

***CURRICULUM VITAE***  
**EDWARD ROBERT ATWILL**

2009 Haring Hall  
School of Veterinary Medicine  
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October 23, 2009

**EDUCATION**

- |      |          |   |
|------|----------|---|
| 1994 | Ph.D.    | Section of Epidemiology, Department of Clinical Sciences, College of Veterinary Medicine, Cornell University.           |
| 1991 | M.P.V.M. | Department of Epidemiology and Preventive Medicine, University of California, Davis. Track: herd health & epidemiology. |
| 1990 | D.V.M.   | University of California, Davis. Track: food animal.  |
| 1985 | B.A.     | University of California, San Diego. Major: animal physiology.  |

**EMPLOYMENT AND RESEARCH POSITIONS**

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|---------|--|
| 2008+   | <u>Professor (50%)</u> , Department of Population Health and Reproduction, School of Veterinary Medicine and <u>Cooperative Extension Specialist (50%)</u> , Veterinary Medicine Extension, University of California, Davis. Research and extension activities focused on the microbial interaction between livestock, wildlife, the environment, and public health. |
| 2007+   | <u>Interim Director</u> , Western Institute for Food Safety and Security, University of California, Davis.   |
| 2003-07 | <u>Veterinarian (50%)</u> , Department of Population Health and Reproduction, School of Veterinary Medicine and <u>Full Cooperative Extension Specialist (50%)</u> , Veterinary Medicine Extension, University of California, Davis.   |
| 1999-03 | <u>Associate Veterinarian (50%)</u> , Department of Population Health and Reproduction, School of Veterinary Medicine and <u>Associate Cooperative Extension Specialist (50%)</u> , Veterinary Medicine Extension, University of California, Davis.  |
| 1994-99 | <u>Assistant Veterinarian (50%)</u> , Department of Population Health and Reproduction, School of Veterinary Medicine and <u>Assistant Cooperative Extension Specialist (50%)</u> , Veterinary Medicine Extension, University of California, Davis.  |

**AREAS OF SPECIALIZATION**

Epidemiology of waterborne zoonotic pathogens and preharvest microbial food safety  
Biotic and abiotic processes governing fate, transport, and dissemination of zoonotic diseases  
Developing beneficial management practices for microbial food safety and environmental quality

**GRANTS**

- 2009-13 Transport and mitigation of beef cattle veterinary pharmaceuticals and hormones in surface and sub-surface runoff from grazing lands. National Research Initiative Competitive Grants Program, United States Department of Agriculture, \$399,809, Co-Principal Investigator.
- 2009-11 Scent detection dogs: an unused tool for food safety. Specialty Crop Block Grant Program, California Department of Food and Agriculture, \$125,000, Principal Investigator.
- 2009-10 *E. coli* risks associated with grazing sheep in vegetable stubble fields, orchards and vineyards. American Sheep and Goat Center, \$39,907, Co-Principal Investigator.
- 2009 Developing a Web-based Course for Ranchers, Farmers, and Growers Regarding Waterborne Pathogens in Agricultural Watersheds. Natural Resource Conservation Service, USDA, \$35,019, Principal Investigator.
- 2008-13 FDA Western Center for Food Safety. Food and Drug Administration, \$10,080,000, Principal Investigator.
- 2008 Revision of “Waterborne Pathogens in Agricultural Watersheds.” Natural Resource Conservation Service, USDA, \$46,778, Principal Investigator.
- 2008-10 Innovative nursery-rearing for improving rhesus macaques as biomedical models. National Center for Research Resources, National Institutes of Health, \$415,250, Co-Investigator.
- 2007-10 Behavioral management of deleterious aggression in rhesus macaques. R24 Program, National Center for Research Resources, National Institutes of Health, \$1,093,000, Co-Investigator.
- 2007-09 Statewide coordination of food safety outreach programs for fresh produce. Agriculture and Natural Resources Temporary Funds, University of California, \$150,000, Co-Principal Investigator.
- 2007-10 Reducing human health risks from animal agriculture: comparative analysis of the transmission of multiple zoonotic pathogens in mixed-use agricultural systems. National Research Initiative Competitive Grants Program, United States Department of Agriculture, \$390,999, Co-Principal Investigator.
- 2007-10 Ecology and epidemiology of *Escherichia coli* O157:H7 in fresh produce production regions on the central California coast. National Research Initiative Competitive Grants Program, United States Department of Agriculture, \$471,000, Co-Principal Investigator.
- 2007 WIFSS specialty crop funds. California Department of Food Agriculture, \$500,000, Co-Principal Investigator.
- 2007-09 Bernice Barbour Communicable Disease Laboratory. Bernice Barbour Foundation, \$375,000, Co-Principal Investigator.
- 2006-10 Ecology and epidemiology of *Escherichia coli* O157:H7 in fresh produce production regions of Salinas, California. National Research Initiative Competitive Grants Program, United States Department of Agriculture, \$1,177,000, Co-Principal Investigator.
- 2006-09 Efficacy of grassland buffers for reducing *Salmonella*, *Cryptosporidium parvum*, and rotavirus in rangeland runoff. National Research Initiative Competitive Grants Program, United States Department of Agriculture, \$398,716, Principal Investigator.

**GRANTS (continued)**

- 2005-06 Beneficial management practices for reducing high fluxes of indicator bacteria and *C. parvum*. Center for Food Animal Health, \$20,000, Principal Investigator.
- 2005-07 Modeling bacterial contamination of commercial oysters in Northern California. Center for Food Animal Health, \$20,000, Principal Investigator.
- 2005-06 Intra-sample variability of *E. coli* enumeration for ambient water. State Water Resource Control Board, State of California, \$25,000, Co-Principal Investigator.
- 2005-06 Survey of water quality impacts and associated management practices that occur on irrigated pastures. Division of Agriculture and Natural Resources, University of California, \$33,902, Co-Investigator.
- 2005-08 Demonstration of on-farm vegetated buffers for reducing NPS pathogen pollution into tributaries of the Fresno and San Joaquin Rivers. Proposition 13 CALFED Drinking Water Quality Program, \$341,761, Co-Principal Investigator.
- 2005-09 Source identification, monitoring, and outreach for reducing agricultural pathogens into the Sacramento-San Joaquin Delta Estuary. Proposition 50 CALFED Drinking Water Quality Program, \$899,776, Principal Investigator.
- 2005-09 Implementation of buffer, irrigation, and grazing BMPs to reduce pathogens, TOC/DOC, and turbidity from rangeland and irrigate pastures. Proposition 50 CALFED Drinking Water Quality Program, \$886,133, Co-Principal Investigator.
- 2005-10 Long term risk of groundwater and drinking water degradation from dairies and other nonpoint sources in the San Joaquin Valley. Proposition 50 CALFED Drinking Water Quality Program, \$1,557,661, Co-Principal Investigator.
- 2004-08 Association of *Cryptosporidium parvum* with sedimentary biofilms: implications for natural attenuation during transport in watersheds. National Research Initiative Competitive Grants Program, United States Department of Agriculture, \$475,000, Co-Principal Investigator.
- 2003-08 Determining mitigation strategies to prevent contaminants from animal feeding operations from entering drinking water sources. Proposition 13 Non-Point Source Pollution Control, State Water Resources Control Board-CALFED Drinking Water Quality Program, \$568,000, Co-Investigator.
- 2003-07 Characterizing sediment-associated reservoirs of fecal coliforms and *E. coli* at freshwater-coastal interfaces in Northern California. Proposition 13 Coastal Nonpoint Source Control Grant Program, State Water Resources Control Board, \$306,736, Principal Investigator
- 2003-04 Estimating the ID<sub>50</sub> for calves given *Cryptosporidium parvum* isolated from *Sciuridae*. USDA Formula Funds, School of Veterinary Medicine, UC Davis. \$20,000, Principal Investigator.
- 2003-05 Regional approaches to water protection from nonpoint sources of microbial contamination. United States Department of Agriculture, \$164,928, Co-Investigator.
- 2003-04 The effect of rehabilitation on antibiotic resistance of gastrointestinal bacteria in elephant seals. Oiled Wildlife Care Network, \$30,000, Co-Principal Investigator.
- 2003-05 Tracking sources of *Toxoplasma* infection in California sea otters. Morris Animal Foundation, \$120,000, Co-Investigator.

**GRANTS (continued)**

- 2003-04 Confirmation of riparian-friendly grazing project results and development of achievable, site specific reference conditions for grazed riparian areas. Sustainable Agriculture Research and Extension, United States Department of Agriculture, \$93,184, Co-Investigator.
- 2002-05 Risk of *Listeria monocytogenes* in dairy and beef herds. Integrated Research, Education and Extension Competitive Grants Program, United States Department of Agriculture, \$395,000, Co-Principal Investigator.
- 2002-05 Efficacy of vegetative buffers for simultaneous removal of waterborne protozoa and bacteria from animal agricultural runoff. North American Branch of the International Life Sciences Institute, Technical Committee on Food Microbiology. \$108,947, Principal investigator.
- 2002-04 Ecology of intermittent *Salmonella* infections in a dairy milkshed. National Research Initiative Competitive Grants Program, United States Department of Agriculture, \$602,628, Co-Principal Investigator.
- 2002-04 *Cryptosporidium* in bivalves as indicators of fecal pollution in California coastal ecosystems. Water Resource Center, University of California, \$56,000, Co-principal investigator.
- 2002-04 Evaluating the effectiveness of vegetated buffers to remove nutrients, pathogens, and sediment transported in runoff from grazed, irrigated pastures. Water Resources Center, University of California. \$56,000, Co-principal investigator.
- 2002-06 Bacterial and protozoal contamination of near-shore marine environments in California, with ecologically sustainable management recommendations. California Sea Grant College Program, \$351,755, Principal Investigator.
- 2001-05 Enhancing Microbial Water Quality in High Sierra Watersheds. Rangeland Water Quality Workgroup, Division of Agriculture and Natural Resources, University of California & San Francisco Public Utilities Commission, \$82,111, Principal investigator
- 2001-04 Water quality on California rangeland watersheds. Integrated Research, Education, and Extension Service, United States Department of Agriculture, \$570,000, Co-principal investigator.
- 2001-05 Integrated approach to pre-harvest control of toxin-producing *Escherichia coli*. National Food Safety Initiative, Cooperative State Research, Extension, and Education Service, United States Department of Agriculture, \$564,124, Co-principal investigator.
- 2001-05 Natural attenuation of *Cryptosporidium parvum* during transport in watersheds. National Research Initiative Competitive Grants Program, United States Department of Agriculture, \$320,000, Co-principal Investigator
- 2001-05 Bernice Barbour Communicable Disease Laboratory. Bernice Barbour Foundation, \$1,200,000, Co-principal investigator.
- 2001-02 Management of corrals and pastures to reduce pollutant loading to coastal watersheds. Sustainable Agriculture Research and Education Program, University of California. \$16,623, Co-investigator.
- 2001 Riparian friendly grazing project. Western Sustainable Agriculture Research and Education Program, Cooperative State Research, Extension, and Education Service, United States Department of Agriculture, \$24,714, Co-principal investigator.

**GRANTS (continued)**

- 2001-2 Epidemiology and antibiotic resistance of environmental *Streptococcus* causing mastitis on California dairies. Center for Food Animal Health, School of Veterinary Medicine, UC Davis. \$31,550, Co-investigator.
- 2000-03 Farm-to-fork food safety for specialty poultry producers. National Food Safety Initiative, Cooperative State Research, Extension, and Education Service, United States Department of Agriculture, \$521,886, Co-investigator.
- 2000 Influence of lagoon and stockpile manure management on pathogen loading of the Tomales Bay watershed. Competitive Grants Program, Division of Agriculture and Natural Resources, UC Regents, \$5,975, Co-principal investigator.
- 2000-03 Optimization and design criteria of vegetative buffer strips for removal of waterborne *Cryptosporidium parvum* from animal agricultural runoff. Initiative for Future Agricultural and Food Systems, Cooperative State Research, Extension, and Education Service, United States Department of Agriculture, \$276,458, Principal Investigator (8.6% funding rate).
- 2000-02 California Water Quality Survey. Competitive Grants Program, Division of Agriculture and Natural Resources, UC Regents, \$53,800, Co-principal investigator.
- 2000 Assessing *E. coli* O157:H7 shedding and noxious weed seeds in feces from San Francisco Bay Area horses. Private donors. \$15,000, Principal Investigator.
- 2000 Prevalence and distribution of genotypes of *Cryptosporidium parvum* in feedlot cattle in California. USDA Formula Funds, \$20,000, Principal investigator.
- 2000-02 Developing a Warner Ranch grazing management plan. Vista Irrigation District. \$45,008, Co-principal investigator.
- 2000 California water quality survey in rangeland streams. California Farm Bureau Federation; Grazing Advisory Committee-Section 15 of the Bureau of Land Management, Kern County; California Cattlemen's Association. \$14,500, Co-principal investigator.
- 2000-02 Prevalence and distribution of genotypes of *Cryptosporidium parvum* in United States feedlot cattle. US Environmental Protection Agency, STAR Environmental Research Grants Competition. \$248,461, Principal investigator.
- 1999-02 Improving Tomales Bay water quality through watershed management. Marin Community Foundation. \$112,040, Co-principal investigator.
- 1999-02 Ecologic Assessment of *Salmonella Enteritidis* var *Typhimurium* in a dairy milkshed. USDA National Research Initiative Competitive Grants Program. \$600,000, Co-principal investigator.
- 1999-00 Engineering vegetative buffer strips for removal of *Cryptosporidium parvum* from runoff from dairies and grazed agricultural land. North American Branch of the International Life Sciences Institute, Technical Committee on Food Microbiology. \$57,710, Principal investigator.
- 1999-02 Protecting public health and water quality by proper dairy lagoon water application. Water Quality Special Programs, Cooperative State Research, Education and Extension Service, USDA. \$37,300, Co-investigator.
- 1999-00 Measuring solar inactivation of *Cryptosporidium parvum*, *E. coli* O157:H7, and *Campylobacter jejuni* in cattle manure. California Beef Council. \$34,200, Principal investigator.

**GRANTS (continued)**

- 1998-03 Assessing non-point source contamination of *Cryptosporidium parvum* attributable to cow-calf operation on a municipal drinking water reservoir. Modesto Irrigation District. \$90,156, Principal investigator.
- 1999-00 Genetic diversity of *Campylobacter jejuni* isolated post-harvest from skin and digestive tract of commercial broiler chicken carcasses. Center for Food Animal Health, School of Veterinary Medicine, UC Davis. \$19,920, Co-investigator.
- 1998-00 Identification of on-farm reservoir(s) and route(s) of transmission of *Cryptosporidium parvum* in dairy calves. USDA Formula Funds, \$40,000, Principal investigator.
- 1998-02 Assessing non-point source contamination of *Cryptosporidium parvum* attributable to a dairy replacement heifer operation on a municipal drinking water reservoir. Vista Irrigation District. \$47,754, Principal investigator.
- 1998-99 Genomic comparisons of *Campylobacter jejuni* isolates exhibiting high or low colonization prevalences within beef cattle herds. Center for Food Animal Health, School of Veterinary Medicine, UC Davis. \$19,578, Principal investigator.
- 1998-00 Epidemiology of waterborne pathogens in California ground squirrels (*Spermophilus beecheyi*). Section 15 Bureau of Land Management, Grazing Advisory Committee, Bakersfield, California. \$8,000, Principal investigator.
- 1998-99 Comparison of the antibiotic sensitivity of *Campylobacter jejuni* originating from avian, cattle, and human sources in the Central Valley of California. Center for Food Animal Health, School of Veterinary Medicine, UC Davis. \$21,060, Co-principal investigator.
- 1998-01 Impact of waste management on chronic exposure of dairy cattle to well water nitrate. California Dairy Research Foundation. \$152,298, Co-investigator.
- 1998-99 Post-harvest food safety: prevalence of *Campylobacter* and *Salmonella* at a squab processing plant. Center for Food Animal Health, School of Veterinary Medicine, UC Davis. \$3,575, Co-principal investigator.
- 1998-99 Determining critical guidelines for assuring the inactivation of bacteria with potential as human health hazards in stacked poultry litter. U.S. Poultry and Egg Association. \$23,028, Co-principal investigator.
- 1998-99 Risk assessment of avian cellulitis in broiler chickens. Foster Farms, Zacky Farms, and the California Poultry Industry Federation. \$50,000, Co-principal investigator.
- 1998-99 Reconfirmation that adult beef cattle shed trivial amounts of *Cryptosporidium parvum* in their manure. California Beef Council and the California Cattlemen's Association, \$14,100, Principal investigator.
- 1998-99 Safety and risk assessment of bacterial pathogens in poultry litter. Veterinary Medicine Extension, School of Veterinary Medicine, UC Davis, \$10,000, Co-principal investigator.
- 1998-99 Understanding the fate of *Cryptosporidium* in groundwater. Competitive Grants Program, Division of Agriculture and Natural Resources, UC Regents, \$29,245, Co-principal investigator.
- 1998-99 North Coast rangeland watershed and water quality study. Competitive Grants Program, Division of Agriculture and Natural Resources, UC Regents, \$28,500, Co-principal investigator.

**GRANTS (continued)**

- 1998-99 Shedding of human pathogens by small mammals in grazed and ungrazed watersheds. Competitive Grants Program, Division of Agriculture and Natural Resources, UC Regents, \$29,811, Co-principal investigator.
- 1997-99 Assessment of the molecular epidemiology of waterborne *Cryptosporidium* with respect to origin. American Water Works Association Research Foundation, \$240,211, Co-principal investigator
- 1997-99 North coast rangeland watershed and water quality study. Private donor, \$36,937, Co-principal investigator.
- 1997-99 Molecular characterization of *Cryptosporidium* spp. to discriminate between isolates based on in-vitro infectivity, animal host, and geographic origin. USDA National Research Initiative Competitive Grants Program, \$110,233, Co-principal investigator.
- 1997-99 Assessing the risk of using treated waste water for irrigation as a source of *Cryptosporidium parvum* and *Giardia duodenalis* for beef cattle. Tuolumne Utility District, \$2,500, Co-principal investigator.
- 1997-99 Hydrological transport of *Cryptosporidium parvum* from beef cattle manure and grass strip attenuation. Center for Food Animal Health, School of Veterinary Medicine, UC Davis, \$6,000, Co-principal investigator.
- 1997-99 Calf drinking water as a critical control point for *E. coli* O157:H7: a survey of California dairies. Center for Food Animal Health, School of Veterinary Medicine, UC Davis, \$5,000, Co-investigator.
- 1997 Effect of a direct-fed microbial product on calf performance and health. Conklin Health and Vetrepharm Research, \$3,000, Co-principal investigator.
- 1997 Immunoboost K clinical trial for calfhooed diarrhea. Boehringer Ingleheim Animal Company, Inc., Shakopee, Minnesota, \$2,000, Co-investigator.
- 1997 Do off-the-ground fecal samples reliably estimate fecal shedding of zoonotic pathogens in beef cattle herds. USDA Formula Funds, \$14,580, Principal investigator.
- 1996 Monitoring dairy flush water for *Cryptosporidium parvum* and *Giardia duodenalis*. Orange County, California, \$1,000, Co-principal investigator.
- 1996-99 Development of DNA fingerprinting technology for identifying the adulterating sources(s) of the protozoal pathogen, *Cryptosporidium parvum*, in contaminated drinking water. Alameda County District Attorney's Office, \$106,678, Principal investigator.
- 1996-98 Removal and concentration of *Cryptosporidium parvum* oocysts by freshwater bivalve *Corbicula fluminae*: application to improving environmental assays for *C. parvum* oocysts and to reducing oocyst concentrations in surface water. Water Resources Center, University of California, \$50,300, Principal investigator.
- 1996-97 Identification of the reservoir and route of infection for *Cryptosporidium parvum* for rangeland cattle: ramifications for human health and surface water quality. Competitive Special Grants Program, Division of Agriculture and Natural Resources, UC Regents, \$25,000, Principal investigator.
- 1996-97 Fate and transport of non-point source pollution in grazed rangeland watersheds. Competitive Special Grants Program, Division of Agriculture and Natural Resources, UC Regents, \$24,500, Co-principal investigator.

**GRANTS (continued)**

- 1996-97 Human and livestock health implications of wild pigs in California: disease prevalences and population research. Competitive Special Grants Program, Division of Agriculture and Natural Resources, UC Regents, \$16,000, Co-investigator.
- 1996-97 Medical ecology of *Cryptosporidium parvum* in California llamas: ramifications for watershed quality and access to public lands. California Section of the International Llama Association, \$2,500, Co-principal investigator.
- 1996-97 The prevalence of and associated risk factors for shedding critical water- and food-borne pathogens in California beef cow-calf herds. Livestock Disease Research Laboratory, School of Veterinary Medicine, UC Davis, \$8,980, Principal investigator.
- 1996 Assessing the environmental survivability of bovine-derived *Cryptosporidium parvum* oocysts and *Giardia duodenalis* cysts on cow-calf rangelands. USDA Formula Funds, \$10,000, Principal investigator.
- 1996 Modeling the survivability of *Cryptosporidium parvum* oocysts in bovine feces: ramifications for water quality. American Veterinary Medical Foundation, \$8,820, Principal investigator.
- 1996 Epidemiology of *Cryptosporidium parvum* and *Giardia duodenalis* in horses of the Western Sierra Backcountry. Student Internship Program, Renewable Resources Extension Act, Division of Agriculture and Natural Resources, University of California, \$2,760, Principal investigator.
- 1995-96 Assessing the environmental risk from rangeland cattle shedding *Cryptosporidium parvum* in their feces. Sustainable Agriculture Research & Education Program, UC Cooperative Extension, \$7,966, Principal investigator.
- 1995-98 Medical ecology and molecular epidemiology of *Cryptosporidium parvum* in California horses: ramifications for watershed quality and access to public lands. Center for Equine Health and Performance, School of Veterinary Medicine, UC Davis, \$49,201, Principal investigator.
- 1995-96 The prevalence of and associated risk factors for shedding critical water- and food-borne pathogens in California beef cow-calf herds. Livestock Disease Research Laboratory, School of Veterinary Medicine, UC Davis, \$9,180, Principal investigator.
- 1995 Clinical Evaluation of Orally-Administered Lactic Acid-Producing Bacteria and Oral Vaccine for Prevention of *Cryptosporidium parvum* in Dairy Calves, Gruppo Ricerca Italiano Malattie Infettive, Rome, Italy, \$3,000, Co-principal investigator.
- 1995-96 Evaluation of the potential for pathogen contamination of surface water and the attenuation effectiveness of grass buffer strips in grazed watersheds. Combined Cooperative Extension/Applied Research Special Grants Program, Division of Agriculture and Natural Resources, UC Regents, \$29,000, Co-principal investigator.
- 1994-95 *Cryptosporidium* and Water Quality / Livestock and Human Waste Management / Public Health Conference, Special Conference Funding Program, Division of Agriculture and Natural Resources, University of California, \$11,000, Co-Chair.



**GRANTS (continued)**

- 1994-95 Medical Ecology and Molecular Epidemiology of *Cryptosporidium spp* in California, Special Grants Program, Division of Agriculture and Natural Resources, University of California, \$15,900, Co-principal investigator.
- 1994-95 Medical Ecology of *Cryptosporidium parvum* in central California cow-calf beef herds, New Faculty Research Grant Program, UC Davis, \$2,846, Principal investigator.
- 1994-95 The prevalence of shedding of *Cryptosporidium parvum* and *Giardia duodenalis* in horses used for backcountry recreation, Backcountry Horsemen of California, \$1,000, Co-investigator.
- 1992-94 The Epidemiology of Equine Monocytic Ehrlichiosis, USDA National Research Initiative Competitive Grants Program, \$75,000, Co-principal investigator.
- 1992-93 Studies of Genomic Variation among *Ehrlichia risticii* Isolates, American Association of Equine Practitioners, \$3,400, Principal investigator.
- 1991-93 The Epidemiology of Potomac Horse Fever in New York State, Harry M. Zwieg Memorial Fund for Equine Research Program, \$35,000, Co-investigator.
- 1992-93 Improving Risk Assessment in Veterinary Epidemiologic Studies, Consolidated Research Grants, USDA Animal Health and Diseases Research Program, \$6,810, Principal investigator.
- 1991-92 The Epidemiology of Potomac Horse Fever in New York State: Prospective Study, Unrestricted Alumni Funds, College of Veterinary Medicine, Cornell University, \$3,900, Co-principal investigator.

**NATIONAL SERVICE**

- 2005-06 Land and Water Use Dynamics Subcommittee, Water Task Force, Commission on Food, Environment and Renewable Resources, National Association of State Universities and Land Grant Colleges, Member.
- 2001-03 Confined Animal Feeding Operations Technical Advisory Workgroup, Government Affairs Office, American Water Works Association, Member. Provide critical reviews of proposed federal legislation or federal research projects.
- 1997-03 Source Water Protection Technical Advisory Workgroup, Water Utilities Council, Government Affairs Office, American Water Works Association, Member. Provide critical reviews of proposed federal legislation or federal research projects.
- 1997-98 Water Initiative Task Force, Commission on Food, Environment and Renewable Resources, National Association of State Universities and Land Grant Colleges, Member.

**EDITORIAL AND GRANT REVIEW SERVICE**

- 2008-09 Ad hoc Reviewer, Journal of Environmental Management
- 2008-09 Ad hoc Reviewer, Applied and Environmental Microbiology
- 2008-09 Ad hoc Reviewer, Journal of Environmental Quality
- 2006-07 Ad hoc Reviewer, Water Resources Research
- 2006-07 Ad hoc Reviewer, Risk Analysis
- 2006-07 Ad hoc Reviewer, Environmental Management
- 2006-07 Ad hoc Reviewer, Applied and Environmental Microbiology
- 2005-06 Ad hoc Reviewer, Applied and Environmental Microbiology

**EDITORIAL AND GRANT REVIEW SERVICE (continued)**

- 2005-06 Ad hoc Reviewer, Journal of Dairy Science
- 2004-05 Ad hoc Reviewer, Journal of Water and Health
- 2004-05 Ad hoc Reviewer, Water Research
- 2004-05 Ad hoc Reviewer, New Zealand Veterinary Journal
- 2004-05 Ad hoc Reviewer, Preventive Veterinary Medicine
- 2004-05 Ad hoc Reviewer, Journal of Environmental Quality
- 2004-05 Ad hoc Reviewer, Soil Science Society of America Journal
- 2004-05 Ad hoc Reviewer, Applied and Environmental Microbiology
- 2003-04 Ad hoc Reviewer, Food Safety Program, National Research Initiative Competitive Grants Program
- 2003-04 Ad hoc Reviewer, University of Nevada Cooperative Extension Publications
- 2003-04 Ad hoc Reviewer, Journal of Environmental Quality
- 2003-04 Ad hoc Reviewer, Preventive Veterinary Medicine
- 2002-03 Ad hoc Reviewer, California Sea Grant College Program
- 2002-03 Ad hoc Reviewer, Journal for the Science of the Total Environment
- 2002-03 Ad hoc Reviewer, Preventive Veterinary Medicine
- 2001-02 Ad hoc Reviewer, Journal of Dairy Science
- 2001-02 Ad hoc Reviewer, Journal of Wildlife Diseases
- 2001-02 Ad hoc Reviewer, Preventive Veterinary Medicine
- 2001-02 Ad hoc Reviewer, Journal of Parasitology
- 2001-03 Reviewer, Drinking Water Quality Research Program, CALFED Bay-Delta Program
- 2001-05 Associate Editor, California Agriculture, Journal of the Division of Agriculture and Natural Resources, University of California
- 2000 Ad hoc Reviewer, Journal of Environmental Quality.
- 2000 Ad hoc Reviewer, Applied and Environmental Microbiology
- 2000 Ad hoc Reviewer, California Agriculture, Journal of the Division of Agriculture and Natural Resources, University of California
- 1999 Reviewer, Environment and Public Health Section, Supplemental Research Proposal Solicitation, National Pork Producers Council
- 1999 Ad hoc Reviewer, Preventive Veterinary Medicine
- 1999 Ad hoc Reviewer, Journal of Parasitology
- 1998-99 Ad hoc Reviewer, Agricultural Research Service, US Department of Agriculture
- 1998 Ad hoc Reviewer, Leopold Center for Sustainable Agriculture, Iowa State University
- 1998-99 Reviewer, Small Business Innovation Research Program, Cooperative State Research, Education, and Extension Service, US Department of Agriculture
- 1998 Ad hoc Reviewer, Regional Water Resources Competitive Grants Program-Western Region, US Geological Survey
- 1998 Ad hoc reviewer, American Journal of Veterinary Research
- 1998 Reviewer for Agricultural Section, Special Grants Program, Division of Agriculture and Natural Resources, University of California
- 1997-99 Reviewer, Centers for Water and Wildland Resources, University of California

**PROFESSIONAL SERVICE**

- 2009-10 Scientific technical review panel for the Pathogen Catchment Budget Model, Portland Water Bureau, Portland, Oregon, member.
- 2006-07 Scientific Advisor for on-farm beneficial management practices. Livestock and Poultry Environmental Learning Center, University of Nebraska. Provide technical input, written text, and video clip presentation to a national audience of extension educators involved in controlling waterborne pathogens from animal agriculture.
- 2005-06 Scientific Reviewer. Augmentation, Reintroduction, and Captive Breeding Subcommittee of the Peninsular Bighorn Sheep Recovery Team, US Fish and Wildlife Service.
- 2004-05 Scientific Reviewer. Equestrian design guidelines for trails, trailheads, and campgrounds. Federal Highway Administration. Member.
- 2004-05 Invited Scientific Review. Soil and Water Conservation Research Unit, Agricultural Research Service, United States Department of Agriculture. Provide overall scientific review of ARS-USDA program in manure-borne pathogens.
- 2002-03 Scientific reviewer. Office of Scientific Quality Review, Agricultural Research Service, United States Department of Agriculture. Provide scientific reviews of proposed projects within ARS National Program 108-Food Safety (Animal and Plant)
- 2001-02 Scientific Planning and Review Committee for the Surface Water Ambient Monitoring Program, California State Water Resources Control Board. Member.
- 2001-02 Technical Advisory Committee, Waterborne Pathogens in New York City's Source Water Supplies, Watershed Agricultural Council, Walton, NY. Member, set 5-year research and outreach plan, develop RFPs, review grants, monitor grantee's progress and quality.
- 2000-01 Scientific Review, Proposed Total Maximum Daily Load for the New River, Colorado River Basin Region, California Regional Water Quality Control Board. Member representing agricultural and wildlife sources of waterborne pathogens.
- 2000 Scientific Review Committee, Alameda and Peninsular Sanitary Survey, San Francisco Public Utilities Commission.
- 1999-00 Working Group on Manure Safety, National Pork Producers Council, Member.
- 1998-02 Project Advisory Committee for Project 2566-Field Transport of *Cryptosporidium* in Small Catchments. American Water Works Association Research Foundation, Member
- 1996-98 Environmental and Public Health Committee, California Veterinary Medical Association, Member.
- 1996-97 Technical Advisory Task Force, Water Department, San Francisco Public Utility Commission. Member representing water quality, *Cryptosporidium* and livestock.
- 1996-97 Water Quality Technical Advisory Task Force, Los Vaqueros Watershed Resource Management Plan, Contra Costa Water District, Concord, California. Member representing water quality, *Cryptosporidium* and livestock.
- 1995 Moderator, Beef Cattle Research Summaries, 28th Annual Conference of the American Association of Bovine Practitioners, San Antonio, Texas. September 16.
- 1995 Workgroup Co-Chair, *Cryptosporidium* and Water Quality / Livestock and Human Waste Management / Public Health Conference, Veterinary Medicine Extension, UC Davis, California. June 6-7.

**UNIVERSITY SERVICE**

- 2008-09 Recruitment Committee for Microbiologist, College of Agriculture and Natural Resources, University of California, Davis. Member.
- 2008-09 Health and Nutrition Systems Working Group, Division of Agriculture and Natural Resources, University of California. Member.
- 2008-09 Advisory Committee, Master of Public Health Program, University of California, Davis.
- 2007-10 Advisory Committee, Center for Produce Safety, University of California, Davis.
- 2007-09 Interim Director, Western Institute for Food Safety and Security, University of California, Davis.
- 2006-07 Steering Committee, Master of Public Health, University of California, Davis. Member.
- 2006-07 Planning Committee, AES/CE Animal Agriculture Coordinating Conference, Division of Agriculture and Natural Resources, University of California.
- 2004-05 Search Committee for Program Leader-Natural Resources and Livestock, Division of Agriculture and Natural Resources, University of California. Member.
- 2001-03 Dairy Waste Committee of Consultants. Division of Agriculture and Natural Resources, University of California. Assist California Environmental Protection agency and State Resources Control Board develop environmental regulations for dairy waste management.
- 2001-02 Search Committee for Water Quality Specialist, Institute for Environmental Science and Engineering, University of California, Berkeley. Member.
- 1999-02 Natural Resources Program Planning Advisory Committee (PPAC), Division of Agriculture and Natural Resources, University of California. Member.
- 1998 Natural Resources Regional Program Planning Group, South Central Region of the Division of Agriculture and Natural Resources, University of California. Member.
- 1997-98 Organizational Steering Committee, Sierra Nevada Workgroup, Division of Agriculture and Natural Resources, University of California. Member.
- 1996-97 Organizational Strategy Team for Promoting Communication, Coordination, and Team Work to Enhance the Responsiveness, Effectiveness and Public Understanding of Division Programs, University of California. Member.
- 1997-99 Co-Chair (with Dr. Ralph Phillips) Annual Beef Cattle Health Symposium, UC Cooperative Extension South Central Region, Veterinary Medicine Teaching & Research Center, UC Davis and the California Veterinary Diagnostic Laboratory.
- 1995-96 Chair, Annual Beef Cattle Health Symposium, UC Cooperative Extension South Central Region, Veterinary Medicine Teaching & Research Center, UC Davis and the California Veterinary Diagnostic Laboratory.
- 1994-99 Range Beef Workgroup, Cooperative Extension, University of California. Member.

**GRADUATE GROUP AND GRADUATE ADVISOR SERVICE**

- 2009+ Ph.D. Qualifying Oral Examination Committee for Joelle Heidinger, Food Science Graduate Group, UC Davis. Member representing Epidemiology.
- 2008+ Ph.D. Steering/Guidance Committee for Lisa Shender, Graduate Group in Epidemiology, University of California, Davis.
- 2008+ Masters of Preventive Veterinary Medicine Program for Jordi Montefort, School of Veterinary Medicine, UC Davis, Quantitative Advisor.

**GRADUATE GROUP AND GRADUATE ADVISOR SERVICE (continued)**

- 2009+ Ph.D. Steering/Guidance Committee for Tamara Vodoz, Graduate Group in Comparative Pathology, University of California, Davis. Major Advisor.
- 2009+ Masters of Preventive Veterinary Medicine Program for Christopher Kilonzo, School of Veterinary Medicine, UC Davis, Faculty and Quantitative Advisor.
- 2008+ Masters of Preventive Veterinary Medicine Program for Jordi Montefort, School of Veterinary Medicine, UC Davis, Quantitative Advisor.
- 2008+ Masters of Preventive Veterinary Medicine Program for Frederick Samati, School of Veterinary Medicine, UC Davis, Subject Advisor.
- 2008+ Masters of Preventive Veterinary Medicine Program for Grace Carter, School of Veterinary Medicine, UC Davis, Subject Advisor.
- 2008+ Masters of Preventive Veterinary Medicine Program for Anyarat Thiptara, School of Veterinary Medicine, UC Davis, Quantitative Advisor.
- 2008-09 Ph.D. Steering/Guidance Committee for Lisa Shender, Graduate Group in Epidemiology, University of California, Davis.
- 2008-09 Ph.D. Qualifying Oral Examination Committee for Clayton Schupp, Graduate Group of Epidemiology, UC Davis. Member representing Advanced Epidemiology.
- 2007-09 Master's Steering/Guidance Committee for Kristen Davis, Graduate Group Comparative Pathology, University of California, Davis.
- 2007+ Ph.D. Steering/Guidance Committee for Maria das G.C. Pereira, Graduate Group in Comparative Pathology, University of California, Davis.
- 2007-08 Masters Committee for Anika Singla, Food Science and Technology, UC Davis, Minor Advisor.
- 2007-09 Masters of Preventive Veterinary Medicine Program for Sonoko Kondo, School of Veterinary Medicine, UC Davis, Major/Quantitative Advisor.
- 2007-08 Ph.D. Qualifying Oral Examination Committee for Tyann Blessington, Graduate Group in Food Science and Technology, UC Davis. Member representing Environmental Animal Health and Medical Ecology.
- 2007-08 Ph.D. Qualifying Oral Examination Committee for Seyed Reza Jafarzadeh, Graduate Group in Epidemiology, UC Davis. Member representing Advanced Epidemiology.
- 2006-07 Ph.D. Qualifying Oral Examination Committee for Jennifer Siembieda, Graduate Group in Epidemiology, UC Davis. Member representing Advanced Epidemiology.
- 2005-06 Ph.D. Qualifying Examination Committee for Naila Ansari, Graduate Group in Epidemiology, UC Davis. Member representing Epidemiology.
- 2004-08 Ph.D. Committee for Laurie Bollinger, Department of Animal Biotechnology, University of Nevada, Reno, Minor Advisor. Project on epidemiology of VTEC shedding in feedlot cattle and cow/calf herds.
- 2006-07 Masters of Preventive Veterinary Medicine Program for Robert Paul, School of Veterinary Medicine, UC Davis, Major/Quantitative Advisor. Project on risk factors for *Giardia duodenalis* in feedlot cattle.
- 2004-07 Masters of Preventive Veterinary Medicine Program for Kelly Buckle, School of Veterinary Medicine, UC Davis, Major/Quantitative Advisor. Project on behavioral ecology of *Cryptosporidium parvum* infection in Belding's ground squirrels.

**GRADUATE GROUP AND GRADUATE ADVISOR SERVICE (continued)**

- 2003-04 Masters of Animal Science for Toshie Sakuma, Department of Animal Biotechnology, University of Nevada, Reno, Minor Advisor. Project on epidemiology of VTEC shedding in dairy cattle.
- 2003-04 Masters of Animal Science for Laurie Bollinger, Department of Animal Biotechnology, University of Nevada, Reno, Minor Advisor. Project on epidemiology of VTEC shedding in feedlot cattle and cow/calf herds.
- 2003-05 Ph.D. Steering/Guidance Committee for Stacey Ostermann, Graduate Group in Ecology, UC Davis. Member representing Statistics and Epidemiology.
- 2004 Qualifying Examination Committee for Stacey Ostermann, Graduate Group in Ecology, UC Davis. Member representing Statistics and Epidemiology.
- 2003+ Membership Committee, Graduate Group in Epidemiology, University of California, Davis.
- 2003-04 Master Program for Dipa Brahmhatt, Graduate Group in Comparative Pathology, School of Veterinary Medicine, UC Davis, Minor Advisor.
- 2003 Ph.D. Qualifying Examination Committee for Catharina Berge, Graduate Group in Comparative Pathology, UC Davis. Member representing Epidemiology.
- 2003-05 Masters of Preventive Veterinary Medicine Program for Jina Harris-Alleyne, School of Veterinary Medicine, UC Davis, Quantitative Advisor. Project on risk factors for fecal shedding of *Salmonella* in dairy cattle.
- 2002-06 Ph.D. Steering/Guidance Committee for Haydee Dabritz, Graduate Group in Epidemiology, University of California, Davis. Project on the epidemiology of *Toxoplasma gondii* in cat populations and bivalves of Morro Bay.
- 2002-06 Ph.D. Steering/Guidance Committee for Robyn Stoddard, Graduate Group in Comparative Pathology, UC Davis. Project on antibiotic resistant bacterial pathogens in stranded elephant seal pups.
- 2002 Ph.D. Qualifying Examination Committee for Locksley Messam, Graduate Group in Epidemiology, UC Davis. Member representing Advanced Epidemiology.
- 2002 Ph.D. Qualifying Examination Committee for Christine Krueder, Graduate Group in Epidemiology, UC Davis. Chair, and member representing Advanced Epidemiology.
- 2001-04 Ph.D. Steering/Guidance Committee for Woutrina Smith, Graduate Group in Comparative Pathology, UC Davis. Project on marine ecosystem health.
- 2001-03 Master Program for Betsy Karle, Graduate Group in Ecology, UC Davis, Minor Advisor. Project on conducting a risk assessment for *Cryptosporidium parvum* contamination of Modesto Reservoir attributable to cow-calf grazing.
- 2001 Ph.D. Qualifying Examination Committee for Tracey Goldstein, Graduate Group in Comparative Pathology, UC Davis. Member representing Ecosystem Health.
- 2001 Ph.D. Qualifying Examination Committee for Carmen Zellhoefer, Graduate Group in Epidemiology, UC Davis. Member representing Advanced Epidemiology.
- 2000 Ph.D. Qualifying Examination Committee for Paulo Duarte, Graduate Group in Epidemiology, UC Davis. Member representing Advanced Epidemiology.
- 2000-01 Ph.D. Written Exam Committee, Graduate Group in Epidemiology, UC Davis.
- 2000-04 Ph.D. Guidance & Thesis Committee for Catharina Berge, Graduate Group in Comparative Pathology, University of California, Davis. Project on the dynamics of antimicrobial resistance in fecal *Escherichia coli* in calves prior to weaning.

**GRADUATE GROUP AND GRADUATE ADVISOR SERVICE (continued)**

- 2000-02 Master Program for Theresa Ward, Graduate Group in Animal Science, UC Davis, Minor Advisor. Cross-sectional survey of environmental and anthropogenic factors associated with healthy or poorly functioning California rangeland riparian zones.
- 1999-03 Ph.D. Dissertation Committee for Louise Moranda, Graduate Group in Epidemiology, School of Veterinary Medicine, UC Davis. Project on the epidemiology of leptospirosis in Costa Rican dairy cattle.
- 1999 Ph.D. Qualifying Examination Committee for Peggy Gianonni, Graduate Group in Epidemiology, UC Davis. Member representing Advanced Epidemiology.
- 1999-00 Masters of Preventive Veterinary Medicine Program for Catharina Berge, School of Veterinary Medicine, UC Davis, Quantitative Advisor. Project on the dynamics of antimicrobial resistance in fecal *Esherichia coli* in calves prior to weaning.
- 1999-01 Ph.D. Research Advisory Committee for Brandolyn H. Thran, Environmental Science and Health Program, School of Veterinary Medicine, University of Nevada, Reno, Member representing Epidemiology. Project on the influence of dietary factors on the colonization and proliferation of *E. coli* O157:H7 in ruminants.
- 1999 Advise Sean Wells, California Polytechnic State University, San Luis Obispo. Summer Internship Program at the VMTRC, Department of Population Health and Reproduction, School of Veterinary Medicine, UC Davis.
- 1998-99 Ph.D. Qualifying Examination Committee for Yan Liu, Graduate Group in Epidemiology, UC Davis, Member representing Advanced Epidemiology.
- 1998-99 Ph.D. Qualifying Examination Committee for Xuelei Pan, Graduate Group in Epidemiology, UC Davis, Chair and representing Advanced Epidemiology.
- 1998 Ph.D. Qualifying Examination Committee for Kathleen Yost, Graduate Group in Epidemiology, UC Davis, Member representing Basic Epidemiology.
- 1998 Minor Advisor, Master of Science Program for Jennifer George, Graduate Program in Pathobiology, Department of Veterinary Science, Pennsylvania State University. Project on cryptosporidia on northeastern dairy farms and the role these farms may have on contaminating nearby surface water.
- 1998 Advise Jennifer Almandy, California Polytechnic State University, San Luis Obispo. Summer Internship Program at the VMTRC, Department of Population Health and Reproduction, School of Veterinary Medicine, UC Davis.
- 1998-01 Ph.D. Dissertation Committee for María Uxúa Alonso Fresán, Facultad de Medicina Veterinaria y Zootecnia, Universidad Autónoma del Estado de México, Toluca, Mexico, Member (external assessor). Project on the immunology and epidemiology of *C. parvum* in sheep in central México.
- 1997-99 Ph.D. Dissertation Committee for Randall Singer, Graduate Group in Epidemiology, School of Veterinary Medicine, UC Davis, Member representing Epidemiology. Project on risk assessment of avian cellulitis.
- 1997-01 Ph.D. Guidance Committee and Dissertation Committee for Bruce Hoar, Graduate Group in Epidemiology, University of California, Davis, Area of Emphasis Advisor. Projects on the epidemiology of waterborne pathogens in beef cattle.
- 1997 Ph.D. Qualifying Examination Committee for Alfonso Rodrigues-Lainz, Graduate Group in Epidemiology, Department of Medicine and Epidemiology, School of Veterinary Medicine, UC Davis, Member representing Advanced Epidemiology.

**GRADUATE GROUP AND GRADUATE ADVISOR SERVICE (continued)**

- 1997-98 Masters of Preventive Veterinary Medicine Program for Paulo de Camargo Duarte, School of Veterinary Medicine, UC Davis, Subject Advisor. Project on the medical ecology of *C. parvum* in dairy wastewater of the Chino basin.
- 1997 Master of Science Program for Sonja Wagner, Geology Program, Geologisches Institut, Universitaet Freiburg, Germany and Hydrology Program, Department of Land, Air, and Water Resources, UC Davis, Minor Advisor. Project on characterizing the transport behavior of *C. parvum* in saturated soil.
- 1996-98 Ph.D. Guidance Committee for Tami Rose, Graduate Group in Epidemiology, UC Davis, Major Advisor. Project on wildlife reservoirs of *Cryptosporidium parvum* on rangeland and on using freshwater clams as a bioassay for waterborne *C. parvum*.
- 1996-97 Master of Science Program for Arthur Ghitea, Animal and Veterinary Sciences, California State Polytechnic University, Pomona, Minor Advisor. Project on endoparasites in Southern California horses.
- 1996-97 Co-advise (with Jorge A. Saltijeral Oaxaca) the research thesis for a Doctorate in Veterinary Medicine for Sergio Maldonado Camargo, Universidad Autónoma Metropolitana, Xochimilco, Mexico. Project on epidemiology of *Cryptosporidium parvum* infection in dairy calves in Mexico.
- 1996 Ph.D. Qualifying Examination Committee for Michael Ziccardi, Graduate Group in Epidemiology, Department of Medicine and Epidemiology, School of Veterinary Medicine, UC Davis, Member representing Wildlife Epidemiology.
- 1995-98 Master Program for Patricia Parish, Graduate Group in Animal Science, UC Davis, Co-Major Advisor (with Ed DePeters). Project on the epidemiology of dairy calf cryptosporidiosis.
- 1996 Co-advise (with Pat Blanchard, CVDLS) Paul Cook, 1st year veterinary student, UC Davis. Summer Internship Program at the VMTRC, Department of Population Health and Reproduction, School of Veterinary Medicine, UC Davis.
- 1996 Advisor for Lindy Perea, California State University, Fresno. Summer Internship Program, Renewable Resources Extension Act, Division of Agriculture and Natural Resources, University of California.
- 1995-96 Master of Science Committee for Dave Austin, Department of Civil and Environmental Engineering, UC Davis, Minor Advisor.
- 1995 Co-advise (with Phil Jardon) Mike Zylstra, California Polytechnic State University, San Luis Obispo. Summer Internship Program at the VMTRC, Department of Population Health and Reproduction, School of Veterinary Medicine, UC Davis.
- 1995 Co-advise (with Phil Jardon) Stephanie Checél, California Polytechnic State University, San Luis Obispo. Summer Internship at the VMTRC, Department of Population Health and Reproduction, School of Veterinary Medicine, UC Davis.

**SCHOOL, DEPARTMENT, AND UNIT SERVICE**

- 2009-10 Recruitment Committee for the Microbial Waste Management position, Veterinary Medicine Extension and Department of Population Health and Reproduction, School of Veterinary Medicine, UC Davis. Member.
- 2007-08 Curriculum Committee, Department of Population Health and Reproduction, School of Veterinary Medicine, UC Davis, Member.



**SCHOOL, DEPARTMENT, AND UNIT SERVICE (continued)**

- 2006-07 Public Health Committee, Association of American Veterinary Medical Colleges. Member.
- 2005-07 Recruitment Committee for Microbial Risk Assessment Extension Specialist, Veterinary Medicine Extension and Population Health and Reproduction, School of Veterinary Medicine, UC Davis, Chair.
- 2005-06 Land and Water Use Dynamics Task Force, Commission on Food, Environment, and Renewable Resources Legislative Committee, National Association of State Universities and Land Grant Colleges. Member representing the Board on Veterinary Medicine.
- 2005-06 Recruitment Committee for the Extension Specialist in Dairy Herd Health and Food Safety position, Veterinary Medicine Extension, School of Veterinary Medicine, UC Davis, Chair.
- 2005-06 Ad hoc scientific reviewer, Center for Food Animal Health, School of Veterinary Medicine, UC Davis.
- 2004-05 Recruitment Committee for the Management Services Officer, Veterinary Medicine Teaching and Research Center, School of Veterinary Medicine, UC Davis.
- 2004-08 Recruitment Committee for the Food Safety faculty position, Department of Population Health and Reproduction, School of Veterinary Medicine, UC Davis, Chair (04-05, 05-06), Member (06-07, 07-08).
- 2003-05 Scientific Advisory Committee, Western Institute for Food Safety and Security, School of Veterinary Medicine.
- 2001-02 Recruitment Committee for the Food Animal Health Risk Management and Communication faculty position, School of Veterinary Medicine, UC Davis, Chair.
- 2001-04 Commodity and Scientific Review Committee, Center for Food Animal Health, School of Veterinary Medicine, UC Davis, representing beef cattle issues.
- 2001-02 Recruitment Committee for the Animal Health Genomics faculty position, School of Veterinary Medicine, UC Davis, Chair (2001) and member (2002).
- 2000-02 Curriculum Review Committee for the Masters of Preventive Veterinary Medicine, School of Veterinary Medicine, UC Davis, Member.
- 2000-06 Research Review Committee, Center for Equine Health, School of Veterinary Medicine, UC Davis, Reviewer.
- 2000-01 Program Review Committee for the Masters of Preventive Veterinary Medicine, School of Veterinary Medicine, UC Davis, Chair.
- 1999-02 Personnel Committee, Department of Population Health and Reproduction, School of Veterinary Medicine, UC Davis, Member.
- 1999-00 Committee for the Proposed Masters Program in Environmental (Ecosystem) Health, School of Veterinary Medicine, UC Davis, Member.
- 1998 Food Safety Program Review Committee, School of Veterinary Medicine, UC Davis, Member.
- 1998 Recruitment Committee for the Faculty Position in Health and/or Food Safety in Poultry, School of Veterinary Medicine, UC Davis, Member.
- 1997-01 Scientific Advisory Committee, Center for Food Animal Health, School of Veterinary Medicine, UC Davis, Reviewer.
- 1997-99 Dyar Lectureship Committee, Department of Population Health and Reproduction, School of Veterinary Medicine, UC Davis, Member.

**SCHOOL, DEPARTMENT, AND UNIT SERVICE (continued)**

- 1995-96 Resources Committee, Department of Population Health and Reproduction, School of Veterinary Medicine, UC Davis, Member.
- 1995-96 Search Committee for Director, Veterinary Medicine Teaching and Research Center, School of Veterinary Medicine, UC Davis, Member.
- 1994-95 General Livestock Practitioner Subgroup Committee, Food Animal Species Coordinating Committee, School of Veterinary Medicine, UC Davis, Member.

**LECTURES AND DISCUSSION LEADER**

- 2009 PHR 298 *Medical ecology and epidemiology of waterborne zoonotic disease*. School of Veterinary Medicine, UC Davis, Spring Qtr. Course Leader. Ten lectures.
- 2009 VT MED 740 Veterinary Perspectives on Pathogen Control in Animal Manure, “*Buffer strips for pathogen removal*,” College of Veterinary Medicine, Cornell University, Spring Semester. One lecture.
- 2009 A veterinarian’s role in resolving waterborne zoonotic disease across California’s diverse landscapes. Veterinary Public Health Organization, School of Veterinary Medicine, UC Davis, Winter Qtr.
- 2008 EPI 290 *Seminars in Epidemiology*, “Epidemiological approaches to waterborne zoonotic disease: controlling *C. parvum* in agroecosystems,” School of Veterinary Medicine, UC Davis, Fall Qtr.
- 2008 VME 427 *Introduction to Food Animal Herd Health Medicine*, “Water quality concerns associated with livestock production,” School of Veterinary Medicine, UC Davis, Fall Qtr.
- 2008 VT MED 740 Veterinary Perspectives on Pathogen Control in Animal Manure, “*Buffer strips for pathogen removal*,” College of Veterinary Medicine, Cornell University, Spring Semester.
- 2007 VME 427 *Introduction to Food Animal Herd Health Medicine*, “Environmental Issues,” School of Veterinary Medicine, UC Davis, Fall Qtr.
- 2005 VM PHR 452 *On-farm Food Safety*, “*Cryptosporidium parvum* infection in dairy and cow-calf systems,” VMTRC, School of Veterinary Medicine, UC Davis, Spring Qtr.
- 2004 VM PHR 452 *On-farm Food Safety*, “*Cryptosporidium parvum* infection in dairy and cow-calf systems,” VMTRC, School of Veterinary Medicine, UC Davis, Spring Qtr.
- 2003 VM PHR 452 *On-farm Food Safety*, “*Cryptosporidium parvum* infection in dairy and cow-calf systems,” VMTRC, School of Veterinary Medicine, UC Davis, Spring Qtr.
- 2003 VM PHR 452 *On-farm Food Safety*, “California livestock production systems and the risk of waterborne pathogens,” VMTRC, School of Veterinary Medicine, UC Davis, Spring Qtr.
- 2002 VM PHR 452 *On-farm Food Safety*, “California livestock production systems and the risk of waterborne pathogens,” VMTRC, School of Veterinary Medicine, UC Davis, Spring Qtr.
- 2001 VM PHR 452 *On-farm Food Safety*, “California livestock production systems and the risk of waterborne pathogens,” VMTRC, School of Veterinary Medicine, UC Davis, Spring Qtr.

**LECTURES AND DISCUSSION LEADER (continued)**

- 2001 Spring Seminar Series. Prioritized strategies for minimizing water quality risk attributable to *Cryptosporidium parvum* from cow-calf operations. Department of Veterinary Pathobiology, College of Veterinary Medicine, University of Illinois at Urbana-Champaign. Urbana-Champaign, Illinois. May 2.
- 2001 Spring 2001 Seminar Series. Livestock production systems and the risk of waterborne pathogens. Environmental Sciences and Health Graduate Program, University of Reno. Reno, Nevada. March 26.
- 2000 VM PHR 452 *On-farm Food Safety*, “*Cryptosporidium parvum*, livestock and water quality,” VMTRC, School of Veterinary Medicine, UC Davis, Spring Qtr.
- 1999 VM PHR 452 *On-farm Food Safety*, “*Cryptosporidium parvum*, livestock and water quality,” VMTRC, School of Veterinary Medicine, UC Davis, Spring Qtr.
- 1999 VS 320 *Zoonoses & Public Health Concerns*, “*Cryptosporidium parvum*, livestock and water quality,” Animal Science Department, California Polytechnic State University, San Luis Obispo, California, Spring Qtr, April 23. (two lectures)
- 1999 BIO 32 *Human Ecology*, “Medical ecology of waterborne zoonoses,” Hanford Center, College of Sequoias, Hanford, California, Spring Sem., April 19.
- 1998 VM PHR 452 *On-farm Food Safety*, “*Cryptosporidium parvum*, livestock and water quality,” VMTRC, School of Veterinary Medicine, UC Davis, Spring Qtr.
- 1997 “Preparing for a career in food animal veterinary medicine.” Tulare Union High School Career Day, Tulare, California, November 19.
- 1997 “Food animal production and environmental issues.” Given to California Milk Advisory Board Student Interns, VMTRC, Tulare, California, August 7.
- 1997 VM PMI 298 *Preharvest Food Safety*, “*Cryptosporidium parvum*, livestock and water quality,” VMTRC, School of Veterinary Medicine, UC Davis, Spring Qtr.
- 1996 Dedication of the Dairy Food Safety Laboratory, "Program in Environmental animal health and medical ecology," VMTRC, School of Veterinary Medicine, UC Davis, December 16.
- 1996 “*Cryptosporidium parvum*, water quality and animal agriculture.” Given to Dairy Workgroup Dairy Energy Meeting, VMTRC, Tulare, California, August 26.
- 1996 VMD 475 *Food Animal Practice Clinics*, “*Cryptosporidium parvum*, water quality and animal agriculture,” VMTRC, School of Veterinary Medicine, UC Davis, Fall Qtr., November 6.
- 1996 VMTRC Veterinary Student Tour, "Environmental animal health and medical ecology," Department of Population Health and Reproduction, School of Veterinary Medicine, UC Davis, September 29.
- 1996 VM PHR 430 *Issues in Animal Production and Resource Utilization*, Section on “Water, waste, and wildlife,” VMTRC, Department of Population Health and Reproduction, School of Veterinary Medicine, UC Davis, Fall Qtr.
- 1996 “*Cryptosporidium parvum* and waste water from dairy farming.” Given to California Milk Advisory Board Student Interns, VMTRC, Tulare, California, August 7.
- 1996 VM PMI 298 *Preharvest Food Safety*, “*Cryptosporidium parvum*, livestock and water quality,” VMTRC, School of Veterinary Medicine, UC Davis, Spring Qtr.
- 1996 “Horses, *Cryptosporidium* and water quality.” Given to Rangers of Yosemite National Park, Spring Equine Clinic. Mariposa, California. April 2.

**LECTURES AND DISCUSSION LEADER (continued)**

- 1996 "Dairy calves, diarrhea and *Cryptosporidium parvum*." Given to Dairy Science undergraduates from the University of Wisconsin, VMTRC, School of Veterinary Medicine, UC Davis, California, March 12.
- 1996 VMD 475 *Food Animal Practice Clinics*, "Integrating clinical epidemiology with herd health: application to dairy calf cryptosporidiosis," VMTRC, School of Veterinary Medicine, UC Davis, Winter Qtr.
- 1995 VM PHR 430 *Issues in Animal Production and Resource Utilization*, "Water, waste, and wildlife," VMTRC, Department of Population Health and Reproduction, School of Veterinary Medicine, UC Davis, Fall Qtr.
- 1995 "Laboratory science in veterinary medicine." Given to the Tulare Union High School AP Biology Class and Tulare Farm Class, VMTRC, Tulare, California, May 25.
- 1995 *Clinical Seminar Series*, "Why cattlemen and horsemen are up in arms over *Cryptosporidium parvum*," VMTRC, UC Davis, Winter Qtr.

**HONORS AND AWARDS**

- 2005 Pfizer Animal Health Award for Research Excellence, School of Veterinary Medicine, University of California Davis.
- 2001 Award for Outstanding Achievement in UC Cooperative Extension, Friends of Agricultural Extension, California. Finalist.
- 2000 Award for Outstanding Achievement in UC Cooperative Extension, Friends of Agricultural Extension, California. Finalist.

## LIST OF PUBLICATIONS

**Category 1:** Refereed and non-refereed journal articles; books and monograph chapters; proceedings chapters (only if refereed)

## REFEREED JOURNALS, PROCEEDINGS, MONOGRAPHS

1. 1992 **Atwill, E.R.**, H.O. Mohammed, E.J. Dubovi, and J.W. Lopez. Retrospective evaluation of factors associated with the risk of seropositivity to *Ehrlichia risticii* in horses in New York state. *American Journal of Veterinary Research* 53(10):1931-1934.
2. 1993 **Atwill, E.R.**, L.L. Rodriguez, D.W. Hird, and O. Rojas. Environmental and host factors associated with seropositivity to New Jersey and Indiana vesicular stomatitis viruses in Costa Rican cattle. *Preventive Veterinary Medicine* 15:303-314.
3. 1994 **Atwill, E.R.**, H.O. Mohammed and R. de la Rua-Domenech. Geographical variation of seropositivity to *Ehrlichia risticii* (equine monocytic ehrlichiosis) of horses in New York state. *Equine Veterinary Journal* 26(2):143-147.
4. 1994 **Atwill, E.R.** and H.O. Mohammed. Epidemiologic studies on equine monocytic ehrlichiosis in New York state. *Proceedings of the 39th Annual Convention of the American Association of Equine Practitioners*. San Antonio, Texas. pp. 269-270 (peer reviewed)
5. 1995 **Atwill, E.R.** and H.O. Mohammed. Estimates of the annual incidence density and financial losses of equine monocytic ehrlichiosis in New York state. *Preventive Veterinary Medicine* 23 (1-2):41-52.
6. 1995 **Atwill, E.R.**, H.O. Mohammed, J. Scarlett, C.E. McCulloch. Extending the interpretation and utility of mixed effects logistic regression models. *Preventive Veterinary Medicine* 24 (3):187-201.
7. 1995 de la Rúa-Domènech, R., H.O. Mohammed, **E.R. Atwill**, J.F. Cummings, T.J. Divers, and A. de Lahunta. Epidemiologic evidence for clustering of equine motor neuron disease in the US. *American Journal of Veterinary Research* 56 (11): 1433-1439.
8. 1995 Crouse, S.J., **E.R. Atwill**, M. Lagana, and K.A. Houpt. Soft surfaces: a factor in feline psychological well-being. *Contemporary Topics in Laboratory Animal Science* 34(6): 94-97.
9. 1996 **Atwill, E.R.** Assessing the link between rangeland cattle and waterborne *Cryptosporidium parvum* infection in humans. *Rangelands* 18(2): 48-51.
10. 1996 **Atwill, E.R.**, H.O. Mohammed, and J.W. Lopez. An evaluation of travel and use as a risk factor for seropositivity to *Ehrlichia risticii* in horses of New York state. *American Journal of Veterinary Research* 57(3): 273-277.
11. 1996 **Atwill, E.R.**, H.O. Mohammed, J.W. Lopez, C.E. McCulloch, and E.J. Dubovi. Cross-sectional evaluation of environmental, host, and management factors associated with risk of seropositivity to *Ehrlichia risticii* in horses of New York state. *American Journal of Veterinary Research* 57(3): 278-285.
12. 1996 **Atwill, E.R.** and H.O. Mohammed. Evaluation of vaccination of horses as a strategy to control equine monocytic ehrlichiosis. *Journal of American Veterinary Medical Association* 208(8): 1290-1294.
13. 1996 **Atwill, E.R.** and H.O. Mohammed. Benefit-cost analysis of vaccination of horses as a strategy to control equine monocytic ehrlichiosis. *Journal of American Veterinary Medical Association* 208(8): 1295-1299.
14. 1996 Harp, J.A., P. Jardon, **E.R. Atwill**, M. Zylstra, S. Checal, J.P. Goff, C.D. Simone. Field testing of prophylactic measures against *Cryptosporidium parvum* infection in calves in a California dairy herd. *American Journal of Veterinary Research* 57(11): 1586-1588.

## REFEREED JOURNALS, PROCEEDINGS, MONOGRAPHS (continued)

15. 1997 Johnson, E., **E.R. Atwill**, M.E. Filkins, and J. Kalush. The prevalence of shedding of *Cryptosporidium* and *Giardia* sp. based on a single fecal sample collection from each of 91 horses used for backcountry recreation. *Journal of Veterinary Diagnostic Investigation* 9: 56-60.
16. 1997 **Atwill, E.R.**, R.A. Sweitzer, M. Das Graças C. Pereira, I.A. Gardner, D. Van Vuren, W.M. Boyce. Prevalence of and associated risk factors for shedding *Cryptosporidium parvum* and *Giardia* within feral pig populations in California. *Applied and Environmental Microbiology* 63(10): 3946-3949.
17. 1997 Cliver, D.O. and **E.R. Atwill**. Research and reason can minimize foodborne and waterborne illness. *California Agriculture* 51(2): 8-14.
18. 1997 **Atwill, E.R.** Pathogens excreted by livestock and transmitted to humans through water. University of California Agricultural Issues Center and Animal Agricultural Research Center, UC Davis. pp 1-18.
19. 1998 Bray, R.E., S.J. Wickler, E.A. Cogger, **E.R. Atwill**, C. London, J.L. Callino, T.P. Anderson. Endoparasite infection and *Cryptosporidium/Giardia* in feral horses on public lands. *Journal of Equine Veterinary Science* 18(1): 41-43.
20. 1998 Jeffrey, J.S., J.H. Kirk, **E.R. Atwill**, J.S. Cullor. Prevalence of selected microbial pathogens in processed poultry waste used as dairy feed. *Poultry Science Journal* 77: 808-811.
21. 1998 Das Graças C. Pereira, M., **E.R. Atwill**, M.R. Crawford, R.B. Lefebvre. DNA sequence similarity between California isolates of *Cryptosporidium parvum*. *Applied and Environmental Microbiology* 64(4): 1584-1586.
22. 1998 Higginbotham, G., J. Robinson, **E.R. Atwill**, M.G.C. Pereira. Effect of direct-fed microbial product on calf performance and health. *Professional Animal Scientist* 14(2):108-113.
23. 1998 **Atwill, E.R.**, J.A. Harp, T. Jones, P.W. Jardon, S. Checal, M. Zylstra. Evaluation of periparturient dairy cows and contact surfaces as a reservoir of *Cryptosporidium parvum* for calfhoo infection. *American Journal of Veterinary Research* 59(9):1116-1121.
24. 1998 Maldonado-Camargo, S., **E.R. Atwill**, J.A. Saltijeral-Oaxaca, L.C. Herrera-Alonso. Prevalence of and risk factors for shedding of *Cryptosporidium parvum* in Holstein Freisian dairy calves in central México. *Preventive Veterinary Medicine* 36(2):95-107.
25. 1998 Kirk, J.H., **E.R. Atwill**, D. Festa, C. Adams. Effect of a commercial non-specific immunomodulating biologic on newborn calf health. *Journal of the American Veterinary Medical Association* 213(9):1308-1311.
26. 1998 Nader, G., K.W. Tate, **E.R. Atwill**, J. Bushnell. Water quality effects of rangeland beef cattle excrement. *Rangelands* 20(5):19-25.
28. 1998 Kirk, J.H., P. Susitaival, D. Wilson, **E.R. Atwill**, S. McCurdy, M. Schenker. Survey of occupational hazards in California veterinarians. *California Veterinarian* 52(6):12-13.
29. 1999 **Atwill, E.R.**, E. Johnson, D.J. Klingborg, G.M. Vesperat, G. Markegard, W.A. Jensen, D.W. Pratt, R.E. Delmas, H.A. George, L.C. Forero, R.L. Phillips, S.J. Barry, N.K. McDougald, R.R. Gildersleeve, W.E. Frost. Age, geographic, and temporal distribution of fecal shedding of *Cryptosporidium parvum* oocysts in cow-calf herds. *American Journal of Veterinary Research* 60(4):420-425.
30. 1999 Pereira, M. das Graças C., **E.R. Atwill**, T. Jones. Comparison of sensitivity of immunofluorescent microscopy to that of a combination of immunomagnetic separation and immunofluorescent microscopy for detection of *Cryptosporidium parvum* oocysts in adult bovine feces. *Applied and Environmental Microbiology* 65(7):3236-3239.
31. 1999 Barwick, R.S., H.O. Mohammed, **E.R. Atwill**, P.L. McDonough, M.E. White. The prevalence of equine leptospirosis in New York State. *Journal of Equine Science* 9(4):119-124.

**REFEREED JOURNALS, PROCEEDINGS, MONOGRAPHS (continued)**

32. 1999 Hoar, B.R., **E.R. Atwill**, C. Elmi, W.W. Utterbach, A. Edmondson. Comparison of fecal samples collected per rectum and off the ground for estimation of environmental contamination attributable to beef cattle. *American Journal of Veterinary Research* 60(11): 1352-1356.
33. 1999 Rochelle, P.A., E.M. Jutras, **E.R. Atwill**, R. DeLeon, M.H. Stewart. Polymorphisms in the  $\beta$ -tubulin gene of *Cryptosporidium parvum* differentiate between isolates based on animal host but not geographic origin. *Journal of Parasitology* 85(5):986-989.
34. 1999 **Atwill, E.R.**, E. Johnson, M. Das Graças C. Pereira. Association of herd composition, stocking rate, and calving duration with fecal shedding of *Cryptosporidium parvum* oocysts in beef herds. *Journal of the American Veterinary Medical Association* 215(12): 1833-1838.
35. 1999 Tate, K.W. R.A. Dahlgren, M.J. Singer, B. Allen-Diaz, **E.R. Atwill**. Monitoring water quality on California rangeland watersheds; timing is everything. *California Agriculture* 53(6):44-48.
36. 1999 Singer, R.S., J.S. Jeffrey, T.E. Carpenter, C.L. Cooke, R.P. Chin, **E.R. Atwill**, D.C. Hirsh. Spatial heterogeneity of *Escherichia coli* DNA fingerprints isolated from cellulitis lesions in chickens. *Avian Diseases* 43(4):756-762.
37. 2000 Harter, T., S. Wagner, **E.R. Atwill**. Colloid transport and filtration of *Cryptosporidium parvum* in sandy soils and aquifer sediments. *Environmental Science and Technology* 34(1):62-70.
38. 2000 Tate, K.W. **E.R. Atwill**, M.R. George, N.K. McDougald, and R.E. Larsen. *Cryptosporidium parvum* mobilization and transport from livestock fecal deposits on California rangeland watersheds. *Journal of Range Management* 53:295-299.
39. 2000 **Atwill, E.R.**, N.K. McDougald, and L. Perea. Cross-sectional study of fecal shedding of *Giardia* sp. and *Cryptosporidium parvum* among packstock in the Sierra Nevada Range, California, U.S.A. *Equine Veterinary Journal* 32(3):247-252.
40. 2000 Singer, R.S., W.O. Johnson, J.S. Jeffrey, R.P. Chin, T.E. Carpenter, **E.R. Atwill**, D.C. Hirsh. A statistical model for assessing bacterial colony selection strategies: a case study of *Escherichia coli* and avian cellulitis. *Journal of Veterinary Diagnostic Investigations* 12(2):118-25.
41. 2000 Sischo, W.M. **E.R. Atwill**, J. George, L.E. Lanyon. Cryptosporidia on dairy farms and the role these farms may have in contaminating surface water supplies in the northeastern United States. *Preventive Veterinary Medicine* 43:253-267.
42. 2000 Jeffrey, J.S., A. Hunter, **E.R. Atwill**. A field-suitable, semisolid, aerobic enrichment medium for isolation of *Campylobacter jejuni* in small numbers. *Journal of Clinical Microbiology* 38(4):1668-1669.
43. 2000 Tate, K.W., **E.R. Atwill**, N.K. McDougald, M.R. George, and D. Witt. A method for estimating cattle fecal loading on rangeland watersheds. *Journal of Range Management* 53(5):506-510.
44. 2000 Singer, R.S., J.S. Jeffrey, T.E. Carpenter, C.L. Cooke, **E.R. Atwill**, D.C. Hirsh. Persistence of cellulitis-associated *E. coli* DNA fingerprints in successive broiler chicken flocks. *Veterinary Microbiology* 75(1):59-71.
45. 2000 Tate, K.W., G.A. Nader, D.J. Lewis, **E.R. Atwill**, and J.M. Connor. Evaluation of buffers to improve the quality of runoff from irrigated pastures. *Journal of Soil and Water Conservation* 55(4):473-478.
46. 2000 Kinde, H. and **E.R. Atwill**. Salmonella in sewage effluent raises ecological and food-safety concerns. *California Agriculture* 54(5):62-68.

**REFEREED JOURNALS, PROCEEDINGS, MONOGRAPHS (continued)**

47. 2000 Hoar, B., **E.R. Atwill**, T.B. Farver. Estimating maximum possible environmental loading amounts of *Cryptosporidium parvum* attributable to adult beef cattle. Quantitative Microbiology 2(1):21-36.
48. 2000 Rochelle, P.A., R. De Leon, **E.R. Atwill**. Intra-isolate heterogeneity and reproducibility of PCR-based genotyping of *Cryptosporidium parvum* using the  $\beta$ -tubulin gene. Quantitative Microbiology 2(2):87-101.
49. 2001 Jeffrey, J.S., **E.R. Atwill**, A. Hunter. Farm and management variables linked to fecal shedding of *Campylobacter* and *Salmonella* in commercial squab production. Poultry Science Journal 80:66-70.
50. 2001 Jeffrey, J.S., **E.R. Atwill**, A. Hunter. Prevalence of *Campylobacter* and *Salmonella* at a squab (young pigeon) processing plant. Poultry Science Journal 80: 151-155.
51. 2001 Drake, D.J., **E.R. Atwill**, R. Phillips, E. Johnson. Prevalence of internal parasites in California's beef cattle. California Agriculture 55(2):28-32.
52. 2001 Singer, R.S., **E.R. Atwill**, T.E. Carpenter, J.S. Jeffrey, W.O. Johnson, D.C. Hirsh. Selection bias in epidemiological studies of infectious disease using *Escherichia coli* and avian cellulitis as an example. Epidemiology and Infection 126(1):139-45.
53. 2001 Rulofson, F., **E.R. Atwill**, C.A. Holmberg. Cross-sectional study of fecal shedding of *Giardia duodenalis*, *Cryptosporidium parvum*, *Salmonella*, and *Escherichia coli* O157:H7 in California llamas. American Journal of Veterinary Research 62(4):637-642.
54. 2001 Hoar, B., **E.R. Atwill**, C. Elmi, T.B. Farver. An examination of risk factors associated with beef cattle shedding pathogens of potential zoonotic concern. Epidemiology and Infection 127(1):147-155.
55. 2001 **Atwill, E.R.**, S. Maldonado Camargo, R. Phillips, L. Herrera Alonso, K.W. Tate., W.A. Jensen, J. Bennet, S. Little, T.R. Salmon. Quantitative shedding of two genotypes of *Cryptosporidium parvum* in California ground squirrels (*Spermophilus beecheyi*). Applied and Environmental Microbiology 67(6):2840-2843.
56. 2001 Rochelle, P.A., R. DeLeon, **E.R. Atwill**. Evaluation of genotyping techniques for *Cryptosporidium parvum*. American Water Works Association Research Foundation. pp 1-119.
57. 2001 Dahlgren, R.A., K.W. Tate, D.J. Lewis, **E.R. Atwill**, J.M. Harper, B.H. Allen-Diaz. Watershed research examines rangeland management effects on water quality. California Agriculture 55(6):64-71.
58. 2002 Moore, D.A., W.M. Sischo, D.M. Festa, J.P. Reynolds, **E.R. Atwill**, C.A. Holmberg. Influences of arrival weight, season and calf supplier on survival in Holstein beef calves on a calf ranch in California, USA. Preventive Veterinary Medicine 53:103-115.
59. 2002 Pereira, M. das Graças C., **E.R. Atwill**, A.P. Barbosa, S.A.E. Silva, M.T.A. García-Zapata. Intra- and extra-familial risk factors associated with *Cryptosporidium parvum* infection among children hospitalized for diarrhea in Goiânia, State of Goiás, Brasil. American Journal of Tropical Medicine and Hygiene 66(6):787-793.
60. 2002 Kirk, J., **E.R. Atwill**, C. Holmberg, M. Arana, C. Collar, D. Ghirardelli, J. Higginbotham, G. Markagard, D. Mullinax, A. Wubishet. Prevalence of and risk factors for *Salmonella* in water offered to weaned dairy calves in California, USA. Preventive Veterinary Medicine 54:169-178.
61. 2002 **Atwill, E.R.** L. Hou, B.M. Karle, T. Harter, K.W. Tate, R.A. Dahlgren. Transport of *Cryptosporidium parvum* through vegetated buffer strips and estimated filtration efficiency. Applied and Environmental Microbiology 68(11):5517-5527.
62. 2002 Xiao, L., I.M. Sulaiman, U.M. Morgan, L. Zhou, **E.R. Atwill**, M.L. Tischler, X. Zhang, R. Fayer, and A.A. Lal. Host adaptation and host-parasite co-evolution in *Cryptosporidium*. International Journal for Parasitology 32:1773-1785.



**REFEREED JOURNALS, PROCEEDINGS, MONOGRAPHS (continued)**

63. 2003 Ward, T.A., K.W. Tate, **E.R. Atwill**, D.F. Lile, D.L. Lancaster, N. McDougald, S. Barry, R.S. Ingram, H.A. George, W.J. Jensen, W.E. Frost, R. Phillips, G.C. Markegard S. Larson. A comparison of three visual assessments for riparian and stream health. *Journal of Soil and Water Conservation* 58(2):83-88.
64. 2003 **Atwill, E.R.**, B. Hoar, M. das Gracas Cabral Pereira, K.W. Tate, F. Rulofson, G. Nader. Improved quantitative estimates of low environmental loading and sporadic periparturient shedding of *Cryptosporidium parvum* in adult beef cattle. *Applied and Environmental Microbiology* 69(8):4604-4610.
65. 2003 Moore, D.A., **E.R. Atwill**, J. Kirk, D. Brahmhatt, L.A. Herrera, L. Hou, E. Ward, T. Miller, M.D. Singer. Clinical signs and oocyst shedding of *Cryptosporidium parvum* in experimentally-challenged neonatal calves fed decoquinate. *Journal of the American Veterinary Medical Association* 223(6):839-845.
66. 2003 Berge, A.C.B., **E.R. Atwill**, W.M. Sischo. Assessing antibiotic resistance in fecal *Escherichia coli* in young calves using cluster analysis techniques. *Preventive Veterinary Medicine* 61:91-102.
67. 2003 Tate, K.W., **E.R. Atwill**, N.K. McDougald, and M.R. George. Spatial and temporal patterns of cattle feces deposition on annual rangeland watersheds. *Journal of Range Management* 56:432-438.
68. 2003 **Atwill, E.R.** and M. das Gracas C. Pereira. Lack of detectable environmental loading of *Cryptosporidium parvum* in periparturient dairy cattle. *Journal of Parasitology* 89(6):1234-1236.
69. 2003 Li, X., K.W. Tate, L. Dunbar, B. Huang, **E.R. Atwill**. Efficiency for recovering *Encephalitozoon intestinalis* spores from water by centrifugation and immunofluorescent microscopy. *Journal of Eukaryotic Microbiology* 50(6):579-580.
70. 2003 Ward, T.A., K.W. Tate, **E.R. Atwill**. Visual assessment of riparian health. Rangeland Monitoring Series 8089, Division of Agriculture and Natural Resources, University of California. pp 1-23.
71. 2003 Ward, T.A., K.W. Tate, **E.R. Atwill**. Guidelines for monitoring the establishment of riparian grazing systems. Rangeland Monitoring Series 8094, Division of Agriculture and Natural Resources, University of California. pp 1-37.
72. 2004 Hou, L., X. Li, L. Dunbar, R. Moeller, B. Palermo, **E. R. Atwill**. Neonatal mice infectivity of intact *Cryptosporidium parvum* oocysts isolated after optimized in vitro excystation. *Applied and Environmental Microbiology* 70(1):642-646.
73. 2004 Jeffrey, J.S., R.S. Singer, R. O'Connor, **E. R. Atwill**. Prevalence of pathogenic *Escherichia coli* in the broiler house environment. *Avian Diseases* 48:189-195.
74. 2004 Tate, K.W., M. Das Gracas C. Pereira, **E.R. Atwill**. Efficacy of vegetated buffer strips for retaining *Cryptosporidium parvum*. *Journal of Environmental Quality* 33(6):2243-2251.
75. 2004 Vargas, J., J. Reynolds, **E. R. Atwill**. Effect of an injectable trace mineral supplement on conception rate of lactating dairy cows. *Journal of Dairy Science* 87:3665-3671.
76. 2004 Jeffrey, J.J., R.S. Singer, **E. R. Atwill**. A prospective study of management and litter variables associated with cellulitis in California broiler flocks. *Avian Diseases* 48(3):522-530.
77. 2004 **Atwill, E.R.**, R. Phillips, M. Das Graças C. Pereira, X. Li, B. McCowan. Seasonal shedding of multiple *Cryptosporidium* genotypes in California ground squirrels (*Spermophilus beecheyi*). *Applied and Environmental Microbiology* 70(11):6748-6752.
78. 2005 Searcy, K.E., A.I. Packman, **E.R. Atwill**, T. Harter. The association of *Cryptosporidium parvum* with suspended sediments and impact on oocyst deposition. *Applied and Environmental Microbiology* 71(2):1072-1078.

**REFEREED JOURNALS, PROCEEDINGS, MONOGRAPHS (continued)**

79. 2005 Lewis, D.J., **E.R. Atwill**, M.S. Lennox, L. Hou, B. Karle, K.W. Tate. Linking on-farm dairy management practices to storm-flow coliform loading for California coastal watersheds. *Journal of Environmental Monitoring and Assessment* 107:407-425.
80. 2005 Miller, W.A., **E.R. Atwill**, I.A. Gardner, M.A. Miller, H.M. Fritz, R. Hedrick, A.C. Melli, N.M. Barnes, P.A. Conrad. Clams (*Corbicula fluminea*) as bioindicators of fecal contamination with *Cryptosporidium* and *Giardia* spp. in freshwater ecosystems in California. *International Journal of Parasitology* 35(6):673-684.
81. 2005 Berge, A.C.B., **E.R. Atwill**, W.M. Sischo. Animal and farm influences on the dynamics of antibiotic resistance in faecal *Escherichia coli* in young dairy calves. *Preventive Veterinary Medicine* 69(2):25-38.
82. 2005 Kirk, J.H., B. McCowan, **E.R. Atwill**, K.S. Glenn, G.E. Higginbotham, C.A. Collar, A. Castillo, B.A. Reed, N.G. Peterson, J. Cullor. Association of antimicrobial inhibitory concentration cluster patterns with dairy management practices for environmental bacteria isolated from bulk tank milk. *Journal of Dairy Science* 88:3710-3720.
83. 2005 Li, X., **E.R. Atwill**, L.A. Dunbar, T. Jones, J. Hook, K.W. Tate. Seasonal temperature fluctuations induces rapid inactivation of *Cryptosporidium parvum*. *Environmental Science and Technology* 39(12):4484-4489.
84. 2005 Miller, W.A., M.A. Miller, I.A. Gardner, **E.R. Atwill**, M. Harris, J. Ames, D. Jessup, A. Melli, D. Paradies, K. Worcester, P. Olin, N. Barnes, P.A. Conrad. New genotypes and factors associated with *Cryptosporidium* detection in mussels (*Mytilus* spp.) along the California coast. *International Journal of Parasitology* 35:1103-1113.
85. 2005 Stoddard, R.A., F. M.D. Gulland, **E.R. Atwill**, J. Lawrence, S. Jang, P.A. Conrad. Isolation of *Salmonella* and *Campylobacter* spp. from feces of northern elephant seals (*Mirounga angustirostris*) in California. *Emerging Infectious Diseases* 11(12):1-7  
<http://www.cdc.gov/ncidod/EID/vol11no12/05-0752.htm>
86. 2006 **Atwill, E.R.**, M. Das Gracas C. Pereira, L. Herrera Alonso, C. Elmi, W.B. Epperson, R. Smith, W. Riggs, L.V. Carpenter, D.A. Dargatz, B. Hoar. Environmental load of *Cryptosporidium parvum* oocysts from cattle manure in feedlots from the mid and western United States. *Journal of Environmental Quality* 35(1):200-206.
87. 2006 **Atwill, E.R.**, K.W. Tate, Maria das Gracas Cabral Pereira, J. Bartolome, G. Nader. Efficacy of natural grassland buffers for removal of *Cryptosporidium parvum* in rangeland runoff. *Journal of Food Protection* 69(1):177-184.
88. 2006 Miller, W.A., I.A. Gardner, **E.R. Atwill**, C.M. Leutenegger, M.A. Miller, R. Hedrick, A.C. Melli, N.M. Barnes, and P.A. Conrad. Evaluation of methods for improved detection of *Cryptosporidium* spp. in mussels (*Mytilus californianus*). *Journal of Microbiological Methods* 65(3):367-379.
89. 2006 McCrea, B., K. Tonooka, C. VanWorth, **E.R. Atwill**, C. Boggs, J. Schrader. Prevalence of *Campylobacter* spp. and *Salmonella* spp. on farm, after transport, and at processing in speciality market poultry. *Poultry Science* 85:136-143.
90. 2006 McCrea, B., K. Tonooka, C. VanWorth, **E.R. Atwill**, J. Schrader. Colonizing capability of *Campylobacter jejuni* genotypes from low prevalence avian species in broiler chickens. *Journal of Food Protection* 69(2):417-420.
91. 2006 Tate, K.W., **E.R. Atwill**, J. Bartolome, G. Nader. Significant *Escherichia coli* attenuation by vegetative buffers on annual grasslands. *Journal of Environmental Quality* 35:795-805.
92. 2006 Searcy, K.E., A.I. Packman, **E.R. Atwill**, T. Harter. Deposition of *Cryptosporidium* oocysts in streambeds. *Applied and Environmental Microbiology* 72(3):1810-1816.

**REFEREED JOURNALS, PROCEEDINGS, MONOGRAPHS (continued)**

93. 2006 Miller, W.A., M.A. Miller, I.A. Gardner, **E.R. Atwill**, B.A. Byrne, S. Jang, M. Harris, J. Ames, D. Jessup, D. Paradies, K. Worcester, A. Melli, and P.A. Conrad. *Salmonella* spp., *Vibrio* spp., *Clostridium perfringens*, and *Plesiomonas shigelloides* in freshwater and marine invertebrates from coastal California ecosystems. *Microbial Ecology* 52:198-206.
94. 2006 Dabritz, H., **E.R. Atwill**, I.A. Gardner, M.A. Miller, P.A. Conrad. Outdoor fecal deposition by free-roaming cats and attitudes of cat owners and nonowners towards stray pets, wildlife, and water pollution. *Journal of the American Veterinary Medical Association* 229(1):74-81.
95. 2006 Cortis, A., T. Harter, L. Hou, **E.R. Atwill**, A.I. Packman, P. Green. A CTRW filtration model for *Cryptosporidium parvum* oocysts in porous media. *Water Resources Research* 42(12), W12S13, doi:10.1029/2006WR004897.
96. 2006 Searcy, KE., A.I. Packman, **E.R. Atwill**, T. Harter. Capture and retention of *Cryptosporidium* oocysts by *Pseudomonas aeruginosa* biofilms. *Applied and Environmental Microbiology* 72(9):6242-6247.
97. 2007 Phillips, R., N.K. McDougald, **E.R. Atwill**, D. McCreary. Exclosure size affects young blue oak (*Quercus douglasii*) seedling growth. *California Agriculture* 61(1):16-19.
98. 2007 Phillips, R., N.K. McDougald, D. McCreary, **E.R. Atwill**. Blue oak (*Quercus douglasii*) seedling age influences growth and mortality. *California Agriculture* 61(1):11-15.
99. 2007 Lennox, M.S., D. Lewis, J. Gustafson, K.W. Tate, **E.R. Atwill**. Water quality treatment for feeding and exercise areas on California coastal dairy farms and ranches. UC Division of Agriculture and Natural Resources Publication 8210. pp 1-9.
100. 2007 Pereira, M.G.C., **E.R. Atwill**, A.P. Barbosa. Prevalence and associated risk factors for *Giardia lamblia* infection among children hospitalized for diarrhea in Goiânia, Goiás State, Brazil. *Revista do Instituto de Medicina Tropical de São Paulo (Journal of the São Paulo Institute of Tropical Medicine)* 49(3):139-145.
101. 2007 Knox, A.K., K.W. Tate, R.A. Dahlgren, **E.R. Atwill**. Wetland filters, irrigation and grazing management can reduce *E. coli* concentrations in pasture runoff. *California Agriculture* 61(4):159-165.
102. 2007 Dabritz, H.A., I.A. Gardner, M.A. Miller, M.R. Lappin, **E.R. Atwill**, A.E. Packham, A.C. Melli, P.A. Conrad. Evaluation of two *Toxoplasma gondii* serologic tests used in a serosurvey of domestic cats in California. *Journal of Parasitology* 93(4):806-816.
103. 2007 Miller, W.A., D. Lewis, M.S. Lennox, M. G.C. Pereira, K.W. Tate, P.A. Conrad, **E.R. Atwill**. Climate and on-farm risk factors associated with *Giardia duodenalis* cysts in storm runoff from California coastal dairies. *Applied and Environmental Microbiology* 73(21):6972-6979.
104. 2007 Jay, M.T., M. Cooley, D. Chao, G.W. Wiscomb, R.A. Sweitzer, L. Crawford-Miksza, J.A. Farrar, J. O'Connell, A. Millington, **E.R. Atwill**, R.E. Mandrell. *Escherichia coli* O157:H7 isolation from feral swine (*Sus scrofa*) in close proximity to cattle and spinach fields in the central California coast. *Emerging Infectious Disease* 13(12):1908-1911.  
<http://www.cdc.gov/EID/content/13/12/1908.htm>
105. 2007 Dabritz, H.A., M.A. Miller, **E.R. Atwill**, I.A. Gardner, C.M. Leutenegger, A. Melli, P.A. Conrad. Detection of *Toxoplasma gondii*-like oocysts in cat feces and estimates of the environmental oocyst burden. *Journal of the American Veterinary Medical Association* 231(11):1676-1684.
106. 2007 Dabritz, H.A., M.A. Miller, A.E. Packham, D. Rejmanek, C.M. Leutenegger, I.A. Gardner, **E.R. Atwill**, P.A. Conrad. Experimental infection of *Peromyscus californicus* with *Toxoplasma gondii*. *Journal of Parasitology* 93(6):1360-1364.

**REFEREED JOURNALS, PROCEEDINGS, MONOGRAPHS (continued)**

107. 2008 Harter, T., **E.R. Atwill**, L. Hou, B.M. Karle, K.W. Tate. Developing risk models of *Cryptosporidium* transport in soils from vegetated, tilted soil box experiments. *Journal of Environmental Quality* 37:245-258.
108. 2008 McCrea, B., K.H. Tonooka, C. VanWorth, **E.R. Atwill**, J. S. Schrader. Detection of *Campylobacter jejuni* from the skin of broiler chickens, ducks, squab, quail and guinea fowl carcasses. *Journal of Foodborne Pathogens and Disease* 5(1):53-57.
109. 2008 Knox, A.K., K.W. Tate, R.A. Dahlgren, **E.R. Atwill**. Efficacy of flow-through wetlands to retain nutrient, sediment, and microbial pollutants. *Journal of Environmental Quality* 37(5):1837–1846.
110. 2008 Stoddard, R.A., **E.R. Atwill**, F.M.D. Gulland, M.A. Miller, H.A. Dabritz, B.A. Byrne, D.M. Paradies, K.R. Worcester, S. Jang, J. Lawrence, P.A. Conrad. Risk factors for infection with pathogenic and antimicrobial resistant fecal bacteria in northern elephant seals (*Mirounga angustirostris*) in California. *Public Health Reports* 123:360-370.
111. 2008 Ostermann-Kelm, S., **E.R. Atwill**, E.S. Rubin, M.C. Jorgensen, W.M. Boyce. Interactions between feral horses and desert bighorn sheep at water. *Journal of Mammology* 89(2):459–466.
112. 2008 Dabritz, H.A., M.A. Miller, I.A. Gardner, A.E. Packham, **E.R. Atwill**, P.A. Conrad. Risk factors for *Toxoplasma gondii* infection in wild rodents from central coastal California and a review of *T. gondii* prevalence in rodents. *Journal of Parasitology* 94(3):675-683.
113. 2008 Miller, W.A., D. Lewis, M. G.C. Pereira, M.S. Lennox, P.A. Conrad, K.W. Tate, **E.R. Atwill**. Farm factors and beneficial management practices associated with reducing *Cryptosporidium* loading in storm runoff from dairy high use areas. *Journal of Environmental Quality* 37(5):1875-1882.
114. 2009 Stoddard, R.A., **E.R. Atwill**, P.A. Conrad, B.A. Byrne, S. Jang, J. Lawrence, B. McCowan, F.M.D. Gulland. The effect of rehabilitation of northern elephant seals (*Mirounga angustirostris*) on antimicrobial resistance of commensal *Escherichia coli*. *Veterinary Microbiology* 133:264-271.
115. 2009 Mohammed, H.O., K. Stipetic, P.L. McDonough, R.N. Gonzalez, D.V. Nydam, **E.R. Atwill**. Identification of potential on-farm sources of *Listeria monocytogenes* in herds of dairy cattle. *American Journal of Veterinary Research* 70(3):383-388.
116. 2009 Mohammed, H.O., **E.R. Atwill**, L. Dunbar, T. Ward, P. McDonough, R. Gonzalez. The risk of *Listeria monocytogenes* infection in beef cattle operations. *Journal of Applied Microbiology* doi:10.1111/j.1365-2672.2009.04446.x.
117. 2009 Paul, R.R., B. Hoar, J. Siembieda, M. Das Gracias C. Pereira, **E.R. Atwill**. *Giardia duodenalis* in feedlot cattle from the central and western United States. *BMC Veterinary Research* 5:37 doi:10.1186/1746-6148-5-37.
118. 2009 Lewis, D.L., **E.R. Atwill**, M.S. Lennox, M.D.G. Pereira, W.A. Miller, P.A. Conrad, K.W. Tate. Reducing microbial contamination in storm runoff from high use areas on California coastal dairies. *Water Science Technology* 60:1731-43 doi:10.2166/wst.2009.561.
119. 2009 Li, X. and **E.R. Atwill**. Viability of *Cryptosporidium parvum* oocysts post-excystation and heat treatment assessed by nucleic acid stain and mouse infectivity. *Chinese Journal of Veterinary Medicine*. In press.
120. 2009 **Atwill, E.R.**, X. Li, R.F. Bond, C. Xiao, M. Partyka, B. Karle, L.E. Kiger. An introduction to waterborne pathogens in agricultural watersheds. *Natural Resources Conservation Service, United States Department of Agriculture*. pp 1-139.

**Category II.** Compendiums of data; reports, regular distribution items; proceedings, chapters (non-refereed); extension teaching materials; video or audio tapes; popular articles; bulletins, leaflets; all publications distributed electronically.

1. 1991 **Atwill, E.R.** Potomac horse fever in New York State. Eighth Annual Equine Practitioner's Conference, Ithaca, New York
2. 1991 **Atwill, E.R.,** L.L. Rodriguez, D.W. Hird, and O. Rojas. Logistic regression model for mapping the ecological distribution of vesicular stomatitis seropositivity in Costa Rican cattle. Proceedings of the Sixth International Symposium of Veterinary Epidemiology and Economics. Ottawa, Canada. pp. 224-226.
3. 1993 **Atwill, E.R.,** H.O. Mohammed, J.W. Lopez and E.J. Dubovi. Epidemiologic studies on equine monocytic ehrlichiosis. Centennial Poster Session. School of Veterinary Medicine, Cornell University.
4. 1994 **Atwill, E.R.,** H.O. Mohammed, J.M. Scarlett, and C.E. McCulloch. Interpretation of the random effects parameter and odds ratios in mixed effects logistic regression: Intra-class correlation, bias and unreliability. Proceedings of the Seventh International Symposium of Veterinary Epidemiology and Economics. Nairobi, Kenya. The Kenya Veterinarian 18(2): 156-158.
5. 1994 **Atwill, E.R.,** H.O. Mohammed, J.W. Lopez, and E.J. Dubovi. Risk factors for seropositivity to equine monocytic ehrlichiosis: Evidence for the route of transmission. Proceedings of the Seventh International Symposium of Veterinary Epidemiology and Economics. Nairobi, Kenya. The Kenya Veterinarian 18(2): 270-272.
6. 1994 de la Rua-Domenech, R., H.O. Mohammed, **E.R. Atwill,** T.J. Divers, J.F. Cummings, and A. de Lahunta. Use of cluster analysis in assessment of geographical variations of Equine Motor Neuron Disease frequency. Proceedings of the Seventh International Symposium of Veterinary Epidemiology and Economics. Nairobi, Kenya. The Kenya Veterinarian 18(2): 486.
7. 1994 Barwick, R.S., **E. R. Atwill,** and H.O. Mohammed. The impact of subjective test results on risk estimation in cross-sectional studies. Proceedings of the Seventh International Symposium on Veterinary Epidemiology and Economics. Nairobi, Kenya. The Kenya Veterinarian 18(2): 568-570.
8. 1994 **Atwill, E.R.,** H.O. Mohammed, J.W. Lopez, and E.J. Dubovi. Risk factors for seropositivity to equine monocytic ehrlichiosis: Evidence for the route of transmission. Seventh International Conference on Equine Infectious Diseases. Tochigi, Japan. pp. 160.
9. 1995 **Atwill, E.R.** Assessing the risk of surface water contamination of *Cryptosporidium parvum* from beef cattle production: implications for land use restrictions. Annual Beef and Range Field Day, "Managing hardwood rangelands to maintain and enhance water quality," Sierra Foothill Research and Extension Center, UC Cooperative Extension. Browns Valley, California. April 20, pp. 15-17.
10. 1995 **Atwill, E.R.** Invited speaker. Water quality assessment (How to track down the water bugs - *Cryptosporidium*). Workshop on Application of State-Of-The-Art Biotechnology Techniques and Instrumentation for Forensic, Food Safety and Quality Applications, UC Biotechnology Program, UC Davis. June 13-14, pp. 18.
11. 1996 **Atwill, E.R.** Practitioner's Update on *Cryptosporidium* in Horses, Beef and Dairy Cattle. 9th Annual Fall Symposium On Advances In Clinical Veterinary Medicine. School of Veterinary Medicine, University of California. Davis, California. November 9, pp.152-155.
12. 1997 **Atwill, E.R.** Agricultural Operations Report. Update on *Cryptosporidium* in Horses, Beef and Dairy Cattle. San Joaquin Experimental Range, California State University, Fresno. April 5, pp. 29-34.

**Category II (continued)**

13. 1997 **Atwill, E.R.** Cryptosporidiosis and diarrhea in calves. Proceedings of the International Workshop on Cryptosporidiosis: a Public and Animal Health Problem. Universidad Autónoma Metropolitana-Xochimilco, Mexico City. April 23-25.
14. 1997 **Atwill, E.R.** Epidemiology of cryptosporidiosis in animals. International Workshop on Cryptosporidiosis: a Public and Animal Health Problem. Universidad Autónoma Metropolitana-Xochimilco, Mexico City. April 23-25.
15. 1997 **Atwill, E.R.** Diagnostic methods for detecting *Cryptosporidium parvum*. International Workshop on Cryptosporidiosis: a Public and Animal Health Problem. Universidad Autónoma Metropolitana-Xochimilco, Mexico City. April 23-25.
16. 1997 Maldonado Camargo, S., **E.R. Atwill**, J.A. Saltijeral Oaxaca. Prevalencia de *Cryptosporidium parvum* en becerras lactantes en el altiplano de México. International Workshop on Cryptosporidiosis: a Public and Animal Health Problem. Universidad Autónoma Metropolitana-Xochimilco, Mexico City. April 23-25.
17. 1997 HACCP-based program to control *Cryptosporidium* and other waterborne pathogens in the Alameda Watershed. San Francisco Public Utilities Commission. April 30, pp. 1-71.
18. 1997 Gallino, J., R.E. Bray, S.J. Wickler, E.A. Cogger, **Atwill, E.R.**, T.P. Anderson, C. London. Endoparasite infections in feral horses. 15th Equine Nutrition and Physiology Society. Fort Worth/Dallas. May 28-31, pp. 344-347.
19. 1997 Nader, G., K.W. Tate, **E.R. Atwill**, D. Drake. Chapter on Water Quality Monitoring. "HOW TO" Monitor Rangeland Resources Manual. Intermountain Working Group, University of California Cooperative Extension. August 28, pp. 84-103.
20. 1997 **Atwill, E.R.** *Cryptosporidium parvum* in dairy wastewater and its implications for water quality. Workshop: dairy wastewater and public health concerns. Escondido, California. December 10, pp.1-14.
21. 1997 **Atwill, E.R.** *Cryptosporidium parvum* in dairy wastewater and its implications for water quality. Workshop: dairy wastewater and public health concerns. Ontario, California. December 11, pp.1-14.
22. 1997 Drake, D.J., **E.R. Atwill**, J.M. Connor, D. Jones. Prevalence of *Cryptosporidium parvum*, *Giardia duodenalis*, and *Campylobacter jejuni* in beef calves and impacts on pre-weaning gain and weaning weight. Western Section, American Society of Animal Science. San Luis Obispo, California.
23. 1998 **Atwill, E.R.** Rangeland cattle and the risk of waterborne *Cryptosporidium parvum* infection in humans. Cattlemen's update: research on the road. School of Veterinary Medicine, University of Nevada and Cooperative Extension. Ely, Nevada. January 12, pp. 11-17.
24. 1998 **Atwill, E.R.** Rangeland cattle and the risk of waterborne *Cryptosporidium parvum* infection in humans. Cattlemen's update: research on the road. School of Veterinary Medicine, University of Nevada and Cooperative Extension. Elko, Nevada. January 13, pp. 11-17.
25. 1998 Jones, T., **E.R. Atwill**. Statistical methods for quantifying and comparing loading of *Cryptosporidium* on watersheds from different livestock sources using epidemiologic survey data. International Conference on Source Water Protection, National Water Research Institute in cooperation with U.S. EPA and U.S. Geological Survey. Dallas, Texas. April 28-30, pp. 201-207.
26. 1998 Tate, K.W., B. Allen-Diaz, J. Harper, R. Dahlgren, **E.R. Atwill**. Hydrology, ecology, management and water quality on grazed hardwood rangeland watersheds. Annual Spring Conference of California-Oregon-Idaho-Nevada Cooperative Extension Specialists and Farm Advisors. Nevada City, California. May 12-13.

**Category II (continued)**

27. 1998 Nader, G., K.W. Tate, M. Connor, B. Allen-Diaz, **E.R. Atwill**. Evaluation of buffer zones to attenuate nutrient and sediment transport from hillslope pastures. Annual Spring Conference of California-Oregon-Idaho-Nevada Cooperative Extension Specialists and Farm Advisors. Nevada City, California. May 12-13.
28. 1998 Barry, S., **E.R. Atwill**, K. Tate, T. Koopman J. Cullor, T. Huff. Developing and implementing a HACCP-based program to control *Cryptosporidium* and other waterborne pathogens in the Alameda Creek watershed. American Water Works Association Annual Conference. Dallas, Texas. June 21-25.
29. 1998 Kirk, J., P. Susitaival, D. Wilson, **E.R. Atwill**, S. McCurdy, M. Schenker. Survey of occupational hazards in California veterinarians. 135<sup>th</sup> American Veterinary Medical Association Annual Convention. Baltimore, Maryland. July 25-29, pp. 312-314.
30. 1998 Harter, T., S. Wagner, **E.R. Atwill**. IEHS Groundwater protection: the fate of *Cryptosporidium parvum* in porous media. 1998 International Conference and Special Workshop on Groundwater Quality: Remediation and Protection. Tübingen, Germany. September 20-24, pp. 1-6.
31. 1998 **Atwill, E.R.** Rangeland cattle and the risk of waterborne *Cryptosporidium parvum* infection in humans. 31<sup>st</sup> Annual Convention of the American Association of Bovine Practitioners. Spokane, Washington. September 24-26, pp. 62-66.
32. 1998 Fio, L. and **E.R. Atwill**. *Cryptosporidium* in the water: are horses to blame? The Horse Report, Center for Equine Health, School of Veterinary Medicine, University of California, Davis. Vol 16(4) October, pp 1-6,
33. 1998 Hoar, B.R., **E.R. Atwill**, C. Elmi. Comparison of two sampling methods for estimating environmental risk attributable to beef cattle shedding pathogens of zoonotic concern. Source Water Protection Symposium: Focus on Waterborne Pathogens. San Francisco, California. October 28-31.
34. 1999 **Atwill, E.R.** Is livestock manure a risk to public health? Risk Factors to Profit and Growth. BANFF Pork Seminar, Banff, Alberta, Canada. January 12-15. Advances in Pork Production, Vol 10, pp 75-80.
35. 1999 Fio, L. and **E.R. Atwill**. *Cryptosporidium* in the water: are horses to blame? The New Horsemen, California State Horsemen's Association, Vol 13(4) January, pp 1-2.
36. 1999 **Atwill, E.R.** Rangeland cattle and the risk of waterborne *Cryptosporidium parvum* infection in humans. Food and Water Safety Symposium, American Association of Bovine Practitioners & Midwest American Society of Animal Science and American Dairy Science Association. Des Moines, Iowa. March 15, pp. 25-29.
37. 1999 Tate, K.W. and **E.R. Atwill**. Transport of *Cryptosporidium parvum* on annual rangeland watersheds. Beef and Range Field Day, Sierra Foothill Research and Extension Center, University of California. Brown Valley, California. April 22, pp. 11-16.
38. 1999 **Atwill, E.R.** Rangeland cattle and the risk of waterborne *Cryptosporidium parvum* infection in humans. Beef and Range Field Day, Sierra Foothill Research and Extension Center, University of California. Brown Valley, California. April 22, pp. 5-10.
39. 1999 Barry, S., K. Tate, **E.R. Atwill**, T. Koopman, J. Cullor, T. Huff. Guarding against *Cryptosporidium*: A watershed protection plan to keep cattle on San Francisco's watersheds. Beef and Range Field Day, Sierra Foothill Research and Extension Center, University of California. Brown Valley, California. April 22, pp. 17-20.
40. 1999 Nader, G., K.W. Tate, M. Connor, B. Allen-Diaz, **E.R. Atwill**, D.J. Lewis. Evaluation of buffer zones to attenuate nutrients and sediment transport from irrigated pastures. Beef and Range Field Day, Sierra Foothill Research and Extension Center, University of California. Brown Valley, California. April 22, pp. 39.

**Category II (continued)**

41. 2000 Rosen, B.H., R. Croft, **E.R. Atwill**, S. Wade, S. Stehman. Waterborne pathogens in agricultural watersheds. Technical Note 2, Watershed Science Institute, University of Vermont, Natural Resource Conservation Service, USDA, Burlington, Vermont. June, pp. 1-62. <http://www.nraes.org/publications/nraes147.html>
42. 2000 Ward, T.A., K.W. Tate, **E.R. Atwill**. Riparian health assessment method for rangelands. UC Cooperative Extension California Rangelands Research and Information Center. Monitoring Series #10.
43. 2001 Ward, T.A., K.W. Tate, **E.R. Atwill**. A cross-sectional survey of California's grazed rangeland riparian areas: a preliminary report. Riparian Habitat and Flood Plain Conference. Sacramento, California. March 12-15.
44. 2001 **Atwill, E.R.**, L Hou, B.M. Karle, T. Harter, K.W. Tate, R.A. Dahlgren. Engineering vegetative buffer strips for removal of amphixenotic *Cryptosporidium parvum* from runoff of dairies and grazed agricultural land. International Life Sciences Institute North America Symposium Series on Food Microbiology, in conjunction with the International Association for Food Protection 88<sup>th</sup> Annual Meeting. Minneapolis, Minnesota. August 5-8, pp. 43-46.
45. 2001 Ward, T.A., K.W. Tate, **E.R. Atwill**. Guidelines for the establishment and monitoring of riparian grazing systems. UC Cooperative Extension California Rangelands Research and Information Center. Monitoring Series #11.
46. 2001 Berge, A.C.B., **E.R. Atwill**, W.H. Sischo. Assessing dynamics of antibiotic resistance in faecal *Escherichia coli* in young calves using cluster analysis techniques. Menzies, F.D. Reid, S.W.J., In: Society for Veterinary Epidemiology and Preventive Medicine Proceedings. Noordwijkerhout, Netherlands March 28-30, pp. 86-91.
47. 2002 **Atwill, E.R.**, R. Phillips, F. Rulofson. Estimating environmental loading rates of the waterborne protozoa, *Cryptosporidium parvum*, in certain domestic and wildlife species in California. 20<sup>th</sup> Vertebrate Pest Conference. Reno, Nevada. March 4-7, pp. 241-243.
48. 2002 **Atwill, E.R.** Addressing environmental health concerns associated with *Cryptosporidium parvum* infection in cattle production systems. 1<sup>st</sup> Annual Oregon Veterinary Conference, Oregon State University. Corvallis, Oregon. March 9.
49. 2002 Kirk, J.H., J. Cullor, **E.R. Atwill**. Epidemiology and antibiotic resistance of environmental *Streptococcus* causing mastitis on California dairies. Panamerican Congress on Milk Quality and Mastitis Control. Ribeirão, Brasil. November 25.
50. 2003 **Atwill, E.R.**, K.W. Tate, P.E. Dorey. Warner Ranch integrated *Cryptosporidium parvum* assessment and grazing management plan. Vista Irrigation District, Vista, California. December 10. pp 1-24.
51. 2004 Ostermann, S., E. Rubin, **E.R. Atwill**, W. Boyce. Feral horses in Coyote Canyon, Anza Borrego Desert State Park. Final Report for Interagency Agreement # 920-99-00237 between California State Parks and UC Davis Wildlife Health Center. pp 1-32.
52. 2004 **Atwill, E.R.** Beneficial management practices for reducing waterborne zoonotic pathogens attributable to animal agriculture. Pathogens in the Environment, United States Department of Agriculture. Kansas City, Missouri. February 23-25. pp1-3.
53. 2004 Kissel, D., K. Kelling, M. Wander, **E.R. Atwill**, F. Below, J. Meisinger. Expert panel review of the USDA-ARS Soil and Water Conservation Research Unit, Lincoln, Nebraska. April 5-8. pp. 1-20.
54. 2004 **Atwill, E.R.**, K.W. Tate, P. Ryan. *Cryptosporidium parvum* assessment for beef cattle grazing along Modesto Reservoir. Modesto Irrigation District, Modesto, California. August 30. pp 1-15.



**Category II (continued)**

55. 2004 Tate, K.W., C. van Kessel, **E.R. Atwill**, R.A. Dahlgren. Evaluating the effectiveness of vegetated buffers to remove nutrients, pathogens, and sediment transported in runoff from grazed, irrigated pastures. UC Water Resources Center Technical Completion Report. August 24. pp1-57.
56. 2005 **Atwill, E.R.**, K.W. Tate, T. Harter. Efficacy of vegetated buffers for simultaneous removal of waterborne protozoa and bacteria from animal agricultural runoff. North American Branch of the International Life Sciences Institute, Technical Committee on Food Microbiology. January 2. pp 1-34.
57. 2005 Tate, K.W., D.J. Lewis, D.F. Lile, D.L. Lancaster, **E.R. Atwill**. Water quality monitoring at the farm level. Plant and Soil Conference, California Chapter of the American Society of Agronomy, Modesto, California. February 1-2. pp 1-4.
58. 2005 Bollinger, L.M., H.S. Hussein, T. Sakuma, M.R. Hall, **E.R. Atwill**. Prevalence of Shiga toxin-producing *Escherichia coli* in beef cattle. Proceedings of the Western Section, American Society of Animal Science. Las Cruces, NM. June 22-24. Vol 56, pp 222-225.
59. 2007 Tate, K.W., **E.R. Atwill**, G. Nader, J. Bartolome. Recent annual rangeland buffer and RDM study results. Proceedings for the Beef and Range Field Day: Sierra Foothill Research and Extension Center, University of California. April 19. pp 21-24.
60. 2007 Tate, K.W., **E.R. Atwill**, A. Bedard-Haughn, C. van Kessel, R. Dahlgren, J. Six. Recent irrigated pasture water quality results. Proceedings for the Beef and Range Field Day: Sierra Foothill Research and Extension Center, University of California. April 19. pp 25-30.
61. 2007 Bollinger, L.M., H.S. Hussein, **E.R. Atwill**. Effect of season, management, and diet on the prevalence of shiga toxin-producing *Escherichia coli* in dairy cattle. Proceedings, Western Section, American Society of Animal Science. Moscow, ID. June 20-22. Vol 58, pp 189-192.
62. 2007 **Atwill, E.R.**, D. Lewis, M.G.C. Pereira, M. Huerta, R. Bond, S.B. Ogata, P. Bass. Characterizing Freshwater Inflows and Sediment Reservoirs of Fecal Coliform and *E. coli* at Five Estuaries in Northern California. University of California Cooperative Extension, Sonoma County and University of California School of Veterinary Medicine. Davis, California. Final Report to State Water Resource Control Board. 48 pages.
63. 2007 **E.R. Atwill**, D.J. Lewis, R. Bond, M.G.C. Pereira, M. Huerta, S.B. Ogata. Protocol considerations for monitoring fecal coliforms and *E. coli* in Northern California estuaries. Regulatory Guidance Manual for the State Water Resource Control Board. 51 pages.
64. 2008 Hussein, H.S., L. M. Bollinger, M.R. Hall, and **E.R. Atwill**. Food safety: Prevalence and pre-harvest control of Shiga toxin-producing *Escherichia coli* in range cattle. Proceedings, Cattlemen's Update, University of Nevada Cooperative Extension. pp. 36-41.
65. 2008 Hussein, H.S., L. M. Bollinger, M.R. Hall, and **E. R. Atwill**. Food safety: Prevalence and pre-harvest control of Shiga toxin-producing *Escherichia coli* in cattle on irrigated pastures. Proceedings, Cattlemen's Update, University of Nevada Cooperative Extension. pp. 42-47.
66. 2008 Hussein, H.S., L. M. Bollinger, M.R. Hall, and **E. R. Atwill**. Food safety: Prevalence and pre-harvest control of Shiga toxin-producing *Escherichia coli* in feedlot cattle. Proceedings, Cattlemen's Update, University of Nevada Cooperative Extension. pp. 48-53.
67. 2008 Hussein, H.S., L.M. Bollinger, M.R. Hall, and **E.R. Atwill**. Food safety: Prevalence and pre-harvest control of Shiga toxin-producing *Escherichia coli* in dairy cattle. Proceedings, Cattlemen's Update, University of Nevada Cooperative Extension. pp. 54-59.
68. 2008 **Atwill, E.R.** Hetch Hetchy watershed packstock and microbial water quality study. Final report. San Francisco Public Utilities Commission. pp 1-12.
69. 2008 **Atwill, E.R.** Implications of wildlife in *E. coli* outbreaks associated with leafy green produce. 23<sup>rd</sup> Vertebrate Pest Conference. San Diego, California. pp. 5-6.

**Category III.** Items with limited distribution; progress or annual reports to funding agencies or commissions; comments for commodity group newsletters.

1. 1995 **Atwill, E.R.** *Cryptosporidium parvum* and cattle: implications for public health and land use restrictions. Newsletter to UCCE Livestock & Natural Resource Advisors; Range and Animal Science Specialists; California Cattlemen's Association Officers; Ag Issues Center, UC Davis; BLM-SWS Interagency Library, Sacramento. January 18, pp. 1-4.
2. 1995 **Atwill, E.R.** Invited contributor. *Cryptosporidium parvum* and cattle: implications for public health and land use restrictions. Literature review accompanying a video tape by Ron Fayer et al., Zoonotic Diseases Laboratory, ARS, USDA, distributed nationally by the Working Group on Water Quality, USDA, whereby 52 copies sent to National Cattlemen's Association, 52 copies to the Extension Service, 52 copies to the Consolidated Farm Service Agency, 800 copies distributed to members of the American Water Works Association, with additional copies sent to selected stakeholders. June 15, pp. 1-4. (revision of #1 requested by the USDA)
3. 1995 **Atwill, E.R., D. Klingborg, J. Glenn.** Medical ecology and molecular epidemiology of *Cryptosporidium* spp in California. Final project report, Division of Agriculture and Natural Resources, University of California. August 31, pp. 1-5
4. 1995 **Atwill, E.R.** Cow-calf operations and the prevalence of protozoal parasites in spring. Newsletter to UCCE Livestock & Natural Resource Advisors; Range and Animal Science Specialists; California Cattlemen's Association Officers; Ag Issues Center, UC Davis; District Veterinarians, Animal Health Branch, California Department of Food & Agriculture; BLM-SWS Interagency Library, Sacramento. September 8, pp. 1.
5. 1996 **Atwill, E.R.** Invited contributor. *Cryptosporidium parvum* and cattle: implications for public health and land use restrictions. Web page for the Water Quality Information Center, National Agricultural Library, Washington, DC. March 12, pp. 1-5. (revision of #1 requested by the USDA)
6. 1996 Tate, K.W., M. George, **E.R. Atwill.** Evaluation of the potential for pathogen contamination of surface water and the attenuation effectiveness of grass buffer strips in grazed watersheds. Final project report, Division of Agriculture and Natural Resources, University of California. August 26, pp. 1-11.
7. 1996 **Atwill, E.R.** Preliminary findings on prevalence and associated risk factors for shedding critical water- and food-borne pathogens in California rangeland beef cow-calf herds. LDRL Progress Report, Volume 2.
8. 1996 **Atwill, E.R.** and C. Holmberg. Sierra Foothill Research and Extension Center, University of California. Progress report: Preliminary findings on prevalence and associated risk factors for shedding critical water- and food-borne pathogens in California rangeland beef cow-calf herds. pp. 102-105.
9. 1997 **Atwill, E.R.** LDRL Progress Reports. A: Preliminary findings on prevalence and associated risk factors for shedding critical water- and food-borne pathogens in California rangeland beef cow-calf herds. B: Assessing the environmental survivability of bovine-derived *Cryptosporidium parvum* oocysts and *Giardia duodenalis* cysts on cow-calf rangelands. February 5, pp. 1-3.
10. 1997 **Atwill, E.R., T. Jones, and S. Vázquez-Flores.** Technical report. Assessing the environmental risk from rangeland cattle shedding *Cryptosporidium parvum* oocysts in bovine feces: optimization of in vitro excystation rates. American Veterinary Medical Foundation. April 18, pp. 1-6.

**Category III (continued)**

11. 1997 **Atwill, E.R.** Cryptosporidiosis and diarrhea in calves. Newsletter to UCCE Livestock & Natural Resource Advisors; Range and Animal Science Specialists; California Cattlemen's Association Officers; Ag Issues Center, UC Davis; District Veterinarians, Animal Health Branch, California Department of Food & Agriculture; BLM-SWS Interagency Library, Sacramento. July, pp. 1-4.
12. 1997 **Atwill, E.R.**, W. Boyce, K.W. Tate. Identification of the Reservoir and Route of Infection of *Cryptosporidium parvum* for Rangeland Cattle: Ramifications for Human Health and Water Quality. Final project report, Division of Agriculture and Natural Resources, University of California. August 29, pp. 1-5.
13. 1997 Allen-Diaz, B., K.W. Tate, **E.R. Atwill**. Fate and transport of non-point source pollution on grazed rangeland watersheds. Final project report, Division of Agriculture and Natural Resources, University of California. August 29, pp. 1-10.
14. 1998 **Atwill, E.R.**, T. Jones, K. Tate. Assessing the environmental risk from rangeland cattle shedding *Cryptosporidium parvum* in their feces. Final project report, Sustainable Agriculture Research and Education Program, University of California. March 20, pp. 1-13.
15. 1998 Nader, G., K.W. Tate, **E.R. Atwill**, D. Drake. Water quality effects of rangeland beef cattle excrement. Range Science Report #35, Department of Agronomy and Range Science, UC Davis and UC Cooperative Extension. April, pp. 1-11.
16. 1998 **Atwill, E.R.** and K.W. Tate. Initial inventory of non-point source contaminants of primary concern on Stafford Lake watershed. North Marin Water District. July 9, pp. 1-10.
17. 1998 **Atwill, E.R.** and T.L. Rose. *Corbicula fluminea* as an environmental assay for detection of *Cryptosporidium parvum* in surface waters. Technical Completion Report, Water Resources Center, University of California. August, pp. 1-46.
18. 1998 Tate, K.W., G. Nader, B. Allen-Diaz, **E.R. Atwill**. The effectiveness of thirty foot vegetative buffer zones to filter nutrients and pathogens from irrigated pasture tail water. Annual Report. Sierra Foothill Research and Extension Center, University of California.
19. 1999 Tate, K.W. and **E.R. Atwill**. Rainfall depth, duration, and return frequency information for typical California annual rangelands. Range Science Report #36, Department of Agronomy and Range Science, UC Davis and UC Cooperative Extension. April, pp. 1-5.
20. 1999 Rulofson, F. and **E.R. Atwill**. Assessing the risk of using treated waste water for irrigation as a source of *Cryptosporidium parvum* and *Giardia duodenalis* for beef cattle. Tuolumne Utility District. June 23, pp. 1-4.
21. 1999 **E.R. Atwill**, E. Johnson, D.J. Klingborg, M. Das Graças C. Pereira, S.J. Wickler. The ecology and epidemiology of *Cryptosporidium parvum* and *Giardia duodenalis* in California horses: ramifications for watershed quality and access to public lands. Center for Equine Health. June 25, pp. 1-2.
22. 1999 Tate, K.W., B. Allen-Diaz, R. Dahlgren, J. Harper, **E.R. Atwill**. North coast rangeland watershed and water quality study. Final Report, Competitive Grants Program, Division of Agriculture and Natural Resources, UC Regents. August 26, pp. 1-8.
23. 1999 Harter, T., **E.R. Atwill**, W.R. Horwath, R.D. Meyer, M. Campbell-Mathews. Impact of waste management on chronic exposure of dairy cattle to well water nitrate. California Dairy Research Foundation Annual Report. September 17, pp. 1-18.
24. 1999 Tate, K.W., G.A. Nader, J.M. Connor, B. Allen-Diaz and **E.R. Atwill**. Characterization of Hydrology and Nonpoint Source Pollution on Grazed Hardwood Rangeland Watersheds. Three Year Project Review Report, UC Sierra Foothill Research and Extension Center.
25. 1999 **Atwill, E.R.** Estimating loading rates of *C. parvum* from cross-sectional surveys on livestock and wildlife populations. Workshop on Overland Migration of *Cryptosporidium*. Urban Watershed Management Branch, U.S. Environmental Protection Agency. Edison, New Jersey. September 21-23.

**Category III (continued)**

26. 2000 Harter, T., **E.R. Atwill**, W.R. Horwath, R.D. Meyer, M. Campbell-Mathews. Impact of waste management on chronic exposure of dairy cattle to well water nitrate. California Dairy Research Foundation Annual Report. September 20, pp. 1-30.
27. 2001 **Atwill, E.R.**, K.W. Tate, T. Harter, R.A. Dahlgren. Engineering vegetative buffer strips for removal of *Cryptosporidium parvum* from runoff of dairies and grazed agricultural land. International Life Science Institute: Technical Committee on Food Microbiology. Progress and Final Reports. April 15, August 15, March 15, Oct 8.
28. 2002 **Atwill, E.R.**, C. Elmi, W.P. Epperson, D.M. Grotelueschen, B. Smith, B. Hoar, W.M. Sischo, L.V. Carpenter, D. Brewster, W. Riggs. Prevalence and distribution of genotypes of *Cryptosporidium parvum* in United States feedlot cattle. US Environmental Protection Agency, STAR Environmental Research Grants Competition. Annual Progress and Summary Reports (6/2001,06/2002).
29. 2003 **E.R. Atwill**, R. Phillips, F. Rulofson. Estimating environmental loading rates of the waterborne protozoa, *Cryptosporidium parvum*, in certain domestic and wildlife species in California. Sierra Foothill Research and Extension Center, University of California. April 17.
30. 2003 **Atwill, E.R.**, K.W. Tate, T. Harter. Progress Report: Efficacy of vegetated buffers for simultaneous removal of waterborne protozoa and bacteria from animal agricultural runoff *Cryptosporidium parvum* from runoff of dairies and grazed agricultural land. International Life Science Institute: Technical Committee on Food Microbiology. May 15.
31. 2003 **Atwill, E.R.**, C. Elmi, W.P. Epperson, D.M. Grotelueschen, B. Smith, B. Hoar, W.M. Sischo, L.V. Carpenter, D. Brewster, W. Riggs. Prevalence and distribution of genotypes of *Cryptosporidium parvum* in United States feedlot cattle. US Environmental Protection Agency, STAR Environmental Research Grants Competition. Final Report. November 13.
32. 2003 Harter, T., **E.R. Atwill**, A.I. Packman, C.F. Brush. Natural attenuation of *Cryptosporidium parvum* during transport in watersheds. US Department of Agriculture, NRI CGP. First annual progress report. October 23.
33. 2004 **Atwill, E.R.**, K.W. Tate, T. Harter. Progress Report: Efficacy of vegetated buffers for simultaneous removal of waterborne protozoa and bacteria from animal agricultural runoff *Cryptosporidium parvum* from runoff of dairies and grazed agricultural land. International Life Science Institute: Technical Committee on Food Microbiology. February 1.
34. 2008 Li, X., N. Watanabe, **E.R. Atwill**, T. Harter, B. Bergamaschi, L. Hou, L. Dunbar, R. Bond, G. Deng. Distribution of bacterial pathogens in Northern California Dairies and associated groundwater. Final Report to State Water Resource Control Board. pp 1-15.
35. 2008 McDougald, N.K., E.R. Atwill, K.W. Tate, X. Li, L. Hou, L. Dunbar, D. Dudley. Demonstration of rangeland vegetated buffers for reducing NPS pathogens, nutrients, and organic carbon into the tributaries of the Fresno and San Joaquin Rivers. CALFED and State Water Resource Control Board. June 4. pp 1-35.
36. 2008 **Atwill, E. R.** and P.A. Conrad. Bacterial and protozoal contamination of nearshore marine environments in California, with ecologically sustainable management. California Sea Grant College Program. Research Completion Reports. Paper Coastal08\_03. pp 1-12.

**Category IV:** Published abstracts; book reviews and editorials.

1. 1995 Barwick, R.S., H.O. Mohammed, P.L. McDonough, **E.R. Atwill**. The epidemiology of equine leptospirosis in New York state. XXV Congress of the World Veterinary Association. Yokohama, Japan. FC7.4.2
2. 1997 **Atwill, E.R.** Medical ecology of *Cryptosporidium parvum* in beef cattle and its ramifications for source water quality. International Symposium on Waterborne *Cryptosporidium*. Newport Beach, California.
3. 1997 **Atwill, E.R.**, J.A. Harp, T. Jones, P.W. Jardon, S. Checal, M. Zylstra. Evaluation of periparturient dairy cows and contact surfaces as a reservoir of *Cryptosporidium parvum* for calfhoo infection. 92nd Annual Meeting of the American Dairy Science Association. University of Guelph, Canada. Journal of Dairy Science 80(Suppl. 1): 469.
4. 1997 Maldonado Camargo, S., F.R. Gay Jiménez, **E.R. Atwill**, J.A. Saltijeral Oaxaca, L.C. Herrera Alonso. Prevalencia de *Cryptosporidium parvum* en becerras lactantes en el altiplano. 28th Congreso Nacional de Microbiología. Culiacán, México. pp. 87.
5. 1997 Saltijeral Oaxaca, J.A. and **E.R. Atwill**. Frequency of *Cryptosporidium parvum* in calves in Mexico. 9th International Congress in Animal Hygiene. Helsinki, Finland.
6. 1997 Rulofson, F.C. and **E.R. Atwill**. Prevalence of shedding of *Cryptosporidium parvum* and *Giardia* sp. in llamas used for backcountry recreation. 82nd Annual Meeting of the National Association of County Agricultural Agents. Burlington, Vermont. pp. 15.
7. 1997 **Atwill, E.R.** Livestock production, waterborne zoonotic disease, and the search for the smoking gun. Riparian and Watershed Management in the Interior Northwest: an Interdisciplinary Perspective. Society for Range Management, the Wildlife Society, American Fisheries Society, Society of American Foresters, and the Blue Mountains Natural Resources Institute. La Grande, Oregon, pp 49.
8. 1997 Drake, D.J., **E.R. Atwill**, J.M. Connor, D. Jones. Prevalence of *Cryptosporidium parvum*, *Giardia duodenalis*, and *Campylobacter jejuni* in beef calves and impacts on pre-weaning gain and weaning weight. Journal of Animal Science 75(Suppl. 1):107.
9. 1997 Harter, T., S. Wagner, **E.R. Atwill**. Transport of *Cryptosporidium parvum* through saturated sand columns. Fall Meeting, American Geophysical Union. San Francisco, California.
10. 1998 Rulofson, R.C. and **E.R. Atwill**. Assessing the risk of surface water contamination of *Giardia* sp. and *Cryptosporidium parvum* from recreational use of llamas. Rangelands of the Americas: sharing resources, sharing responsibility. 51<sup>st</sup> Annual Meeting of the Society for Range Management. Guadalajara, Mexico, pp. 51-52.
11. 1998 **Atwill, E.R.**, K.W. Tate, M.R. George, and N.K. McDougald. Transport of *Cryptosporidium parvum* oocysts out of fecal patties as a function of slope during simulated rainfall. Rangelands of the Americas: sharing resources, sharing responsibility. 51<sup>st</sup> Annual Meeting of the Society for Range Management. Guadalajara, Mexico, pp. 51.
12. 1998 Tate, K.W., **E.R. Atwill**, M.R. George, and N.K. McDougald. Pathogen mobilization from fecal pats during natural rainfall on California annual rangeland. Rangelands of the Americas: sharing resources, sharing responsibility. 51<sup>st</sup> Annual Meeting of the Society for Range Management. Guadalajara, Mexico, pp. 54-55.
13. 1998 Tate, K.W., N.K. McDougald, **E.R. Atwill**, M.R. George, D. Witt. A comparative yield method to estimate livestock manure deposition on California rangeland watersheds. Rangelands of the Americas: sharing resources, sharing responsibility. 51<sup>st</sup> Annual Meeting of the Society for Range Management. Guadalajara, Mexico, pp 54.

**Category IV (continued)**

14. 1998 Tate, K.W., M.R. George, **E.R. Atwill**, and S. Barry. California rangelands: balancing livestock production and water quality. Proceedings of the California Plant and Soil Conference: Agricultural Challenges in an Urbanizing State. Sacramento, California.
15. 1998 Barry, S., K. Tate, **E.R. Atwill**, J. Cullor, T. Koopman, T. Huff. Development and use of a HACCP (Hazard analysis and critical control points) program to protect water quality in a rangeland watershed. *J. Soil and Water Conservation* 53(2):173.
16. 1998 **Atwill, E.R.**, K.W. Tate, M.R. George, and N.K. McDougald. Transport of *Cryptosporidium parvum* oocysts out of fecal patties during simulated rainfall. Symposium on Rangeland Management and Water Resources, American Water Resources Association. Reno, Nevada, pp. 446.
17. 1998 Tate, K.W., **E.R. Atwill**, M.R. George, and N.K. McDougald. *Cryptosporidium parvum* mobilization from fecal pats during natural rainfall on California annual rangeland. Symposium on Rangeland Management and Water Resources, American Water Resources Association. Reno, Nevada, pp. 445.
18. 1998 Witt, D., K.W. Tate, **E.R. Atwill**, N.K. McDougald, M.R. George. A rapid method for estimating livestock manure deposition on rangeland watersheds. Symposium on Rangeland Management and Water Resources, American Water Resources Association. Reno, Nevada, pp. 135.
19. 1998 Nader, G.A., K.W. Tate, M.J. Connor, B. Allen-Diaz, **E.R. Atwill**. Evaluation of buffer zones to attenuate nutrient and sediment transport from hill-slope pastures. Symposium on Rangeland Management and Water Resources, American Water Resources Association. Reno, Nevada, pp. 133.
20. 1998 Barry, S., K. Tate, **E.R. Atwill**, J. Cullor, T. Koopman, T. Huff. Development and use of a HACCP (Hazard analysis and critical control points) program to protect water quality in a rangeland watershed. Symposium on Rangeland Management and Water Resources, American Water Resources Association. Reno, Nevada, pp. 443.
21. 1998 Nader, G.A., K.W. Tate, **E.R. Atwill**, D. J. Drake. Water quality impacts of rangeland beef cattle excrement. Symposium on Rangeland Management and Water Resources, American Water Resources Association. Reno, Nevada, pp. 444.
22. 1998 Rulofson, F.C. and **E.R. Atwill**. Assessing the risk of using treated wastewater for irrigation as a source of *Cryptosporidium parvum* and *Giardia* sp. for beef calves. 83<sup>rd</sup> Annual Meeting of the National Association of County Agricultural Agents. San Antonio, Texas, pp 13.
23. 1998 Kirk, J., J. Jeffrey, C. Holmberg, **E.R. Atwill**. Prevalence of *Salmonella* isolated from wild birds on two California dairies. *Salmonella* Committee, United States Animal Health Association. Minneapolis, Minnesota.
24. 1998 George, J., W.M. Sischo, **E.R. Atwill**, L. Lanyon The epidemiology of Cryptosporidia on dairy farms and in streams. Conference of Research Workers in Animal Diseases. Chicago, Illinois.
25. 1999 Singer, R.S., J.S. Jeffrey, **E. R. Atwill**, C.L. Cooke, T.E. Carpenter, D.C. Hirsh. Assessing sampling bias in molecular epidemiological studies using isolates of *Escherichia coli* from avian cellulitis lesions as an example. Western Poultry Disease Conference. Vancouver, British Columbia, Canada.
26. 1999 Phillips, R.L. and **E. R. Atwill**. *Cryptosporidium* and *Giardia* in livestock and some species of wildlife. San Joaquin Valley Natural Communities Conference. Bakersfield, California.
27. 1999 Jeffrey, J.S., **E.R. Atwill**, A. Hunter. Cross-sectional study of food safety pathogens in commercial squab production. 136<sup>th</sup> American Veterinary Medical Association Annual Convention. New Orleans, Louisiana. *Journal of the American Veterinary Medical Association* 215(11): 1680.

**Category IV (continued)**

28. 1999 **Atwill, E.R.**, K.W. Tate, M. Das Graças C. Pereira, S. Camargo Maldonado, N. McDougald Statistical methods for estimating loading rates at the watershed scale for microbial pathogens (*Cryptosporidium parvum*) from animal agricultural sources. 7<sup>th</sup> Annual Non-point Source Monitoring Workshop, Non-Point Source Pollution Control Program, U.S. Environmental Protection Agency, Morro Bay, California.
29. 1999 Tate, K.W., R. Dahlgren, M.J. Singer, B. Allen-Diaz, **E.R. Atwill**. Temporal variability in water quality on California rangeland watersheds: implications for BMP effectiveness monitoring and TMDL development. 7<sup>th</sup> Annual Non-Point Source Monitoring Workshop, Nonpoint Source Pollution Control Program, U.S. Environmental Protection Agency, Morro Bay, California.
30. 1999 Tate, K.W. G. Nader, D.J. Lewis, M. Connor, **E.R. Atwill**. Evaluation of buffer zones to attenuate suspended sediment, NO<sub>3</sub>-N, and total phosphorus in runoff from grazed hillslope pastures. 7<sup>th</sup> Annual Non-point Source Monitoring Workshop, Non-Point Source Pollution Control Program, U.S. Environmental Protection Agency, Morro Bay, California.
31. 1999 Harter, T., S. Wagner, **E.R. Atwill**. Colloid transport properties of *Cryptosporidium parvum* in sandy porous media. International Symposium on Subsurface Microbiology. Vail, Colorado.
32. 1999 **E.R. Atwill**. Understanding the context of waterborne microbial risks attributable to livestock waste. National Land Grant Initiative on Animal Waste Initiative: Promoting Environmental Stewardship. Kansas City, Missouri.
33. 1999 Pereira, M. Das Graças C. and **E.R. Atwill**. Evaluation of periparturient cows as a reservoir of *Cryptosporidium parvum* for calthood infection. 80<sup>th</sup> Annual Meeting of the Conference of Research Workers in Animal Diseases. Chicago, Illinois.
34. 1999 Hoar, B. and **E.R. Atwill**. Environmental loading of *Cryptosporidium parvum* by adult beef cattle. 80<sup>th</sup> Annual Meeting of the Conference of Research Workers in Animal Diseases. Chicago, Illinois.
35. 1999 Singer, R., **E.R. Atwill**, T.E. Carpenter, C.L. Cooke, L.M. Hansen, W.O. Johnson, J.S. Jeffrey, D.W. Hirsh. Extending the interpretation of pulsed-field electrophoresis through a simulation model. Conference of Research Workers in Animal Diseases. 80<sup>th</sup> Annual Meeting of the Chicago, Illinois.
36. 2000 Tate K.W., R. Dahlgren, M.J. Singer, B. Allen-Diaz, **E.R. Atwill**. Temporal water quality variability on California rangeland watersheds: implications for monitoring. 53<sup>rd</sup> Annual Meeting of the Society for Range Management. Boise, Idaho.
37. 2000 Ward, T.A., K.W. Tate, **E.R. Atwill**. Riparian Grazing Project. 53<sup>rd</sup> Annual Meeting of the Society for Range Management. Boise, Idaho.
38. 2000 Jeffrey, J.S., K.H. Tonooka, A. Hunter, **E.R. Atwill**, and M.G. Pereira. Antibiotic sensitivity of Campylobacter isolates from the central valley of California. 49<sup>th</sup> Western Poultry Disease Conference. Sacramento, California. March 5-7.
39. 2000 Berge, A.C.B., **E.R. Atwill**, W.M. Sisco. Assessing dynamics of antibiotic resistance in fecal *Escherichia coli* and *Salmonella* in young calves using cluster analysis techniques. 81<sup>st</sup> Conference of Research Workers in Animal Diseases. Chicago, Illinois. November 12-14.
40. 2000 Moore, D.A., W.M. Sisco, J. Reynolds, C. Holmberg, **E.R. Atwill**, D. Festa. Risk factors for survival at a large dairy beef ranch in California. 81<sup>st</sup> Conference of Research Workers in Animal Diseases. Chicago, Illinois. November 12-14.
41. 2001 Ward, T.A., K.W. Tate, **E.R. Atwill**. A cross-sectional survey of California's grazed rangeland riparian areas. 54<sup>th</sup> Annual Meeting of the Society for Range Management. Kona, Hawaii. February 17-23.

**Category IV (continued)**

42. 2001 **Atwill, E.R.**, M. Das Graças Cabral Pereira, L. Herra-Alonso, C. Elmi, W.P. Epperson, D.M. Grotelueschen, B. Smith, B. Hoar, W.M. Sischo. Prevalence and distribution of genotypes of *Cryptosporidium parvum* in feedlot cattle in the Western and Central United States. U.S. Environmental Protection Agency STAR Grants Water Progress Review Meeting. Silver Spring, Maryland. February 22-23.
43. 2001 Jeffrey, J.S., J.C. Lazano, **E.R. Atwill**, and E.H. Walton. Thermal events and physical characteristics of simply stacked poultry: Implications for microbial safety. 50<sup>th</sup> Western Poultry Disease Conference. Sacramento, California. March 24-26.
44. 2001 Barnett, S.C., W.M. Sischo, A.C.B. Berge, D.A. Moore, **E.R. Atwill**. *Salmonella* and *E. coli* isolated from waterways in a dairy-intense region. 82<sup>nd</sup> Conference of Research Workers in Animal Diseases. St. Louis, Missouri. November 10-13.
45. 2001 Lewis, D.J., M. Lennox, K.W. Tate, **E. R. Atwill**, E. Rilla, S. Larson. Systems approach for management of fecal coliform loading in a coastal watershed. Proceedings for American Water Resources Association Annual Water Resources Conference. Albuquerque, New Mexico.
46. 2001 Truscott, M.L., D.A. Moore, W.M. Sischo, S.C. Barnett, **E.R. Atwill**, J. Adaska. Dairy density as a risk factor for Salmonella shedding in dairy herds evaluated using a geographic information systems (GIS). 82<sup>nd</sup> Conference of Research Workers in Animal Diseases. St. Louis, Missouri. November 10-13.
47. 2002 Smith, W.A., M.A. Miller, I.A. Gardner, C.M. Leutenegger, S. Jang, **E.R. Atwill**, P.A. Conrad. Evidence of pathogen pollution: shellfish as bioindicators of fecalborne pathogenic protozoa and bacteria in the California nearshore marine ecosystem. 51<sup>st</sup> Annual Meeting of the Wildlife Disease Association. Humboldt State University, Humboldt, California. July 28-August 1.
48. 2002 Conrad, P.A., M.A. Miller, A. Kjemtrup, I.A. Gardner, C. Krueder, W.A. Smith, **E.R. Atwill**. Protozoal problems emerging at the human-wildlife-domestic animal interface. 51<sup>st</sup> Annual Meeting of the Wildlife Disease Association. Humboldt State University, Humboldt, California. July 28-August 1.
49. 2002 McCrea, B.A., **E.R. Atwill**, J.S. Jeffrey. Prevalence of Campylobacter and Salmonella spp. in California asian live fowl and free-range flocks. 91<sup>st</sup> Annual Meeting of the Poultry Science Association, Newark, Delaware. August 8-11.
50. 2002 Harter, T., **E.R. Atwill**, L. Hou, B.M. Palermo. Remobilization of *Cryptosporidium parvum* in porous media. 5<sup>th</sup> International Symposium on Subsurface Microbiology. Copenhagen, Denmark. September 8-13.
51. 2002 Conrad, P.A., I.A. Gardner, W.A. Smith, A. Melli, C.M. Leutenegger, S. Jang, **E.R. Atwill**, M.A. Miller, D.A. Jessup, K. Arkush. Evaluation of benthic bivalves and bioindicators of pathogen pollution in the marine ecosystem. California and the World Ocean Conference 2002. Santa Barbara, California. October 27-30.
52. 2002 Moore, D.A., **E.R. Atwill**, J. Kirk, D. Brahmatt, L.A. Herrera, L. Hou, E. Ward, T. Miller, M.D. Singer. Efficacy of decoquinate fed in milk replacer to experimentally-challenged calves 2 to 28 days of age on clinical symptoms and oocyst shedding of *Cryptosporidium parvum*. 83<sup>rd</sup> Conference of Research Workers in Animal Diseases. St. Louis, Missouri. November 10-12.
53. 2002 Barnett, S.B., W.M. Sischo, D.A. Moore, M. Truscott, J. Kirk, J. Adaska, **E.R. Atwill**. Temporal pattern of Salmonella incidence on dairy farms. 83<sup>rd</sup> Conference of Research Workers in Animal Diseases. St. Louis, Missouri. November 10-12.



**Category IV (continued)**

54. 2002 Kirk, J., J.S. Cullor, **E.R. Atwill**, L. Ruiz, K. Glenn. Bacterial isolates within the environmental Strep group repeatedly isolated from California dairy bulk tank milk. Conference of Research Workers in Animal Diseases. St. Louis, Missouri. November 10-12.
55. 2003 Ward, T.A., K.W. Tate, **E.R. Atwill**, D.F. Lile, D.L. Lancaster, N. McDougald, S. Barry, R. S. Ingram, H.A. George, W. Jensen, W.E. Frost, R. Larsen, J.M. Harper, M.R. Horney, G.G. Markegard, S. Larson, R. Phillips, R. Delmas, J. Farley, L.C. Forero. Results of a cross-sectional survey: grazing management effects on riparian habitat. 56<sup>th</sup> Annual Meeting of the Society for Range Management. Casper, Wyoming. February 1-7.
56. 2003 Harter, T., **E.R. Atwill**, L. Hou. Removal of *Cryptosporidium parvum* in bank filtration systems. European Geophysical Society-American Geophysical Union-European Union of Geosciences Joint Assembly. Nice, France. April 6-11.
57. 2003 Smith, W.A., H.M. Fritz, **E.R. Atwill**, I.A. Gardner, R.P. Hedrick, K.D. Arkush, A.C. Melli, P.A. Conrad. Detecting environmental levels of *Cryptosporidium* parasites in clams (*Corbicula fluminea*). International Association for Aquatic Animal Medicine. Hawaii. May 10-14.
58. 2003 Vanegas, J.A. J. Reynolds, and **E.R. Atwill**. Effects of an injectable trace mineral supplement on conception rate of lactating dairy cows. Annual meeting of the American Dairy Science Association & American Animal Science Association. Phoenix, Arizona. June 22-26.
59. 2003 Li, X., **E.R. Atwill**, L. Dunbar, K.W. Tate, B. Huang. Efficiency for recovering *Encephalitozoon intestinalis* spores from waters by concentration microscopy. Proceedings of the VIII International Workshop on Opportunistic Protists & International Conference on Anaerobic Protists. Hilo, Hawaii. July 25-29.
60. 2003 Li, X., **E.R. Atwill**, L. Dunbar, J. Hook. Comparison of nucleic acid stain (SYTO-59) to neonatal mouse model for evaluation of *Cryptosporidium parvum* oocyst viability. Proceedings of the 78<sup>th</sup> Annual Meeting of the American Society of Parasitologists. Halifax, Nova Scotia, Canada. August 1-5.
61. 2003 **Atwill, E.R.**, M. Das Graças Cabral Pereira, L. Herra-Alonso, C. Elmi, W.P. Epperson, D.M. Grotelueschen, B. Smith, B. Hoar. Prevalence and distribution of genotypes of *Cryptosporidium parvum* in United States feedlot cattle. Microorganisms in Drinking Water Workshop, National Center for Environmental Research, United States Environmental Protection Agency. Cincinnati, Ohio. August 5-7
62. 2003 Smith, W.A., **E.R. Atwill**, K. Tate, D.J. Lewis, M. Lennox, M. Pereira and P.A. Conrad. *Cryptosporidium* and *Giardia*: Epidemiology and control on California farms. 19<sup>th</sup> International Conference, World Association for the Advancement of Veterinary Parasitology. New Orleans, Louisiana. August 10-14.
63. 2003 Summers, J.A., **E.R. Atwill**, J.H. Kirk, W.M. Sischo. Salmonella serotypes observed in central California dairy cattle production systems. The Conference of Research Workers in Animal Diseases. Chicago, Illinois. November 9-11.
64. 2003 Kirk, J.H., **E.R. Atwill**, J.S. Cullor, K. Glenn. Antibiotic resistance and factors associated with isolation of bacteria in the environmental Streptococci group from California bulk tank milk. The Conference of Research Workers in Animal Diseases. Chicago, Illinois. November 9-11.
65. 2003 Searcy, K.E., A.I. Packman, **E.R. Atwill**. The association *Cryptosporidium parvum* with suspended sediments: implications for transport in surface waters. Annual Fall Meeting of the American Geophysical Union. 84(46), Abstract H51C. San Francisco, California. December 8-12.

**Category IV (continued)**

66. 2003 Stoddard, R.A., F.M.D. Gulland, S.S. Jang, J. Lawrence, **E.R. Atwill**, and P.A. Conrad. Prevalence and antibiotic sensitivity of *Campylobacter* and *Salmonella* spp. from the gastrointestinal tract of northern elephant seals (*Mirounga angustirostris*). 15<sup>th</sup> Biennial Conference on the Biology of Marine Mammals. Society of Marine Mammology. Greensboro, North Carolina. December 14-19.
67. 2004 Tate, K.W. R.A. Dahlgren, D.J. Lewis, D. Ahern, M.J. Singer, **E.R. Atwill**. Water Quality Dynamics in Coastal and West-Slope Sierra Nevada Streams. Salmon Restoration Federation Conference. Davis, California. March 19.
68. 2004 Searcy, K.E., A.I. Packman, **E.R. Atwill**, T. Harter. Impact of oocysts-sediment associations on the transport of *Cryptosporidium parvum* in surface waters. 1<sup>st</sup> General Assembly of the European Geosciences Union. Nice, France. April 25-30.
69. 2004 Moore, D., **E.R. Atwill**, J Kirk, D. Brahmhatt, L. Hou, M. Singer. Clinical signs and oocyst shedding patterns of *Cryptosporidium parvum* in experimentally-challenged neonatal calves fed decoquinate. 23<sup>rd</sup> World Buiatric Congress, Quebec City, Canada. July 11-16.
70. 2004 Stoddard, R.A., F.M.D. Gulland, **E.R. Atwill**, S.S. Jang, J. Lawrence, and P.A. Conrad. Prevalence and antibiotic sensitivity of *Campylobacter* and *Salmonella* spp. from the gastrointestinal tract of northern elephant seals (*Mirounga angustirostris*). 53<sup>rd</sup> Annual Meeting of the Wildlife Disease Association. San Diego, California. August 28-September 3.
71. 2004 Smith, W.A., M.A. Miller, I.A. Gardner, **E.R. Atwill**, M. Harris, J. Ames, K. Worcester, D. Paradies, D.A. Jessup, A.C. Melli, N.M. Barnes, and P.A. Conrad. *Cryptosporidium* epidemiology in fecal impacted coastal California ecosystems, using mussels (*Mytilus* spp.) as bioindicators. International *Giardia* and *Cryptosporidium* Congress. Amsterdam, Holland. September 20-24.
72. 2004 **Atwill, E.R.** Livestock production and the risk of waterborne zoonoses. Living with Livestock: Environment and Change. Winnipeg, Manitoba, Canada. October 5-7.
73. 2004 Smith, W.A., M.A. Miller, I.A. Gardner, **E.R. Atwill**, M. Harris, J. Ames, D.A. Jessup, K. Worcester, D. Paradies, P. Olin, A.C. Melli, N.M. Barnes, and P.A. Conrad. Mussels (*Mytilus* spp.) as bioindicators of fecal pollution with *Cryptosporidium* spp. in coastal California ecosystems. Western Naturalists Society. Rohernt Park, California. November 12.
74. 2005 **Atwill, E.R.** Introduction to waterborne pathogens from livestock and wildlife on California rangeland. 58<sup>th</sup> Annual Meeting for the Society for Range Management. Fort Worth, Texas. February 5-11.
75. 2005 **Atwill, E.R.**, K.W. Tate, T. Harter. Matching vegetated buffer widths to environmental loading rates of *Cryptosporidium parvum* from livestock. 58<sup>th</sup> Annual Meeting for the Society for Range Management. Fort Worth, Texas. February 5-11.
76. 2005 Tate, K.W. and **E.R. Atwill**. Integrating water quality protection from *Cryptosporidium parvum* into grazing management plans. 58<sup>th</sup> Annual Meeting for the Society for Range Management. Fort Worth, Texas. February 5-11.
77. 2005 Phillips, R.E., **E.R. Atwill**, L. Dunbar, D.T. Drake, W.A. Jensen, D.L. Lancaster, R.E. Larson, D. Lile, G. Markegard, X. Li, B. McCowan, T. Ward. Environmental loading rates of waterborne pathogenic protozoa *Cryptosporidium parvum* in certain domestic and wildlife species in California. 58<sup>th</sup> Annual Meeting for the Society for Range Management. Fort Worth, Texas. February 5-11.

**Category IV (continued)**

78. 2005 Johnson, A., **E.R. Atwill**, M. Louchaichi, K. Tonooka, M. Borman. Preliminary investigation of the prevalence of three pathogens in feces of Canada geese (*Branta canadensis*). 58<sup>th</sup> Annual Meeting for the Society for Range Management. Fort Worth, Texas. February 5-11.
79. 2005 Searcy, K.E., A.I. Packman, **E.R. Atwill**, T. Harter. Transport of *Cryptosporidium parvum* in surface water: interplay of hydrodynamic processes, sediments, and biofilms. American Geophysical Union and North American Benthological Society. *Eos Trans. AGU*, 86(18), Jt. Assem. Suppl., Abstract B23A-02. May 22-27.
80. 2005 Miller, W., **E.R. Atwill**, I. Gardner, M. Miller, M. Harris, J. Ames, D. Jessup, S. Jang, B. Byrne, A. Melli, D. Paradies, K. Worcester, P. Olin, P. Conrad. Habitat quality in California: detecting fecal pathogens in coastal ecosystems. 36<sup>th</sup> Annual Conference and Workshop of the International Association of Aquatic Animal Medicine. Seward, Alaska. May 14-19.
81. 2005 Stoddard, R.A., **E.R. Atwill**, S.S. Jang, P.A. Conrad, F.M.D. Gulland, and J. Lawrence. The effect of rehabilitation of northern elephant seals (*Mirounga angustirostris*) on antimicrobial resistance of fecal bacteria. 36<sup>th</sup> Annual Conference and Workshop of the International Association of Aquatic Animal Medicine. Seward, Alaska. May 14-19.
82. 2005 Stoddard, R.A., F.M.D. Gulland, **E.R. Atwill**, S.S. Jang, J. Lawrence, and P.A. Conrad. Risk factors associated with infection with pathogenic and antimicrobial resistant gastrointestinal bacteria in northern elephant seals (*Mirounga angustirostris*). Wildlife Disease Association. Cairns, Queensland, Australia. June 26 - July 1.
83. 2005 Miller, W., P. Conrad, I. Gardner, **E.R. Atwill**, A. Melli, N. Barnes, P. Olin, K. Worcester, D. Paradies, D. Jessup, M. Harris, J. Ames, M. Miller. Detection of pathogenic protozoa in marine ecosystems using mussels (*Mytilus* spp.) as bioindicators. International Wildlife Disease Association. Cairns, Queensland, Australia. June 26 - July 1.
84. 2005 Bollinger, L.M., H.S. Hussein, T. Sakuma, M.R. Hall, **E.R. Atwill**. Isolation and characterization of Shiga toxin-producing *Escherichia coli* from beef cattle. 105<sup>th</sup> General Meeting of the American Society for Microbiology. Atlanta, GA. June 6-8.
85. 2005 Hussein, H.S., T. Sakuma, L.M. Bollinger, M.R. Hall, **E.R. Atwill**. Isolation and characterization of Shiga toxin-producing *Escherichia coli* from dairy cattle. 105<sup>th</sup> General Meeting of the American Society for Microbiology. Atlanta, GA. June 6-8.
86. 2005 Hussein, H.S., T. Sakuma, L.M. Bollinger, M.R. Hall, **E.R. Atwill**. Prevalence of Shiga toxin-producing *Escherichia coli* in dairy cattle. 92<sup>nd</sup> Annual Meeting of the International Association for Food Protection. Baltimore, MD. August 14-17.
87. 2005 Cortis, A., T. Harter, L. Hou, A. Packman, **E.R. Atwill**. Long-term transport of *Cryptosporidium parvum*. Annual Fall Meeting of the American Geophysical Union. *Eos Trans. AGU*, 86(52) Abstract H41H-02. San Francisco, California. December 13-17.
88. 2005 Harter T., **E.R. Atwill**, L. Hou, B.M. Carle. Infiltration and transport of bromide and *Cryptosporidium parvum* in vegetated, tilted soil box experiments. Annual Fall Meeting of the American Geophysical Union. *Eos Trans. AGU*, 86(52) Abstract H13I-1421. San Francisco, California. December 13-17.
89. 2006 **Atwill, E.R.**, K.W. Tate, T. Harter, M.C.G. Pereira, L. Hou, N.K. McDouglass. Efficacy of vegetated buffers for reducing waterborne pathogens. National Water Conference, CSREES-USDA. San Antonio, Texas. February 5-9.
90. 2006 Harter, T., K.E. Searcy, A. Cortis, L. Hou, A.I. Packman, and **E.R. Atwill**. *Cryptosporidium parvum* in small watersheds: transport in streams and streambed sediments. National Water Conference, CSREES-USDA. San Antonio, Texas. February 5-9.

**Category IV (continued)**

91. 2006 Lewis, D., **E.R. Atwill**, M. Lennox, M.C.G. Pereira, W.A. Miller, P.A. Conrad, K.W. Tate. Reducing microbial contamination in runoff from concentration areas on California coastal dairies. National Water Conference, CSREES-USDA. San Antonio, Texas. February 5-9.
92. 2006 Tate, K.W., **E.R. Atwill**, J. Bartolome, G. Nader. Grasslands filter a significant amount of *E. coli* transported from cattle fecal deposits during natural rainfall-runoff events. Society for Range Management. British Columbia, Canada. February 12-17.
93. 2006 Dabritz, H., **E.R. Atwill**, I.A. Gardner, M.A. Miller, P.A. Conrad. Outdoor faecal deposition by cats and *Toxoplasma gondii* serologica and faecal prevalence in owned and feral cats from Morro Bay, California. International Congress of Parasitology. Glasgow, Scotland. August 6-11.
94. 2006 Bollinger, L.M., H.S. Hussein, M.R. Hall, **E.R. Atwill**. Isolation, characterization, and potential pathogenicity of Shiga toxin-producing *Escherichia coli* from beef cattle in California during winter and spring. 106<sup>th</sup> General Meeting of the American Society for Microbiology. Orlando, Florida. May 21-25.
95. 2006 Bollinger, L.M., H.S. Hussein, M.R. Hall, **E.R. Atwill**. Isolation, characterization, and potential pathogenicity of Shiga toxin-producing *Escherichia coli* from dairy cattle in California during winter and spring. 106<sup>th</sup> General Meeting of the American Society for Microbiology. Orlando, Florida. May 21-25.
96. 2006 Stoddard, R.A., **E.R. Atwill**, F.M.D. Gulland, M.A. Miller, D.M. Paradies, K.R. Worcester, S. Jang, J. Lawrence, P.A. Conrad. Antimicrobial resistant *Escherichia coli* in northern elephant seals (*Mirounga angustirostris*) in California. 46<sup>th</sup> Interscience Conference on Antimicrobial Agents and Chemotherapy, American Society for Microbiology. San Francisco, CA. September 27-30.
97. 2006 Bollinger, L.M., H.S. Hussein, M.R. Hall, **E.R. Atwill**. Prevalence of shiga toxin-producing *Escherichia coli* in beef cattle grazing irrigated pastures or rangeland forages during winter and spring. J. Anim. Sci. 84 (Suppl. 1):189.
98. 2006 Bollinger, L.M., H.S. Hussein, M.R. Hall, **E.R. Atwill**. Prevalence of shiga toxin-producing *Escherichia coli* in dairy cattle during winter and spring. J. Anim. Sci. 84 (Suppl. 1):189-190.
99. 2006 Bollinger, L.M., H.S. Hussein, M.R. Hall, **E.R. Atwill**. Prevalence of shiga toxin-producing *Escherichia coli* in feedlot steers during winter and spring. Proceedings, Western Section, American Society of Animal Science. Logan, UT. June 21-23.
100. 2006 Dabritz, H.A., M.A. Miller, **E.R. Atwill**, I.A. Gardner, and P.A. Conrad. *Toxoplasma gondii* seroprevalence in rodents and cats from central California, and sensitivity of oocyst detection in cat feces. Ecosystem Health Conference. October 2006.
101. 2006 Harter, T., K.E. Searcy, A. Cortis, A.I. Packman, **E.R. Atwill**, L. Hou. *Cryptosporidium parvum* in small watersheds: transport in streams and streambed sediments. CALFED Science Conference. Sacramento, CA. October 23-25.
102. 2006 Dabritz, H.A., **E.R. Atwill**, I.A. Gardner, M.A. Miller, M.R. Lappin, A.E. Packman, A.C. Melli, P.A. Conrad. Cats and their feces: a problem for public health and wildlife. American Society for Tropical Medicine and Hygiene. Atlanta, GA. November 12-16.
103. 2006 Siembieda, J.L., B.R. Hoar, **E.R. Atwill**. Analysis of risk factors for *Giardia* sp. in feedlot cattle in the central and western United States. Conference of Research Workers in Animal Diseases. Chicago, IL. December 3-5.
104. 2007 Harter, T., A. Cortis, L. Hou, **E.R. Atwill**, K.E. Searcy, A.I. Packman. Fate and transport of *Cryptosporidium parvum* in soils, streambeds, and aquifer sediments. USDA-CSREES National Water Conference: Research, Extension and Education for Water Quality and Quantity. Savannah, GA. January 28-February 1.

**Category IV (continued)**

105. 2007 Packman, A.I., B. Lau, T. Harter, **E.R. Atwill**. Processes influencing pathogen transmission in groundwaters and surface waters. Coordinated Management of Water Quality Protection and Food Safety Initiatives in California Vegetable Production Conference. San Luis Obispo, California. April 23-25.
106. 2007 Hussein, H.S., L.M. Bollinger, M.R. Hall, S.F. Khaiboullina, **E.R. Atwill**. Characterization and potential human health risks of Shiga toxin-producing *Escherichia coli* isolated from feedlot cattle. Joint Annual Meeting, American Dairy Science Association and American Society of Animal Science. San Antonio, TX. July 8-12. *J. Anim. Sci.* 85 (Suppl. 1):34.
107. 2007 Bollinger, L.M., H.S. Hussein, M.R. Hall, **E.R. Atwill**. Characterization and potential human health risks of Shiga toxin-producing *Escherichia coli* isolated from California dairy cattle over one year. Joint Annual Meeting, American Dairy Science Association and American Society of Animal Science. San Antonio, TX. July 8-12. *J. Anim. Sci.* 85 (Suppl. 1):34.
108. 2007 Bollinger, L.M., H.S. Hussein, **E.R. Atwill**. Prevalence and pre-harvest control factors affecting Shiga toxin-producing *Escherichia coli* in cattle grazing rangeland forages. Joint Annual Meeting, American Dairy Science Association and American Society of Animal Science. San Antonio, TX. July 8-12. *J. Anim. Sci.* 85 (Suppl. 1):34-35.
109. 2007 **Atwill, E.R.**, N. Watanabe, X. Li, T. Harter, B. Bergamaschi. Pathogens in dairy farming: source characterization and groundwater impacts. Annual Fall Meeting of the American Geophysical Union. Abstract H33F-1702. San Francisco, CA. December 10-14.
110. 2008 Lewis, D.J., **E.R. Atwill**, M.D.G. Pereira, R.F. Bond, M. Huerta. Estuary sediment and suspended solids bacteria: implications for microbial pollution sources and monitoring. USDA-CSREES National Water Conference. Sparks, NV. February 3-7.
111. 2008 **Atwill, E.R.**, K.W. Tate, M.V. Yates. Efficacy of grassland buffers for reducing *Salmonella*, *Cryptosporidium parvum*, and rotavirus in rangeland runoff. USDA-CSREES National Water Conference. Sparks, NV. February 3-7.
112. 2008 Li, X., N. Watanabe, **E.R. Atwill**, B. Bergamaschi, T. Harter. Pathogen source characterization and groundwater occurrence in CAFOs. Joint Meeting of The Geological Society of America, Soil Science Society of America, American Society of Agronomy, Crop Science Society of America, Gulf Coast Association of Geological Societies. Houston, TX. October 5-9.
113. 2008 Harter, T., C. Lawrence, **E.R. Atwill**, C. Kendall. Groundwater monitoring of agricultural contaminants for regulatory compliance. Joint Meeting of The Geological Society of America, Soil Science Society of America, American Society of Agronomy, Crop Science Society of America, Gulf Coast Association of Geological Societies. Houston, TX. October 5-9.
114. 2009 Packman, A.I., T. Harter, **E.R. Atwill**, X. Li, B.L.T. Lau. Interactions of *Cryptosporidium parvum* oocysts with sediments and biofilms: implications for waterborne disease transmission in agricultural watersheds. 2009 USDA-CSREES National Water Conference. St. Louis, Missouri. February 8-12.
115. 2009 Li, X., N. Watanabe, **E.R. Atwill**, T. Harter. Detection and occurrence of *Enterococcus* in dairy ground water. 7<sup>th</sup> American Society for Microbiology Biodefense and Emerging Disease Research Meeting. Baltimore, Maryland. February 22-25.

### LIST OF EXTENDING KNOWLEDGE

1. 1991 Atwill, E.R. Potomac horse fever in New York state. Eighth Annual Equine Practitioner's Conference, Ithaca, New York.
2. 1993 Atwill, E.R., H.O. Mohammed, J.W. Lopez, and E.J. Dubovi. Epidemiologic studies on equine monocytic ehrlichiosis. Centennial Poster Session. School of Veterinary Medicine, Cornell University.
3. 1995 Atwill, E.R. Invited speaker. Cryptosporidiosis: what are the issues and concerns? Spring Beef Cattle Seminar, Contra Costa-Alameda County Cattlemen's Association in association with Contra Costa County Farm Bureau and UC Cooperative Extension. Concord, California. March 8.
4. 1995 Atwill, E.R. Invited speaker. Environmental animal health and medical ecology. USDA CSREES Review of the Livestock Disease Research Laboratory Program, School of Veterinary Medicine, UC Davis, California. April 19.
5. 1995 Atwill, E.R. Invited speaker. Assessing the risk of surface water contamination of *Cryptosporidium parvum* from beef cattle production: implications for land use restrictions. Managing Hardwood Rangelands to Maintain and Enhance Water Quality: Annual Beef and Range Field Day, Sierra Foothill Research and Extension Center, UC Cooperative Extension. Browns Valley, California. April 20.
6. 1995 Atwill, E.R. Livestock production and non-point source microbial contamination. Presentation given to Chancellor Larry M. Vanderhoef and company, VMTRC, Tulare, California. May 16.
7. 1995 Atwill, E.R. *Cryptosporidium* in livestock: facts, fiction and the road from here. *Cryptosporidium* and Water Quality Conference, Veterinary Medicine Extension, UC Davis, California. June 7.
8. 1995 Atwill, E.R. Invited speaker. Water quality assessment (How to track down the water bugs - *Cryptosporidium*). Workshop on Applications of State-Of-The-Art Biotechnology Techniques and Instrumentation for Forensic, Food Safety and Quality Applications, UC Biotechnology Program, UC Davis. June 13-14.
9. 1995 Atwill, E.R. Invited speaker. Cow-calf production, protozoal parasites, *Salmonella* and *E. coli* O157:H7. Water & Environmental Quality Committee and Cattle Health Committee, California Cattlemen's Association Mid-Year Meeting. Sacramento, California. July 6. (2 presentations)
10. 1995 Atwill, E.R. Invited speaker. Livestock production and water-borne zoonotic diseases: studies in progress. Water Quality Subcommittee, San Francisco Bay Area Resource Council, Livermore, California. September 20.
11. 1995 Atwill, E.R. Invited speaker. *Cryptosporidium parvum*: livestock, water and the value of diagnostic tests. Pre-harvest Food Safety Training Program for Regional APHIS and CDFA Veterinary Medical Officers, UC Davis, California. September 27.
12. 1995 Atwill, E.R. Invited speaker. Assessing the link between rangeland cattle and the risk of water-borne *Cryptosporidium parvum* infection in humans. Tulare County Director's Meeting (UC Cooperative Extension, Tulare Cattlemen's Association officers's, Sheriff's Office), Visalia, California. October 10.
13. 1995 Atwill, E.R. Invited speaker. *Cryptosporidium*, cattle and public health. Tulare/ Kings County Veterinary Medical Association, Visalia, California. November 16.
14. 1995 Atwill, E.R. Invited speaker. Livestock production and non-point source microbial contamination. Amador County, UC Cooperative Extension. Jackson, California. November 28.

**EXTENDING KNOWLEDGE (continued)**

15. 1995 Atwill, E.R. Update on the statewide cow-calf *Cryptosporidium* project. Beef Range Workgroup, 79th Annual California Cattlemen's Association Convention. Monterey, California. November 29.
16. 1995 Atwill, E.R. Invited speaker. Cow-calf production, protozoal parasites and watershed management. Water & Environmental Quality Committee and Cattle Health Committee, 79th Annual California Cattlemen's Association Convention. Monterey, California. November 30. (2 presentations)
17. 1995 Atwill, E.R. Livestock production and non-point source microbial contamination. Presentation given to Dr. Crabbes, Regional Director, South Central Region, UC Cooperative Extension. VMTRC, Tulare, California. December 1.
18. 1996 Atwill, E.R. Invited speaker. Zoonotic diseases: the myths and the science behind *Cryptosporidium parvum*, *E. coli* O157:H7 and Hanta virus infections. Rotary Club, Visalia, California. January 9.
19. 1996 Atwill, E.R. Invited speaker. Cow-calf production, protozoal parasites and watershed management. Rangeland Water Quality Management Plan Workshop for Ranchers. San Andreas, California. January 18.
20. 1996 Atwill, E.R. Invited speaker. Veterinary Medical Extension Program in Environmental Animal Health and Medical Ecology. Presentation given to Dr. W.R. Gomes, Vice President, Division of Agriculture and Natural Resources, University of California. UC Davis, California. January 24.
21. 1996 Atwill, E.R. Invited speaker. Cow-calf production, *Cryptosporidium* and *Giardia*, and water quality. 44th Annual Oakdale Livestock Forum for Ranchers. Oakdale, California. February 27.
22. 1996 Atwill, E.R. Environmental Health Research Update. 5th Annual Beef Cattle Health Symposium. Tulare, California. March 2.
23. 1996 Atwill, E.R. Calf health and water quality concerns related to *Cryptosporidium* infection in cow-calf herds. Annual Beef Cattle Health Symposium. Montague, California. March 7.
24. 1996 Atwill, E.R. Invited speaker. Horses, *Cryptosporidium* and water quality. Spring meeting of the Western Unit of the High Sierra Packers Association. Fresno, California. April 1.
25. 1996 Atwill, E.R. Invited speaker. Source protection and the dynamics of *Cryptosporidium* and *Giardia* infection in cattle, horses and wild pigs. Source Water Quality Committee, Annual Conference of the California-Nevada Section of the American Water Works Association. Redding, California. April 11.
26. 1996 Atwill, E.R. Invited speaker. *Cryptosporidium* in the environment. Annual Spring Conference of California-Oregon-Idaho-Nevada Cooperative Extension Specialists and Farm Advisors. Reno, Nevada. May 22.
27. 1996 Atwill, E.R. Invited speaker. Sources of *Cryptosporidium* on the watershed. Source Water Protection and Treatment Optimization Workshop. California Department of Health Services, Drinking Water Field Operations Branch, San Diego Office. San Diego, California. June 17.
28. 1996 Atwill, E.R. Invited speaker. *Cryptosporidium*, livestock and water. Public Health Medicine Section, 133rd Annual Meeting of the American Veterinary Medical Association. Louisville, Kentucky. July 23.
29. 1996 Atwill, E.R. Invited speaker. *Cryptosporidium* in animal waste and wastewater. 5th Annual Dairy Waste Management Workshop. Chino, California. October 23.
30. 1996 Atwill, E.R. Invited speaker. Practitioner's Update on *Cryptosporidium* in Horses, Beef and Dairy Cattle. 9th Annual Fall Symposium On Advances In Clinical Veterinary Medicine. School of Veterinary Medicine, University of California. Davis, California. November 9.

**EXTENDING KNOWLEDGE (continued)**

31. 1996 Atwill, E.R. Invited speaker. Minimizing non-point source protozoal contamination through watershed management. Natural Resources Continuing Conference, Division of Agriculture and Natural Resources. Visalia, California. November 19-20.
32. 1996 Atwill, E.R. Invited speaker. Update on the Program on Environmental Animal Health and Medical Ecology; Cow-calf production, water quality and microbial pathogens. Water & Environmental Quality Committee and Cattle Health Committee, 80th Annual California Cattlemen's Association Convention. Burlingame, California. December 5. (2 presentations)
33. 1997 Atwill, E.R. Invited speaker. *Cryptosporidium parvum*: calf diarrhea and water quality issues. South Valley Dairy Day, UC Cooperative Extension. Tulare, California. January 16.
34. 1997 Atwill, E.R. Invited speaker. *Cryptosporidium parvum*: animal health and water quality. Winter Animal Health Forum, UC Cooperative Extension. Orland, California. January 24.
35. 1997 Atwill, E.R. Invited speaker. *Cryptosporidium parvum*: animal health and water quality. Winter Animal Health Forum, UC Cooperative Extension. Cottonwood, California. January 25.
36. 1997 Atwill, E.R. Invited speaker. Waterborne and foodborne pathogens in California cow-calf herds. Veterinary Medical Officer Training. Sacramento, California. February 19.
37. 1997 Atwill, E.R. Livestock and water quality update. 6<sup>th</sup> Annual Beef Cattle Health Symposium. Tulare, California. March 1.
38. 1997 Atwill, E.R. Invited speaker and panel discussion member. Medical ecology of *Cryptosporidium parvum* infection in beef cattle and its ramifications for source water quality. International Symposium on Waterborne *Cryptosporidium*. Newport Beach, California. March 2-5. (1 presentation and panel discussion member)
39. 1997 Atwill, E.R. Invited speaker. *Cryptosporidium*: facts you need to know. Beef Quality Assurance Program, San Joaquin & Stanislaus County. Stockton, California. March 8.
40. 1997 Atwill, E.R. Invited speaker. Update on *Cryptosporidium* in California livestock. Backcountry Horsemen of California Rendezvous. Tulare, California. March 14-16. (2 presentations).
41. 1997 Atwill, E.R. Invited speaker. Source water protection for *Cryptosporidium parvum*. Alameda County Resource Conservation District. Sunol, California. March 17.
42. 1997 Atwill, E.R. Invited speaker. *Cryptosporidium*, cattle, and water quality. San Joaquin Experimental Range Field Day, California State University, Fresno. San Joaquin Experimental Range, California. April 5.
43. 1997 Atwill, E.R. Invited speaker. Protozoal parasites, livestock and water. Spring meeting of the Western Unit of the High Sierra Packers Association. Fresno, California. April 7. (presentation and limited distribution item)
44. 1997 Atwill, E.R. Invited speaker. Update on *Cryptosporidium* and *Giardia* in animals. Source Water Quality Committee, Annual Conference of the California-Nevada Section of the American Water Works Association. San Jose, California. April 10.
45. 1997 Atwill, E.R. Invited speaker. Water quality and fecalborne pathogens. California Association of Resource Conservation Districts-Area IX. San Joaquin Experimental Range, California. April 11. (presentation and limited distribution item)
46. 1997 Atwill, E.R. Invited speaker. The situation of cryptosporidiosis in the United States. International Workshop on Cryptosporidiosis: a Public and Animal Health Problem. Universidad Autónoma Metropolitana-Xochimilco, Mexico City. April 23.
47. 1997 Atwill, E.R. Invited speaker. Protozoal parasites, livestock and water. Spring Meeting of the Sonoma-Marin Cattlemen's Association. Santa Rosa, California. June 1.



**EXTENDING KNOWLEDGE (continued)**

48. 1997 Atwill, E.R. Veterinary Medical Extension Program in Environmental Animal Health and Medical Ecology. Presentation given to Robert Grey, Provost of University of California, Davis. VMTRC, Tulare, California. August 7.
49. 1997 Atwill, E.R. Applied Environmental Production Issues. Presentation given to a Chinese agricultural business delegation, VMTRC, Tulare, California. September 2.
50. 1997 Atwill, E.R. Invited speaker. Livestock production, waterborne zoonotic disease, and the search for the smoking gun. Riparian and Watershed Management in the Interior Northwest: an Interdisciplinary Perspective. Organized by the Society for Range Management, Wildlife Society, American Fisheries Society, Society of American Foresters, and Blue Mountains Natural Resources Institute. La Grande, Oregon. September 10-12.
51. 1997 Atwill, E.R. Invited speaker. *Cryptosporidium*, California cattle, and water quality. 14<sup>th</sup> Annual Meeting of the Northern California American Society for Microbiology. Concord, California. November 22.
52. 1997 Atwill, E.R. Update on *Cryptosporidium*, California cattle, and water quality. Range Beef Workgroup and Water & Environmental Quality Committee, 81<sup>st</sup> Annual Convention of the California Cattlemen's Association. Reno, Nevada. December 3-4. (2 presentations)
53. 1997 Atwill, E.R. *Cryptosporidium parvum* in dairy wastewater and its implication for water quality. Workshop: dairy wastewater and public health concerns. Escondido, California, December 10.
54. 1997 Atwill, E.R. *Cryptosporidium parvum* in dairy wastewater and its implications for water quality. Workshop: dairy wastewater and public health concerns. Ontario, California. December 11.
55. 1998 Atwill, E.R. Invited speaker. Risk assessment model: assessing the link between rangeland cattle and waterborne *Cryptosporidium parvum* infection in humans. California Food Agency Team. United States Department of Agriculture, California Department of Health Services, and University of California. January 8.
56. 1998 Atwill, E.R. Invited speaker. Rangeland cattle and the risk of waterborne *Cryptosporidium parvum* infection in humans. Cattlemen's update: research on the road. School of Veterinary Medicine, University of Nevada and Cooperative Extension. Ely, Nevada. January 12.
57. 1998 Atwill, E.R. Invited speaker. Rangeland cattle and the risk of waterborne *Cryptosporidium parvum* infection in humans. Cattlemen's update: research on the road. School of Veterinary Medicine, University of Nevada and Cooperative Extension. Elko, Nevada. January 13.
58. 1998 Atwill, E.R. Invited speaker. Rangeland cattle and the risk of waterborne *Cryptosporidium parvum* infection in humans. Cattlemen's update: research on the road. School of Veterinary Medicine, University of Nevada and Cooperative Extension. Winnemucca, Nevada. January 14.
59. 1998 Atwill, E.R. Invited speaker. Rangeland cattle and the risk of waterborne *Cryptosporidium parvum* infection in humans. Cattlemen's update: research on the road. School of Veterinary Medicine, University of Nevada and Cooperative Extension. Fallon, Nevada. January 15.
60. 1998 Atwill, E.R. Invited speaker. Rangeland cattle and the risk of waterborne *Cryptosporidium parvum* infection in humans. Cattlemen's update: research on the road. School of Veterinary Medicine, University of Nevada and Cooperative Extension. Minden/Gardnerville, Nevada. January 16.
61. 1998 Atwill, E.R. Invited speaker. Addressing water quality concerns from *Cryptosporidium parvum* in dairy wastewater. Orange County Water District. January 29.

**EXTENDING KNOWLEDGE (continued)**

62. 1998 Barry, S. and E.R. Atwill. Invited speakers. Application of a Hazard Analysis and Critical Control Point Program for minimizing bovine-derived *C. parvum* contamination of Bay Area watersheds. Central Coast Cattle Symposium. King City, California. February 5.
63. 1998 Atwill, E.R. Invited speaker. *Cryptosporidium* and calf diarrhea. Central Coast Cattle Symposium. King City, California. February 5.
64. 1998 Atwill, E.R. Invited speaker. Epidemiology of *Cryptosporidium parvum* and *Giardia duodenalis* in beef cattle. Continuing Education Program for the Tulare/Kings county chapter of the California Association for Medical Laboratory Technology. Visalia, California. February 22.
65. 1998 Atwill, E.R. Invited speaker. *E. coli* O157:H7 in beef cattle herds. 46<sup>th</sup> Annual Oakdale Livestock Forum. Oakdale, California. February 24.
66. 1998 Atwill, E.R. Livestock and water quality update. 7<sup>th</sup> Annual Beef Cattle Health Symposium. Tulare, California. March 7.
67. 1998 Atwill, E.R. Invited speaker. Water quality, livestock production, and the vitality of California's rural economies. Rural Health and Public Policy: California's Challenges. California Wellness Foundation, Office of the Vice President, University of California. Sacramento, California. March 12.
68. 1998 Atwill, E.R. Invited speaker. Waterborne microbial pathogens and California's equine industry. San Ramon Valley Horsemen's Association. Alamo, California. March 13. (presentation and 3 limited distribution items)
69. 1998 Atwill, E.R. Invited speaker. Epidemiology of *Cryptosporidium parvum* in dairy cattle from central México. Facultad de Medicina Veterinaria and Zootecnia, La Universidad Autónoma del Estado de México. Toluca, México. March 18.
70. 1998 Atwill, E.R. Invited speaker. *Cryptosporidium parvum* and water. El agua en la Cuenca de México, sus problemas históricos y propuestas de solución, III Seminario Internacional de Investigadores de Xochimilco. Xochimilco, México City, México. March 20.
71. 1998 Atwill, E.R. Invited speaker. Livestock production systems and waterborne zoonotic pathogens. Source Water Protection Workshop-Part II, Association of California Water Agencies. Sacramento, California. April 23. (presentation and 2 limited distribution items)
72. 1998 Atwill, E.R. Invited speaker. *Cryptosporidium parvum* research update. Annual Spring Conference of California-Oregon-Idaho-Nevada Cooperative Extension Specialists and Farm Advisors. Nevada City, California. May 12.
73. 1998 Atwill, E.R. Invited speaker. Waterborne zoonotic diseases. Urban runoff pathogen workshop (1) and Drinking water pathogen workshop (2). Sacramento, California. May 20. (2 presentations)
74. 1998 Atwill, E.R. Invited speaker. Epidemiology of *Cryptosporidium parvum* and *Giardia duodenalis* in beef cattle. 5<sup>th</sup> Annual Continuing Education Seminar, Topics In Clinical Diagnostic Medicine, California Veterinary Diagnostic Laboratory System. Fresno, California. June 6.
75. 1998 Atwill, E.R. Invited Speaker. Cattle and the risk of waterborne *Cryptosporidium parvum* infection in humans. 31<sup>st</sup> Annual Conference of the American Association of Bovine Practitioners. Spokane, Washington. September 24-26.
76. 1998 Atwill, E.R. Invited speaker. Update on waterborne pathogens. Calaveras and Tuolumne County Cattleman's Association. San Andreas, California. October 9.
77. 1998 Atwill, E.R. Invited speaker. Environmental aspects of food safety. Food Safety for the 21<sup>st</sup> Century Symposium. California State Polytechnic University, San Luis Obispo and UC Cooperative Extension, San Luis Obispo County. October 12.

**EXTENDING KNOWLEDGE (continued)**

78. 1998 Atwill, E.R. Invited speaker. Domestic animal sources of *Cryptosporidium parvum*. Source Water Protection Symposium: A Focus on Waterborne Pathogens. American Water Works Association, in conjunction with International Water Services Association, United States Department of Agriculture, and United States Environmental Protection Agency. San Francisco, California. October 28-31.
79. 1998 Atwill, E.R. Invited speaker. California livestock production systems and the risk of waterborne zoonotic pathogens. Environmental Engineering Fall Seminar Series, University of California. Berkeley, California. November 13.
80. 1998 Atwill, E.R. Invited speaker. Zoonothropotic concerns of exposing livestock to biosolids. Land Application of Biosolids Workshop. University of California Cooperative Extension. San Luis Obispo, California. November 14.
81. 1998 Atwill, E.R. Research and regulatory update on cattle and the risk of waterborne zoonotic pathogens. Annual Meeting of the California Beef Council. San Diego, California. November 19.
82. 1998 Research and regulatory update on cattle and the risk of waterborne zoonotic pathogens. Water and Environmental Quality Committee, 82<sup>nd</sup> Annual Convention of the California Cattlemen's Association. South Lake Tahoe, California. December 2.
83. 1998 Atwill, E.R. Invited speaker. Veterinary public health concerns regarding biosolids application to agricultural lands. Kern County Biosolids Ordinance Committee. Bakersfield, California. December 3.
84. 1999 Atwill, E.R. Invited speaker. California livestock production systems and the risk of waterborne zoonotic pathogens. Alberta Agriculture, Food, and Rural Development. Edmonton, Alberta, Canada. January 11.
85. 1999 Atwill, E.R. Invited speaker. Is livestock manure a risk to public health? Banff Pork Seminar: Risk Factors to Profit and Growth. Banff, Alberta, Canada. January 14.
86. 1999 Atwill, E.R. Invited speaker. Horses and the occurrence of waterborne pathogens. 21<sup>st</sup> Lake Tahoe Equine Conference. Incline Village, Nevada. January 22.
87. 1999 Atwill, E.R. Invited speaker. Cattle and waterborne *Cryptosporidium parvum*. Kern County Cattlemen's Association. Bakersfield, California. February 2.
88. 1999 Nader, G.A., K.W. Tate, M.J. Connor, B. Allen-Diaz, E.R. Atwill. Evaluation of buffer zones to attenuate nutrient and sediment transport from hill-slope pastures. Statewide Conference, Division of Agriculture and Natural Resources, University of California. February 9 (poster)
89. 1999 Rulofson, F.C. and E.R. Atwill. Incidence of *Cryptosporidium parvum* and *Giardia* in beef calves raised on pastures with treated wastewater. Statewide Conference, Division of Agriculture and Natural Resources, University of California. February 9 (poster)
90. 1999 Tate, K.W, E.R. Atwill, N.K. McDougald, M.R. George. A rapid method for estimating livestock manure deposition on rangeland watersheds. Statewide Conference, Division of Agriculture and Natural Resources, University of California. February 9 (poster)
91. 1999 Atwill, E.R. Invited speaker. Nutrient and pathogen impacts on water quality. Ranch Water Quality Short Course, Natural Resource Conservation District, USDA. Clovis, California. February 17. (presentation and limited distribution item)
92. 1999 Atwill, E.R. Update: *Cryptosporidium* and *Giardia* pathogen surveys. 8<sup>th</sup> Annual Beef Cattle Health Symposium, University of California Cooperative Extension. Paso Robles, California. March 6.
93. 1999 Atwill, E.R. Invited speaker. *Cryptosporidium* and water quality. Food and Water Safety Symposium, American Association of Bovine Practitioners & Midwest American Society of Animal Science and American Dairy Science Association. Des Moines, Iowa. March 15.

**EXTENDING KNOWLEDGE (continued)**

94. 1999 Atwill, E.R. Invited speaker. How to live with *Giardia*. High Sierra Nevada Unit, Backcountry Horsemen of California. Tulare, California. March 17.
95. 1999 E.R. Atwill. Invited speaker. Prevalence of pathogens on rangelands. Beef and Range Field Day, Sierra Foothill Research and Extension Center, University of California. Brown Valley, California. April 22.
96. 1999 E.R. Atwill. Invited speaker. Microbial risks to source waters from livestock systems and wildlife. American Water Works Association Annual Conference. Chicago, Illinois. June 22.
97. 1999 E.R. Atwill. Invited speaker. Applying research results to on-the-ground water quality efforts. Workshop on the Relationship of Livestock and Water Quality. UC Cooperative Extension and the Natural Resource Conservation District. South Lake Tahoe, California. August 10.
98. 1999 E.R. Atwill. Invited panelist. Ecosystem health education: do we need a revolution in university education? 3rd International Congress on Ecosystem Health. Sacramento, California. August 15-18.
99. 1999 Atwill, E.R. Statistical methods for estimating loading rates at the watershed scale for microbial pathogens (*Cryptosporidium parvum*) from animal agricultural sources. 7<sup>th</sup> Annual Non-point Source Monitoring Workshop, Non-Point Source Pollution Control Program, U.S. Environmental Protection Agency. Morro Bay, California. September 14.
100. 1999 E.R. Atwill. Invited speaker and workshop participant. Workshop on Overland Migration of *Cryptosporidium*. Urban Watershed Management Branch, U.S. Environmental Protection Agency. Edison, New Jersey. September 21-23.
101. 1999 E.R. Atwill. Invited speaker. *Cryptosporidium*: are we at risk? & Workshop on keeping *Cryptosporidium* out of our water. Cal Poly Field Day and Bull Sale, California Polytechnic State University, San Luis Obispo, California. October 4. (lecture and workshop).
102. 1999 E.R. Atwill. Invited speaker. Kern County Supervisor Meeting regarding: Ordinance for Land Application of Biosolids. Bakersfield, California. October 5.
103. 1999 E.R. Atwill. Invited speaker. Understanding the context of waterborne microbial risks attributable to livestock waste. National Land Grant Initiative on Animal Waste Initiative: Promoting Environmental Stewardship. Kansas City, Missouri. October 17-19.
104. 1999 E.R. Atwill. Veterinary Medical Extension Program in Environmental Animal Health and Medical Ecology. Presentation given to Program Leaders of the Division of Agriculture and Natural Resources, University of California. VMTRC, Tulare, California. October 15.
105. 1999 E.R. Atwill. Invited speaker. Beef cattle production and water quality. Santa Barbara Cattlemen's Association. Buellton, California. November 10
106. 1999 E.R. Atwill. 1999 Update on Research and Outreach. California Beef Council. San Diego, California. November 11.
107. 1999 E.R. Atwill. Invited speaker. Update on Cryptosporidia. Fall Dairy Seminar, Veterinary Medicine Extension. Tulare, California. November 17.
108. 1999 E.R. Atwill. Invited speaker. Environmental and Water Quality Committee, 83<sup>rd</sup> Annual Convention of the California Cattlemen's Association. Santa Barbara, California. December 9.
109. 1999 E.R. Atwill. Invited speaker. Wildlife-Livestock interactions regarding Cryptosporidia. Section 15 BLM Grazing Advisory Committee. Bakersfield, California. December 23.
110. 2000 E.R. Atwill. Annual update on the Warner Ranch Cryptosporidial Project. Vista Irrigation District. Vista, California. March 1.

**EXTENDING KNOWLEDGE (continued)**

111. 2000 E.R. Atwill. Invited speaker. Program in Environmental Animal Health and Medical Ecology. Dean's Advisory Council, School of Veterinary Medicine, University of California, Davis. March 15.
112. 2000 E.R. Atwill. Invited speaker. Pathogens in the Environment, Ecology, Manure and Food. Animal Industries Coordinating Conference, Division of Agriculture and Natural Resources. Davis, California. March 21.
113. 2000 E.R. Atwill. Invited speaker. Molecular Fingerprinting: Applications to Animal Agriculture and Infectious Diseases. Animal Industries Coordinating Conference, Division of Agriculture and Natural Resources. Davis, California. March 21.
114. 2000 E.R. Atwill. Invited speaker. Management systems for reducing the risk of microbial pathogens in California's water resources. Rangeland Watershed Program, Division of Agriculture and Natural Resources, University of California. April 18-19.
115. 2000 E.R. Atwill. Invited speaker. Horses, waterborne pathogens, and possible management solutions. Santa Barbara County Water Agency, Hope Ranch, and the general public. Santa Barbara, California. July 26.
116. 2000 E.R. Atwill. Invited speaker. Risk factors for cellulitis in California broiler flocks. Poultry Health Symposium, UC Cooperative Extension. Modesto, California. August 8, 2000.
117. 2000 E.R. Atwill. Invited speaker. Animal agriculture and water quality: the real poop. Point Reyes Station, California. August 25.
118. 2000 E.R. Atwill. Invited speaker. Epidemiology of and potential beneficial management practices for bovine cryptosporidiosis. 104<sup>th</sup> Annual Meeting of the United States Animal Health Association. Birmingham, Alabama. October 23-24.
119. 2000 E.R. Atwill. Invited speaker. Fate and transport of rangeland pathogens. California Section, Society for Range Management, San Joaquin Experimental Range, O' Neals, California. November 4.
120. 2000 E.R. Atwill. Invited speaker. Cattle, *Cryptosporidium parvum*, and water quality. 84<sup>th</sup> Annual Convention of the California Cattlemen's Association. Reno, Nevada. December 2.
121. 2000 E.R. Atwill. Invited speaker. Livestock and waterborne pathogens. Kaweah-Tule Watershed Management Council. Visalia, California. December 15.
122. 2001 E.R. Atwill. Invited speaker. Horse manure and waterborne pathogens. Ohio Valley Equestrian Trials Symposium. Kentucky Horse Council. Louisville, Kentucky. February 10-11.
123. 2001 E.R. Atwill. Invited speaker. Stock use and waterborne pathogens. Back Country Horsemen of California 2001 Rendezvous. Madera, California. March 10-11. (2 presentations)
124. 2001 E.R. Atwill. Invited speaker. Does your horse pose a risk to human health and the environment? Western States Horse Summit. Sacramento, California. May 31.
125. 2001 E.R. Atwill. Invited speaker. Engineering vegetative buffer strips for removal of amphixenotic *Cryptosporidium parvum* from runoff of dairies and grazed agricultural land. International Life Sciences Institute North America Symposium Series on Food Microbiology, in conjunction with the International Association for Food Protection 88<sup>th</sup> Annual Meeting. Minneapolis, Minnesota. August 5-8.
126. 2001 E.R. Atwill. Invited speaker. Playing the blame game. Animal Agriculture Media Training, Division of Agriculture and Natural Resources, University of California. VMTRC, Tulare, California. October 3.
127. 2001 E.R. Atwill. Invited speaker. Environmental animal health and medical ecology. Division of Agriculture and Natural Resources, University of California. UC Davis, California. October 16.

**EXTENDING KNOWLEDGE (continued)**

128. 2001 E.R. Atwill. Invited speaker. Dairy production systems and the risk of waterborne zoonoses; Dairy production systems and the risk of *C. parvum* contamination. Academy of Dairy Consultants. Rancho Santa Fe, California. October 20. 2 presentations.
129. 2001 E.R. Atwill. Invited speaker. Environmental health and medical ecology. University Extension, UC Davis. November 8.
130. 2001 E.R. Atwill. Invited speaker. Beef cattle production systems and the risk of *C. parvum* contamination. University Extension, UC Davis. November 8.
131. 2001 E.R. Atwill. Invited speaker. Dairy production systems and the risk of *C. parvum* contamination. University Extension, UC Davis. November 8.
132. 2001 E.R. Atwill. Invited speaker. Efficacy of vegetated buffer strips for removal of *Cryptosporidium parvum* from agricultural runoff and wildlife habitat. University Extension, UC Davis. November 8.
133. 2001 E.R. Atwill. Invited speaker. Molecular fingerprinting: applications to microbial water quality. University Extension, UC Davis. November 8.
134. 2001 E.R. Atwill. Invited speaker. Statistical methods for estimating watershed loading rates of microbial pathogens from agricultural and wildlife sources. University Extension, UC Davis. November 8.
135. 2002 E.R. Atwill. 2001 Beef Research. Commodity Review, Center for Food Animal Health School of Veterinary Medicine, UC Davis. January 31.
136. 2002 E.R. Atwill. Waterborne pathogenic protozoa in certain domestic and wildlife species in California. 20<sup>th</sup> Vertebrate Pest Conference. Reno, Nevada. March 4-7.
137. 2002 E.R. Atwill. Invited speaker. *Cryptosporidium parvum*: epidemiology in cattle production systems. 1<sup>st</sup> Annual Oregon Veterinary Conference. Oregon State University. Corvallis, Oregon. March 9.
138. 2002 E.R. Atwill. Invited speaker. *Cryptosporidium parvum*: environmental transport and mitigation measures. 1<sup>st</sup> Annual Oregon Veterinary Conference. Oregon State University. Corvallis, Oregon. March 9.
139. 2002 E.R. Atwill. Invited speaker. *Cryptosporidium parvum*: control strategies and addressing regulatory concerns. 1<sup>st</sup> Annual Oregon Veterinary Conference. Oregon State University. Corvallis, Oregon. March 9.
140. 2002 E.R. Atwill. Invited speaker. Program in Environmental Animal Health and Medical Ecology. Natural Resource Coordinating Conference, University of California. Sacramento, California. April 2.
141. 2002 E.R. Atwill. Invited speaker. Beef cattle production and waterborne *Cryptosporidium parvum*. Academy of Veterinary Consultants. Kansas City, Missouri. April 6.
142. 2002 E.R. Atwill. Invited speaker. Optimization and design criteria of vegetative buffer strips for removal of waterborne *Cryptosporidium parvum* from animal agricultural runoff. Annual Meeting of Principal Investigators, Initiative for Future Agricultural and Food Systems, Cooperative State Research, Extension, and Education Service, United States Department of Agriculture. Kansas City, Missouri. May 14-15.
143. 2002 E.R. Atwill. Invited speaker. Microbial risks to source water: livestock production systems and wildlife. Cool, California. June 15.
144. 2002 E.R. Atwill. Invited speaker. Program in Environmental Animal Health and Medical Ecology. Consul, Science & Technology, British Consulate-General, San Francisco. VMTRC, Tulare, California. September 26.
145. 2002 E.R. Atwill. Invited workshop participant. Developing an action plan for communicating national research information to equestrian trail users and land managers. 2002 National Trials Symposium. Florida. November 10.

**EXTENDING KNOWLEDGE (continued)**

146. 2002 E.R. Atwill. Invited speaker. Waterborne *Cryptosporidium parvum* and cow-calf production. Coquille, Oregon. December 11.
147. 2002 E.R. Atwill. Invited speaker. Livestock and water quality: how do we know they are the problem. Cows and Creeks: Managing for Healthier Watersheds. Extension Service, Oregon State University. Prineville, Oregon. December 13.
148. 2003 E.R. Atwill. Invited speaker. Rising above brownian motion: Veterinarian's role in improving water quality. Seminar for the Department of Population Medicine and Diagnostic Sciences. College of Veterinary Medicine, Cornell University. March 4.
149. 2003 E.R. Atwill. Invited speaker. Addressing the issue of waterborne pathogens from horses and mules in the backcountry. Backcountry Horsemen of California 2003 Rendezvous. Turlock, California. March 15-16. (2 presentations)
150. 2003 E.R. Atwill. Invited speaker and panel member. Bacterial monitoring 101: A primer. Indicator monitoring and Assessment Training Workshop. State Water Resources Control Board, State of California. Sacramento, California. April 2.
151. 2003 E.R. Atwill. Invited speaker. Pathogen loading from wildlife. Beef & Range Field Day. Sierra Foothill Research and Extension Center, University of California. April 17.
152. 2003 E.R. Atwill. Influence of waterways on pathogen movement at preharvest. Legislative Forum: Epidemiologic Research in Food Safety Issues. United States Department of Agriculture. Washington, DC. May 22.
153. 2003 Atwill, E.R., M. Das Graças Cabral Pereira, L. Herra-Alonso, C. Elmi, W.P. Epperson, D.M. Grotelueschen, B. Smith, B. Hoar. Prevalence and distribution of genotypes of *Cryptosporidium parvum* in United States feedlot cattle. Microorganisms in Drinking Water Workshop, National Center for Environmental Research, United States Environmental Protection Agency. Cincinnati, Ohio. August 5-7.
154. 2003 Atwill, E.R. Invited Speaker. Warner Ranch integrated *Cryptosporidium parvum* assessment and grazing management plan. Vista Irrigation District, Vista, California. December 10.
155. 2004 E.R. Atwill. 2003 Beef Research. Commodity Review, Center for Food Animal Health School of Veterinary Medicine, UC Davis. January 30.
156. 2004 Atwill, E.R. Invited Speaker. Beneficial management practices for waterborne pathogens. Pathogens in the Environment, United States Department of Agriculture. Kansas City, Missouri. February 23-25
157. 2004 Atwill, E.R. Invited Speaker. Livestock production and waterborne pathogens. Solano County Library Lecture Series. Fairfield, California. April 28.
158. 2004 Atwill, E.R. Invited Speaker. Livestock production and the risk of waterborne zoonoses. Living with Livestock: Environment and Change. Winnipeg, Manitoba, Canada. October 5-7.
159. 2005 Atwill, E.R. Introduction to waterborne pathogens from livestock and wildlife on California rangeland. 58<sup>th</sup> Annual Meeting for the Society for Range Management. Fort Worth, Texas. February 5-11.
160. 2005 Atwill, E.R., K.W. Tate, T. Harter. Matching vegetated buffer widths to environmental loading rates of *Cryptosporidium parvum* from livestock. 58<sup>th</sup> Annual Meeting for the Society for Range Management. Fort Worth, Texas. February 5-11.
161. 2005 Atwill, E.R. Invited Speaker. Addressing concerns of microbial water quality on California rangelands. Rangeland Water Quality Conference, Division of Agriculture and Natural Resources, University of California. Woodland, California. February 23-24.
162. 2005 Atwill, E.R., K.W. Tate, T. Harter. Invited Speaker. Managing pathogens with vegetated buffers. Rangeland Water Quality Conference, Division of Agriculture and Natural Resources, University of California. Woodland, California. February 23-24.

**EXTENDING KNOWLEDGE (continued)**

163. 2005 Atwill, E.R. Invited Speaker. Packstock, picket pins, and *Cryptosporidium* parasites in Tuolumne Meadows. Rendezvous 2005: Backcountry Horsemen of California. Tulare, California. March 12.
164. 2005 Atwill, E.R. Invited Speaker. Pathogens and indicator bacteria: management implications for reducing microbial levels in dairy runoff along Tomales Bay and its tributaries. Point Reyes Station, California. October 19.
165. 2005 Atwill, E.R. Invited Speaker. Pathogens and indicator bacteria: management implications for reducing microbial levels in dairy runoff along coastal California. Crescent City, California. October 25.
166. 2005 Atwill, E.R. Invited Speaker. Pathogens and indicator bacteria: management implications for reducing microbial levels in dairy runoff along coastal California. Ferndale, California. October 26.
167. 2006 Atwill, E.R. Invited Speaker. Pond microbe assessment. Circle J-Norris Ranch Field Science Weekend. Tulare County Office of Education. Springville, CA. January 28.
168. 2006 Atwill, E.R., K.W. Tate, T. Harter, M.C.G. Pereira, L. Hou, N.K. McDouglass. Efficacy of vegetated buffers for reducing waterborne pathogens. National Water Conference, CSREES-USDA. San Antonio, Texas. February 5-9.
169. 2006 Microbial pollutants of water quality concern from animal agriculture. UC-ANR Surface Water Quality Workshop. Woodland, CA. April 27.
170. 2006 Atwill, E.R. Invited Speaker. Writing a successful USDA NRICGP grant. Panel chair and speaker. UC Davis. September 18.
171. 2006 Atwill, E.R. and D. Lewis. Monitoring bacterial sources and transport in five Northern California estuaries. Santa Rosa, California. September 19.
172. 2006 Atwill, E.R. BMPs to reduce microbial contamination from rangeland and irrigated pastures. Development of a Central Valley Drinking Water Policy Public Workshop. Rancho Cordova, CA. October 3.
173. 2006 Atwill, E.R. Invited Speaker. UC animal-related research regarding *E. coli* O157:H7 contamination of leafy green vegetables in the Salinas region. Salinas, CA. October 27.
174. 2006 Atwill, E.R. A quick brief on a UC study regarding *E. coli* O157:H7 contamination of leafy green vegetables in the Salinas region. San Benito County Cattleman's Association Annual Meeting. November 2.
175. 2006 Atwill, E.R. Invited Speaker. Characterizing the risk of *E. coli* contamination from animal agriculture and wildlife. *E. coli* O157:H7 in lettuce and leafy greens: strategies for developing an intervention assessment model. Asilomar, California. November 13-15.
176. 2006 Atwill, E.R. Invited Speaker. CCA update: microbial water quality. California Cattleman's Association Annual Meeting. November 16. (2 presentations).
177. 2006 Atwill, E.R. Invited Speaker. Update on pathogen studies. Annual Rangeland Water Quality Workshop. University of California, Davis. December 11-13.
178. 2006 Atwill, E.R. Invited Speaker. Pathogens in animal manure, should we be concerned. Education Webcast Series. Livestock and Poultry Environmental Learning Center, University of Nebraska. December 15.
179. 2007 Atwill, E.R. and D.J. Lewis. From chip, to creek, to estuary. Tomales Bay Shellfish Technical Advisory Committee. Point Reyes Station, California. January 16.
180. 2007 Atwill, E.R. Invited Speaker. Addressing water and food safety issues from pathogenic *E. coli* in livestock. SLO/SB Counties Agricultural Watershed Coalition. Guadalupe, California. January 30.
181. 2007 Atwill, E.R. Invited Speaker. Addressing water and food safety issues from pathogenic *E. coli* in livestock. SLO/SB Counties Agricultural Watershed Coalition. Morro Bay, California. January 30.



**EXTENDING KNOWLEDGE (continued)**

182. 2007 Atwill, E.R. Invited Speaker. Beef cattle, rangeland water quality, and pathogenic *E. coli*. Monterey Cattleman's Association. King City, California. February 9.
183. 2007 Atwill, E.R. Invited Speaker. Pathogens-background, standards, and what is tested. 55<sup>th</sup> Annual Oakdale Livestock Forum. Oakdale, California. February 27.
184. 2007 Atwill, E.R and K.W. Tate. Invited Speakers. *E. coli* outbreak: potential impacts on livestock grazing. California Farm Bureau Federation. Sacramento, California. February 28.
185. 2007 Atwill, E.R. Invited Speaker. Pathogens: background, standards, and what is tested. Rangeland Water Quality Meeting. Willows, California. March 5.
186. 2007 Atwill, E.R. Invited Speaker. Wildlife and livestock, rangeland water quality, and pathogenic *E. coli*. Regional Growers and Processors. Salinas, California. March 13.
187. 2007 Atwill, E.R. Invited Speaker. Addressing water and food safety issues from pathogenic *E. coli*. Natural Resource Coordinating Conference. Monterey, California. March 15.
188. 2007 Atwill, E.R. Invited Speaker. Row crops and rangeland: what do we really know? Central Coast Ag Task Force. Salinas, California. April 16.
189. 2007 Atwill, E.R. Invited Speaker. Minimizing environmental dissemination of *E. coli* from animal agriculture and free ranging wildlife in California. Sacramento Valley Livestock-Crop Interface and Food-borne Illness Prevention Meeting. Woodland, California. April 18.
190. 2007 Tate, K.W. and E.R. Atwill. Invited Speaker. Vegetative buffers and wetlands to filter *E. coli* and other pollutants in runoff from pasture and rangelands. Beef and Range Field Day. Sierra Foothill Research and Extension Center. Browns Valley, California. April 19.
191. 2007 Atwill, E.R. Invited Speaker. What we know about wildlife and water quality practices. Coordinated Management of Water Quality Protection and Food Safety Initiatives in California Vegetable Production Conference. San Luis Obispo, California. April 23-25.
192. 2007 Atwill, E.R. Invited Speaker. Buffer strips for pathogen removal. Veterinary Perspectives on Pathogen Control in Animal Manure. Cornell University, Ithaca, New York. May 8.
193. 2007 Atwill, E.R. Invited Speaker. Update on *E. coli* in produce. Midyear California Cattlemen's Association meeting. Rohnert Park, CA. June 28. 2 presentations.
194. 2007 Atwill, E.R. Update on *E. coli* issues in livestock and produce. Town hall meeting of local ranchers and growers in Monterey County. King City, California. August 7.
195. 2007 Atwill, E.R. Invited Speaker. Update on *E. coli* issues in livestock and produce. Fall Yolo County Cattlemen's Association and Woolgrowers Meeting. Esparto, California. August 23.
196. 2007 Atwill, E.R. *E. coli* O157:H7 in the Salinas produce growing region. Salinas River Channel Coalition. Salinas, California. Aug 28.
197. 2007 Atwill, E.R. Invited Speaker. Food safety concerns in California speciality crops. USDA CSREES. Modesto, California. August 29.
198. 2007 Atwill, E.R. Invited Speaker. Repercussions, consequences, and the evolving GAPs following the California 2006 outbreak of *E. coli* O157:H7 in spinach. Joint CSU - UC Agriculture and Natural Resources Administrators Meeting. Sacramento, California. September 7.
199. 2007 Atwill, E.R. Invited Speaker. Food safety repercussions following the 2006 spinach outbreak. Society for Environmental Journalists. Stanford, California. September 8.
200. 2007 Atwill, E.R. Invited Speaker. *E. coli* impact on animal agriculture. CDFA (AHB) Statewide Meeting. Sacramento, California. September 20.
201. 2007 Atwill, E.R. Invited Speaker. Role of vegetated buffers in improving microbial water quality. President Dynes tour. Sierra Foothill Research and Extension Center, California. September 21.

**EXTENDING KNOWLEDGE (continued)**

202. 2007 Atwill, E.R. Invited Speaker. Environmental dissemination of pathogens. Bernice Barbour Foundation Board Meeting. UC Davis, California. October 29.
203. 2007 Atwill, E.R. Invited Speaker. Update on *E. coli* issues in livestock and produce. Fall San Benito County Cattlemen's Association Meeting. Tres Pinos, California. November 1.
204. 2007 Atwill, E.R. Invited Speaker. Update on WIFSS program. Briefing for California Senator Maldonado. UC Davis, California. November 6.
205. 2007 Atwill, E.R. Invited Speaker. Update on *E. coli* issues in livestock and produce. California Cattlemen's Association Annual Convention. Reno, Nevada. November 8.
206. 2007 Atwill, E.R. Invited Speaker. Wild animals and possible implications for food safety. Plant Diseases Seminar. UC Cooperative Extension. Salinas, California. November 13.
207. 2007 Atwill, E.R. Invited Speaker. Research, training, and outreach update. California Farm Bureau Federation. Sacramento, California. November 14.
208. 2007 Atwill, E.R. Invited Panel Member. Food safety and the environment: Popeye versus Bambi. California Water Policy Conference. Los Angeles, California. November 15.
209. 2008 Atwill, E.R. Invited Speaker. Current partnerships for coordinated management: research, outreach, funding, and oversight. Symposium on Coordinated Management of Water Quality Practices and Food Safety Practices in Cool Season Vegetable Production. USDA-CSREES National Water Conference. Sparks, NV. February 3-7.
210. 2008 Atwill, E.R. Invited Speaker. Bacterial indicators and pathogens. Upper Feather River Watershed Management Meeting. Quincy, California. February 26.
211. 2008 Atwill, E.R. Invited Speaker. Understanding pathogens of concern, their prevalence, and survival on rangelands. Rangeland Water Quality Meeting, UCCE Solano County. Woodland, California. March 6.
212. 2008 Atwill, E.R. Invited Plenary Speaker. Implications of wildlife in *E. coli* outbreaks associated with leafy green produce. 23<sup>rd</sup> Vertebrate Pest Conference. San Diego, California. March 17-20.
213. 2008 Atwill, E.R. Invited Speaker. The research-extension continuum in action: rangeland water quality. Building Working Relationships in ANR. UC Davis, California. May 21.
214. 2008 Atwill, E.R. Bacteria transport in five Northern California estuaries. Regional Water Quality Control Board. Santa Rosa, California. May 28.
215. 2008 Atwill, E.R. Invited Speaker. Updates on *E. coli* and Delta project. Midyear meeting. California Cattlemen's Association. Sacramento, California. June 26.
216. 2008 Atwill, E.R. WIFSS programmatic review. Congressional and State Legislative Briefing Meeting. Davis, California. June 27.
217. 2008 Atwill, E.R. Invited Panelist. Leafy greens: emerging pathogen issues in manure. Pacific Southwest Organic Residuals Symposium. UC Davis. September 30 - October 2.
218. 2008 Atwill, E.R. Invited Speaker. ANR responds to California's food safety challenges. UC President's Advisory Committee on Agriculture and Natural Resources. Berkeley, CA. October 7.
219. 2008 Atwill, E.R. Invited Speaker. WIFSS and the Western Center for Food Safety. Center for Food Safety and Applied Nutrition, FDA. College Park, Maryland. November 14. Two presentations.
220. 2008 Atwill, E.R. Invited Speaker. WIFSS and the Western Center for Food Safety. 2<sup>nd</sup> Annual Meeting of the FDA Centers of Excellence. Oakbrook, Illinois. December 2.
221. 2009 Atwill, E.R. Ambient conditions and monitoring for livestock associated pathogens and indicators in California waterways. Water Quality, Range, Pasture, and Livestock Management Workshop. Woodland, California. January 24.

**EXTENDING KNOWLEDGE (continued)**

222. 2009 Atwill, E.R. Ambient conditions and monitoring for livestock associated pathogens and indicators in California waterways. Water Quality, Range, Pasture, and Livestock Management Workshop. Stockton, California. January 29.
223. 2009 Atwill, E.R. Addressing California's food safety and security needs at the Western Institute for Food Safety and Security. Davis, California. January 29. Briefing for the Centers for Disease Control and Prevention.
224. 2009 Atwill, E.R. Invited Speaker. Waterborne pathogens and indicators in California waterways. San Louis Obispo Cattleman's Association. Paso Robles, California. February 19.
225. 2009 Atwill, E.R. Invited Speaker. Current issues about pathogens and rangeland water quality. Annual Beef Day and Trade Show, California State University, Chico. Chico, California. February 21.
226. 2009 Atwill, E.R. Invited Speaker. Review the mission of the Western Institute for Food Safety and Security. FDA Advisory Board, Western Center for Food Safety. College Park, Maryland. March 4.
227. 2009 Atwill, E.R. Invited Speaker. Water quality pathogen concerns associated with livestock, range, and irrigated pasture. Monterey County Cooperative Extension. Salinas, California. March 18.
228. 2009 Atwill, E.R. Invited Speaker. Pre-harvest food safety: animal and plants intertwined. Defining Our Future—Putting Science to Work in an Inter-Connected World. Division of Agriculture and Natural Resources, University of California. Sacramento, California. April 27-30.
229. 2009 Atwill, E.R. Invited Speaker. California's water resources: a veterinarian's role in reducing waterborne pathogens. Dean's Advisory Council. UC Davis. April 30.
230. 2009 Atwill, E.R. Invited Speaker. Epidemiologic approaches to waterborne and foodborne zoonotic disease. Dublin, Ireland. June 3. 1 workshop and 1 presentation.
231. 2009 Atwill, E.R. Invited Speaker. Veterinary medicine and preharvest food safety. 105<sup>th</sup> Anniversary of Chinese Modern Veterinary Education, Jilin University. Changchun City, China. August 17.
232. 2009 Atwill, E.R. Invited Speaker. Medical ecology of foodborne pathogens in animal agriculture. 105<sup>th</sup> Anniversary of Chinese Modern Veterinary Education, Jilin University. Changchun City, China. August 17.
233. 2009 Atwill, E.R. Updates and Projects: Western Center for Food Safety. 3<sup>rd</sup> Annual FDA Center of Excellence Meeting, Oxford, Mississippi. August 31-September 1.
234. 2009 Atwill, E.R. Invited Speaker. Ramifications of *E. coli* O157:H7 on sheep grazing. 149<sup>th</sup> Annual meeting of the California Wool Growers Association. Bakersfield, California. September 11-12.
235. 2009 Atwill, E.R. Invited Speaker. How safe is your food: tackling California's food safety challenges. School of Veterinary Medicine Alumni Association. UC Davis, California. September 24.