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Alaska Region Office of Science Applications



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April Contest



Not an April Fool's joke... This month's contest:

- Why do dogs spin in circles before pooping?

[E-mail me your answer](#), and win

Previous Contest Results

[\(Click here to see last month's contest\)](#)

A healthy dose of bragging rights goes to Bob Rebarchik! Bob correctly stated that there are four sea turtles in Alaska (green, leatherback, loggerhead, and Olive Ridley), and 6 amphibians: two frogs (Columbia spotted and wood), two salamanders (long-toed and Northwestern), and the Western toad. Stephen

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some bragging rights.

If you have a good idea for a future contest, [e-mail me!](#)

Rudolph identified the image of the "cold hearted" wood frog, and broadened my horizons by adding the following introduced frogs: red-legged and Pacific chorus. He also noted that the Alaska worm salamander, garter snake and tailed frog are also thought to have been collected here, but were either escapees or biologists' labeling mistakes. Thanks for keeping me on my toes!

Western Alaska LCC

Forecast Calls for Scattered Berries and Partially Visible Moose

When decision makers in western Alaska discuss their priority concerns of how climate changes will impact key species and resources, they frequently mention moose, caribou, waterbirds, vegetation, fire and/or permafrost. So it wasn't surprising when the Steering Committee of the Western Alaska LCC decided to fund projects addressing each of these topics as part of the LCC's FY16 and FY17 program on *Terrestrial Systems*.

Three of the seven projects chosen for funding in FY16 address climate change impacts on moose or caribou habitats. James Van Lanen (ADF&G) will document and synthesize Traditional Ecological Knowledge and survey data on changes in the Mulchatna Caribou Herd's distribution, migration and behavior patterns over the last 50 years, exploring both links to climate drivers and adaptation strategies of local subsistence hunters. Andy Aderman (Togiak NWR), Anna-Marie Benson (FWS NWRs) and Neil Barten (ADF&G) will develop a sightability model for to account for



detection bias in surveying moose during low snow

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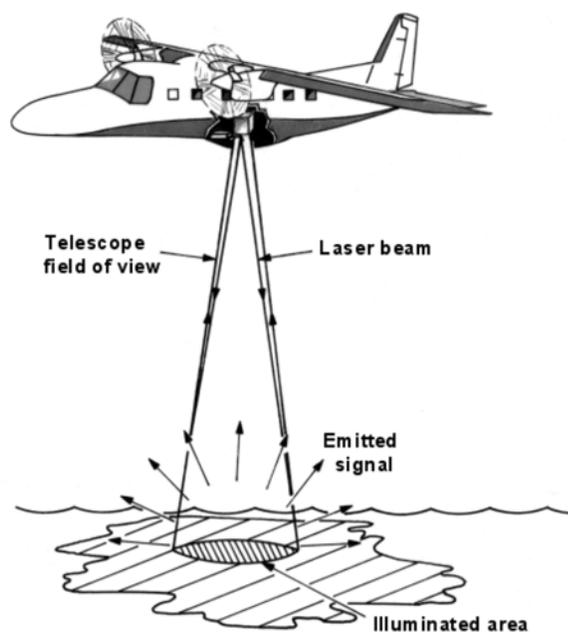
Aerial survey photo of moose in Togiak NWR under ideal conditions. Low or no snow pack reduce the contrast and visibility, making this type of surveying much more complicated. Photo: Patrick Walsh

conditions. (The LCC is also working with Fish & Game and FWS NWRS on a workshop focused on the problem of surveying moose during low snow conditions.). The LCC is also helping support an Alaska Climate Science

Center project, led by Brad Griffith (UAF / USGS), looking at how the expected changes in forest vegetation communities may affect moose and caribou habitat; the LCC is helping increase the role of local stakeholders in designing the project's central questions and the strategies for communicating results.

Another project addresses a concern voiced by many communities in western Alaska – how are the abundance and distribution of berries expected to change? Berries are an important part of our diet as well as the diets of many species of wildlife. Rachel Loehman (USGS AK Science Center) is partnering with communities on the YK Delta to develop a *Berry Outlook tool* – a modeling and monitoring framework for tracking and forecasting changes in berries. Hopefully the tool will one day be expanded to help understand and track how berry plants are doing throughout Alaska as our climate changes.

The LCC is also working with a variety of partners to get LiDAR (Light Detection And Ranging) data for a large area of the Yukon-Kuskokwim Delta (YK Delta). Weather permitting, the data should be available by the end of the summer. This very high resolution imagery will allow the development of digital elevation models, a tricky task in very flat areas like the YK Delta. Those models, in turn, will be useful for many of the waterfowl and shorebird habitat work the Service is engaged in as well as for a project the LCC plans to fund in FY17



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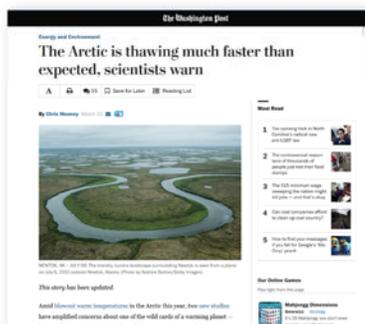
(pending availability of funds) with

Helene Genet (UAF) to model how permafrost thaw will create thermokarsts on the YK Delta and how these may be used by waterfowl and shorebirds. In FY17 the LCC will fund a study with Gerald Frost (UAF) investigating how fires and wetland drying impact the rates of permafrost thaw on the uplands of the YK Delta.

More details on all these efforts will be forthcoming on the LCC's website – westernalaskalcc.org.

Arctic LCC

Are Degrading Arctic Ice Wedges Bad for the Birds?



One of the most peculiar features of the frozen mixture of soil and water in the thick layer of Arctic permafrost may be melting faster than scientists expected. Ice wedges form when winter freezing cracks open the ground, which then fills with water in the summer from melting snow. Winter refreezing causes large wedges of ice to form in the cold ground. These ice wedges can extend ten or fifteen meters deep, and can in some cases be thousands of years old

Aleutian and Bering Sea Islands LCC

Open Standards Workshop to Evaluate Threats, and Direct Conservation Action



ABSI LCC is engaging in Conservation Planning using an Open Standards process. From April 20 – 21, [Dr. Ian Dutton](#), foundational in the creation of, Open Standards, will be assisting in that effort; leading the LCC's Steering Committee through an Open Standards of Conservation Workshop. Open Standards planning integrates different types of information of varying vigor and resolution to evaluate potential scenarios of action that promote conservation. It has been adopted as the framework

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The results of a [recently published study](#) by [Anna Liljedahl](#), Water and Environmental Research Center, University of Alaska Fairbanks, et al. demonstrate that ice wedge melting is occurring in the treeless northern tundra all over the arctic, and that it can happen fairly rapidly -- within a couple decades. This can reshape the surface and run-off of water on a vast landscape scale. Researchers expect that millions of pools formed by low-center polygons will be replaced by moist patches separated by troughs that could essentially function as tundra drainage ditches.

Due to this potential drainage, the millions of waterfowl and shorebirds that eat aquatic insects may encounter a vastly drier landscape, and potentially less foraging habitat and diminished food abundance.

This study, funded in part by the Arctic LCC, is tied into the LCC's Climate Change Effects on Wetlands, Invertebrates, and Shorebirds (CEWISH) project.

North Pacific LCC

Upcoming Workshop: Climate

for systematic conservation planning by over 60 organizations. It's transparent, links conservation actions to outcomes, is accountable, and standardizes the language for the conservation community. ABSI will be applying Open Standards to evaluate [landscape-scale stressors](#) previously identified during a series of [vulnerability assessments](#). The workshop is intended to define future investments of LCC internal funding and staff time, as well as engagement of partners and pursuit of external funding opportunities.

For more information, contact [Aaron Poe](#).

Aleut Community of St. Paul Island Joins ABSI LCC Steering Committee



The ABSI LCC Steering Committee is pleased to welcome Lauren Devine (left) and Pamela Lestenkof (right), representing the Aleut Community of St. Paul Island. Lauren and Pamela are Co-Directors of the Aleut Community of St. Paul Island

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Change in Southeast Alaska - Informing Sustainable Management of Water Resources and Anadromous Fisheries



A 2015 NPLCC-supported workshop on climate change in the Tongass National Forest will be taking place April 12-15 in Juneau, Alaska. The workshop is focused on informing sustainable management of water resources and anadromous fisheries. The workshop will foster collaboration between scientists, managers, and stakeholders. Workshop goals include sharing information about climate-related stressors and effects on NPLCC Priority Resources in the Tongass National Forest; developing strategic priorities for improving understanding, reducing risks, and increasing adaptive capacity and resilience; and coordinating support for increasing knowledge and informing resource managers.

More information about the project [can be found here](#). More information about the workshop and how to register [can](#)

Ecosystem Conservation Office. Both have experience in conducting monitoring and research activities focused on coastal and marine resources, including climate change, invasive species, contaminants, disease, and commercial and subsistence fishing.

This recent addition brings the ABSI Steering Committee to ten voting members, including two Federally-recognized Alaska Native Tribes.

Northwest Boreal LCC

Applying the Conservation Matrix Model Parts I & II: Beacons Webinar



How can we shift from reactive to proactive conservation planning in northern regions, and what does it look like? Fiona Schmiegelow, Kim Lisgo, Pierre Vernier, and Alberto Suarez-Esteban of the [BEACONS](#) project recently presented applications of the [Conservation Matrix Model](#) (CMM), and the process of applying it. Both presentations

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be found here.



were recorded and are available through the following links:

[Applying the Conservation Matrix Model Part I](#)

[Applying the Conservation Matrix Model Part II](#)

Learning and Other Opportunities

Webinars

Climate Change Impacts on Gulf of Alaska Hydrology and Freshwater Discharge

Jordan Beaner, Oregon State University PhD WRE Candidate

Thursday, April 7, 2016 -- 9 AM AKT

[More information here.](#)

USGS Changing Arctic Ecosystems Seminar Series

Rebecca Taylor, U.S. Geological Survey

Thursday, April 7, 2016 -- 9-10 AM AKT

Satellite location in the Science Applications Conf. Rm. (RO) or contact ygillies@usgs.gov for remote connection information

[More information here.](#)

Yukon North Slope Regional Cultural and Ecological Assessment

Dennis Sizemore, Executive Director, Round River Conservation Studies

Wednesday, April 13, 2016 -- 12-1 PM AKT

More information at nwblcc.org.

Diagnosing the Drivers of Rain on Snow Events in Alaska Using Dynamical Downscaling

Peter Bieniek, International Arctic Research Center University of Alaska Fairbanks

Wednesday, April 20, 2016 -- 12-1 PM AKT

More information at westernalaskalcc.org.

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LandSat-based Lake Distribution and Changes in Western Alaska Between 1972 and 2014

Pranja Regmi Lindgren, Geophysical Institute, University of Alaska Fairbanks

Wednesday, April 27, 2016 -- 12-1 PM AKT

More information at westernalaskalcc.org.

Opportunities

National Park Service Symposium -- October 2016

Abstracts Due April 15

[More information here.](#)

What's New in Alaska Region Science?

Bruggeman, J.E., **Swem, T.**, Andersen, D.E., Kennedy, P.L., & Nigro, D. (2015). *Dynamics of a Recovering Arctic Bird Population: The Importance of Climate, Density Dependence, and Site Quality*. *Ecological Applications*. 25 (7), 1932-1943.

<http://onlinelibrary.wiley.com/doi/10.1890/14-1591.1/full>

Bruggeman, J.E., **Swem, T.**, Andersen, D.E., Kennedy, P.L., & Nigro, D. (2016). *Multi-season Occupancy Models Identify Biotic and Abiotic Factors Influencing a Recovering Arctic Peregrine Falco Peregrinus Tundrius Population*. *IBIS*. 158 (1), 61-74.

<http://onlinelibrary.wiley.com/doi/10.1111/ibi.12313/pdf>

Sigler, M.F., Mueter, F.J., Bluhm, B.A., Busby, M.S., Cokelet, E.D., Danielson, S.L., De Robertis, A., Eisner, L.B., Farley, E.V., Iken, K., **Kuletz, K.J.**, Lauth, R.R., Logerwell, E.A., & Pinchuk, A.L. (in press). *Late Summer Zoogeography of the Northern Bering and Chukchi Seas*. *Deep Sea Research Part II: Topical Studies in Oceanography*.

[doi:10.1016/j.dsr2.2016.03.005](https://doi.org/10.1016/j.dsr2.2016.03.005)

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