## Attachment A Buffers

The Ohio Interagency Review Team (IRT) recognizes the critical importance of providing an adequate buffer area around sensitive aquatic resources, such as wetlands, based on past experience with mitigation sites in Ohio and the wealth of scientific literature on this subject. A literature search yields numerous articles documenting the various ecological services provided by buffers, including filtering of harmful pollutants, armoring from excessive flow velocity and volume, and habitat features that are a requirement for many species using wetlands for only part of their life cycle. The experience and literature support the concept that the greater the buffer width, the more benefit to the aquatic resource. The Ohio IRT reached a consensus to propose reducing the previously recommended minimum 50 meter wetland buffer width established in the 2011 Wetland Guidelines to 100 feet (or ~30 meters) based on consideration for the physical, chemical and biological functions provided by wetlands. This width represents the best scientific estimate for what is necessary, at a minimum, to benefit the functions and services listed above.

Buffers are defined as an upland, wetland and/or riparian area that protects and/or enhances aquatic resource functions associated with wetlands, rivers, streams, lakes, marine and estuarine systems from disturbances associated with adjacent land uses. In addition, the Corps may require the restoration, establishment, enhancement and preservation, as well as maintenance, of buffers around aquatic resources where necessary to ensure the long-term viability of those resources. Buffers may also provide habitat or corridors necessary for the ecological functioning of aquatic resources. If buffers are required by the district engineer as part of the compensatory mitigation project, compensatory mitigation credit will be provided for those buffers.

In order to encourage the establishment of upland buffers, mitigation credit is given within the 100 linear foot distance if the sponsor is willing to establish, restore, enhance or protect high quality upland habitat. This is a benefit to all mitigation project proposals, because upland habitat is not regulated under the Clean Water Act Section 404/401 or Isolated Wetland permit programs (i.e. there is no mitigation "debit" for impacting upland habitat).

Rather than recommend a standard 100 linear foot upland buffer in all instances, the guidelines allow for site-specific proposals varying from this recommendation. The sponsor may propose reducing or increasing (i.e. scaling) the 100-foot minimum buffer during the review and monitoring period. Reductions and increases must be accompanied by adequate justification to demonstrate the relationship between the risk/benefit to the site and the size of the buffer. For example, if high quality aquatic and/or upland resources directly abut the mitigation site on the adjacent property, and the sponsor can provide adequate documentation confirming these resources will be provided long-term protection (e.g. conservation easement) in their current state for the reasonably foreseeable future, this area could be considered to be providing the necessary buffer services. In this case, the mitigation project resources could receive full credit to the project boundary. Alternately, sponsors could propose larger buffers on-site to address site specific needs of their interior aquatic resources. An increase in buffer may not require a reduced credit ratio if adequately justified. Buffers may provide less functional value (e.g. wildlife

habitat) than wetlands within the interior; therefore, they have less ability to offset adverse effects to wetlands from permitted activities.

In addition, wetland habitat may be proposed to the project boundary. These wetlands would be credited at a reduced ratio to reflect anticipated loss in function from current and reasonably foreseeable future risk(s) from adjacent land uses outside the control of the sponsor. For example, if a sponsor proposes to re-establish wetland habitat to the project boundary with no upland buffer and adjacent to a high intensity land use, such as a major farming operation, the wetland is going to be at risk to degradation from herbicide/pesticide overspray, nutrient runoff, etc. This is likely to lead to a lower quality plant community. The Ohio IRT believes that a protective buffer is essential to the long-term success of wetland mitigation projects, and absent this protection, any wetland credits will be of lesser ecological value. Therefore, they will be credited at a lower ratio.

The Ohio IRT does not believe the inclusion of buffers will discourage smaller mitigation projects or projects in urban areas. However, if due to site constraints (e.g. property boundaries), the establishment of a 100-foot protective buffer would result in greater than 20 percent of the mitigation bank or in-lieu fee (ILF) project site area, a reduced protective buffer width and/or alternate ratios may be considered by the Ohio IRT on a case-by-case basis.

It may be appropriate for sponsors to propose different performance standards for interior and buffer resources. For example, Floristic Quality Assessment Index rather than Vegetation Index of Biotic Integrity may be considered in the buffer. The Ohio IRT has added clarification that buffer refers to the perimeter buffer for the site. In addition, terms such as "up to," and "generally," were removed from credit ratios to provide clarity. The Ohio IRT recommends forested buffers, but alternate buffer habitat may be proposed and considered on a site-specific basis.