**Colin Patrick Kirkmire**

615 S 5th St East

Missoula, MT, 59801

colin.kirkmire@umontana.edu

(406) 546-7316

**Education**

**M.S. Forest Biometrics Cumulative GPA 3.7 Expected Graduation May 2017**

University of Montana, Missoula, MT

* 19 semester hours completed to date
* 12 semester credits of graduate level statistics and sampling courses in first year
* Researching the growth rates of ponderosa pine saplings following variable retention harvest

**B.S. Sustainable Forest Management GPA 3.4 June 2015**

University of Washington, Seattle, WA

* Completed biology, ecology, statistical analysis, GIS, forest economics, mensuration,

silviculture courses, remote sensing and applied forest management courses

* Senior research project for the Stand Management Cooperative analyzing the growth rates of Douglas-fir following ungulate herbivory

**Experience**

***University of Montana College of Forestry and Conservation August 2016-Present***

Forestry Field Skills Teaching Assistant

* Assisting in the instruction of underclassmen forestry students in dendrology, orienteering, map-reading, tree measurements, basic forest inventory, fire and fuels management
* Responsible for checking out equipment and teaching a portion of each week’s topic
* Providing mentoring regarding attaining forestry internships and field work

***Supervisor: Dr. John Goodburn -may contact***  [***john.goodburn@umontana.edu***](mailto:%20john.goodburn@umontana.edu) ***406-243-4295***

***Swift Creek Study Site- Sula Ranger District, Sula, MT June 2016-August 2016***

Field technician for biochar study

* Assisted in semi-weekly monitoring and inspecting data collection including height measurements, health assessments and inter-seasonal changes in diameter for a mature even-aged stand of ponderosa pine that received biochar treatments

***Supervisor: Haley Anderson -may contact*** [***haley1.anderson@umontana.edu***](mailto:haley1.anderson@umontana.edu) ***425-802-2638***

***Regional Biomass Sampling- Moscow , ID April 2016-August 2016***

Field technician for destructive biomass sampling

* Recorded data for and pursued efficient means of simultaneously sampling felled trees in terms of both randomized branch sampling and stem taper sampling
* Assisted in safely felling mature trees and maintaining a safe working environment
* Prepared and measured samples in laboratory

***Supervisor: Dr. David Affleck -may contact david.affleck@umontana.edu 406-243-4186***

***Inland Northwest Growth and Yield Cooperative - Missoula, MT June 2015-Present***

Graduate Research Assistant

* Lead a field crew in completing final measurements for a 15-year study of small tree growth
* Analyzed and maintained a database of over 40,000 tree records across 27 installations
* Currently investigating how results can be utilized in improving the predicted growth of small trees under various levels of retained overstory and site conditions
* Presented preliminary findings at SAF National Convention and Western Mensurationists
* Assisting in sampling for nation-wide regional biomass collaboration

***Supervisor: Dr. David Affleck- may contact*** [***david.affleck@umontana.edu***](mailto:david.affleck@umontana.edu) ***406-243-4186***

***Intern at Professional Forestry Services- Tumwater, WA June 2014-September 2014***

* Improved practical forestry skills and expanded my industry knowledge working for a private company that manages over seventeen thousand acres for a variety of ownerships
* Became familiar with Washington’s Forest Practices, SFI Standards and other regulations
* Used laser rangefinders, relaskop, cruise inventory programs and GPS

***Supervisor: Mike Jackson CF, ACF -may contact mjackson@proforestry.com 360-280-9398***

***Inventory Data Manager- Black Diamond, WA March 2014-June 2014***

* Managed database for 640 acres of recently acquired public land southwest of Seattle
* Used Access to compile data and FVS to project future conditions
* Projections used to guide individual stand level prescriptions that were presented to King County

***Supervisor: Dr. Derek Churchill -may contact derekch@uw.edu 206-391-9832***

**Professional Presentations**

**Colin Kirkmire**, University of Montana (Forest Biometrics). Growth Response of Small Trees under Varying Levels

of Overstory Retention, Vegetative Competition and Site Quality (Presentation)**. Western Mensurationists Meeting, Skamania, WA,** June 2016.

**Colin Kirkmire**. Sapling height growth following partial overstory removal: INGY's Small Tree Competing

Vegetation study (Presentation)**. Inland Northwest Growth and Yield Cooperative Technical Meeting, Coeur d’Alene, ID**, April 2016.

**Colin Kirkmire**, John Goodburn, Effects of Overstory Retention and Understory Vegetation on Small Tree Growth

Rates in the Inland Northwest (Poster). **Society of American Foresters National Convention, Baton**

**Rouge, LA,** November 2015.

**Academic References**

**Dr. John Goodburn**

**Associate Professor of Silviculture; Undergraduate Program Director, Forestry**

University of Montana -Missoula Montana

john.goodburn@umontana.edu

406-243-4295

**Dr. David Affleck, Associate Professor of Biometrics; Director, INGY**

University of Montana -Missoula, Montana

david.affleck@umontana.edu

406-243-4186

**Dr. Dave Patterson, Professor Department of Mathematical Sciences,**

University of Montana -Missoula, Montana

david.patterson@umontana.edu

406-243-6748

**Dr. Erik Turnblom, Associate Professor, Associate Professor of Environmental and Forest Sciences**

University of Washington -Seattle, Washington

ect@uw.edu

206-543-2762

**Knowledge Skills & Abilities**

**Software/Technology/Data**

* Microsoft Office Suite
* R statistical environment
* Forest Vegetation Simulator through both the Suppose GUI and rFVS
* Completed weeklong Forest Service Region 1 FVS training
* LateX, R Markdown, Sweave document preparation
* SQL, Python, FORTRAN programming languages
* Lattice and ggplot2 data visualization
* Version control via online source code repositories (GitHub)
* Mendeley and BibTeX citation management
* ArcMAP, ArcGIS, ArcPad

**Instruction Led**

* Trained undergraduate students in FVS through Suppose, graduate students in rFVS
* Teaching Assistant in Introduction to Forestry Field Skills

**Skills**

* Excellent written communication, oratory and verbal skills (96th percentile verbal GRE)
* Pacific Northwest/Rocky Mountain Plant ID
* GPS/Map/compass backcountry navigation
* First-aid certified
* All weather and all terrain hiking/backpacking
* Clinometer, laser range finder, Relaskop, prism, increment borer

**Data Collection/Sampling Knowledge**

* Fixed/variable radius plot sampling
* Vegetation transect measurements
* Stratified, systematic, 3P sampling
* Unbiased estimation methods
* Sampling design
* Randomized branch sampling
* Edge methods (walkthrough/mirror)

**Leadership Positions**

* Vice-Chair University of Montana Student SAF Chapter May 2016-Present
* SAF Region 1 Student Representative May 2014-May 2015
* Phi Kappa Psi Fraternity Recruitment Chair January 2013- December 2014

**Awards and Honors**

* 5 times University of Washington Dean’s List January 2014-June 2015
* Recipient of J. Kenneth Pearce Forest Engineering Scholarship 2014
* Recipient of Paul R. Wineman Academic Scholarship 2012
* Eagle Scout 2011

**Relevant Coursework**

***Statistical Methods and Reporting***

Ecological Statistics- Statistical modeling techniques. Data management, visualization, and scripting with R. Explores various parametric and semi-parametric modeling strategies that allow for non-linear response functions and/or non-Gaussian response distributions. Estimation and inference in the context of generalized linear models, generalized additive models, and classification and regression trees.

Sampling Design- Statistical sampling emphasizing natural and environmental resource applications. Principles of inferences and alternative estimators are studied in the context of simple random, systematic, unequal probability, stratified, and 3P/Poisson designs. Variable radius plot sampling, line intersect sampling, and other probability proportional to size designs used in forest and ecological inventories are also covered.

Graduate Statistics and Lab- Graphical and numerical summaries of data, elementary sampling, designing

experiments, probability as a model for random phenomena and as a tool for making statistical inferences, random

variables, basic ideas of inference and hypothesis testing. Multiple regression, experimental design, analysis of variance, other statistical models.

***Forest Management and Silviculture***

Natural Resource Measurements- Principles of measurement, basic field measurement skills, measurement of vegetation, including stand examination, timber cruising, size, weight, volume and biomass of trees, and stream flow. Sampling techniques for trees and lesser vegetation and linear regression modeling to predict quantities from basic measurements.

Forest Management Economics- Optimization techniques, including linear and nonlinear programming, concepts in interest and time evaluation of alternatives, marginal cost analysis, and computer spreadsheet assisted analysis

Forest Operations- Forest land surveying, low volume road access planning, and timber harvesting concepts. Low volume road design principles and practical application of field road location. Overview of road drainage design, construction techniques and maintenance. Reviews basic harvest systems and setting design processes, including cost, production control, environmental and safety considerations.

Advanced Silviculture- Stand development in plantation forest systems and its relationship to forest yield, the advantages and limitations of plantation silviculture relating to specific biotic, abiotic, and economic conditions, and management for objectives other than time yield.

Remote Sensing- Hyperspatial remote sensing fundamentals, interpretation and manipulation of aerial photography, satellite imagery, and Light Detection and Ranging (LiDAR). Uses traditional and 'state of the art' image processing techniques. Evaluate available hyperspatial remote sensing data sources and design simple projects related to environmental applications.

Wildland Hydrology- Introduction to the hydrologic cycle and basic hydrologic methods as applied to wildlands. Effects of forest management activities on hydrologic processes