

**Local Land-use Effects on Habitat, Fish, and Macroinvertebrates in
Southwestern WI Coldwater Streams**

Brian Weigel and John Lyons, Wisconsin Department of Natural Resources, 1350 Femrite Drive, Monona, WI 53716, Laura Paine and Dan Undersander, University of Wisconsin - Madison, Department of Agronomy, 1575 Linden Drive, Madison, WI 53706.

Traditional continuous cattle grazing in riparian areas is responsible for major stream degradation. Vegetative riparian buffer strips are effective in curbing agricultural degradation. Intensively managed rotational cattle grazing in riparian areas shows promise as an alternative practice for stream rehabilitation and protection. We compared instream habitat, and fish and macroinvertebrate community characteristics among continuously grazed, rotationally grazed, grassy buffered, and woody buffered riparian land-uses. We used a comparative approach with 4 streams per land-use and 2 years of data from each stream. Watershed condition strongly influenced stream habitat and fauna. As a result, watershed condition was factored out statistically with an analysis of covariance (ANCOVA) model to focus on influences of local land-use. Grassy buffers and rotational sites had the best habitat index scores, and the fish index of biotic integrity suggested grassy buffers were the best. The mean pollution tolerance value of macroinvertebrate taxa indicated grassy and woody buffers had the least organic pollution. Other macroinvertebrate community metrics, such as feeding function, were able to distinguish the sites. Continuously grazed sites were ranked worst by most metrics. Grassy buffer strips appear to be the best riparian land-use for southwestern Wisconsin coldwater streams, but intensive rotational grazing also has protection benefits and may be a more acceptable practice for many farmers.



WISCONSIN CHAPTER

American Fisheries Society

NEWSLETTER

DECEMBER 1997

EDITOR: LEE MEYERS, WDNR, GREEN BAY, WI 54307

27th Annual Wisconsin Chapter AFS Meeting

January 6-8, 1998

*Holiday Inn - Campus Area
Eau Claire, WI*

Pre-Conference

January 6th

4:00 - 6:00 pm Executive Committee

6:30 - 10:30 pm Social Mixer- Refreshments

Conference

January 7th

Breakfast - On your own

7:30 am - 3:00 pm Registration - Lobby

8:50 am Welcome & Announcements

9:00 am Plenary Session Starts

Keynote Addresses by -

Gary Whelan, Michigan DNR

Jerry Rasmussen, U.S. Fish & Wildlife Service

4:15 pm Business Meeting

5:45 pm Poster Session

6:00 pm Social Mixer

7:00 pm Banquet

January 8th

Breakfast - On your own

9:00 am - 11:40 am Plenary Session

11:40 am - Lunch, Raffle & RapUp

Conference Registration Fee:

\$25 Regular Member, \$15 Student

Fee Includes:

- 1998 Chapter Membership
- Break refreshments
- Thursday's noon meal

Reserve your room Now:

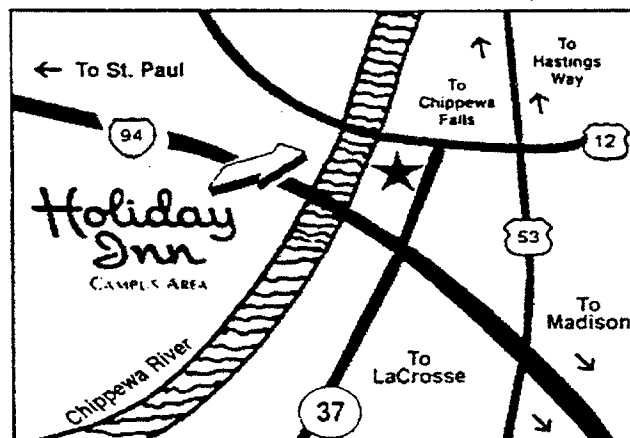
Motel Information and Location

Room Rates: \$49 single or double

(ask for the special AFS Conf Rate)

Telephone: 1-800-472-3297

Holiday Inn: CAMPUS AREA
I-94 AT HIGHWAY 37 - EXIT #65
2703 CRAIG ROAD • EAU CLAIRE, WI



1-800-472-3297



Printed on
Recycled
Paper