WYOMING MIGRATION INITIATIVE

Understanding & Conserving Ungulate Migration

WMI Update June 1, 2013

Partners Update

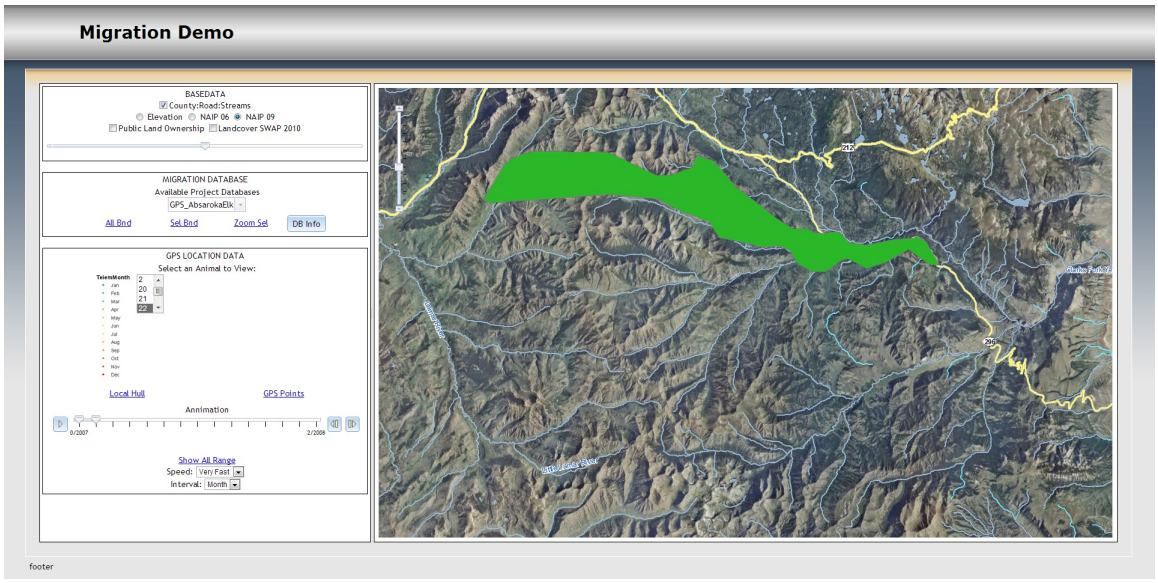
We want say thanks to all of you who supported our efforts and made our first year so successful. We have now established a broad base of partners, including state and federal agencies, national parks, nongovernmental organizations, private foundations, among others. We are collaborating with these organizations to secure migration data from across the state, to share expertise and knowledge on ungulate migrations, to secure funding, and to collaborate in the construction of the online database and viewer. We have also contracted with the Wyoming Geographic Information Science Center (WyGISC) at UW to construct the online database and viewer, and with the University of Oregon's InfoGraphics lab to do the cartographic work for the Atlas of Wildlife Migration.

The following list of organizations have provided funding and/or are partnering to share data or institutional expertise: Biodiversity Institute at UW, Bureau of Land Management, Grand Teton & Yellowstone National Parks, Knobloch Family Foundation, National Elk Refuge, Rocky Mountain Elk Foundation, The Nature Conservancy, US Forest Service, US Geological Survey, University of Wyoming, Western Ecosystems Inc., Wyoming Department of Transportation, Wyoming Foundation for Wild Sheep, Former Wyoming Game and Fish Commissioner Fred Lindzey, Wyoming Game and Fish Department, and the Wyoming Governor's Big Game License Coalition.

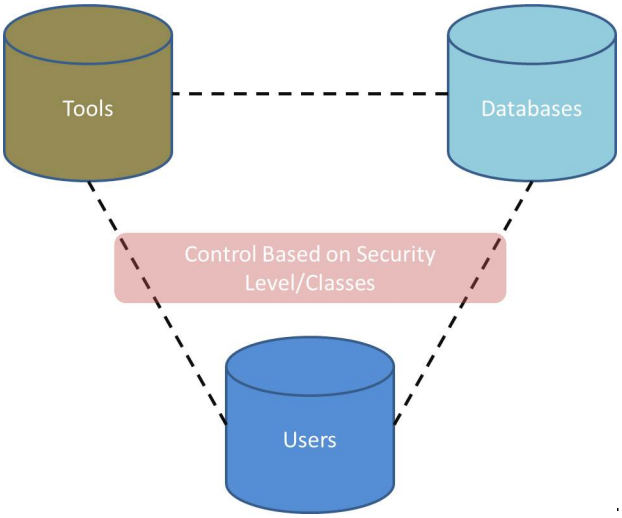
Project Updates

- **Database and Viewer**

WyGISC has been engaged in building the new database and viewer since the first of the year. It has been rewarding to see the idea take shape and to get a glimpse of what the online viewer will be able to do and how it will work. To date we have identified 43 datasets we hope to include in the database and of these, we have obtained 23 and have formatted and entered 16. Additionally, we now have a simple viewer that allows users to access the available datasets from their desktop and get a location where the studies have been conducted. You can also select a specific study and a subsample of animals to animate movements through a seasonal time frame.

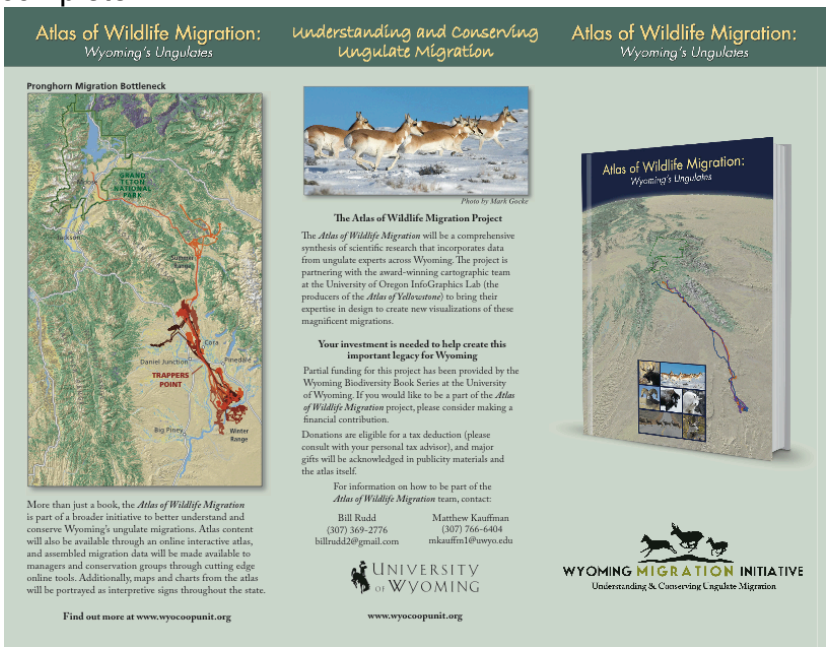


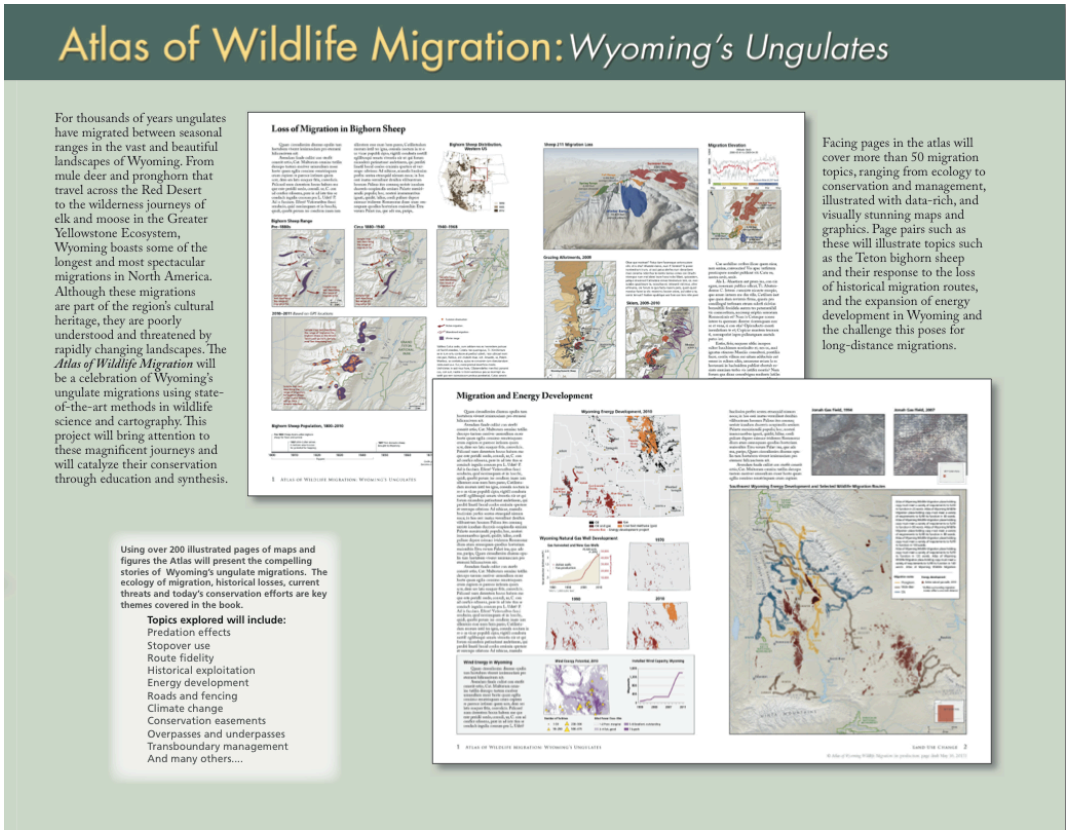
One of our tasks over the next few months is to visit with many of you about dataset permissions for the Database and Viewer. We will build the viewer with hierarchical permission levels so the data “owners” will have flexibility to either include or exclude tools, databases, or users (see below). We are seeking input as to what levels of user permission might be needed for the datasets you provide.



- **Atlas of Wildlife Migration: Wyoming's Ungulates**

Work continues on the Atlas of Wildlife Migration. With the addition of our new spatial analyst Matt Hays (see "Welcome" below) and weekly scheduled production meetings with the InfoGraphics lab at the University of Oregon we are making good progress on the Atlas. We will soon be reaching out to many of you to help provide ideas for additional page pairs and for content. I have included a copy of our Atlas of Wildlife Migration brochure below. This is an interesting project as we condense the science of wildlife migration into compelling figures, graphs, and maps. This will be a useful resource for a wide range of users once complete.





- **The Red Desert to Hoback (RD2H) Mule Deer Migration Threat Assessment**

An ongoing mule deer study in the Red Desert funded by the BLM and conducted by WEST, Inc., recently documented the longest mule deer migration ever recorded (and 2nd longest land migration in North America). Prior to the study, these deer were believed to reside in the desert year-around or migrate short distances to the south end of the Wind River Range. However, data collected from GPS collars shows many of these deer migrate 150 miles from winter ranges in the Red Desert to the summer ranges Hoback Basin (see map below). An estimated 500 mule deer start the migration in the Red Desert, but >4,000 mule deer use the route from the Wind River Range north.

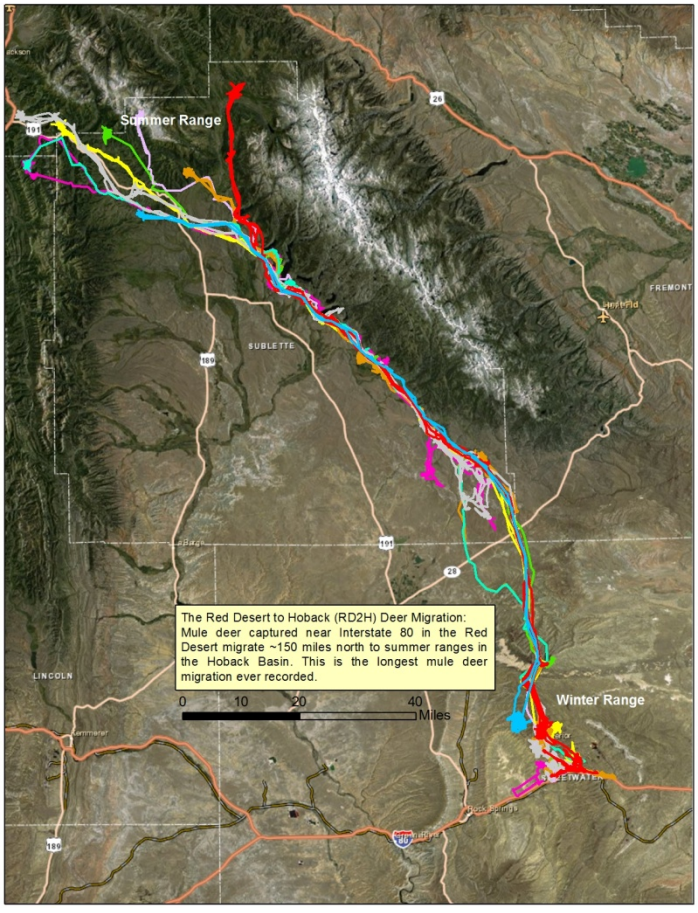
Documenting migration routes through GPS studies and other research can improve the ability of agencies and industry to manage ungulate populations. However, given the biological and political complexities involved with landscape-level conservation and managing animals that migrate long distances, there is a need to better connect the science with conservation, education, and policy. The WMI aims to do just that with the RD2H migration through a new "threat

assessment" process that will 1) use spatially-explicit information to prioritize conservation/management actions along the route and 2) provide unique outreach and educational products that allow the broader public to learn about the migration.

The conservation and management actions will be highlighted by identifying the specific locales of potential threats (e.g., fences, road crossings, bottlenecks, energy development), so that agencies, NGOs, and others have the information they need to improve management and conservation efforts. In addition, this information will prove useful for counties, municipalities, and industry to assist in their planning efforts. The outreach and education will consist of a photo exhibit and a short film compiled by National Geographic photographer Joe Riis. The photo exhibit and short film will visually convey the spectacular RD2H migration and the challenges mule deer must overcome to complete this 300-mile round-trip journey.

Hall Sawyer and Joe Riis recently spent 2 days flying the entire migration route in a helicopter to locate potential threats and begin the photo and film documentation. Photo and film work will resume in fall 2013, when deer begin their fall migration back to the Red Desert.

Map depicting a 150-mile mule deer migration route from the Red Desert to the Hoback (RD2H) Basin. Courtesy H. Sawyer, WEST, Inc.



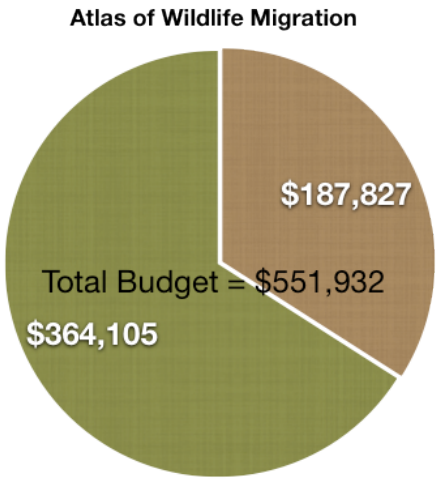
For more information on the Threat Assessment please contact Hall Sawyer (email hsawyer@west-inc.com, Phone 307-755-0401)

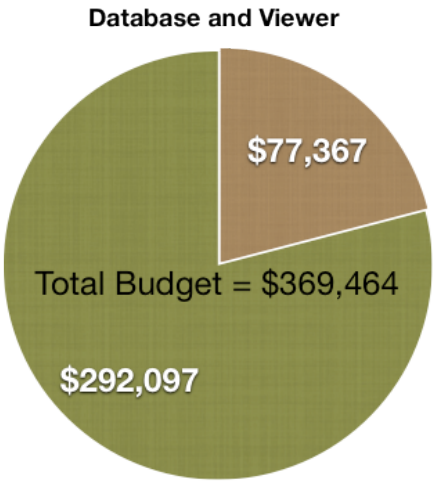
Welcome Matt Hays

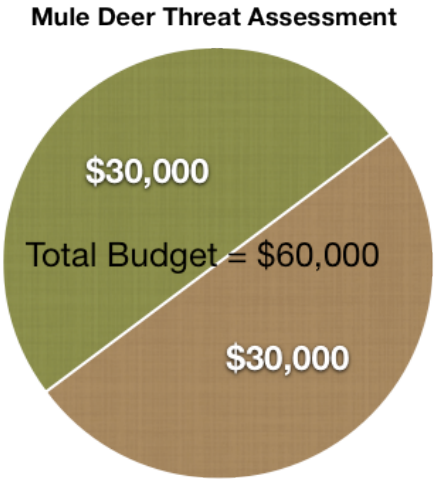
Matt Hays recently joined our WMI team as our Spatial Analyst focusing on many of the technical issues associated with data development for the Atlas and the Database and Viewer projects. Matt completed his undergraduate degree in Wildlife Biology and Management from the University of Wyoming in 2010. He completed a MS program at UW studying the impacts of beavers on riparian vegetation communities in southeast Wyoming in 2012. Matt specializes in spatial analyses of wildlife and landcover processes across the mountain west and is a welcomed addition to the Wyoming Cooperative Fish and Wildlife Research Unit.

Funding

We have had a great first year of fundraising and we are thrilled with the support we have seen. I have included a small pie chart below depicting the projected budget for each project as well as the amount we have raised (green) and the amount still needed (brown) for each project. Again thanks to all of you who have made this happen. We are well on track to reach our financial goals but will continue to fundraise on all projects over the next year. As we shift away from fundraising we will be able to focus even more on the projects we are building.







For more information on the Wyoming Migration Initiative contact Bill Rudd (email billrudd2@gmail.com, phone 307-369-2776)

Thank You