

Big Pine Creek Watershed Project

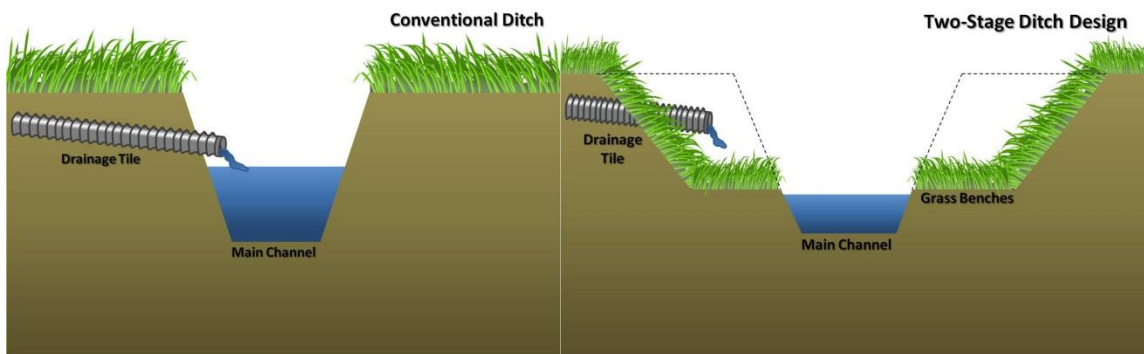
Best Management Practices Fact Sheet

Two-Stage Ditch

A **two-stage ditch** utilizes the current ditch shape and enhances it by building benches or mini-floodplains that allow for greater water holding capacity, reduced bank failure, as well as providing removal of nutrients in the water.

Purposes of two-stage ditches include, but are not limited to:

- Reduced ditch bank failure.
- Increased capacity to hold more water at time of floods.
- Reduced flooding in adjacent fields.
- Provides habitat for wildlife.
- Reduced maintenance on the ditch.
- Better drainage (less ponding in fields).
- Reduced nitrogen and phosphorus concentrations in the water that will be carried downstream.



Contact Info for the Soil & Water Conservation Districts in the Big Pine Creek Watershed

Benton County: Jon Charlesworth 765-884-1090 x3 jon.charlesworth@in.usda.gov

Warren County: Deb Lane 765-762-2443 x3 debra.lane@in.nacdnet.net

White County: Sharon Watson 574-583-5962 x3 sharon.watson@in.nacdnet.net

The two-stage system is best suited for drainage areas smaller than 10 square miles where natural drainage patterns have been altered, in ditches with bed slopes that are less than 0.5%, and in settings where existing land use must be preserved. To a large extent, the approach is a floodplain enhancement practice that does not modify an existing inset channel or the ditch channel below the benches. The flooded width and depth displayed in the table below are guidelines primarily for use in evaluating the cost and feasibility of a proposed project. It is recommended that final designs be based on measured data at the ditch and for the region that are specific to agricultural ditches. In most cases, final dimensions based on measured data will likely not deviate by more than 25% from these values. Reducing the depths by a few tenths will promote flooding on to the benches and should provide more water quality and ecological benefits. In the absence of measured data, the flooded width should not be made less than that for a 3:1 ratio.

Drainage Area	Inset Channel Width	Max. Inset Channel Depth	3:1 Ratio		5:1 Ratio	
			Each Bench	Flooded Width	Each Bench	Flooded Width
mi ²	ft	ft	ft	ft	ft	ft
1	7	1.2	7	21	14	35
2	9	1.4	9	27	18	45
3	11	1.6	11	33	22	55
4	13	1.8	13	39	26	65
5	14	1.9	14	42	28	70
6	15	2.0	15	45	30	75
8	17	2.2	17	51	34	85
10	19	2.4	19	57	38	95

Available financial assistance:

The Big Pine Creek Watershed group is offering cost-share incentives to help producers adopt best management practices (BMPs) aimed at reducing the amount of nutrients, sediment and bacteria entering our surface waters. **Two-stage ditches** are one of the BMPs we want to encourage. The financial incentive for two-stage ditches will come in the form of reimbursement of 75% of the total cost of establishing the practice (construction, tile outlet repair, and seeding). The reimbursement will be capped at \$32,000 per half mile of ditch as NRCS current rates are \$8.72 per linear foot maximum.

- Applications for cost share assistance are available from the Soil & Water Conservation District offices in Benton, Warren and White counties.
- Closing dates for ranking periods are still to be determined. Please check the watershed group’s webpage which can be accessed via the Benton County SWCD website bentoncountyswcd.org
- Applications will be ranked based on merit. Pairing the practice you select with other conservation practices such as no-till/strip till and/or filter strips will increase the ranking score of the application. Successful applicants will be notified of funding decisions no later than February 13th, 2015.
- Successful applicants will sign a contract spelling out the terms of the cost-share agreement.
- Seeding rates and species must meet NRCS standards, and after a site visit by the landowner, surveyor, and Big Pine Steering Committee Representative and the project passes visual inspection, the applicant will be mailed a reimbursement check.