

# Flood Storage Area Frequently Asked Questions

Wisconsin Department of Natural Resources Floodplain Program

## **Q. Why is this flood storage area information relevant?**

In the process of developing new engineering studies for new floodplain maps and Flood Insurance Studies (FIS), the flood storage capacity was considered for some waterways in your community where detailed terrain data and significant flood storage exists.

## **Q. What is a flood storage area?**

A **flood storage area** is part of the mapped floodplain that identifies the natural flood storage capacity of that area in a watershed. A computer model was used to calculate the amount of runoff expected to a mapped waterway within a watershed. The resulting volume of water is the basis for determining how much of the regional flood discharge the flood storage area is capable of holding back. This information is depicted on the FEMA floodplain map as the extent of the flood fringe areas. The Department of Natural Resources will provide additional maps showing where flood storage was considered within those flood fringe areas.

## **Q: What are the benefits of protecting flood storage areas?**

By infiltrating runoff water and acting as holding basins, flood storage areas can reduce the amount and duration of flooding in the floodplain immediately downstream. Wetlands are a good example of natural flood storage areas. If a wetland is filled, it can no longer provide this natural function and an increase in flooding can be observed farther down in the watershed. Envision dropping a rock into a full glass of water; the water spills out into surrounding areas that would otherwise be dry. By including flood storage areas in the FIS, flood flows and floodplain elevations in lower reaches are reduced.

## **Q: How is the location of a flood storage area determined and documented?**

Engineers experienced in preparing floodplain maps and flood insurance studies evaluate areas within the floodplain that could potentially provide a significant amount of flood water storage. Data are collected from these areas and entered into the computer model calculations that are used to prepare flood maps. By mapping and protecting the storage areas, the volume of flood waters can be reduced, thereby lowering flood elevations in the floodplain. For current updates of the flood insurance studies, flood storage areas are located where significant storage is provided by wetland areas mapped by the Wisconsin Wetland Inventory, permanent impoundments (lakes or reservoirs) or immediately adjacent areas.

## **Q: How would a municipality know if they have flood storage areas and, therefore, need to create a Flood Storage District in their zoning ordinance?**

Before producing new floodplain maps, DNR will determine whether to include flood storage in the study. They will notify all municipalities that have flood storage areas and then provide separate Flood Storage District (FSD) maps that **must** be adopted into the floodplain zoning ordinance. The DNR provides a model floodplain ordinance on its website that includes language for the creation of Flood Storage Districts. This is located at: <http://dnr.wi.gov/topic/floodplains/communities.html>. Communities can choose to adopt the entire model ordinance or they can simply amend their existing ordinance to adopt the new Flood Storage District maps and language.

## **Q.: What is shown on the Flood Storage Maps?**

The Flood Storage Maps show the flood storage areas and the floodway. Only the floodfringe is used to calculate the flood storage areas. Therefore, the flood storage areas do not extend beyond the floodfringe as shown on the Flood Insurance Rate Map.

**Q. What can a community do with a Flood Storage District?**

A FSD enables protection of these important storage areas from displacement by development. Developers with a proposal for work in a FSD must prove that the development will not increase the flood elevation level. Additionally, they must adhere to certain building standards that are specified in the community's ordinance.

**Q: Do local governments have authority to require proof that a proposed development will not cause a flood elevation increase?**

Yes. Local governments have statutory authority to protect floodplains. Wisconsin Administrative Code NR116, Wisconsin's Floodplain Management Program, sets minimum standards for development in mapped floodplains. These standards are adopted and administered through the local floodplain zoning ordinance.

**Q: What should a municipality require of a developer whose proposal would result in flood storage loss?**

The standards to be applied are contained in section 5.2 of the "Model Floodplain Ordinance with FP Storage Language Added, January 2012 DNR" <http://dnr.wi.gov/topic/floodplains/communities.html>.

**Q: Does all proposed filling in the floodfringe require an engineering analysis to evaluate the impact on the regional flood elevation?**

No. Only in areas designated as Flood Storage Districts in an adopted floodplain ordinance.

**Q: What options are there for repairing or restoring existing homes that are newly identified in a FSD when they have been flooded previously?**

Existing homes or other structures in a Flood Storage District retain all development rights and restrictions as existed before the adoption of the flood storage maps. If an addition to the existing structure or other development is proposed for the site, the equal cut and fill conditions must be followed.

**Q: Under what circumstances is new development permitted in a FSD?**

Proposed new development or additions in a FSD must meet the equal cut and fill condition. This ensures that any fill on the site which reduces flood storage capacity, is replaced on the site by an equal amount of new flood storage. Any change to the land **shall not** reduce the net volume of floodwater that can be stored. Excavation below the groundwater table is not considered to provide an equal volume of storage.

**Q. How much time does a community have to adopt the FSD maps?**

Communities can expect to receive a FSD notification letter shortly after receiving the Letter of Final Determination (6 months before FIRM adoption). It serves the community best to adopt the storage maps at the same time as the FIRMs since there is new language that needs to be added to the ordinance. Officially, communities have one year from the date of the FSD notification letter to adopt the storage maps but waiting will require the local floodplain ordinance to be amended twice.