
Floodplain Management Today

Who Lives in Nebraska Floodplains?

By Mitch Paine, CFM

During 2016, NeDNR analyzed Nebraska floodplains in order to answer the question “who lives in floodplains?” Having an answer can help plan for flooding, identify vulnerable populations, and prepare for a smoother recovery process. The answer to that question proved surprising and concerning. After examining communities across the state, we found that floodplains play host to a far greater percentage of renters and that people living in floodplains are twice as likely to be Hispanic.

Our analysis focused on comparing Census blocks in the floodplain versus those not in the floodplain within certain communities. We looked at three main components of Census blocks: housing, household structure, and demographics. These components give us a better idea of the structure of the population and how they live within Nebraska’s flood risk areas.

Unique Characteristics of Flooding

Flooding is a unique hazard and affects people and their communities in ways that other natural hazards do not. Flooding causes long-term damage to homes and often to many homes at once. Families may be displaced for months far away from their neighborhoods, schools, and friends. The flooding itself may last for a long period of time too, complicating and delaying clean-up. These characteristics make recovery difficult for those with certain family or living situations. Single parents, for example, will have to juggle maintaining a job, caring for their children, and dealing with a flooded house all at the same time.

Also, many people do not take flooding seriously and have a bias to ignore the risk. Since flooding happens relatively infrequently, many choose to not believe it will happen to them. Thus, far too few people voluntarily purchase flood insurance, which can protect a person’s property from flood damage. Flood insurance also is difficult to understand and deal with, and many people assume that the government will ultimately pay for their property damage. Financial vulnerability to flood damage should concern floodplain managers everywhere.

All of our roles in floodplain management include building community resilience and ensuring that recovery after a flood happens smoothly and quickly. Resilience, in part, means that nobody falls *further* or *more often* than anyone else during disasters. Knowing who lives in flood risk zones can help us make more resilient communities.

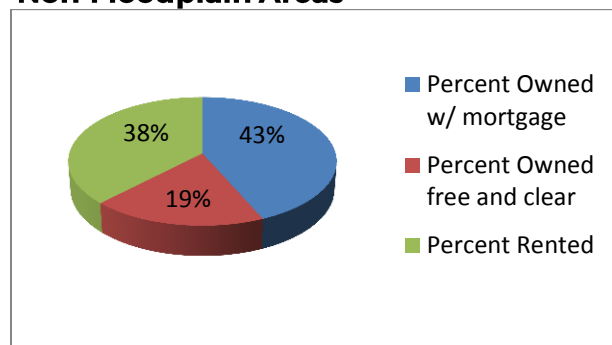
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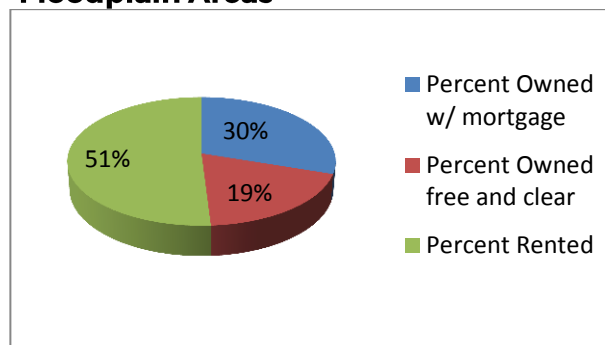
Renters in Floodplains

In looking at the various characteristics of people living in floodplains, some factors had significant results and some did not. The most significant was the statistic on renting versus owning a property. In non-floodplain areas, around 63% of people own their home, either with a mortgage or free-and-clear, and 37% rent. In floodplain areas, just 49% of people own their home and 51% rent. And in certain communities the percentage of renters is even higher. In Lincoln, nearly 68% of the population in the floodplain rent; in Grand Island and Ogallala that number is 57%; in Papillion it is 70%.

Non-Floodplain Areas



Floodplain Areas



Flood insurance is required for any property with a federally-backed mortgage. So, those who own their home free-and-clear or rent are not required to have flood insurance, and indeed, most do not purchase it. Additionally, it is unlikely that most renters know about the need to purchase a contents-only flood insurance policy. With over 50% of floodplain residents as renters, amounting to over ten thousand households, only about 40 contents-only flood insurance policies are active in Nebraska.

Less than 0.4% of all renters are covered by flood insurance. Renters are often lower income and less able to financially recover after a flood, and yet few renters are actually covered against flood damage. This is a concerning statistic, and communities and emergency managers should be aware.

Other Demographics

The other most significant finding is that the population of floodplain areas has a much higher percentage of those who identify as Hispanic. In non-floodplain areas about 9% are Hispanic, but in floodplain areas that figure is 18%. Again, some communities have an even higher percentage of floodplain residents identifying as Hispanic with Crete at 52%, Fremont at 21%, Madison at nearly 59%, and Schuyler at over 65%, all of which are higher than the total community proportion of those identifying as Hispanic.

This statistic is concerning as well because nearly all of our outreach at the state and local level is conducted in English. While many who identify as Hispanic speak English, there are many who only speak Spanish. Some communities, particularly those listed above, do have outreach efforts in Spanish, but more attention across the state needs to be paid to Hispanic communities who are at risk from flooding.

Other less significant aspects of those who live in floodplains include that these residents are more diverse and more likely to live in nonfamily households.

For more information on your community, please contact me at mitch.paine@nebraska.gov.

What is a Building?

By Chuck Chase, CFM and Mitch Paine, CFM

In floodplain management, the terms “building” and “structure” are used interchangeably. The *floodplain management* definition for a building/structure, which is in all local ordinances, mirrors the definition found in the state and federal minimum standards: “a walled and roofed building, including a gas or liquid storage tank, that is principally above ground, as well as a manufactured home.”

A house, for example, clearly meets this definition – there are at least four walls and a roof. A new house in the floodplain would be required to have its first floor elevated to at least 1 foot above the base flood elevation. A restaurant is also clearly a building, and, like all nonresidential structures, it must be elevated or floodproofed to at least 1 foot above the base flood elevation. Similarly, these oil tanks on the right also meet the definition and would have to be elevated or floodproofed to the same standard as nonresidential structures.



However, the Gage County Roads Department’s equipment shed in Beatrice, shown to the left, may appear to be a building but is only walled on 3 of its 4 sides. Since one side is permanently open, it is not a structure by the definition in Beatrice’s local ordinance. A concrete privacy wall around a property, as another example, may have the same footprint as a structure and may obstruct floodwaters in a similar way, but since it is not roofed, it is not a structure.

Though a privacy fence or an open-sided equipment shed may not be structures, they are still development in a floodplain and require a floodplain development permit. Other standards may apply too, such as no-rise requirements.

The floodplain management definition of building is very clear and very inclusive. Grain bins and storage tanks are completely walled and roofed, as are multi-sided homes, and all are buildings according to the standard ordinance definition. Situations will certainly arise where the definition of a building is challenged, but comparing other buildings can help make a determination.

A second definition that floodplain administrators should be familiar with is the *flood insurance* definition for a structure. The NFIP insurance definition from 44 CFR 59 is, “Structure’ means: A building with two or more outside rigid walls and a fully secured roof, that is affixed to a permanent site [...]” A building can be a structure as defined for insurance purposes, but not as defined by floodplain management regulations. By flood insurance definition, the open equipment shed meets the definition of a building and may be expensive to insure if built below

BFE in a floodplain. Community officials play a role in helping their residents and business owners understand these nuances.

Floodplain management can have some rather grey areas. Yet, the definition of a structure/building in local ordinances is rather clear and very inclusive. An apartment building, a garden shed, a grain bin, or manufactured home is a structure if completely walled and roofed. It will need a permit and Elevation Certificate if new or substantially improved.

If you encounter a situation that isn't clear, feel free to contact Mitch or Chuck for help.

Requesting Information for an Approved LOMA

By Chuck Chase, CFM

Many floodplain administrators find themselves in a situation where a property owner wants to add on to a house or build a shed, and since they have a Letter of Map Amendment (LOMA) for the property, they feel they do not need a floodplain permit. A closer look at the LOMA reveals that it only covers a portion of the property, which is described in a paragraph of metes and bounds measurements. How is a typical floodplain administrator to determine if the portion of property to be developed was removed by the LOMA with only this complex written description?

It is appropriate to request the pertinent information from the property owner. The property owner or the surveyor hired should have copies of the LOMA package submitted to FEMA. If not, a floodplain administrator might request that the owner hire a surveyor to create the necessary site map based on the metes and bounds description from the LOMA document itself.

Some floodplain administrators have asked how to request the supplemental materials submitted with a LOMA, including a site map, directly from FEMA. Floodplain administrators can request this information for free. The form you need is the "[FIS Data Request Form](#)." For the most part, there are two areas you want to make clear while filling out the form. You should make it clear that you are a *community official* and that you are requesting this information for floodplain management purposes. Next, make sure you clearly identify the property and LOMA in question. Attach a FIRMette and in the third block of the form, include the LOMA case number, the FIRM panel number, and refer to the attached FIRMette.

You could also request supplemental information for property covered by a LOMR-F. But, a property owner cannot get a LOMR-F without the community signing the Community Acknowledgement section. When you review LOMR-F proposals, make sure to keep a copy in your files. Doing so will help establish a record of exactly what was signed off on, in case the property owner modifies the plans or does not proceed as was specified when you signed the form.

You can find the [FIS Data Request Form](#) at this link or give us a call for help.

A Guide to FEMA Technical Bulletins

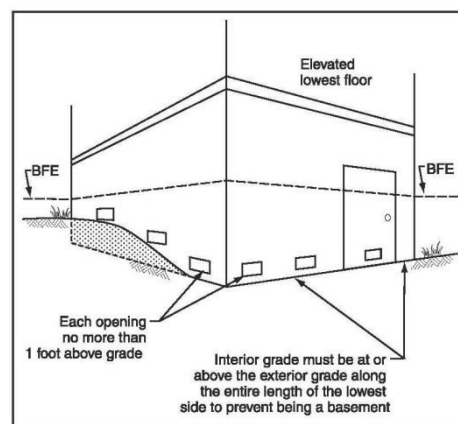
By Mitch Paine, CFM

Every community that participates in the National Flood Insurance Program in Nebraska has a local ordinance. The elements of that ordinance are guided by state minimum standards as well as the federal standards in the Code of Federal Regulations Title 44. The state and federal standards apply in every community, big or small, but don't necessarily provide direction for *every* development situation that might occur.

FEMA has published 11 technical bulletins that outline how to administer floodplain management regulations in specific development situations. The documents don't add regulations, but clarify the requirements established in the state and federal minimum standards. These technical bulletins do not replace community higher standards that may be in place. This article will give floodplain administrators a guide to the various technical bulletins and how they can be applied to development in your community. Having familiarity with all of the documents is helpful, but the three most used in Nebraska are Technical Bulletins 1, 10, and 11. Each of the titles is a link to the corresponding document.

[Technical Bulletin 1 – Openings in Foundation Walls](#)

This technical bulletin outlines the specific requirements for flood vents, openings, and enclosed areas that must be vented. All local ordinances have language about flood openings, but this document provides the information needed to apply the openings provision to a wide array of development situations. It has diagrams like the one to the right, specifications, examples, and descriptions of all aspects of flood openings. Any floodplain administrator should know this document well, as many building situations will require flood openings.



[Technical Bulletin 2 – Flood Damage-Resistant Materials Requirements](#)

Local ordinances require that any new development or substantial improvement must “be constructed with materials and utility equipment resistant to flood damage,” but does not outline the allowable materials. Technical Bulletin 2 describes the allowable materials, characteristics, and applicability to certain flood zones. This document would be good to give to contractors, builders, or others looking for recommendations for materials to use for a building permitted in the floodplain.

[Technical Bulletin 3 – Non-Residential Floodproofing](#)

Local ordinances generally allow nonresidential buildings to be floodproofed to 1 foot above base flood elevation. This technical bulletin outlines the requirements for a building to be floodproofed including considerations for warning time, safety and access, flood characteristics, flood emergency operation plan, and engineering considerations for hydrostatic and hydrodynamic forces (the physical forces that push against the walls or against the whole building). Any nonresidential building owner looking to floodproof their building should consult this technical bulletin.

[Technical Bulletin 4 – Elevator Installation](#)

Many buildings built in the floodplain are required to be elevated, and some are required to be elevated many feet above the ground. Increasingly, buildings must also comply with the

Americans with Disabilities Act, which requires access for those with disabilities. Elevators are a method to do this. For a building in the floodplain, the elevator and its equipment almost always extend below the BFE. Technical Bulletin 4 describes the proper installation requirements that conform with local ordinance requirements and help keep the building safe from flooding.

Technical Bulletin 5 – Free-of-Obstruction Requirements

This technical bulletin does not apply to Nebraska as it refers to V Zone (coastal) requirements.

Technical Bulletin 6 – Below-Grade Parking Requirements

Some new buildings, particularly in dense urban areas, will have parking below-grade and below the residential or commercial areas on upper floors. While only floodproofed nonresidential buildings are able to have this below-grade area, Technical Bulletin 6 outlines the requirements of this specific development scenario.

Technical Bulletin 7 – Wet Floodproofing Requirements

For the limited cases where a building can be wet-floodproofed (attached garage, accessory building if allowed in an ordinance, or an enclosed area below a lowest floor), the requirements for doing so are outlined in this technical bulletin. The document outlines considerations for flood characteristics, establishing an emergency operations plan, and situations where wet floodproofing may not be appropriate, even if allowed. This technical bulletin would be useful for contractors or builders, similar to Technical Bulletin 2 or 3.

Technical Bulletin 8 – Corrosion Protection for Metal Connectors

This technical bulletin is mainly for coastal areas where salt and proximity to the ocean cause corrosion on metal building components that then cause the structure to be more vulnerable. While this document is mostly not applicable to Nebraska, it may be useful for reference to the construction industry.

Technical Bulletin 9 – Breakaway Walls

This technical bulletin does not apply to Nebraska as it refers to V Zone (coastal) requirements.

Technical Bulletin 10 – Ensuring That Structures Built on Fill In or Near Special Flood Hazard Areas Are Reasonably Safe From Flooding

This is perhaps the most useful technical bulletin for Nebraska floodplain administrators. It outlines the requirements for a common scenario where a homeowner might apply for a LOMR-F and want to put a basement in the removed area. Technical Bulletin 10 provides a checklist for doing this type of building in a safe way and in a way that the floodplain administrator can comfortably sign the community acknowledgement form for a LOMR-F. Please see our [June 2016 newsletter](#) for more on applying Technical Bulletin 10.

Technical Bulletin 11 – Crawlspace Construction

Technical Bulletin 11 outlines two important components: requirements for all crawlspace construction and specific requirements for below-grade crawlspaces. First, the document discusses characteristics of all crawlspaces that should be considered when permitting a building with one. Second, the technical bulletin outlines the requirements for construction of a crawlspace that is below-grade on all 4 sides. Any community that wants to permit a below-grade crawlspace must first adopt language that is included in Technical Bulletin 11. Some communities may want this flexibility, while others may not.

If you have any questions about the FEMA Technical Bulletins or their applicability, call or email Chuck or me for assistance.

New BFE Request Tool

As mentioned in emails to floodplain administrators, NeDNR has come out with a new BFE Request tool for floodplain administrators to use. The tool is based on an interactive map and locations can be searched by address, community, or section-township-range.

While floodplain administrators are still the only ones who can request a new BFE determination be completed, this new BFE tool will allow anyone to view valid BFE determinations for sections where they exist. Community officials can send permit applicants to the site to view the most current determination.

As a reminder, NeDNR-provided BFEs are not to be used for subdivisions larger than 5 acres or more than 50 lots, whichever is smaller. Additionally, NeDNR-provided BFEs are not to be used for designing culverts, bridges, and other hydraulic structures.

The tool can be found here: <http://dnr.ne.gov/fpm/Request-a-BFE-Determination>

Mark Your Calendar

If you have questions about any of these opportunities, please contact Chuck Chase or Mitch Paine.

ASFPM National Conference 2017

The Association of State Floodplain Managers will be holding their National Conference next year in Kansas City, Missouri from April 30 – May 5, 2017. This is a great opportunity for everyone in Nebraska to attend the prime flood conference. Attendees will hear from FEMA HQ staff, can learn from local floodplain administrators from around the country, and network with flood professionals from all over the world.

To learn more about the conference and to register, click here: www.asfpmconference.org.

National Flood Insurance Program Training Videos

NFIP Training courses for insurance agents, claims adjusters, surveyors and community officials are being offered through the FEMA Emergency Management Institute (EMI) Independent Study (IS) Program. IS courses are open and free to anyone. Floodplain administrators may find these videos helpful.

The Independent Study catalog is available at <http://training.fema.gov/is/crslist.aspx> . Course exams require a FEMA Student Identification (SID) Number, which can be obtained at <https://cdp.dhs.gov/femasid> .

WANT MORE INFORMATION?



Visit NeDNR's Floodplain Website at
<http://dnr.nebraska.gov/fpm>



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