Braxton Newkirk

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Education

University of Wyoming, Laramie, WY

Degree and Field: Bachelor of Science, Wildlife and Fisheries Biology and Management
Emphasis: Aquatic Sciences

Reports

Newkirk, B.M., E.R. Larson, A.D. Walker, A.W. Walters. 2021. *A survey of current distributions for Wyoming crayfishes*, Wyoming Game and Fish Department.

Publications

Newkirk, B.M., E.R. Larson, A.D. Walker, A.W. Walters. *In review*. Winners and losers over a half century of change in crayfish communities of Wyoming, U.S.A. Submitted to *Freshwater Science*.

Work Experience

Assistant Research Scientist, Wyoming Cooperative Fish and Wildlife Research Unit, University of Wyoming **June 2020 – Current**

- *Wyoming Crayfish Project*
  - Led statewide sampling efforts for Wyoming's crayfish species, including site selection and notifying local fisheries supervisors, while working in remote areas in sometimes adverse conditions
  - Ensured permit requirements from multiple agencies were fulfilled
  - Identified crayfish while in the field and lab to species level while working with and supervising a technician
  - Analyzed historical and contemporary data for temporal-distribution shifts of Wyoming's crayfish using a combination of program "R", ArcMap, and QGIS
  - Performed single-species and multi-species occupancy modeling in program "R" to relate environmental variables to the occupancy and detection probabilities of two of Wyoming's crayfish species
  - Presented the results of the crayfish study in oral presentations to agency partners and during the annual statewide AFS meeting along with an agency technical report and peer-reviewed manuscript
  - Communicated with agency contacts and supervisors to ensure projects progressed effectively and efficiently
  - Ensured data was entered correctly into Microsoft Excel while also ensuring databases were well organized
- *Fish Refugia Project*
  - Assisted with population surveys for trout and non-game fish using seines and backpack electrofisher units
  - Helped build statewide fish occurrence database for Wyoming
  - Developed methodology and assistive documents for sampling native amphibians of Wyoming
- *Wyoming Landscape Conservation Initiative (WLCI) Work*
  - Modified, deployed, retrieved, and downloaded data from modified Temp/Light HOBO Logger Pendants

- Assisted in the development of a method to delineate possible drought refuge sites using aerial imagery

Lab Technician, Wyoming Cooperative Fish and Wildlife Research Unit, University of Wyoming **June 2020**

- Processed variety of water samples for total suspended sediment and sand-fine split measurements
- Used multiple pieces of equipment such as muffle furnace, vacuum filter apparatus, drying ovens, and fine-measurement scales
- Input data into datasheets

Field Technician, Wyoming Cooperative Fish and Wildlife Research Unit, University of Wyoming **June 2019 – July 2019**

- Assisted with depletion studies and long-term monitoring for native non-game and game fish using a backpack electrofishing unit
- Conducted habitat surveys of streams including stream discharge measurements, instream habitat, and riparian cover
- Maintained HOBO logger units and conducted stream flow velocity measurements
- Successfully captured and marked fish using VIE tagging methods for subsequent recapture study component

Cook, Residence Life and Dining Services, University of Wyoming **Oct 2018 – May 2020**

- Effectively communicated with co-workers, supervisors, and customers in order to provide excellent service
- Assisted in ordering supplies to facilitate daily operation needs
- Independently maintained clean and organized storage area

Presentations and Posters

Newkirk, B.M., E.R. Larson, A.D. Walker, and A.W. Walters. 2021. A survey of current distribution for Wyoming crayfishes. *American Fisheries Society, CO/WY Chapter Meeting*. February 23. Virtual Meeting.

Newkirk. B.M. and W.W. Fetzer. 2020. Linking density, diet, and habitat use to trophic polymorphism in age-0 yellow perch. *American Fisheries Society, CO/WY Chapter Meeting*. February 26. Laramie, WY. Hilton Garden Inn.

Attended the 2019 American Fisheries Society, CO/WY Chapter Meeting.

Skills

- Proficient in ArcGIS/QGIS
- Proficient in Microsoft Office Suite
- Proficient at using program "R" in RStudio using a variety of packages
- Experience with occupancy models
- Skilled in use of GPS
- Experience sampling a variety of freshwater vertebrates and invertebrates including prairie fishes
- Backpack electrofishing, seining, and gill net experience
- Experience with boating and trailering

Certifications

- CPR/ Wilderness First Aid
- PADI Open Water Recreational Diver
- FAA Part 107 UAG Pilot

Research-Volunteer Experience

Sediment and Fisheries: An Assessment to Inform Sediment Management Practices at Wyoming Dams **Jan. 2020 – March 2020**

- Processed a variety of water samples using a vacuum filter apparatus
- Assisted with data entry into datasheets
- Assisted with field work that included Wolman pebble counts, freeze core samples, and collection of water samples

Undergraduate Researcher **Aug. 2019 – May 2020**

- Analyzed stable isotope signatures of age-0 Yellow Perch muscle
- Worked on morphological analysis using program R
- Worked independently and reported back to Dr. William Fetzer

Food Web Analysis Flaming Gorge Reservoir, Wyoming **Aug. 2019 – May 2020**

- Worked with graduate student and agency employees to process fish to extract otoliths, stomach, and multiple tissue samples for stable isotope analysis
- Examined stomachs for diet analysis

University of Wyoming subunit of the American Fisheries Society, Treasurer **May 2019 – May 2020**

- Assisted with planning monthly meetings and major club events
- Managed club expenses and income
- Helped coordinate donations from local businesses