U.S. Fish & Wildlife Service

Chesapeake Bay Field Office

Coastal Program
Stream Habitat Assessment and Restoration Technical Assistance

Approach
The U.S. Fish and Wildlife Service (Service) Chesapeake Bay Field Office (CBFO) Stream Habitat and Restoration team promotes a comprehensive approach to conduct watershed and natural stream restoration activities that preserve trust species of high priority biological habitats of the United States. To achieve this, the stream team focuses on three core objectives:

- Training
- Technical Assistance
- Implementation Projects

Types of Technical Assistance

- Assessment and Design Tools Development
- Detailed and Rapid Protocols/ Standard Operating Procedures Development
- Watershed Assessment and Prioritization
- Reach-level Function based Geomorphic and Biologic Assessments
- Pre and Post Restoration Monitoring
- Project Assessment and Design Reviews
- Total Station Survey
- Hydraulic Modeling
- Sediment transport analysis
- CAD generated designs
- Stream GIS Assessments

Assessment and Design Tools
The Stream team has developed a variety of assessment and design tools that are available to the public. These tools have been developed to aid practitioners in developing, implementing and monitoring projects that are consistent with Natural Channel Design (NCD) methodology and other stream restoration design methodologies.

Protocol Development
The Stream team has developed a robust collection of protocols that aid local, state, and other federal agencies in a variety of tasks. Protocols have been customized to address specific needs of agencies as well as generalized protocols that aim to advance the science of stream restoration and protect our resources. Some of the most recent protocols include:

- Maryland State Regional Curves (Figure 1)
- Stream Functions Pyramid (Figure 2)
- Stream Stability Monitoring Protocol
- Natural Channel Design Review Protocol
- Rapid Stream Assessment Protocol

Watershed and Stream Monitoring
The Stream team has the ability to provide technical aid in both stream and watershed scale assessments. The Stream Habitat and Assessment team can:

- Determine relationships of land use activities to stream processes
- Document stream functional and stability conditions
- Identify and prioritize potential restoration sites
- Develop watershed scale restoration goals, objectives, and performance standards
- Develop design criteria

USFWS

Total Station Survey.

"Any river is really the summation of the whole valley. To think of it as nothing but water is to ignore the greater part." Hal Borland – This Hill, This Valley

Project Review
The Stream Team also aids local, state and federal agencies as well as conservation organizations in stream restoration design and project review. This process promotes a collaborative effort to ensure project objectives are met, and projects are aligned with species based conservation efforts.

Available Reports
The Stream Team has developed and published a number of project reports, method studies and assessment and protocol guidelines. Some of the most recent reports include:

- Maryland Regional Curve Development
- Natural Channel Design Protocols
- Rapid Stream Assessment Protocol
- US 301 Environmental Stewardship / GIS Study
- Stream Functions Framework Report
- Rapid Stream Restoration Monitoring Protocol
- Western Coastal Plain Reference Reach Survey Report
- Little Tuscarora Stream Restoration Assessment and Design Report

These publications and others can be accessed and downloaded by visiting the USFWS- CBFO website.

Current Activities
The Stream Team is currently finalizing species priority protocols, bank erosion rate curves, and improved stream regulatory review protocols and processes.

For more information contact:
Richard Starr
Chief, Habitat Restoration Division
Coastal Program
U.S. Fish and Wildlife Service
Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis MD 21401
410-573-4583
www.fws.gov/chesapeake/stream.html

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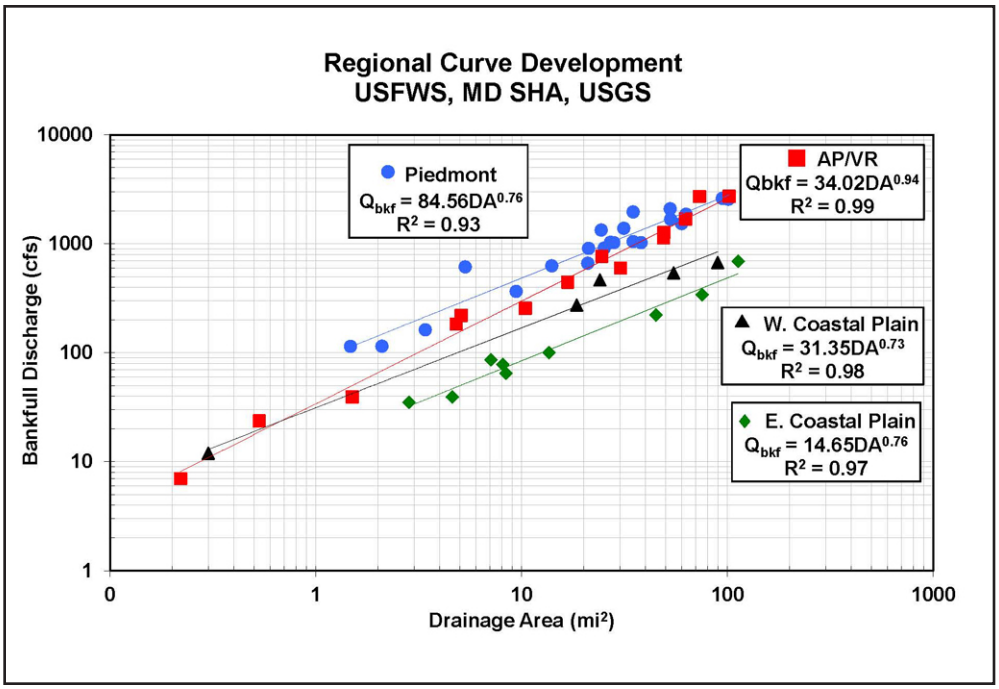

Figure 1 - Maryland Regional Curve (USFWS-CBFO)

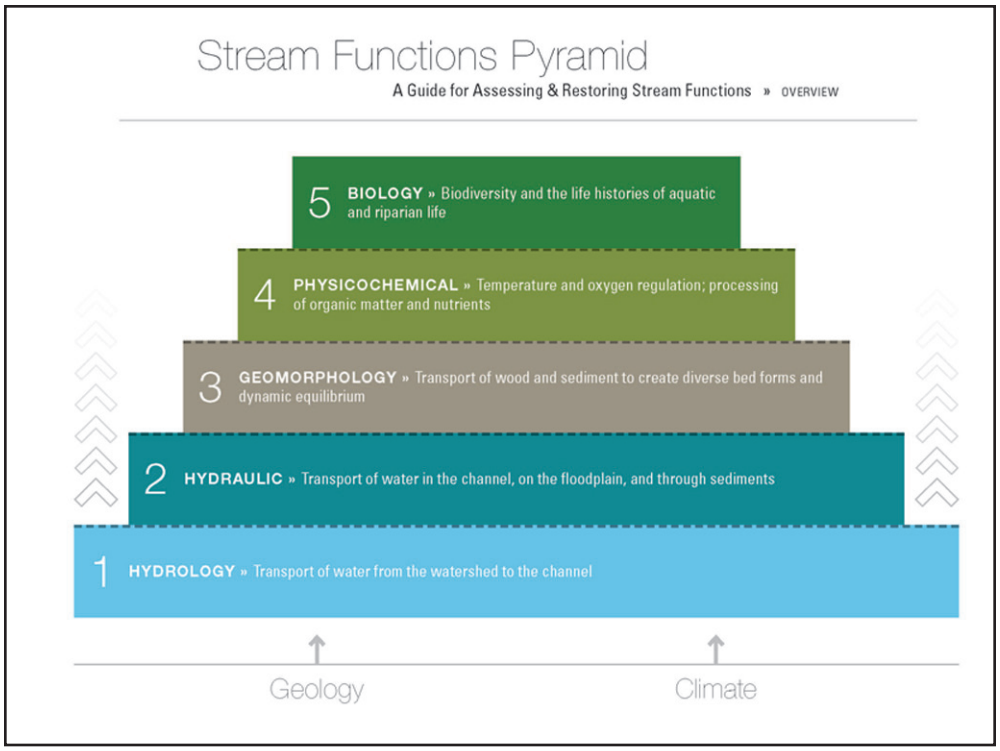

Figure 2 - Stream Functional Pyramid (Harman et al, 2012)