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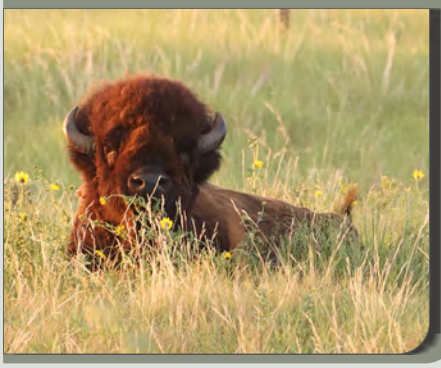
U.S. Geological Survey Cooperative Research Units Program—A Hawk's View of 2024

Enduring Partnerships

The U.S. Geological Survey Cooperative Fish and Wildlife Research Units (USGS CRU) program was established in 1935 and codified by Congress in 1960 to enhance graduate education in wildlife and fisheries sciences and to facilitate research and technical assistance among natural resource agencies and universities on fisheries and wildlife management topics of mutual concern. The success of the CRU program lies in its cooperative approach. State and Federal fish and wildlife agencies determine where focused, science-based studies for wildlife and natural resource management for societal benefit are needed. The CRU scientists conduct applied research to contribute results to inform and aid partners in determining best practices for managing resources. Each Unit is a unique partnership among the U.S. Geological Survey, a host university, one or more State agencies, the Wildlife Management Institute, and the U.S. Fish and Wildlife Service.

In fiscal year 2024 (FY 2024), there were 43 CRUs located in 41 States at 44 host universities (fig. 1). The national CRU program office is embedded within the Ecosystems mission area at the USGS headquarters in Reston, Virginia. The 43 units are subdivided into three regions, each with its own supervisor.

Greater sage grouse (*Centrocercus urophasianus*). Photograph by Greg Kramos, U.S. Fish and Wildlife Service.



Bison (*Bison bison*). Photograph by Sandra Uecker, U.S. Fish and Wildlife Service.

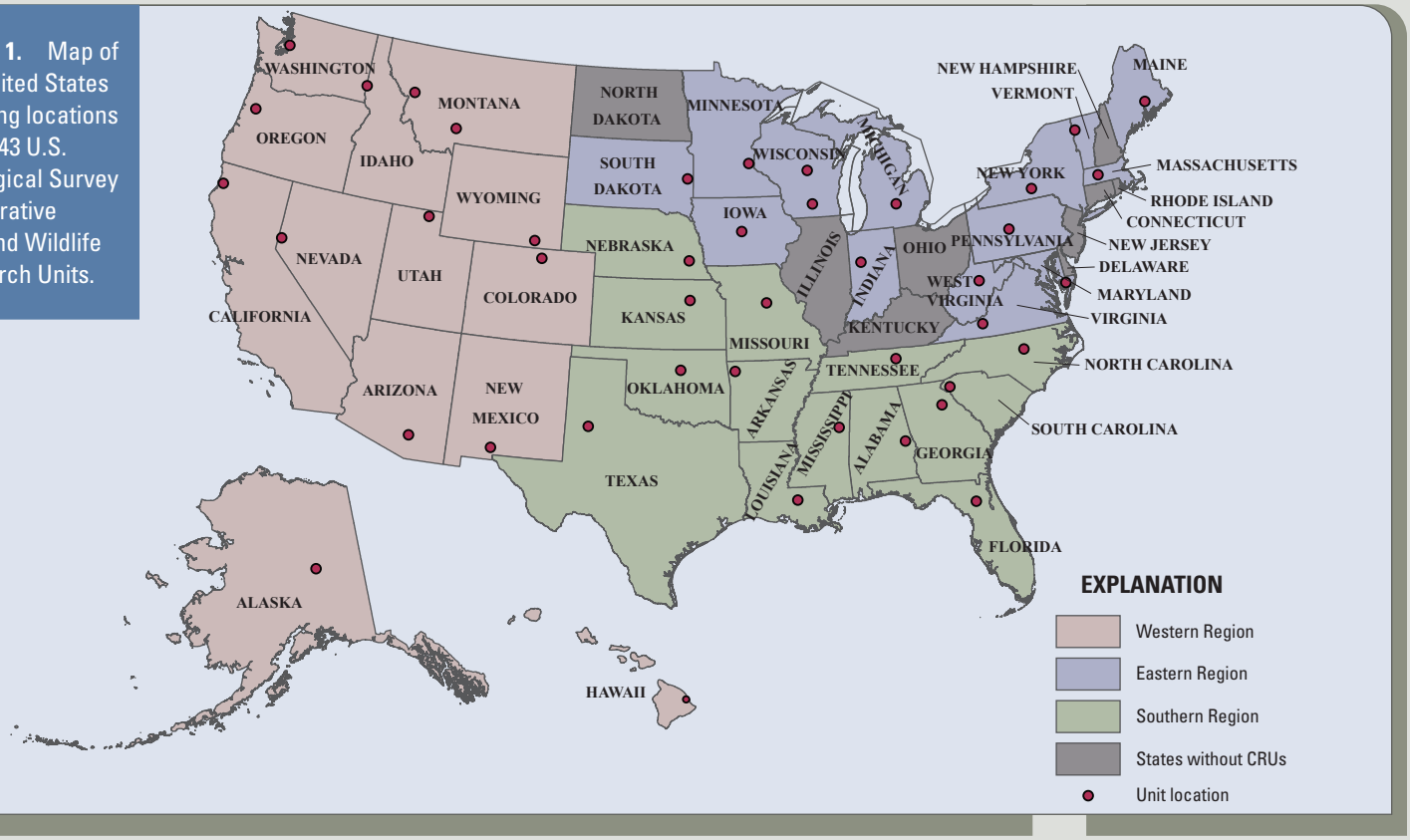


Figure 1. Map of the United States showing locations of the 43 U.S. Geological Survey Cooperative Fish and Wildlife Research Units.

New Mexico Department of Game and Fish biologists, Nicole Tatman (right, Big Game Program Manager) and Orrin Duvuvuei (left, Deer Program Manager) tag a pronghorn (*Antilocapra americana*) during a joint project with the New Mexico Unit. Photograph by New Mexico Game and Fish.

Nebraska Unit graduate students sample fish in a Nebraska stream. Photograph by U.S. Geological Survey.

Regional Supervisors

Cyndy Loftin (2024, retired);
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Three-part Mission

The mission of the Cooperative Research Units Program is to:

- Enhance graduate education programs that develop future natural resource managers and researchers.
- Deliver actionable and applied science for fish and wildlife management to cooperating agencies and organizations.
- Provide technical assistance to natural resource managers and researchers for the application of contemporary approaches to fish and wildlife management.

Goose Lake redband trout (*Oncorhynchus mykiss* ssp.). Photograph by the U.S. Geological Survey.

A Strong Return on Investment

The CRU program maximizes taxpayer investment, turning every appropriated Federal dollar into three dollars by CRU scientists, who leverage additional funding and support for the CRU program. The CRU program budget in FY 2024 was $28 million dollars in appropriated Federal funding that primarily supported the salary of Unit scientists. Unit scientists were then able to secure approximately $48 million in research funds from cooperators and stakeholders. Leveraged funding is administered through host university's budgetary processes to support each Unit's research program, to provide training to students, and to provide assistance to cooperators and stakeholders. On average, the leveraged funding streams from CRU scientists generate support for as many as 31 non-Federal positions at each host university per year, including graduate students, postdoctoral researchers, and research technicians. Leveraged funding at host universities supports over 1,100 jobs, providing real economic benefits to local communities. Cooperating universities also provided an additional $22 million of in-kind support through facilities, student tuition, and reduced overhead.

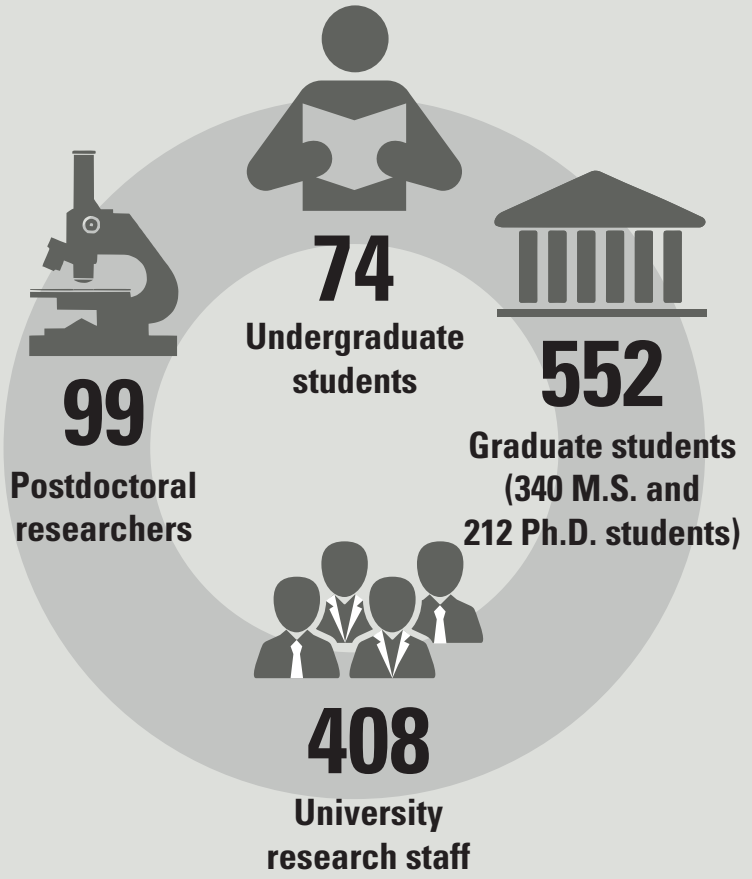
Training the Next Generation of Resource Professionals

Scientists in the CRU program work with host universities to recruit and train qualified graduate students. In FY 2024, 22 Doctor of Philosophy (Ph.D.) and 56 Master of Science (M.S.) degrees in fisheries and wildlife sciences were awarded to students in the CRU program. Alumni of the CRU program find careers with State and Federal resource management agencies, non-governmental organizations, and academia.

Success in Applied Research

Scientists, research staff, and students in the CRU program were highly productive, publishing 360 scientific papers in FY 2024 related to partner-identified natural resource problems. These papers were published in over 130 peer-reviewed journals, ranging from international journals, such as "Nature," to regional journals, such as "Southwestern Naturalist." Unit scientists published mostly in journals supported by professional societies such as the Wildlife Society and the American Fisheries Society.

Unit scientists provide insight and guidance regarding conservation challenges and help inform decision-making by resource managers at State, regional, and national levels. Unit scientists directed over 700 research projects during FY 2024. To address agency needs, cooperators determined topical science themes of FY 2024 research projects, such as Hunting and Fishing Resources, Animal Migration and Movements, Invasive Species and Fish and Wildlife Disease, and Federal, State, and Local Decision-making Strategies (fig. 2).



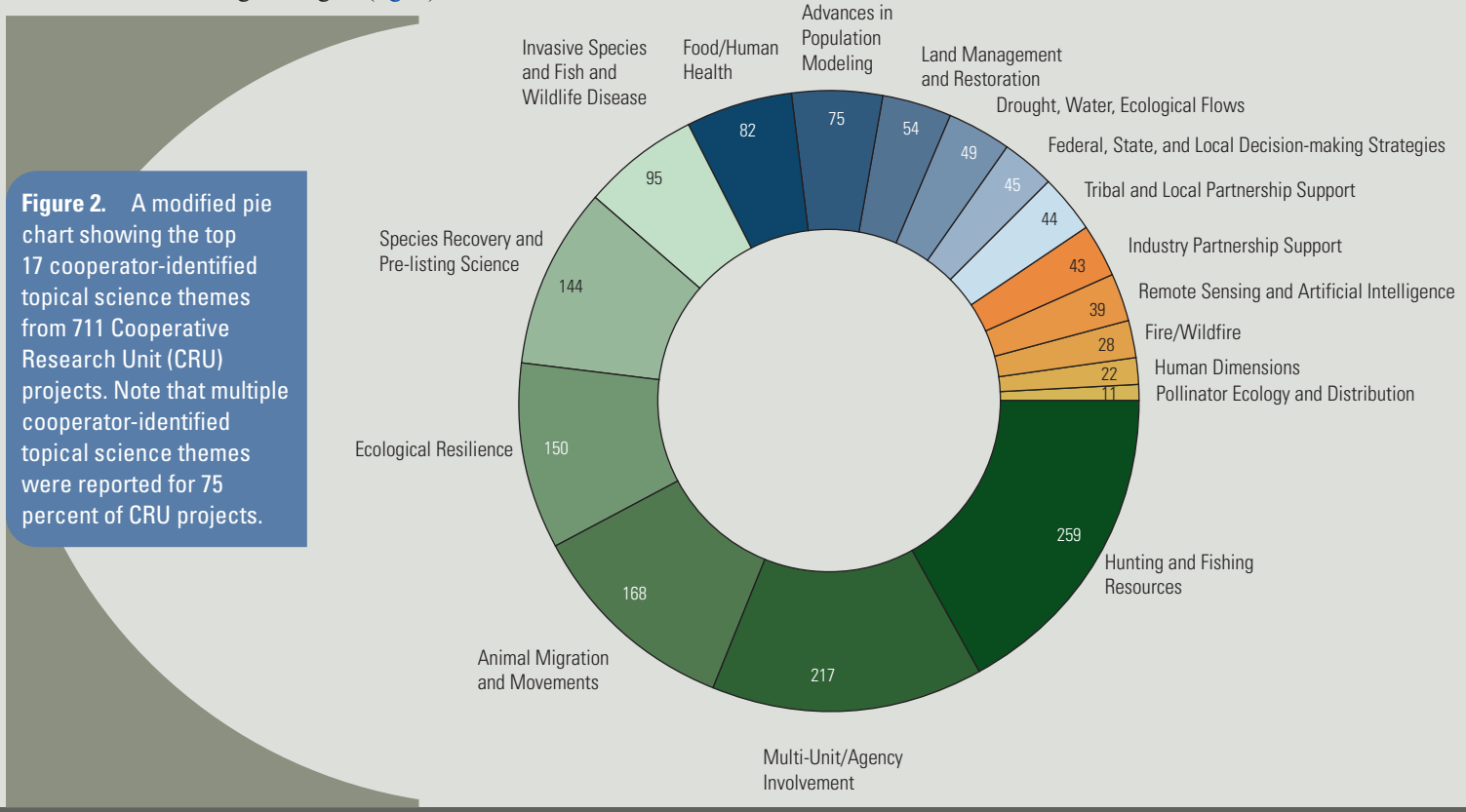


Figure 2. A modified pie chart showing the top 17 cooperator-identified topical science themes from 711 Cooperative Research Unit (CRU) projects. Note that multiple cooperator-identified topical science themes were reported for 75 percent of CRU projects.

Leandro "Steve" Miranda (Mississippi Unit) is leading a team of biologists charged with analyzing a large fisheries database compiled by the Texas Parks and Wildlife Department

Andrew Carlson (Florida Unit) partnered with the Florida Fish and Wildlife Conservation Commission in developing a Florida lake "scorecard" system

Nicholas Som (California) is aiding the Bureau of Reclamation in determining coho salmon habitat availability to evaluate proposed management alternatives

Providing Technical Assistance to Resource Managers

Technical assistance from Unit scientists provides cost-effective solutions to State and local partners, ensuring taxpayer dollars go further. Unit scientists provided partners with over 140 technical assistance actions in FY 24 that included technical advice, analyses, and other products, such as assisting partners with field and laboratory data collection and analysis, digital app development, and even training agency personnel on fish aging. In addition, Unit scientists, staff, and students provided significant outreach to stakeholders through workshops, short courses, and invited speaking engagements.

Communicating to Stakeholders

Cooperative Research Unit scientists communicate scientific findings to a broad cross section of decision-makers and the public. The publication "Ungulate migrations of the Western United States, volume 4" (Kauffman and others, 2024) is an example of how CRU program scientists and cooperators work together to understand how large-scale migration patterns may affect wildlife management and land-use planning throughout the west.

Reference

Kauffman, M., Lowrey, B., Beaupre, C., Bergen, S., Bergh, S., Blecha, K., Bundick, S., Burkett, H., Cain, J.W., III, Carl, P., Casady, D., Class, C., Courtemanch, A., Cowardin, M., Diamond, J., Dugger, K., Duvuvuei, O., Ennis, J.R., Flenner, M., Fort, J., Fralick, G., Freeman, I., Gagnon, J., Garcelon, D., Garrison, K., Gelzer, E., Greenspan, E., Hinojoza-Rood, V., Hnilicka, P., Holland, A., Hudgens, B., Kroger, B., Lawson, A., McKee, C., McKee, J.L., Merkle, J.R., Mong, T.W., Nelson, H., Oates, B., Poulin, M.-P., Reddell, C., Ritson, R., Sawyer, H., Schroeder, C., Shapiro, J., Sprague, S., Steiner, E., Steingisser, A., Stephens, S., Stringham, B., Swazo-Hinds, P.R., Tatman, N., Wallace, C.F., Whittaker, D., Wise, B., Wittmer, H.U., and Wood, E., 2024, Ungulate migrations of the Western United States, volume 4: U.S. Geological Survey Scientific Investigations Report 2024–5006, 86 p., 1 pl., https://doi.org/10.3133/sir20245006.

Sarah Sells (Montana Unit) assisted Montana Fish, Wildlife and Parks as a subject matter expert during public hearings on revision of the State's wolf management plan

Brian Folt (Nevada Unit) helped agency staff at Nevada Department of Wildlife evaluate different predator management alternatives in Nevada

Grace DiRenzo (Massachusetts Unit) facilitated a decision-making workshop evaluating chronic wasting disease management in Massachusetts with the Massachusetts Division of Fisheries & Wildlife

Connect With Us

Cooperative Research Units Program scientists have extensive expertise and can relay scientific findings to a broad cross section of decision-makers and the public.

An expertise directory for Unit scientists can be accessed here: https://usgs-cru-department-data.s3.amazonaws.com/headquarters/unit_docs/CRU_Expertise-1.pdf.

Search the Cooperative Research Units Program project database at: https://www1.usgs.gov/coopunits/allProject/all.

A list of formal Cooperators can be found here: https://www1.usgs.gov/coopunits/allCooperator/all.

Headquarters Contacts

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