

W.H.A.T. VOLUNTEER PROGRAM

Wetland Health Assessment Toolbox

A pilot volunteer training program to
assess salt marsh health in the North
Shore region of Massachusetts

VOLUNTEER MONITORING

Three approaches

- Education, awareness, problem screening and stewardship
- Community & watershed level evaluation, assessment, and management (bottom up approach)
- State, interstate, and Federal water quality evaluation and assessment (rigorous monitoring, quality data)

W.H.A.T.

- A multi-metric and integrated assessment program
- Examines individually: water chemistry, land use, hydrology, vegetation, invertebrates and avifauna and provides a summarizing index for each
- Combines the indices from each of the above components into a comprehensive overall integrated score of health
- Developed for both freshwater and salt marsh wetlands

Cooperating Partners

- E.P.A. (Sponsor)
- Massachusetts Coastal Zone Management
- Mass Bays Program
- UMass Extension's NREC program
- Salem Sound 2000
- 8 Towns and the Bay
- Merrimack Valley Planning Commission

Goals

- Train volunteers to conduct estuarine salt marsh wetland health assessment
- Incorporate an integrated approach: land use, tidal influence, water chemistry, vegetation, invertebrates, avifauna
- Promote citizen stewardship for wetland protection

Organization (1)

- Hire a technical assistant
- Promotion of the pilot program
- Introductory meeting and workshops enrollments
- Preparation: Pre visit field and class room venues; purchase equipment, collect and reproduce teaching materials, references; set workshop schedules and confirm instructors

Organization (2)

- Run workshops (June through August)
- Coordinate volunteer data collection on 4 study sites
- Compare volunteer data with science team data for quality control
- Evaluate workshops and pilot program
- Reward and provide feed back to volunteers

Workshops

Workshop	Enrollment	Instructor	Date/s
Avifauna	17	Jan Smith	6/12
Water Chemistry	13	Bruce Carlisle	6/16
Land Use	16	Bruce Carlisle	6/26
Invertebrates	15	Anna Hicks	Aug 7-8 Aug 14-15
Tidal Influence	8	Bruce Carlisle	8/12
Vegetation	22	Bruce Carlisle Ralph Tiner	8/13

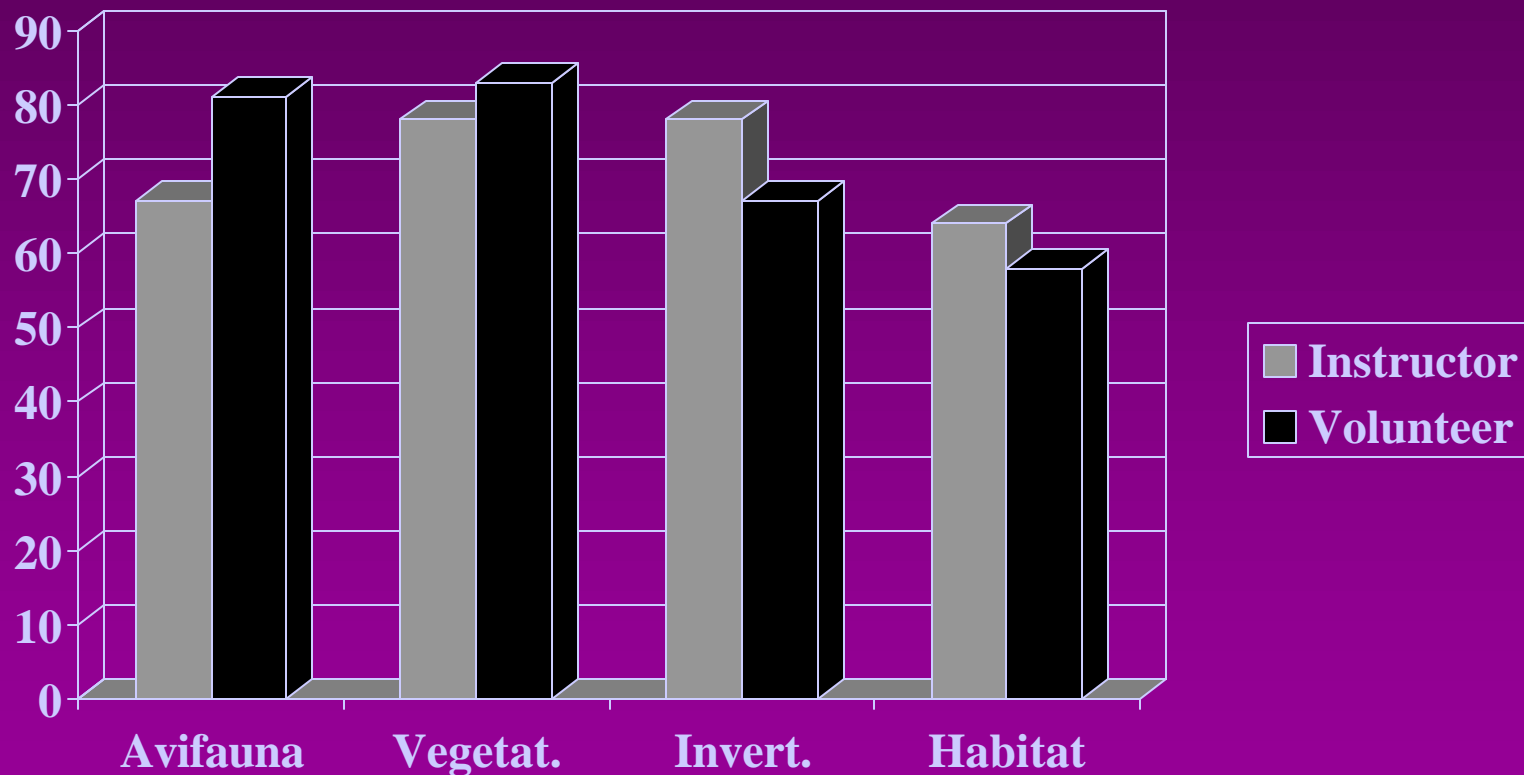
Volunteer Data Collection

- Conducted between June and September
- Established the reference condition
- Non point source pollution sites
- Tidal restriction sites
- Technical assistant coordinated the program, provided equipment and data sheets, accompanied volunteers, and was responsible for return, compilation and analysis of data.

Comparison between volunteers and science team

Tool	Instructor	Volunteers
Avifauna Index	67	81
Vegetation Index	78	83
Invertebrate Index	78	67
Wetland Habitat Assess	64	58

Comparison Instructor vs Volunteers



Evaluation of Workshops

Workshop	Overall Evaluation Score (100 maximum)
Water Chemistry	89
Land Use	86
Avifauna	60
Vegetation	88
Invertebrates	90
Tidal Influence	90

Evaluation Comments

- More training required for identification of organisms
- Include identification slides, flash cards, sound tapes to assist identification
- Expand the time allocated for each workshop to avoid “too much information in too short a time”
- Include proficiency tests
- Provide follow-up and refresher workshops in the future
- Include more material/topics/detail
- Provide more opportunities to practice before collecting hard data
- Run workshops at different seasons of the year

Maintaining Volunteer Enthusiasm

- Refreshments and socialization at initial meeting
- Certificates of attendance for workshops
- Free copies of slides and photographs taken during the workshops
- Final social wrap-up meeting with refreshments, and presentation of WHAT tee-shirts
- Data base of participants for follow-up mailings giving results of monitoring, future activities, workshops, etc.
- Reports in the quarterly newsletters on the status of monitored salt marshes

Follow-up

- Finalization of the analysis of the impacted salt marshes
- Review the program with volunteer leaders
- Review the teaching materials for alterations and further inclusions
- Make recommendations for future training programs to be conducted in the New England Region
- Organize the inclusion of WHAT for volunteers into the New England Region Monitoring Consortium (NERMC)'s training programs.