



OEC's Comments on ODNR's Draft Best Management Practices Manual for Rural Drainage Ditches

OEC would like to stress as important sections necessary for this drainage manual. The manual represents an opportunity to establish an environmentally helpful and positive approach to a major water quality problem in Ohio. We should pursue this opportunity through implementation of environmentally-friendly practices throughout Ohio. The manual should recognize channel modification as a major contributor to water pollution, altered hydrology and stream degradation.

1. Just as the Drainage Ditch Laws stress a cost/benefit analysis – this manual should be representative of both the positives and potential negatives of drainage practices (especially historical practices and practices that are contrary to those outlined in this manual). In the introduction, the manual should recognize channel modification as contributing to water pollution and stream degradation. Hydromodification, habitat alteration, sediment and nutrients are attributable to, or enhanced by, channel modification. These are the leading causes of nonpoint source aquatic life impairment in streams as determined by Ohio Environmental Protection Agency water quality survey data collected from 1993-2002. This information was reported in the Ohio EPA's "Ohio 2006 Integrated Water Quality Monitoring and Assessment Report" (page 79). Also, it is recognized that stream channel modification and ditches expedite and encourage the delivery of pollutants downstream, leading to impacts in receiving stream segments, many of which are very environmentally sensitive. It would be a huge step in the right direction if ODNR-DSWC recognized that there are at least potential water quality problems with the current and historical methods of providing drainage, and that this manual is designed to protect water quality as well as provide necessary drainage.

2. I.4 Purpose of the Ohio Drainage Manual – To explain the need for the manual, move this section forward, possibly making it the first section, or a preface. We recommend the section include a general statement on the necessity of working toward environmental goals, recognizing this issue has been developing in recent years. Also, I would add a "legal disclaimer" that this manual is not a requirement, mandate, or binding on any party, nor is it a further piece of regulation or a permit – but that it is the state policy of the Division that these BMP's be followed for water quality and water quantity reasons. In a nut-shell, a way to cover you and the division against those who will oppose this as ODNR's way of regulating what County Engineers are sworn to do.

3. 2.1 Channel Vegetation, Control and Maintenance The list in "Table 1. Permanent Seeding along the Channel" includes species that are major invasive plant problems in Ohio. This list should definitely be reviewed by the Ohio Invasive Plant Council by contacting Jennifer Windus, President, at the Ohio Division of Wildlife. In addition, it should be reviewed by the Natural Heritage Program Botanist, Rick Gardner, of the Division of Natural Areas and Preserves. Both of them may be able to recommend some alternatives to replace those species and provide information on any others on the list that could be invasive.

4. 2.7 Alternative Solutions Using Maintenance Just as other commenters have noted, OEC is not sure what is to be included here, perhaps BMPs from one-sided construction to limited vegetation maintenance to even Natural Channel Design. Alternatives mentioned should definitely include "no action/do nothing/no maintenance warranted" when that is a viable option.

5. 4.3.4 Constructed Stream

The manual should include discussion of biological indices (e.g., IBI, ICI and stream habitat (QHEI) in this and other sections (i.e., 4.3.2 Two-State Ditch, 4.3.2 Conventional Drainage Ditch, 4.3.5 Over-Wide Channel). As written, this discussion misses the importance of the need to improve and protect aquatic biological diversity use attainment, and needs to fully discuss this and functions such as nutrient and pollutant processing much more thoroughly, especially under "Design criteria." The results and analysis of all channel designs must include biological and habitat indices measures. We expect ODNR to work closely with Ohio EPA to conduct such analyses.

Add "benefits and costs" of a Natural Channel Design construction as done for the two-stage ditch.

1. Include all costs (e.g., design, construction, maintenance, monitoring, permitting). Include full life cycle costs (i.e., costs for the expected life of the design), i.e., discussion of the approximate cost/ft and long term cost effectiveness of the alternate designs (recognize and quantify less maintenance, better nutrient processing, possible lower long-term costs due to reduced maintenance).
2. List long-term cost benefits and environmental advantages such as use attainment, meeting Clean Water Act and TMDL goals, nutrient processing, attainment of biodiversity goals and protection of rare and sensitive aquatic species.

4.3.6 Snag Removal (should be the first of the options, many projects could be easily accomplished with snag and clear and debris removal)

Where warranted, removal of in stream obstructions should be recommended as a lower cost alternative to conventional ditching/deepening. Woody debris in streams

is essential to survival of many aquatic species. It often should be left in place. Instead of citing Wikipedia in this section, we suggest citing ODNR's discussion of woody debris, found at http://www.dnr.ohio.gov/water/pubs/fs_st/stfs21.htm and Ohio EPA's Fundamentals of Aquatic Ecology, www.epa.state.oh.us/dsw/documents/AQECOL_FINAL1.pdf.

Section 2.1.6 Management of Woody vegetation, also needs to more fully recognize the benefits of woody vegetation. The section does not clarify what is "overgrown" and truly detrimental to drainage. Many aquatic species depend on this woody vegetation for survival.

OEC is encouraged with the progress made so far, and await the next draft of the Best Management Practices Manual.

Thank you,

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