

## CEMML Program at Fort Wainwright, Alaska 2015 - 2020

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### *Contributing staff*

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*Research Associates:* Calvin Bagley MS, Julie Esdale PhD, Kim Jochum PhD, Garrett Savory MS, Justin Smith MS

*Graduate Students:* Jeremy Dertien, Ellen Martin

*Seasonal Employees:* Vic Anderson, Cody Deane MS, Gerrid Greenwood, David Hejna, Libby Lutz, Jacob Pelham, Geneva Preston, Jessica Reimer MS, Emily Richmond, Timothy Sharp, Kyle Testerman MS, Connor White, Laura Williams

*Former Research Associates:* Aleya Brinkman MS, Daniel Jenkins, Patricia McCall, Elizabeth Neipert, Shawn Osborne

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### *Publications*

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- Dertien J.S.** (2016). Habitat use by Dall sheep and an interior Alaska mammal community. (Masters thesis). Colorado State University, Fort Collins, Colorado, USA.
- Dertien J.S.**, Doherty, P.F. Jr., **Bagley C.F.**, Haddix J., **Brinkman A.**, **Neipert E.S.** (2017). Evaluating Dall's sheep habitat use via camera traps. *The Journal of Wildlife Management* 81 (8): 1457-1467.
- Dertien J.S.**, **Bagley C.F.**, Haddix J.A., **Brinkman A.R.**, **Neipert E.S.**, **Jochum K.A.** and Doherty P.F.Jr. (2019). Spatiotemporal habitat use by a multi-trophic Alaska alpine mammal community. *Canadian Journal of Zoology*. 97 (8):713-723.
- Martin E.C.** (2019). Shorebird Habitat Use and Abundance Estimates on Military Lands in Interior Alaska. (Masters thesis). Colorado State University, Fort Collins, Colorado, USA.
- Martin E.C.**, **Jochum K.A.**, **Bagley C.F.** and Doherty P.F.Jr. (2020). Shorebird Abundance Estimates in Interior Alaska. *Journal of Wildlife Management*. Early View.  
<https://wildlife.onlinelibrary.wiley.com/doi/10.1002/jwmg.21913>
- Khalsa N.S., **Smith J.A.**, **Jochum K.A.**, **Savory G.**, and López J.A. (2020). Identifying juvenile Chinook salmon under-ice overwintering locations using environmental DNA. *North American Journal of Fisheries Management*. 40 (3): 762-772. <https://doi.org/10.1002/nafm.10444>
- Kielhofer J, Miller C, Reuther J, Homes C, Potter B, Lanoe F, **Esdale J**, Crass, B. The micromorphology of loess-paleosol sequences in central Alaska: A new perspective on soil formation and landscape evolution since the Late Glacial period (c. 16,000 cal yr BP to present). *Geoarchaeology*. 2020;1–28.
- Doering B, **Esdale J**, Reuther J, Catenacci, S. A Multiscalar Consideration of the Athabaskan Migration. *American Antiquity* 85, no. 3 (2020): 470–91. doi:10.1017/aaq.2020.34.

Submitted Summer 2020:

**Deane C.E., Flynn B.,** Bruning D.L. Breed G. and **Jochum, K.A.** Assessing approaches to partitioning space with N-mixture models; a case study with social ungulates. *Ecological Applications*.

**Jochum K.A., Savory G.A., Reimer J., Pelham J., Hejna D., Greenwood G.,** Thomas J., Chavka K. and Aguirre A. Natural and anthropogenic roost-use by *Myotis lucifugus* in interior Alaska. *Canadian Journal of Zoology*.

Submission planned for Fall 2020:

**Savory, G.A., Richmond, E.M., and Jochum, K.A.** (2020). Mew Gull (*Larus canus*) nesting behavior in an Alaskan urban landscape. *Waterbirds*.

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*Reports*

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**McCall P. and Martin E.** (2015). Migratory bird habitat mapping and enhancement study: Fort Wainwright, Alaska. U.S. Army Garrison Alaska, Fort Wainwright. Natural Resources Report. Final Report SOW 13-49. June 2015.

**Dertien J.S., Bagley C.F.,** Haddix J.A., **Brinkman A.R., Neipert E.S., Jochum K.A.** and Doherty P.F. Jr. (2016). Habitat use by Dall sheep and an interior Alaska mammal community. U.S. Army Garrison Alaska, Fort Wainwright. Natural Resources Report. Final Report SOW 12-45. June 2016.

**Jochum K.A.** (2016). Eagle survey for realistic ordnance delivery range (RLOD). U.S. Army Garrison Alaska, Fort Wainwright. Natural Resources Report. Final Report SOW 13-48. December, 2016.

**Jochum K.A.** (2016). Surveying Dall sheep (*Ovis dalli dalli*) in Black Rapids Training Area and Whistler Creek Training Area, Alaska: assessing survey techniques. U.S. Army Garrison Alaska, Fort Wainwright. Natural Resources Report. Final Report SOW 12-45. March 2016.

**Savory G.A.** (2016). Report on little brown bat study. U.S. Army Garrison Alaska, Fort Wainwright. Natural Resources Report. Final Report SOW 13-46. September 2016.

**Smith J.A.** (2016). Fauna planning level survey for avian species and distribution: Fort Wainwright, Alaska. U.S. Army Garrison Alaska, Fort Wainwright. Natural Resources Report. Final Report SOW 14-30. December 2016.

**Williams L., White C., Jochum K.A.** (2016). Small game monitoring at Donnelly Training Area, Alaska. U.S. Army Garrison Alaska, Fort Wainwright, Natural Resources Report. September 2016.

**Battle D., Burns C., Carrothers C., Christensen B., Crupi, A., Farley A., Hannan F., Hechtel J., Ilse J., Jochum K.A.,** Johnson M., Leacock B., Lewis L., Lewis T., MacDougall D., Manning E., Miller S., Neary J., Owen P., Painter K., Reed J., Reeder M.K., Romanoff K., Scott R., Sell S., Seppi B., Serio J., Shideler D., Svoboda N., Taras M., Wedeking M., Woelflein L. and Woodford R. (2017). A framework for bear safety messages in Alaska. Alaska Interagency Bear Safety Education Working Group. Revised 2017.

**Martin E. and Jochum K.A.** (2017). Fauna planning level surveys of shorebirds in Tanana Flats Training Area, Fort Wainwright, Alaska. U.S. Army Garrison Alaska, Fort Wainwright. Natural Resources Report. Final Report SOW 14-25. September 2017.

**Savory G.A., Anderson V., and Smith J.A.** (2017). Evaluating bat habitat on Fort Wainwright, Alaska. U.S. Army Garrison Alaska, Fort Wainwright. Natural Resources Report. Final Report SOW 14-70. September 2017.

- Sharp T., Smith J.A., and Savory G.A.** (2017). Migratory bird nesting habitat study to maintain compliance with MBTA. U.S. Army Garrison Alaska, Fort Wainwright. Natural Resources Report. Final Report SOW 14-43. September 2017.
- Jochum K.A.** (2018). Sandhill crane monitoring study, Fort Wainwright, Alaska. U.S. Army Garrison Alaska, Fort Wainwright. Natural Resources Report. Final Report SOW 15-44. September 2018.
- Martin E. and Jochum K.A.** (2018). Fauna planning level surveys of shorebirds in Donnelly Training Area, Fort Wainwright, Alaska. U.S. Army Garrison Alaska, Fort Wainwright. Natural Resources Report. Final Report SOW 15-35. September 2018.
- Savory G.A.** (2018). Mitigation of migratory bird flight risk study. U.S. Army Garrison Alaska, Fort Wainwright. Natural Resources Report. Final Report SOW 15-50. September 2018.
- Savory G.A. and Richmond E.** (2018). Mew Gull study. U.S. Army Garrison Alaska, Fort Wainwright. Natural Resources Report. Final Report SOW 15-48. September 2018.
- Smith J. and Jochum K.A.** (2018). Fauna planning level surveys of avian species and distribution, Fort Wainwright, Alaska. U.S. Army Garrison Alaska, Fort Wainwright. Natural Resources Report. Final Report SOW 15-41. June 2018.
- Smith J.A., Lutz L., and Kahlsa N.** (2018). TFTA king salmon habitat study: Fort Wainwright, Alaska. U.S. Army Garrison Alaska, Fort Wainwright. Natural Resources Report. Final Report SOW 15-46. September 2018.
- Smith J.A., Savory G.A., and Preston G.** (2018). Neotropical bird habitat assessment: Fort Wainwright, Alaska. U.S. Army Garrison Alaska, Fort Wainwright. Natural Resources Report. Final Report SOW 15-49. September 2018.
- Testerman K. and Jochum K.A.** (2018). Evaluating bat habitat on Donnelly Training Area, Fort Wainwright, Alaska. U.S. Army Garrison Alaska, Fort Wainwright. Natural Resources Report. Final Report SOW 15-52. September 2018.
- Deane C.E. and Jochum K.A.** (2019). Surveying Dall's Sheep (*Ovis dalli dalli*) in the Black Rapid Mountain Range: Assessing Survey Techniques. Fort Wainwright. Natural Resources Report. Final Report (additional) SOW 12-45. December 2019.
- Savory, G.** (2020). Tanana Flats Training Area small mammal surveys. U.S. Army Garrison Alaska, Fort Wainwright. Natural Resources Report. Final Report SOW 15-45. June 2020.

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### Conferences - Oral Presentations

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- Jochum K.A., Bagley C.F., Haddix J., and Martin E.** (2015). Identifying shorebird breeding sites to protect suitable shorebird nesting habitat on military lands in interior Alaska. *Abstracts in Boreal Partners in Flight and Alaska Shorebird Group Annual Meeting*, December 8-10. Anchorage, AK.
- Dertien J.S., Bagley C.F., Haddix J., Brinkman A.R., Neipert E.S., and Doherty Jr. P.F.** (2016). Habitat use of an Alaska Dall sheep population. *Abstracts in Colorado Chapter of The Wildlife Society Annual Meeting*. February 3-5. Colorado Springs, CO.
- Dertien J.S., Bagley C.F., Haddix J., Brinkman A.R., Neipert E.S., Jochum K.A., and Doherty Jr. P.F.** (2016). Habitat use by mammals of an Alaska alpine community. *Abstracts in The Wildlife Society Annual Meeting*. October 15-19. Raleigh, NC.
- Jochum K.A., Haddix J., Bagley C.F., Brinkman A.R., Neipert E.S., Bruning D., Dertien J.S., and Doherty, P.F. Jr.** (2016). Assessing survey methodologies and habitat use of Dall sheep in interior

- Alaska. *Abstracts in The Wildlife Society AK Chapter, Annual Meeting*, March 30-31. Anchorage, AK.
- Jochum K.A.**, Haddix J., **Bagley C.F.**, **Brinkman A.R.**, **Neipert E.S.**, Bruning D., **Dertien J.S.**, and Doherty P.F., Jr. (2016). Managing Dall sheep for military training in interior Alaska. *Abstracts in National Military Fish and Wildlife Association Annual Meeting*, March 14-18. Pittsburgh, PA.
- Martin, E.C.**, **Jochum, K.A.**, **Bagley C.F.**, and Doherty P.F., Jr. (2017). Shorebird Use of Military Lands in Interior Alaska. *Abstracts in Alaska Shorebird Group Meeting*. December 4. Anchorage, AK.
- Jochum K.A.** (2017). Supporting graduate students to execute installation wildlife objectives. The State of CEMML Meeting, February 10. Colorado State University, Fort Collins, CO.
- Jochum K.A.** and **Savory G.A.** (2018). Investigating the natural history of bats on U.S. Army Garrison Fort Wainwright land. *Abstracts in The Wildlife Society AK Chapter, Annual Meeting*, March 26-29. Anchorage, AK.
- Jochum K.A.**, **Savory G.A.**, **Pelham J.**, **Testerman K.**, **Smith J.A.**, **Bagley C.**, and Doherty P. Jr (2018). Habitat use and seasonal behavior of bats on U.S. Army land in interior Alaska. *Abstracts in The Wildlife Society Annual Conference*, October 7-11. Cleveland, OH.
- Martin E.**, **Jochum K.A.**, **Bagley C.F.**, and Doherty, P.F. Jr. (2018). Estimating Shorebird Richness, Abundance, and Use on Military Lands in Interior Alaska. Colorado State University, Friday Seminar Series. November 9; Fort Collins, CO.
- Savory G.A.** and **Richmond E.** (2018). Population estimation, habitat attributes, and nesting success of Mew Gull nests on Fort Wainwright, Alaska. *Abstracts in The Wildlife Society Annual Conference*, October 7-11. Cleveland, OH.
- Jochum K.A.** and **Smith J.A.** (2019). Sandhill Crane roosting behavior on the Delta River and Delta Creek, Fort Wainwright, Alaska. *Abstracts in Alaska Bird Conference*, March 4-7. Fairbanks, AK.
- Martin E.**, **Jochum K.A.**, **Bagley C.F.**, and Doherty, P.F. Jr. (2019). Shorebird abundance estimates on military lands in interior Alaska. *Abstracts in Alaska Bird Conference*, March 4-7. Fairbanks, AK.
- Richmond E.** and **Savory G.A.** (2019) Mew Gull nesting behavior in an Alaskan urban landscape. *Abstracts in The Wildlife Society AK Chapter, Annual Meeting*, February 26-28. Juneau, AK.
- Savory G.A.**, **Jochum K.A.**, **Pelham J.**, **Greenwood G.**, and **Hejna D.** (2019). Tracking bats to locate roosting habitat in interior Alaska. *Abstracts in The Wildlife Society AK Chapter, Annual Meeting*, February 26-28. Juneau, AK.
- Savory G.A.**, **Jochum K.A.**, **Testerman K.**, **Pelham J.**, **Greenwood G.**, and **Hejna D.** (2019). Investigating the natural history of bats on Fort Wainwright, Alaska. *Abstracts in Western Bat Working Group 2019 Biannual Meeting*, April 22-25, Tulsa, OK.
- Savory G.A.** and **Richmond E.** (2019). Mew Gull nesting: spatial distribution and survival in an urban environment on Fort Wainwright, Alaska. *Abstracts in Alaska Bird Conference*, March 4-7. Fairbanks, AK.
- Smith J.A.**, **Savory G.A.**, and **Jochum K.A.** (2019). Migratory songbird richness on military training lands in the interior of Alaska; where access development might cause the greatest impact. *Abstracts in Alaska Bird Conference*, March 4-7. Fairbanks, AK.
- Smith J.A.**, **Savory G.A.**, and **Jochum K.A.** (2019). Sampling for eDNA now could save effort later. *Abstracts in The Wildlife Society AK Chapter, Annual Meeting*, February 26-28. Juneau, AK.
- Testerman K.**, **Jochum K.A.**, Doherty P. Jr, and **Bagley C.F.** (2019). Estimating occupancy and detectability of little brown bats in interior Alaska. *Abstracts in The Wildlife Society AK Chapter, Annual Meeting*, February 26-28. Juneau, AK.
- Deane C.E.**, **Jochum, K.A.**, **Flynn B.** and Bruning D.L. (2020). Assessing approaches to partitioning space with N-mixture models. *Abstracts in The Wildlife Society AK Chapter, Annual Meeting*, February 10-14. Anchorage, AK.

**Pelham J., Jochum K.A., Savory G.A., Reimer J., Hejna D., Greenwood G.,** Thomas J., Chavka K. and Aguirre A. (2020). Natural and anthropogenic roost-use by *Myotis lucifugus* in interior Alaska. *Abstracts in The Wildlife Society AK Chapter, Annual Meeting, February 10-14. Anchorage, AK.*

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*Conferences - Poster Presentations*

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- Dertien J.S., Bagley C.F., Haddix J., Jochum K.A.,** and Doherty Jr. P.F. (2016). Camera trap sampling and ptarmigan habitat use. North American Ornithological Conference. August 16-20. Washington, DC.
- Smith J.A. and Savory G.A.** (2016). Habitat use by songbirds on Fort Wainwright Training Lands: year one. *Abstracts in Alaska Bird Conference. December 6-8. Cordova, AK.*
- Jochum K.A. and Savory G.A.** (2017). First steps to understanding bat ecology on a U.S. Army Installation in interior Alaska. *Abstracts in Alaska Chapter of the Wildlife Society and Alaska Herpetological Society 2017 Joint Annual Meeting. April 3-6. Fairbanks, AK.*
- Martin, E.C., Jochum, K.A., Bagley C.F.,** and Doherty P.F., Jr. (2017). Shorebird Use of Military Lands in Interior Alaska. *Abstracts in The Wildlife Society National Conference. 2017 Sept 23-27. Albuquerque, NM.*
- Martin E., Jochum K.A., Bagley C.F.,** and Doherty,P.F. Jr. (2017). Shorebird use of military lands in interior Alaska. *Abstracts in Alaska Chapter of the Wildlife Society and Alaska Herpetological Society 2017 Joint Annual Meeting. April 3-6. Fairbanks, AK.*
- Savory G.A. and Jochum K.A.** (2017). First steps to understanding bat ecology on a subarctic U.S. Army Garrison. *Abstracts in National Military Fish and Wildlife Association Annual Meeting and Training Workshop, March 6-10. Spokane, WA.*
- Khalsa N., López J.A., and **Smith J.A.** (2018). Environmental DNA mapping of overwintering juvenile Chinook salmon. *Abstracts in Western Conference Annual Meeting of the American Fisheries Society. May 21-25. Anchorage, AK.*
- Smith J.A., Jenkins D., Savory G.A.,** and **Jochum K.A.** (2018). Songbird surreys on Fort Wainwright training lands in interior Alaska; mapping to prevent migratory bird treaty act violations. *Abstracts in The Wildlife Society AK Chapter, Annual Meeting, March 26-29. Anchorage, AK.*
- Martin E., Jochum K.A., Bagley C.F.,** and Doherty,P.F. Jr. (2019). Shorebird abundance estimates on military lands in interior Alaska. *Abstracts in The Wildlife Society AK Chapter, Annual Meeting, February 26-28. Juneau, AK.*
- Preston G., Smith J.A.,** and **Savory G.A.** (2019). Habitat selection of Rusty Blackbird occupancy on Fort Wainwright, Alaska. *Abstracts in The Wildlife Society AK Chapter, Annual Meeting, February 26-28. Juneau, AK.*
- Hejna, D., Smith, J.,** and **Savory, G.A.** (2020). When is the ideal time to go birding in Fairbanks? A temporal analysis of avian vocalizations. *Abstracts in The Wildlife Society Alaska Chapter, Annual Meeting, February 10-14, Anchorage, AK.*

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### *Newspaper Publications*

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- Brinkman A.R.** (2015). “Learning about Cliff Swallow nesting habits”. Alaska Post. October 9, Fort Wainwright, AK.
- Savory G.A.** (2015). “New nest boxes for swallows”. Alaska Post. October 9, Fort Wainwright, AK.
- Osborne S., Savory G.A. and Jochum K.A.** (2017). “Bear Encounters: How to Avoid Unwanted Contact”. Bear Safety Message. Alaska Post. July 14, Fort Wainwright, AK.

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### *Outreach*

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- Savory G.A., Smith J.A., Brinkman A., Martin E.** and other CEMML staff, Tree Swallow nest box installation, Fort Wainwright Community Day, September 17, 2015. Fort Wainwright, AK.
- Savory G.A.** Teaching Boy Scouts about bird biology to enable them to earn Bird Study Merit Badge. May 2016. Fairbanks, AK.
- Savory G.A.** Leading bat box painting activity at Cub Scout meeting, May 17, 2016. Fort Wainwright, AK.
- We submitted annual project summary compilations to the Alaska Shorebird Group, the Alaska Boreal Partners in Flight Group and the Northern Bat Working Group in 2015, 2016, 2017 and 2018 for all suitable projects.
- We wrote 15 posts about ongoing wildlife projects for the Fort Wainwright Environmental Division Facebook page.
- We assisted Fort Wainwright Environmental Division with Fort Wainwright Earth Day celebrations in 2015-2017.
- We conducted natural resources training on several occasions for the Fort Wainwright Natural Resources Environmental Officer training program in 2016.