

Curriculum Vitae

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Todd Jared Brinkman, Ph.D.

Associate Professor, Wildlife Ecology
University of Alaska Fairbanks (UAF)

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EDUCATION

- 2009 Ph.D. Wildlife Ecology. University of Alaska Fairbanks
- 2003 M.S. Wildlife Science. South Dakota State University
- 2000 B.S. Biology & Environmental Science. Minnesota State University

PROFESSIONAL GOALS & RESEARCH INTERESTS

Through interdisciplinary research and education, my fundamental goal is to advance knowledge on how to enhance positive and mitigate negative human-wildlife interactions. My primary research interests include: 1) human dimensions of wildlife management, 2) large mammal ecology, and 3) modeling interactions among humans, wildlife, and rapidly changing social, economic, and ecological conditions.

WORK EXPERIENCE

- 2022 - pres Chair, Wildlife Program of Department Biology & Wildlife Department
- 2019 – pres Associate Professor, Wildlife Ecology
- 2014 – 19 Assistant Professor, Wildlife Ecology
- 2013 – 18 Associate Director, Resilience and Adaptation Program, UAF
- 2011 – 14 Research Assistant Professor, UAF
- 2009 – 11 Post Doctoral Research Fellow, UAF
- 2003 – 09 PhD Research Assistant, UAF
- 2000 – 03 MS Research Assistant, South Dakota State University, Brookings
- 1997 – 00 Wildlife Research Technician, Minnesota Department of Natural Resources

TEACHING

Course Instructor

- 2019 – pres Human Dimensions of Wildlife Management (WLF470/670)
- 2014 – pres Principles & Techniques of Wildlife Management (WLF322)
- 2015 – 17 Survey of Wildlife Science (WLF101)
- 2012 – 13 Integrated Assessment & Adaptive Management (NRM649)
- 2011 – 12 Ecological Background in Resilience and Adaptation (NRM616)
- 2010 Mammalogy (WLF425)

Workshop Instructor

- 2019 Soundscapes and viewsapes. K-12 Harold Kaveolook School, Kaktovik, Alaska.
- 2018 Adaptation Workshop: Community Research Partnerships, Fairbanks, AK
- 2014 Integrating Social and Ecological Data to Inform Moose Management. 48th North American Moose Conference, Girdwood, AK

- 2013 Estimating Deer Abundance Using Non-Invasive DNA. Oregon Department of Fish and Wildlife, Corvallis, OR
- 2012 Tongass National Forest Vulnerability Assessment. USDA Forest Service, Juneau, AK
Course Guest Lectures (last 5 years only)
- 2018-23 Wildlife Management (6AE216), Wildlife Management (NATF330), Human Dimensions of Wildlife (6EV322), Resilience Seminar II (BIO668), Ecology and Management of Large Mammals (WLF421), Climate Journal Club (ATM620), Decision Analysis for Conservation (WLF694), Anthropocene (NRM692), INDS Research Seminar (INDS698), Mammalogy (BIO425), Climate Change Seminar Series (F692), Ecosystem Ecology (BIO672), Research Seminar (INDS698), Human Dimensions of Environmental Systems (F411/611), Resilience Seminar I (BIO667), Community-Based Research Methods (RD640), Landscape Ecology (WLF469), Ornithology (WLF426), Intro to Wildlife Survey (WLF101)

MENTORING & SUPERVISING

Early Career Faculty

2021 – 23 Toby Schwoerer, Research Asst. Prof, IARC, UAF

Post Doctoral Research

- 2023 – pres Scott Leorna, PhD. *Camera-based methods for caribou movement*
- 2022 – 23 Taylor Stinchcomb, PhD. *Interior resident environmental value orientations*
- 2020 – pres Heather Greaves, PhD. *Snow impacts on human-environment interactions*
- 2016 – 22 Dana Brown, PhD. *Climate-driven disturbances affecting access to wild resources*
- 2018 - 19 Casey Brown, PhD. *Evaluating community research partnerships*

Graduate Student Research (Advisor)

- 2023 – pres Maeghan Connor (Co-Advisor), MS, *Spotted seal monitoring*
- 2023 – pres Forrest Rosenbower, MS, *Bull moose movement in Interior Alaska*
- 2023 – pres Max Plichta, MS, *Soundscape ecology on the North Slope*
- 2022 – 23 Elizabeth Ford, MS, *Black brant nest predation*
- 2022 – 23 Randall Friendly, MS, *Effects of winter conditions on spectacled eider*
- 2022 – pres Bob Wiltzen, MS, *Brook survival of rock ptarmigan*
- 2022 – pres Binta Wold, MS, *Human-bear interaction*
- 2022 – pres Michelle Quillin (Co-Advisor), MS, *Rural community vulnerability to wildfire*
- 2019 – 23 Cade Kellam, MS. *Effects of snow and timber slash on deer habitat quality*
- 2019 – 23 Scott Leorna, PhD. *Summer distribution of caribou in northern Alaska*
- 2019 – 23 Luke Metherell (Co-advisor), MS, *Dall's sheep forage characteristics*
- 2019 – 22 Megan Perra, MS. *Natural and anthropogenic soundscapes across northern Alaska*
- 2019 – 22 Gwen Quigley, MS. *Behavioral response of polar bear to tourism activities*
- 2017 – 18 Qobiljon Shokirov, PhD. (visiting) *Community-based conservation in Tajikistan*
- 2017 - 18 Alice de Moraes. PhD. (visiting) *Community-based ecosystem stewardship*
- 2017 – 19 Scott Leorna. MS. *Stakeholder communication within a caribou hunting system*
- 2016 – 18 Tessa Hasbrouck. MS. *Environmental effects on moose harvest*
- 2016 – 18 Helen Cold. M.S. *Effects of climate on access to ecosystem services in Alaska*
- 2015 – pres Jon Martin. Ph.D. *Deer response to forest management strategies*
- 2015 – 17 Taylor Stinchcomb. *Social-ecological soundscapes and aircraft-hunter conflict*
- 2014 – 19 Nils Pederson. *Human-bear interactions in the North Slope Oil Fields of Alaska*
- 2013 – 15 Ian Johnson. *Movements of moose hunters and wolves in the Yukon Flats, Alaska*

Undergraduate Student Research (Supervisor)

- 2022 – pres Sable Scotton, *Caribou movement* (BLAST)
 2022 – 23 Gabriel Smith, *Bear behavior at bear baiting stations*
 2022 – 23 Jackson Magie, *Diversity within the wildlife profession* (URSA)
 2021 – 22 Aidan Hunter, Brian Zang, *Reindeer hearing thresholds* (URSA)
 2019 – 21 Shelby McCahon. *Characteristics of recreational use of Creamer's Wildlife Refuge.*
 2016 – 18 Luke Rollie Rogers. *Social class effects on captive wood bison behavior*
 2017 – 18 Gwendolyn Quigley. *Drone-based assessments of wildfire fuel breaks*
 2016 Ianjon Brower. Alaska Native Science and Engineering Program (ANSEP)
Community-based monitoring of environmental change in Nuiqsut, Alaska
 2016 Scott Leorna. *Influence of weather conditions on Dall sheep harvest success*

Graduate Student Research (Committee Member)

2012-pres 13 PhD & 4 MS students

Undergraduate Student Advising

2014-23 10-15 students

RESEARCH PARTNERSHIPS & COLLABORATIONS (current only)***Academic***

Inland Norway University of Applied Sciences; Norwegian Institute of Nature Research, Columbia University; Utah State University, University of Idaho; Brooklyn College, University of New York; University of Colorado; University of Washington; Colorado State University

Agency

US Fish and Wildlife Service; Parks Canada; US Bureau of Land Management; US Geological Survey; US National Park Service; Alaska Department of Fish and Game; USDA NRCS & Forest Service

Nonprofit Organizations & Conservation Groups

The Wilderness Society; Sustainable Southeast Partnership of Alaska; The Nature Conservancy; Wildlife Conservation Society

Alaska Tribal Organizations & Private Companies

Hydaburg Cooperative Association; Tanana Chiefs Conference; Center for Alaska Native Health Research; Huna Totem; Sealaska Corporation; ConocoPhillips Alaska; Hilcorp Inc; numerous Village Tribal Councils in Interior, Northern, and Western Alaska.

SERVICE (last 5 years)***University of Alaska***

- 2022 – pres Chair, Wildlife Program of Dept. of Biology and Wildlife
 2023 Western US High School Counselor presentation & discuss
 2023 – pres Chancellor's R1 Steering Committee
 2022 – 23 Chancellor's IAB/B&W Dept. Task Force
 2019 – 2021 Institutional Animal Care and Use Committee (IACUC) Member
 2018 – pres Alaska EPSCoR Boreal Team Co-Lead
 2017 – pres Institute of Arctic Biology Director's Council
 2017 – pres Faculty Hiring Committees (n=5)
 2015 – pres Steering Committee Member, Alaska Observatory and Knowledge Hub
 2015 – pres Faculty Advisor to the [Student Chapter](#) of Alaska Chapter of The Wildlife Society
 2014 – 2019 Steering Committee, [Community Partnerships for Self-Reliance](#) (CPS)

Professional

- 2022 – 23 Advisor to Wildlife Professional Diversity Project, The Wildlife Society
 2020 – 23 Deer Summit Organizing Committee, The Nature Conservancy
 2019 – 2021 Chair: NASA Ecosystem Services and Co-Production Working Group
 2018 – pres Chair: Research Oversight Committee, Genomics Canada
 2002 – pres Manuscript Reviewer ~30 different journals including *Behaviour*; *Climate Change*; *Conservation Genetics*; *Ecological Applications*; *Ecology*, *Ecology and Society*; *Environmental Research Letters*; *Human Dimensions of Wildlife Management*; *Journal of Applied Ecology*; *Journal of Mammalogy*; *Journal of Wildlife Management*; *Weather, Climate, and Society*; *Wildlife Biology*
 20002 – pres Agency Report Reviewer: USFWS, ADFG, NPS

RESEARCH FUNDING (US dollars)**Principle Investigator (PI) or Institutional PI***

- 2023 \$30,791. ADFG. *Bull moose distribution and movement*
 2023 \$78,220. NSF. *Fostering rural and Indigenous knowledge sharing on caribou*
 2022 \$279,868. ADFG. *Human-bear conflict in Juneau, Alaska*
 2021 \$49,979. USFWS. *Polar bear response to aircraft activity*
 2021 \$252,636. USGS. *Addressing hunting concerns to facilitate climate adaptation*
 2019 \$65,657. USDA Forest Service. *Integration of snow and timber slash into deer models*
 2019 *\$214,568. NASA. *Social-ecological consequences of changing snow- and ice-scapes*
 2019 \$180,491. USFWS. *Monitoring polar bear behavior in relating to tourism viewing*
 2019 \$79,257. USDA NRCS. *Sulzer portage deer project*
 2019 \$43,000. USDA Forest Service PNW Research Station. *Improving deer habitat models*
 2018 *\$699,237. NSF. *Soundscape Ecology to Assess Wildlife Behavior*
 2018 \$25,000. USDA Forest Service. *Effects of snow and timber slash on deer habitat*
 2016 \$93,941. Sealaska Corporation. *Deer response to young growth forest*
 2016 \$15,652. Alaska Defenders of Wildlife. *Monitoring polar bear dens using UAVs*
 2016 \$129,118. National Fish and Wildlife Foundation. *Polar bear den detection*
 2015 \$794,010. NASA *Climate-related access to ecosystem services in Boreal Alaska*
 2015 \$5,000. Alaska Songbird Institute. *Songbird student internship*
 2015 \$1,525,275. NSF. *Coupling of Human-environment systems to explore subsistence*
 2014 \$50,000. USDA Forest Service. *Effects of wildfire on subsistence opportunities in Alaska*
 2014 \$55,000. Alaska Department of Fish & Game. *Alaska sheep hunter survey*
 2012 \$27,000. Council of Athabascan Tribal Governments. *Land use mapping project*
 2012 \$45,500. US Army Corp of Engineers. *Tanana Flats Training Area moose study*
 2012 \$40,000. USDA Forest Service. *Climate change and sustainable communities*
 2010 \$26,000. Alaska Department of Fish & Game. *Deer monitoring on Chichagof Island*

Co-PI

- 2023 \$10m (\$81,050). NSF. *Bonanza Creek LTER Changing disturbance regimes*
 2019 \$109,529. National Park Service. *Changes in winter access to subsistence resources*
 2017 \$368,822. NSF. *Nutritional landscapes of arctic caribou*
 2015 \$1,024,116. NASA *Assessing environmental change on Dall sheep*
 2011 \$64,502. USFS *Tongass climate change vulnerability assessment*
 2007 \$64,000. USFS *Estimating deer abundance in Southeast Alaska*
 2007 \$15,000. Alaska Department of Fish and Game *Designing genetic primers for deer*

- 2007 \$2,142,115. NSY International Polar Year *Impacts of change on ecosystem services*
 2005 \$224,000. USFSe *Estimating deer abundance in Southeast Alaska*

Co-I or Senior Scientist (my portion)

- 2023 \$1,075,962. NIH. *Alaska Alliance for Community Engagement – Climate and Health*
 2019 \$22m (\$606,000). NSF EPSCoR. *Alaska Fire & Ice: Boreal and Coastal Ecosystems*
 2017 \$10m (\$173,106). NSF LTER: *Responses of the Alaskan boreal forest to disturbance*
 2012 \$20,999,897 (\$200,000). NSF EPSCoR. *Alaska Adapting to Changing Environments*

HONORS (last 5 years only)

- 2022 Nominee for Gilliam Fellowship, Howard Hughes Medical Institute
 2020 Outstanding Teaching Award, College of Natural Science & Mathematics, UAF
 2017 Wilburforce Fellowship in Conservation Science
 2015 Dennis Demmert Award, Rural Student Services, Exemplary commitment and service to the students of University of Alaska Fairbanks

PUBLICATIONS (last 5 years only, full list available through [Google Scholar](#))

60+ Peer-reviewed Journal Articles (*supervised student or Post Doc)

- 2023 *Dana R. N. Brown, Christopher D. Arp, Todd J. Brinkman, Barbara A. Cellarius, Melanie Engram, Mark E. Miller & Katie V. Spellman (2023) Long-term change and geospatial patterns of river ice cover and navigability in Southcentral Alaska detected with remote sensing, Arctic, Antarctic, and Alpine Research, 55:1, DOI: [10.1080/15230430.2023.2241279](https://doi.org/10.1080/15230430.2023.2241279)
- 2023 *Greaves, H. E., Boelman, N. T., Brinkman, T. J., Liston, G. E., Prugh, L. R., & Reinking, A. K. (2023). Simulating future climate change impacts on snow-and ice-related driving hazards in Arctic-boreal regions. *Environmental Research Letters*, 18, 025006
- 2023 *McCahon, S., Brinkman, T., & Klimstra, R. (2023). Estimating encounter probabilities among recreational trail user groups. *Journal of Outdoor Recreation and Tourism*, 42, 100614.
- 2022 *Leorna, S., & Brinkman, T. (2022). Human vs. machine: Detecting wildlife in camera trap images. *Ecological Informatics*, 72, 101876.
- 2022 Cunningham, C. X., Liston, G. E., Reinking, A. K., Boelman, N. T., Brinkman, T. J., Joly, K., ... others. (2022). Human and animal movements combine with snow to increase moose-vehicle collisions in winter. *Environmental Research Letters*, 17, 125007.
- 2022 Brinkman T, Billy C, Stevens B, Wright B, Simeon J, Ervin B, Jorene J, Ninguelook G, Heeringa K, Nu J, Rasmus S. Changes in Sharing and Participation are Important Predictors of the Health of Traditional Harvest Practices in Indigenous Communities in Alaska. *Human Ecology* SOI: [10.1007/s10745-022-00342-4](https://doi.org/10.1007/s10745-022-00342-4)
- 2022 Reinking A, ...Brinkman TJ,... Collaborative wildlife-snow science: integrating wildlife and snow expertise to improve research and management. *Ecosphere* 13(6): e4094
- 2022 *Leorna S, Brinkman TJ, Fullman T. 2022. Estimating animal size and distance in camera trap images: photogrammetry using the pinhole camera model. *Methods in Ecology and Evolution* DOI: [10.1111/2041-210X.13880](https://doi.org/10.1111/2041-210X.13880)
- 2022 *Brown DR, Brinkman, TJ, Neufeld G, Naaktgeboren L, Brown C, Cold H. Geospatial patterns and models of subsistence land use in rural Interior Alaska. *Ecology and Society* 27:2.

- 2022 *Perra M, Brinkman TJ, Scheifele P, Barcalow S. Expanding auditory thresholds for reindeer, *Rangifer tarandus*. *Journal of Veterinary Behavior* 52-53:37-44.
- 2021 *Rogers LR, Brinkman TJ, Seaton TC, Curl JA. Social hierarchy and its implications for feeding behavior in captive wood bison. *Wildlife Society Bulletin (In review)*
- 2021 *Perra M, Brinkman TJ. Seeing science: using graphics to communicate research. *Ecosphere* 12(10), e03786
- 2021 *Gibson, C, Brinkman T, Cold H, Brown D, Turetsky M. Identifying increasing risks of hazards for northern land-users caused by permafrost thaw: integrating scientific and community-based research approaches. *Environmental Research Letters* 16 064047
- 2021 Bahlai CA, Hart C, Kavanaugh MT, White JD, Ruess RW, Brinkman TJ, ... Cascading effects: insights from the US Long Term Ecological Research Network. *Ecosphere* 12(5), e03430
- 2021 Schmidt J, Byrd A, Curl J, Brinkman TJ, Heeringa K. Stoking the flame: Subsistence and wood energy in rural Alaska, United States. *Energy Research & Social Science* 71 101819
- 2020 *Stinchcomb T, Brinkman TJ, Betchkal D. Extensive aircraft activity impacts subsistence areas: acoustic evidence from Arctic Alaska. *Environmental Research Letters*. 15(11), 115005
- 2020 *Hasbrouck T, Brinkman, TJ, Stout, Kielland, K. Assessing moose hunter distribution to explore hunter competition. *Alces* 56:79-95
- 2020 Brown, DR, Brinkman, TJ, Bolton, W, Hollingsworth TN, Verbyla DL. Implications of climate variability and changing hydrology for subarctic riverbank erosion. *Climatic Change* <https://doi.org/10.1007/s10584-020-02748>
- 2020 *Leorna S, Brinkman TJ, McIntyre J, Wendling B, Prugh L. Association between weather and Dall's sheep *Ovis dalli dalli* harvest success in Alaska. *Wildlife Biology* (2) <https://doi.org/10.2981/wlb.00660>
- 2020 *Cold H, Brinkman TJ, Brown C, Hollingsworth T, Verbyal D, Brown D, Heeringa K. Assessing vulnerability of subsistence travel to effects of environmental change in Interior Alaska. *Ecology & Society* 25(1): 20
- 2020 *Leorna S, Brinkman TJ, Kofinas G, Kielland K, Welker J. Exploring stakeholder communication within a caribou hunting system of Arctic Alaska. *Human Dimensions of Wildlife Management* 25(3):199-214.
- 2020 *Hasbrouck, T, Brinkman, TJ, Stout, G, Trochim, E, Kielland, K. Quantifying effects of environmental factors on moose harvest in Interior Alaska. *Wildlife Biology* (2)
- 2020 *Pedersen NJ, Brinkman TJ, Shideler RT, Perham CJ. Effects of environmental conditions on the use of forward-looking infrared for bear den detection. *Conservation Science and Practice* 2(7)
- 2019 Heeringa K, Huntington O, Woods B, Chapin T, Hum R, Brinkman T. A holistic definition of healthy traditional harvest practices for rural Indigenous communities in Interior Alaska. *Journal of Agriculture, Food Systems, and Community Development*. 9(B):1-15.
- 2019 *Stinchcomb T, Brinkman TJ, Fritz S. A Review of Aircraft-Harvester Conflict in Arctic Alaska. *Arctic* 72(2):131-150
- 2018 Boelman, NT, Liston GE, Hebblewhite Prugh LR, Meddens AJH, Kimball JS, Mahoney P, Gurarie E, Nolin AW, Kirchner PB, Cosgrove C, Bohrer G, LaPoint S, Vierling LA,

- Eitel JUH, Brinkman TJ, Pedersen SH. Integrating snow science and wildlife ecology in Arctic-boreal North America. *Environmental Research Letters* 14(1), 010401
- 2018 Brown C, Kielland K, Brinkman T, Euskirchen E, Gilbert S. Resource selection and movement of male moose in response to varying levels of off-road vehicle access. *Ecosphere* 9(9):e02405
- 2018 Brown, DR, Brinkman, TJ, Verbyla DL, Cold HS, Brown, CL, Hollingsworth TN. Changing river ice seasonality and impacts on interior Alaskan communities. *Weather, Climate, & Society* DOI.org/10.1175/WCAS-D-17-0101.1
- 2018 Mahoney P, Liston G, LaPoint S, Gurarie E, Mangipane B, Wells A, Brinkman, T, Eitel J, Hebblewhite M, Nolin A, Boelman N, Prugh L. Navigating snowscapes: scale-dependent responses of mountain sheep to snowpack properties. *Ecological Applications* DOI.org/10.1175/WCAS-D-17-0101.1
- 2018 Brinkman, TJ. Hunter acceptance of antlerless moose harvest in Alaska: Importance of agency trust, proximity of hunter residence to hunting area, and hunting experience. 2018. *Human Dimensions of Wildlife* 23(2):129-145.

Book Chapters – Completed/Published

- 2017 Burnsilver SB, Boone RB, Kofinas GP, Brinkman TJ. 2017. Modeling Tradeoffs in a Rural Alaska Mixed Economy: Hunting, Working, and Sharing in the Face of Economic and Ecological Change. In: *The Give and Take of Sustainability: Archaeological and Anthropological Perspectives*. Cambridge University Press: Cambridge.
- 2017 Person DK, Brinkman TJ. Succession Debt and Roads: Short- and Long-Term Effects of Timber Harvest on a Large-Mammal Predator-Prey Community in Southeast Alaska. In: *North Pacific Temperate Rainforests*. University of Washington Press; 2013. p. Chapter 6.

PRESENTATIONS 100+ (*Sample from last 5 years only*)

- 2023 Brinkman, T. J. (2023, April). Interested in Supporting a Graduate Student? Alaska Chapter of The Wildlife Society
- 2023 Brinkman, T. J. (2023, March). Changing Relationships among Habitat, Deer Numbers, and Hunting Opportunities. Watershed Webinar: Forests for the Future. Southeast Alaska Watershed Council.
- 2023 Leorna, S., & Brinkman, T. J. (2023, May). Using trail cameras to advance monitoring of caribou in the Arctic. North American Caribou Workshop & Arctic Ungulate Conference.
- 2022 Perra, M., Gurarie, E., Brinkman, T. J., Crimmins, S., Coban, E., Mandel, M., & Schiefele, P. (2022, October). Methods and considerations in acoustic monitoring: Soundscapes, caribou hearing and data processing . Yellowknife Geosciences Forum. Yellowknife, Canada.
- 2019 Brinkman TJ. 2019. How might harvest management account for dynamic environmental conditions? Alaska Chapter of The Wildlife Society Meeting, Juneau, Alaska.
- 2018 Brinkman TJ. 2018. Impacts on subsistence, wildlife, and flora. Fossil Energy’s Arctic Challenges panel. Alaska National Lab Day, Fairbanks, Alaska. (Invited Speaker)
- 2018 Brinkman TJ, Johnson I, Hasbouck T, Cold H, Chapin T, Heeringa K, Stevens B, Brown, C, Kelly J. 2018. University-Community Coproduction of Knowledge of Moose Hunting

Practices. Council of Athabascan Tribal Governments Yukon Flats Moose Management Planning Meeting. Fort Yukon, Alaska. (Invited Speaker)

LAB MEDIA COVERAGE OF RESEARCH (*Sample from last 5 years only*)

- 2023 Fairbanks Daily News Miner (Oct. 2022), MeatEater Website (Feb. 2023), Interview and filming on Drone Research and Opportunities for Native Elementary Students (May 2023), Financial Times (Summer 2022)
- 2021 KUAC Public Radio. <https://fm.kuac.org/post/uavs-help-assess-environment>
- 2020 National Public Radio. <https://www.kuow.org/stories/the-wild-season-2-episode-5>
- 2018 High North News. "[Searching for Polar Bears on Alaska's North Slope.](#)"
- 2017 Arctic Deeply. "[A shifting landscape means less food for Alaska's Hunters.](#)"
- 2016 NASA. "[Living Off the Land in a Changing Arctic Climate](#)"
- 2016 Fairbanks Daily News Miner. "[Study finds climate change limits access to resources for subsistence hunters.](#)"
- 2015 Alaska Dispatch News. "[As Alaska Dall sheep populations shrink, guides and hunters vie for bigger share of harvest](#)"