St. George Unangan Heritage National Marine Sanctuary

Section 1 – Basics
Name: St. George Unangan Heritage National Marine Sanctuary
Name and affiliation of proposal nominator: Patrick Pletnikoff, Mayor, on behalf of the City of St. George, St. George, Alaska (907) 859-2263 x23 (Cover photos: Joe Connelly)

Section II – Introduction

In the beginning – before the existence of Russia, the United States and Alaska, indeed, before history as we know it – were the Unangan people (also known as Aleut) and their relationship to the sea.

> Ancestors of the modern-day Aleut arrived in the Aleutian region thousands of years ago as sedentary hunter-gatherers with an almost exclusively marine orientation. The archaeological record shows that whales, sea lions, fur seals, sea otters, and walrus; fish such as salmon, halibut, codfish and herring; intertidal resources in the way of sea urchins, clams and mussels; and birds, eggs, and edible plants were (and are) found in abundance and supplied a broad diet ….A variety of harvesting techniques included the use of seafaring baidarkas [kayaks], harpoons, bows and arrows, spears, clubs, weirs, nets and fish hooks….While many fish and bird species were available on a seasonal basis only, many marine mammals and groundfish were available year-round. This abundant environment has strong implications for the political economy in that the same resources were available everywhere, and conflict and trade were never about gaining access to food.
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> – *Aleut Identities-Tradition and Modernity in an Indigenous Fishery*, Katherine L. Ready-Maschner (McGill-Queens University Press, 2010)

The Pribilof Islands, sometimes described as the "Galapagos of the North", are home to the Unangan – on St. George and St. Paul – as well as some of the world's most magnificent biodiversity and natural beauty. Populations of Northern fur seals, Steller Sea Lions, otters, cetaceans and over 200 species of sea birds have long been a source of wonder and benefit to our community and visitors alike. The waters around St. George Island are also home to significant fish populations that provide prey for marine mammals, catch for fishermen and a crucial food source for the Unangan people of St. George.

This habitat, and the fate of the community of St. George, is now threatened. Marine mammal and bird populations have been in decline, as confirmed by both science and the day-to-day observations and experiences of our community. The waters around St. George and the Bering Sea face multiple stresses and additional threats are on the horizon as climate change progresses, sea ice recedes and international commercial interest in the Arctic grows. Conservation is urgently needed to protect St. George's precious marine life, to build resilience against the consequences of climate change and to save our community.

St. George's and the Pribilof Islands' place in Unangan and Alaskan history is unique and significant. Fur seals lead a pelagic life and spend much of their time traversing the Pacific waters from the Bering Sea to as far south as California. Each spring, fur seals swim northward through the island passes of the eastern Aleutian Islands and come ashore until fall to rest, mate and give

birth only in the Pribilof Islands. In the fall, they return southward with their new pups. Pre-contact archaeological sites make it clear that for thousands of years our Unangan forebears understood this migration and chose not to inhabit the Pribilof islands, instead using them only occasionally as refuge for food and shelter during a storm.

In pre-contact Unangan culture and cosmology, the natural and supernatural worlds were a single, inseparable aspect of existence. The world was a place where all things—people, animals, places, oceans —had spiritual qualities and powers. Successful living required the Unangan to live in harmony within their spiritually based environment. This ancient and deeply held belief has extended forward through the cultural lineage of the Unangan of St. George and animates our desire to protect the natural world around us on which we depend materially and spiritually.

The connection between the island's natural resources and the Unangan people changed in 1788, when Russian seal traders enslaved Unangan hunters, compelling them to travel seasonally to St. George to harvest seal skins for export. In the ensuing years, the communities of St. George and St. Paul were formed. Seal products from the Pribilof Islands eventually underwrote the economy of the territory and later the new state of Alaska. With passage of the Fur Seal Act Amendments of 1983, seal harvesting was finally banned on the Pribilof Islands. To compensate for this loss of livelihoods on the island, the United States government promised the Unangan people of St. George a sustainable, fishing-based economy that would provide a modern standard of living. Fish and crab quotas were allocated to our community, but the scheme didn't work and our government's promise of a modern standard of living was never fulfilled.

Today, the St. George economy and opportunities for traditional subsistence are greatly diminished and in steady decline as the island's marine resource base becomes increasingly depleted. The fate of St. George's Unangan community and cultural heritage is in grave jeopardy. Action is urgently needed to safeguard the community of St. George's marine environment, cultural heritage and economy.

Recognizing this profound challenge, we, the Unangan people of St. George, are taking unprecedented and historic steps to protect our marine environment and cultural heritage. Our determination was clearly expressed on July 1, 2016, when the City Council of St. George unanimously passed Resolution 07-01, which stated:

> WHEREAS: We, the Unangan residents of St. George Island have for generations depended upon the resources provided in our waters around our Island for food, subsistence and our cultural and spiritual development; AND
>
> WHEREAS: The waters in and around our Island have long been honored and recognized as one of the most productive and significant ecological systems in the Bering Sea and in the world; AND
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> WHEREAS: We have observed for several decades declines of fish, marine birds and mammals that were once abundant and are currently in a state that causes grave concerns in our Domain, observations that are supported by scientific data; AND

WHEREAS: These declines have severely impacted our livelihoods, our cultural and spiritual needs, putting at risk the future of our Community;

WHEREAS: Following a joint workshop between the City of St. George and the Traditional Council of the Tribal Government of St. George discussing the above;

NOW, THEREFORE, BE IT RESOLVED THAT

Urgent action is being taken and will be taken to save our Community and the resources we depend upon, and that we will immediately begin to pursue all appropriate measures, including, the creation of a National Marine Sanctuary, to protect our Home.

The designation of the St. George Unangan Heritage National Marine Sanctuary (the "Sanctuary") will provide crucial protection to of one of the most productive marine ecosystems anywhere in the world. Our island's significant biological, cultural, historical, archaeological and aesthetic resources are closely connected with, and hold great cultural and economic significance to, native coastal communities throughout the Bering Sea and across the state of Alaska, as well as scientists, researchers and visitors throughout the nation and the world.

NOAA's inclusive, ecosystem-based approach to designating and managing national marine sanctuaries provides the best opportunity for the Unangan people of St. George, in cooperation with NOAA, federal and state agencies and other stakeholders, to establish an adaptive management plan that will address the range of threats facing St. George's ecosystem and cultural heritage. Through comprehensive monitoring, research, planning, community engagement and management the extraordinary marine resources on which our community depends and our country values will prosper and develop resilience toward the threats of the future. Indeed, establishment of the Sanctuary will protect resources, community and culture, while adding a new northern star to the National Marine Sanctuary constellation.

Narrative Description – a brief overview of the nomination

The marine environment and the cultural history of the Unangan people of St. George Island, one of the Pribilof Islands in the heart of the Bering Sea, are together a unique national treasure. The island is world famous for its marine mammal and sea bird populations. St. George is an important destination for scientists, researchers, fishermen and tourists, who are attracted to the island's unique combination of natural beauty and biodiversity. At the same time, St. George and the marine ecosystem on which the community depends are undergoing profound change, raising threats to our culture and the animals we depend on, as well as urgent questions for scientists, marine conservationists and community leaders.

The proposed Sanctuary encompasses a substantial portion of what is known as the Pribilof Domain, a biologically rich area at the heart of the Bering Sea "green belt" (See Figure 1). The area is important habitat for globally significant populations of sea otters, orca, bowhead whale, grey whales, as well as for crabs and species such as walleye pollock and halibut. These species feed and mate in the Pribilof Domain and link geographically disparate places, such as California, Chukotka, Russia and Japan via their vast migrations. St. George's habitats are especially important for the Steller Sea Lion and the rapidly declining Northern Fur Seal population. Sustaining these

populations requires maintaining ecosystem diversity through protection of St. George's wide variety of representative and unique habitats.

St. George's history, which is directly connected to the marine environment, has also been nationally recognized. Three areas of Saint Paul and Saint George were designated as a National Historic Landmark District in 1962, and listed on the National Register of Historic Places in 1966. On Saint George, the district includes historic elements of the city of St. George and extends east to a seal rookery and historic seal kill site area. Historic structures include industrial processing facilities as well as worker housing. The rookery area on St. George also includes the remains of one of the early Russian-built villages, Staraya Atil, providing insights into the island's and the state's colonial history.

Goals Description

1. Designate an internationally significant Arctic indigenous marine sanctuary that will conserve and strengthen the resilience of the St. George marine environment and community.

2. Through a stakeholder-inclusive process, create a comprehensive and adaptive management plan for the conservation of St. George's ocean waters, vital habitats, biodiversity and cultural heritage resources.

3. Enhance the economic vitality of St. George by protecting and managing the ocean ecosystem surrounding the island, thereby ensuring thriving subsistence fisheries, and by promoting sustainable activities, such as sustainable tourism, that will ensure the successful rebuilding of the community's economy and the maintenance of ecosystem health for this and future generations.

4. Promote collaborations with research institutions to increase scientific understanding and make use of traditional knowledge regarding the changes occurring in St. George Island's marine biodiversity, habitats and vital species.

5. Increase monitoring and analysis of the impacts that climate change is having on marine ecosystem and identify opportunities to improve management and promote resilience and adaptation in this uniquely productive Arctic region.

6. Study, interpret and protect the region's unique Unangan history, maritime traditions and cultural heritage.

7. Promote research into St. George's history, including the Unangan community's culture and experiences relating to resource development and rights.

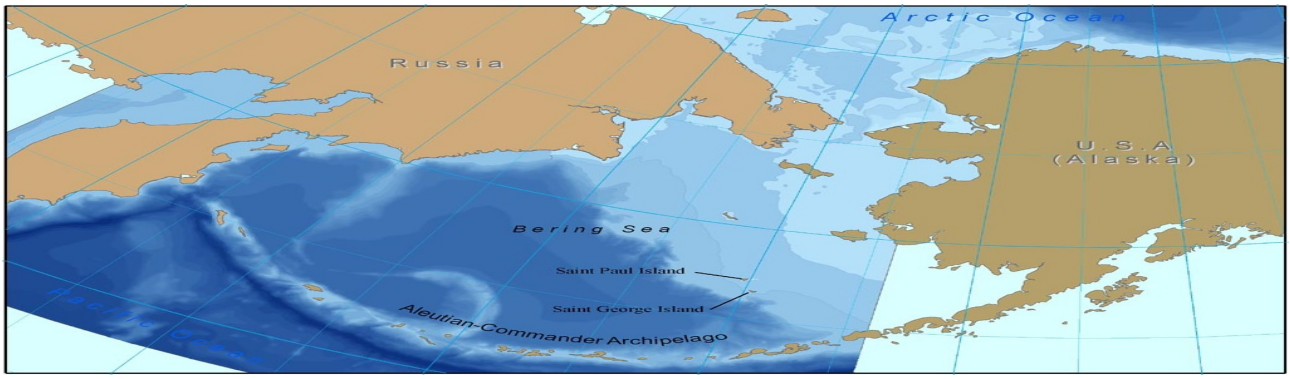
8. Encourage the development of new partnerships and enhanced cooperation with government, private sector and non-profit stakeholders to achieve St. George's marine resource and sustainable development goals.

9. In cooperation with government, scientific, educational institutions and NGO partners, expand and promote environmental education and outreach efforts, where possible using St. George's

existing historical infrastructure.

Location Description

The Bering Sea is a semi-enclosed sea bounded on the north and west by Russia, on the east by mainland Alaska, and on the south by the Aleutian-Commander archipelago. The sea's basin has a maximum depth of approximately 11,500 feet and continental shelves less than 650 feet deep. St. George and the other Pribilof Islands are located on the seaward edge of the sea's eastern continental shelf, approximately 300 miles west of the Alaskan mainland and 250 miles north of the Aleutian chain.



Figures 1. Location of the Pribilof Islands in the Bering Sea with two biggest islands, St. George and St. Paul indicated. From http://pribilof.noaa.gov/island-setting.html

The proposed Sanctuary boundary area would extend seaward 30 miles around the island of St. George (which itself is 34.8 square miles), except due north, where we propose a 20-mile boundary (see Figure 2). The boundary incorporates the Pribilof Domain retention zone described more fully below under Criteria 1. The Sanctuary would use the main high tide line for its boundary with a quarter-mile buffer zone around the St. George Harbor. The buffer zone will ensure that the Harbor can be reconstructed, expanded, and returned to greater activity, as is allowed by the National Marine Sanctuary program.

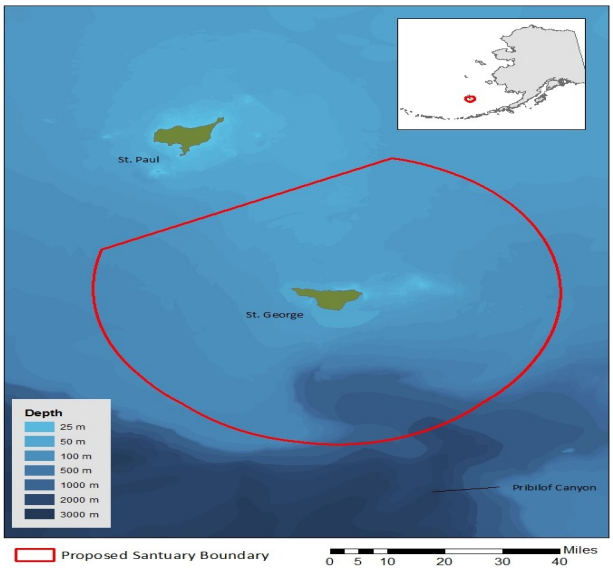


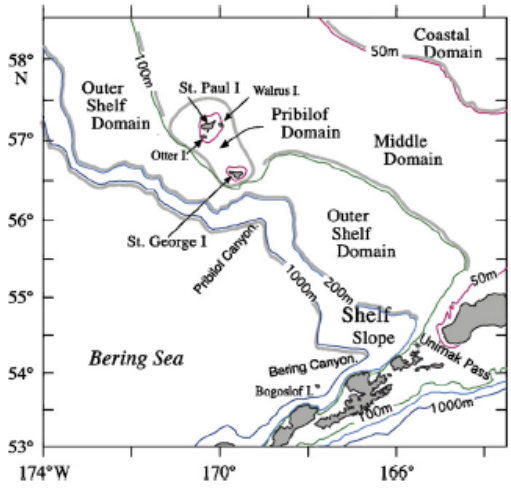
Figure 2. Proposed St. George Unangan Heritage National Marine Sanctuary map.

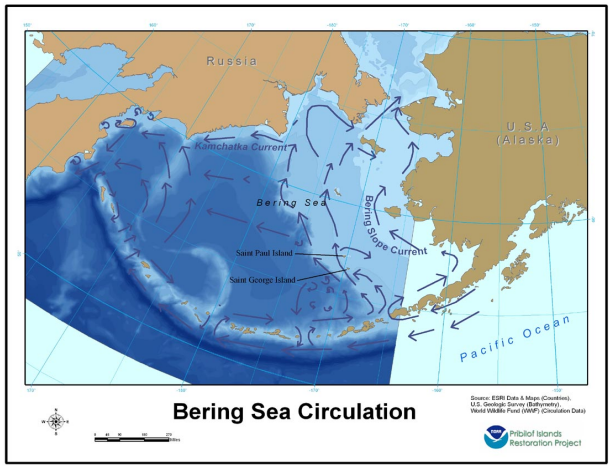
The southern boundary would encompass a portion of the Pribilof Canyon, a vast canyon with a footprint covering approximately 10 percent of the Bering Sea continental shelf. The Pribilof Canyon provides habitat for significant populations of deep-sea coral, sponge, prey fish and fisheries.

Section III – Criteria Information

Criteria 1. ***The area's natural resources and ecological qualities are of special significance and contribute to: biological productivity or diversity; maintenance or enhancement of ecosystem structure and function; maintenance of ecologically or commercially important species or species assemblages; maintenance or enhancement of critical habitat, representative biogeographic assemblages, or both; or maintenance or enhancement of connectivity to other ecologically significant resources.***

In terms of productivity and ecosystem services, the marine waters in the vicinity of St. George Island are easily among the most important anywhere on earth. The Bering Sea shelf-break current drives an oceanic upwelling that carries inorganic nutrients to the surface waters and fuels phytoplankton growth, which in turn supports extraordinarily productive marine food webs. This rich band of marine productivity, often called the Bering Sea green belt (Springer et al., 1996), supports exceptionally dense aggregations of marine mammals, seabirds, fish and shellfish, and some of the most important commercial fisheries in the United States, including the Alaska walleye pollock fishery, the nation's largest by volume.

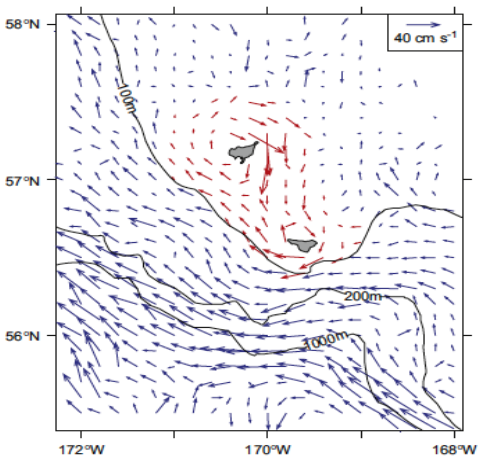




Figures 3 and 4. Pribilof Domain within the southeastern Bering Sea (Hunt et al., 2008); Bering Sea circulation (from http://pribilof.noaa.gov/img/island/bering_sea_circulation.jpg).

Situated at the margin of the Bering Sea green belt, the Pribilof Islands provide essential habitat for marine mammals, sea birds and fish in three crucial ways. First, interaction of the islands with the Bering Sea shelf-break current generates a circular, clock-wise flow around the islands, generating a retention zone where planktonic organisms, which include the developing early life stages of myriad species of marine organisms, are densely concentrated. This retention zone, extending about 30 miles seaward of the Pribilof Islands (Fig. 5), provides a fundamental definition of the "Pribilof

Domain" that supports spatially stable aggregations of marine life and hence relatively reliable feeding grounds for marine mammals, sea birds, fish and shellfish.
St. George also provides breeding and rearing habitat for marine mammals and seabirds, including convenient marine haul-outs and rookeries for Northern fur seals and Steller Sea Lions, and widespread nesting sites for seabirds. And finally, the islands are far from other landmasses. As a result, they remain free of rats and are well protected from most terrestrial predators that could otherwise decimate the breeding aggregations of marine mammals and seabirds. This combination of relatively safe breeding and rearing habitat situated in the midst of exceptionally rich feeding grounds is rare throughout the world's oceans.



The highly attractive habitat provided by the Pribilof Islands is crucial for Northern fur seals and Steller Sea Lions, which are threatened or near-threatened species. About 50% of the world-wide population of Northern fur seals inhabit the Pribilof Islands during their breeding and pup-rearing seasons from June through November (Testa, 2016). Numbering in the hundreds of thousands, the adults produce over a hundred thousand pups annually at Pribilof Island rookeries (Allen and Angliss, 2015). Many hundreds of Steller Sea Lions also use the Pribilof Islands for breeding habitat (Allen and Angliss, 2015). Sustaining such dense aggregations of these marine mammal adults and pups requires heavy concentrations of their prey species, primarily walleye pollock, squids, salmon, and capelin and smelts when abundant (NMFS, 2006, Sinclair et al., 2008).

Figure 5. Pribilof Domain retention area, indicated by the red arrows (Hunt et al., 2008).

As mobile predators, Northern fur seals connect the Pribilof Domain with the wider ecosystem of the North Pacific Ocean. Northern fur seals range throughout the North Pacific Ocean from North America to Asia, and range south almost to 30° N latitude (Fig. 6). Throughout their range, Northern fur seals are potential prey for killer whales, Steller Sea Lions and sharks (NMFS, 2006).

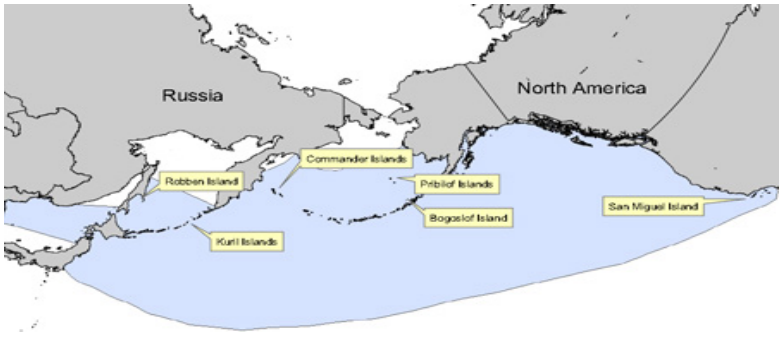


Figure 6. Northern Fur Seal breeding colonies and extent of their winter range (NOAA Fisheries).

St. George and the Pribilof Islands also provide essential breeding and rearing habitat for seabirds numbering in millions. Remarkable in their diversity, many of these non-resident birds arrive at St. George after having flown hundreds or thousands of miles from wintering habitat in Europe, Asia, remote Pacific islands and points south within the U.S, including sanctuary areas in California and Hawaii, making St. George's seabird population globally significant. The seabird breeding colonies of St. George and the Pribilof Islands include globally- or regionally-significant aggregations of kittiwakes (red legged and black), thick-billed murres, parakeet auklets, northern fulmars, glaucous-winged gulls, fork-tailed storm petrels and red-phalaropes, sooty shearwaters, short-tailed shearwaters and the adjacent feeding grounds are used by the near-threatened Laysan albatross (Audubon Alaska 2014).

St. George Island and its surrounding waters are recognized by the Audubon Society as a globally-significant Important Bird Area, both for the large proportions of the global populations of some species that inhabit the area (e.g., kittiwakes and murres) and for their use by threatened or nearly-threatened species (e.g., the red-legged Kittiwake and Laysan albatross; Audubon Alaska, 2014). The St. George colony supports approximately 75-80% of the global red-legged Kittiwake population. Adverse effects on any of these species within the Pribilof Domain may have consequences that extend far beyond the islands. To provide just one example, sooty shearwater and short-tailed shearwaters nest in places like New Zealand, Australia and Chile and travel north in the boreal summer to the productive waters surrounding St. George.

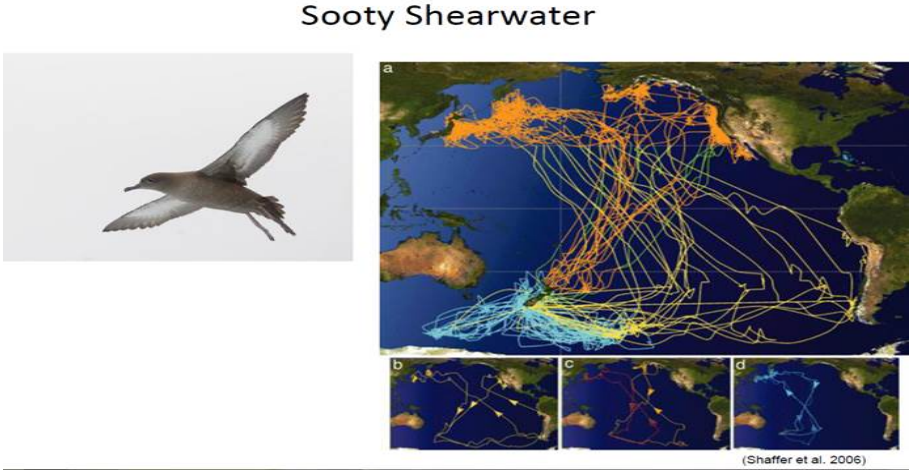


Figure 7. Migratory patterns of shearwaters (Shaffer et al., 2006)

The dense aggregations of breeding seabirds prey heavily on forage fish and zooplankton in the waters surrounding St. George. Many of these seabird species, including kittiwakes, murres and puffins feed primarily on forage fish, especially juvenile walleye pollock, capelin and other smelts. Other species, including auklets, storm-petrels, shearwaters and red phalaropes feed mainly on zooplankton.

The biologically rich waters around the Pribilof Islands also contribute substantially to important Bering Sea commercial fisheries, including walleye pollock, Pacific halibut, snow crab and red king crab. Larvae and juveniles of these species rear in great numbers within the retention zone surrounding the islands, supporting the walleye pollock fishery along with local and regional

fisheries for Pacific halibut, and red king and snow crabs. The fisheries for crabs and Pacific halibut are economically important for St. George residents and provide one of our few sources of cash income. Moreover, the Bering Sea, and the Pribilof Domain in particular, provides a reservoir of older female halibut that contributes disproportionately to the spawning biomass of the entire coast-wide Pacific halibut population, "subsidizing" the fisheries for halibut in the Gulf of Alaska and British Columbia (Hare, 2012; Fig. 7). Hence, the waters around St. George are especially important for the maintenance of the entire Pacific halibut population.

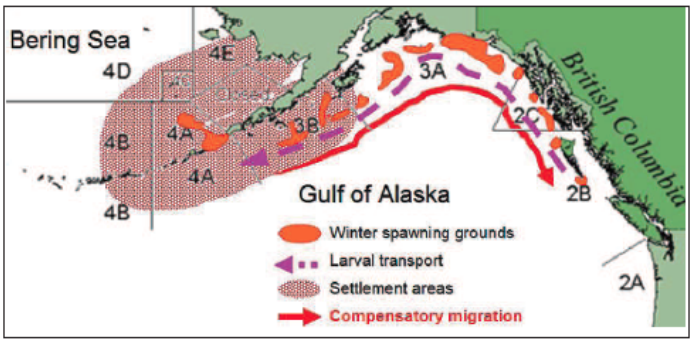


Figure 7. Pacific halibut management areas and migration patterns (Valero and Webster, 2012).

Subsistence harvests of marine mammals, seabirds and fish play a crucial role in meeting the food security and dietary requirements of most of St. George's year-round residents, while sustaining an invaluable tradition that binds the culture. Recent annual subsistence harvests of Northern fur seals ranged between 64-120 during the 2009-2013 period (almost all juveniles), approximately one seal per resident per year (Allen and Angliss, 2015). Steller Sea Lions are also harvested, though in lesser numbers. (Neighboring St. Paul harvest an annual average of approximately 27 Steller Sea Lions per year, Allen and Angliss, 2015.) According to the most recent data available from the Alaska Department of Fish & Game St. George fisherman were reported to have caught 490 pounds of Pacific halibut in 2011 (Fall and Koster, 2013).

In addition, the highly endangered North Pacific Right whales is heavily dependent on the waters of the Pribilof Domain. The population is estimated to have declined to 30 individuals, and the Bering Sea shelf waters from east of the Pribilof Islands south to the Alaska Peninsula have been designated as critical habitat for them (Allen and Angliss, 2015). Other cetaceans that do or are likely to inhabit the Pribilof Domain waters transiently include killer whales, Beluga whales, Dall's porpoise, Sperm whales, Baird's beaked whale, Stejneger's beaked whale, Humpback whales, fin whales, and Minke whales (Allen and Angliss, 2015). Lastly, during the summer of 2016, a whale carcass that had washed ashore in 2014 was determined to be an entirely new species in the genus *Berardius* (http://news.nationalgeographic.com/2016/07/new-whale-species/).

Criteria 2: ***The area contains submerged maritime heritage resources of special historical, cultural, or archaeological significance, that: individually or collectively are consistent with the criteria of eligibility for listing on the National Register of Historic Places; have met or which would meet the criteria for designation as a National Historic Landmark; or have special or sacred meaning to the indigenous people of the region or nation.***

The proposed Sanctuary encompasses a region of prehistoric and pre-contact significance for the

ocean-centered heritage of the Unangan people; a place of cultural transition after colonial contact; and a point of confluence between the Unangan peoples and Russian and American colonial forces focused on exploiting the commercial potential of the fur seal trade.

The Unangan are an early ocean-going coastal people and among our continent's first settlers. Several thousand years ago, migrations of various peoples from eastern Asia crossed over the Bering Land Bridge into North America (Laughlin, 1980, 10, 65, 75–78). One of these migrations included a people who would settle the islands along the North Pacific Rim that would eventually bear their name, the Aleutian Islands [Aleut: *Unangan tanangin*]. Our forebears, the inhabitants of the Aleutian Islands, developed a spoken language known as *Unangam tunuu*. As the population dispersed from east to west along the Aleutian Island Chain, they developed language dialects. The Aleut people living among the eastern Aleutians, Umnak and eastward (Bergsland, 1994, xvi), referred to themselves as *Unangan* (meaning "people of the seashore") and those living in the western Aleutians, Atka to Attu (Bergsland, 1994, xvi and 47), referred to themselves as *Unangas*. The singular form of the word "people" in *Unangam Tunuu* is Unagax (http://pribilof.noaa.gov/island-history.html).

The Unangan way of life is interwoven with the ocean and our sister communities in the Aleutian Archipelago and across the Bering Sea in Far Eastern Russia. The Pribilof Domain holds a special place in our culture. The proposed Sanctuary contains shipwrecks representing many different periods of St. George's history and culture. Some of these submerged resources have been studied while others remain to be surveyed. The creation of the Sanctuary would focus additional and much-needed research attention on the submerged sites of the Unangan people, including evidence of migration or hunter-gathering culture (baidarkas, *e.g.*). As noted by Veltre and McCarthy (2002), "Very few late prehistoric or early historic Aleutian Island sites have been precisely dated, and the Pribilof materials could be of great value in establishing the stylistic artifact sequence for them."

According to Evans, Flatman & Flemming (2014, pp. 99-100):

> Archaeological evidence from terrestrial sites in eastern and western Beringia can be used to identify locales most likely to contain archaeological remains that may be preserved on the continental shelf. It is reasonable to expect that underwater sites should be similar to sites that have been found, excavated and reliably dated on both the Asian and North American sides of the Bering Strait. These sites indicate that the early inhabitants of Beringia were hunter-gatherers-fishers. Campsites consist primarily of hearths around which stone tools have been found along with faunal remains of large and small mammals, fish, and birds. Evidence of structures more than 10,000 cal years in age have been documented in…Kamchatka…and…in Alaska. The paleoecological settings of these, and other types of sites, can be used to extrapolate similar types of geographic contexts in which to search for sites that may have been submerged by rising sea levels. Although archaeological sites of this nature may be difficult to identify using remote sensing techniques, larger features such as semi-subterranean house pits, shell middens, or fish weirs may be more visible.
>
> The Bering Land Bridge is the paleogeographic feature that many archaeologists have considered essential to explain how people could have migrated from Asia to North America without the use of watercraft. However, several significant North American archaeological

> sites are documented from the Aleutian Island to British Columbia dating to the time when sea level approximated its current position circa 11,000-9,000 cal years ago…. The frequency and age of these sites demonstrate that people occupied areas adjacent to the continental shelves in the Bering Sea, the Gulf of Alaska, and along the Northwest Coast during the Late Pleistocene. Data from coastal and interior sites provides strong inferential evidence suggesting that two major types of ancient archaeological sites may be preserved on the continental shelves: (1) artifacts and features left by terrestrial hunters and gatherers who likely occupied the interior regions of the Bering Land Bridge, and (2) the remains of coastal and near coastal sites resulting from maritime subsistence.

St. George's more recent history, which is directly connected to the marine environment, has been nationally recognized. Three areas of Saint Paul and Saint George were designated a National Historic Landmark District in 1962 and listed on the National Register of Historic Places in 1966. On Saint George, the district encompasses historic elements of the city of St. George, and extends east to a fur seal rookery and historic seal kill site area. Historic structures include industrial processing facilities as well as worker housing. The rookery area on St. George also includes the remains of one of the early Russian-built villages, Staraya Atil, providing insights into the island's and the state of Alaska's colonial history.

The history of the Unangan peoples of St. George is also connected to the Greater Farallones National Marine Sanctuary. In 1812, Russian traders brought Aleut and other Alaskan natives on a voyage to California to hunt fur seals and sea otters, an expedition that would lead to the establishment of Fort Ross, which is today a National Historic Landmark, on the National Register of Historic Places and part of Fort Ross State Historic Park. The creation of the Sanctuary will strengthen recognition of the historical linkage between the Unangan seal hunters brought to St. George and those brought to California and will increase opportunities to study and understand Unangan culture.

There have also been many shipwrecks in the waters near St. George over the years. Examples from a U.S. Department of State Bureau of Ocean Energy Management archive illustrate the extent of shipwrecks in the area during the past 250 years: Sv. Pavel (1789); Alexander (1892); Laurada (1899); Unknown Japanese sealer (1909); Bogsetogorsk (1965); P.S. No. 76 (1966); Pribilof (1976); Sea Witch (1976) ; Ryuyo Mau (1979); Eagle (1980); Arctic King (1982); Nordic Pride (1985); Pavlov (1990); Alaska Monarch (1990); Holy Cross (1992); and Kings & Wings (1994). (http://www.boem.gov/uploadedFiles/BOEM/About_BOEM/BOEM_Regions/Alaska_Region/Ships/2011_Shipwreck.pdf)

In conclusion, the island of St. George and the surrounding waters host rich archaeological and historical resources. St. George has great potential to become a leading destination for research and education relating to migrations across the Bering Sea Land Bridge, the Unangan people, as well as Russian fur trading and subsequent U.S. history in the region.

Criteria 3: ***The area supports present and potential economic uses, such as: tourism; commercial and recreational fishing; subsistence and traditional uses; diving; and other recreational uses that depend on conservation and management of the area's resources.***

The creation of the Sanctuary will generate a number of highly significant benefits to our local economy, which has faced great challenges. Direct and indirect benefits will accrue in a number of areas. Because the marine mammal, seabird and fish species found on St. George have very extensive ranges, the economic benefits of conservation and management would likely extend to many places beyond St. George and Alaska.

Subsistence use: Our community is highly dependent on subsistence harvest of local resources, not only to meet our dietary requirements and maintain food security and health, but also as a fundamental, essential part of our Unangan culture and traditions. The Alaska Department of Fish and Game's and other harvest records indicate that our community annually harvests as much as 5,200 pounds of marine mammals, seabirds and fish for subsistence purposes. This amounts to an average of approximately 52 pounds per person each year. Although a value cannot be placed on the cultural significance of this food, the cost of replacing it with store-bought food, if necessary, would be approximately $20,000-42,000 per year, according to an estimate developed by Earth Economics (using data from the National Marine Fisheries Service and the Alaska Fish and Game Division of Subsistence). If even a portion of this cost were incurred by our small community, it would impose a harsh, unaffordable burden on adult earners, whose very limited incomes are already over-stretched. Most importantly, the loss of subsistence harvests would abridge our community's most fundamental cultural needs and rights. The creation of a Sanctuary would help protect the St. George Unangan people's subsistence way of life by requiring a comprehensive management plan and bolstering the resilience of the marine ecosystem to climate change.

Commercial fisheries: The waters near St. George Island provide habitat for several commercially important fish species, including walleye pollock. The pollock fishery is the largest in the U.S. by volume, accounting for approximately one-third of all U.S. seafood landings by weight. St. George's waters are also home to Pacific halibut, other groundfish, and snow crab, all of which are also significant commercially. Despite the fact that the local St. George fishing fleet and catch quotas have declined during the past decade, participation in local commercial fisheries is a crucially important source of income for local families. Unlike marine monuments, fishing has never been banned outright in a National Marine Sanctuary. Indeed, the Sanctuary would offer an opportunity to manage our waters against emerging threats and establish resilience while pursuing important local economic priorities, such as the redevelopment and expansion of the St. George Harbor. Our waters have state and national economic significance and are deserving of the kind of comprehensive, integrated management that a National Marine Sanctuary can provide in close cooperation with the North Pacific Fisheries Management Council, the State of Alaska and all relevant stakeholders.

Tourism: The creation of a National Marine Sanctuary around St. George will bring new and greater than ever attention by the American public and international travelers to the fact that the island and environs has unique and extraordinary natural resources. Post-designation marketing and branding by St. George in cooperation with NMS will boost tourism further. Bird watchers have made up a significant segment of St. George's tourism to date. Our island's spectacular cliffs provide breeding habitat for millions of seabirds including over 200 species, making it highly attractive for bird watchers. Indeed, the National Audubon Society has designated two Important Bird Areas (IBA) on the island and its surrounding waters: the St. George Island Colony IBA and

the St. George Island Marine IBA. These two IBAs cover a total area of about 3.5 million acres of ocean and island. Visitations have been low in recent years (eBird (http://ebird.org/content/ebird/) statistics indicate that 23 birders visited St. George in 2014), these recreationists come from all over the U.S. and other countries. The creation of the Sanctuary will undoubtedly give an enormous boost to bird watching tourism and other recreational visitations.

Research projects: St. George has a long history of hosting important scientific studies by researchers from around the world who come to assess and understand the area's rich natural cultural and archaeological resources. The creation of the Sanctuary would only increase the interest and resources available for additional scientific projects within the area.

Visitors to St. George Island spend approximately $550 to $1,200 per trip in lodging, entertainment, gifts, and food expenses. If visitations resulting from increased research and tourism were to increase to 500 per year, a potentially conservative estimate, annual revenues to our community would increase by $274.000-$600,000. This income would provide an enormously significant benefit to the St. George community and would certainly induce further local economic activity.

The marine mammal, seabird and fish species relying on the waters surrounding St. George are also far ranging and affect local economies in many other parts of the world. The Sanctuary, therefore, would also benefit not only communities throughout the Bering Sea region and industries dependent on resources from the Pribilof Domain, but also many millions of Americans and others living along the Pacific Rim and beyond.

Criteria 4 – *The publically derived benefits of the area, such as aesthetic value, public recreation, and access to places depend on conservation and management of the area's resources.*

The publicly derived benefits of few marine areas are so closely dependent on resource stewardship and traditional knowledge. For the people of our community, the benefits of the proposed the Sanctuary are incalculable. St. George's marine environment is a source of food, income, knowledge, community and personal wellbeing, and Unangan cultural heritage. The Unangan people of St. George have always lived in close communion with the animals that live on and around the island – even from before the time the island was first inhabited on a year-round basis. Without the island's rich marine resources there would be no community; it is not an exaggeration to state that the fate of the St. George community, materially and spiritually, hangs in the balance as marine mammal and sea bird populations continue to decline. In this sense, the benefits of the area go far beyond being aesthetic and recreational. These feelings of unique connection are frequently echoed by visitors to our island, whether bird watchers, researchers or tourists.

Because St. George's pinnipeds and seabirds are far ranging and ecologically linked to so many other parts of the world's oceans and coastal areas – from Alaska to coastal Russia, Japan, the Pacific coast in Canada, the U.S., Mexico, Hawaii and many other points across North America, Asia, the Pacific, and Europe – they also enhance the aesthetics, recreational value and economies of those areas. The publicly derived benefits of the Sanctuary area are nearly so vast as to defy definition. The conservation and adaptive management of St. George's marine natural resources, particularly of the kind afforded by NMS designation, is, therefore, of the utmost importance.

Section IV – Consideration Information

Consideration 1 - The area provides or enhances opportunities for research in marine science, including marine archaeology.

As a remote island group where scientific monitoring extends over time scales exceeding a century in the case of Northern fur seals, and where multiple effects from climate change and ocean acidification are especially rapid and accelerating, St. George's nearshore waters provide an outstanding setting for ecological, biological and oceanographic monitoring programs that that could greatly inform the science of global environmental change. The establishment of the Sanctuary in the waters of St. George could facilitate and promote such research in a way that few alternative marine locales could match. St. George's waters could provide a critical focal area for research into how cumulative impacts associated with climate change (including ocean warming and acidification) and human uses threaten the resilience of marine ecosystems. Heightened monitoring and analysis of these stressors would inform and promote collaborative adaptive management to bolster the resilience of the ecosystem to climate change. Given the vulnerability of our community, we regard this research as being of crucial importance.

Designation of the Sanctuary would provide an opportunity to build partnerships with academic, research, government and non-profit organizations to conduct crucially needed and potentially groundbreaking research and monitoring in the proposed Sanctuary area. The Sanctuary would also provide a locus for cooperative monitoring and integrated research into species health and changes in productivity throughout the Bering Sea, including with related Unangan coastal communities in Far Eastern Russia.

It is an aspiration of the St. George community that the island become home to a world-class international marine research center that will bring together global science and traditional knowledge to focus on marine ecology, marine mammal and seabird biology, and oceanography. Such a center would also stimulate and provide a much-needed hub for increased scholarship focused on Unangan cultural heritage, submerged prehistoric archaeology and regional education and outreach programs. The many shipwrecks within the Pribilof Domain provide clues to the great number of potential archaeological sites within and in close proximity to the proposed sanctuary zone. The historical understanding of Unangan travels in the vicinity of the Pribilof Islands is far from complete. Designation of the Sanctuary would provide a crucial catalyst for increased research and knowledge about the Bering Land Bridge/Beringia model of early continental settlement and the sea-going Unangan people, one of our continent's oldest cultures.

Consideration 2 – The area provides or enhances opportunities for education, including the understanding and appreciation of the marine and Great Lakes environments.

The creation of the Sanctuary will greatly improve educational opportunities for the residents of St. George, Alaskans, United States citizens, and international visitors and learners. The Sanctuary could serve as a platform for bringing together visiting scientists with St. George residents and elders to create cooperative educational experiences that combine the latest scientific knowledge with the historical and traditional environmental knowledge and observations of Unangan community members. Such an initiative could easily tie in with ongoing marine educational

initiatives, such as those that have been developed by the St. George Island Institute's Marine Science Summer Camp for young people living on the Pribilof Islands.

Educational resources are very limited on St. George, making the creation of the Sanctuary particularly impactful from a local educational perspective. Curricular activities could be developed by the St. George School, in cooperation with the NOAA and the Sanctuary, to teach students about local marine and cultural history, marine ecology, oceanography, global climate change, and the national sanctuary system. Ideally, the school could become eligible to be a NOAA Ocean Guardian School, so that it could take advantage of many of ONMS's very strong educational tools (e.g., Ocean Guardian Activity Book, Ocean Adventures Interactive Games, Virtual Submersible Dive and Data in the Classroom).

The Sanctuary could us the Seal Skin Plant, an unused, NOAA-owned structure, to create an office and world-class interpretive center. The Plant would provide an extraordinary setting for young Unangan community members as well as visitors to St. George to learn about the early North American settlement and Beringia, the island's history, the deep cultural connections Unangan people have to the marine environment, the impact of climate change on coastal and island communities such as St. George that are heavily dependent on natural resources, the range of other contemporary issues and challenges affecting St. George's marine environment, and the measures the community can take to enhance its role as steward and make the most fully informed decisions possible for the future.

Ultimately, there is no greater learning environment than the sea itself. The creation of the Sanctuary will elevate the importance of marine protection and sustainable management for the community and increase opportunities for learning in the living laboratory around the community. Educational experiences and internships could have an enormous impact on young Unangan residents of St. George, helping to open new horizons, instill hope that positive change can be achieved, and shape their future as community leaders who deeply understand the environment and the emerging threats facing St. George and the region.

Consideration 3 – Adverse impacts from current or future uses and activities threaten the area's significance, values, qualities, and resources.

The marine waters surrounding the Pribilof Islands are among the most productive in the world, supporting extremely high aggregations of marine mammals and seabirds, as well as providing essential habitat for several commercially important fish species. The abundance of many of these resources, however, have been declining for decades, despite management measures aimed at arresting and reversing them. Whether marine mammals, seabirds, fish or crabs, these declines, confirmed by research and observed with our eyes, are causing grave, existential concerns within our Unangan community, which depends heavily on the Sea's resources, both materially and spiritually. Our communities have for millennia relied heavily on harvests of marine mammals, seabirds, halibut, crab and other fin- and shellfish for our diet. The activities associated with subsistence harvests – from capture to processing to sharing in the consumption – are crucial to maintenance of our Unangan culture, as are the products derived from these harvests. The transmission of knowledge associated with these activities and products provides an essential link between our elders and younger tribal members, without which our distinctive culture – indeed, our

entire community – cannot be maintained. Put simply, preservation of subsistence resources is essential to the preservation of St. George and our unique, ancient Unangan culture.

In 1911, Northern fur seals began to recover from depletion caused by excessive harvesting during the 19th century. Their numbers increased from a few hundreds of thousands of individuals to more than two million by the late 1940s and early 1950s (Allen and Angliss, 2015; Fig. 8). Subsequently the population has steadily declined, stabilizing at around 500,000 to 700,000 since about 2005 (NMFS, 2006, Testa et al., 2016). Conservation measures are needed to prevent further declines.

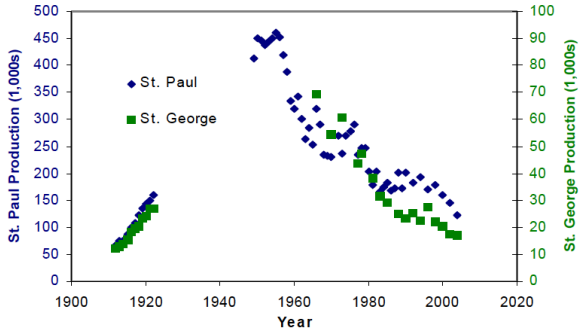


Figure 8. Estimated Northern fur seal pup production on Pribilof Islands, 1909 – 2004. Population sizes are assumed to be larger than pup births by a factor of 4.5 (Allen and Angliss, 2015).

Although there are signs that the population has stabilized somewhat, Western Steller Sea Lion populations experienced a dramatic 50 percent reduction in the last three generations and have continued to decline in the Western Aleutian Islands. The sub-species continues to meet IUCN criteria for endangered species, a finding that corresponds with our observations on St. George. (IUCN, 2016)

Piscivorous kittiwakes and murres declined from the mid-1970s to record lows by the mid-2000s. Declines of piscivorous puffins and planktivorous auklets began in the mid-1990s (Jahncke et al., 2008; Fig. 9). These seabird declines have been attributed to changes in the structure of the marine ecosystem of the eastern Bering Sea shelf, possibly linked to climate forced changes in the timing of ice retreat or in the distribution of cold bottom temperatures on the shelf (Jahncke et al., 2008).

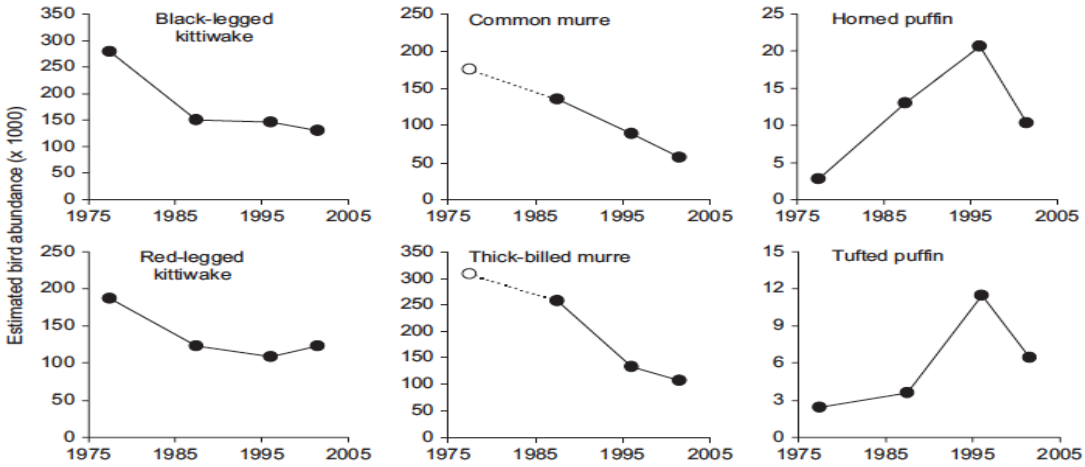


Figure 9. Estimated piscivorous marine bird abundances near Pribilof Islands, 1976 – 2004 (Jahncke et al., 2008).

The living marine resources of the Pribilof Domain have been adversely affected by multiple stressors and are vulnerable to a number of others that are apt to intensify in the future. The establishment of the Sanctuary will lead to enhanced scientific monitoring and adaptive management of our island's living marine resources and will promote their resilience in the face of global climate change, including warming ocean waters and ocean acidification, and the several other threats summarized in the subsections below.

Climate change: While the globally averaged air temperature has increased by about 2.5 °F over the last 60 years, the increase in the Bering Sea has been more than twice that. This has resulted in a considerable retreat in the maximum extent of sea ice during late winter and early spring, and in much warmer sea surface water temperatures, both of which have substantially lowered marine productivity throughout the southeastern Bering Sea (Hunt el al., 2008) as well as the efficiency of energy transfers within the marine food web of the Pribilof Domain. They have also altered food web structure and composition in a way that favors species that are adapted to warmer waters and that are often less nutritious for their predators. Further warming in the future will jeopardize the ability of the Pribilof Domain to support the numbers or densities of higher-level predators, including marine mammals, seabirds or fish that it has historically.

While upwelling supplies nutrients throughout the year, phytoplankton growth is limited to mainly spring and summer because of light availability. Phytoplankton need mechanisms to keep them in the sunlit surface layer of the ocean to sustain rapid growth. Three mechanisms provide this in the southeastern Bering Sea: ice, ice melt-water, and solar heating of the sea surface. The timing, extent and intensity of these processes have strong effects on phytoplankton production over the course of a year. The Pribilof Domain is particularly sensitive to small temperature changes because a substantial proportion of phytoplankton productivity depends on the presence of sea ice during spring.

Historically in the southeastern Bering Sea, the maximum extent of sea ice occurred during early spring and usually encompassed the Pribilof Islands. This is less frequent occurrence today. During early spring, the underside of this ice provides a stable and relatively strongly illuminated surface for phytoplankton and other algal plants to grow on, resulting in rapid plant growth rates that contribute substantially to the total plant growth for the year (Alexander and Niebauer, 1981). As this ice melts it lowers the salinity and hence the density of the surface sea water, making it more difficult to mix with denser water beneath. Phytoplankton trapped in this stabilized surface layer continue to be exposed to relatively strong sunlight, further supporting growth. As the season progresses, solar illumination of the surface layer will eventually heat it enough to decrease the density of the surface layer, again trapping phytoplankton near the surface. This process may require an additional month or more than the sea ice mechanisms to accelerate plant growth. Hence the presence or absence of sea ice can have a strong effect on the timing and amount of plant growth available to support marine food webs.

When sea ice is present during early spring, plant growth increases with increasing light. As the ice melts, the plants that grew on the ice are released to the surface waters, and the melt-water from the

ice stimulates additional plant growth. This plant growth is immediately grazed by microzooplankton, which are in turn consumed by larger zooplankton and then by small fish and invertebrates. This results in successive "blooms" of phytoplankton, then zooplankton that provide food for forage fishes and invertebrates, all over the course of a couple of months. When sea ice is absent, this same chain of events occurs later and more slowly.

As temperatures warm in the Bering Sea, the maximum extent of sea ice retreats northward, making the surface waters no longer covered by ice less productive. Protracted solar heating of surface waters that did not freeze during winter may eventually make the surface layer so stable that it does not readily mix with the nutrient-rich water beneath, which can lead to initially rapid growth rates and correspondingly rapid depletion of nutrients (Strom and Fredrickson, 2008). These conditions favor growth of smaller zooplankton as the initial grazers of the phytoplankton, which increases the length of the food chain leading to forage fish and other higher-level consumers (Hunt et al., 2008). As a general rule, each transfer from one consumer to the next decreases overall food availability to higher-level consumers by ~70%, so this is a very strong temperature-dependent effect. Warmer temperatures also increase the metabolic rate of cold-blooded organisms (including fish, shellfish and most of the phyto- and zooplankton), which increases their dietary requirements, and decreases the concentration of oxygen in seawater, forcing aquatic organisms to expend more energy for respiration. The combined effects of these temperature-dependent processes make the marine productivity of the Pribilof Domain particularly sensitive to temperature changes.

Ocean Acidification: The acidity of seawater increases when atmospheric carbon dioxide dissolves into sea surface waters to form higher concentrations of carbonic acid. The Bering Sea is one of the most vulnerable parts of the world ocean to acidification. Its relatively cool temperatures and low surface water salinity promote absorption of atmospheric carbon dioxide. In addition, upwelling of the deep waters by the shelf-break current are naturally more acidic than surface waters, and relatively low salinity reduces the buffering capacity of the seawater to resist the subsequent acidification (Sabine et al., 2004). Ocean acidification has already had detectable effects on ecologically important organisms inhabiting the Bering Sea, such as pteropods (Fabry et al., 2008), which are predatory marine snails that are prey for a host of other species including pink salmon. Ocean acidification also has implications for crabs because of the reduction in pH and lower availability of calcium carbonate needed to form shells during molting. Initial investigations by NOAA and partner organizations into the impact of ocean acidification on crabs have found generally that survival decreased at all life history stages as they were exposed to lower pH water. (http://www.aoos.org/alaska-ocean-acidification-network/biological-impacts/crab/) As carbon dioxide concentrations continue to rise in the atmosphere, this and many other effects of ocean acidification will intensify, especially in the Bering Sea.

Atmospheric Deposition of Persistent Organic Pollutants: Northern latitudes are particularly vulnerable to persistent organic pollutants (POPs) such as polychlorinated biphenyls (PCBs), chlorinated pesticides, brominated flame retardants and other halogenated organic compounds because of a process called global distillation. These compounds have higher volatility in warmer latitudes, and when carried poleward by atmospheric circulation tend to condense, contaminating both terrestrial and marine ecosystems. Subsequently they biomagnify in food webs, can interfere with reproduction of high-level predators, and may be a factor reducing the recruitment of Northern fur seals and Steller Sea Lions (NMFS, 2006, Beckmen et al., 2016). Even many years after having

been banned, legacy POPs have been found in the bodies of Northern fur seals in the Pribilof Islands, while others that have remained in use or only recently been banned showed up in higher levels (Reiner et al., 2016). Female Northern fur seals may be so contaminated by POPs that they transfer most of their POP burden to their first-borne, which may be lethal to the pup, but enables the mother to produce healthier subsequent offspring (reviewed in NMFS, 2006). If so, this would impose a substantial reduction of recruitment for the population.

Commercial Fisheries: The Bering Sea green belt supports numerous fisheries, including the walleye pollock fishery, which is the largest in the United States (NPFMC, 2015). Although these waters are closely managed, challenges persist. Cumulative impacts of climate change and multiple human uses, including the intensive fishing that the ecosystem has long sustained, could cause the ecosystem to approach or even pass ecological thresholds. Large-scale fisheries in and near the waters of St. George target walleye pollock, Pacific halibut, Pacific cod, Atka mackerel, snow crab and red king crab (NPFMC, 2015; Hare, 2012). A management question warranting further consideration is the extent to which commercial fishery removals of walleye pollock, Atka mackerel and Pacific cod from the waters of the Pribilof Domain might be affecting the availability of these species to marine mammals and seabirds.

Past overfishing of crabs, especially blue king crabs, has resulted in a depleted population that has yet to recover (Lyons et al., 2016), despite implementation of a habitat conservation zone (HCZ) within which harvests are prohibited (NPFMC, 2014). The HCZ created in 1995 protects blue king crabs from harvest by commercial fisheries. The species, however, has nonetheless failed to recover from overfishing, possibly because subsequent elimination of the commercial fishery for red king crabs in the HCZ may have maintained relatively high populations of red king crab juveniles that prey on juvenile blue king crab (Lyons et al., 2016).

The commercial fishery for Pacific halibut has on the whole been sustainably managed. There are, however, longstanding concerns about the bycatch of Pacific halibut in the pollock fishery. Because Pacific halibut intersect with the pollock fishery in the waters around St. George, a considerable proportion of halibut bycatch losses of halibut occur in the Pribilof Domain. In addition to reducing the availability of Pacific halibut substantially within the Pribilof Domain, these bycatch losses may be adversely affecting the broader Pacific halibut population, an issue warranting further investigation.

The creation of the Sanctuary would present an opportunity for the community to work with NOAA and the North Pacific Fisheries Management Council to examine such issues further and to cooperate on shared stewardship efforts.

Shipping: Arctic vessel traffic has increased rapidly in recent years. Tens of thousands of ships operated in the Arctic in 2014, and the opportunities for transits are expanding rapidly as northern sea ice melts, with an entirely ice-free summer Arctic predicted by as soon as 2050. Access to Arctic resources is the largest driver of increased vessel traffic to date (Eguiluz et al., 2016). In Alaska, port districts are increasing infrastructure to accommodate additional cargo and marine transportation. The U.S. Coast Guard believes that the number of ships in the Bering Sea has doubled in the past seven years. The cargo ships, tankers, barges, fishing vessels and other vessels navigating the Bering Sea pose a variety of threats to the region's ecosystems and communities that

depend on them, including air pollution; discharges of oil, trash, and sewage; noise that can alter marine mammals' behavioral and migratory patterns; direct strikes on marine mammals; interference with subsistence activities and the safety of native hunters, who travel as far as 100 miles from shore in small open boats; and accidents, loss of steerage, and running aground, which can place the personnel on board in danger (see, e.g., Arctic Vessel Traffic in the Bering Strait, Pew Charitable Trusts, April 2014; NOAA's Conservation Plan for the Eastern Pacific Stock of Northern Fur Seal, 2007).

The Pribilof Islands are more than 200 miles north of the Great Circle Route that runs from the west coast of North America to east Asia along the Aleutian Islands and along which more than 10 vessels a day pass through Unimak Pass near the end of the Alaska Peninsula. Far closer to St. George is the proposed M-5 Alaska Marine Highway extension between the south coastal marine highway and the Arctic (U.S. Committee on the Marine Transportation System, 2016; Fig. 10). The U.S. Coast Guard has identified an "area of interest" related to proposed ship routing along the M-5 route. The western border of the area of interest includes waters that may be 20-25 nautical miles, from St. George, i.e., within both St. George's highly productive retention area and the proposed the Sanctuary area.

There are also risks posed by contaminant discharges associated with marine vessel traffic to, from and around the Pribilof Islands. Whitney and Yender (1997) reported on 14 oil spills, primarily of diesel fuel, near the Pribilof Islands from 1979 to 1996. The largest spills were approximately 40,000 gallons in November 1979, 25,000 gallons in March 1990, and 15,000 gallons in March 1987.

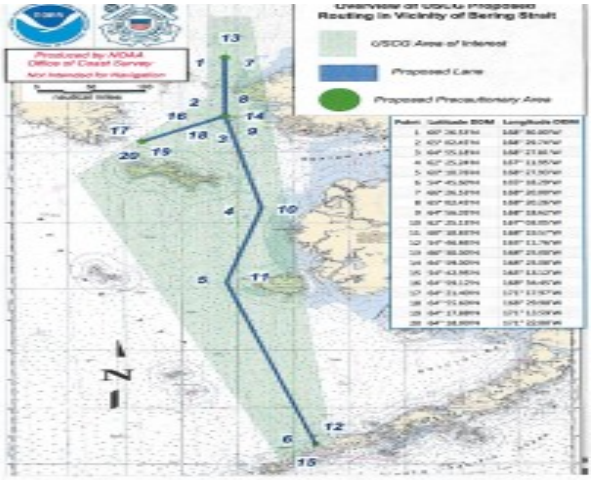


Figure 10. Proposed M-5 Alaska Marine Highway extension (U.S. Committee on the Marine Transportation System, 2016).

Contaminants discharged by vessels traveling within the Bering Sea that are capable of dissolving or dispersing in seawater include heavy metals, microbes in sewage discharges and invasive species discharged with ballast water, and discharges of petroleum or petroleum products. Because petroleum products are usually less dense than seawater, they can be transported much greater distances across the sea surface than would other types of contaminants.

Invasive Species: There is a risk that the shipwreck of a rat-infested vessel would potentially cause disease transmission. In addition, marine invasive species transported through ballast water

discharges of commercial vessels are a serious problem worldwide, and may eventually pose a threat to Pribilof Domain waters, particularly if vessel traffic along the proposed M-5 route were to increase substantially. The greatest near-term concern for the Pribilof Domain may be from ballast water discharges of vessels after traveling from Asia, because of their potential for carrying Asiatic species to the Pribilof Islands. As the climate changes and economic activity increases in the Arctic, however, the threat of invasive species can be expected to increase.

Oil and gas:
Oil spills pose another potentially serious threat for the future. Oil spills may result from eventual offshore oil and gas exploration and production in or in the Bering Sea or nearby waters, or from shipping accidents or discharges especially those involving oil tankers. Oil from an accidental spill could contaminate beaches if the initial release were large and given the right combination of winds and currents. Oil exploration in the Bering Sea has occurred in the Navarin Basin several hundred miles to the northwest of the Pribilof Islands, but commercially viable deposits have as yet remained unidentified. Some indications of potential oil and gas deposits led to preparation of lease areas 70 and 92 in Bristol Bay. Although oil and gas exploration in Bristol Bay was been suspended indefinitely by presidential executive action in 2014, that action could someday be reversed.

Marine Debris: Marine debris from vessel traffic and ocean disposals poses a threat. St. George's location in the midst of a high-use sea leaves it vulnerable to marine debris that becomes entrained in Pacific/Bering Sea currents, washes up on shore or affects marine resources offshore in the Pribilof Domain. The scope of debris in the North Pacific is indicated by the North Pacific Subtropical Gyre, which is estimated to cover 7 to 9 million square miles, an area three times that of the continental United States. In 2015, a NOAA grant supported the removal of 10,000 pounds of marine debris on St. George in just ten days (NOAA Marine Debris Program, 2015), and similar quantities have been cleaned up in prior years. (See, e.g., Lekanof, 2010). Deaths of Northern fur seals caused by entanglement in marine debris have been estimated to be larger than at least 4.4 animals annually (Allen and Angliss, 2015). Mortality of pelagic juveniles from entanglement at sea, however, remains unknown and may be substantial (NMFS, 2006).

Figures 11, 12: Pacific current system; clean-up of marine debris on St. George, 2010.

Summary: While the ecological significance of the Pribilof Domain is enormous, so is the level of risk to its marine resources posed by a combination of threats, all of which are compounded by the effects from climate change. The better we can properly manage and reduce the other threats to the

St. George marine environment through a comprehensive and adaptive management plan, the more resilient our ecosystems will be to the threat of climate change. The creation of the Sanctuary will enable the development of fully integrated and adaptive management strategies that will mitigate risks, ensure conservation of our marine resources and promote resilience for our community and environment. This will require the involvement of the St. George community, fisheries managers, the U.S. Coast Guard, U.S. Fish and Wildlife Service, the State of Alaska and other interested stakeholders to develop a holistic approach to safeguarding the marine mammals, fish and seabirds of the Pribilof Domain.

Consideration 4 – ***A national marine sanctuary would provide unique conservation and management value for this area or adjacent areas.***

The National Marine Sanctuary's comprehensive stakeholder-driven, ecosystem-based ocean management approach will allow for multiple sustainable uses compatible with the long-term goals of habitat restoration and conservation. By creating a framework for cooperation and the adaptive management of state and federal waters and by addressing the totality of threats affecting the Pribilof Domain's marine environment the Sanctuary would protect St. George's resources while enabling sustainable resource use and management that will offer the best possibility for restoring the area's species to full health and planning for resilience.

In this and every sense, the Sanctuary will be unique and crucially important value add to existing conservation and management measures. The National Marine Sanctuary program's non-regulatory initiatives and resources used in other sanctuaries to address such issues as climate change, resilience, shipping, marine debris, and the lessons derived from those experiences, will be of enormous value to the Sanctuary and our community's efforts to conserve the island's marine environment.

Sanctuary designation will also create much-needed protection for the St. George community, the Unangan people's heritage sites and the area's marine cultural landscape. We very much look forward to participating in a Sanctuary Advisory Council together with NOAA and other stakeholders, a forum unlike any others that will facilitate discussions and initiatives focused on education, conservation, research, enforcement, tourism, and the range of issues relevant to protecting our resources and our way of life. Our local community engagement will be strengthened by the creation of a St. George Marine Committee, which will serve as a community focal point and provide support and inputs into NMS public processes and the Sanctuary's management and policies. These platforms will help the community to realize its aspirations for self-determination while strengthening the Sanctuary.

The National Marine Sanctuary program is the only marine-focused program today offering an opportunity to create a comprehensive, integrated management approach to conserving both our natural resources and our cultural heritage.

Consideration 5 - ***The existing regulatory and management authorities for the area could be supplemented or complemented to meet the conservation and management goals for the area.***

There are a number of ways in which the creation of the Sanctuary and an integrated, adaptive management approach would complement existing management authorities in addressing the potential impacts on ecosystems and sustainable use outlined above in Consideration 3.

Much of the regulatory and management efforts around St. George to date have been focused on fisheries. In 1986, for example, a management area for Pacific halibut was designated around the Pribilof Islands to provide for a local fishery for island residents. Abundance, however, has generally declined and remains depressed, perhaps due to environmental factors or coast-wide fishing affecting the entire stock. Blue crab stocks have also declined despite creation in 1995 of a habitat conservation area that prohibits bottom trawling around the Pribilof Islands and closures of the red and snow crab fisheries near the islands in 1999 (NPFMC, 2014). The U.S. Coast Guard has led significant initiatives in the areas maritime safety, marine infrastructure, and search and rescue. NOAA's and U.S. Fish and Wildlife have conducted monitoring and research into the on- and offshore conditions and health of marine mammals and sea birds. The Sanctuary could help integrate a number of complementary approaches, including monitoring, research and education, to understanding and addressing these challenges. National Marine Sanctuaries, for example, invest hundreds of thousands of dollars annually in research, citizen science, education and protection of seabirds.

At this juncture, integrated, adaptive management of the kind afforded by NOAA and the NMS program is essential for the protection of the proposed area's threatened marine resources. Because the NMS's ecosystem-based management approach is consistent with the North Pacific Fisheries Management Council's developing ecosystem-based management approach, strong collaboration is envisaged by this nomination. The U.S. Coast Guard is working on a number of maritime safety issues relevant to St. George and the Pribilof Domain. St. George envisions strong collaboration between the Sanctuary program and the U.S. Coast Guard on such issues as search and response, ship strikes against whales, marine debris and others. Similarly, the Sanctuary will create an important platform for cooperation and integrated management with the U.S. Fish and Wildlife Service and the Arctic Maritime National Wildlife Refuge on such issues as the health of seabirds, marine science, education and conservation programs.

Creating the Sanctuary will also be consistent with the conservation and sustainable resource use goals expressed by the people of Alaska in the state's marine-related laws. NOAA has a long history of working in close cooperation with the State of Alaska to align policies that protect and preserve Alaska's marine resources, coastal habitats and archaeological resources. The creation of the Sanctuary will complement and add a crucially valuable framework for coordinating federal and state and regulatory and policy approaches affecting the Pribilof Domain, including, e.g., in the areas of climate and marine research, shipping, emergency response and marine infrastructure planning.

Although the proposed area is limited in geographic scope, conservation and adaptive management decisions that are protective of St. George's resources will yield enormous multiplying benefits across both time and a vast spatial zone. Working together, drawing on science, local traditional knowledge and collective experiences, we can develop new and better ways to protect our marine environment and our community.

Consideration 6 – ***There are commitments or possible commitments for partnerships opportunities such as cost sharing, office space, exhibit space, vessel time, or other collaborations to aid conservation or management programs for the area.***

St. George is a tiny island with a small population in a very remote location in the middle of the Bering Sea. The size and scope of our partnership commitments will by definition be more limited than they might be were our community located in a more populated area. Nevertheless, our community is already a highly recognized destination and is visited by bird watchers and marine researchers from around the globe. We anticipate and very much look forward to building strong partnerships across NOAA programs and with the U.S. Fish & Wildlife Service, the U.S. Department of Agriculture, the Marine Mammal Commission, the Fort Ross Conservancy, as well as such Alaskan institutions such as the University of Alaska, Alaska SeaLife Center, and the Alaska Museum of Natural History, among many others. A linkage has already been created between St. George and the Monterey Bay National Marine Sanctuary. This cooperation will be further developed, as will cooperation with the Greater Farallones National Marine Sanctuary, Papahanaumokuakea Marine National Monument, the Bering Land Bridge National Preserve and other sanctuaries, monuments and parks in the U.S. system with natural ecological and cultural connections to St. George's marine resources.

The NOAA-owned Seal Skin Plant building overlooking the St. George waterfront could serve as an excellent location for the Sanctuary office and visitor's center. For many years, the building was the site of seal skinning, tanning and export packaging activities, making it very well suited to become an interpretive center focused on St. George's history, culture, natural resources and conservation goals. A second, satellite office might also be created in Anchorage to support and build awareness of the Sanctuary.

Consideration 7 - ***There is community-based support for the nomination expressed by a broad range of interests.***

Through the historic action taken by the City of St. George on July 1, 2016, when the City Council unanimously passed Resolution 07-01 calling for the pursuit of a national marine sanctuary, the St. George community spoke with a clear and united voice in favor of the creation of the Sanctuary and actions to preserve the island's marine environment and culture for future generations. In furtherance of this nomination, the City will also form a Marine Committee to monitor nomination-related developments and serve as a liaison between NOAA, other stakeholders and the community as the Sanctuary process develops.

St. George is supported in this effort by a range of members of the wider community of native and Aleut villages in the Bering Sea region and across Alaska, as well as researchers and conservation organizations. They support the community's effort to achieve greater self-determination through the creation of the Sanctuary and participation as an equal partner in decisions affecting the fate of our island and its resources. (Examples of this support are appended to this application and more will be available at www.unangansanctuary.net.) Our Unangan community, as small and struggling as we are, believe we have the right and responsibility to voice our concerns and take action now to protect our waters and our home for future generations. We thank you for your consideration of this nomination.

St. George Office:

P.O. Box 929
St. George, Alaska 99591-0929
Tel: (907) 859-2263
Fax: (907) 859-2212

CITY OF ST. GEORGE
ALL-AMERICA CITY-1980

RESOLUTION 07-01

WHEREAS: We, the Unangan residents of St. George Island have for generations depended upon the resources provided in our waters around our Island for food, subsistence and our cultural and spiritual development; AND

WHEREAS: The waters in and around our Island have long been honored and recognized as one of the most productive and significant ecological systems in the Bering Sea and in the world; AND

WHEREAS: We have observed for several decades declines of fish, marine birds and mammals that were once abundant and are currently in a state that causes grave concerns in our Domain, observations that are supported by scientific data; AND

WHEREAS: These declines have severely impacted our livelihoods, our cultural and spiritual needs, putting at risk the future of our Community;

WHEREAS: Following a joint workshop between the City of St. George and the Traditional Council of the Tribal Government of St. George discussing the above;

NOW, THEREFORE, BE IT RESOLVED THAT

Urgent action is being taken and will be taken to save our Community and the resources we depend upon, and that we will immediately begin to pursue all appropriate measures, including, the creation of a National Marine Sanctuary, to protect our Home.

July 1, 2016

Attest:

Ruby Prokopiof, Clerk

Pat Pletnikoff, Mayor

Theodore Lekanof, Member

Carl Lestenkof, Member

Victor F. Malavansky, Member

Laurence S. Prokopiof, Member

Olga Stepetin, Member

We, the undersigned residents and Unangan Tribal Members of St. George Island, agree with and strongly support Resolution 07-01, duly passed by the City Council of St. George Island (*Istakoon!*):

Signatures of City Council and citizens combined equals 2/3 of eligible voters in the community at present.

ALASKA INTER-TRIBAL COUNCIL
PO Box 248
Sutton, Alaska 99674

September 15, 2016

NOAA Office of National Marine Sanctuaries
Attn: Mr. William Douros
99 Pacific St., Suite 100
Monterey, CA 93940

Via email: (William.Duros@noaa.gov)

Dear Mr. Douros,

I am writing on behalf of Alaska Inter-Tribal Council. Alaska Inter-Tribal Council was established by Treaty and a Constitution on December 10, 1992. Alaska Inter-Tribal Council is a statewide consortium of 176 tribes in Alaska dedicated to protect, advocate, and preserve the sovereign culture and traditional lifestyles of the indigenous peoples of Alaska. The mission of AI-TC includes protecting and promoting our natural and wildlife resources that benefit Alaska Natives intellectual properties and our economies. AI-TC supports the determination of the community of St. George to create a National Marine Sanctuary around the Island.

We respect and endorse the St. George community's efforts to protect its home, its cultural heritage, the marine environment, and the animals that depend on the sea. It is the sacred right of the Unangan community of St. George to determine their destiny and to ensure a future for their next generations.

We wish the community of St. George much success.

Sincerely,
Delice Calcote
Delice Calcote
Executive Director
cc: george@unangan.org

ONC
ORUTSARARMIUT NATIVE COUNCIL

Resolution 16-08-01

WHEREAS Orutsararmiut Native Council is the federally recognized Tribal Council for the Community of Bethel, Alaska AND

WHEREAS the residents of St. George Island have for generations depended upon the resources provided from the waters around their island for food, subsistence and their Cultural and Spiritual traditions AND

WHEREAS the waters in and around their island have long been recognized as one productive and significant ecological systems in the Bering Sea AND

WHEREAS they have observed declines of fish, marine birds and mammals that were once abundant and are currently at a level that causes grade concerns, these observations are supported by scientific data AND

WHEREAS these declines have adversely impacted their livelihood, their Cultural and Spiritual needs, putting at risk the future of their community

NOW THEREFORE BE IT RESOLVED that action is being taken to save their community, their way of life and resources they depend upon and they will immediately pursue all appropriate measures, including the creation of National Marine Sanctuary.

NOW THEREFORE BE IT FURTHER RESOLVED that ONC fully supports the St. George Council Resolution 07-01

CERTIFICATION

PASSED and APPROVED by a constituted quorum of the Orutsararmiut Native Council on this 25 day of July 2016 by a vote of 9 in favor, 0 opposed, 0 abstain.

Walter Jim, President

Robert Lekander, Secretary

NOAA Office of National Marine Sanctuaries
Attn: Mr. William Douros
99 Pacific St., Suite 100
Monterey, CA 93940

VIA EMAIL: William.Douros@noaa.gov

September 7, 2016

Dear Mr. Douros,

I am writing on behalf of the Newtok Traditional Council to express our strong support for the determination of the community of St. George to create a National Marine Sanctuary around the Island.

We respect and endorse the St. George community's efforts to protect its home, its cultural heritage, the marine environment, and the animals that depend on the sea. It is the sacred right of the Unangan community of St. George to determine their destiny and to ensure a future for the next generations.

We wish the community of St. George much success.

Sincerely,

Andy T. Patrick Sr, NTC president

Cc george@unangan.org

Native Village of White Mountain
P.O. Box 84090
White Mountain, AK 99784
TELEPHONE: (907) 638-3651 FAX (907) 638-3652

NOAA Office of National Marine Sanctuaries
Attn: Mr. William Douros
99 Pacific St., Suite 100
Monterey, CA 93940

Via email: (William. Duros@noaa.gov

August 19, 2016

Dear Mr. Douros,

I am writing on behalf of the Native Village of White Mountain to express our strong support for the determination of the community of St. George to create a National Marine Sanctuary around the island.

We respect and endorse the St. George community's efforts to protect its home, its cultural heritage, and marine environment, and the animals that depend on the sea. It is the sacred right of the Unangan community of St. George to determine their destiny and to ensure a future for the next generations.

We wish the community of St. George much success.

Sincerely,

Lincoln M. Simon Sr.
President, Native Village of White Mountain

Cc: George@unangan.org

Chickaloon Village Traditional Council
(Nay'dini'aa Na')

NOAA Office of National Marine Sanctuaries
Attn: Mr. William Douros
99 Pacific St., Suite 100
Monterey, CA 93940

Via email: (William.Duros@noaa.gov)

August 19, 2016

Dear Mr. Douros,

I am writing on behalf of the Chickaloon Village Traditional Council to express our strong support for the determination of the community of St. George to create a National Marine Sanctuary around the Island.

We respect and endorse the St. George community's efforts to protect its home, its cultural heritage, the marine environment, and the animals that depend on the sea. It is the sacred right of the Unangan community of St. George to determine their destiny and to ensure a future for the next generations.

We wish the community of St. George much success.

May the Creator Guide our Footsteps,

Gary Hay
Executive Director

Cc george@unangan.org

P. O. BOX 1105 Chickaloon, Alaska 99674 **Phone (907) 745-0707 Fax (907) 745-0709**
e-mail: cvadmin@chickaloon.org ***Home Page: http://www.chickaloon.org***

September 28, 2016

NOAA Office of National Marine Sanctuaries
Attn: Mr. William Douros
99 Pacific St., Suite 100
Monterey, CA 93940
william.douros@noaa.gov

Dear Mr. Douros,

I am writing on behalf of the Aleut International Association, which represents Aleut communities throughout Alaska's Aleutian and Pribilof Islands, and the Commander Islands of the Russian Federation, and is a Permanent Participant of the Arctic Council.

AIA strongly supports the right of the community of St. George to create a National Marine Sanctuary for the waters surrounding their island home and in doing so; we endorse the St. George community's efforts to protect its cultural heritage, the marine environment and the animals that depend on the sea.

As an organization working with Aleut communities, we believe a national marine sanctuary for St. George can create important new opportunities to combine research with traditional knowledge to address threats to St. George's marine environment and help to promote community resilience while giving St. George a seat at the table to help develop integrated management of its natural and cultural resources.

We wholeheartedly support the community of St. George in these efforts.

Sincerely,

James Gamble
Executive Director

THE ALEUT INTERNATIONAL ASSOCIATION, INC.
Permanent Participant of the Arctic Council
333 West 4th Avenue, Suite 301, Anchorage, Alaska, United States, 99501
Phone: 1-907-332-5388 (33-ALEUT) Fax 1-907-332-5380 E-mail: aia@alaska.net

Alaska Native Science Commission
P.O. Box 244305
Anchorage, Alaska 99524
(907)258-2672 phone (907)258-2652 fax
www.nativescience.org

September 26, 2016
NOAA Office of National Marine Sanctuaries
Attn: Mr. William Douros
99 Pacific St., Suite 100
Monterey, CA 93940

Dear Mr. Douros,

I am writing on behalf of the Alaska Native Science Commission to express our strong support for the determination of the community of St. George to create a National Marine Sanctuary around the Island. The Alaska Native Science Commission was established in 1994 to bring together research and science in partnership with the Native community. It serves as a clearinghouse for proposed research, an information base for ongoing and past research and an archive for significant research involving the Native community.

The ANSC respects and endorses the St. George community's efforts to protect its home, its cultural heritage, the marine environment and the animals that depend on the sea. As an organization focused on the confluence of science and traditional knowledge we are especially supportive of the idea that a national marine sanctuary for St. George will create very significant new opportunities to combine research with local knowledge to address climate resilience and a host of other threats to the marine environment surrounding the island. As the former international chair of the Inuit Circumpolar Council, I also strongly support the right of the Unangan community of St. George to determine its destiny and pursue this important step toward ensuring a sustainable future for the next generations.

Sincerely,

Patricia A.L. Cochran
Executive Director

Audubon ALASKA

431 West 7th Avenue, Suite 101
Anchorage, AK 99501
Tel: 907-276-7034
www.ak.audubon.org

30 September 2016

William J. Douros
West Coast Regional Director
NOAA Office of National Marine Sanctuaries
99 Pacific Street, Suite 100F
Monterey, CA 93940

> *As St. George loomed ahead the number of seabirds increased. Murres skittered and bounced from wave to wave until they were airborne, or, failing this, dived beneath our advancing bow. First there were dozens, then hundreds, then thousands. Puffins flew by, singly or in small groups; crested auklets and choochkies [least auklets] buzzed about in compact little flocks. With our binoculars we swept the water in the direction of Staraya Artile and were staggered by the traffic pouring out to sea from the big cliff.*
>
> From Peterson and Fisher's Wild America (1955, p. 409)

Dear Mr. Douros:

On behalf of Audubon's Alaska and Pacific Flyway offices, we are pleased to offer this letter of support for the concept of a St. George Island National Marine Sanctuary as resolved on 1 July 2016 by the City Council of St. George. This proposal represents an important step by the residents of St. George to define for themselves a path forward to sustain their way of life and the environment and natural resources they depend on in the face of a changing climate and other challenges in the Bering Sea around them. Audubon is gratified to be part of this effort, as we have worked for four decades to protect and sustain the natural resources and traditional cultures of the Bering Sea ecoregion. These efforts started in the late 1970s when Dave Cline, then Audubon's Alaska-Hawaii Regional Vice President, worked directly with the Pletnikoff family and other St. George residents to protect cliff-side nesting habitats for millions of Pribilof Island seabirds as part of the Alaska Maritime National Wildlife Refuge.

Evaluating and ultimately designating a marine sanctuary rests in part on the degree to which the proposed sanctuary meets and addresses several criteria and considerations. The following excerpt on the Pribilof Islands (specifically including St. George) from The Important Bird Areas of the Bering Sea Ecoregion[1] (pp. 28-29) addresses many of those factors, including the extraordinary value to birds and other wildlife, as well as threats and conservation needs and opportunities:

> **Habitat:** Island landscapes are dominated by rolling upland tundra hills and ridges with volcanic gravel cinder cones and lava fields. Formidable seacliffs on St. Paul s southwest coast and most of St. George, with some of St. George s more than 1,000 feet (305 m) high, are especially attractive to nesting seabirds. The extensive seacliffs in close proximity to rich food sources along the continental shelf break, particularly the Pribilof Canyon, account for St. George s attractiveness to spectacularly abundant seabird populations. Other prominent habitats include nearshore intertidal waters, intertidal sand flats and volcanic sand beaches, interior scree slopes and boulder fields, and a few coastal lakes. Moist volcanic soils support tundra-heath communities of tall grasses, dwarf shrubs, an unusually rich diversity of lichens, and scattered small patch wetlands.
>
> **Birdlife:** The estimated overall population of two million seabirds is dominated by species of the open ocean: kittiwakes, murres, northern fulmars, and auklets. Biologists estimate that 80 percent of the world's population of red-legged kittiwakes nest in the Pribilof s. Other globally significant congregations of seabirds include black-legged kittiwakes, thick-billed murres, common murres, red-faced cormorants, northern fulmars, least auklets, parakeet auklets and horned puffins. Since St. Paul Island is much farther from the food-rich shelf-edge than is St. George and has many fewer cliffs, it supports fewer nesting seabirds. Walrus Island reportedly supported the largest murre colony in Alaska until predatory foxes gained access across the sea ice and decimated the vulnerable colony. Salt Lagoon near St. Paul village attracts post-breeding shorebirds, including ruddy turnstones and rock sandpipers. The Pribilof race of rock sandpiper is an endemic subspecies breeding only on several Bering Sea islands. It nests on upland tundra areas of the island before migrating east not south, as with other shorebirds to the tideflats of upper Cook Inlet, where it winters feeding on fingernail-size clams at low tide. Year round residents of the islands include gray-crowned rosy finches and winter wrens, with the latter reaching its northernmost breeding site in North America on St. George. Significant numbers of the threatened Alaska population of Steller's eiders winter on island coastal waters in company with king eiders, common goldeneyes, buffleheads, harlequin ducks, long-tailed ducks, black scoters, glaucous, glaucous-winged and slaty-backed gulls, and black guillemots. The islands are noted for unusual sightings of vagrant species of birds from both Asia and North America.
>
> **Other notable wildlife:** Several hundred endangered Steller sea lions occupy haulouts on the islands rocky shores. The species most northern breeding rookery in the Bering Sea is on St. George. An estimated 75 percent of the world's depleted northern fur seal population inhabits breeding rookeries on the Pribilof Islands. Harbor seals occur in very low numbers, having suffered an 80 percent decline throughout the region. Once abundant Pacific walrus and sea otters are now rarely sighted. The only terrestrial mammals are endemic populations of Arctic fox, black-footed brown lemming, and introduced herds of domestic reindeer.

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[1] Audubon Alaska, BirdLife International (Asia Council) and Russian Bird Conservation Union. 2004. The Important Bird Areas of the Bering Sea Ecoregion. National Audubon Society, Anchorage, Alaska. 40 pp.

Threats: The accidental introduction of rats from shipwrecks or vessels docking at island small boat harbors could have devastating consequences for island birdlife. There is also serious risk of fuel spills and other contaminants as local commercial fishing, marine shipping and cruise-ship vessel traffic increases. Disruption of marine food webs by industrial-scale commercial fishing, and disturbance from humans including low-flying aircraft are yet other major concerns. Domestic reindeer may be depressing numbers of ground-nesting birds.

Conservation needs: Collaborative rat-exclusion programs involving the USFWS and local communities have forestalled several rat invasions and must continue! Yearly monitoring and population research on birds of the Pribilof should continue. Offshore surveys of feeding seabirds are also needed. Establishment of an "International Bering Sea Ecosystem Research Station," as proposed by local people and marine conservationists, on the islands is overdue.

Below are additional Audubon perspectives on several of the key criteria and considerations:

The area supports present and potential economic uses.
Economic activity on St. George is based on natural and cultural resources[2], and both present (including subsistence) and potential economic uses will benefit from improved conservation and management of those resources. Beyond resource protection, designation of a St. George Marine Sanctuary would also increase economic activity through administration of the sanctuary itself as well as provide a foundation for increased research and management activities and tourism, such as wildlife viewing.

The public benefits of the area, such as aesthetic value, public recreation, and access to places depend on conservation and management of the area's resources.
Without question, present and future benefits of the area depend on conservation and management of the area's resources. This is especially critical in the face of a changing climate and increasing stresses on fish and wildlife.

The area provides or enhances opportunities for research in marine science, including marine archaeology.
Scholarly research on the seabirds of St. George Island dates back at least to the 1970s and 1980s[3][4]; and, as noted in the book excerpt above, there has long been interest in establishing an International Bering Sea Ecosystem Research Station. Designation of a marine sanctuary would enhance prospects for increased research activity benefiting

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[2] http://www.apiai.org/tribes/st-george/

[3] Hickey, Joseph J., and E. L. Craighead. 1977. A census of seabirds on the Pribilof Islands. In: Environmental Assessment of the Alaskan Continental Shelf.—Annual Rept. of Principal Investigators. Vol. 2, March 1977. NOAA/OCSEAP.

[4] Roby, D. D. and K. L. Brink. 1986. Breeding biology of Least Auklets on the Pribilof Islands, Alaska. Condor 88:336-346.

conservation and management of the area's natural resources and those of the larger Bering Sea.

The area provides or enhances opportunities for education.
Opportunities to increase research activity on St. George go hand in hand with opportunities to increase education in two respects: First, visiting researchers have much to learn from the people of St. George about the area and the Bering Sea. For instance, in the early 1980s, researchers turned to the collective knowledge of the residents of St. George to help understand potential causes of the decline of Least Auklets over the past century[5]. Second, residents of St. George, and especially young people who potentially have career interests in the conservation and management of natural resources, will have an opportunity to interact with and learn from visiting researchers and natural resource managers. In addition, tourists and other visitors will have exceptional opportunities to learn, both from residents and researchers.

A national marine sanctuary would provide unique conservation and management value for this area or adjacent areas. [and] ***The existing regulatory and management authorities for the area could be supplemented or complemented to meet the conservation and management goals for the area.***
The combination of a St. George Marine Sanctuary and the St. George part of the Alaska Maritime National Wildlife Refuge, in addition to active engagement by St. George residents, would indeed provide unique conservation and management value for the area. This complementary blend of land areas would both inform and supplement regulatory and management authorities and actions by the National Marine Fisheries Service, U.S. Fish and Wildlife Service, and North Pacific Fishery Management Council. The combination of a marine sanctuary, a national wildlife refuge, and community engagement would enable an integrated, comprehensive approach to management, informed by science and local and traditional knowledge.

There are commitments or possible commitments for partnerships opportunities. [and] ***There is community-based support for the nomination expressed by a broad range of interests.***
Audubon writes this letter in part to encourage an action that will help protect St. George's globally significant populations of birds and wildlife. Additionally, we stand in strong support for the self-determination, leadership, and conservation stewardship exhibited by the St. George community. We are excited about possibilities for long-term

[5] Roby, D. D. and K. L. Brink. 1986. Breeding biology of Least Auklets on the Pribilof Islands, Alaska. Condor 88:336-346.

cooperative partnerships and we are delighted to see a community driving the conversation for a marine sanctuary that will directly benefit the lives of local people.

In summary, Audubon enthusiastically supports the concept of a national marine sanctuary around St. George Island. The fish and wildlife resources of the area are extraordinary, as is the opportunity to integrate the interests and expertise of the St. George community with those of federal and states agencies, academic institutions, conservation organizations and others. A national marine sanctuary designation would enhance conservation and management of the natural resources on which the lives and economy of the St. George community depend.

Thank you for your consideration in this important matter.

Sincerely,

Nils Warnock
Vice President & Executive Director
Audubon Alaska
431 W 7th, Suite 101
Anchorage, AK 99501

Stan Senner
Vice President
Audubon – Pacific Flyway
111 SW Columbia St, Suite 200
Portland, OR 97201

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