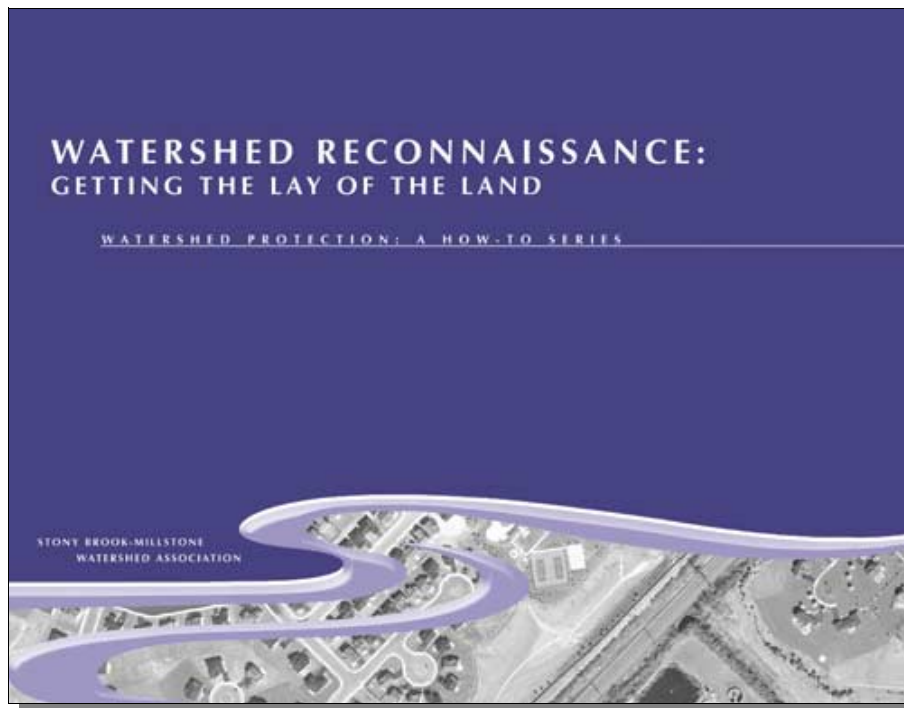


STONY BROOK-MILLSTONE WATERSHED ASSOCIATION'S

WATERSHED RECONNAISSANCE: GETTING THE LAY OF THE LAND



- Details how to carry out a quick survey of watershed health using available data.
- Guides you through developing a methodology for a Reconnaissance.
- Some GIS and database experience required.
- Includes details of Stony Brook's Watershed Reconnaissance.
- See the **Table of Contents** on reverse.

TO ORDER YOUR COPY

Please send check for **\$23** (*which includes shipping and handling*), payable to Stony Brook-Millstone Watershed Association, 31 Titus Mill Road, Pennington, NJ 08534. We will ship the model USPS Book Rate upon receiving the payment.

The **Stony Brook-Millstone Watershed Association** was formed in 1949 to protect our watershed's natural resources through research, advocacy, education, and engagement with local communities and governments. The imperative to protect drinking water, to preserve natural lands for habitat, and to manage other quality of life issues has demanded that we develop a comprehensive response to sprawl. Our watershed management program embraces a range of solutions from planning to implementation.

The **Watershed Protection: A How-To Series** models these watershed management programs. By sharing our knowledge and experiences, we seek to provide resources which other organizations can use to protect the landscapes and natural

resources that we cherish and need. Unlike most models based solely on theory, these models take a unique approach and present theory that is grounded in practical experience and action. The models raise theoretical questions, provide examples, and describe concrete steps taken by Stony Brook.

Other models in the series:

Watershed Reconnaissance: Getting the Lay of the Land
Subwatershed Assessment: Narrowing Your Focus
Municipal Assessment: Partnering With Local Governments
River Friendly: Fostering Community Stewardship
Environmental Partnerships: Building Support Networks
For more information about the series please contact Priya Sankalia (priya@thewatershed.org) or call 609 737 3735.

TABLE OF CONTENTS

FOREWORD

HOW TO USE THIS MODEL

I. Watersheds and Watershed Management

- What is a Watershed?
- Parts of a Watershed
- The Water Cycle: The Oldest Recycling System
 - Surface Water
 - Groundwater
- Pollution in a Watershed: Water Quality
- Water Quantity
- What is Watershed Management?

II. Foundations for Starting

- What is a Reconnaissance?
- What is the Need for a Reconnaissance?

III. Resources You Will Need

- Time
- Data
- Staff or Volunteer Skills and Abilities
- Outside Expertise
- Equipment

IV. The Program: How-To Steps

1. Recruit a Technical Advisory Committee
2. Determine Scope
3. Know Your Study Area
4. Determine Focus/Purpose
5. Determine Methodology
 - Select Data
 - Assess Available Data
 - Ensure Data Quality
 - Choose Indicators
 - Synthesize Indicators
 - Group Indicators
 - Crunch Numbers/Results for Indicators
 - Develop Weighting System for Indicators
 - Develop Scoring System for Indicators
 - Rank HUC14s; Create Summary Table and Map for Indicators
 - Summarize Water Quality Characterization
 - Choose Water Quality Data and Methods
 - Incorporate Water Quality Data in Quantitative (Primary and Secondary Indicators) Assessment OR
 - Assess Water Quality Separately
 - Summarize Water Quality Results
 - Select Subwatersheds
 - Available Dataset Evaluation Using GIS
 - Water Quality Data
 - "Intangible" Criteria
 - TAC Feedback
6. Synthesize Reconnaissance Results
7. Consider Other Watershed Assessment
 - Methodologies
 - Passaic River Coalition: Water Resource Map
 - Spruce Run Initiative: Critical Areas
 - Upper Delaware Watershed Management Project: Water Resource Evaluation System

V. Lessons Learned

- Planning Pays
- Be Flexible and Adjust Approach for Your Watershed
- Know Your Limits
- Learn How to Interact with and Respond to the TAC

VI. Case Study

VII. APPENDICES

- A. Watershed Reconnaissance Methodology
 1. Final Methodology for Stony Brook's Watershed Reconnaissance
 2. Watershed Reconnaissance Indicators
 3. Methodology for Watershed Reconnaissance Using GIS
 4. Potential GIS Data for the Watershed Reconnaissance
- B. Water Quality Summary
 1. Biological Assessments
 2. Chemical Assessments
 3. Millstone River Watershed—StreamWatch Chemical Monitoring Data, 1992–2002
 4. Millstone River Watershed—NJDEP AMNET Biological Monitoring Data, 1990, 1993–1994, 1998–1999
 5. Millstone River Watershed—Streamwatch Chemical and Biological Monitoring Data, 1992–2003
- C. Subwatershed Ranking Based on Reconnaissance
 1. HUC14 Scores for Reconnaissance Indicators
 2. Subwatershed Ranking Based on Reconnaissance (Map)
 3. Grouped Subwatersheds (Map)
- D. Selection of Subwatersheds for Characterization & Assessment
- E. Benthic Macroinvertebrate Data Analysis (Citizens' Environment Watch)
- F. Technical Resources
- G. Glossary of Terms and Acronyms
- H. References