

Ellie I. Leydsman McGinty
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EDUCATION

- **M.S. Candidate, Bioregional Planning, Quinney College of Natural Resources, Utah State University** **January 2017**
 - Degree objectives emphasize analyses and planning of bioregions and watersheds with subsequent focus on the environmental and socioeconomic issues related to alternative future scenarios.
 - Coursework emphasis on geographic information systems (GIS) and remote sensing, landscape ecology and regional terrestrial ecology, and the National Environmental Policy Act (NEPA).
 - Thesis title: *Development of a High-resolution Land Cover Dataset using Object-based Image Analysis and High-resolution Aerial Imagery to Support Utah's Wetland Program Plan and Watershed Management and Planning*
- **B.S. Environmental Studies, College of Social and Behavior Science, University of Utah** **May 2003**
 - Emphasis on biology and ecology.

WORK EXPERIENCE

- **Researcher II** **August 2008 – Present**
Remote Sensing/GIS Laboratory, Utah State University, Logan, Utah
 - Developing a riparian vegetation classification for the riparian corridor of the Price River in Central Utah using Trimble eCognition, an object-based image analysis program, for the purpose of supporting Utah Division of Wildlife restoration plans.
 - Developing environmental planning educational modules for high school students in Cache County for an Environmental Protection Agency Environmental Education Grant.
 - Presently serving as UtahView State Coordinator (June 2016 – present) for AmericaView, a nationally coordinated network of academic, agency, non-profit, and industry partners who support the use of remote sensing data and technology.
 - Developed an approach for quantifying impervious surface area using Trimble eCognition, an object-based image analysis program, for three Utah watershed sub-basins for the purpose of supporting Utah's Wetland Program Plan and assessing wetland health as defined by the Environmental Protection Agency.
 - Analyzed 91 municipalities and four census designated places within the state of Utah to determine changes in area over three time periods for the Department of Environment and Community Sociology (Douglas Jackson-Smith, PhD and Andrea Armstrong, PhD).
 - Developed sampling schemes and field maps for aspen (*Populus tremuloides*) field work for the Department of Wildland Resources (Karen Mock, PhD and Zachariah Gompert, PhD).
 - Updated and edited State of Utah road centerline data for the purpose of assessing road disturbances in Utah's Sage Grouse Management Areas for the Utah Division of Wildlife Resources.
 - Produced cheatgrass (*Bromus tectorum*) potential, cheatgrass probability, and vegetation departure maps for Dugway Proving Ground and Argonne National Laboratory for environmental and fire management plans.
 - Analyzed urban tree canopy cover data and developed an urban tree canopy report template for use by Utah municipalities as requested by the Utah Division of Forestry, Fire and State Lands.
 - Compiled a Natural Resource Condition Assessment for Grand Teton National Park and John D. Rockefeller, Jr. Memorial Parkway using National Park Service data, national climate and air quality data, national and regional land cover data, and national and local water quality data.
 - Developed a cartographic representation of the Pony Express Route for the Utah Pony Express 150th Anniversary as requested by the National Pony Express Association.
 - Established an approach for delineating riparian vegetation at a fine scale using an object-based image analysis program, Feature Analyst for ArcGIS, for the Utah Division of Wildlife Resources and Utah Open Lands.
 - Compiled a statewide assessment of rangeland resources using GIS, extensive literature reviews, agricultural census data, interviews, and other sources for the State of Utah Governor's Public Lands Policy Coordination Office, producing the 2009 Edition of *Rangeland Resources of Utah*.
 - Assessed the feasibility of detecting built structures in a large forested rural environment in Sevier County, Utah, using an object-based image analysis program, Feature Analyst for ArcGIS, for the Utah Automated Geographic Reference Center.

- Evaluated various open source, free, and commercial object-based image analysis software programs by analyzing a geographic test area in the wildland-urban interface in Sevier County, Utah, for the Utah Automated Geographic Reference Center and the United States Geological Survey.

▪ **Laboratory Technician**

October 2005 – July 2008

Remote Sensing/GIS Laboratory, Utah State University, Logan, Utah

- Developed maps and conducted GIS analysis for Bureau of Land Management Resource Management Plans for the Moab, Vernal, Kanab, Richfield, and Monticello Resource Management Areas.
- Generated a poster, entitled *Forest Stewardship Potential: Private Lands in Utah That May Benefit from Forest Stewardship*, for use by forestry agencies within the State of Utah depicting the Forest Stewardship Program Spatial Analysis Project for Utah.
- Captured and organized photographs of buildings and structures on the Utah State University campus for the development of an online interactive campus map for the Facilities Planning, Design, and Construction Department at Utah State University.
- Developed the Neil E. West Digital Library by digitizing and organizing thousands of important pieces of range science literature and photographs of changing landscapes.

▪ **Graduate Student Research and Teaching Assistant**

January 2006 – July 2008

Bioregional Planning Program, Department of Environment and Society, Utah State University, Logan, Utah

- Worked on an interdisciplinary project funded by the Las Vegas Bureau of Land Management to address planning concerns and ecological issues in the North Las Vegas Wash as a result of the Southern Nevada Public Land Management Act of 1998, a law that allows the Bureau of Land Management to sell public land. Established a modular process for developing alternative future scenarios as a tool for the Bureau of Land Management. Assisted in soil and plant surveys for the production of detailed soil and vegetation maps of the North Las Vegas Wash.
- Assisted first-year Bioregional Planning graduate students on a studio project funded by the U.S. Fish and Wildlife Service to address the impacts of future growth, extractive industries, recreation and tourism, ranching, agriculture, and other land uses on the sustainability and biodiversity of the Upper Colorado River Basin.
- Advised and assisted Bioregional Planning graduate students in acquiring, analyzing, and interpreting thesis project data and information.
- Led the development of the Cache Valley 2030 Bioregional Planning studio project, a study analyzing the effects of population growth and various alternative future scenarios in Cache Valley, Utah and Idaho, on natural resources, agriculture, socioeconomics, and quality of life.

▪ **Transportation Planning Intern**

May 2006 – October 2006

Cache Metropolitan Planning Organization, Logan, Utah

- Completed the survey work for a freight transportation plan for Cache County, Utah.
- Analyzed traffic accident data to identify intersections and roadways in need of improvement.
- Aided the Cache County trails planner in analyzing public comments regarding potential bike lanes and trails.

▪ **GIS Technician**

October 2004 – April 2009

Terra Solutions, Inc., Logan, Utah

- Developed a series of socioeconomic, natural hazard, and topographic maps for AWS Engineering to aid the company in determining the location of a new business office in the southeastern United States.
- Digitized county ownership parcels and generated a geodatabase for the maintenance of county parcel data for Franklin County, Idaho.
- Generated GIS road data for a project in cooperation with The Nature Conservancy.
- Researched and acquired GIS data from numerous sources to support a project in cooperation with the USDA Agricultural Research Service.

▪ **Health Information Management Technician**

August 1999 – August 2005

Shriners Hospital for Children – Intermountain Hospital, Salt Lake City, Utah

- Conducted audits for administration and medical staff. Processed requests for confidential health information. Transcribed hospital dictation. Updated deficient hospital documentation. Prepared charts for inpatient admissions and outpatient clinics. Trained employees and volunteers. Coordinated projects for the department.

CERTIFICATES

- National Environmental Policy Act (NEPA) Certificate, Shipley Group in cooperation with Utah State University
- Using Census Data in GIS Mapping, Calm River Demographics Workshop
- Environmental Systems Research Institute (Esri) ArcGIS Certificate
- Citizen Planner Certificate, Center for Public Policy and Administration, University of Utah

ACKNOWLEDGEMENTS

- First Place Professional Poster Competition for *Fine-Scale Mapping of Riparian Vegetation in Utah Using Feature Analyst 4.2: Proof of Concept Project*, Utah Geographic Information Council (UGIC)/Southwest Users Group (SWUG) 2010 Conference, 23 April 2010, Moab, Utah
- Award of Merit – Plan Development for *Cache Valley 2030 – The Future Explored*, Utah Chapter of the American Planning Association 2006 Conference, 29 September 2006, Provo, Utah
- First Place Student Poster Competition for *An Inventory of Historic Sites in Cache County, Utah Using Geographic Information Systems*, 10 June 2006, Moab, Utah

REPORTS AND PUBLICATIONS

- **Leydsman McGinty, E.I.**, R.D. Ramsey, and C.M. McGinty. 2016. *Quantification of Impervious Surface Area Along the Wasatch Front, Utah: An Indicator for Wetland Stress*. United States Environmental Protection Agency Region 8 Wetland Program Development Grant CD-968142-01 Final Project Report. Remote Sensing/GIS Laboratory, Utah State University, Logan, Utah.
- Ramsey, R.D., C.M. McGinty, **E.I. Leydsman McGinty**, L.A. Langs Stoner, B.A. Crabb, W.A. Adair, A. Hernandez, J.C. Schmidt, M. Majerova, B. Hudson, A.K. Montrone, J.H. Lowry, and M.E. Baker. 2012. *Grand Teton National Park and John D. Rockefeller, Jr. Memorial Parkway Natural Resource Condition Assessment*. Natural Resource Report NPS/GRYN/NRR-2012/550, U.S. Department of the Interior, National Park Service, Natural Resource Stewardship and Science, Fort Collins, Colorado.
- **Leydsman McGinty, E.I.**, and J.H. Lowry. 2010. *Fine-Scale Mapping of Riparian Vegetation in Utah Using Feature Analyst 4.2 for ArcGIS: Proof-of-Concept Project*. Remote Sensing/GIS Laboratory, Utah State University, Logan, Utah.
- **Leydsman, E.I.**, and J.H. Lowry. 2009. *Feature Extraction of Built Structures – Phase II – An Assessment into the Feasibility of Detecting Built Structures in Non-Urban Environments for Large Landscapes Using Feature Analyst by Visual Learning Systems: A Case Study in Sevier County, Utah*. Remote-Sensing/GIS Laboratory, Utah State University, Logan, Utah.
- MacMahon, J.A., R.E. Toth, J.L. Boettinger, G. Busch, T.C. Edwards, Jr., R.S. Krannich, A. Croft, B. Jennings, and **E. Leydsman**. 2009. *Upper Las Vegas Wash Conservation Transfer Area: A System to Develop Alternative Scenarios*. Final Project Report No. 2009-2, United States Geological Survey, Utah Cooperative Fish and Wildlife Research Unit, Utah State University, Logan, Utah.
- **Leydsman McGinty, E.I.** [Ed.]. 2009. *Rangeland Resources of Utah*. Utah State University Cooperative Extension, Utah State University, Logan, Utah.
- **Leydsman McGinty, E.I.**, B. Baldwin, and R. Banner. 2009. *A Review of Livestock Grazing and Range Management in Utah*. Utah State University Cooperative Extension, Utah State University, Logan, Utah.
- **Leydsman McGinty, E.I.**, B. Baldwin, and R. Banner. 2009. *Case Studies: Ranches in Utah Exemplifying Sustainable Livestock Production and Range Management*. Utah State University Cooperative Extension, Utah State University, Logan, Utah.
- **Leydsman, E.I.**, J.H. Lowry, C.M. McGinty, and R.D. Ramsey. 2008. *Feature Extraction of Built Structures – Investigation into the Utility and Feasibility of Object-Based Image Segmentation Tools for Identifying Built Structures Using High Resolution Digital Imagery: A Case Study in Sevier County, Utah*. Remote Sensing/GIS Laboratory, Utah State University, Logan, Utah.
- Toth, R.E., T.E. Edwards, B. Crabb, J. Gibson, L. Hurst, N. Kenczka, L. VanderWal, A. Kjar, and **E.L. McGinty**. 2008. *Upper Colorado River Ecosystem: Alternative Futures Study, Phase One Report*. Final Project Report No. 2008-1, Utah State University, Logan, Utah.
- Boettinger, J.L., G. Busch, A. Croft, T.C. Edwards, Jr., B. Jennings, R.S. Krannich, **E. Leydsman**, J.A. MacMahon, and R.E. Toth. 2007. *Upper Las Vegas Wash Conservation Transfer Area: A System to Develop Alternative Scenarios – Interim Report*. Utah State University, Logan, Utah.
- Toth, R.E., K. Braddy, J.D. Guth, **E.I. Leydsman**, J.T. Price, L.M. Slade, and B.S. Taro. 2006. *Cache Valley 2030 – The Future Explored*. Final Project Report No. 2006-1, College Of Natural Resources, Utah State University, Logan, Utah.

POSTER PRESENTATIONS

- **Leydsman McGinty, E.I.**, R.D. Ramsey, and C.M. McGinty. *The Use of Geospatial Technologies and Unmanned Aerial Systems to Support Natural Resource Education, Outreach, and Research in Utah*. 2016 AmericaView Fall Technical Meeting, 16-20 October 2016, Lafayette, Louisiana.
- **Leydsman McGinty, E.I.**, R.D. Ramsey, C.M. McGinty, and N.O. Mesner. *Impervious Surface Mapping for the Wasatch Front: An Object-based Image Analysis Approach to Identifying an Indicator for Wetland Stress*. 2014 Utah Geographic Information Council (UGIC) Maps on the Hill, 29 January 2014, Salt Lake City, Utah.
- **Leydsman McGinty, E.I.**, R.D. Ramsey, C.M. McGinty, and N.O. Mesner. *Quantification of Impervious Surfaces along the Wasatch Front, Utah: An Object-based Image Analysis Approach to Identifying an Indicator for Wetland Stress*. 2013 American Geophysical Union (AGU) Fall Meeting, 9-13 December 2013, San Francisco, California.
- McGinty, C.M., B. Crabb, and **E.I. Leydsman McGinty**. *Probability of Cheatgrass Occurrence in the West Desert Region of the Great Basin*. 2013 Utah Geographic Information Council (UGIC) Maps on the Hill, 28 January 2013, Salt Lake City, Utah.
- **Leydsman McGinty, E.I.** *Fine-Scale Mapping of Riparian Vegetation in Utah Using Feature Analyst 4.2: Proof of Concept Project*. 2010 Utah Geographic Information Council (UGIC)/Southwest Users Group (SWUG) Conference, 19-23 April 2010, Moab, Utah.
- **Leydsman McGinty, E.I.** *Pony Express 150th Anniversary*. 2010 Utah Geographic Information Council (UGIC)/Southwest Users Group (SWUG) Conference, 19-23 April 2010, Moab, Utah.
- **Leydsman McGinty, E.**, J.A. MacMahon, R.E. Toth, J.L. Boettinger, R.S. Krannich, T.C. Edwards, Jr., G. Busch, A. Croft, D. Eaton, and B. Jennings. *Analysis of the Upper Las Vegas Wash Conservation Transfer Area: Data in Support of Alternative Futures-Based Decision Making*. 2007 Desert Southwest/Great Basin/Rocky Mountains Joint Cooperative Ecosystems Studies Unit (CESU) Conference, 17-18 October 2007, Salt Lake City, Utah.
- **Leydsman, E.I.** *Alternative Futures for Cache Valley 2030*. 2006 Environmental Systems Research Institute (Esri) International User Conference, 7-11 August 2006, San Diego, California.
- **Leydsman, E.I.** *An Inventory of Historic Sites in Cache County, Utah Using Geographic Information Systems*. 2006 Environmental Systems Research Institute (Esri) International User Conference, 7-11 August 2006, San Diego, California.
- **Leydsman, E.I.** *An Inventory of Historic Sites in Cache County, Utah Using Geographic Information Systems*. 2006 Utah Geographic Information Council (UGIC) Conference, 7-10 June 2006, Moab, Utah.

ORAL PRESENTATIONS

- McGinty, C.M., and **E.I. Leydsman McGinty**. *Object-based Image Analysis: Mapping Riparian Vegetation and Impervious Surfaces*. Oral presentation at the 2014 Utah Geographic Information Council (UGIC) Annual Conference, 14-16 May 2014, Richfield, Utah.
- **Leydsman McGinty, E.I.**, and J.H. Lowry. *The Cultural Landscape of Cache Valley*. Field trip presentation for Association of American Geographers – Great Plains/Rocky Mountains 2009 Division Conference, 25-26 September 2009, Logan, Utah.
- Malik, E., G. Anderson, T. Beutler, J. Gilbert, and **E. Leydsman McGinty**. *The Role of Energy in Community Planning*. Panel presentation at the 2008 Utah Bioneers Conference, 17-19 October 2008, Logan, Utah.
- Toth, R.E., and **E.I. Leydsman**. *Alternative Futures for Cache Valley 2030*. Oral presentation at the Providence City Council and Planning Commission Joint Workshop, 15 January 2008, Providence, Utah.
- **Leydsman, E.I.**, and J.T. Price. *Alternative Futures for Cache Valley 2030 – Water in Cache Valley*. Oral presentation at the Franklin Soil and Water Conservation and the Preston Whitney Irrigation Company – Water Seminar, 7 March 2007, Preston, Idaho.
- **Leydsman, E.I.**, and R.E. Toth. *Cache Valley 2030 – The Future Explored*. Oral presentation at the Cache Valley Regional Council Meeting, 13 November 2006, Logan, Utah.
- **Leydsman, E.I.** *Alternative Futures for Cache Valley 2030*. Oral presentation at the 2006 Utah Bioneers Conference, 20-22 October 2006, Logan, Utah.
- Toth, R.E., K. Braddy, J.D. Guth, **E.I. Leydsman**, J.T. Price, L.M. Slade, and B.S. Taro. *Alternative Futures for Cache Valley 2030*. Oral presentation at the Franklin County, Idaho, Planning and Zoning Commission Meeting, 10 October 2006, Preston, Idaho.
- **Leydsman, E.I.**, and R.E. Toth. *Critical Lands and the Role in Landscape Planning*. Oral presentation at the Cache County Critical Lands Task Force Meeting, 5 September 2006, Logan, Utah.

- Toth, R.E., K. Braddy, J.D. Guth, **E.I. Leydsman**, J.T. Price, L.M. Slade, and B.S. Taro. *Alternative Futures for Cache Valley 2030*. Oral presentation at the Cache Vision 2020+: Growth, Land Use, Public Lands, and Open Space Subcommittee Meeting, 20 June 2006, Logan, Utah.