

Wetlands in the Context of Stormwater Management

Script for Introductory Presentation

Projected population growth in the coming decades in our state, particularly in urban Milwaukee and suburban areas of southeastern Wisconsin, presents many challenges for the protection of the lakes, rivers, streams and wetlands. However, with careful and thoughtful design, new development does not have to mean degradation of wetlands and our state's treasured waters.

So there is a growing need for building professionals and water resource professionals to work together to implement innovative solutions that protect the health of wetlands and other waters. WWA is partnering with the building community to promote wetland-friendly approaches and practices for managing stormwater runoff associated with new development projects.

1. Title Slide: We'll start with an introduction to wetlands and talk about why wetlands matter and provide value both to the general public and to private property owners
2. What are wetlands?: Wetlands are an incredibly diverse set of habitats. This is what makes wetlands so wonderful and valuable, but at the same time makes them difficult to protect because people have a hard time identifying wetlands. So what defines wetlands? There are 3 factors...
3. What are wetlands (2): WI is fortunate to have a diversity of wetland types. Each one of these wetland types has a unique combination of hydrology, soils and plant communities. These diverse wetland types add beauty to our landscapes and provide habitat for a diversity of wildlife
4. Wetland Photo (1): Here are a few wetland photos to give you a visual idea of the diversity of wetlands in WI. Here we have an aerial view of floodplain wetlands associated with the Wolf River in the north central part of the state.
5. Wetland Photo (2): Also in the northern part of the state, here are alder thicket wetlands associated with the beautiful Brule River in northern WI.
6. Wetland Photo (3): Moving to the southern part of the state, here is a fall photo of bog wetlands associated with Lulu Lake in Walworth County, which also has fens and sedge meadows.

7. Wetland Photo (4): And here's another bog...the well known and loved Cedarburg Bog at UW Milwaukee's field station in Ozaukee Co.

8. Wetland Photo (5): And here is a high quality example of an increasingly rare and endangered wetland type -- hardwood swamp wetlands in southeastern WI.

9. Wetland Photo (6): In the southeastern corner of the state in Kenosha County, we have the lovely Chiwaukee Prairie, which features a mosaic of prairies and wetland areas including sedge meadows and wet prairies.

10. Wetland Photo (7): Just two more photos – here's an example of more what you're used to seeing in this part of the state and what most people think of when they think of wetlands – a marsh with a beautiful buffer of prairie surrounding it.

11. Wetland Photo (8): And here's a restored marsh on private property in Racine County. The owner is a bird enthusiast and moved here expressly for the purpose of having restored wetlands in her backyard for their beauty and the bird watching opportunities they provide.

12. Historical Attitudes: Despite their aesthetic beauty, historically wetlands were thought of as...

13. Wetland Loss: And because of the historical perceptions, over the past century millions of wetlands were drained and filled for other uses (ag, development, etc). Wisconsin has already lost half of its original 10 million wetland acres. Of the remaining 5.3 million acres, about $\frac{3}{4}$ are on privately held lands, which means that protection of wetlands on private land is an important part of the puzzle for wetland protection efforts statewide.

14. Watersheds Need Wetlands: So why is wetland protection so important? Everyone living in a given watershed is connected by the water and the shared need for water. Because of the many functional values wetlands provide within watersheds, there is a need to find a balance between the rights and needs of individual private property owners and the shared needs of all living in the watershed. Wetland protection puts weight on both sides of the scale because both private property owners and the public benefit from wetland protection. Wetland protection can be a win-win for private property owners and the public.

15. Public Benefits: flood prevention: Wetlands provide a number of functions and services that have economic value and contribute to the quality of life and health in our communities. Wetlands are sites of water storage in watersheds and they're

often likened to sponges. When it rains, wetlands soak up and hold back runoff and then slowly release it through infiltration to the ground or surface connections to adjacent waterbodies.

16.Public Benefits: filtering water: Wetlands not only moderate water quantity; they also contribute to water quality. Acting as natural filters, wetlands remove pollution in runoff that flows from our streets, parking lots, golf courses, lawns and agricultural lands. Wetland plants and microbes trap sediments, accumulate fertilizers, transform a variety of toxic substances such as pesticides and heavy metals, and can remove potentially dangerous microorganisms.

While technological means to remove such pollutants from waters is highly expensive, healthy wetlands can provide this service for free. This wetland function is critical to maintaining clean and healthy waters that are drinkable, swimmable, and fishable for current and future generations in Wisconsin. And cleaner lakes and rivers means higher shoreline property values, more fishable and swimmable public waters that have recreational value.

17.Public Benefits: groundwater services: Many wetlands are closely connected to groundwater and some recharge groundwater by allowing water to soak in. So wetlands contribute to an ample and clean supply of groundwater and reduce the costs associated with treating water for drinking purposes.

18.Public Benefits: Economic significance: The economic value of these public services is significant. 1998 Coastal Alliance study, WI ranked 12th in nation in value of wetland services lost due to wetland draining and filling. In Milwaukee region, residents are paying for the costs of wetland loss in the form of flooding damages (e.g. spring floods of 2004), increased costs of providing clean and ample supply of tap water to homes and businesses.

In the Milwaukee region, residents will likely have to bear a large portion of the costs of fixing problem of combined sewer overflow capacity and sewage dumping into Lake Michigan caused by huge amounts of stormwater runoff when it rains. A shift in development patterns to include wetland protection, wetland restoration, and use of innovative stormwater management practices that infiltrate runoff throughout the region will help reduce the costs of building additional infrastructure and storage capacity to prevent future need for sewage dumping.

19.Public Benefits: recreation: Another public benefit is the recreation opportunities that wetlands provide, from hunting/fishing to paddling and hiking. This is also economically significant -- ecotourism is the largest growing sector of our nation's tourism industry. Tourism is WI's 2nd largest industry and people come to WI largely because of the unique and high quality outdoor recreation

opportunities the state offers. Wetlands are a destination themselves and help keep our lakes and rivers healthy so that these waters can provide high quality recreational opportunities as well.

20.Public Benefits: biodiversity: Outside of the economically valuable wetland functions and services, wetlands also benefit WI citizens by providing habitat for an incredible diversity of plants and animals that are part of our state's heritage.

Wetland biodiversity provides educational benefits – because of the aesthetic beauty of wetlands, artists, photographers, and families go wetlands for peace, quiet and escape. Also, wetlands are great places to teach children lessons in science, history, and cultural heritage.

21.Private Benefits: Wetlands also provide benefits and value to private property owners and those who are developing private property as well.

22.Private Benefits: valuation: People value water features when they're looking for property. Our attraction to water is reflected in the many street names that have water-related words in them. And research shows that people are drawn to waters as they make decisions about where they want to live. According to a study presented at the NAHB conference in 2006, ...

23.Private Benefits: property values: If treated as amenities and assets in a development, wetlands can enhance property values. The market is showing an increasing demand for properties with natural amenities as buyers are willing to pay more for proximity and access to green space and water features. A 2003 Consumer Preference survey conducted by NAHB showed increasing market demand for environmentally friendly homes and surroundings...

24.Private Benefits: infrastructure costs: So protecting wetlands as amenities in your projects can increase the value of your projects. Another way that wetland sensitive development can be good for a developer's bottom line is reduced infrastructure costs. According to the Center for Watershed Protection, traditional curbs, gutters, storm drain inlets, piping and detention basins can cost two to three times more than engineered grass swales and other techniques to handle roadway runoff.

This table shows an often cited case study of a development called Gap Creek Community. The study was discussed in a NAHB Research Center publication, *Low Impact Development Practices for Stormwater Management* and compared the costs of a traditional design to a conservation design that incorporates some of the innovative SW management and protection of natural features that we'll be

talking about later today. The conservation design resulted less hard infrastructure and more than 15% savings on infrastructure.

25.Private Benefits: bottom line: Overall, wetland-friendly conservation design can be good for the developer's bottom line by producing...

26.Private Benefits: bottom line (2): So Gap Creek was just a case study of one example; here's a study that compared more than 80 traditional subdivisions to more than 80 conservation subdivisions. The results showed that lots in conservation subdivisions with similar models sold for 12-16 % more than in traditional developments. They're also less expensive to build, and **sell twice as fast as** lots in traditional subdivisions.

27.Planning: Given the considerable public and private benefits of wetlands, there is a need to incorporate wetland protection into planning for development. Planning development to accommodate projected growth in this part of the state while successfully protecting these wetland values will require efforts at multiple scales from statewide down to the development level. And there are lots of organizations and agencies and professionals that contribute to this. Today's workshop will focus on what members of the building community can do on the scale of planning individual developments and lots to protect wetland functions and values

28.Planning (2): Development and wetland protection goals can be accomplished together if new developments are designed with...