NATIONAL PARK SERVICE
DEPARTMENT OF THE INTERIOR

Isle Royale-Minnesota Seaplane Service

Isle Royale National Park

February 17, 2017

Proposed Action

Isle Royale National Park is considering a Commercial Use Authorization (CUA) with Isle Royale Seaplanes (IRS) to add an additional seaplane based in Houghton County, MI and offer service from Grand Marais, MN to currently designated landing areas on Isle Royale National Park (Windigo, Mott Island, and Tobin Harbor/Rock Harbor Lodge). A CUA process would allow a one to two year trial period where either the Park or IRS could choose to end the additional Minnesota service in that period. Afterwards the Park will consider continuation of the service by renewing the CUA or amending the concessions contract with IRS. The purpose of the proposed action is to provide additional transportation options to the island for visitors within the parameters set by the park's General Management Plan (1998). The need for this determination has arisen due to the request by IRS to provide this service.

Background

Isle Royale Seaplanes (IRS) has an existing concessions contract, CC-ISRO006-16, to provide air transportation service between Houghton County and Isle Royale National Park which expires December 31, 2025. IRS has proposed adding flights between Minnesota and Isle Royale.

The service would involve a second aircraft, a Cessna 206 with amphibious floats, nearly identical to the current aircraft with seating for the pilot and four passengers and backpacks and/or luggage. A flight schedule example for the Minnesota aircraft is as follows: the 8:00 am aircraft would fly from Houghton to the Island, from the Island to Minnesota, then back to the Island, (make additional flights between Minnesota and the Island if booked and weather permitting), and then return to Houghton. A second aircraft could also be used for contingency purposes. If there is a limited weather window or if bad weather causes transportation delays of a day or more, then IRS will be able to have some flexibility in

their schedule and catch-up with the back-log of passengers more quickly using two aircraft. When one aircraft is removed from service for maintenance or a pilot is unavailable for a day, IRS will now be able to provide uninterrupted service to visitors by having a second aircraft.

The Park believes this new service will increase the number of visitors to the island, rather than compete with other ferry services. IRS now provides five flights a day with a maximum capacity of 20 total people per day entering and 20 people leaving the island. The additional aircraft could possibly double that amount if all flights were booked for a total of 40 people entering/leaving the island. IRS is anticipating only one to four flights between Minnesota and the Island a day depending on demand. That would mean a typical day would bring an additional 4—16 people to the island. Based on current clientele, IRS expects that the projected increase of 4—16 people a day would be visitors in Minnesota intending to stay at the Rock Harbor Lodge. Currently, these visitors face a two hour ferry to Windigo, and then a five hour ferry to Rock Harbor, thus potentially deterring some visitors.

Flights from Grand Marais would occur at the Cook County Seaplane Base which has two runways on Devil's Track Lake and landing facilities.

Environmental Impacts

Soundscape: The principle concern over the addition of one to four flights to the island (maximum of 8 flights circumnavigating the island) is the potential impact to the Park's soundscape. The Park has determined that the extent and intensity of the impact will be minimal and will not create any cumulative impacts.

National Park Service Natural Sounds and Night Skies Division (NSNSD) conducted a soundscape study at Isle Royale during the summer of 2013. (White, 2014) NSNSD set up monitoring stations to capture and assess natural background and human-caused sounds at three sites: Rock Harbor, Moskey Basin, and Island Mine. This body of data will provide a baseline for assessing impacts to the soundscape in the future. Data in the following discussion is based on the NSNSD report unless otherwise noted.

The impact to the soundscape by the seaplane can be assessed in terms of the duration and volume of the seaplane and visitor sensitivity to those sounds. Human-caused sound (noise) can come from a variety of sources on Isle Royale such as people walking and talking, generators, boat engines, and aircraft. As a wilderness park, noise is of relatively short duration in the interior portion of the park, but significantly higher in developed areas. 2013 data showed that human-caused noise was audible at Rock Harbor (non-wilderness entry point to the island) almost 100% of the time, while the more remote areas of Island Mine and Moskey Basin had audible noise roughly 20 and 50% of the day respectively. Of the noise present, propeller based aircraft were a small portion of the audible sounds at any site. Additionally, some of this propeller aircraft noise is apparently from sources other than the seaplane as they occur at times when the seaplane is not operating.

With respect to volume, the NSNSD analysis did not specifically assess the volume of the seaplane. A study in Juneau, AK assessed noise of seaplanes in their harbor (Decker, 1989), one of which was a Cessna 206 (the same plane flown by IRS at Isle Royale). Decibel levels were taken from a distance of about 1000-2000 feet (site 1) from the seaplane landing area, one Cessna had a peak reading of 45

decibels on landing and three Cessna take-offs had peak levels from 73-80 decibels. For comparison, the same study notes that a typical business office has a background of 54 decibels while the inside of a New York subway train is approximately 94 decibels. For further context, the median natural ambient sound levels at the three Isle Royale sites in the NSNSD study ranged from 31.3 to 40.1 decibels during the day. The median sound levels (including natural sounds and human caused noise) range from 35.1 to 41.4 decibels during the day.

Beyond the duration and magnitude of noise, it also matters how noise specifically impacts visitors and wildlife. Human noise can have both physiological and behavioral effects on wildlife, though the extent of harm can be difficult to quantify. (NPS, 1994) Given the low decibel levels and short duration of the sounds from the seaplane, the Park does not anticipate any detrimental effects on park wildlife.

Noise can diminish visitor's enjoyment of a park, but it does not necessarily affect all visitors and can affect individual visitors to a different degree. Isle Royale has limited anecdotal data regarding the public's thoughts on non-natural sounds at Isle Royale. These come from comments received during park management planning processes and unsolicited letters. Overall, there is some concern amongst Isle Royale visitors with noise overall and the seaplane service in particular. More broadly, NPS conducted a national survey in 1992 to gauge the effect of overflights on visitor enjoyment. (NPS, 1994) The report estimate that 1.6 to 2.8% of visitors find that hearing aircraft interfered with visitor enjoyment or appreciation of natural quiet or caused annoyance. Further, the report found that "A higher percentage of backcountry than frontcountry visitors report hearing aircraft and are more likely to experience impact from these aircraft." Isle Royale expects that island visitors may be more sensitive to aircraft noise given the high percentage of backcountry visitors and the expectations for wilderness areas. Another study at Muir Woods National Monument asked visitors to evaluate sounds they heard in the park on a scale from "-4 ('very annoying') to +4 ('very pleasing')" and found that aircraft ranked a -1 annoyance level equivalent to digital camera sounds and much less bothersome than loud groups or loud individual adults (-3). Since visitors understand that Isle Royale is isolated and that the seaplane, ferries and other watercraft are necessary for transportation to the island, there is an expectation that sounds from those vehicles will occur.

Overall, the duration and intensity of the additional seaplane flights will be minimal. The duration of time that anyone hears the plane will always be fairly short, even in landing zones. The intensity of the noise, particularly during take-off is relatively high but only for those in the very near vicinity. Landing areas are located in non-wilderness with noise already present, thus, visitors will have a decreased expectation of absence of noise. Due to the off-shore flight pattern and minimum altitude requirements for the seaplane, wilderness visitors should have minimal exposure to seaplane noise. Again, they also understand that noise from transportation to the island will occur. Consequently, the park expects that visitors will not be highly bothered by the small increase in seaplane noise.

It does not appear that impact of these flights will add significantly to any past, present or reasonably foreseeable actions. Overall, the park is taking steps to limit noises from administrative actions, from replacing generators with lower noise models or even silent, solar power panels to limiting the use of powered hand tools in the park.

The park will monitor the number of flights conducted and input from visitors regarding noise and the seaplane.

Mitigation Strategies

Seaplanes would continue to fly around the perimeter of the main island rather than over it in order to minimize sound intrusions.

References

Decker, R.S. 1989. Floatplane Noise Study: A Brief Report. Juneau International Airport, Juneau, Alaska.

Isle Royale National Park. 1998. Final General Management Plan/Environmental Impact Statement. NPS D-87A. National Park Service's Resource Planning, Denver Service Center, Colorado.

National Park Service. 1994. Report to Congress—Report on effects of aircraft overflights on the National Park system. National Park Service, USA.

Pilcher, E.J., P. Newman, and R.E. Manning. 2009. Understanding and Managing Experiential Aspects of Soundscapes at Muir Woods National Monument. Environmental Management, 43:425–435.

White, C. L. 2014. Isle Royale National Park: Acoustic monitoring report. Natural Resource Report NPS/NRSS/NRR—2014/886. National Park Service, Fort Collins, Colorado.

Public Comment

You are encouraged to comment through NPS Planning, Environment, and Public Comment (PEPC) website at: http://parkplanning.nps.gov/seaplane. Comments can be made by clicking on the "Open for Comment" link at the left side of the page and selecting the document and then clicking "Comment Now" button. You may also mail or hand-deliver your written comments to Superintendent Phyllis Green, Isle Royale National Park, ISRO Seaplane, 800 East Lakeshore Drive, Houghton, Michigan 49931-1896. Comments will be accepted through March 17, 2017.