
Yukon Flats National Wildlife Refuge

Annual Staff Report

October 2019 – September 2020



Refuge Overview

The Yukon Flats Basin is a world-renowned breeding ground for waterfowl. It also provides resources for over 1,200 people who live there as it did for thousands of years for the Dené people. Lying within this basin, Yukon Flats National Wildlife Refuge (Refuge) was created in 1980 by the Alaska Native Interest Lands Conservation Act, *aka* ANILCA. The law established the following purposes:

- to conserve fish and wildlife populations and habitats in their natural diversity including, but not limited to, canvasbacks and other migratory birds, Dall sheep, bears, moose, wolves, wolverines and other furbearers, caribou (including participation in coordinated ecological studies and management of the Porcupine and Fortymile caribou herds) and salmon;
- to fulfill the international treaty obligations of the United States with respect to fish and wildlife and their habitats;
- to provide, in a manner consistent with the purposes set forth in (1) and (2), the opportunity for continued subsistence uses by local residents; and
- to ensure, to the maximum extent practicable and in a manner consistent with the purposes set forth in paragraph (i), water quality and necessary water quantity within the refuge.

The Refuge is the nation's third-largest national wildlife refuge. The external boundaries encompass approximately 11.1 million-acres of land with 8.63-million acres in federal ownership. Extending 220 miles east-west along the Arctic Circle in east-central Alaska, the Refuge lies between the Brooks Range Mountains to the north and the limestone peaks of the White Mountains to the south. The Trans-Alaska Pipeline corridor runs along the western boundary while the eastern boundary extends to within 30-miles of the Canada border. The Yukon River sculpts the vast floodplain of lakes, ponds, and streams that dominate the landscape.

To fulfill refuge purposes, the staff focus much of their efforts on monitoring the status of animals and habitat that are important from a local, national and global perspective. Through a diverse program of biology, education, outreach, and enforcement, staff partner with others to conserve these important resources.

This report is a brief summary of staff activities and items of interest occurring between October 2019 and expected through September 2020.

Projects and Issues

Impacts from the Global Coronavirus (COVID-19) Pandemic

Beginning in early March 2020, staff began working from home to protect themselves and Yukon Flats communities. Ongoing and planned aviation, field-based activities, and travel were cancelled. In early May, the US Fish and Wildlife Service established safety guidelines specific to aviation, field-based and community activities. Under these guidelines staff were unable to complete eagle/stick nest surveys, duck brood surveys, duck banding, invasive plant surveys, open house visits, science camps, snowshoe hare transect monitoring and moose surveys. However, at the time of finalizing this report aerial surveys for loons, scoter and scaup, and sheep were completed.

Special Action Requests

Special Action Requests for additional moose harvest were submitted to the Federal Subsistence Board (Board) by the Stevens Village Tribal Council and Gwichyaa Zhee Gwich'in Tribal Government in early April 2020. Each Tribe expressed food security concerns as the basis for their request. In early June the Board delegated their authority to the refuge manager through June 1, 2021 stating:

The regulatory authority hereby delegated is limited to the following authorities within the limits set by regulation at 36 CFR 242.26 and 50 CFR 100.26:

- *Open, close, reopen a season, up to 60 days in duration, for moose on Federal public lands within Unit 25D.*
- *Establish individual or community harvest limits, including antler and sex restrictions for moose within Unit 25D.*
- *Specify permitting requirements, determine the number of permits to be issued, and set permit conditions for moose in Unit 25D.*
- *Set harvest quotas for moose on Federal public lands within Unit 25D.*

As of August 18, 2020, Gwichyaa Zhee Gwich'in Tribal Government has deferred action on their request. The refuge staff did meet telephonically with Stevens Village Tribal Council on June 25 to discuss their Special Action Request and moose management issues, and will continue discussions. (Note: Dinyea Corporation joined the telephonic discussion as well.)

Importance of Moose Harvest and Hunter Effort Reporting

Moose harvest and hunter effort reporting is important to the hunters and wildlife managers because it:

- Confirms the importance of wildlife for food & cultural needs
- Shows the hunters commitment to be part of wildlife management
- Is a tool for protecting wildlife from overharvest
- And helps to provide healthy wildlife populations for future generations

Below is a Unit 25D west federal moose permit for Beaver, Birch Creek, and Stevens Village. This permit and the State's Tier II permit contribute to managing moose and providing for subsistence needs. Refuge staff, in cooperation with the three tribes, are working together to make permits available to help ensure timely harvest/hunter effort reporting.

Federal Subsistence Hunt Application Wildlife - Registration -FM2505 - 2019/20 - Moose		Permit No.
Federal Land Unit: Yukon Flats NWR	Unit(s) & Subunit(s): 25D (West)	AK Hunting License Number:
Applicant's Name (First, Middle Initial, Last):	Date of Birth (mm/dd/yy):	Telephone Number: Email:
Mailing Address:	Physical Address:	
Applicant's Signature X _____ I certify that I am a rural resident as defined by 50 CFR 100.4 and 36 CFR 242.4. I have read and understand the conditions on the permit and agree to comply with them and applicable regulations as found in 50 CFR 100 and 36 CFR 242.	Community of Primary Residence:	
	Issuing Agent (Print): Date Permit Issued (mm/dd/yy):	
Federal Subsistence Harvest Report Wildlife - Registration -FM2505 - 2019/20 - Moose Permit Number: Permittee's Name:		NON-TRANSFERABLE UNIT: 25D (West) SEASON: 08/25/19 thru 02/28/20 BULL LEGAL: One bull on federal lands only. Successful Harvest: <u>Must</u> return permit Harvest Report within 5 days after taking an animal. Unsuccessful or did not Hunt : <u>Must</u> return permit Harvest Report within 15 days after the close of the season.
1. Did you hunt? Yes ___ No ___ 2. Did you use a designated hunter where allowed? Yes ___ No ___ 3. How many days did you hunt? _____ 4. How did you get to hunt area? (Circle your primary method of getting to where you started walking) (A) Airplane (B) Horse/Dog Sled (C) Boat (D) Airboat (E) Snow Machine (F) 3-4 Wheeler (G) Other off road vehicle (H) Highway vehicle (I) No vehicle used 5. Subunit Hunted _____ 6. Specific Locations _____ 7. Did you Harvest an animal? Yes ___ No ___ A. If yes, Date of Harvest (mm/dd/yy) ___/___/___ B. Sex of animal: Male ___ Female ___ 8. Following applies to Moose harvest only: A. Was animal Spike/Fork? Yes ___ No ___ B. Antler Spread(inches): _____ C. Number of brow tines: L ___ R ___		
INTERNET REPORTING http://fws.gov/alaska/harvestreport UNIQUE CODE Not Available for this Permit		OMB Control No. 1018-0075 Expires 06/30/2019 FEDERAL PERMIT PERMIT NO: Regulatory Year: 2019/20 HUNT NO: FM2505 UNIT(S): 25D (West) SEASON: 08/25/19 thru 02/28/20 BULL SPECIES: Moose LEGAL: One bull on federal lands only. CONDITIONS: See Back Permit must be in your possession while hunting or transporting the animal taken. You must also show this permit to any person authorized to enforce Federal law who requests it. Failure to return the harvest report will result in you being ineligible to receive a permit for the following regulatory year, and may result in a fine. Print Name : _____ X _____ Hunter's Signature JAN FEB MAR APR MAY JUN

FWS Form 3-2326 REV 10/13



Moose Population Status

Moose surveys are conducted about every three years on the Yukon Flats. The most recent surveys conducted in the eastern and western Yukon Flats were in 2015 and 2018, respectively. A survey is scheduled for the western Yukon Flats in 2021 and will be coordinated with the Village of Beaver. A moose population survey will be conducted in the eastern Yukon Flats as soon as feasible given current pandemic restrictions.

Sheep Survey

The White Mountains sheep survey was completed in July 2020 in collaboration with the ADF&G. Overall counts of rams, ewes and lambs were lower than the long-term average. Final results are pending.



Effects of Climate on Sheep

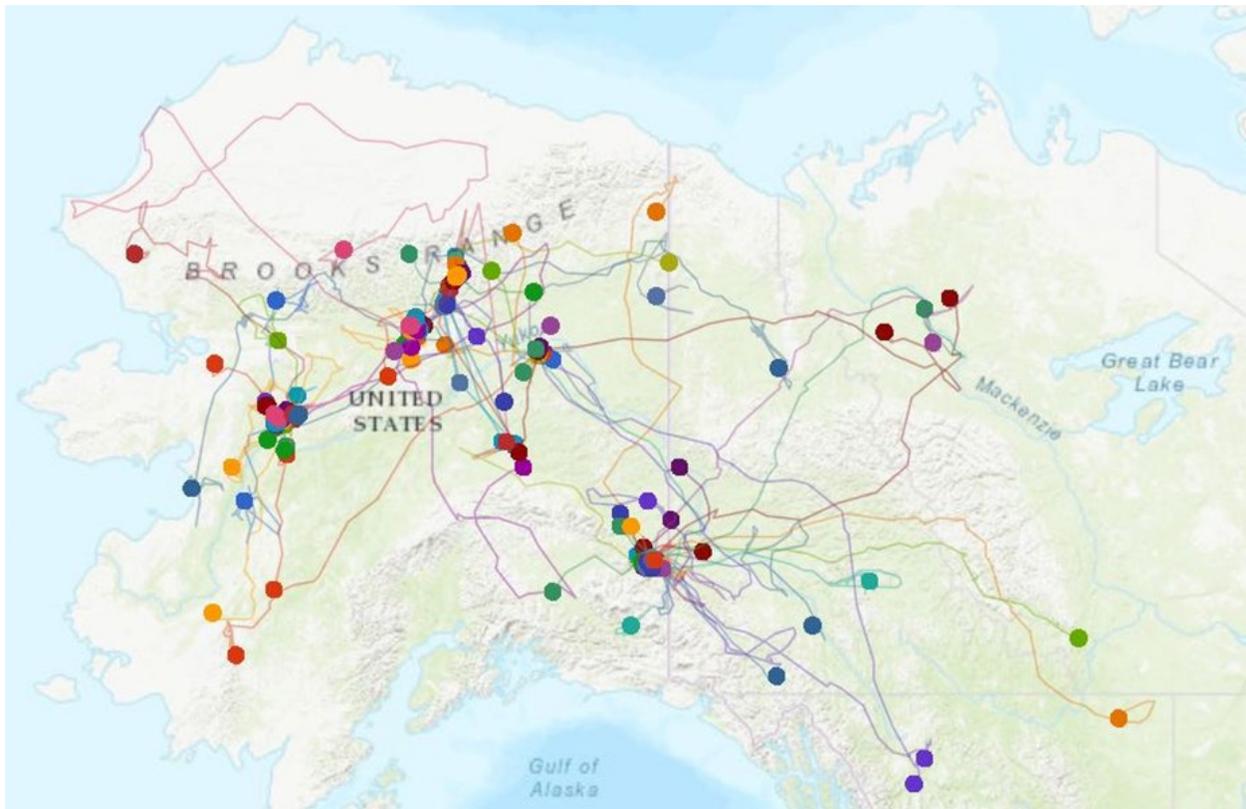
A sheep report, “Environmental Influences on Dall's Sheep Survival,” was released this past April by a team of sheep biologists. The report summarizes the effects of ice-on-snow events in the White Mountains and throughout Alaska. In recent years, warm weather in mid-winter has caused hard crusted layers of snow which prevents sheep ready access to food which can effect body condition and lamb survival. Understanding how sheep respond to these environmental changes can assist in managing sheep populations in a rapidly-changing climate. The report is available from refuge staff or can be found at:

https://www.researchgate.net/publication/340922402_Environmental_Influences_on_Dall's_Sheep_Survival

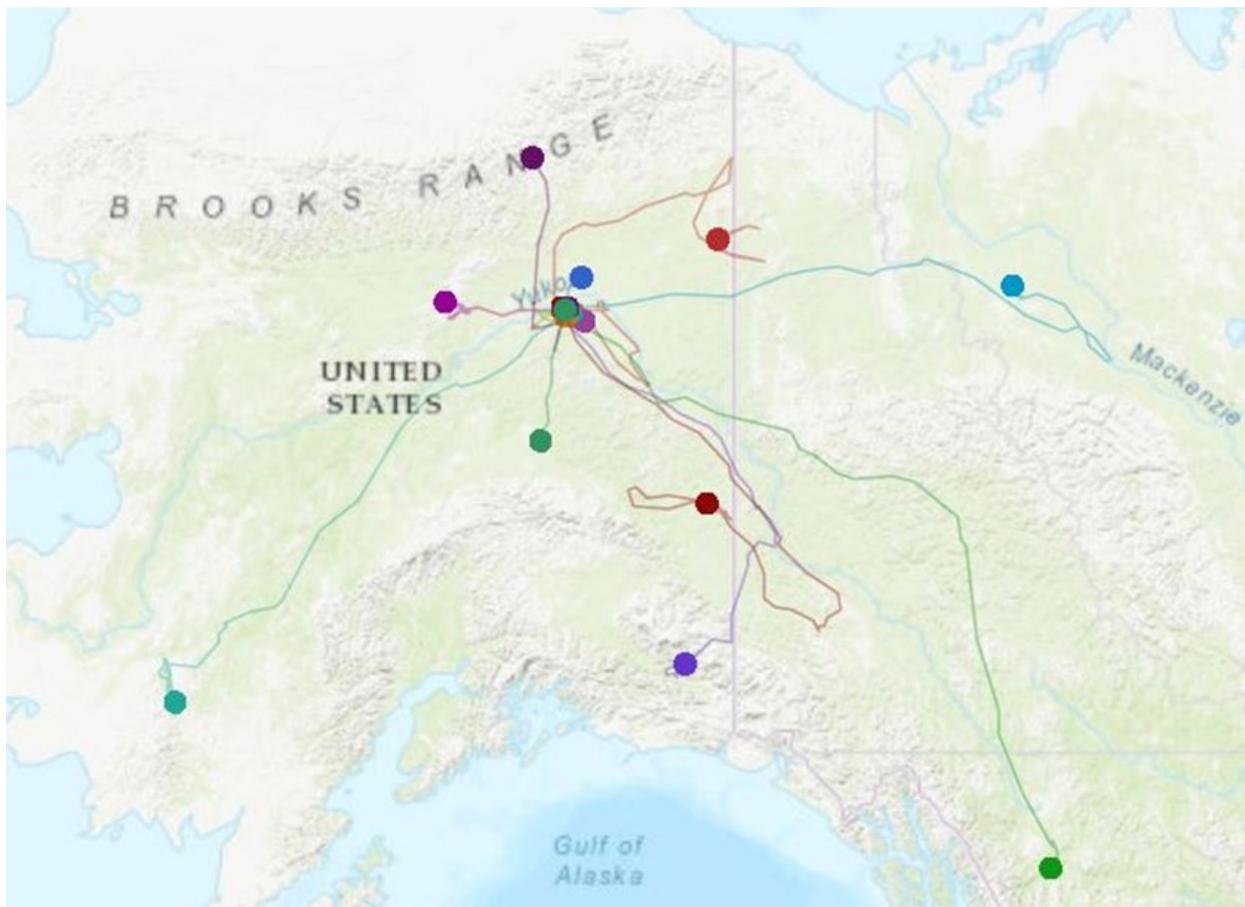


Lynx Movement Study

This year, staff completed a fourth year studying lynx movement patterns, dispersal behavior, and survival in relation to snowshoe hare abundance. In early March 2020, Refuge staff and volunteers live-captured and collared two lynx in walk-in traps. Lynx were fitted with satellite collars. Capture operations related to this study also occurred in Tetlin National Wildlife Refuge, Kanuti National Wildlife Refuge, Koyukuk/Nowitna /Innoko Refuge Complex, and Gates of the Arctic National Park and Preserve. The figures below chronicle lynx movements between 2017 to present. Many lynx are currently dispersing from their capture areas in all directions, some many hundreds of miles.



Movements of 163 lynx collared across Alaska and Canada 2018-2020



Movements of 18 lynx collared on the Yukon Flats 2018-2020

Non-native Invasive Plant Surveys on Yukon Flats

Yukon Flats Staff and Fairbanks Soil and Water Conservation District have worked in each of the Yukon Flats communities over the last decade to look for invasive plants in cooperation with village tribal councils. It's time now to update the surveys to see if any new invasive plant species have shown up in your communities since they were last surveyed.

In 2021 we plan to visit Yukon Flats communities to collect new baseline data on non-native plants, per approval of Tribal Councils. Since Fairbanks is a source of invasive plants, plant seeds and parts can hitchhike on shoes, bags and equipment and be brought into villages from travel activities back and forth. For example in 2011, we found a small patch of invasive Canada thistle at the Stevens Village airport. Fairbanks Soil and Water Conservation District worked with the landowner, Alaska DOT, to chemically treat the infestation. We aren't sure exactly how it arrived there but it likely came in on a piece of heavy equipment. Follow-up monitoring the following years showed it no longer there. This emphasizes the importance of early detection and if required, rapid response to prevent these invasive plants from spreading onto the Yukon Flats.



Canada thistle found in Stevens Village airport in 2011



The Canada thistle plants were about 4' tall

Invasive sweetclover, present in Fort Yukon and possibly Circle, was brought into Fort Yukon over 50 years ago, to conduct cold hardiness trials. Since then large patches of yellow, and then white sweetclover, have been found around Fort Yukon. Over the years, Fairbanks Soil and Water staff mowed infested areas to contain it and prevent spread but the life span of the seed can be 85+ years! Once invasive plants become established over a large area they most likely will have to be managed in perpetuity, which is why we want to prevent them from spreading into natural areas.

So, along with surveying communities for new invasive plants, our other priority will be to look for white sweetclover along Yukon River gravel bars. Refuge staff have looked for it in the past and have not found white sweetclover. Also, white sweetclover was recently discovered downstream of Eagle, Alaska on gravel bars. Why do we care about keeping this invasive out of our wild areas? Where it has invaded in Fairbanks and other areas it has displaced native plants. Gravel bar and shoreline habitats provide important willow shrub habitat for moose and snowshoe hares and nesting habitat for song birds and ground nesters like Arctic terns and sandpipers. When white sweetclover comes in it takes over the area and has the potential to outcompete willows and alder.



Fairbanks Soil and Water Conservation staff member pulling a second year white sweetclover plant in Fort Yukon, 2012.

The photos that follow are other invasive plants that are establishing in Fairbanks and could be finding their way into the Yukon Flats. The Alaska Weed ID app can be found here and this is helpful in non-native invasive plant identification: <https://apps.bugwood.org/apps/alaska/>



The left two images show Perennial Sowthistle. It looks like a very tall dandelion plant with sharp thorny leaves. The right image is of yellow toadflax also known as butter and eggs. Both are very invasive and hard to get rid of once established. Both occur in Fairbanks.



Invasive bird vetch is a huge problem in Fairbanks. It is now climbing into forests. It may be confused with native vetch that occurs throughout the interior but a key difference is the invasive bird vetch has tendrils (see photo on right) that allow it to climb onto native vegetation and shrubs and trees.

Biology & Invasive Potential

- Trimming & cutting European Bird Cherry stimulates growth!
- Root suckers & fallen trees can create thousands of new trees
- Can create defensive chemicals called cyanogenic glycosides
- In rare circumstances, these trees can cause cyanide poisoning of moose

Contact Information

For plant alternatives or if you are outside of Anchorage contact:
State of Alaska - Department of Natural Resources
 Plant Materials Center
 Invasive Plants Program Coordinator
 Delia Vargas-Kretzinger
 delia.vargas@alaska.gov
 907-465-0419

For control and removal volunteer opportunities in Anchorage:
 Anchorage Park Foundation
 website: http://apf.alaska.gov
 907-586-6222

For additional information:
 USF Cooperative Extension Service
 (Anchorage) 907-586-6222
 (Fairbanks) 907-786-4225
 www.alaskaextension.org

1-877-INVASIV
 (1-877-468-2748)

Invasive Alert!

European Bird Cherry
Prunus padus

Distributions & Abundance

- Native to Northern Europe and Asia
- Survives prolonged temperatures to -22°F
- The northern limit extent in Alaska is the south side of the Brooks Range, north of the Arctic Circle
- In Alaska, it has been planted in residential landscapes, parks, and a few remote cabins
- It is rapidly invading riparian stream valleys and natural forests in Anchorage and Fairbanks
- Takes over the understorey of forests and forms thickets where other plants once grew

Identification

European Bird Cherry (*Prunus padus*) is a small deciduous tree also known as the Chokecherry or Mayday tree.

Growth

- Grows up to 30 feet tall
- Spreads from its trunk, stems, & roots when cut
- Is rounded in shape, has fine branching stems, & its upright terminal growth can form dense thickets

Bark

- Light gray to brown
- Smooth, with shallow furrows
- Can be used for the bark beetle control

Leaves

- Leaves are ovate, serrated, & drooping at the tip
- Leaves are dark green with a small gland at the base of the stem
- Edges of the leaves are sharply serrated

Flowers

- Flowers are white, small, & very aromatic
- Flowers are arranged in drooping cylindrical clusters (umbels)
- In Alaska, flowers are seen between late May and early June

Fruits

- Small, bitter black cherries
- Appear in late summer
- Birds eat them
- Chemicals in sprouts that seeds release make them inedible

Alternative Ornamental Trees for Alaska

Management & Control

Cutting alone is not an effective solution because this tree readily re-sprouts from stumps, stems, and roots (including fragments)

Seedlings and small trees can be pulled by hand. Trees up to 2" in diameter can be removed with a tool called an "axebar" as shown below. Note that ALL of the roots must be removed, and the tree disposed of, or it will re-sprout!

Systemic herbicides are the most effective way to control European Bird Cherry because they are absorbed directly into the tree's vascular system to kill ALL parts of the plant so it cannot re-sprout. Certain herbicides can be applied to a cut stump to prevent the stump and roots from sprouting. USF Cooperative Extension can provide additional information on herbicides or a commercial pesticide applicator certified in Alaska can be hired to apply herbicides for you.

European Bird Cherry is extremely invasive and has taken over stream habitats in Fairbanks and Anchorage. Willow and alder are being displaced by this invasive.

If you see these plants in your communities please contact refuge biologist Delia Vargas Kretzinger at 907-456-0419 or call the statewide hotline at 1-877-INVASIV (1-877-468-2748).

Invasive Aquatic Plant Survey Updates for Interior Alaska

Elodea is Alaska's first submersed aquatic invasive plant. Elodea is cold tolerant, reproduces vegetatively and easily breaks into many fragments. ONE FRAGMENT IS ALL THAT IS NEEDED TO START A NEW INFESTATION.



The Elodea pictured above was collected at Chena Lake in North Pole in 2019, before it was treated.

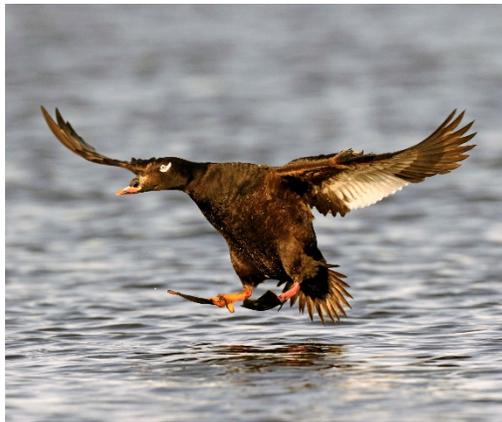
Elodea was found in Manley Hot Springs Slough in 2018 and is now at a jumping off point where it can enter the Yukon River mainstem and spread downriver and basically throughout the basin, aided by boats and airplanes, such as favorite fly-in hunting spots. Staff identified boat-accessible waterbodies (lakes, streams and sloughs) that may be at-risk for being invaded by Elodea.



Boat-accessible streams, sloughs and lakes at risk for being invaded by Elodea. Red=current infestations; Blue=survey areas where Elodea was not found; yellow=boat-areas that need to be surveyed in the Yukon River basin

Fragments can be transported on boats, fishing gear, floatplanes and by the current and during high water events that flush debris back into slower backwater sloughs along the Tanana and Yukon Rivers. We don't want Elodea in our waters. It degrades aquatic habitats important for fish, it reduces native aquatic plant diversity and it clogs waterways with thick vegetative mats preventing boat access for subsistence and recreation activities. It also poses a threat to safe floatplane operations. The USFWS along with Fairbanks Soil and Water Conservation District is working to both chemically treat Elodea infestations where they occur near Fairbanks and the Tanana drainage and will continue to conduct early detection surveys along the Tanana and Yukon River.

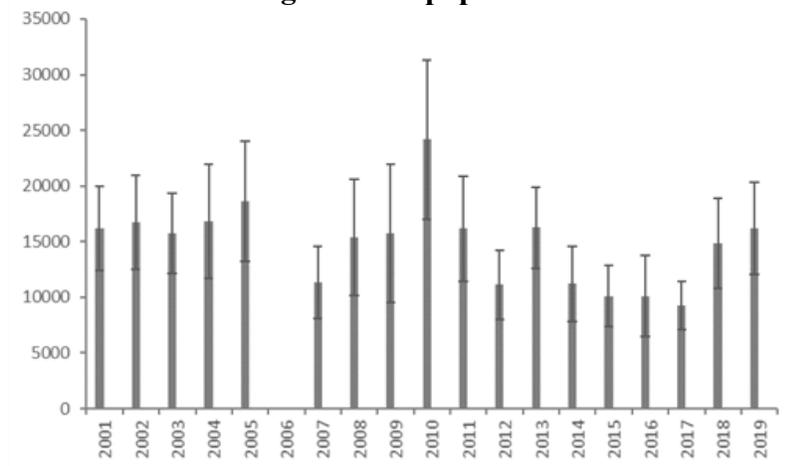
If you find an aquatic plant that looks like Elodea, document the location and get a good close-up photo. Contact Refuge Wildlife Biologist Delia Vargas Kretsinger at 907-456-0419 or call the invasive species hotline at 1-877-INVASIV (1-877-468-2748).



Waterfowl Surveys – Scoters, Scaup, Loons and Swans

2020 marked the nineteenth year of annual aerial surveys to monitor scoter and scaup populations on the Yukon Flats. All these waterbirds are important indicators of good water quality and healthy habitats. Results from the 2020 scaup and scoter surveys are still being tabulated so we provide the graph below with a historical summary of white-winged scoters through 2019. Loon surveys were completed in early August.

White-winged scoter population trend 2001-2019





Swan Surveys

Trumpeter swans that breed on the Yukon Flats overwinter in the northwest lower 48 states. Swans nearly went extinct in the 20th century in North America but conservation measures have bolstered their populations. Over the past 30 years Alaska swan populations have grown significantly. The refuge monitors their presence annually in August, and at the time this report was finalized the survey had not been completed.

Trail Cameras

Biological staff deployed 34 trail cameras to record wildlife occurrence during the 2020-2021 winter. Photos are currently being analyzed from winter 2019-2020. One goal of this project is to monitor the lynx population cycle. In 2016-2019, lynx sightings were common. Sixteen camera traps were active across the Refuge in 2016-2017, 11 camera traps in 2017-2018 and 16 camera traps in 2018-2019, yielding a total of 467,739 photos. Of those, 12,211 contained a lynx and 49,049 contained a photo of a terrestrial mammal or bird. In all 3 winters, lynx occurred across nearly the entire collection of camera traps (occupancy probability 0.81 or greater), implying saturation across the landscape. Detection probability increased across the winter, perhaps from increased movement of adults during breeding season or juvenile dispersal in late winter.



Lynx were the most common species, occurring at a much greater relative abundance than other furbearers. At times, the Yukon Flats contains a tremendous biomass of lynx. After lynx, wolf, wolverine, and red fox were the most abundant furbearers, with coyote being rare. Mink and marten were probably under represented because of their small body size. These data can be used to inform proposals to federal and state regulatory boards. Future goals are to investigate spatial variation in occupancy and species richness.



Geospatial application developed to measure a changing landscape

Refuge staff entered into a partnership with the Geographic Information Network of Alaska at the University of Alaska Fairbanks to develop a desktop computer application that will allow managers and biologists the ability to easily display and summarize *remotely sensed data* to inform natural resource management. *Remotely sensed data* is basically satellite data, which measures temperature, water, and

light reflecting off the earth. With that information staff can measure the extent and timing of the growing season, snow cover, lake ice, surface water, wildfires and more. The beauty of the new application is that it will be relatively easy to use and staff can produce maps that display change across the Yukon Flats Basin with minimal effort to share with others.

Eyes in the Bush – New Citizen Science Project

Do snow conditions vary between Venetie and Circle? Is the depth to frozen ground in Fort Yukon changing? Are black ducks arriving earlier than they used to? Does the moose you harvested have ticks? CATG and staff will be starting a pilot project next year, which will empower local residents in Fort Yukon, Venetie and Circle to contribute to a new Citizen Science program called “Eyes in the Bush.” CATG will hire technicians in



these villages to monitor measures of snow, thawed soil and air quality; dates for green up, river ice in/out, and migratory bird arrival; early detection of emerging soil-based pathogens, invasive plants and ticks; and fire monitoring. This information will be recorded in the Indigenous Sentinels Network (ISN), which provides Indigenous communities with tools, training, networking and convening, coordination, and capacity for ecological, environmental, and climate monitoring. The ISN will in turn share data with researchers and agencies monitoring various parameters at larger scales.

Through this citizen science approach, Refuge staff, tribes and partners will develop a mutual understanding of Alaska's changing environment, identify impacts to resources of concern, identify high-priority information needs for the agency, tribes, and local community members, and develop a process for information to be collected, archived and shared. This proposal furthers previous work supported by the Service, Tanana Chiefs Conference and the Northwest Boreal Partnership, which modified the ISN platform, explored drone-based monitoring techniques, and introduced the ISN program at summer science camps in several villages in interior Alaska.



Fire in the Anthropocene Workshop

There is growing concern that climate change is reducing the resiliency of the boreal forest in response to disturbance and other stressors. In northeast interior Alaska eight of the 10 warmest years between 1925 and 2019 have occurred since 1993. Global warming is also creating, and predicted to create more lightning and ignition conditions for wildfires. As fire weather severity increases, wildfires in the boreal forest are predicted to increase in extent, frequency, and severity. Recent wildfires

are directly and indirectly degrading permafrost; have accelerated soil organic layer burning and loss; and are shifting boreal forest composition. These human-driven, rapid, landscape-level changes likely affect fish and wildlife in myriad ways, and limit managers' ability to achieve refuge purposes. Recent fires are also increasingly subjecting many people to hazardous levels of air pollution. However, what, if anything, can or should we do about this change confounds managers. Should they resist, continue to accept, or direct these changes?

In collaboration with the fire science community, refuge staff and the Alaska Conservation Foundation (ACF), will organize and facilitate a workshop to synthesize existing information and review projected fire impacts to better understand and enhance general awareness of the implications of increased wildfires on human health and changes to the landscape. Afterwards, ACF will publish a synthesis of information and possible strategies from the workshop. With that product, staff will be better equipped to take the next steps to engage neighbors and potentially-affected interests (i.e. broader fire management, adjacent landowners including village and regional Native corporations, and communities located near the refuge) in diagnosing the situation and co-developing ways to move forward together.

Fort Yukon Bunkhouse Construction

In 2018 work began to construct a bunkhouse in Fort Yukon at the intersection of Hill Street and East Third Avenue. Throughout the project local contractors and carpenters have been employed. The projected completion of the new bunkhouse was May 2020 but was disrupted by the Global Coronavirus (COVID-19) Pandemic (pandemic).

Fortunately a local housing crew was available to take on a larger role through the summer. Completion date is undetermined due to several tasks that must be completed by certified technicians unavailable in Fort Yukon.



Doyon/Hilcorp Aerial Gravity Survey

On December 9, 2019, Doyon, Limited announced an agreement with Hilcorp to conduct an aerial gravity survey above the Yukon Flats region during the summer of 2020 as Phase I of a possible three phase project to develop oil and/or gas resources. Even though the Service has no oversight over aircraft flying above refuge lands and waters, in February a representative of CGG (a contractor for Hilcorp) described the proposed survey to staff. The survey would use a fixed-wing aircraft flying 500' Above-Ground Level and higher, aka "Drape." The aircraft would operate in a grid pattern, east to west, between Stevens Village and Fort Yukon, and north to south between Fort Yukon and the southern border of the refuge. The manager encouraged CGG to consult with tribal governments and residents of the Yukon Flats region on possible effects to subsistence hunting and fishing, as well as timing and location of activities associated with the project. CGG was also encouraged to avoid operations in late June due to potential conflicts with aircraft conducting firefighting operations. The refuge manager sent a fact sheet of Frequently-asked Questions to tribes and village corporations in May. CGG conducted their operations between May 10th and June 6th reportedly using a Cessna 208 aircraft. As of August 18th 2020 it is unknown if Doyon and Hilcorp will proceed to Phase II of the project.

Annual Funding Agreement with Council of Athabascan Tribal Governments

Yukon Flats National Wildlife Refuge and CATG continues their Annual Funding Agreement to conduct specific programs, services, functions, and activities. Under the AFA, the CATG facilitates moose management communication, conducts a youth cultural and science camp, continues general community engagement, and provides logistical support with facilities and operations in Beaver and Fort Yukon. The USFWS and CATG also modified Year 2 of the two-year agreement to incorporate the Eyes in the Bush project, described above.

The Gwich'in philosophy for a continued abundance of resources is sharing with the less fortunate first, especially the elders, and wasting nothing.



Wanton Waste moose ribs

Did you know that....
 One bull moose can feed a family of four for an entire winter?
 Leaving a moose carcass behind for waste is a Class A misdemeanor?
 Ask your local Hunter Liaison how to care for the game out in the field, and to help identify entities that accept meat Donations!



Donated moose meat being harvested

Community Hunter Liaison

Our Eastern Interior Regional Advisory Council had requested for the support and development of a community hunter education and outreach liaison to address user group conflicts that may exist within the communities.

Since working together to support the position of our Community Hunter Liaison we are striving to help promote the cultural concepts that are strongly held within the communities of this hunting district.

When approached by our Hunter Liaison, do not hesitate to initiate an open dialogue for peaceful resolution to any challenges or questions you have to help enhance the positive lines of communication between hunters of local and non-local descent.

Community Hunter Liaisons

The Community Hunter Education Liaison Project, a cooperative effort with CATG, is in its second year of operation. CATG stations a hunter liaison in Ft. Yukon (Paul Shewfelt) and in Circle (Amanda Pope) during the months of August and September. They greeted and welcomed all hunters. Both shared viewpoints on respecting wildlife and local residents as well as options for sharing harvested resources. Outside hunters appreciated being welcomed and learning more about local culture. This project's origin is from the Eastern Interior Regional Advisory Council's Hunter Ethics Working Group.

Law Enforcement Program

Federal Wildlife Officer Cody Smith followed up on an incident from the 2019 moose season, and ended up spending a large amount of time determining navigability along the Porcupine River with personnel from both FWS and BLM. He also returned to Fort Yukon to conduct interviews in relation to this incident. FWO Smith transported the patrol boat from Fort Yukon to Fairbanks for much-needed maintenance, including work on the outboard, the trailer, and the hull of the boat. FWO Smith completed reporting requirements on a firefighting air tractor mishap, and also met with staff at the Isom Creek Fire to complete a site review to prevent trespass on the Refuge and nearby ANCSA lands.



2020 Native Youth Congress

The 2020 Native Youth Community Adaption and Leadership Congress (Native Youth Congress) was postponed until 2021 due to the pandemic. The Native Youth Congress brings Native high school seniors from across the United States to share and learn conservation leadership skills to address environmental change and conservation challenges in their communities. Vince Mathews (Refuge Subsistence Coordinator) and Joanne Bryant (Tribal Outreach Specialist) continue to stay connected via the webinars and 2021 planning efforts. With

wide support Alaska's Native youth will be an important part of the 2021 Native Youth Congress.



Refuge Interns

Student Conservation Association (SCA) interns, Amanda Zuelke and Alex Ellsworth worked for the refuge deep into the winter months and assisted with lynx trapping before their terms ended in April. The refuge had plans to hire a new SCA this past summer but pandemic-related restrictions cancelled our scheduled ground field work in 2020.

Fire Season Summary

The Yukon Flats again tended to be the driest part of Alaska this summer, correspondingly with the highest fuel indices. After a winter with above-average snowfall with higher-than-typical water content, it was a fairly quiet fire season regularly punctuated by wet thunderstorms.

The fire season began on June 5, and had effectively ended by July 17, six weeks later. A total of 15 fires burned 19,571.8 acres (11,580.5 acres were on the Refuge). Fourteen of these fires started on the Refuge from lightning strikes. The one remaining fire (#187 Isom Creek) began on State land and burned east onto the southwestern corner of the Refuge. It was determined to be human-caused. Suppression actions were taken on seven of the 15 fires. Only fire #187 had an Incident Management Team assigned. This incident was also significant because a fireline cut east from the Dalton Highway created the possibility of illegal access onto the Refuge. To prevent trespass, repair work was completed. Another significant event was the July 14 crash of the single-engine air-tanker FireBoss 208 on fire #346 during initial attack efforts. The pilot walked away from the aircraft, which was totaled. A NTSB investigation is underway.

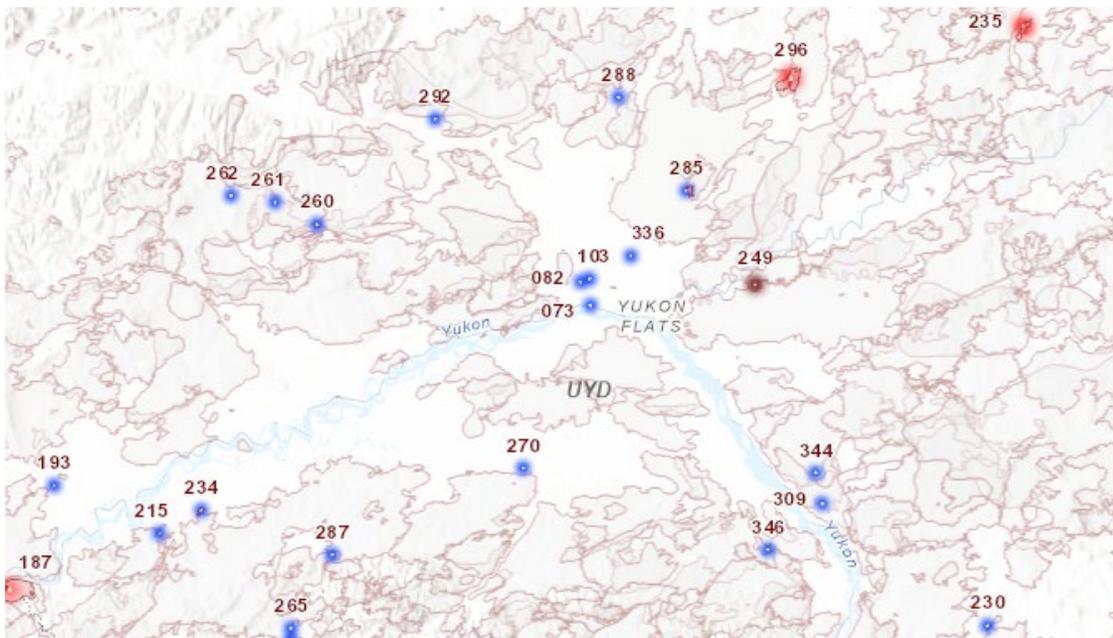


Figure 1. 2020 fires on the Yukon Flats and vicinity. Blue indicates fires that have been called out, red indicates fires not officially out as of August 16. Semi-transparent red polygons indicate fire perimeters from 1939 through 2019.



Alaska's Changing Environment

Alaska is experiencing profound environmental change related to extreme weather events and deviations from the historical climate. On the Yukon Flats average annual temperatures are increasing, the growing season is lengthening, river breakup is earlier and fire size and frequency is increasing. Many of you have noticed these and other changes firsthand. How are these changes affecting physical and biological systems? How can we identify current and anticipated impacts and adapt to

these changes? These are complex questions that will require research and discussion. Refuge staff takes our changing climate seriously. We provide the link below to a report published by the International Arctic Research Center, University of Alaska Fairbanks. Check out the report at: https://uaf-iarc.org/wp-content/uploads/2019/08/Alaskas-Changing-Environment_2019_WEB-2.pdf. A well-researched resource from the US Global Change Research Program provides ideas for mitigating the impacts of climate change, and can be found at <https://nca2018.globalchange.gov/chapter/29/>. This is a very serious issue requiring attention from everyone.