

VITA

Personal

Bradley J. Swanson
Associate Professor
Director ATCG Laboratory
Department of Biology
Central Michigan University
Mt. Pleasant, MI 48859
989.774.3377
brad.swanson@cmich.edu

Education

Purdue University - West Lafayette, IN
Ph. D. 2001. Concentration: Ecological Genetics
University of Idaho - Moscow, ID
Masters of Science. 1993. Concentration: Zoology
University of Michigan - Ann Arbor, MI
Bachelor of Science. 1990. Concentration: Biology

Employment History

Central Michigan University Associate Professor of Biology	8/2006 – Present
Central Michigan University Assistant Professor of Biology	8/2001 – 7/2006
Gonzaga University Visiting Assistant Professor	8/2000– 8/2001
University of Wisconsin – Stevens Point Visiting Assistant Professor	8/1999 – 8/2000

Honors and Awards

Honors Professor of the year 2006
Provost Award for Outstanding Research 2007
Central Michigan University Teaching Excellence Award 2009

Student Supervision

Graduate Students – Major Advisor:

Thesis M.S. (Graduation date or expected graduation date)		
Valerie Bogan (2003)	Eric O’Neal (2007)	Rachael Kropiewinicki (2008)
Jennifer Gregory (2005)	Sara Bicker (2007)	Paula Veverica (2009)
Cindy Maddox (2005)	Kelly Marsack (2007)	Mekala Sundaram (2010)
Devin Millions (2005)	Todd Rigney (2007)	Renae Sattler (2010)
Jennifer Moore (2005)	Jeff Klomp (2007)	Eric Triezenberg (2010)
Eric Nelson (2006)	Clay Buchanan (2008)	
Andrew Gregory (2006)	Stephanie Sell (2008)	

Undergraduate Research:

Matthew Clay (9)*	Rachael Kropiewnicki (5)*	James Pytko (5)
Katherine Eilers (1)	Ken Luzynski (1)	Robin Ray (5) [%]
Kelsey Gibbons (4)*	Michelle Masselink (4)*	Katelyn Schumacher (5)*
Rudi Heumann (2)	John Melko (2)	Megan Senchuk (1)
Jessica Julius (1)	Rob Peters (9)*	Erin Skutnick (1)*
Rachel Konieczka (1)	Chris Powel (2)*	Rachel Spurbeck (1)*
	Glenn Stamps (4)	Caitlin McColl (1)
	Clay Buchanan (2)	Sara Trupac (1)

(number of semesters including full time summer support)

* = Honors student; % = McNair Scholar

Creative and Scholarly Activity

Refereed Publications:

1. O. Neil, E. and B. J. Swanson. In Review. Using track-plate footprints in fisher mark recapture population estimation. *Journal of Wildlife Management*.
2. Gibbons, K. K. * and B. J. Swanson. In Review. Distinguishing between recent bottleneck effects and post-glacial founder effects in smallmouth bass. *Transactions of the American Fisheries Society*.
3. Marsack, K., and B. J. Swanson. In Press. Impact of road-based fragmentation on eastern box turtles (*Terrapene c. Carolina*). *Copeia*.
4. Gregory, A. J. #, M. A. Lung, T. M. Gehring, and B. J. Swanson. In Press. Sex and Spatial Scale Matter: The Influence of Spatial Scale When Evaluating Competing Hypotheses of Sexual Segregation for Elk in Yellowstone National Park. *Journal of Mammalogy* 90 : TBD
5. Swanson, B. J. and C. J. Kyle. 2007. The importance of temporally separated reintroductions compared to geographically separated reintroductions in Michigan martens. *Journal of Mammalogy* 88: 1346 - 1348.
6. Millions, D. G. #, and B. J. Swanson. 2007. Evaluation of habitat fragmentation on population structure in bobcats. *Journal of Wildlife Management* 71: 96 – 102.
7. Swanson, B. J., B. P. Kelly, C. K. Maddox, and J. Moran. 2006. Shed skin as a source of DNA for genotyping marine Phocids. *Molecular Ecology Notes* 6: 1006 - 1009.
8. Millions, D. G. #, and B. J. Swanson. 2006. An application of Manel's method to detect bobcat poaching in Michigan. *The Wildlife Society Bulletin* 34: 150 – 155.
9. Swanson, B. J., L. R. Peters*, and C. J. Kyle. 2006. Demographic and Genetic Evaluation of an American Marten Reintroduction. *Journal of Mammalogy* 87: 272-280.
10. Swanson, B. J., and P. Ruzs. 2006. Detection and classification of cougars in Michigan using low copy DNA sources. *American Midland Naturalist* 155: 363-372.

11. Steinwald, M., B. J. Swanson, and P. M. Waser. 2006. The effects of spool-and-line tracking on small desert mammals. *The Southwestern Naturalist* 51: 71-78.
 12. Swanson, B. J., R. T. Fuhrmann, R. L. Crabtree. 2005. Elevational isolation of red fox populations in the Greater Yellowstone Ecosystem. *Conservation Genetics* 6: 123-131.
 13. Davis, C., B. Keane, B. J. Swanson, S. Loew, P. M. Waser, C. Strobeck, and R.C. Fleischer. 2000. Characterization of microsatellite loci in bannertailed and giant kangaroo rats, *Dipodomys spectabilis* and *Dipodomys ingens*. *Molecular Ecology* 9: 642 - 645.
 14. Johnson, D. R., B. J. Swanson, and J. Eger. 2000. Synchrony and cyclicity in Canadian ermine populations. *Canadian Journal of Zoology* 78: 835 - 839.
 16. Swanson, B. J. and D. R. Johnson. 1999. Distinguishing causes of intraspecific synchrony in population dynamics. *Oikos* 86: 265-274.
 15. Swanson, B. J. 1998. Autocorrelated rates of change in animal populations and their relationship to precipitation. *Conservation Biology* 12: 801-808.
 16. Swanson, B. J., and D. R. Johnson. 1996. Spatial, temporal and population size trends in the frequency of color phenotypes in the red fox. *Canadian Journal of Zoology* 74: 1622-1631.
 17. Swanson, B. J., P. M. Waser, R. T. Fuhrmann, R. L. Crabtree. 1995. Are high elevation populations of the red fox isolated in the Greater Yellowstone Ecosystem? *Proceedings - Greater Yellowstone Predators*.
- * = CMU undergraduate student # = CMU graduate student

Presentations:

2008

- S. K. Sell[#], B. P. Kelly, D. Tallmon, M. Ponce, and B. J. Swanson. Investigating population structure and philopatry in ringed seals (*Phoca hispida*) during the breeding season.
Oral Plenary Session: Marine Mammals of the Holarctic
Odessa, Ukraine
- B. J. Swanson and E. O'Neil[#]. Using track-plate footprints in fisher population estimation
Invited Symposium Speaker: Midwest Fish and Wildlife Conference.
Columbus Ohio
- S. K. Sell[#], B. P. Kelly, and B. J. Swanson. . Investigating population structure and philopatry in ringed seals (*Phoca hispida*).
Oral: American Society of Mammalogy
Brookings, South Dakota
- K. I. Schumacher^{*} and B. J. Swanson. Using microsatellites to detect bobcat poaching in Michigan.
Poster: American Society of Mammalogy
Brookings, South Dakota
- E. Kierepka[#] and B. J. Swanson. Genetic impact of habitat fragmentation on American badger populations.
Poser: American Society of Mammalogy

Brookings, South Dakota

2007

- Todd W. Rigney[#], Mark Knee, Bradley J. Swanson
Status of the black bear in the Northwestern Lower Peninsula of Michigan: A non-invasive mark-recapture population estimate study.
Oral: Society for Conservation Biology
Port Elizabeth, South Africa.
- Sara A. Bicker[#], Bradley J. Swanson, and Clay Buchanan[#]
Genetic bottleneck analysis in reintroduced populations of American martens in Michigan.
Oral: Society for Conservation Biology
Port Elizabeth, South Africa.
- Katelyn Schumacher^{*} and Bradley J. Swanson
Using microsatellites to detect inter-peninsula misreports of harvest locations for bobcats in Michigan.
Oral: Society for Conservation Biology
Port Elizabeth, South Africa.
- Paula Veverica[#] and Bradley J. Swanson
Does size Matter? Investigating allelic diversity in island and mainland populations of the red-backed salamander, *Plethodon cinereus*.
Oral: Society for Conservation Biology
Port Elizabeth, South Africa.
- Rachael Kropiewnicki[#] and Bradley J. Swanson
Comparison of dispersal rate, inbreeding, and population structure in *Sistrurus catenatus catenatus* in northern and southern Michigan.
Oral: Society for Conservation Biology
Port Elizabeth, South Africa.
- Kelsey Gibbons^{*} and Bradley J. Swanson
The ghost of bottlenecks past: population structure of smallmouth bass (*Micropterus dolomieu*) in the Beaver Island archipelago.
Poster: Society for Conservation Biology
Port Elizabeth, South Africa.
- Stephanie Sell[#], Brendan Kelly, Mervi Kunasranta, and Bradley J. Swanson
Investigating population structure and Philopatry in ringed seals during the breeding season using microsatellite DNA.
Poster: Society for Conservation Biology
Port Elizabeth, South Africa.

2006

- Todd W. Rigney[#], Mark Knee, Bradley J. Swanson
Status of the black bear in the Northwestern Lower Peninsula of Michigan: A non-invasive mark-recapture population estimate study.
Oral: Native American Fish And Wildlife Conference, Great Lakes Region – Manistee, MI.
- Sara A. Bicker[#], Eric A. Nelson[#], and Bradley J. Swanson

Genetic bottleneck analysis in reintroduced populations of American martens in Michigan.

Poster: The Wildlife Society – Anchorage, AK.

Clay Buchanan[#], Bradley J. Swanson, Thomas M. Gehring

Habitat Use By American Marten In Hardwood Dominated Forests.

Poster: The Wildlife Society – Anchorage, AK.

Jeffrey A. Klomp[#] and Bradley J. Swanson

River otters of Oregon: using genetics to identify population structure.

Poster: The Wildlife Society – Anchorage, AK.

Kelly A. Marsack[#] and Bradley J. Swanson

The Effects of Habitat Fragmentation on the Eastern Box Turtle (*Terrapene c. carolina*)

Poster: The Wildlife Society – Anchorage, AK.

Todd W. Rigney[#], Mark Knee, Bradley J. Swanson

Status of the black bear in the Northwestern Lower Peninsula of Michigan: A non-invasive mark-recapture population estimate study.

Poster: The Wildlife Society – Anchorage, AK.

Todd W. Rigney[#], Mark Knee, Bradley J. Swanson

Status of the black bear in the Northwestern Lower Peninsula of Michigan: A non-invasive mark-recapture population estimate study.

The Wildlife Society – Anchorage, AK.

Invited Seminar Presentation at the Native American Wildlife Symposium

Sara A. Bicker[#], Eric A. Nelson[#], and Bradley J. Swanson

Genetic bottleneck analysis in reintroduced populations of American martens in Michigan.

Oral: Midwest Furbearers Meeting – Sault Ste. Marie, MI.

Clay Buchanan[#], Bradley J. Swanson, Thomas M. Gehring

Habitat Assessment of American Marten In the Lower Peninsula of Michigan.

Oral: Midwest Furbearers Meeting – Sault Ste. Marie, MI.

Jennifer Gregory[#] and Bradley J. Swanson

Interpeninsula dispersal of river otters in Michigan.

Oral: Midwest Furbearers Meeting – Sault Ste. Marie, MI.

Bradley J. Swanson, John Moran, and Brendan P. Kelly. Breeding Stock

Structure of Ringed Seals (*Phoca hispida*).

Oral: Marine Mammals of the Holarctic IV – St. Petersburg Russia.

Kelsey Gibbons^{*} and Bradley J. Swanson

The ghost of bottlenecks past: genetic evaluation of a recent population decline in bass.

Poster: American Association for the Advancement of Science – St. Louis, MO.

2005

L. Robert Peters^{*}, M. Clay^{*}, and Bradley J. Swanson.

Evaluation of an assumption of the M-ratio bottleneck test.

Oral: Society for Conservation Biology – Brasilia, Brazil.

L. Robert Peters^{*}, Christopher J. Kyle, and Bradley J. Swanson

Demographic and genetic evaluation of an American marten reintroduction.

Poster: Society for Conservation Biology – Brasilia, Brazil.
Cynthia Maddox[#], and Bradley J. Swanson
Genetic evaluation of a reintroduced population of black-footed ferrets.
Oral: Society for Conservation Biology – Brasilia, Brazil.
Rachel Kropiewnicki^{*}, J. Moore[#], and Bradley J. Swanson.
Population size, interpopulation dispersal rate, inbreeding, and population structure in *Sistrurus catenatus catenatus*.
Poster: Society for Conservation Biology – Brasilia, Brazil.
Robin Ray^{*} and Bradley J. Swanson.

The influence of habitat fragmentation on a mesocarnivore.
Oral: Ecological Society of America – Montreal, Quebec.
Bradley J. Swanson.
Martens and fishers and bobcats oh my! Using genetics to help manage furbearer populations.
Invited: Department of Biology, Hope College – Holland, MI.

Bradley J. Swanson.
Martens and fishers and bobcats oh my! Using genetics to help manage furbearer populations.
Invited: Department of Biology, University of Alaska Southeast – Juneau, Alaska.

Bradley J. Swanson.
CSI Wildlife: Using forensic science to prosecute wildlife crimes.
Invited: Evening at Egan Community Lecture Series, University of Alaska Southeast – Juneau, Alaska.

Bradley J. Swanson.
Martens and fishers and bobcats oh my! Using genetics to help manage furbearer populations.
Invited: Department of Biology, Western Michigan University – Kalamazoo, MI.

2004

Bradley J. Swanson and L. Robert Peters^{*}
Genetic evidence of a successful marten reintroduction.
Oral: American Society of Mammalogy – Arcata, CA.

Jennifer Gregory[#] and Bradley J. Swanson
Interpeninsula dispersal of river otters in Michigan.
Oral: American Society of Mammalogy – Arcata, CA.

Cindy Maddox[#] and Bradley J. Swanson
Comparison of genetic and demographic estimates of effective population size in blackfooted ferrets.
Oral: American Society of Mammalogy – Arcata, CA.

Devin Millions[#] and Bradley J. Swanson
Development of a genetic method for detecting bobcat poaching.
Oral: American Society of Mammalogy – Arcata, CA.

Robin Ray^{*} and Bradley J. Swanson
Conservation genetics of Michigan badgers.
Oral: American Society of Mammalogy – Arcata, CA.

Matthew R. Clay^{*}, Neil Neimuth, Bradley J. Swanson
How lek breeding preserves genetic variation in isolated populations.
Poster: American Association for the Advancement of Science – Seattle, WA.
Bradley J. Swanson
And everywhere that Mary went her genes were sure to go: the influence of
landscape on genetic variation.
Invited: The Ohio State University – Columbus, OH.

2003

Bradley J. Swanson
Influence of habitat on patterns of genetic variation in successfully
reintroduced populations of martens.
Oral: Society for Conservation Biology – Duluth, MN.
Bradley J. Swanson
A landscape level mapping of fisher genetic variation using GIS.
Oral: The Wildlife Society – Burlington, VT.

2002

Bradley J. Swanson
Molecular ecology: the intersection of genetics and ecology.
Invited: Saginaw Valley State University.
Bradley J. Swanson, Neil Neimuth
The role of habitat fragmentation in the erosion of genetic diversity in lek
breeding grouse.
Oral: The Wildlife Society – Bismark, ND.
Bradley J. Swanson, Neil Neimuth
The role of habitat fragmentation in the erosion of genetic diversity in lek
breeding grouse.
Oral: Society for Conservation Biology – Kent, England.

* = CMU undergraduate student

= CMU graduate student

Grants And Contracts:

External Grants – (\$451,032 Funded)

2006

Genetic determination of population structure in ringed seals
North Pacific Research Board
\$211,671
Co-PI with Dr. Brendan Kelly UAS

2005

A genetic evaluation of the eastern massasauga (*Sistrurus c. catenatus*)
Michigan DNR
2006
\$10,547

Genetic mark-recapture population estimate of black bears
US Fish & Wildlife Service / Little River Band of Ottawa
2005 – 2007
\$45,000

2004

Genetic Evaluation of Northern Lower Peninsula Marten
US Fish & Wildlife Service / Grand Traverse Band of Ottawa
2004 – 2007
\$123,827
Co-PI with Tom Gehring

Molecular Population Size Estimation of Marten in Michigan's Lower Peninsula
Michigan DNR
2004 – 2006
\$34,340

A genetic evaluation of the eastern massasauga (*Sistrurus catenatus*) in Michigan
Michigan DNR
2004 – 2004
\$6,547

2002

Movement of yellow perch between drowned river mouth lakes and Lake Michigan.
Michigan DNR
2002 – 2002
\$5600

Genetic effects of a reintroduction in blackfooted ferrets
Prairie Wildlife Research
2002 – 2003
\$10,500

2000

Consequences of habitat fragmentation in sharp-tailed grouse.
U.S. Department of Agriculture
2000 – 2001
\$3,000

Contract Work (\$112,235)

2008

Wisconsin Department of Natural Resources
Genetic analysis of sharp-tailed grouse for species recovery.
\$6,000

ATCG Forensic Science Summer Camp
Two one-week long camp sessions exposing high school students to forensic techniques
\$17,500

2007

University of New Mexico
Scat-based analysis of bobcat diet
\$3,500

ATCG Forensic Science Summer Camp
Two one-week long camp sessions exposing high school students to forensic techniques
\$20,500

Isabella County Sheriff's Department

Identification of skeletal remains in missing persons case
Pro Bono

Isabella County Sheriff's Department
Identification of skeletal remains in missing persons case
Pro Bono

Isabella County Sheriff's Department
Identification of skeletal remains in missing persons case
Pro Bono

2006

Almont Police Department
Deer poaching analysis
\$200

ATCG Forensic Science Summer Camp
Three one-week long camp sessions exposing high school students to
forensic techniques
\$32,500

Michigan Wildlife Conservancy
Determine source species from scat samples
\$760

North Dakota Game and Fish Department
Determine source species from scat sample
\$375

University of New Mexico
Scat-based analysis of bobcat diet
\$5,500

North Dakota Game and Fish Department
Determine source species from scat sample
\$375

Grand Traverse Conservancy
Determine source species from scat sample
\$100

Isabella County Sheriffs Office
Two species determination of bones for missing person case
Pro bono

2005

Michigan Department of Natural Resources
Deer poaching analysis
Pro bono

University of Nebraska - Kearney
Determine source species and sex from scat sample
\$360

University of Kansas
Diet analysis and sex determination from cougar scat
\$300

University of Alaska
Seal genetics

\$14,000

Michigan Wildlife Conservancy

Determine source species from hair samples

\$150

Wildlife Trackers, Columbus, OH

Determine source species from scat sample

\$300

Private Individual

Determine source species from scat sample

\$145

Michigan Wildlife Conservancy

Determine source species from scat and bone samples

Pro bono

Michigan DNR

Determine source species from scat sample

Pro bono

2004

Michigan DNR

Determination of relatedness for Blanding's turtles

Pro bono

Pennsylvania Game Commission

Determine source species from hair and footprint samples.

\$300

Michigan DNR

Determine if blood from pen is a genetic match to suspect's deer.

Pro bono

Michigan DNR

Determine source species from scat sample

Pro bono

2003

University of Kansas

Determine source species from scat sample

\$300

Missouri Department of Conservation

Determine if suspect's pelts are a genetic match to carcasses

\$1,125

Missouri Department of Conservation

Determine continent of origin of road killed cougar

Determine species identity for hair in scat

\$950

Missouri Department of Conservation

Determine continent of origin of road-killed cougar

\$500

Wildlife Trackers

Determine source species from scat sample

\$300

Bothell Washington Police Department
Determine source of mortality for mutilated cats
\$450

Salt Lake City Police Department
Determine source of mortality for mutilated cats
\$125

2002

Wildlife Trackers
Determine source species from scat sample
\$300

North Dakota Fish and Game
Determine source species from scat sample
\$400

North Dakota Fish and Game
Determine source species from scat sample
\$400

North Dakota Fish and Game
Determine source species from scat sample
\$600

Maine Department of Inland Fisheries and Wildlife
Determine source species from scat sample
\$300

Wyoming Department of Wildlife
Determine source species from scat sample
\$220

Michigan Wildlife Conservancy
Determine source species from scat sample
\$3,400

Grants – Internal (\$337,762)

2008

Genetic evaluation of moose on Isle Royal
PRIF - \$14,915

2004

Creation of the Applied Technology in Conservation Genetics Center
REF – \$148,406

2003

Trackplate fingerprinting of fisher as a method of population estimation
FRCE – \$7490

2002

The influence of reintroductions, dispersal, and population size on genetic variation.
PRIF – \$24,981

Estimating rates of loss of genetic variation in free-ranging black footed ferrets and the implications for future reintroductions
FRCE – \$7490

2001

Estimating population characteristics of the bobcat using molecular genetics.

REF – \$126,802

Estimation of genetic variation in Michigan Sharp-tailed grouse.

FRCE – \$7480