obtains the flood insurance they were seeking.

A county may arrange with township officials to have township officials enforce the county's resolution, but a county cannot authorize a township to independently participate in or leave the NFIP. A township may adopt and enforce flood safety standards over and above the county's flood damage prevention resolution, as long as the township does not seek to enforce a standard contrary to the county's resolution (*i.e.*, a lower standard). Of Ohio's 88 counties, only Harden and Highland, with their 32 townships, do not currently participate in the NFIP. All the townships in the rest of the State, do enjoy the benefits of NFIP-participation.

### **2011 Ohio Statewide Floodplain Management Conference Call for Abstracts**

The 2011 Ohio Statewide Floodplain Management Conference Call for Abstracts will be opened on November 1, 2010. Please visit [www.ofma.org](http://www.ofma.org) to access all related information.

### **Regional Certified Floodplain Manager (CFM) Exam**

OFMA will be offering the CFM exam on October 6, 2010 from 1:00-4:00pm at 470 Center Street, Building 8-C, Chardon, OH 44024. The exam will be held in the meeting room. Visit [www.ofma.org](http://www.ofma.org) for exam dates and locations in 2011.

### **Save the Date!**

The 2011 Ohio Statewide Floodplain Management Conference will be held in August at the Doubletree Hotel Columbus/Worthington. The Conference Brochure will be released in Spring 2011. Visit <http://www.dnr.state.oh.us/tabid/17934/Default.aspx> for all conference information!

## ***OFMA Update***

By Alicia Silverio, CFM—Senior Environmental Specialist  
ODNR, Division of Soil and Water Resources—Floodplain Management Program

### **2010 Ohio Statewide Floodplain Management Conference**

On August 11-12, 2010, the Ohio Floodplain Management Association (OFMA), Federal Emergency Management Agency (FEMA), and Ohio Department of Natural Resources (ODNR) coordinated the eleventh annual Ohio Statewide Floodplain Management Conference at The Doubletree Hotel, Columbus/Worthington. The conference theme, “Integrating the NFIP and Risk Awareness for Flood Hazard Reduction”, guided the agenda and addressed management of flood hazard risk throughout Ohio. The conference featured Mr. Bruce Bender of Bender Consulting Services as the Keynote Speaker. His presentation focused on the conference theme as he examined risk awareness, perception, and communication as it related to floodplain management.

The conference convened with around 190 public and private sector professionals to learn about the most current issues in floodplain management. With over three tracks of sessions, attendees learned about floodplain management regulations, risk management, mitigation, levees, floodplain mapping, flood insurance, watershed management, and much more. The conference also offered a three day HEC-RAS training for engineers as well as the Certified Floodplain Manager (CFM) Refresher Course for those preparing to take the CFM Exam. OFMA also proctored the CFM exam on August 12<sup>th</sup> for four individuals.

Credits to support professional development were available for conference attendees. Twelve Continuing Education Credits (CECs) have been allocated by the Association of State Floodplain Managers (ASFPM) toward CFM accreditation for two days attendance (six/day); the Board of Building Standards (BBS) has granted eight (8) hours for two days attendance for the BO, MPE, PPE, EPE, BI, MI, ESI, RBO, RPE, RBI, RPI disciplines (Approval # BBS-2007-712); and fourteen Professional Development Hours (PDH)s were awarded for two days attendance. Please visit the OFMA website at [www.ofma.org](http://www.ofma.org) for information on upcoming trainings, examinations, and events.

OFMA also held its fourth annual golf outing on August 13<sup>th</sup> at Wyandot Golf Course in Centerburg, Ohio. The daylong networking event drew 49 players of varying skill levels. In addition to proximity games, players tested their golf skills through a series of putting challenges designed to keep the game fun for all.

### **Thank You for Your Support!**

OFMA would like to extend its sincerest thanks to the following:

- **FEMA** for providing support and funding to enable coordination of the Statewide Conference.
- **2010 Conference Planning Committee** for all their time, effort, and dedication.
- the **Presenters** for all their work to prepare and convey information to conference attendees with the purpose of promoting wise and effective floodplain management throughout Ohio.
- the **Exhibitors** [United States Geological Survey, Water Management Association of Ohio, Federal Emergency Management Agency, National Flood Insurance Program (NFIP), and the 2011 ASFPM Conference Planning Committee] for sharing their expertise and resources with conference participants.
- the **Attendees** for their time and effort to learn how to improve flood damage prevention throughout their communities.

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OFMA would also like to thank its Sponsors for the support of the 2010 Ohio Statewide Floodplain Management Conference:

<p><b>Platinum:</b>  Michael Baker Jr., Inc.  Stantec Consulting Services, Inc.</p>	<p><b>Gold:</b>  AMEC Earth &amp; Environmental, Inc.  CT Consultants, Inc.</p>
<p><b>Silver:</b>  Burgess &amp; Niple  Engineered Concrete Structures  ms consultants, inc.</p>	<p><b>Bronze:</b>  CDM  DLZ Corp.  StormTech  Smart Vent  URS Corp.</p>

### OFMA Recognition Awards

At the Ohio Statewide Floodplain Management Conference, OFMA acknowledges individuals for their dedication and service in floodplain management by presenting Recognition Awards. The OFMA Awards Committee solicits nominations throughout the year, to identify extraordinary individuals and or programs for their professionalism, enthusiasm, and support for floodplain management. The Committee reviews the nominations and selects recipients based on the award criteria. Congratulations to the 2010 OFMA Recognition Award Recipients:

- ◆ ***Floodplain Administrator of the Year*** was awarded to Paul Freedman (City of Columbus)
- ◆ ***Award for Innovation in Floodplain Management*** was awarded to Frank Castelli (City of Middleburg Heights)
- ◆ ***Distinguished Member Service*** was awarded to Mike Mihalisin (Geauga County Building Department), Chad Berginnis, (Michael Baker Jr., Inc.), Jerry Brems (Licking County Planning Commission), and Fred Fowler (Delaware County Code Compliance) for their service to the OFMA Executive Board.
- ◆ ***Certificate of Appreciation*** was presented to Shawn Arden for redevelopment of the OFMA Website.

### 2010-2011 Ohio Floodplain Management Association (OFMA) Board

OFMA's annual election of officers was held at the 2010 Ohio Statewide Floodplain Conference. The newly elected Executive Board is:

Chairman: Shawn Arden, PE, CFM  
Vice-Chairman: Alicia Silverio, CFM  
Secretary: Cindy Crecelius, CFM  
Treasurer: Tadd Henson, PE, CFM  
Member-At-Large: Duane Matlack, CBO  
Member-At-Large: Jim Mickey, CFM

Member-At-Large: Randy Pore, CFM  
Member-At-Large: Todd Richard, CFM  
Member-At-Large: Renee VanSickle, CFM  
Member-At-Large: Matt Whitehead  
ODNR Representative: Christopher Thoms, CFM  
Past Chair: Mike Mihalisin, CBO, CFM



# The Antediluvian

## Ohio's Floodplain Management Newsletter

Division of Soil and Water Resources  
2045 Morse Road, B-2  
Columbus, Ohio 43229

Ted Strickland, Governor  
Sean D. Logan, Director  
David Hanselmann, Chief

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## 2011 ASFPM Conference in Louisville, Kentucky!

If you haven't had the opportunity to attend the ASFPM National conference yet, 2011 just may be your year! The 2011 ASFPM Conference will be held on May 15 - 20, 2011 at the Galt House Hotel & Suites in Louisville, Kentucky. The national conference offers multiple tracks, workshops, technical field tours, and networking events. Attendees range from community, state, and federal floodplain managers to consulting firms and product vendors.

Since the Ohio Floodplain Management Association (OFMA) is assisting with the coordination of the 2011 ASFPM Conference, Community Officials from Ohio will be able to register for the conference at a significantly reduced rate. Anyone wishing to volunteer at the conference can sign up at: <http://www.kymitigation.org/ASFPM.html> . Please visit [www.floods.org](http://www.floods.org) for more information about the conference and registration.