

A. Center/Institute/Program

Ecology Center/Utah State University

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Director/Chairperson: Dr. James A. MacMahon
Representative to AERC: Dr. James A. MacMahon

B. Major objectives of the Center/Institute/Program

1. To coordinate interdepartmental (Biology; Environment and Society; Plants, Soils, and Climate; Watershed Sciences; Wildland Resources) graduate education in ecology.
2. To facilitate and promote a diverse program in ecological research largely based on extramural funding.

C. Major ecosystem research emphases

1. Structure, function and management of regional ecosystems, both terrestrial and aquatic.
2. Functional basis of other ecosystems addressing questions of global change, invasive species, and populations-level issues. These are wide ranging geographically including Puerto Rico, Hawaii, Africa, and Alaska.

D. Staff

Permanent scientific staff: PhD: 70, MS: 2
Scientific support staff: Postdocs: 3, Technicians: 6
Other support staff: Clerical: 1, Administrative: 1.5
Graduate students: PhD: 45, MS: 40

E. Approximate annual funding (recent year)

Core funding: \$1,027,473/yr, Source: Utah State Legislature
Grants: \$2,300,000/yr, Major sources: NSF, EPA, U.S. Forest Service, USDA, BOR, NASA, USGS

F. Areas and facilities for ecosystem research studies

1. Green Canyon Ecology Compound (near campus) including field plots, structures for instrumentation, animal care, and equipment storage.
2. Bear Lake Laboratory, southwest shore, Bear Lake, housing, marina, lab.

G. Research staff directly involved in ecosystem research (names and specialty areas)

Adler, Peter - - plant community ecology
Alston, Diane G. - insect ecology, integrated pest management
Anderson, Anne J. - molecular basis of survival strategies in microbial organisms beneficial or harmful to plants
Baker, Frederick - tree pathology
Baker, Michelle A. - ecosystem ecology, organic matter and nutrient dynamics in watersheds
Barkworth, Mary - - plant systematics, emphasis on taxonomy
Beard, Karen - plant-animal interactions and conservation biology
Bissonette, John A. - ecology and behavior of wild ungulates
Boettinger, Janis L. - soil genesis and mineralogy
Brodie, Edmund D. - behavioral and evolutionary ecology
Brunson, Mark – Human dimensions of rangelands
Budy, Phaedra - food web dynamics and anthropogenic impacts on native fish populations
Caldwell, Martyn .M. - physiological plant ecology, emphasis on plant adaptation to environmental stress in arid and tundra environments; environmental photobiology
Cane, James H. - native bee ecology, pollination, habitat fragmentation
Conover, Michael R. - ecology of pest species
Coppock, D. Layne - herbivory, pastoral systems analysis, human ecology
Crowl, Todd A. - stream ecology, biometrics
Du Toit, Johan – ecology and conservation of large mammals in terrestrial ecosystems
Dudley, Lynn M. - soil chemistry
Dueser, Raymond D. - population biology of small mammals
Durham, Susan - biometrics, data analyses and experimental design
Edwards, Thomas C. Jr. - avian biology, landscape ecology, conservation biology
Ernest, Morgan – community ecology
Evans, Edward W. - insect population ecology
French, Susannah – population ecology
Gese, Eric M. - carnivore ecology
Gessaman, James A. - ecological energetics, biometeorology, vertebrate environmental physiology
Gillies, Robert - remote sensing, climatology
Grossl, Paul - soil chemistry
Haefner, James - ecosystem simulation modeling, animal community theory
Hawkins, Charles P. - ecology of stream ecosystems, watershed ecology
Hipps, Lawrence E. - micrometeorology, radiation transfer in plant communities, remote sensing
Hooten, Mevin – Ecological, spatial, and spacio-temporal statistics
Jacobson, Astrid - Environmental Soil & Water, soil science
Jenkins, Michael J. - forest insect ecology, fire ecology
Jones, Scott – Soil science/physics
Kettenring, Karin – wetland ecology; plants and restoration
Knowlton, Frederick F. - predator ecology, biology and behavior of predators
Koons, David – animal population ecology

Liddell, W. David - paleoecology and evolution of marine communities, ecology of coral reefs
Long, James N. - population ecology of forest vegetation, biological effects of tree-stand manipulations
Luecke, Christopher M. - fishery biology, food-web dynamics
MacMahon, James A. - plant and animal community ecology, structure and function of deserts and coniferous forests, physiological ecology of lower vertebrates and spiders
Malek, Esmail - evaluation of evapotranspiration radiation and energy balance components at different ecosystems, and cloud parameterization
Messina, Frank J. - insect behavior and ecology
Mock, Karen - conservation genetics and molecular ecology
Monz, Christopher - recreation ecology
Mott, Keith - physiological ecology of plants, esp. water relations
Mueller, Richard J. - ecological plant morphology
Norton, Jeanette - soil microbiology
Powell, Jim - nonlinear evolution equations, applied mathematics, mathematical biology
Provenza, Frederick D. - livestock-vegetation interrelationships, livestock nutrition
Radel, Claudia - Intl. environment, political ecology
Ramsey, R. Douglas - remote sensing, Geographic Information Systems
Reeve, Jennifer - agronomy, plant science, soil science
Rogers, Paul - landscape and community ecology
Ryel, Ron - plant physiological ecology, how physiological traits of plants affect ecosystem function
Schmidt, John C. - fluvial and landscape geomorphology
Schmidt, Robert H. - predator ecology
Schupp, Eugene W. - plant population ecology
Sharik, Terry L. - regeneration ecology of forests
Shultz, Leila - plant systematics
Stark, John M. - microbial ecology and biogeochemistry
Sullivan, Kimberly A. - avian behavioral ecology
Toth, Richard - bioregional planning & water resources management
Van Miegroet, Helga - forest soils and biogeochemical cycling
Von Dohlen, Carol - insect ecology
Wheaton, Joseph - fluvial geomorphology and ecohydraulics
White, Ethan - quantitative macroecology, statistical methods
White, Michael - ecological modeling, vegetation phenology, remote sensing
Wolf, Paul G. - population genetics
Wolfe, Michael L. - population ecology and management of free-ranging ungulates, predation biology
Wurtsbaugh, Wayne A. - physical, chemical, and biological limnology of lakes

H. Long-term data sets (code name, number of years of data, computer accessibility)

1. I.B.P. Desert Biome data bank, 8-year set, on tape.
2. 26-year series on a coyote-jackrabbit predator-prey system in Great Basin Desert.
3. 30-year data set on plant ecology and soils of Great Basin Desert.
4. 8-year data set on restoration of disturbed high desert (2,000 m) in southwestern Wyoming.
5. 20-year data set on montane-forest ecology, northern Utah.
6. 30-year data set on Bear Lake.
7. 30-year data set on the Logan River.