Wetlands Program Policy 85-2: Isolated Land Subject to Flooding

ILSF Definition: Interpretation of 310 CMR 10.57(2)(b):
Definition of Isolated Land Subject to Flooding (DWW Policy 85-2)

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"Land Subject to Flooding", as defined in the Wetlands Protection Act (the "Act"), has been divided in the regulations into two different types of areas. Bordering Land Subject to Flooding includes areas which flood as a result of water rising from creeks, ponds, rivers, or lakes. Isolated Land Subject to Flooding includes areas which flood due to ponding of run-off or high ground water. The characteristics of theses different types of areas are defined in 310 CMR 10.57(2). The interests served by these areas are set forth in the discussion section and the performance standards, 310 CMR 10.57(1) and 310 CMR 10.57(4) respectively.

One of the principal purposes of the definition of Isolated Land Subject to Flooding (ILSF) is to differentiate between those areas that serve the interests of the Act in a significant way and areas where small amounts of water may collect occasionally--puddles, in effect. A second purpose is to distinguish between those areas that are important parts of a larger water resource system--for which the cumulative effects of even small fillings can lead incrementally to serious flooding problems over the entire floodplain--and those that are only locally significant to the interests of storm damage and flood prevention. By making these distinctions, the regulations provide appropriate protection to land areas that function in different ways. A third purpose is to ensure consistent application of these distinctions by the issuing authority, providing a greater degree of certainty for land owners with regard to the standards of review they should expect.

Unfortunately, there has been some confusion as to the interpretation of the definition of an ILSF, reducing the degree to which consistent administration has been achieved. This policy sets forth, for the guidance of land owners, developers, and the issuing authority, the Department's interpretation of specific portions of its regulations defining an ILSF.

1) "An isolated depression or closed basin without an inlet or an outlet". The phrase *"without an inlet or an outlet"* is not intended as a literal exclusion of all sources of flow, channelized or otherwise, into a basin. Obviously, any basin must have an "outlet" of some kind at some elevation at which the basin would be overtopped; similarly, there must be some flow of water into the basin (whether through ground or surface water) if there is to be any accumulation. In the context of this definition, "inlet" is intended to refer only to a hydrologic connection with the 100-year flood event on a waterbody. Inlet is only used to distinguish ILSF from Bordering Land Subject to Flooding (BLSF), which has such a hydrologic connection with the 100-year flood event on a waterbody. A different set of performance standards, appropriate to the flood storage function within the larger system, applies to the BLSF. Thus, a basin which receives a channelized flow generated by run-off may constitute an ILSF if the remaining elements of the definition are met, even though such a channel could be termed an "inlet" in some sense. Similarly, the existence

of an "outlet" at a certain elevation does not preclude a finding that a basin constitutes an ILSF, if the requisite volume of water is confined within the basin below that elevation.

2) "An area which *at least once a year* confines standing water .... "At least once a year" refers to a statistical event with a one-year return period, and is not dependent on direct annual observations and measurements of volumes confined within a specific basin. The observation that the requisite volume of water was or was not confined within a specific basin in a particular year is not conclusive, though of course it may be relevant to a determination that the basin is or is not an ILSF. The methodology of the calculations should be consistent with that described in 310 CMR 10.57(2)(a)(3) and (b)(3), except that the calculation should be based on a 24-hour event with a one year return period.

One question involves the use of high ground water, especially where it may be rise above the surface of the ground, and when it should used to determine jurisdiction. The Preamble at 310 CMR 10.57(1)(b) recognizes that ILSF can serve to pond ground water which has risen above the ground surface. This ponding will impact the ability of the site to store water and may affect flooding on the site. When information is available that indicates that ground water contributes to the volume of water in an ILSF basin it should be used to determine the jurisdiction. Information such as records of ground water (e.g. septic system design percolation rate data or soil pits) or other credible evidence could also be used to identify whether surface water on the site is due to surface runoff ponding on the site or is due to ground water that has risen above the surface of the ground.

3) Boundary of ILSF. The boundary of an ILSF is defined in 310 CMR 10.57(2)(b)(3) as the largest observed or recorded volume of water confined within the area. In the event of dispute, calculations regarding the extent of the 100-year flood event are used to determine the probable extent of such water. The lateral boundary of the ILSF is the area that will be inundated during that event. As indicated above, if there is an outlet at a given elevation such that water will not be confined within the basin above that elevation, the outlet elevation should generally represent the boundary of the area (unless water will continue to be contained above that elevation despite the presence of an outlet). Thus, the boundary of the ILSF is either the elevation at which retained waters reach an "outlet" and flow out of an ILSF basin, or the area of inundation resulting from a 100-year storm if there is no such outlet. The calculations should assume that the ILSF basin is impervious, but should use standard methodologies to account for infiltration within the contributing watershed based on the relative proportions of pervious and impervious surfaces.

However, this interpretation does not prohibit the use of additional information, such as ground water data where available, from being used. It is appropriate for the issuing authority to review all credible information to reach a decision and, as indicated above, direct observations can be used to determine the boundary of ILSF. Therefore, the runoff calculation identified in 310 CMR 10.57(2)(b)(3) and referred to in this policy is not presumed to be correct if ground water information, where available, is ignored or omitted. As an example, the runoff calculation is important when determining impacts due to flooding and may be especially important for protecting the public interests of public or private water supply and ground water supply when an ILSF is underlain by pervious material. However, when using observations of surface water, it must be made certain that the surface water observed at a site is due to high ground water and is not solely a result of surface water collecting on the site. If observed

surface water was due to runoff collecting on the site it would not be appropriate to combine the observed water with runoff calculations since the observed water is only a result of runoff.

It is important to note that two sets of calculations may be relevant for determining the existence and extent of an ILSF. First, the 1 year storm calculation is a threshold determination of jurisdiction. If the calculations show that the requisite volume of water is confined within a particular basin, the basin is an ILSF. Second, in making a boundary determination for areas that meet or exceed the threshold, the 100-year storm calculation or the location of an outlet may be used. In both cases, the calculations should assume no infiltration within the ILSF basin itself, but may make standard assumptions with respect to infiltration within the contributing watershed.