



MARINE MAMMAL COMMISSION

22 December 2021

Mr. Kevin Brindock, Deputy Assistant Regional Administrator
Protected Resources Division
Pacific Islands Regional Office
National Marine Fisheries Service
1845 Wasp Blvd., Bldg. 176
Honolulu, Hawai'i 96818

Re: Hawaiian Spinner Dolphin Proposed Rule
Docket No. 210901-0174

Dear Mr. Brindock:

On 28 September 2021, the National Marine Fisheries Service (NMFS) published a proposed rule in the *Federal Register* (86 Fed. Reg. 53844) to establish mandatory time-area closures of essential daytime habitats for spinner dolphins at five selected sites in the Main Hawaiian Islands (MHIs). Selected areas¹ within La Perouse Bay on Maui and Makako, Kauhakō, Kealakekua, and Hōnaunau Bays on Hawai'i would be closed from 6 a.m. to 3 p.m. to human and vessel entry. NMFS states that the proposed closures are intended to reduce take of resting spinner dolphins in nearshore habitats where high levels of human activity occur. The measures would be implemented in conjunction with separate regulations² explicitly prohibiting humans and vessels from approaching within 50 yards of spinner dolphins within 2 nm of the MHIs. The Marine Mammal Commission (the Commission), in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the proposed rule and offers the following comments and recommendations.

Background

Island-associated spinner dolphins in the MHIs follow a predictable diel pattern, foraging offshore at night and returning to nearshore bays to rest during the day. Such resting behavior is critical to restoring energy reserves after a nighttime of foraging. Characteristics of habitats that support spinner dolphin resting behavior are similar throughout the MHIs, with observational and modeling studies indicating dolphin preference for protected bays with sandy areas less than 50 meters in depth and in close proximity to deep-water foraging grounds (Norris and Dohl 1980, Thorne et al. 2012, Tyne et al. 2015).

Due to the relative accessibility of these nearshore areas, essential daytime habitats of spinner dolphins are targeted for numerous dolphin-directed human activities, including boat-based viewing and in-water dolphin interaction tours and retreat programs. Heightened exposure to

¹ See the proposed rule for geographical coordinates of the proposed closure boundaries.

² Which were finalized by NMFS on 28 September 2021 (86 Fed. Reg. 53844) and became effective on 28 October 2021.

humans during critical rest periods alters the resting behavior of spinner dolphins (e.g., Östman-Lind et al. 2004, Courbis and Timmel 2009, Lammers 2014), and chronic disturbance could lead to habitat abandonment and reduced individual fitness as suggested by Lammers (2004) and documented in other dolphin populations (e.g., Bejder et al. 2006, Lusseau and Bejder 2007). For the small, genetically-isolated MHI spinner dolphin populations, these impacts could lead to severe population-level consequences (Bejder 2005). Furthermore, altering the behavioral patterns of marine mammals constitutes harassment (as defined under section 3(18) of the MMPA), and absent authorization, activities directed at resting spinner dolphins can constitute illegal taking.

The Commission has given considerable attention over the past two decades to the issue of disturbance to MHI spinner dolphins. Concern over the high incidence of human interactions with spinner dolphins in Hawai'i and options to reduce harassment were discussed at the Commission's 2002 annual meeting and in a subsequent [25 January 2005 letter](#) to the Hawai'i Department of Land and Natural Resources. In turn, NMFS sought public input³ on a variety of proposed regulations to protect spinner dolphins from activities resulting in take, such as establishing minimum approach distances and/or mandatory or voluntary time-area closures, and ultimately, in October 2021, implemented a rule requiring swimmers and vessels to approach spinner dolphins no closer than 50 yards. Throughout this process, the Commission continued to recommend⁴ that NMFS take a more aggressive stance on enforcing the MMPA's take prohibition as it applies to spinner dolphins and that the agency adopt measures to clarify what constitutes harassment, codify its viewing guidelines, restrict vessel operating conditions in areas used by dolphins, and establish mandatory closed areas to protect critical resting habitat. During the Commission's 2019 annual meeting in Kona, Hawai'i, similar sentiments were voiced by members of the community, with leaders of Native Hawaiian organizations, researchers, local tour operators, and concerned members of the public also supporting additional protective measures, including time-area closures.

Commission support for time-area closure rulemaking

With the recent finalization of the 50-yard approach regulation, the Commission is pleased that NMFS has taken action to clarify what constitutes taking of spinner dolphins in Hawai'i and established a more enforceable standard. Furthermore, the Commission is encouraged that NMFS is reconsidering establishing mandatory time-area closures in conjunction with the approach rule based on the best available science, sentiments from the community, and the Commission's recommendations for additional measures to protect spinner dolphins. As such, the Commission recommends that NMFS move forward with a final rule to establish time-area closures from 6 a.m. to 3 p.m. at Kealakekua, Hōnaunau, Kauhakō Bays on Hawai'i Island and La Perouse Bay on Maui; such a rule would address recommendations from the Commission as discussed herein. Observations from Makako Bay⁵, which historically had some of the highest encounter rates of spinner dolphins, suggest that the recent development of a fish farm and increased presence of bottlenose dolphins has largely displaced spinner dolphins from the bay. Therefore, the Commission recommends that NMFS assess the appropriateness of establishing a time-area closure at this bay on the basis of current information.

³ In its 2005 advanced notice of proposed rulemaking (70 Fed. Reg. 73426) and its 2016 proposed rulemaking (81 Fed. Reg. 57854).

⁴ In its [13 January 2006](#), [24 November 2006](#) and [24 October 2016 letters](#).

⁵ As discussed in a report submitted to the Pacific Scientific Review Group (Harnish et al. 2021).

Statutory basis for rulemaking

NMFS indicates that the purpose of the proposed time-area closures is “preventing take of Hawaiian spinner dolphins in areas identified as important essential daytime habitats for spinner dolphins that have high levels of human disturbance.” That is, the basis for the rulemaking appears to rest solely on clarifying the MMPA’s taking prohibition as it applies to the identified, high-use resting areas. The take prohibition was also the statutory basis for establishing the 50-yard approach rule for vessels and swimmers more broadly in Hawai‘i. The fact that NMFS is proposing this additional rule indicates that the 50-yard approach rule, by itself, is inadequate to address taking that occurs in the resting areas. It is not entirely clear whether NMFS believes that, notwithstanding the approach rule, taking is likely to occur within the areas slated for closures because of the cumulative effects from multiple sources of disturbance or because of the heightened susceptibility of dolphins to being disturbed when resting. The Commission thinks that both of these factors likely are in play, and supports adoption of the proposed closures based in part on a theory that approaching resting spinner dolphins in these key areas, even to separation distances of greater than 50 yards, has the potential to disrupt their behavioral patterns. The Commission notes, however, that if NMFS’s primary concern centers on the cumulative effects of disturbance from multiple sources, this also should have been addressed explicitly in the approach regulation, as the Commission had recommended (e.g., by limiting the number of vessels that can be within a certain distance of spinner dolphins, beyond 50 yards, at the same time). If the rationale for the proposed rule is that resting spinner dolphins in these areas are more susceptible to disturbance and a greater approach restriction is needed, a clearer case should be made that the proposed boundaries are sufficient to ensure that unauthorized taking does not occur. Relying solely on a taking theory as the statutory basis for establishing the closures, without having established a clear linkage between the boundaries and the separation distances at which there is a heightened risk of taking, also raises the likelihood of the regulations being successfully challenged.

In commenting on the advance notice of proposed rulemaking, notice of intent to prepare an environmental impact statement, and proposed approach regulations,⁶ the Commission pointed out that NMFS could also rely on its authority to protect essential marine mammal habitat under the MMPA as a separate basis for establishing time-area closures in key spinner dolphin resting sites. As the Commission has explained in its earlier letters, section 2(2) of the MMPA provides that “efforts should be made to protect essential habitats, including the rookeries, mating grounds, and areas of similar significance for each species of marine mammal from the adverse effect of man’s actions....” The legislative history that accompanied the most recent amendment of this provision (H.R. REP. NO. 439, 103d Cong., 2d Sess.29 (1994)) noted the oversight Committee’s view that NMFS “...has authority [under this provision] to promulgate regulations to protect marine mammals and their habitats under the general rulemaking authority of section 112 of the MMPA.”

For spinner dolphins in Hawai‘i, their ability to engage in vital daytime resting behavior is clearly dependent on a particular and well-defined habitat type around the MHIs, including the bays in the proposed time-area closures. NMFS has recognized the essential nature of resting habitat on multiple occasions. The 2021 final Environmental Impact Statement (EIS) notes that the five areas selected for closure “represent essential daytime habitats where human activities are largely Hawaiian

⁶ See the Commission’s letters from 13 January 2006, 24 November 2006, and 24 October 2016.

spinner dolphin-directed” and that “the proposed closure areas...would enhance protections for the spinner dolphins’ core resting areas, including frequently used sand bottom areas.” The preamble to the proposed rule itself refers to the resting areas as “essential” habitat no fewer than 60 times. Yet, for some reason, NMFS seems reluctant to rely on the clear authority under the MMPA to establish regulations to protect such essential habitat in furtherance of the statutory mandate under section 2(2) and its regulatory authority under section 112(a) “to prescribe such regulations as are necessary and appropriate to carry out the purposes of [the] Act.” The Commission continues to believe that the “essential habitat” provision of the MMPA provides the strongest and most straightforward authority for implementing time-area closures in spinner dolphin resting habitat. As such, the Commission recommends that the final rule explain that NMFS is relying on two separate statutory bases to support promulgation of the regulations, including (1) protecting essential habitat, and (2) preventing, or at least limiting, unauthorized taking of spinner dolphins in those areas.

Expansion of the proposed closures

The areas that would be closed under the proposed rule represent the essential resting habitat in each of the selected sites and “were carefully delineated to the smallest area compatible with still meeting the purpose of [the proposed] action to reduce take of Hawaiian spinner Dolphins.” Thus, if a vessel were to position itself just outside of the closed area, it still could find itself within 50 yards of dolphins resting at the margins of that area, and potentially in violation of the approach rule. It is unclear in the proposed rule whether and, if so, how NMFS sought to coordinate implementation of the approach rule with the proposed closures. It seems that NMFS is proposing to designate for closure only the core resting areas without any buffer that would keep vessels from coming within 50 yards of dolphins within those areas. If this is the case, the Commission recommends that NMFS consider the need to expand some boundaries of the proposed closures to provide a 50-yard buffer area between vessels and resting dolphins, bearing in mind safety concerns and the need to maintain access for other recreational or commercial uses, including from shore-side areas outside of the proposed closed areas.

Outreach concerning time-area closures

Over five years have passed since NMFS proposed regulations to protect spinner dolphins in Hawai‘i that focused on regulating approach distances to dolphins, and the local Hawaiian community may be unaware that NMFS is now considering further regulations establishing time-area closures on Maui and Hawai‘i Island. Thus, if NMFS decides to implement the closures, it will be critical that the agency effectively communicate the new requirements and their importance to key stakeholders, including those who may target resting spinner dolphins for viewing (e.g., tour operators and tourists). Such targeted outreach should ultimately help reduce enforcement needs. It will also be important for NMFS to emphasize to local residents that other recreational activities (e.g., spearfishing and freediving) would largely not be restricted by the proposed regulations, as the Notice details that the closed areas would constitute only portions of the bays and were designed to generally accommodate access by water users to areas adjacent to the closure areas. Dolphin SMART⁷, established by NMFS as a voluntary program to promote safe dolphin viewing, has

⁷ SMART is an acronym for: **S**tay at least 50 yards from dolphins; **M**ove away slowly if the dolphins show signs of disturbance; **A**lways put your vessel engine in neutral when dolphins are near; **R**efrain from feeding, touching or swimming with wild dolphins and; **T**each others to be dolphin SMART.

operated in Hawai'i for over a decade and offers an existing outreach platform that could be used to publicize details of the time-area closures. The outreach strategy would ideally include public meetings at harbor marinas with tour operators and in neighborhoods with local residents, public service announcements on airplanes for visitors traveling to Hawai'i, and signage displayed both on shore and at closure buoys.

With successful initial outreach by NMFS, it is likely that those affected by the regulations will help spread pertinent information to others. Therefore, to implement the closure areas effectively, the Commission recommends that NMFS carefully design its initial outreach efforts to ensure that all pertinent stakeholders are aware of the regulations and their scope, understand their importance, and know how to follow them.

Enforcement of time-area closure restrictions

The Commission has long held the view that many of the activities directed at spinner dolphins in Hawai'i constitute harassment as defined under section 3(18) of the MMPA. That is, the dolphins, at least in some cases, were being pursued and/or annoyed, and the interactions clearly had the potential to disturb individual dolphins by disrupting their behavioral patterns. However, due to a lack of clarity in how to apply the statutory definition of "harassment" to activities targeting spinner dolphins in Hawai'i, NMFS often has been reluctant to pursue enforcement cases that it thought would be difficult to sustain. Now, with NMFS's recent finalization of the 50-yard approach rule, there is a more objective standard for enforcement officials to employ when assessing whether spinner dolphins have been taken illegally. Nevertheless, certain ambiguities remain, such as whether a swimmer approached a dolphin or vice versa.

Enforcement of the proposed time-area closures should be more straightforward. If those areas are clearly demarcated, it should be fairly simple to determine and document that a vessel or a swimmer was within the closed area during the specified times. Successful enforcement of the time-area closures nevertheless will depend on NMFS enhancing its enforcement capacity in the bays proposed for closure. Once the closures go into effect, officers from NMFS's Office of Law Enforcement would, at least initially and ideally, patrol each of the bays on a daily basis. At the outset, the focus should be on informing dolphin viewers of the closure regulations before issuing warnings, and finally moving to full enforcement through the issuance of citations for violations. The Commission recognizes that NMFS may not have sufficient resources to increase its enforcement presence at the closure bays on a long-term basis. Therefore, NMFS should consider entering into or expanding an agreement pursuant to section 109(k) of the MMPA with the Hawai'i Division of Conservation and Resources Enforcement or other appropriate state bodies to help patrol those areas. To aid enforcement of the closure rule, the Commission recommends that NMFS increase the presence of law enforcement officers in and around the proposed time-area closure bays and/or regularly monitor the closure bays for enforcement purposes.

The enforcement of time-area closures, particularly ones with straight-line boundaries, would be relatively easy to accomplish remotely. NMFS could establish remote video monitoring stations at vantage points along the shore edges of the bays proposed for closures. Bays with proposed closure areas with high cliffs, such as Kealakekua Bay, offer prime locations to test such a surveillance system. Cameras focused on the closure area could be used to collect footage before implementation of the closure rule to establish a baseline of vessel and swimmer use within closure area boundaries

and then again after the closure rule becomes effective. Although it is not certain that such a remote monitoring system would be capable of identifying individual swimmers or vessels, it could, at a minimum, detect the nature and frequency of violations at the various locations and help inform the allocation of other enforcement resources. Also, recognition of the presence of remote cameras could serve as a deterrent to potential law-breakers.

Evaluation of time-area closures and designation of additional closures

It is anticipated, as discussed above, that the proposed time-area closures and the newly implemented approach rule will reduce disturbance of spinner dolphins in their resting bays and allow those dolphins that use them to return to a natural quiescent state during daytime hours in their preferred shallow, sandy habitat. However, even with the protections offered by the closures and the 50-yard approach rule, these measures may not eliminate the negative impacts of human activities that occur outside of a closure area. It will thus be important for NMFS to develop procedures for regularly evaluating and quantifying the effectiveness of each closed area to document the effects of these measures and to ensure that they do in fact provide the anticipated level of protection to spinner dolphins and their essential resting habitat. For example, Forest (2001) and Courbis and Timmel (2009) found that resting spinner dolphins may exhibit aerial displays in response to close approaches by swimmers and vessels. Thus, the frequency of spinner aerial displays may be one useful measure to assess if closures are reducing disturbance or whether swimmers or boats outside the closed areas are still impacting the animals within them. Routine remote video surveillance, as described previously, or theodolite tracking, as used extensively in previous studies of spinner dolphins in Hawai'i (e.g., Norris et al. 1994, Tyne et al. 2017), could be useful for detecting subtle, short-term changes in human and dolphin activity, especially with monitoring both before and after closures are put into effect. Such information could help NMFS reinforce the value of the regulations, or if necessary, NMFS could decide to modify closure boundaries, amend the regulations, or implement additional management measures in response to the monitoring results.

Even with the implementation of the approach rule and the proposed closures, it is important to monitor the impact of human activities and disturbance on resting spinner dolphins to continue to assess population-level effects of human activities (Lusseau and Bejder 2007). The Commission therefore recommends that NMFS prioritize research on insular stocks of spinner dolphins that informs their abundance estimates, such as photo-identification/resight efforts⁸, ultimately providing insight into the effectiveness of the closures at the population level. With limited resources, targeted surveys of age-structure using unmanned aircraft systems offer an alternative method to those traditionally used to determine whether each population has a stable and healthy age distribution. Efforts such as these could further aid closure evaluations by NMFS after closures are implemented.

In addition to evaluating the proposed closure areas regularly, the Commission believes that NMFS should consider designating additional time-area closures in other suitable resting habitat for

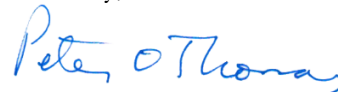
⁸ Similar to those undertaken from its funding of the multi-year "Spinner Dolphin Acoustics, Population Parameters, and Human Impact Research" (SAPPHIRE) Project.

spinner dolphins in the future, including in areas adjacent to the currently proposed closure areas.⁹ Monitoring both spinner dolphin and human presence in other suitable resting sites is critical to detecting potential shifts in dolphin behavior and habitat use patterns and identifying other sites that may warrant protection as “essential habitat” under the MMPA. Such monitoring could be accomplished using passive acoustic recorders, as demonstrated by Heenehan et al. (2016). The Commission acknowledges that it would not be feasible to monitor all 67 sites identified in the EIS by NMFS as “known Hawaiian spinner essential dolphin daytime resting habitats.” Instead, NMFS could prioritize monitoring at sites near the proposed closure areas that might serve as ecological sinks if spinner dolphins are displaced by continued disturbance in the closed bays. The Commission also advises that NMFS begin monitoring these additional sites before the closure rule becomes effective in order to establish a baseline of human and dolphin presence at these other locations.

In furtherance of these objectives, the Commission recommends that NMFS undertake a review every five years to (1) evaluate the effectiveness of each closure area to reduce the taking of spinner dolphins and protect their essential resting habitat and (2) consider establishing time-area closures at other sites that include essential resting habitat for the species.

Thank you for considering these comments and recommendations. Please let me know if you would like to discuss our comments or have any questions concerning them.

Sincerely,



Peter O. Thomas, Ph.D.,
Executive Director

References

- Arveson, P.T. and D.J. Vendittis. 2000. Radiated noise characteristics of a modern cargo ship. *Journal of the Acoustical Society of America* 107:118–129.
- Bejder, L. 2005. Linking short and long-term effects of nature-based tourism on cetaceans. PhD, Dalhousie University, Halifax.
- Bejder, L., A. Samuels, H. Whitehead, and N. Gales. 2006. Interpreting short-term behavioural responses to disturbance within a longitudinal perspective. *Journal of Animal Behaviour*, doi.10.1016/j.anbehav. 2006.04.003

⁹ Activities occurring outside of a closure may continue to negatively impact dolphins that use the closure area. For example, Harnish et al. (2021) suggest that the recent development of a fish farm in Makako Bay, a traditional resting site for spinner dolphins (Tyne et al. 2018) proposed to be subject to a time-area closure, has led to an increased presence of bottlenose dolphins, which have in turn largely displaced spinner dolphins to an area just north of Makako. It is unclear whether dolphin-based tourism or recreational activities have been increasing in the area newly occupied regularly by spinner dolphins.

Courbis, S. and G. Timmel. 2009. Effects of vessels and swimmers on behavior of Hawaiian spinner dolphins (*Stenella longirostris*) in Kealahou, Honaunau, and Kauhako bays, Hawai'i. *Marine Mammal Science* 25(2): 430-440.

Forest, A. 2001. The Hawaiian Spinner Dolphin, *Stenella longirostris*: Effects of Tourism. Master's Thesis, Texas A and M University, College Station, Texas. 91 pp.

Harnish, A.E., Baird, R.W., Corsi, E., Gorgone, A.M., Perrine, D., Ward, A., and E. Sepeta. 2021. Common bottlenose dolphin associations with a fish farm in Hawai'i: long-term associations and impacts on other delphinids. Document PSRG-2021-09 submitted to the Pacific Scientific Review Group. 27 pp.

Heenehan, H.L., Tyne, J.A., Bejder, L., Van Parijs, S.M., and D.W. Johnston. 2016a. Passive acoustic monitoring of coastally associated Hawaiian spinner dolphins, *Stenella longirostris*, ground-truthed through visual surveys. *Journal of the Acoustical Society of America* 140: 206-215.

Jensen, F.H., Bejder, L., Wahlberg, M., Aguilar Soto, N., Johnson, M., and P.T. Madsen. 2009. Vessel noise effects on delphinid communication. *Marine Ecology Progress Series* 395: 161-175.

Lammers, M.O. 2004. Occurrence and behavior of Hawaiian spinner dolphins (*Stenella longirostris*) along Oahu's leeward and south shores. *Aquatic Mammals* 30(2): 237-250.

Lusseau, D. and L. Bejder. 2007. The long-term consequences of short-term responses to disturbance experiences from whalewatching impact assessment. *International Journal of Comparative Psychology* 20(2): 228-236.

Norris, K.S., and T.P. Dohl. 1980. Behavior of the Hawaiian spinner dolphin, *Stenella longirostris*. *Fishery Bulletin* 77(4): 821-849.

Norris, K.S., B. Würsig, R.S. Wells, and M. Würsig. 1994. The Hawaiian Spinner Dolphin. University of California Press, Berkeley, California, 408 pp.

Östman-Lind, J., A. Driscoll-Lind, and S.H. Rickards. 2004. Delphinid abundance, distribution, and habitat use off the western coast of the island of Hawai'i. Department of Commerce, NOAA NMFS Technical Memorandum SWFSC-LJ-04-02C, 28 pp.

Thorne, L., D.W. Johnston, D.L. Urban, J. Tyne, L. Bejder, R.W. Baird, S. Yin, S.H. Rickards, M.H. Deakos, J.R. Mobely, Jr., A.A. Pack, and M.C. Hill. 2012. Predictive modeling of spinner dolphin (*Stenella longirostris*) resting habitat in the main Hawaiian Islands. *PlosOne* 7(8): e43167. doi:10.1371/journal.pone.0043167.

Tyne, J.A., Christiansen, F., Heenehan, H.L., Johnston, D.W., and L. Bejder. 2018. Chronic exposure of Hawaii Island spinner dolphins (*Stenella longirostris*) to human activities. *Royal Society Open Science* 5: 171506.

Mr. Kevin Brindock
22 December 2021
Page 9

Tyne, J.A., Johnston, D.W., Christiansen, F., and L. Bejder. 2017. Temporally and spatially partitioned behaviours of spinner dolphins: implications for resilience to human disturbance. Royal Society of Open Science 4:160626.

Tyne, J.A., Johnston, D.W., Rankin, R., Loneragan, N. R., and L. Bejder. 2015. The importance of spinner dolphin (*Stenella longirostris*) resting habitat: Implications for management. Journal of Applied Ecology 52: 621-630.