

Irrituruami Saġvait: Ukiumi Iñuuniagna  
Aġvigum  
Arctic Currents: A Year in the Life of the  
Bowhead Whale

Spoken Script  
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**Qiñiqtualiaq Iłitchiviksraun Savaaġat University of Alaska-  
tkut Qiñiqsitaagviata**  
**An Animated Film for Outreach and Education**  
**Produced by the University of Alaska Museum of the North**

**Production Period: June, 2012 – January 2015**  
**Qiñiaqtualiaq: Iġñivik 2012 – miñ - Siqĩñaatchiaq 2015-mun**  
**Takitilaana qĩniqtuam: Kaivallaġniġum Avvaġa**  
**Film Length: 20-25 minutes**  
**Languages: English, Inupiaq, and St. Lawrence Island Yupik**  
**Uqautchit: Taniktun Iñupiatun Sivuqaġmiut Uqausiatiktun**  
**Audience: Alaska Schools & Museum Visitors of all Ages**  
**Qiñiqtuatiksrat: Miġuaqtuġviit Alaska-mi suli**  
**Qiñiqsitaagviñun Isauġiqsuat**

**Sivuniġivlugi: Principal Goals:**

Nakuuqsasqaġlugu kañiqsisinaġat iñuit irrituruami taġiuġmi  
kañiqatuaġigun pisigilħaaġlugu sut tunġaruat aġvigmun  
igliqanullu niqigikkañiññun. Qiñiqtualiaq imaqaqtuq  
ilañiñnik savaaġikkañiñnik MMS/BOEMRE-tkut  
igliqtittañiñnik taġiuni Chukchi-mi suli Beaufort-mi.  
To improve public understanding of the northern marine  
ecosystem, with emphasis on those components associated  
with the bowhead whale and its zooplankton prey. The film  
content represents a synthesis of some recent and ongoing  
MMS/BOEMRE-funded research projects (satellite  
telemetry, aerial surveys, oceanography) conducted in the  
Chukchi and Beaufort seas.

1.1 We crave to understand how the world works. On land, life  
is relatively simple to observe. But not everything on Earth is easy

to see, easy to know. We can walk nearly everywhere, look nearly everywhere. We can sit down and watch what happens next. Sometimes we can understand why.

Kaŋiqsisuumasuugikput sunapayaaq igliqtuaq nunaptinni. Nunami siggagnai!aakun uumaruaq qiniqtuaagnaġumiñaqtuq. Aglaan sunapayaaq nunami siggagnai!lugu qiniġnaŋitchuq, i!isimmaagiŋnaŋitchuq. Sumupayaaqqayaq pisuaġumiñaqtugut, qiniġluta sumupayaaqqayaq. Aquptaagluta suna piñaqsikpan qiniġumiñaġikput. I!aanni kaŋiqsiyumiñaġikput suruaq tainna pisilaaŋa.

1.2 With the ocean, we encounter a whole new planet with all new rules. There is no easy way to study the teeming creatures that live beneath the surface of the sea.

Tagiumi apqusaagiġikput nutaapiaq allatigun irrusi!ik. Siggagnai!aakun qanuq qimilġuuganikkumiñaikivut niġrutit niġrugaurallu i!nuuniaqtuat alliani qulaata tagium.

1.3 The oceans are 71% percent of the planet's surface. They have an average depth of 12-thousand feet. In the ocean, there are lots of places to hide – in the dark – in all directions, even for a creature as large as a whale.

Tagiuq aŋitigiruaq 71%-tun nunallu tagiullu iluġaisa qaanaŋi!n. Ititigiymu!naqtuq atausiqpak quliagliaq isigaktutilaatun. Tagiumi iriġviquaqtuq i!anaŋik, - taaqtuami – sunŋanmulliqa, aŋirualugnun aglaan aġviġnun.

1.4 Luckily, just like in the woods, there are sometimes trails to follow, places we expect the whales to be – in the currents.

Aniqsa, napaqtutiguaqtuatun, apqutiqaġuuruq i!aanni tuvraaksramik, misigivigiraptigun aġviġit - saġvaġniġni.

1.5 Predators like trails.  
Pisuktit apqutiqallaturut.

[\[Arctic Currents: A Year in the Life of the Bowhead Whale\]](#)  
[Irrituruami Saġvait: Ukiumi I!nuuniagnaŋa Aġviġum](#)

[\[Bering Sea\] Tagiuq](#)  
[\[Winter\] Ukiumi](#)

2.1 Each year, bowhead whales migrate through the coldest oceans in the northern hemisphere. They stay entirely in arctic and subarctic waters. They spend their days – under the ice.

Ukiutuaḡman, aḡviḡit iglausuurut qiiyanāniqsraqtigiruatigun taḡiutigun Ataramik itchuurut irrituruam taḡiuḡiñḡi. Uvliisuurut ataani sikum.

2.2 An average bowhead whale weighs about 50 tons, the weight of 500 people, and feeds on tiny animals the size of grains of rice. They need to seek out the places where this food gathers in vast numbers. With prey this small, bowheads need to eat massive numbers of them. Looking, keeps the whales on the move.

Uqumaisigisuurut malḡukipiaq qulit ton-tun, atautchimuktittuni iñuḡnik iñuiñḡakipiaq tallmakipiatun suli niḡiñḡiaḡuurut mikiruanik igliḡanik aktitigiruanik raaqtun.. Ivaḡḡiqtuksrausuurut katirviñḡiñḡik niqñisa Ivaḡḡiam igliqtitkait aḡviḡit ataramik

3.1 [Allaḡiḡiñḡi aḡviḡit][[Whale classification diagram](#)]

3.2 Even though it is difficult to observe bowhead whales during much of the year, we know a great deal about them. They are a well-studied species, important to the ocean food web and to Native people throughout the Arctic, for their own subsistence.

Sigḡaḡnaḡaluaqtuq qiñillalugit aḡviḡit ukiuq naallugu, iḡisimalluataḡivut. Qimilḡuuḡluataḡaḡait nuimapiḡataqtut taḡium irrusianun suli iñuḡnun irrituruḡmiut sunakkiñḡiaḡḡannun

3.3 A bowhead is a stocky, dark-colored whale that lacks a dorsal fin. The biggest can grow up to 66 feet in length and weigh up to 100 tons. Their maximum weight is second only to that of the blue whale, the largest animal on earth or in water.

Aḡviq una sauniḡlukuḡ., maḡaqtuq suluiḡaq. Aḡiniqsraq aktigiliḡumiñḡaqtuq piḡasukipiaq itchaksrat isigaktutilaatun, uqumaisigiliqhuniḡu tallimakipiaq ton-tun. Uqumaiñḡiqsraḡat tugliuruq aḡviḡit aḡiniqsraḡiñḡun, aḡiniqtaḡat niḡrutit nunami suli immami.

3.4 Despite their size, the bowhead is social and nonaggressive, retreating under the ice when threatened by humans or other predators.

Aḡiḡaluaqtut, aḡviḡit iqsiñaitchut, piñiḡliraummata sikum ataanun annaksaḡuurut.

3.5 Qaḡniqsaaqtuat aaḡlut pisaguummigait aḡirualuit suqḡalḡich aḡviḡich aḡvipianuraglaan. Transient Orcas or killer

whales are known to attack large baleen whales and bowheads are no exception.

[Endangered...]

4.1 We know much today about bowheads because they have been harvested for centuries by indigenous people and by commercial whalers.

Paŋmami il̄isimammaġiksiŋarugut aġviġnik atakkiataŋ aippaaniñ qaŋa aŋusuugait iñuqaaguruat aġvaŋniaqtin̄isa suli allat maniññaŋnianiḡmik pisiqaqłutiŋ aġvaŋniaqtauruat.

4.2 . Inupiaq whalers have known for thousands of years when and where bowhead whales pass by their shores in spring and fall.

Iñupiaguruat aġvaŋniaqtit aippaaniñ qaŋa il̄isimagait igliġniŋit upiŋaksramiñllu ukiaḡmiñlu aġviġit.

4.3 The locations of coastal villages are exactly where the bowheads come close to land on their spring migration.

Taġiuḡm siñaaniituat nunaaq̄qit sumiitilaan̄it tamarra qaninaaġugait upiŋaksrami iglaullaġmiŋ.

4.4 . A cooperative project that began in 2006 works with Native whalers to put satellite transmitter tags on bowhead whales so their movements can be tracked wherever they go.

Isaġutiŋaruq 2006-mi savaqatigiv̄lugit aġvaŋniaqtit pituksil̄lasiv̄luta sil̄akkuaḡugauranik sil̄akun tuyuqtaġuuranik nipinik igliġniŋit naipiqtullasiv̄lugit sumupayaaqpata.

4.5 Because of the tagging project, we also know more about where in the Bering Sea bowhead whales winter, how quickly they leave the Bering Sea in the spring, and where they stop during their fall migration. We also know about them as individual beings.

Pituksiñiḡum taaptuma il̄itchuġipkavsaaŋagaatigut sumi taġiumi ukiisuutilaaniñnik, upiŋaksrami qanutun qilaminaaq̄tigisuutilaaniñnik aullaqimmata, suli sumi nutqaġuutilaaniñnik ukiami iglaukamiŋ. Il̄itchuġiŋammiugut suli atausiullaatilaaniñnik.

5.1 No two whales are the same As the whales navigate through the ice-filled arctic waters, they accumulate scars. Scientists use these marks to identify individual whales. Aerial photography is used to identify whales, estimate the number of

whales in the population, determine how long individuals stay in a given area, and estimate their body length.

Atiñitchuk malġuuk aġviik. Iglauilaġmiñ sikuulaami taġiumi, qilġuniktuguurut. Qimilġuirit qilġut atuġuugait nalunaiġlugu aġvillaa, miksrautchaġlugu iñugiaktilaanġit, sivuniġsiutigivlugit qanutun siviutigiruakun ittuāguutilaanġit sumi, sulġi aktilaāgutigivlugit.

5.2 The aerial survey team observes bowhead whale behavior, documenting whales feeding, socializing, and traveling.

Tiñġutiniñ qimilġuirit naiġiqtuguugait aġviġit irrusiñit, niġiñiaġniñit, inaniñit sulġi iglauniñit.

5.3 The team has observed that sometimes during migration the lead whale will break the ice to make a breathing hole. Following whales will use the same hole.

Qimilġuirit qiñniġammigait iġlaanni iglaullaisa sivulliuqtuam aġviġum naqtuguugaa siku qiñāġaġvilivlugit. Aquliraqtuat aġviġit atuġuugaat taamna qiñāġaġviliāña.

5.4 Roughly one third of the length of a bowhead whale is its head. The massive, bony skull allows the whales to break through sea ice so that the whales can surface to breathe.

Piñasunġuġlugu avġuġuġtigu taktilaāña aġviġum tasamma atautchim piñasunġuñiñatun niaqua taktilaāqaqtuq. Niaqunata sauniquata aġviġum navillagaa taġiumi siku aniqsaaqllasivluniasii.

5.5 Native hunters have reported whales surfacing through ice 2 feet thick in some cases, and routinely breaking ice a foot or less thick. Though they can break through thick ice, there is often no need. Their blowholes are perched on top of their heads, and they can breathe even with only a small opening in the ice.

Aġvañniaqtit quliaqtuanarut qiñiñanivlutiñ aġviġniq puiuranik sikukun maptutigiruakun malġuktun isigaktutilaaktun sulġi naviksiranik sikumik maptunaruamik atautchisun isigaktutilaaton. Naviksillagaluaqtut naviksiraġaqtatapiañitchut piraksraiñuni. Qiñanġit niaqunisa qaananiittut tainnamik aasiñ aniqtiġillarut mikiruakurunnii putukun sikumi.

## 6.1 [\[Spring\]](#)

6.2 Spring. Bowhead movements seem to take advantage of the ocean currents and open water leads where the ice pulls apart.

These currents and leads are the highways of the seas. In April

before the ice has loosened substantially, the bowheads start following the currents north toward Barrow, and then east through the heavy ice of the Beaufort Sea. They appear to be aiming for Amundsen Gulf to begin feeding on the abundant copepods that will be there in summer.

Upingaksraq. Aġviġit iglauniġit anniqsuutigisuugait saġvaġniġit uiñġiġlu. Tamarra savaiġlu uiñġiġlu apqutiġit taġium.

Umiaqqaviġmi payaṅasiṅaiñṅaan siku aġviġit iglausāguurut malġivlugit saġvaġniġit tuṅaaġivlugu Utqiāġvik aasiiñ kivanmun sikukun taġiumi iglaummivlutiġ suli. Amundsen Gulf-muksāġiaġmatun qiñṅaqaqtut niġiñiaqsāġiaqlutiġ igliqqatun ittuanik inniaqtuanik upiṅaami.

6.3 Inupiaq hunters have watched the whales pass by Point Barrow for thousands of years. Farther south, for hundreds of years the Siberian Yupik people have observed two whale migrations that pass by Saint Lawrence Island. The Kiyalighaq migration brings whales southeast from the ocean to just by the northwestern village Gambell. The Pughughileq runs along the island's western coast and out to Russian Chukotka. Tagging and aerial surveys have confirmed much of what hunters already know. In-person observations coupled with these tools allow researchers to learn about how movements vary between years and how often bowheads come in contact with industrial activities.

Iñupiaguruat aṅuniaqtit aippaapak qiñġait aġviġvit qaaṅiġmarruṅ Nuvuk. Avani qanapak Qulgit qiñṅaġait malġuuk aġviġit iglauniġik qaaṅiġmatigṅ qikiqtaṅat Sivuṅaġmiullu Sivuqāġmiullu. Iglauruat Kiyalighakun qaisuurut taġiumiñ nalautkavsaklugu Sivuqaq. Pughughilliasiiñ iglausuurut ualiñṅaġun qikiqtaṅ Chukotka-mugianmun. Pituksiñġum siḷakuaugauranik tuyuqtaġguuranik nipinik suli tiṅṅutikun qimilġuiñġum taṅṅiġaa iḷisimaaniktaṅat aġvaṅniaqtit. Qinniqlugit qimilġuiñġuvlu ikayuqsiqlutiġ savalġutinik tamakkuniṅa iḷitchuġipkaġait qimilġuirit igliġniṅisa allaṅṅuqtaġniṅiñṅik ukiuqiḷlaamman suli qavsiiqsuaqhutiṅ apqusaaqtilaṅiñṅik uqsriqiriñik.

7.1 The whales travel similar routes year after year, and while some whales turn left and others turn right as they pass by the Diomed Islands, they are all looking for food —huge quantities of food. These are massive animals and the ocean is cold. To stay warm they must eat. Food is fuel and food is plentiful if you know where to go.

Aġviġit apqutiġit allaṅuvigrayuitchut ukiutqiġaġimman, iḷaṅit saumiñmun iḷaṅit taliqpiñmun qaaṅiġmatigṅ qikiqtaak Imaqliglu

Injaliglu, ilugagmigaglaan niqiksraqsiuqtut – niqisaktanik.  
Anjirualupiagurut nigrutit tagiuq sulii qiiyanagmivluni.  
Uunnaksimaniaqpata nigiriksaurut. Niqi siqpatauruq sulii  
niqaukkaqtuq ilisimaruni sumuḡnaqtilaamik.

7.2 Most predators eat food smaller than themselves, but these whales eat animals that are microscopic.  
Pisuktisuḡaiññaqqayat niqiaqtut mikiḡhaaqtuanik ilinjiññiñ, aglaan makua agvigit nigisuurut nigrugaurakuluḡnik mikiqpaktuanik.

8.1 Animals called krill, or euphausiids, are less than an inch long and are related to shrimp. You can see the family resemblance in their many legs, long bodies, and antennae.  
Nigrugaurat atiaqtuat igliqqanik, naagga euphausids-nik one inch-miñ mikirut ilagigait nulaayuurat. Iḡgiiksilaarjit nalunaitchuq niugukkaqhutiḡ, uatiḡit takivlutiḡ sulii siugugauraqaqhutiḡ anisuuruanik.

8.2 One species of krill has a worldwide biomass of 500 billion tons per year, twice that of Earth’s human population.  
Igliqqat ilaḡat atautchimuktuni 500 billion ton-tun uqumaisilaaqqtut, malḡuktun qulauḡugu nunam iñusalaḡi.

8.3 Krill are found in both southern and northern oceans. Some hatch each spring in the Bering Sea and are brought to Alaska’s northern coast by the ocean currents, arriving at Barrow in the fall as juveniles and adults, just in time for the migrating bowheads.  
Igliqqat paqinnaqtut tagiupayaani. Iḡḡit sauniḡiññiñ anisuurut Bering Sea-mi aasiñ Alaska-m qulaanun saḡvaḡugit tikiḡtutiḡ Utqiaḡvium qaniḡanun ukiaḡmi iukkuksat nalauḡugit agvigit iglauruat.

8.4 Krill aren’t the only abundant whale food. Bowhead whales also feed on copepods, animals even smaller than the krill. Copepods are the most abundant multi-cellular animals on the planet, and the whales consume them by the millions.  
Kisiisa igliqqat niqiginiḡkait agvigit. Agvigit niqiaḡmiut sulii copepod-nik, nigrugaurakuluurapiat mikiḡhaat igliqqaniñ. Copepod-git iñugianiqtaurut nigrugaurakuluurani, agvigit atqunaḡugit nigisuugait.

8.5 Like the whales, the copepods spend the summer feeding and building up fat. By the end of summer, a sac of fat fills almost their entire body. That makes them a high-energy, high-calorie food alongside the krill.

Aġviqtuttauq copepod-git upingisuurut niġiñiaqhutiñ patigiksiaqhutiñ. Upingaaguigmagu uqsruqaqtuq timaa iluġaatkavsak. Tainnamik niqigiksut igliqqatun.

9.1 Bowhead whales eat on the move. They do not even stop to chew. They can't chew. They have no teeth. Instead of teeth, they have a row of up to 700 baleen plates that hang from the top of the jaw. The plates are fringed and work like a sieve.

Aġviġit niġisuurut iglaullaġmiñ. Nutqalaitchurunnii tamuqsiañiaqhutiñ. Tamuġumiñaitchut. Kigutaichut. Kigutiqaġaluagñatiñ suqqaqaqtut akimiakipiaq ilaġiññatun atarut aqliqqata qulaaniñ. Suqqait nuyaaqaqtut savaguurut mitiñiutitun.

9.2 The bowhead whale has the longest baleen of all the baleen whales, with a maximum length of 13 feet. It has the largest mouth of any animal though its throat could barely pass a baseball.

Aġviġich suqqañich takiniqtautigirut aġvipayaurani, takisitigivlutuñ qulit piñasutun isigaktutilaaton. Qaniqaqtigihaaqtut niġrutipayauraniñ iggiamiguallagiññaqhuni kisian ayuktaq anauraġaun

9.3 A bowhead whale skims through the ocean with its mouth open, scooping both water and food. Then the water is forced back out of the mouth through the baleen strainer, and the whale brushes the remaining food back into its throat with its huge tongue.

Aġviq iglausuuruq taġiukun qanġa añmavlugu qalusivlutuñ immamiġlu niqiniññiġlu. Imaq anitchuugaa qaniġmiñ suqqañisa nuyañisigun aasii taima niġrugaurat niqitiñ kiamiflugit iggiamigun utchiñata.

9.4 Even though they can skim large volumes of water for prey, the whales need their food to be concentrated to feed effectively.

Qanutun iglauyumiñagaluqaqtut qanitik añmalugit niqiksraqsuġlutiñ, aġviġit niqitiñ atautchimisunaiññaq ittuksraurur niġiñluataġniaqpata.

9.5 Aerial surveyors have observed whales feeding in formation. This group behavior may help whales take advantage of a thick soup of prey by moving through it together. If all of the whales moved through separately, they would disperse the krill.

Tiññutikun qimilġuirit qiñiñarut aġviġnik niġiñiaqtuanik atautchikun qavsiuvlutuñ. Atautchikuagñiġum ikayuġuugait aġviġit kiniqtuakun igliġaukkaqtuakuaqtuñ atautchikun. Iliñisigullaa iglausuugumiñ siamitkayaġait igliqqat.



10.1 Scientists study ocean currents to learn how krill might be carried from their spawning grounds in the Bering Sea northward, as far as the Beaufort Sea.

Qimilguit qimilgugugait tagium sagvagnit  
ilitchuginiuraqsaglutit igliqqat qanuq tipirauutilaaninik  
anniviniin Bering Sea-mi ununmun qavunmun Beaufort  
Sea-mun.

10.2 By simulating the movements of current-riding krill that spawn in April near Alaska, we see that some krill arrive at Barrow in time for bowhead whales to feed on the adults during September and October. Other krill can be found in the Western Beaufort Sea.

Tuvraaqługi igliqnit sagvaqsiqhutit igliqqat anisuuat  
Umiaqqavit Alaska-m qaninani, ilitchugirugut ilanit igliqqat  
tikichuumarut Utqiagvignun nalaulugit agvigit tikichuat  
niginiagiahutit Amigaiqsivit Sikkuvimil. Allavsaat igliqqat  
paqinnaqtut ualinaanani Beaufort Sea-m.

11.1 Bowhead whales are counted in the spring as they pass by Barrow, Alaska. Not all the whales can be seen by observers. Some whales pass by at night, or in fog, under the ice, or far from shore. But many can be counted while swimming past in open water leads. Hydrophones in the water listen for whale calls to help count the whales that pass unseen.

Agvigit kisitchugait upingaksrami qanigmarrut Utqiagvik.  
Ilugamit qiniganit. Ilanit iglausuurt unnuakun, naagga  
taktum, sikum ataagun naagga satchinaqhutit. Aglaan  
inugiaktuat kisitayumiagmiut iglaullagmit uiniqtigun.  
Ikayusiguummiut sulit imagmitanik naalaktuutinik  
kiamitivilit kisitautqugalugit qinignaagaluanit iglaurat.

11.2 Accurate counts are important, to show that the bowhead population is healthy and increasing, able to support a subsistence harvest, and not being negatively affected by industrial activities.

Nalain kisitchinik nuimapiagataqtuq nalunaitquvlugu agvigum  
piaginina sulit inugianmuktugina, sunakkiniaqtaullalutit, sulit  
aktuqtinjisilaana uqsriqit suragvigninun.

11.3 Before bowhead whales were commercially hunted for oil and baleen, their worldwide population was an estimated 50,000 individuals. Commercial hunting lasted more than four centuries, beginning in the North Atlantic in the 1500s and ending in the North Pacific by the mid-1900s.

Agvigit pisagipkanainaisa maninnaninaqtuanun pisigivlugit  
uqsruna suqqanillu, inugiaktillaaqtut tallimaagliaq tallimaqqak

atauqsipaktun. Aḡvaḡḡniāḡniq pisigivlugu maniḡḡḡḡniāḡniq qanutun sivisutigiruakun iglaunaruq aullaḡniisaaqhutiḡimma qaḡa 1500s-ni North Atlantic-mi aasiiḡ aḡiulḡataqhutiḡ imma North Pacific-mi qitiḡḡḡḡmagit 1900s.

11.4 Since, the current worldwide bowhead population has recovered somewhat and is now estimated to be 30,000 individuals, 16,000 of whom live in the Bering, Chukchi, and Beaufort seas.

Taimmaḡḡa iḡugiaktiḡaḡḡit aḡviḡit nutim iḡugiaktiḡaḡḡatutkavsak iḡitqḡaruq paḡmami samma akimiāḡliāq piḡasuqpatun iḡugiaksitigirut, maḡḡukpaktun iḡugiaktigiruat iḡuuniaqtut Bering, Chukchi suli Beaufort taḡiuni.

12.1 The Iḡupiaq and St. Lawrence Island Yupik people have harvested whales for thousands of years. In 1946 national and international entities began to regulate the harvest.

Iḡupiagurually Sivuqaḡḡmiuguruallu aippaapak aḡvaḡḡniāḡtaurūt. 1946-mi tasamma allaqpaāḡruḡmiut atanniqsuqsanāḡaat aḡvaḡḡniāḡniq.

12.2 In Alaska, the U.S. government and the Alaska Eskimo Whaling Commission have jointly managed the traditional subsistence harvest of the bowhead whale since 1981. A number of strikes are provided to Russia, and the quota determined by the International Whaling Commission is allocated among eleven villages in Alaska that hunt whales.

Alaska-mi tannaḡḡa kavamaḡḡata Alaska Eskimo Whaling Commission-ḡiḡḡu atauchikun aḡalatkaat aḡvaḡḡniāḡniq 1981-miḡ qaḡa. Qavsiḡiḡ samma aḡvaktaksranik aitchuḡuugait Uruusit aasiiḡ aḡvaktaksriāḡit International Whaling Commission-git naayuqtaāḡuugait qulit atausiḡḡun nunaaqḡiḡḡun aḡvaḡḡniāḡuuranun Alaska-mi.

12.3 Gambell, Savoonga, Wales, Little Diomede, Kivalina, Point Hope, Point Lay, Wainwright, Barrow, Nuiqsut and Kaktovik.

Sivuqaq, Sivuḡaq, Kiḡiḡin, Iḡaliq, Kivaliḡiḡ, Tikiḡaq, Kali, Ulḡuniq, Utqiaḡvik, Nuiqsat suli Qaaktuḡvik.

12.4 The lives of the Yupik and Iḡupiaq peoples of western and northern Alaska are heavily dependent on the subsistence harvest of marine mammals, land mammals, fish, and migratory birds. Iḡuggusiḡit Yuupigiḡḡu Iḡupiallu tunḡapiāḡataqtut

sunakkiñiaḡniḡmun aḡuniḡniḡmun taḡiuḡmiutanik, nunamiutanik, iqaluḡnik, qaugaḡniḡlu.

12.5 “The Iñupiat have hunted the bowhead whale for thousands of years, and knowledge of subsistence whaling continues to be taught to children beginning at an early age. Passing on this and other knowledge helps to assure the continuation and survival of the Inupiaq culture. Subsistence whaling is a physical, emotional, and spiritual experience which gives our people self-confidence and unites our communities,”

Iñupiat aḡvaḡniaqtaurur aippaapak, tainnamik sunakkiñialgusiñiaḡniḡ qaaniḡsitkaat ililḡaanun paḡmamuraglaan mikiniḡiñiñi. Qaaniḡsitchiñiḡ aḡvaḡniaḡnikun allatigullu ikayuutauruḡ iñuuniḡniḡannun Iñupiat. Aḡvaḡniaḡniḡ timimun isumamun ukpiḡniḡnimullu kaḡḡiutauruḡ iñupta atautchimunmuḡaniḡanun.

### 13.1 [Summer]

13.2 Summer. The whales, in search of food, are widespread across the Chukchi and Beaufort seas. Some whales travel back and forth across the Beaufort Sea. Some go farther north. Most go east towards the Canadian Beaufort Sea and Canadian Arctic. Upiḡḡaaq. Aḡviḡit, niḡiksraḡsiuḡniḡmata siaminḡarut Chukchi-m suli Beaufort taḡiuḡiḡi. Iḡḡit utiḡtaḡuurut Beaufort taiuḡani. Iḡḡit satchiksiiñnaḡḡuurut. Iñuḡiaḡniḡtaḡit qavuḡanmun iḡlausuurut Canada-m taḡiuḡannun irrituruḡanullu.

14.1 Food here is plentiful in spring, summer, and fall, and the bowheads take advantage of the abundance. As luck would have it, krill and copepods are a high-calorie, high fat food. It is clear that the whales put on much more fat than they need to stay warm. These fat reserves may be important for winter survival. Niḡaukkaḡtuḡ tamaani upiḡḡaksrami, upiḡḡaami ukiḡḡmi, tainnamik aḡviḡit niḡiñiaḡaḡtut. Asulu iḡliḡḡat mikiḡḡaallu niḡrugaurat uḡsruḡaḡpat. Nalunaitchuḡ aḡviḡit uḡsraguurut atqunaḡ sipiḡḡugu qanutun uḡsruḡaḡtuksrautilaḡat uunnakutiksramik. Uḡsruḡaḡqtilaḡat nuimayuḡḡaḡtut ukiumi iñuuniḡniḡannun.

14.2 The stomach of a 30-foot bowhead whale can hold more than 25 gallons of food. A full stomach of a bowhead holds so much food, the energy equivalent would be 45-hundred chocolates. When feeding is good, bowheads can fill their stomachs up to 5 times in a day. More than 22-thousand chocolate kisses in a day. As might be expected, the whales put on weight.

Aqiaġua aġvigum imaqaqtigiyumiñaqtuq sipillugu ikkaurat tallimat. Sivinġaraq aġvigum aqiaġua niqiaqpaifuni suaġġatiqaqtılaaġa atiruq 4500 nuġuraatun. Niġiñiaġniq nakumman aġvigit immitqigaagumiñaġait aqiaġutik tallamaiqsuaġlutiġ uvlumi. Sipillugu 22 thousand chocolate kisses uvlumi. Quiññakkumiñaqłutiġ uvva piut.

14.3 Eating like this during summer and fall helps bowheads grow and **keep as much as 20 inches of blubber**, which is almost 30% of their total body weight. This fat keeps them warm, stores energy for lean times, and is an important energy reserve for nursing calves.

Tainnatun niġitilaanġisa upiġaami ukiagmiłu aġlipkaġuugait aġvigit qanutun suli uqsruqaqtifługit 20 inches-tun aġlaan, 30%-tun uqumaisilaanġata. Uqsrum uunnaaktitчуugait, suaġġatiqaqtifługiłlu niqikiñman suli miluktuanun anniqsuutauvluni.

15.1 Whales begin to reproduce at about 10 to 15 years old. Pregnancy lasts 13-14 months and calves may be born every three to four years.

Aġvigit aġvaaqtałiġuurut ukiuqtutilaanġmata iñuiññaq tallimatun.. Siġaiyau suurut qulit piġasuniñ akimiaġutaiłanuraglaan tatqinni aasiñ aġvaaqallaavlutiġ piġasulluunnii sisamalluunnii ukiut qaanġmata.

15.2 Bowhead calves are typically born in May. At birth, a calf weighs around one ton and is about 13 feet long. Calves nurse for 6 to 9 months. By the time a calf is a year old, it can weigh 12 tons and measure 30 feet long. That's a growth rate of 4 inches and 400 pounds per week.

Aġvaat anisuurut Suvluġviġmi. Animman, aġvaaq uqumaisigiyumiñaqtuq one ton-tun suli taktilaaqatigiluni qulit piġasut isigaktutilaatun. Aġvaat miluguurut itchaksraniñ quliġġuġutaiłanuraglaan tatqini. Atautchisun ukiuqtutilaanġman uqumaisilaaqagumiñaqtuq 12 ton-tun suli taktilaaqagluni iñuiññaq qulit isigaktutilaatun.

16.1 In summer, living is good. The currents have brought the krill and the whales to Barrow, but few krill survive in the currents from Barrow to Kaktovik. Whales in eastern Alaska and in Canada are rarely found with krill in their stomachs. They are not, however, going hungry.

Upingami iñuuniagniq nakuuruq. Sağvait sağvaᅇagait igliqqat Utqiağviᅇun, aglaan iñugiakitchuat igliqqat iñuusuurut Utqiağviᅇniñ Qaaktuvigmun. Ağviğvit kivaliñaᅇani Alaska-m suli Canada-mi iñugiakitchut imalgit aqiaqqumigni igliqqanik imaqaglutit. Aglaan, kaaksiᅇitchut.

16.2 In the southeastern Beaufort Sea near Amundsen Gulf, where the Mackenzie River flows into the Beaufort, vast expanses of algae grow during the long summer days amid these nutrient rich waters. Great swarms of copepods feed on the algae, and in turn, feed thousands of bowhead whales.

Beaufort tağiᅇani qaniᅇani Amundsen Gulf Mackenzie-m kuᅇjata paᅇani atqunaq tağiumiutat naurait nauqpaguurut upingami. Atqunaq iñugiakpaktuat copepod-git niğniᅇaᅇurut tamatkuniᅇa naurianik tağiᅇmiutanik aasiᅇni niqauvlutit ağviğnun.

16.3 July 2011. As seen by satellite, high concentrations of algae show as red.

Iñukkuksaivik 2011. Pamaᅇᅇa qiᅇniᅇaqtaq, nauqpaktuat tağiᅇmiutat nauriat qiᅇniᅇaqtut kaviqhutit.

17.1 The whales spend the summer months in the southeast Beaufort Sea where they can typically find lots of copepods year after year. They do not eat constantly, but they do take advantage of opportunities when they arise.

Ağviğit upingisuurut Beaufort tağiᅇani paqitchiyumiñaqhutit copepod-nik upingaaᅇuağman. Ataramik niᅇitkaluaqtut aglaan piviqaman tavra.

17.2 Feeding at Barrow can be unpredictable, but it can become a true feeding hotspot:

1. If the krill have a trouble-free journey across the Chukchi Sea.
2. If strong winds from the east cause upwelling of deeper waters carrying krill onto the shallow shelf waters.
3. And if the winds weaken at this point, allowing the Alaska Coastal Current to move closer to the shelf break and prevent the krill from being carried back into deep water.

Dense patches of krill are now trapped on the shelf and the bowheads can move in for a few days of fantastic feeding.

Nalunagumiñagaluaqtuq niġiñiaġniq Utqiaġvium qaniġani suliaglaan niġiñiaġvigikpakkumiñagmiuq:

1. Iġliqqat surruilaakun tikitchumiñaqpata Chukchi taġiuġagun.
2. Niqqpaum qurvaqtitpaun itilhaaq imaq saagaġlugit iġliqqat ikkapayaamun.
3. Suli anuġakfikpan Alaska Coastal Current saġvaġniġata qallipkaġlugu ikkapayaaqtuaq iġliqqat itiruamuktinñiġlugit aasii.

Kiniqsiġarat aasii taima iġliqqat ikkattuamiitillugit niqiaġsivġlugit aġviġit.

18.1 A bowhead whale tagged northeast of Barrow is searching for food in the cool water near the sea floor. The tag tells us the whale's depth and the ship measures the water temperature. Aġviq pituktalik siġakkuagugauramik kivanitchiani Utqiaġvium niqisraqsuqtuq niġliñaqtuami taġium alliata qaniġani. Siġakkuagugauram kilikkaatigut qanutun ititigiruamiitilaanġanik aasiin umiaqpaum uuktuġlugu niġliñaqtılaaġa taġium.

18.2 Short-term tagging is a common way to study whale feeding behavior. A tag is attached to a whale for periods of a few hours while scientists follow the whale's movements and sample the ocean many times along the whale's path to measure temperature, salinity, and the amount of food available to the whale. Once detached from the whale, the tag can be recovered and dive information recorded by the tag can be analyzed. Sivikitchuakun pituksiniq siġakkuagugauranik atuġaat qimilġuuġmatigġ aġviġit irrusiġit. Siġakkuagugauraq pituguugaat aġviġmun kaivallagnigni qavsiqurani aasiin qimilġuirit malġivlugu iġlauruq qimilġuuġluguasii apqutaa uuktuġlugu niġliaqtılaaġa, taġiuġnisılaaġa suli qanutun niqiaqtılaaġa. Piiġman siġakkuagugauraq isakkumiñaġaat aasiin kilġusiat qimiluuglugit.

[Fall]

19.1 It's fall. Most bowheads travel close to the Alaska shore in the Beaufort Sea, then fan out as they turn south through the Chukchi Sea along the Russian coastline where food is also plentiful. Often on the move, the whales travel from one seasonal feeding area to another.

Ukiaguruq. Qaninaaqługu Beaufort tağium siñaa iglausuurut aasiñ siamiłutiñ uanmun iglaummata Chukchi tağiuñagun tuvraqługu Uruusit nunaata siñaa niqaukkaqtuaq. Iglauvlutiñ ataramiqqayaq ağviğit iglausuurut ukiuq qanuq ilillaamman niginniağviñmiñ atautchimiñ allamun.

20.1 Bowhead whales communicate with each other in order to navigate through icy Arctic waters and find food. Scientists use hydrophones to record these sounds.

Ağviğit kiliktuutisuurut avanmun iglaullağmiñ sikuulaakun irrituruam tağiuñagun niqikraqsiuqhutiñ. Qimilğurit kiamitchivłutiñ naalaktuutinik arriłiuguugait nipiñit.

20.2 A spectrogram is a picture of sound showing time, frequency, and loudness. Such an image is a visual way for scientists to understand the complexity of bowhead and other animal communication. Listen, and we can hear bowhead whales, bearded seals, and walruses.

Qiniğaaliaq nalunaiqsautauruq nipiñiñnik. Tainnasim qiniğaam kañiqsipayaaqtitkait qimilğurit ağviğit allallu niğrutit kiliktuutiniñiñnik avanmun. Naalağniłlagiñ, samma tusaaniagivut ağviğilłlu, ugruiłlu aivğilłlu.

20.3 Communication is very important to animals that travel thousands of miles a year in a cold, dark world — animals that travel continuously, so much so their offspring are born ready to swim.

Kiliktuutiniñ nuimaqpaktuq niğrutinun iglausuuranun sivisuqpaktuakun ukiullaami qiiyanaqtuami, taaqtuami – niğrutit ataramik iglasuuvaiłłutiñ piayaatiñ puumillavłutiñ.

21.1 Bowhead whales can live for a very long time. Indirect evidence comes from stone weapons that have been found in the blubber of whales recently harvested by hunters. Native whaling crews generally stopped using stone weapons by the 1880s.

Ağviğit sivisuruakun iñuusuurut. Taamna ilitchuğigaat inilğağnisaniq paqitchivłutiñ satkunik uqsruñani ağvaktaat qaᅇaqqammiq. Iñupiat ağvaᅇniaqtit atuᅇaiᅇagait tainnasit satkut 1880s-ni.

21.2 Scientists have estimated the age of bowhead whales by measuring chemical changes within the lens of the whale’s eye. These changes occur at known rates. The oldest whale aged using this method was over 200 years old. The bowhead may be the longest-lived mammal on earth.

Qimilguirit miksrautchaguugait ukiuqtutilaanjit agvigit iraqumanjit irinisa qimilguuqługit. Alluñuğuurut nalunaitchuakun. Utuqqağniqtaq ukiuqtutilaaqtañat tainna ukiuqtutilaaqtaquq qulikiptatun. Agviq niğrutini ukiuqtutilaaniqsraqtauvalliqsuq allaniñ nirutiniñ.

22.1 During the last days of autumn, the whales travel south. As the bowheads migrate from feeding areas through the region of the Bering Strait, they most likely face their greatest threat of orca predation. While scientists have not witnessed attacks, coastal Native peoples in Chukotka and Saint Lawrence Island have observations confirming fatal attacks. Young animals are the most susceptible as scars are usually seen on larger, adult ‘survivors.’

Ukiam aqulliağun agvigit iglausuurut uanmun. Agvigit iglaullaisa niğniagviñiñiñ Bering Strait-kun sivuğasaaqliqtausuurut aagluniñ. Qimilguirit qiniñaitkaluaqtut pisagiñialammatigiñ Iñupiat Chukotka-miļu Sivugağmiļu qiniñagait. Nutaat agvigit pisagipkağuurut aasiñ anipayaat qilğuaqtaqhutiñ.

22.2 The bowheads spend the winter in the Bering Sea, wandering and calling to each other. Over the years, a few bowheads have been seen in open water polynyas and along the ice edge, implying that these are important wintering areas. Satellite data has now shown that bowheads winter in the western and central Bering Sea in heavy ice with little use of the open water areas or ice edge.

Agvigit ukiisuurut Bering Sea-mi iglauvlutiñ avanmullu kiliktuutivlutiñ. Qavsiqıurat agvigit qiniñammigait nigayuni suli sikum siñaani nalunaiğługu qanutun nuimatilaaņa ukiiruanun. Pamañña qiniğaat nalunaiğagait agvigit ukiisuutilaanjit Bering tağıuñani sikñaruami atupialaitkaiyguut uinğit naagga sikum siñaa.

22.3 It’s not known for sure, but we believe they are feeding on wintering zooplankton in the Bering Sea. Food is scarcer, but the bowheads have gorged themselves over the summer and fall in preparation.

Iisimanapiagatanitkaluaqtuq aglaan ukpiqtugut niğniagagasugilugit niğrugauranik Bering tağıuñani. Niqit ayuğnağaluaqtuq aglaan agvigit niğiqpaurañarut upinğami ukiagmiļu itqanaiğasuurut.

22.4 People are terrestrial animals. When bowheads slip beneath the ice and the water, they leave our world and enter theirs. At the threshold, we wait for them to resurface, wondering about their lives far away from human eyes.

Iñuiñmakua nunamiutat. Agvigit ataunmata sikumun tağiumun unitchuugaatigut isiqługu inigikkaqtiik. Utaqqiļlapt



puiniksraŋiññik, isumalaaguurugut iñuggutiŋiññik taavanisaagruk  
qiñiġnaitchuani.

22.5 Spring, Summer, Fall, Winter, Spring. On the move year  
after year, perhaps for hundreds of years. Hunters' observations,  
satellite telemetry, aerial surveys...

Upingaksrami, Upingaami, Ukiaksrami, , Ukiumi, , Upingaksrami.  
Iglauuurut ukiutuagman aippaapak. Aŋuniaqtit qiñikkaŋiit,  
pamaŋŋa qiñiġaat, tiŋŋunmiñ naipiqtuġniġit...

Just a glimpse into the elusive life and the year of the  
remarkable bowhead whale.

Sivikisuuraq qiñiqtualiaq iñuuniagŋiaŋanun  
aliuġnaqtuamun aġvigum iñuuniagŋiaŋanun.