



Federal Subsistence Board

1011 East Tudor Road, MS 121
Anchorage, Alaska 99503 - 6199



FISH and WILDLIFE SERVICE
BUREAU of LAND MANAGEMENT
NATIONAL PARK SERVICE
BUREAU of INDIAN AFFAIRS

FOREST SERVICE

SEPT 16 2020

OSM 20074.KW

Nancy Morris Lyon, Chair
Bristol Bay Subsistence
Regional Advisory Council
1101 East Tudor Road, MS 121
Anchorage, Alaska 99503-6199

Dear Chairwoman Lyon:

This letter responds to the Bristol Bay Subsistence Regional Advisory Council's (Council) Fiscal Year 2019 Annual Report. The Secretaries of the Interior and Agriculture have delegated to the Federal Subsistence Board (Board) the responsibility to respond to these reports. The Board appreciates your effort in developing the Annual Report. Annual Reports allow the Board to become aware of issues outside of the regulatory process that affect subsistence users in your region. We value this opportunity to review the issues concerning your region.

1. Climate Change

Council members have discussed climate change within their respective regions and said that the summer season has been hotter than normal, affecting river and stream levels. These in turn, affect the environment that the finfish and wildlife populations inhabit. The Council requests that the Board ensures cooperating agencies develop investigative plans that examine how recent changes in the environment affect the finfish and wildlife populations within their range and habitats.

Response:

The Board shares the Council's concern over the impact of climate change, and especially warming summer temperatures, on fish and wildlife habitats in the Bristol Bay Region. Your Council is not alone in identifying climate change as a pressing challenge to subsistence practices. Within the last six years, nine of the ten Federal Regional Advisory Councils have communicated their alarm about changing seasonal conditions on fish and wildlife resources in their annual reports to the Board.

During 2019, other Regional Advisory Councils also flagged the effects of warmer temperatures and lower water levels on fish runs as a key concern requiring greater documentation and investigation. For example, the Yukon-Kuskokwim Delta Subsistence Regional Advisory Council stated that low, warm waters correlated with observations of dead salmon, whitefish, and smolt along both the Yukon and Kuskokwim rivers. The Eastern Interior Alaska Subsistence Regional Advisory Council reported that warmer summer waters resulted in salmon die-offs in their region. The Eastern Interior Council also expressed concern about “how this is going to affect the fry in the river and what the long-term effects to the runs will be.”

The Board encourages cooperating land-management agencies to develop investigative plans that examine how recent changes in the environment affect fish and wildlife populations. Your Council has the ability to shape research pertaining to Bristol Bay subsistence fisheries by developing Priority Information Needs (PINs) for the Fisheries Resource Monitoring Program (FRMP). During the fall 2020 meeting the Council will work with the Office of Subsistence Management (OSM) on finalizing PINs for the FRMP. The effect of warming water on subsistence fisheries in the Bristol Bay Region could, for example, be included in the PINs. When researchers from cooperating agencies, the State, and academia submit proposals to OSM for FRMP funding, their acceptance is influenced in part by the degree that they respond to the PINs established by the Regional Advisory Councils.

OSM will possibly consider holding another All-Council meeting during 2022 meeting cycle, assuming adequate funding and staffing are available, and the Councils may decide to elevate climate change, along with its effects on subsistence practices, as a key issue at this meeting. The way in which the Federal Subsistence Management regulatory system can facilitate and support adaptations to climate change would also be a theme worthy of presentations and discussion at this state-wide meeting.

2. Chignik Area Fishery

For the past several years, poor returns of Sockeye Salmon have resulted in closures to subsistence fishing for rural residents in the Chignik area. The Council requests that Federal and State managers begin investigating why the Sockeye Salmon are returning in low numbers. Investigation should include assessing the influence of climate change on spawning beds and marine water environments and developing management plans for the fishery.

Response:

OSM and the Federal Subsistence Fisheries Management staff/program are aware of the recent conservation driven restrictions to subsistence users in the Chignik and Perryville communities. The recent inability to meet Sockeye and Chinook salmon escapement needs with little or no exploitation has caused major concern with all users and fisheries managers. The Federal in-season manager, with the authority delegated by the Board has, in the last few years, committed to conducting outreach to the subsistence users in the Chignik Management Area for

management advice and preseason planning, as well as to begin the process of investigating fisheries research opportunities and funding sources.

Your Council has prioritized research of Sockeye Salmon (and secondarily Chinook Salmon) as a need in the Chignik watershed. OSM presented the FRMP as a way to generate interest in new research for the area to the Chignik Area and Bristol Bay regional organizations, as well as to the newly formed Chignik Intertribal Coalition.

OSM will work closely with residents of the Chignik area, Alaska Department of Fish and Game (ADF&G), and University of Washington Fisheries Research Institute in assisting applicants through the grant application process; specifically, in research investigating freshwater components that may affect salmon returns, which may affect returning yield. A better understanding of factors caused by climate variance that impact the Chignik River watershed would assist with more accurate predictions of future returns. A more comprehensive understanding of Chignik salmon returns would help in updating fisheries management plans to reflect contemporary conditions.

Unfortunately, currently the Council has no representatives from Chignik area communities. The Board and the Council often rely on local and traditional knowledge to advise their decisions; however, making an informed decision becomes increasingly difficult when this knowledge is not readily available. Over the past two years, OSM stepped up its efforts in trying to recruit Council members from the Chignik Area. In June 2019, Native Liaison Orville Lind and State Liaison George Pappas, both with OSM, and Federal in-season manager Jon Gerken of USFWS traveled to Chignik Bay and Chignik Lagoon. During their visit, they introduced the Federal Subsistence Management Program to the local communities and provided information on the in-season manager's roles and responsibilities and on the process of applying for community harvest permit. Additionally, OSM staff provided information on Regional Advisory Council roles and responsibilities, the Council application process, and the FRMP, as well as listened to the local concerns.

In 2020, OSM planned to return to the Native village of Chignik Lake that was not reached during 2019 trip, but the travel was cancelled due to Covid-19 restrictions. However, OSM continues contacts that were established with five communities and the Chignik Inter-tribal Coalition via teleconferencing and discussing status of salmon returns to the region. OSM continues to diligently work with the communities in the Chignik Area providing subsistence opportunities to Federally qualified subsistence users when possible.

3. Finfish

With climate change being a major topic of concern, the Council is worried about the outmigration of all salmon species. The Council requests that a study be initiated on the outmigration of salmon and on effects of the Bering Sea blob on the lifecycle of salmon.

Response:

The Board shares the Council's concerns for salmon in this changing environment. The near historic low Sockeye Salmon returns of 2018 in the Copper River, at Chignik, and at several Kodiak systems, and extreme high temperatures in 2019, indicate that the standard freshwater drivers (for example, adult return numbers, age make-up of the adult returns, stream water temperature, etc.) that are monitored for our understanding salmon production of these systems may need to be revised. The Council has the ability to direct research into this topic through development of PINs for the FRMP. Should the Council choose to do so, it could create PINs related to salmon production monitoring for the next FRMP cycle.

There is ongoing research across Alaska, and beyond, looking into the effects of climate change on fish and fisheries by State, Federal, university, and other investigators. If inclined, your Council can request that OSM staff invite researchers to present information on these topics at future Council meetings.

4. Mulchatna Caribou/Moose

The Mulchatna Caribou Herd is an important subsistence resource for Bristol Bay residents. Recently, the population has been declining within its range. The Office of Subsistence Management (OSM) presented to the Council a special action request (WSA19-07) to decrease the harvest limit from 2 caribou to 1 caribou. The Council had an opportunity to provide comments on WSA19-07.

The Council encourages local agencies to collaborate and address the declining population of the herd by conducting baseline studies on the caribou and moose populations and their habitats within the Bristol Bay Region. The baseline studies would be a reference for understanding how climate change has affected caribou and moose populations and their ranges, including diseases associated with these populations. Collaborators should also investigate subsistence community harvest areas through traditional ecological knowledge projects for all land mammals. Results of these studies can be compared with the 1980s studies to determine how recent climate change has affected caribou and moose populations, and the communities using these resources.

Response:

The Board recognizes your Council's interest in and concern for the caribou and moose populations of your region and understands that coordinated efforts among local agencies is key to thorough and accurate monitoring of wildlife for subsistence management and conservation. State and Federal agencies have a long history of engaging in cooperative monitoring of both moose and caribou populations within the Bristol Bay area and beyond since the mid-1980s. Monitoring of both species includes calf production, population, and fall sex and age composition surveys, and annual adult female survival estimates.

A number of monitoring projects of the Mulchatna Caribou Herd are underway this year. ADF&G is the primary lead for organizing and conducting the majority of these projects, including animal capture and collaring. An aerial photocensus is planned for mid-June to mid-July 2020, and Togiak National Wildlife Refuge (Togiak Refuge) staff will participate if allowed to fly (Aderman 2020). The Togiak and Yukon Delta National Wildlife Refuges continue to provide Argos satellite collars and subsequent location data to monitor herd distribution and to increase the efficiency of the other monitoring projects. Additionally, the Togiak Refuge, ADF&G, and Bureau of Land Management are preparing a study plan to quantify and qualify caribou habitat throughout the range of the Mulchatna Caribou Herd at multiple points in time to understand change in carrying capacity; they are currently in the process of seeking funding (Aderman 2020). The Board is also aware that the development of a working group involving stakeholders to help inform management about the Mulchatna Caribou Herd is a priority for your Council, as well as local natural resource management agencies. The Yukon-Kuskokwim Delta and Western Interior Alaska Subsistence Regional Advisory Councils expressed interest in a similar working group as well.

The Togiak Refuge is the lead for monitoring projects on the Nushagak Peninsula Caribou Herd. During the 2019-2020 season, hunters participating in Federal Subsistence Hunt (FC1702) reported harvesting 306 caribou (166 cows, 140 bulls, and 9 of unknown sex) including 11 caribou (4 cows and 7 bulls) reported in the RC501 hunt. Caribou were not captured for radio collaring and calving surveys were not conducted in 2020 due to restrictions on flying because of Covid-19. An aerial photo-census is planned from mid-June to mid-July 2020 (Aderman 2020).

Togiak Refuge conducted a Geospatial Population Estimate (GSPE) of moose in Unit 17A in October 2019; the results are forthcoming. ADF&G conducted a GSPE moose survey in Unit 17C in February 2020 (Aderman 2020). Moose radio collar and calving surveys were not conducted in Spring 2020 due to restrictions on flying because of Covid-19.

The Board recognizes the value and deep historical perspective of traditional ecological knowledge in understanding environmental change and its impact on the subsistence way of life. We would like to bring to your attention a recent ethnographic research project that focused on local and traditional knowledge of the Mulchatna Caribou Herd. Study communities included Bethel, Dillingham, Eek, Ekwok, Igiugig, Koliganek, Kwethluk, Lime Village, Napaimute, New Stuyahok, Nondalton, Stony River, and Togiak (Van Lanen, Gayle Neufeld, and McDevitt 2018). While ADF&G was the lead, this was a collaborative effort that included research partners from the Bristol Bay Native Association and Lake Clark National Park and Preserve. This project collected over five decades of local knowledge documenting the process of ecological change and their impacts on the Mulchatna Caribou Herd. If your Council has not already been briefed on the findings, the Board encourages you to invite the principal investigator to present an overview of the project at your next meeting.

Finally, the Board encourages your Council to strengthen partnerships and information sharing by continuing to invite researchers to report their project findings and activities at your meetings.

The Board appreciates your diligence in tracking these important issues and providing insightful and important guidance on the careful management of your subsistence resources.

Literature Cited

Aderman, A. 2020. Wildlife Biologist. Togiak National Wildlife Refuge. Personal communication: email.

Van Lanen, James M., Gayle Neufeld, and Chris McDevitt. 2018. Traditional Ecological Knowledge of the Mulchatna Caribou Herd: Phenology, Habitat Change Subsistence Use, and Related Species Interactions in Game Management Units 9B – C, 17, 18, and 19 A-C Alaska. Alaska Department of Fish and Game Division of Subsistence, Technical Paper No. 441, Anchorage.

5. Invasive Species

The Council is concerned about invasive species, plants and insects, which are inadvertently introduced to the region. The Council requests an investigation to develop survey or study methods on invasive species in the region. The Council is uncertain how invasive species affect caribou and moose populations and other subsistence resources.

Response:

Land managers in the region, including the US Fish and Wildlife Service, National Park Service, and Alaska Department of Natural Resources are actively conducting surveys to locate invasive plant infestations and conducting control actions as needed.

To gain additional information or to report a possible invasive terrestrial and aquatic plant in the Bristol Bay area, you can go to the Alaska Exotic Plant Information Clearinghouse (AKEPIC). The AKEPIC hosts a mapping tool (<https://aknhp.uaa.alaska.edu/apps/akepic/#map?lg=f37ef462-d080-11e3-a36b-00219bfe5678>) that shows the known distribution of various invasive plants; there is also a reporting tool (<https://accs.uaa.alaska.edu/invasive-species/submit-data-to-akepic/>). People can also download the Alaska Weeds ID app (<https://apps.bugwood.org/apps/alaska/>) to identify and report invasive plants.

If there is a concern about a possible invasive animal, the information can be reported to the local land manager or through the ADF&G Invasive Species Reporter (<http://www.adfg.alaska.gov/index.cfm?adfg=invasivespeciesreporter.main>).

Federal and State agencies encourage people to monitor for and report locations of invasive species. The following highlights potential invasive threats to aquatic and terrestrial habitats and provides general background information on how invasive species can spread. The Council is encouraged to actively engage in outreach to local communities about how to reduce the potential to introduce invasive species, and how to identify and report them.

Salmon and their habitats are particularly susceptible to negative impacts from the introduction and establishment of invasive or non-native plants and animals. Invasive species often spread

aggressively and may quickly become difficult and costly to manage and control. Invasions can lead to the loss of biological diversity, barriers to fish passage, altered water chemistry, changes to food webs, affect stream temperatures, and change habitat structure. Invasive species can also introduce diseases and parasites. Invasive species are introduced by human activity and can spread by human activity or natural forces like wind, water, and native species. Fishing waders, boots, nets, ropes, and other gear can transport invasive species into remote areas, including tiny organisms such as the parasite *Myxobolus cerebralis* that causes Whirling Disease, which can damage the nerves and spines of several fish species (e.g., rainbow trout). New Zealand mudsnails (*Potamopyrgus antipodarum*) can rob streams of food for juvenile salmonids. A single angler can devastate an entire fishery with contaminated gear. Float planes, boats, and trailers are also a significant carrier of invasive species with the potential to spread throughout remote Alaska.

Alaska currently has far fewer problems related to invasive species than the Lower Forty-eight, though the most intact and pristine ecosystems in Southwest Alaska are susceptible to invasion. Further, the warming climate may provide a more hospitable environment for invasive species, increasing the risk of future invasions. Baseline surveys have shown that in Dillingham, Aleknagik, King Salmon, and Naknak, invasive terrestrial plants, such as Orange Hawkweed, Yellow Toadflax, and Oxeye Daisy, have taken hold along the road systems. Similar invasions exist for communities, road systems, and air strips in more remote areas. Riparian and aquatic plants, like reed canary grass and Elodea have not yet been found in the region but may show up in the future. If allowed to spread, these species can out-compete native plants to form dense mats that alter nutrient inputs to streams, impede water flow, and make spawning habitat unreachable. Elodea has been found in and has been (or is currently being) eradicated in several floatplane bases and popular lakes in Anchorage, western Kenai Peninsula, and western Susitna River Valley. These waterbodies are common jumping off points for visitors to the Bristol Bay area. Everyone should be on the lookout for this and other plants and animals (see enclosure) that do not look like something you are used to seeing in your favorite fishing and hunting areas.

6. Predator and Prey Relations

The caribou and moose populations are important subsistence resources for rural residents of the Bristol Bay Region. The Council requests a presentation on predator-prey relationships for caribou and moose and spring mortality of caribou and moose calves by bears.

Response:

The Board encourages the Council to work with their Council Coordinator to arrange for presentations on predator prey relationships at future Council meetings. The following agencies and institutions could provide contacts for presentations: Togiak National Wildlife Refuge (NWR), Alaska Peninsula and Becharof NWRs, Kenai NWR, Kodiak NWR, Katmai National Park and Preserve (NPP), Lake Clark NP, Denali NP, ADF&G, International Association of Bear Research and Management, and the University of Alaska Biology and Wildlife Department. These agencies and institutions have all participated in studies to evaluate bear, wolf, moose, and caribou interactions. A 2019 publication by biologists from Togiak NWR and ADF&G provides

an excellent study of the dynamics between wolves and caribou on the Nushagak Peninsula (2019 Walsh, P., and J. Woolington). The study found that the overall wolf population on the Nushagak Peninsula increased in direct response to increasing caribou abundance, but wolves were not the primary influence on caribou population fluctuations. Understanding the importance of bears and wolves, and their influence on the caribou will help inform future Council decisions.

Reference:

Walsh, P., and J. Woolington. 2019. Influence of wolf predation on population momentum of the Nushagak Peninsula caribou herd, southwestern Alaska. *Rangifer* 39(1):1-10. <https://doi.org/10.7557/2.39.1.4455>

7. Tribal Reports

The Office of Subsistence Management (OSM) distributes the Regional Advisory Council draft meeting agenda to agencies and partners in the region prior to each meeting with a request to contribute relevant topics. Agencies are encouraged to submit reports to be included in the Council meeting materials. The Council urges tribal organizations to submit tribal reports to OSM to be included in the Council meeting materials prior to meetings, as well.

Response:

Tribal reports contain important regional information that can assist the Councils in making informed decisions and developing recommendations to the Board. The Board understands the Council's need to receive these reports sufficiently prior to the meeting in order to be able to read them and process the information. It is true that the same applies to the agency reports. OSM standard practice is to send a request for reports to land management agencies and tribes three months prior to Council meetings. Each Council Coordinator then conducts one-on-one outreach to the regional contacts in agencies and tribes to emphasize the importance of receiving reports in advance. The Board asks the Councils to recognize that the circumstances of preparing these reports on time varies in each situation: sometimes the data collected in the field had not been processed yet, sometimes it is large workloads, other priorities, or staff shortages that prevent reports from being produced in a timely fashion. The Board continues to recognize the importance of receiving these reports in advance of the Council's meetings and will communicate this again to the agencies. The Board also will direct Council Coordinators to work in cooperation with the OSM Tribal Liaison to reach out to tribes and convey the importance of receiving reports prior to the meeting.

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8. ANILCA/Subsistence Regulations

Under Section 805 of ANILCA the Council is responsible for providing a public forum on any matter related to subsistence and to initiate, review, and evaluate proposals for regulations, policies, management plans, and other matters relating to subsistence use. The Council provides its recommendations on fish and wildlife proposals for the Board to consider. The majority of actions taken by the Board on regulatory proposals are in deference to the Regional Advisory Councils' recommendations.

Wildlife Proposal WP18-24 requested to allow the use of a snowmachine to position caribou, wolves, and wolverines for harvest in Unit 17, provided the animals are not shot from a moving vehicle. At its November 2017 public meeting in Dillingham, Alaska, the Council recommended to the Board to oppose Wildlife Proposal WP18-24, noting confusion over the definitions of "positioning" and "chasing".

The Alaska Board of Game (BOG) convened in Dillingham, Alaska, on February 16-23, 2018 and, among other proposals, BOG took action on Proposal 148. Proposal 148 requested to allow the use of a snowmachine for harvesting caribou, wolf, or wolverine in Unit 17. The BOG adopted the proposal with an amendment to apply only to caribou and to allow a snowmachine to be used to assist in the taking of caribou in Unit 17.

Allow the use of a snowmachine for harvesting caribou, wolf, or wolverine in Unit 17. The board amended the proposal with substitute language from RC 52 as amended to apply only to caribou. The amended proposal allows a snow machine to be used to assist in the taking of caribou in Unit 17, provided that the vehicle is not used to chase, torment or molest the animal. A snowmachine may be used to approach within 300 yards of a caribou at speeds under 15 miles per hour, if not done with repeated approaches or that cause the caribou to alter their behavior or flee. The snowmachine must be stopped before the hunter may shoot the animal. (The board clarified on 2/23 at 11:41:12 AM that RC 52 applies only to snow machines and not to other motorized vehicles.)*

*<http://www.adfg.alaska.gov/static/applications/web/nocache/regulations/regprocess/gameboard/pdfs/2017-2018/csw/soa.pdf082C9292022F2EEE83C8735BDC9A8F4A/soa.pdf>

The Council met in Naknek, Alaska, in March 2018 and was informed by OSM staff that the Alaska BOG met in February 2018 and addressed a proposal similar to WP18-24, which the BOG adopted (Proposal 148) with an amendment. The Council made and passed a motion to ask for WP18-24 to be removed from the FSB consensus agenda. The Council's justification for this motion was that while there are strong feelings about use of snowmachines for hunting, having clearer guidance to hunters and having strong outreach and education could help to make it work better.

The Board convened in April 2018 in Anchorage, Alaska, and deliberated on Wildlife Proposal WP18-24. The Board heard public testimony on the proposal. The OSM conclusion was to support Wildlife Proposal WP18-24. The Board moved to adopt WP18-24, but the motion failed.

When specific agency regulations are in conflict with ANILCA, the Council seeks a solicitor's opinion on the Board's voting process. ANILCA § 811(b) permits the use of snowmobiles for subsistence purposes. Multiple existing Federal agency regulations are in conflict, as stated by the Board, regarding subsistence hunting of caribou, wolves, and wolverine.

The Council seeks an explanation and reasoning behind how the Board votes and how it makes the decision when existing Federal regulations conflict with ANILCA.

Response:

The Board took up this issue of conflicting regulations during its April 2020 meeting. At that meeting and at many before, there was extensive tribal and public testimony that voiced concern over how decisions are made when agency-specific regulations are in conflict with ANILCA. After considering possible options, the Board concluded that it would ask the Secretary of the Interior to provide a policy on resolving issues when laws are in conflict. Currently, several Board members (BLM, FWS, NPS) are raising this issue with the Secretary's representative. Your Council will be notified as soon as we know more. In the interim, the Board will continue to rely on guidance from the Regional Advisory Councils. The Board remains committed to working through such conflicts to ensure a balance between upholding the subsistence priority and the conservation of healthy resources for future generations.

In closing, I want to thank you and your Council for your continued involvement and diligence in matters regarding the Federal Subsistence Management Program. I speak for the entire Board in expressing our appreciation for your efforts and am confident that Federally qualified subsistence users of the Bristol Bay Region are well represented through your work.

Sincerely,



Anthony Christianson
Chair

Enclosure

cc: Bristol Bay Subsistence Regional Advisory Council
Federal Subsistence Board
Susan Detwiler, Assistant Regional Director, Office of Subsistence Management
Thomas Doolittle, Deputy Assistant Regional Director, Office of Subsistence Management
Lisa Maas, Acting Subsistence Policy Coordinator, Office of Subsistence Management
Tom Kron, Acting Council Coordination Division Supervisor,
Office of Subsistence Management
Acting Wildlife Division Supervisor, Office of Subsistence Management
Greg Risdahl, Fisheries Division Supervisor, Office of Subsistence Management
Acting Anthropology Division Supervisor, Office of Subsistence Management
George Pappas, State Subsistence Liaison, Office of Subsistence Management
Donald Mike, Council Coordinator, Office of Subsistence Management
Katerina Wessels, Council Coordinator, Office of Subsistence Management
Interagency Staff Committee
Benjamin Mulligan, Deputy Commissioner, Alaska Department of Fish and Game
Mark Burch, Special Project Coordinator, Alaska Department of Fish and Game
Administrative Record



KEEP ALASKA WILD AND FREE OF INVASIVE SPECIES



HELP WITH EARLY DETECTION SURVEYS

1

WHAT TO LOOK FOR

Alaska's Aquatic Plants of Concern

ELODEA (WATERWEED)

- Leaves in groups of 3 (occasionally 4) that taper to a blunt point
- Underwater plant that forms thick mats on the bottom of waterbodies
- Can survive freezing temperatures and under ice
- Reproduces by stem fragmentation, roots, and seeds
- Degrades fish habitat, decreases water flow, reduces waterfront property value, and poses safety hazard for floatplanes and boaters



Elodea sp.

- **The first aquatic invasive plant in Alaska**

EURASIAN WATERMILFOIL

- Four deeply dissected leaves per whorl
- Thin, feather-like leaves
- Collapses when out of water
- Greater than 14 leaflet pairs per leaf



Myriophyllum spicatum

- **Not yet found in Alaska**

HYDRILLA

- Leaves in groups of 3 -10 (5 most common)
- Leaves with curling tips and reddish midrib
- Peanut sized tubers on roots



Hydrilla verticillata

- **Not yet found in Alaska**

2

SURVEY

Check your favorite local and remote waterbodies for invasive plants

BUILD YOUR OWN LAKE RAKE

- Find two standard garden rakes. Recycle old ones if you can!
- Cut off the handles
- Line up flat side of rake heads, spikes sticking out, and tape heads together
- Attach a strong rope, at least 35 feet long
- Throw in water and drag back to you to sample for aquatic plants



3

REPORT

Find something? Tell us! Send: 1) Close up photo of specimen, 2) Photo of area you found it, and 3) GPS coordinates where you found it to:

dfg.dsf.InvasiveSpecies@alaska.gov

<https://uaf.edu/ces/invasives/aisp/>

Or Call: 1-877-INVASIV

Download the app: [Alaska Weeds ID](#) for more plant identification and reporting