Project 14-1 Stream Geomorphic, Connectivity and Ecological Assessment and Restoration Design Team

Background: With the potential for a variety of habitat projects to be funded over the next 25 years it is critical that the projects be designed well and the DNR has the staff and time to do such work for external partners and internal staff as well.

Problem Statement: There is a critical need to provide technical assistance on a variety of potential projects that could be funded over the next 25 years.

Goals:

1. Create a crew, staffed with people trained in advanced geomorphic assessment techniques, to provide technical assistance in many areas of stream and watershed evaluation. Currently, of the five components of stream systems (hydrology, geomorphology, biology, water quality and connectivity), evaluation of geomorphology, from a stability analysis perspective, and connectivity are often being under-assessed due to a lack of trained personnel. This team would help direct comprehensive watershed evaluations and provide data to help identify the cause of impairments so implementation could be directed at fixing the causes, to facilitate long-term stream restoration and protection. This crew would be able to work across partner organizations, with PCA staff on TMDL data collection, with NRRI and UofM staff on specific research projects and working within the DNR with other Divisions, such as Fisheries as well as with other local government units and citizen groups.
2. Geomorphic Technical assistance: provide technical assistance in watershed level evaluations of stream stability to aid in developing implementation plans (restoration) in turbidity TMDL's, identifying causes of sediment loading (beyond just identifying sources) and evaluation of channel evolution to direct implementation practices that help maintain stable stream form. Much of the methodology employed would be based on the WARSSS (Watershed Assessment of River Stability and Sediment Supply) methodology, the only methodology currently fully approved by the EPA for turbidity assessments, incorporating both GIS and empirical data collection and analysis.
3. Comprehensive Monitoring and Assessment: conduct geomorphic stability analysis and development of regional curves to assist in future analysis of channel stability as well as establish relationships between stream stability, turbidity and ecological function (biological aquatic use). Develop long-term monitoring to establish criteria for assessing stream stability and to monitor any regional trends related to land use or climate change. This could be in conjunction with the Comprehensive Monitoring and Assessment group (separate proposal form submitted) if that proposal were funded.
4. Inventory, prioritization and design of fish passage (connectivity) and stream restoration projects.

Priority: High

Task Duration: 3-5 years

Potential Mechanism: LSOHC, CWL, GLRI

Potential Partnering Organization(s): DNR, PCA, SWCD, angling groups and landowners

Estimated Cost: $ 850,000 per year over 5 years

Comments: Turned into other funding sources as well.

Special Considerations:

Accomplishments:

Measure(s) of Success:

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