

February 2014 Office Of Science Applications Update

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Updates and information about the Alaska Region office of Science Applications and LCCs.

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Alaska Region Office of Science Applications



News & Announcements
February

Western Alaska LCC Region; Yukon Delta NWR
Photo credit: Nathan Graff

January Icon Challenge Results

Congratulations to Betsy McCracken who was the first to correctly identify the Arctic lamprey. There were several correct and nearly correct responses within a few minutes! One respondent created a disturbing mental image by asking "What would happen if two lamprey's kissed?"

Thank you Laurel Devaney for the image and contest idea.

If you have a good idea for an icon contest, send it my way:

brett_parks@fws.gov

Landscape Conservation Cooperatives

Alaska LCCs: Annual Reports Available

The annual reports of Alaska LCCs' activities and projects for federal fiscal year 2013 are now available at the following links:

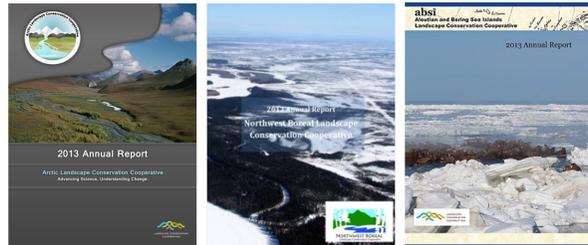
[Arctic LCC](#)

[Northwest Boreal LCC:](#)

[Aleutian & Bering Sea Islands LCC:](#)

[Western Alaska LCC](#) (coming soon)

[North Pacific LCC](#) (coming soon)



Arctic LCC:

Data sharing agreement with ConocoPhillips Alaska

The U.S. Fish and Wildlife Service and ConocoPhillips Alaska, Inc. have entered into a unique agreement to share agency data and proprietary industry data on distribution and abundance of three protected species of birds that breed on Alaska's North Slope. For the first time, the combined data sets will be made available to industry, agencies, and the public. Data on distribution and abundance of Steller's and spectacled eiders, and yellow-billed loons are contained in two Geographic Information System (GIS) databases available through the Arctic Landscape Conservation Cooperative website (<http://arcticlcc.org>).

The loon and eider GIS databases will allow agency biologists and industry planners to quickly and efficiently identify potential areas of conflict between protected species and industry activities and infrastructure. For example, the Bureau of Land Management, which provided financial support to develop the loon database, uses the data to inform both broad-scale planning and site-specific permitting to avoid conflicts through timing and proximity stipulations.



Western Alaska LCC: *Upcoming & Archived Webinars*

Climate driven changes in surface water temperature, and it's potential to alter habitat suitability for many important species, has been identified as a top priority by researchers and managers across Alaska. Recent results from two Western Alaska LCC funded projects that address water temperature are highlighted in our occasional webinar series.

Ben Jones (USGS) and Chris Arp (UAF) recently presented a webinar describing their efforts to develop forecast models for lake surface temperature across Western Alaska. They used lake surface temperature and meteorological data to develop empirical models of lake surface temperature. Satellite data of surface temperature was used to validate the hindcast models, and forecast models were driven by down-scaled predictions of air temperature. This collaborative effort includes lakes from Kotzebue to Kodiak. If you missed the webinar, it's [available here](#).

In a complementary effort, Bill Pyle (Kodiak NWR), Pat Walsh (Togiak NWR) and Ron Britton (Alaska Peninsula/Becharof NWR) deployed moored, all-season vertical temperature arrays in lakes in the Kodiak, Togiak, and Alaska Peninsula/Becharof NWRs. These arrays will provide long-term data to inform management of habitat for lake-rearing juvenile sockeye salmon.

Join us for Bill's presentation on March 12th at Noon in the Regional Office, or [learn how to join remotely](#) .

Northwest Boreal LCC: *Integrated Ecosystem Model for Alaska and Northwest Canada*

The NWB LCC is continuing to provide financial and technical support in the development of the Alaska and Northwest Canada Integrated Ecosystem Model (IEM) Project. This effort is designed to help resource managers' understand the nature and rate of landscape change. Maps and other products generated by IEM will



illustrate how arctic and boreal landscapes may be altered by climate-driven changes to vegetation, disturbance, hydrology, and permafrost. IEM uses three ecosystem models that link changing climate scenarios to different ecological processes:

- The Alaska Frame-Based Ecosystem Code (ALFRESCO). ALFRESCO simulates wildland fire, vegetation establishment, and succession.
- The Terrestrial Ecosystem Model (TEM). TEM models characteristics of organic soils, hydrology, vegetation succession, biomass, and carbon balance in soil.
- The Geophysical Institute Permafrost Lab model (GIPL). GIPL simulates permafrost dynamics such as active layer thickness (the depth of summer seasonal thaw in perennially frozen ground) and mean annual soil temperatures.

The individual models provide important information on how the Alaskan and Northwestern Canada landscapes may respond to climate change. However, these processes do not act in isolation, and they each influence processes simulated in the other component models. Linking ALFRESCO, GIPL, and TEM together will produce a more realistic picture of potential future landscape conditions because it allows the models to simulate known interactions of ecosystem components and physical processes. In addition to linking the models together, new functionality is being developed so that IEM can better simulate ecosystem dynamics such as tundra fire and treeline dynamics, landscape-level thermokarst dynamics, and wetland dynamics. FY13 funding from the LCC is supporting the development of products showing the spatial probability of vegetation composition change within NWB LCC.

The IEM was recently featured in Alaska Park Science [Click here](#) to read the article.

North Pacific LCC: *Communications*

Looking to share and expand the reach of your work? The [North Pacific Landscape Conservation Cooperative](#) is looking to share climate related science and information with partners in Alaska. Each month the NPLCC releases two newsletters - the Climate Science Digest, focused on science related opportunities and research, and the North Pacific Tidings, focused on NPLCC and partner related news and updates. They have recently made big changes to their website, established new social media profiles, and are seeking to expand their listservers to follow their mission of sharing climate

seeking to expand their subscribers to follow their mission of sharing climate science information and tools.



Spanning coastal landscapes from Northern California to Alaska, the NPLCC is constantly looking to share information with and from Alaskan land managers, agencies, and audiences. Please contact the [NPLCC communication and outreach specialist](#) if you are interested in sharing Alaskan climate and landscape related materials. If you

are interested in also hearing more from the NPLCC you can join their mailing list [here](#).

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Brett Parks created list in order to archive and send.*

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