

# David M. Stagliano

## *Aquatic Ecologist*

Montana Natural Heritage Program,

1515 E. 6th Avenue Helena, MT 59601

Phone: (406) 444-7329 [dstagliano@mt.gov](mailto:dstagliano@mt.gov)

David is an aquatic ecologist with 17 years of professional experience in freshwater ecology (wetlands, streams & rivers); the last 11 years have been focused on projects in MT and ID. Principal areas of expertise include the field collection, ecology and taxonomy of aquatic invertebrates, mussels and fish communities for use in environmental assessment and monitoring of stream and river integrity. Extreme field condition capabilities. Additional expertise includes landscape-level ecological studies of stream communities & conservation of aquatic ecosystems; environmental assessments (EAs) from survey design, implementation planning to the data analysis, including work with threatened & endangered species. Current projects include characterizing the diversity of headwater aquatic systems of USFS lands in western Montana; producing Biological Evaluation (BE) protocols for the newly listed USFS Sensitive Species: Western Pearlshell; determining population viability of freshwater mussels in watersheds across MT; Biological Assessments of Otter Creek (Coal Tracts Area).

## Education

**M.S. Kansas State University (2000) Major: Aquatic Ecology** (Prairie Streams: Thesis listed in publications)

**University of Alabama (1994-1995), Graduate Studies in Aquatic Biology**

**B.S. Cornell University (1992) Major: Ecology.** Minor: Fisheries/Entomology

## Recent Reports

**2011- Baseline Assessments for Fish, Macroinvertebrates, and Herpetofauna in the Headwaters of Otter and Hanging Woman Creeks within the Tongue Powder CBNG Area** Contact: Jake Chaffin, BLM (406) 233-2815 [http://mtnhp.org/reports/CBNG\\_TonguePowder.pdf](http://mtnhp.org/reports/CBNG_TonguePowder.pdf)

**2010- Freshwater Mussels in Montana: Comprehensive Results from SWG Funded Surveys.** Contact T.O. Smith (406) 444-3889 [http://mtnhp.org/reports/Montana\\_mussels\\_2010.pdf](http://mtnhp.org/reports/Montana_mussels_2010.pdf)

**A Cumulative Biological Assessment of Macroinvertebrate Sites in the Custer National Forest Ashland Ranger District.** [http://mtnhp.org/reports/CusterForestProject\\_2009.pdf](http://mtnhp.org/reports/CusterForestProject_2009.pdf)

**Invertebrate Organisms Undergoing Changes in the Smith River. Popular Article for Trout Unlimited** [http://www.patbarnestu.org/1006\\_Spring\\_PBMRnews\\_web.pdf](http://www.patbarnestu.org/1006_Spring_PBMRnews_web.pdf)

**2009- Aquatic Invertebrate Species of Concern: Updated Distributions, Vital Watersheds and Predicted Sites within USFS Northern Region Lands** Contact: Ann Carlson: (406) 329-3087 <http://mtnhp.org/reports/2008RegionSOCAqInvert.pdf>

Vance, L.K., K.Newlon, J. Clarke and **D.M. Stagliano.** Assessment of the Red Rock River and Wetlands of the Centennial Valley. [http://mtnhp.org/Reports/BLM\\_2009.pdf](http://mtnhp.org/Reports/BLM_2009.pdf) Report to the Bureau of Land Management.

**Assessment of Aquatic Macroinvertebrates in USFS / BLM Lands of the Crooked and Sage Creek Watersheds** [http://mtnhp.org/reports/USFSPrvors\\_Crooked\\_8112009.pdf](http://mtnhp.org/reports/USFSPrvors_Crooked_8112009.pdf)

2008- Freshwater Mussels of Montana - A Fieldguide [http://mtnhp.org/reports/Mussel\\_Booklet.pdf](http://mtnhp.org/reports/Mussel_Booklet.pdf)

Aquatic Macroinvertebrate Inventory & Assessment of Springs and Seeps within Bighorn Canyon National Recreation Area (BICA) <http://mtnhp.org/reports/BICASprings.pdf>

Aquatic Surveys and Assessment of Selected Springs in the Centennial Valley, Beaverhead Co., MT <http://mtnhp.org/reports/TNCCentennialSprings.pdf> Contact: Brian Martin, TNC Eastern MT Science (406) 431-6972

2007- Aquatic Invertebrate Species of Concern on USFS Northern Region Lands [http://mtnhp.org/reports/AqInvert\\_SOC\\_R1.pdf](http://mtnhp.org/reports/AqInvert_SOC_R1.pdf) Contact: Ann Carlson: (406) 329-3087

Freshwater Conservation Measures for the Northern Great Plains Steppe Ecoregion of Montana, TNC, [http://mtnhp.org/Reports/TNC\\_Fresh\\_Measures.PDF](http://mtnhp.org/Reports/TNC_Fresh_Measures.PDF) Contact: Brian Martin, TNC Eastern MT Science (406) 431-6972

2006- An Integrative Biological Assessment of Sites in the Custer National Forest Ashland Ranger District, [http://mtnhp.org/Reports/Custer\\_Forest\\_Project\\_2006.pdf](http://mtnhp.org/Reports/Custer_Forest_Project_2006.pdf)

Aquatic Macroinvertebrate Survey and Assessment of Smith Creek, Park Co., MT [http://mtnhp.org/Reports/USFS\\_Livingston\\_Macros.pdf](http://mtnhp.org/Reports/USFS_Livingston_Macros.pdf) Contact: Scot Schuler, USFS Fisheries

Aquatic Macroinvertebrate Assessment and SOC Species of Elkhorn Creek, Gallatin Co., MT [http://mtnhp.org/Reports/USFS\\_Elkhorn\\_Creek\\_Macros.pdf](http://mtnhp.org/Reports/USFS_Elkhorn_Creek_Macros.pdf)

2005- Aquatic Ecosystem Diversity in Montana's Missouri Drainages: Community Classification Project (Final Report: <http://mtnhp.org/reports.asp#ecology> Bureau of Land Management: MT State Office. Contact: Gayle Sitter or Mike Philbin (406)-896-5041

Middle Powder River Monitoring: A Watershed Assessment (June 2005-2006). BLM Miles City FO [http://nhp.nris.state.mt.us/Reports/Mid\\_Powd\\_Riv\\_Water\\_Assess.pdf](http://nhp.nris.state.mt.us/Reports/Mid_Powd_Riv_Water_Assess.pdf)

## Professional Experience:

**AQUATIC ECOLOGY PROJECT LEADER** **Nov 2003-present**  
**Montana Natural Heritage Program, Helena, MT**

- Principal duties include coordinating and implementing projects investigating the aquatic community biointegrity and viability (fish, mussels and invertebrates) using Natural Heritage Program methodology.
- Assist other NHP project areas of ecology and zoology, especially wetlands, amphibians and reptiles.
- Supervise field technicians, organize field sampling trips (up to 7 days), manage budgets and travel
- Responsible for generating 75% of my salary in grant-funded projects.

**AQUATIC ECOLOGIST/ TAXONOMIST** **Oct 2001-Oct 2003**  
**Eco Analysts, Inc. 105 E. 2<sup>nd</sup> St., Moscow, ID**

- Principal duties included identifying macroinvertebrates & data analyses of state, federal and private bioassessment samples; involved part-time in fish electroshocking surveys in Kootenai River drainages.

**ASSOCIATE AQUATIC ECOLOGY PROGRAM LEADER** **April 2000-October 2001**  
**Michigan Natural Features Inventory, Lansing MI**

- Principal duties included coordinating projects investigating conservation of aquatic communities (fish, mussels and insects) under the mission of the Heritage Program & the state endangered species act
- Supervise field technicians, organize fish sampling trips (up to 7 days), manage budgets and travel

**RESEARCH ASSISTANT**

**July 1998- April 2000**

**Kansas State Univ., Dept. of Entomology**

- Researched environmental monitoring with aquatic insects and fish as bioassessment tools for prairie streams undergoing construction by a PGA golf course. Stream bioassessment studies on the Fort Riley Military Installation (DOD funded), and Topeka shiner research (US Fish & Wildlife Service).

**ENVIRONMENTAL SCIENTIST**

**April-July 1998**

**American Aquatics Inc. consultant w/ TVA  
Aquatic Biology Lab, Norris, TN**

- Surveyed fish, invertebrates, and water quality parameters for the Clean Water Initiative (CWI) monitoring program in Tennessee Valley (Clinch & Powell River Basins, surveyed in western VA, TN & NC).

**BIOTECHNICIAN / INVERTEBRATE TAXONOMIST**

**Aug 1995-October 1997**

**NFT Inc. consultant w/ U.S. Geological Survey  
National Water Quality Lab (Bio Unit), Arvada, CO**

- Responsible for processing benthic macroinvertebrate samples (genus/species level) under USGS's National Water Quality Assessment (NAWQA) Program from US watersheds in accordance with QA/QC Protocol.

**AQUATIC ECOLOGY RESEARCH TECHNICIAN**

**April 1993-August 1995**

**University of Alabama, Aquatic Biology Program**

- Responsible for coordination of all aquatic invertebrate and fish field sampling and laboratory analysis on a NSF funded wetlands project. Supervised undergrads, maintained supplies, field equipment & inventory.

## Scientific Publications

**Stagliano, D.M.** and M.R. Whiles (submitted to the Kansas Journal of Entomology 2011). Prairie Stream Aquatic Invertebrate Biomonitoring: A Story of Resilience and Tolerance.

**Stagliano, D.M. and M.R. Whiles. 2008.** Life history and production of the riffle beetle, *Stenelmis crenata* (Say, 1824) (Coleoptera: Elmidae), in a tallgrass prairie stream. *Aquatic Insects* 30 (3):197 – 204.

**Stagliano, D.M., and M.R. Whiles. 2002.** Macroinvertebrate production and trophic structure in a tallgrass prairie headwater stream. *Journal of North American Benthological Society* 21(1): 97-113.

**Stagliano, D.M., 2001.** Fish and macroinvertebrate communities of headwater prairie streams: bioindicators, bioenergetics and production. M.S. Thesis, Kansas State University. 140 pages.

Goforth, R.R., **D.M. Stagliano**, J. Cohen, M. Penskar, Y.M. Lee, J. Cooper. 2001. Biodiversity analysis of selected riparian ecosystems within a fragmented landscape. Michigan Department of Environmental Quality, Office of the Great Lakes. Report # 2001-06. 148 pages.

Dodds, W.K., M.A. Evans, N. Gerlanc, L.Gray, D.Gudder, M. Kemp, A. López, **D.M. Stagliano**, E. Strauss, J. Tank, M. Whiles. 2000. Quantification of the Nitrogen Cycle in a Prairie Stream. *Ecosystems* 3: 574-589.

**Stagliano, D.M.** 2000. Volunteer water quality monitoring: Informative and fun. AFS Kansas Chapter Activities. *Fisheries*. Vol. 25 (6): 34.

Bernot, R, T. Horton, J. Jeffreery, M. Kemp, M. Quist, S. Schrank, **D. Stagliano** and C. Zachary. 1999. Methods Manual for Aquatic Ecological Research: Long-term Monitoring of Pottawattomie State Lake II and Kings Creek, Kansas. Kansas State University. 55 pages.

Benke, A.C., G.M. Ward & T.D. Richardson 1999. Beaver-Impounded Wetlands of the SE Coastal Plain. Pages 217-245 in D.P. Batzer, R.B. Rader & S.A. Wissinger (eds.), *Invertebrates in Freshwater Wetlands of North America*. John Wiley & Sons Inc.

**Stagliano, D.M.**, A.C. Benke, & D.H Anderson. 1998. Emergence of aquatic insects from two wetland habitats in the southeastern USA: patterns of numbers and biomass. *Journal of the North American Benthological Society* Vol.17, pp. 21-36.

## Technical Training

- **Red Cross First Aid/ CPR Certification Course**, Helena, MT February 2011
- **AFS Continuing Education Workshop**: Feb 2009: Human Demographics: Invasive Species and Species of Concern, Sponsored by MT Chapter American Fisheries Society Kalispell, MT
- **Odonata Taxonomic Workshop**. March 2007. Sponsored by Xerces, Inc. & Northwest Biological Assessment Workgroup, Evergreen State College, Olympia, WA
- **Gastropoda Taxonomic Workshop**. June 2006. Sponsored by Rhithron, Inc. Northwest Biological Assessment Workgroup, Xerces Society, University of Montana, Missoula, MT
- **Ephemeroptera Taxonomic Workshop**. June 2005. Sponsored by Northwest Biological Assessment Workgroup, Xerces Society, Idaho University, Moscow, ID
- **Prairie Fish Identification Course**. April 2004. Sponsored by Montana State University, Fisheries Co-op Division, Bob Bramblett instructor.
- **Aquatic Worm and Mollusk Taxonomic Workshop**. April 2002. Sponsored by Northwest Biological Assessment Workgroup, Xerces Society, Boise State University, Boise, ID
- **Freshwater Mollusk Taxonomic Workshop**. June 2001. Sponsored by North American Benthological Society. LaCrosse, WI
- **Natural Heritage Methodology Training** Oct. 2000. Sponsored: The Nature Conservancy, Arlington, VA
- **Mussel Identification Workshop**, May 2000. Renee Sherman and Pete Badra instructors. Sponsored by Univ of Mich. Natural History Museum, Mussel Collections, Ann Arbor, MI.
- **Electrofishing Refresher Course**- June 2000. Sponsored by Michigan Department of Natural Resources, Fisheries Division, Lansing, MI.
- **Safe Jet-Boat Operation**, April 2000. Sponsored by Michigan Dept. of Natural Resources, Lansing, MI.
- **SCUBA Certification Course & Specialty Diver (Dry Suit) Dive Tests**. May 2000, SCUBA Schools International, Lansing, MI.
- **Safe Boating Class**, May 1999. Kansas Dept of Wildlife and Parks, Manhattan, KS.
- **Fish Collection Techniques**- Small Streams to Large Rivers, Backpack and Boat Electrofishing 1998. Tennessee Valley Authority, Norris, Tennessee

## Recent Presentations/Videos/Seminars/Classes Taught

- **2011 Montana Chapter of Conservation Biology 4<sup>th</sup> Annual Research Symposium**, Nov, Missoula, MT. Western pearlshell mussel translocations in the Blackfoot River watershed: conservation action in response to barriers and lost connectivity
- **2011 USFS Idaho Panhandle. Taught a Western Pearlshell Freshwater Mussel Workshop**. July 7-8, St. Maries, ID 16 participants from USFS and Nez Perce Tribe.
- **2011 Powder River Surveys**: [http://fwp.mt.gov/education/videoLibrary/outdoorReports/video\\_0237.html](http://fwp.mt.gov/education/videoLibrary/outdoorReports/video_0237.html)

- **2011 Montana Chapter American Fisheries Society 44<sup>rd</sup> Annual Meeting**, Great Falls, MT. Western Pearlshell Mussel Translocation Project in the Blackfoot River Watershed.
- **2010 Mussel Relocation:** [http://fwp.mt.gov/education/videoLibrary/outdoorReports/video\\_0181.html](http://fwp.mt.gov/education/videoLibrary/outdoorReports/video_0181.html)
- **2010 Montana Chapter American Fisheries Society 43<sup>rd</sup> Annual Meeting**, Feb, Bozeman, MT. Distribution & Population Status of Mussels in Eastern Montana: New Findings and Updates
- **2009 Northwest Biological Assessment Workgroup 20<sup>th</sup> Annual Meeting. McCall, ID** Rare Invertebrate Taxa: Bioassessment Step-Children or True Bioindicators
- **2009 Montana Chapter AWRA Meeting**, Annual Meeting Oct, Missoula, MT. Stream Ecological Classification, Ecosystem Diversity & Crucial Watershed Areas In Montana's Columbia River Basin.
- **2009 Montana Chapter American Fisheries Society 42<sup>rd</sup> Annual Meeting**, Kalispell, MT. Western Pearlshell Distribution and Status in Montana, 2 years later: It's worse than we thought.
- **2008 Mussels of Montana** [http://fwp.mt.gov/education/videoLibrary/outdoorReports/video\\_0135.html](http://fwp.mt.gov/education/videoLibrary/outdoorReports/video_0135.html)
- **2008 Montana Fish Wildlife & Parks and USFS. Western Pearlshell Freshwater Mussel Workshop.** July 5-6, Orofino, ID 16 participants.
- **2008 MTFWP and USFS. Western Pearlshell Freshwater Mussel Workshop.** July 17-18, Bozeman, MT 14 participants.
- **2008 Montana Chapter American Fisheries Society 41<sup>st</sup> Annual Meeting**, Billings, MT. Pearl Dace In The Big Muddy Creek Watershed: Extirpation Saved By The Barrier
- **2007 MTFWP and USFS. Western Pearlshell Freshwater Mussel (Margaritifera) Workshop Presentation** July 26-27, Libby, MT 16 participants.
- **2007 Montana Fish Wildlife & Parks and USFS. Western Pearlshell Freshwater Mussel Workshop Presentation** July 2 & 3, Phillipsburg, MT 18 participants.
- **2007 North American Benthological Society, 55th Annual Meeting**, June, Columbia, SC. Measuring Effective Conservation of Aquatic Ecological Systems in the Northern Great Plains Ecoregion of Montana: Gaps and Successes.
- **2007 World Wildlife Fund (WWF) Northern Great Plains Program, Defining Ecological Health in MT Prairie Streams** April. Bozeman, MT.
- **2007 Audobon Society Climate Change Lecture Series**, Helena, MT. Montana's Aquatic Species Response to Climate Change: Warming the Waters.
- **2007 US Forest Service Region 1 Macroinvertebrate Monitoring Workshop.** Aquatic Invertebrate Species of Concern on USFS Northern Region Lands, March. Missoula, MT.
- **2007 University of Montana Helena Campus. Adjunct Instructor Spring Semester *Biology I with Lab.*** *Class size 20 students*
- **2006 University of Montana Helena Campus. Adjunct Instructor Fall Semester *Biology I with Lab.*** *Class size 20 students*
- **2006 Western Regional Meeting of the American Fisheries Society**, May. Bozeman, MT. Powder River Fish Communities in Montana: Expected and Declining Species based on Historical Perspectives
- **2006 Western Regional Meeting of the American Fisheries Society**, May. Bozeman, MT. Aquatic Community Classification in Eastern Montana: Uses in Biological Assessments & Conservation.
- **2005 North American Benthological Society, 54th Annual Meeting**, June, New Orleans, LA **Comparability of Benthic Macroinvertebrate Sampling Methods in Montana Streams** David L. Feldman, Tina Laidlaw, Benjamin Jessup, James B. Stribling, David Stagliano, and Wease Bollman
- **2005 Montana Chapter of the American Fisheries Society**, Feb. Missoula, MT. Prairie Fish Community Assessments: Scientific Uses with Implications for Conservation
- **2004 Invited Presentation & Panelist Member: Aquatic Monitoring & Biological Assessments: Scientific Uses with Implications for Conservation.** (Nov) MWCC Water Quality Monitoring Work Group. Contact: Tom Pick (406)-587-6947
- **2004 USDI BLM All-Biologists Meeting**, Billings, MT. Prairie Stream Aquatic Communities on BLM lands: Uses in Community Classification, Conservation and Bioassessment.
- **2003 Society for Conservation Biology**, 17th Annual Meeting, August, Duluth, MN. Biodiversity Patterns Associated with Varied Riparian Properties of southern Michigan's Fragmented Landscape.
- **2001 North American Benthological Society**, 49th Annual Meeting, June, LaCrosse, WI.

Biodiversity of Aquatic Benthic Communities of southern Michigan: Can predictions be made?

- **2000 North American Benthological Society**, 48th Annual Meeting, June, Keystone, CO.  
Secondary Production and Trophic Structure of Aquatic Insects from a Tallgrass Prairie Stream.

## Professional Memberships & Interests

**2010-** present: MT AFS Chapter; Species of Special Concern Committee (Co-Chair)

**2007-** present: Intermountain Journal of Sciences: Associate Editor (Fisheries/Aquatics)

**2006-** present: Peer-review referee: North American Journal of Fisheries Management

**2001-** present: Peer-review referee: Wetlands, Journal of North American Benthological Society

**1998-** present: American Fisheries Society, Entomological Society of America, Xerces Society

**1994-** present: North American Benthological Society, Trout Unlimited, TNC, American Rivers

Field and classroom lecturer. Stream Ecology, Science Teachers of the Rockies, Aquatic Entomology  
Hiking & Backpacking, Fishing, Photography, Canoeing. SCUBA certified (Specialty Diver)

## References

Dr. Linda Vance  
Ecology Program Leader  
MT Natural Heritage Program  
Helena, MT 59620  
(406) 444-3380  
[Livance@mt.gov](mailto:Livance@mt.gov)

Dr. Reuben Goforth  
Professor of Aquatics/Fisheries  
Purdue University  
W. Lafayette, IN 47907  
(765) 494-0009  
[rgoforth@purdue.edu](mailto:rgoforth@purdue.edu)

T.O. Smith  
Comprehensive Planning  
MT Fish, Wildlife & Parks  
Helena, MT 59601  
(406) 444-3889 [tosmith@mt.gov](mailto:tosmith@mt.gov)

Dr. Matt Whiles  
Associate Professor of Zoology  
Southern Illinois University  
Carbondale, IL 62901  
[mwhiles@zoology.siu.edu](mailto:mwhiles@zoology.siu.edu)  
(618) 453-7639

Dr. Bryce Maxell  
Interim Director  
MT Natural Heritage Program  
Helena, MT 59620  
[bmaxell@mt.gov](mailto:bmaxell@mt.gov)  
(406) 444-3655

Travis Horton  
Native Fish Species Coordinator  
MT Fish, Wildlife & Parks  
Helena, MT 59601  
(406) 994-3155 [thorton@mt.gov](mailto:thorton@mt.gov)