



PDHonline Course C689 (2 PDH)

Wetland Restoration & Enhancement Planning

Instructor: John Huang, Ph.D., PE and John Poullain, PE

2020

PDH Online | PDH Center

5272 Meadow Estates Drive
Fairfax, VA 22030-6658
Phone: 703-988-0088
www.PDHonline.com

An Approved Continuing Education Provider

Wetland Planning Checklist

1. What functions will be addressed at this restored or constructed wetland?

- Dynamic surface water storage
- Long-term surface water storage
- Subsurface storage of water
- Removal of imported elements and compounds
- Retention of particulates
- Maintain characteristic plant community
- Maintain spatial structure of habitat
- Maintain interspersion and connectivity
- Maintain distribution and abundance of invertebrates
- Maintain distribution and abundance of vertebrates
- Rare and declining habitat

2. Have the following baseline data needs been met?

- (a) soils? Yes **No** _____
- (b) water budget? Yes **No** _____
- (c) water quality? Yes **No** _____
- (d) existing vegetation? Yes **No** _____
- (e) existing wildlife and fish? **Yes** _____ **No** _____
- (f) landscape context? Yes **No** _____
- (g) wetland complex? Yes **No** _____
- (h) aesthetic quality? Yes **No** _____
- (i) Yes _____ **No** _____
- (j) Yes _____ **No** _____
- (k) Yes _____ **No** _____

3. Are there limiting factors and constraints to restoring, enhancing, or creating the wetlands?

Yes _____ No _____

List limitation and constraints:

4. Are there related opportunities?

Yes _____ No _____

List related opportunities:

5. Has land user made decisions and examined alternatives for the planned wetland?

Yes _____ No _____

6. Are structures needed to restore or enhance the wetland to meet objectives or to control noxious, invasive, or plant and animal species?

Yes _____ No _____

7. Will planting be required to meet wetland objectives?

(a) Will wind and wave actions cause moderate to high wave energy conditions?

Yes _____ No _____

(b) Are plantings of specific species needed to speed early successional stages or to enhance the site for specific purposes?

Yes _____ No _____

(c) Are conditions suitable for application of soil bioengineering planting methods?

Yes _____ No _____

(d) Are noxious, invasive, or problem plant species in the soil seed/propagule bank on adjacent lands or accessible to the site by flooding?

Yes _____ No _____

(e) Will selected plant species be compatible with surrounding landscape?

Yes _____ No _____

(f) Are vegetated buffers, transition zones, or fences needed to protect the establishing wetland from human disturbance, excess sedimentation, pollutants, and/or intensive grazing pressures?

Yes _____ No _____

8. Can natural colonization of vegetation occur at the wetland? (Consult revegetation keys in tables 13-7 and 13-8.)

(a) Is an acceptable seed/propagule bank in the existing soil on site?

Yes _____ No _____

(b) Are plant materials that meet the targeted objectives and functions available from nearby or adjacent wetland sites and will readily disperse to the site?

Yes _____ No _____

(c) Will the wetland be built on nonhydryc soil where seedbanks and other plant materials do not exist?

Yes _____ No _____

-
- (d) Are noxious, invasive, or problem plant species accessible to the site?
Yes _____ No _____
9. Are the targeted plant species appropriate for the planned site conditions?
- (a) Will they tolerate the expected water depths, flood frequencies, or fluctuating water tables?
Yes _____ No _____
- (b) Will they tolerate the expected water quality, salinity, acidity, and alkalinity?
Yes _____ No _____
- (c) Will they tolerate high velocity conditions?
Yes _____ No _____
- (d) Will they tolerate standing water conditions?
Yes _____ No _____
- (e) Are they compatible with planned landscape features, aesthetics, and other functions?
Yes _____ No _____
10. Are plant materials of **targeted** species available and of good quality?
- (a) Are seeds, transplants, or other propagules available in the needed quantities, or are substrate materials needed?
Yes _____ No _____
- (b) Will storage or stockpiling of plant materials be needed on site?
Yes _____ No _____
- (c) Have plant material costs been considered in the budget?
Yes _____ No _____
- (d) Can NRCS Plant Materials releases be used on the project, and are commercial sources of these materials available?
Yes _____ No _____
11. Is there an adequate water supply for the wetland?
- (a) Is too much water available, requiring a water control structure to prevent the wetland from drowning?
Yes _____ No _____
- (b) Are water rights assured?
Yes _____ No _____
- (c) Are there existing water quality problems that may limit the success or wetland restoration or enhancement activities?
Yes _____ No _____
12. Will soil amendments (fertilizers, lime, microbial enhancers) and mulch be required for adequate plant establishment?
Yes _____ No _____

13. Has the landuser been consulted about:

(a) Cropping/herbicide history?

Yes _____ No _____

(b) Current and past land uses?

Yes _____ No _____

(c) Ability to carry out construction work including avoiding compaction of soils in areas not to be disturbed?

Yes _____ No _____

(d) Ability to carry out planting work?

Yes _____ No _____

(e) Willingness to conduct simple monitoring of wetland progress?

Yes _____ No _____

(f) Willingness to carry out mid-course corrections and active wetland management?

Yes _____ No _____

(g) Landscape context?

Yes _____ _____

(h) Wetland complex?

Yes _____ _____

(i) Management?

Yes _____ _____

14. Has conservation plan been developed and decisions been documented?

Yes _____ No _____

15. Has landowner been advised about needed permits (e.g., 404 permit)?

Yes _____ No _____