

Wetland Conservation Act (WCA) Topic of the Week

WCA and Projects Built on Posts and Pilings

July 1, 2020

WCA topics of the week are a series of informal fact sheets that provide practical information on WCA program implementation in a question and answer format. They are intended to better clarify and summarize certain aspects of WCA implementation and should be considered as supplemental to WCA statutes, rules and any associated BWSR guidance and policy. Information in these fact sheets are subject to change over time.

Question: Does WCA specifically address projects that involve structures built in wetlands on posts and pilings (e.g., elevated walkways, boardwalks, bridges, docks, and solar gardens)?

Answer: Yes. WCA rules do not consider posts and pilings for linear projects such as bridges, elevated walkways, or powerline structures, or structures traditionally built on pilings such as docks and boathouses as wetland fill except under certain circumstances.

Question: Under what circumstances does WCA consider structures built on posts and pilings in wetlands as wetland fill?

Answer: When the project results in bringing the wetland into a nonaquatic use or significantly alters the wetland's function and value.

Question: What does it mean to bring a wetland into a nonaquatic use?

Answer: A nonaquatic use does not depend on and is not typically associated with water. A bridge or elevated walkway is typically used to cross a wetland to provide access to another upland area and is not changing the use of the wetland. In contrast, construction of a solar panel array blanketing a wetland for energy production changes the use of the wetland to a commercial/industrial development.

The distinction is often not as clear as the above examples because elevated walkways vary from narrow walking paths to large boardwalks with various amenities (benches, towers, tables, etc.), and solar panel arrays may only cover a small portion of a wetland as opposed to the entire wetland. Therefore, it is often necessary to consider the second part of the related WCA provision – *significantly alters the wetland's function and value*.

Question: How is the determination made on whether or not a structure built on post and piling in a wetland significantly alters that wetland's function and value?

Answer: The determination is based on consideration of the wetland's existing functions and associated value compared to its probable functions and associated value after project construction. In general, a wetland with limited function and value (such as a degraded, partially drained and regularly tilled wetland in a crop field), is less likely to have its functions compromised from a structure on posts and pilings as compared to a nondegraded wetland in a less disturbed setting.

Question: Who makes the determination and what tools or methods do they use?

Answer: While the WCA decision on a project is made by the WCA Local Government Unit (LGU), the Technical Evaluation Panel (TEP) makes technical determinations of wetland functions and values. The TEP has limited tools available to make this determination and must rely on their professional judgment in light of reasonably available data and information.

The Minnesota Routine Assessment Method (MnRAM) and the Prairie Pothole Hydrogeomorphic Guidebook (Prairie Pothole HGM) can be useful in assessing wetland functions. However, the Prairie Pothole HGM method is limited to depressional, palustrine, herbaceous, temporarily/seasonally ponded wetlands within the Prairie Pothole Region (see appendix for map). MnRAM is too broad of an assessment tool to distinguish functional changes at a small, site-specific scale often required in making these determinations. MnRAM was not developed to predict wetland functioning after manipulation, but rather to broadly distinguish between different levels and types of wetland function among existing wetlands. The concepts and questions in MnRAM (and particularly the guidance for each function in the MnRAM text version) can help the TEP determine which functions a wetland may or may not be performing at a significant level. In general, the approach for assessing if a wetland's function and value is significantly altered involves answering the following questions:

- What important functions is the wetland performing today? Consider characteristics that relate to the different functions as found in MnRAM and HGM Prairie Pothole as applicable.
- What is the condition of the wetland in relation to other wetlands in the area? Better, same, less?
- Based on the proposed plans, what functions will be affected and how will they be affected (negatively or positively)?
- If important functions will be affected negatively by the project, is it significant?

These questions can be difficult to answer. The TEP must use their judgment informed by their collective experience and expertise. An applicant's consultant(s) can provide critical data and information to the TEP for making the determination.

Question: What types of projects built on posts and pilings involve the above-described assessment?

Answer: Most walkways, boardwalks and bridges do not require an in-depth evaluation. However, solar arrays associated with commercial solar gardens necessitate this type of assessment when they are proposed to be installed in wetlands on posts and pilings. The effects of solar gardens on wetlands generally depends on the amount of wetland shaded by the panels. Some arrays are fastened together back-to-back without spacing between the panels or the rows for almost 100% areal coverage. Others are installed with space between each row of panels, resulting in less than 50% areal coverage. Pivoting panels are another setup in which the panels are fastened to a racking system with panels pivoting to follow the sun. Arrays with high amounts of areal coverage inhibit vegetation growth and have a higher likelihood of significantly affecting wetland functions. However, arrays with more moderate coverage and planted with pollinator-friendly vegetation between and underneath panels (as is the current trend) may result in an increase in wetland functioning if the existing wetland is degraded, regularly tilled, and lacking perennial cover.

Question: How much replacement is required if structures built on posts and pilings significantly alter a wetland's functions and values?

Answer: Standard WCA replacement requirements apply to the footprint of the structure. The TEP can consider the amount of coverage, degree of impact, quality of existing wetland, etc., and modify the replacement requirement consistent with a partial impact.

Appendix

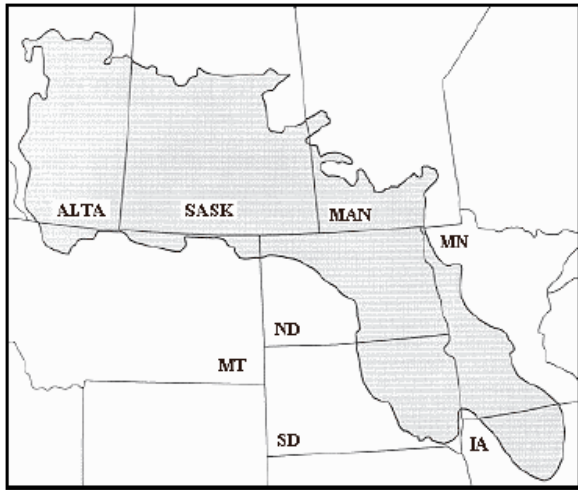


Figure 2. The Prairie Pothole Region of North America (after Mann 1974)



Dome-type solar panels – high areal coverage



Pollinator-friendly plantings under and around solar panels.



Elevated walkway (not fill)



Mowing between solar panels.



Non-elevated walkway (fill)