



St. George Unangan Heritage National Marine Sanctuary Five-Year Review Technical Report



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Cover photo: City of St. George at sunset in November 2015. Photo: NOAA

This report was developed in response to the requirement for a five-year review of the St George Unangan Heritage National Marine Sanctuary (SGUHNMS) nomination submitted to NOAA in October, 2016 and accepted to the inventory of areas for potential designation on January 27, 2017. Because NOAA has not initiated a designation process for this nomination, ONMS conducted a five-year review of the nomination to assess whether the proposed sanctuary continues to be relevant and responsive to the criteria for sanctuary nomination and should remain in the inventory.



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Five-Year Review of the St. George Unangan Heritage National Marine Sanctuary Nomination

Introduction

In 2021, the National Oceanic and Atmospheric Administration's (NOAA) Office of National Marine Sanctuaries (ONMS) initiated a process to review the nomination of St. George Unangan Heritage National Marine Sanctuary (SGUHNMS). The review assesses whether the nomination remains relevant and responsive to 11 sanctuary nomination process (SNP) criteria (four national significance and seven management considerations; see www.nominate.noaa.gov). NOAA used the same criteria to guide the review of the SGUHNMS nomination when it was submitted to NOAA in October, 2016. The nomination passed ONMS review and was accepted to the inventory of areas for potential designation as a national marine sanctuary on January 27, 2017. Since then, NOAA has not initiated a designation process for this nomination, and by regulation ONMS is now conducting a five-year review of the nomination to assess whether the proposed sanctuary remains responsive and relevant to the criteria for sanctuary nomination. This technical report, presents information regarding whether or not the SGUHNMS nomination remains responsive and relevant to the 11 SNP criteria. This report provides a brief summary of information submitted in the 2016 nomination, followed by a brief summary of relevant new information (e.g., recent events, initiatives, studies, marine resource programs, and activities) since the nomination was accepted. The sources of new information have been from public comment or internal ONMS research and analysis. This report has been prepared to inform the ONMS Director's decision whether or not the SGUHNMS nomination will remain in the inventory beyond the five-year anniversary on January 27, 2022 of the nomination's inclusion in the new site inventory.

Background

2016 Nomination

In 2014, NOAA's ONMS launched a new sanctuary nomination process (79 FR 33851). After a multi-step review, nominations that meet the 11 SNP criteria are added to an inventory of areas NOAA may consider for potential designation as national marine sanctuaries. The 11 SNP criteria are based on the National Marine Sanctuaries Act (NMSA). Nominations expire after five years in the inventory if a designation is not initiated; however, if a five-year review of the nomination finds it to still be responsive and relevant to the SNP criteria, nominations may remain in the inventory for an additional five years. In October 2016, Patrick Pletnikoff, Mayor, on behalf of the City of Saint George, AK, submitted the nomination for SGUHNMS. ONMS accepted the nomination as complete, and in January 2017 after conducting an in-depth review determined the nomination met the national significance criteria and management considerations. The nomination was placed on the inventory of sites NOAA may consider for future sanctuary designation. 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

there would be a 20-mile boundary, stretching approximately halfway to St. Paul Island. St. George and the other Pribilof Islands are located on the seaward edge of the Bering Sea's eastern continental shelf, approximately 300 miles west of the Alaskan mainland and 250 miles north of the Aleutian chain. 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 archipelago



This photo depicts the location of St. George Island in the Bering Sea. Photo: NOAA

The proposed SGUHNMS aims to recognize and preserve Unangan-Aleut tribal history and to protect the area's rich biodiversity, including a world-renowned marine ecosystem. 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 the St George 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. The nominators were concerned about their future dependent upon the sea, the economy and opportunities for traditional subsistence being greatly diminished and in steady decline as the island's marine resources also decline. The city's nomination was submitted with support from conservation organizations, scientists, tribal groups and community leaders.

Five-Year Review

In the fall of 2021, ONMS initiated the five-year review of the SGUHNMS nomination by first notifying the nominators about this process and giving them an opportunity to provide updated

information in regard to the nominated area's relevance and responsiveness to the SNP criteria. ONMS then issued a Federal Register notice requesting public comment for the five-year review from November 17 to December 17, 2021.

Public Comments

The public comment period produced a total of 32 comment letters received. To a degree, this is an undercount since about a dozen of the letters were signed by multiple organizations or individuals, or were from organizations that represented one or many other individuals or entities. Comments were posted to regulations.gov and received by email. Most comments supported the nomination, a few raised concerns or articulated reservations, and only one requested the nomination be removed from the inventory (see below). Many comments acknowledged and/or advocated for a larger sanctuary (100nm area) around both islands to enhance protection for the Pribilof Islands marine ecosystem (aka PRIME proposal). (Subsequently, the Aleut Community of St. Paul Island submitted the larger proposal as a national marine sanctuary, a nomination presently under review by ONMS.) Six commenters provided new information germane to one or more of first 10 SNP criteria, some with extensive, valuable analyses of ecosystem changes or expanded human impacts. All of the comment letters were relevant to the 11th criteria assessing community support (or not) for the nomination. The City of St. George (nominator) reiterated support for the nomination and designation.

There was one comment (Alaska Department of Fish and Game) that expressed disagreement that the proposed sanctuary should remain in the inventory. No other state entity commented. This deviates from the past position on the original nomination wherein the Lt. Governor on behalf of the state expressed support for the City of St. George's taking steps to identify a future that would benefit the city and its residents, but took no position on the proposed sanctuary. Additionally, ONMS received several other comments that expressed concern that a designated sanctuary at St. George would have a direct role in fishery management or otherwise alter the current arrangement to manage fisheries.

Public Comments

Public Comments Received During the 30-Day Comment Period

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Assessment Regarding 11 Sanctuary Nomination Process Criteria

Assessment Regarding 11 SNP Criteria

The following is a synopsis of information pertinent to the SGUHNMS nomination, organized for each SNP criteria (four national significance criteria and seven management considerations criteria).

National Significance 1: Natural resources and ecological qualities of special significance.

The marine waters in the vicinity of St. George Island are among the most important anywhere on earth. The current along the Bering Sea shelf-break drives an oceanic upwelling that carries nutrients to the surface and fuels phytoplankton growth, which in turn supports extraordinarily productive marine food webs resulting in dense aggregations of marine mammals, seabirds, fish and shellfish, and some of the most important commercial fisheries in the United States. 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. 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. Ocean productivity in the proposed sanctuary remains relatively high, despite observed negative effects of climate change on food production for seabirds and marine mammals. The national and international importance of St. George Island and the surrounding Bering Sea to seabirds cannot be overstated. During the summer months, St. George Island is home to globally significant populations of breeding seabirds. However, the area has witnessed recent and ongoing population declines. The University of Alaska's comment letter indicated that the most recent population estimate for St. George Island seabirds at the Alaska Maritime National Wildlife Refuge showed that several species have recently experienced newly or increasingly negative population trends. Common murrelets experienced a dramatic drop in numbers after the Gulf of Alaska die-off in 2015-2016, resulting in an alarming trend of -28% decline over the past 5 years (-2% annually since the late 1970s). The population trends for the past five years for least auklets (-17.6% per year), black-legged kittiwakes (-0.5% per year), and red-legged kittiwakes (-6.7% per year) have become increasingly negative since the sanctuary's nomination (Univ of Alaska, Institute of Arctic Biology December 2021 comment letter).

Subsistence harvests of marine mammals, seabirds and fish continue to 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. Furthermore, Northern fur seals are essential to the culture of the Unangan people who view them as an essential part of their lives and subsistence. They depend on the seals physically, emotionally and spiritually. The area continues to have resources and ecological qualities of special significance.

National Significance 2: Submerged maritime heritage resources of special historical, cultural, or archaeological significance.

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 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 attention on the submerged sites of the Paleo-Indian people, including evidence of migration into the Americas or hunter-gathering culture. Numerous paleo-settlements are in the bays and on the beaches along the coast as well as significant historical and archaeological sites as represented by the Seal Islands Historic District National Historic Landmark (Advisory Council on Underwater Archaeology comment letter, December 2021). There continues to be special historical resources of significance to be characterized and preserved and 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.

National Significance 3: Present and potential economic uses that depend on conservation and management of the area's resources.

Because St. George has experienced economic decline and is so dependent on the health of the marine environment for their livelihood and cultural connection, conservation and management of these resources is critically important. To that end, the city completed a 2020 Redevelopment Strategy. It identified three main drivers for socioeconomic growth: Grants; a National Marine Sanctuary; and Harbor and Marine Access. The strategy points to the importance of these drivers to the viability of fisheries, tourism, research and education, government, and businesses. The strategy also identifies some important recent investments to advance these drivers, including \$164M approved for St George Harbor improvements and hiring an assistant city administrator to coordinate implementation of the redevelopment strategy. According to the strategy, it is anticipated that a sanctuary could generate significant benefits to the local economy, which has faced great challenges. Specifically, the strategy estimates that there could be at least four full-time jobs; \$200,000 in annual government spending to support a sanctuary office; \$140,000 to \$1 million in expenditures due to research grants; \$55,000 to \$240,000 in annual recreation expenditures; \$22,000 to \$44,000 in estimated subsistence harvest annually; \$2.8 billion to \$3.3 billion in annual non-market ecosystem service benefits. The estimates of potential government spending and related grants and benefits from a sanctuary, if designated, seemed consistent with other economic analyses for new sanctuaries and with typical investment by the agency in a new sanctuary. In addition, a sanctuary comprehensive management plan could bolster the resilience of the marine ecosystem to climate change which threatens commercial and subsistence fisheries and the wildlife that visitors come to see.

National Significance 4: Public-derived benefits of the area, such as aesthetic value, public recreation, and access.

According to the redevelopment strategy, visitors to St. George Island spend approximately \$550 to \$1,200 per trip in lodging, entertainment, gifts, and food expenses. 70% of residents support the idea of developing ecotourism opportunities and 50% of residents are interested in jobs or training created as a result of ecotourism opportunities. The redevelopment study said: “St George has what global visitors are looking for: exceptional nature-based experiences, a unique heritage, and a distinctive culture”. In a typical year St. George Island regularly hosts nearly 160 species of birds, many breeding in huge colonies, and another 50 rare or migrant bird species have been seen on the island. It also hosts large colonies of Northern Fur Seals, arctic fox, Orca whales, reindeer, and other wildlife. In 2018, the State of Alaska reported a significant amount of growth in the tourism industry as compared to any other sector of development in the state. However, St George has limited and unreliable access, as well as a general lack of awareness by the public of its special ecotourism value. A harbor with ferry access to St Paul and more tourism infrastructure would attract more tourism. The strategy asserts that a national marine sanctuary would bring greater awareness and appreciation for the island and thus draw more sustainable ecotourism.

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

St. George’s nearshore waters provide an outstanding setting for ecological, biological and oceanographic monitoring programs that could greatly inform the science of global environmental change. 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. It is generally accepted that emerging anthropogenic threats in the region are poorly understood. Recent surveys have explored whether seabirds breeding on St. George are exposed to contaminants of concern. This is an emerging field and the extent of exposure and effects of exposure are poorly understood.

While the Southeastern Bering Sea has enjoyed decades of marine research, recent dramatic changes in the marine environment may be upending our understanding of how the ecosystem responds to physical drivers. For example, in 2018 sea ice extent in the winter hit a historic low, resulting in a dramatic reduction of the cold pool of bottom water that usually acts as a barrier separating the Northern and Southern Bering Seas. Followed by a similarly low sea ice year in 2019, this oceanographic feature all but disappeared. While extensive work has been done on how these recent changes are affecting the Northern Bering Sea, little attention has been paid to how wildlife in the Southeastern Bering Sea will be affected by a marine environment increasingly removed from sea ice dynamics (World Wildlife Fund-Arctic Program December 2021 comment letter).

The establishment of a sanctuary in the waters of St. George could facilitate and promote much needed research. The sanctuary and community could partner with labs and universities to

better understand risks associated with climate change and pollutants which pose significant risk to ecologically and culturally important wildlife populations of the island.

Management Consideration 2: The area provides or enhances opportunities for education.

The St. George Redevelopment Strategy points to opportunities for education primarily through the establishment of a marine sanctuary and all that it might entail (visitor center, citizen science and stewardship programs, youth programs, etc.). As noted in the original proposal, NOAA still owns a building that could serve as a compelling visitor center – the sealing house which may be the last intact structure of its kind in coastal Alaska. The strategy also points to support for local capacity to engage in St. George marine science research, including through engagement with Aleut Community of St. Paul’s Ecosystem Conservation Office (ECO) and its campus and research center initiative. The Redevelopment Strategy also identifies an opportunity for funding for youth programming through grants like the Developing the Next Generation of Conservationists grant and other related grants.

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

The continued decline in fur seal population on the Pribilofs, based on regular pup counts on St. Paul and St. George (and reaffirmed in 2021), appear to be not only due to climactic changes (affecting food web production), but may also be exacerbated by commercial fisheries which have altered the spatial and temporal distribution of pollock and reduced the availability of this preferred prey to fur seals. Although research has not yet identified the primary cause or causes of the decline, the decline itself is well documented. Declines in seabird populations due in part to climate change impacts to food production also threaten the area’s significance, values, and qualities, especially as related to tourism focused on seeing seabirds.

Arctic vessel traffic has increased dramatically in recent years, increasing by 150 percent through the Bering Strait region between 2008-2018. This volume is expected to continue to increase as an entirely ice-free summer Arctic is predicted by as soon as 2050. Vessels navigating the Bering Sea pose threats to the region’s ecosystems and communities that depend on them, including from air pollution; ballast water and other discharges; noise; introduction of invasive species, such as rats; direct strikes on marine mammals; interference with subsistence activities; and accidents. The International Maritime Organization’s creation in 2018 of three new Areas to be Avoided (ATBAs) and two-way shipping routes was a significant step forward. While these precautions are protective, however, shipping-related risks to the Pribilof Domain remain (City of St. George December 2021 comment letter).

New information about the impact of entanglement in marine debris in Alaskan waters and separately from microplastics was described in a comment letter from WWF (Dec. 13, 2021). Marine wildlife die-offs in the Bering Sea due to adverse climate related impacts were highlighted (Norton Bay Intertribal Watershed Council, Dec. 17 2021 comment letter).

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

The 2016 nomination stated: “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.” This statement still holds true today, but is underscored by more evidence of ecosystem decline since the nomination was submitted. Of particular note, a sanctuary would bring needed research and monitoring on ecological change due to climate change. The decade from 2011-2020 was the warmest decade on record since thermometer-based observations began. Alaska, and particularly western Alaska, is a region that has experienced the greatest warming.

Management 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.

One of most important issues for St. George is fisheries management and there is opportunity to complement fisheries management with sanctuary resource protection approaches, especially those dealing with water quality, marine debris, and involving fishermen in research and education programs for the public. For example, in January, 2019, the NPFMC published "Bering Sea Fishery Ecosystem Plan" and Pribilof Island HCA - these measures offer opportunity for enhanced conservation and management with a marine sanctuary. In addition, although the proposed sanctuary area is limited in geographic scope, conservation and adaptive management decisions protective of St. George’s resources could result in significant benefits beyond, and draw in other agencies, science organizations, and traditional knowledge.

Management Consideration 6: There are commitments or possible commitments for partnership opportunities or other collaborations to aid conservation or management programs for the area.

The City of St George (per the redevelopment strategy), represents a renewed and focused commitment to partnership with ONMS, communities on St. Paul Island, and others to aid in conservation and management. During the years since submission of the sanctuary nomination, and particularly during the past year, the community of St. George has been in dialogue with the Aleut Community of St. Paul Island (ACSPI), the island’s tribal government. ACSPI has made significant strides to develop marine science about the Pribilof Island marine ecosystem and to advance a conservation agenda. St. Paul and the supporters of a larger sanctuary to encompass both islands represent substantial partnership opportunities. The University of Alaska’s

Institute of Arctic Biology, is particularly enthusiastic about seabird studies, specifically on seabird exposure to harmful persistent organic pollutants such as PCBs, DDTs, and HCHs (Univ of Alaska comment letter).

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

In aggregate there was broader and more diverse support for the nomination than in the original 2016 nomination. The city continues to support it and ONMS received supportive letters from other Native Alaskan organizations, scientists, an Alaskan recreational organization and marine archaeologists. Prominent environmental groups, some with offices/membership in Alaska also support the nomination (e.g. Alaska Marine Conservation Council, Center for Biological Diversity, Creation Justice Ministries, Defenders of Wildlife, Environment America, GreenLatinos, Healthy Ocean Coalition, League of Conservation Voters, Marine Conservation Institute, Mystic Aquarium, National Marine Sanctuary Foundation, National Ocean Protection Coalition, Natural Resources Defense Council, Ocean Conservancy, Oceana). The 2020 City of St George Redevelopment Strategy included feedback from the community regarding the proposed sanctuary: 64% of St. George residents support the idea of establishing a national marine sanctuary around St. George; 39% of St. George residents are interested in jobs created as a result of a marine sanctuary (another 32% saying they would need more information). Other commenters on the five-year review support a larger marine sanctuary around both St. George and St. Paul Islands that would encompass the St. George nominated area. As noted earlier there was one comment in opposition to retaining the nomination in the inventory, and several others involved in commercial fishing also expressed reservations that a sanctuary at St. George would get involved in commercial fishing regulation or otherwise complicate the existing management scheme. One resident from St. George also expressed doubts a sanctuary was needed and echoed concerns about a sanctuary getting involved with fishery management.



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AMERICA'S UNDERWATER TREASURES