Supplemental Environmental Assessment
For
Issuance of a Modification to Scientific Research Permit No. 1556-01
held by the Commonwealth of the Northern Mariana Islands (CNMI),
For Sea Turtle Studies [Permit File No. 1556-02]

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Location: The proposed action would take place in the waters of the Northern Mariana Islands. Activities would occur around the islands of Saipan, Tinian, and Rota. Sampling would include the outside of the barrier reef system on the southern and western coastline of Saipan, Naftan Point, Agingan Point, and up to Banzi Cliff in Marpi.

Abstract: The National Marine Fisheries Service (NMFS) proposes to issue a modification to scientific research Permit No. 1556-01 [Commonwealth of the Northern Mariana Islands, Responsible Party: Sylvan Igisomar] for takes of sea turtles pursuant to the Endangered Species Act of 1973, as amended (ESA; 16 U.S.C. 1531 et seq.) and the regulations governing the taking, importing, and exporting of endangered and threatened species (50 CFR 222-226). The purpose of the research is to gain a better understanding of sea turtle populations in the near shore waters of the Northern Mariana Islands. Researchers would collect basic biological information on the population, life-stages, and health of green (*Chelonia mydas*) and hawksbill (*Eretmochelys imbricata*) turtles. The modification would allow researchers to annually mark up to 100 green and 40 hawksbill sea turtles using a moto tool, to conduct oral examinations on each of the animals, and to conduct research year round. The modification would be valid through June 1, 2011. Under NOAA Administrative Order 216-6, NMFS issuance of scientific research permits is generally categorically excluded from the National Environmental Policy Act of 1969 (NEPA; 42 U.S.C. 4321 et seq.) requirements to prepare an environmental assessment (EA) or environmental impact statement (EIS). However, for the original permit NMFS prepared an EA and for this modification to that permit has prepared a supplemental environmental assessment (SEA) to facilitate a more thorough assessment of potential impacts on sea turtles. This SEA evaluates the potential impacts to the human environment from issuance of the proposed permit modification.

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CHAPTER 1 PURPOSE OF AND NEED FOR ACTION

1.1 DESCRIPTION OF ACTION

1.1.1 Background

NMFS is responsible for the conservation and recovery of endangered and threatened sea turtles while they are in the marine environment. Scientific research is an important means of gathering valuable information about these species and is necessary to conserve them and promote their recovery. NMFS, Office of Protected Resources (NMFS PR) proposes to issue a modification to scientific research Permit No. 1556-01 held by the Commonwealth of the Northern Mariana Islands Division of Fish and Wildlife (CNMI)[Responsible Party: Sylvan Igisomar] under Section 10(a)(1)(A) of the Endangered Species Act (ESA) of 1973 as amended (16 U.S.C. 1531 *et seq.*). The permit, as modified, would help gather information important to sea turtle conservation and management.

1.1.2 Purpose and Need

The primary purpose of the permit modification is to provide an exemption from the take prohibitions under the ESA to allow "takes". The need for issuance of the permit modification is related to NMFS's mandates under the ESA. NMFS has a responsibility to implement the ESA to protect, conserve, and recover threatened and endangered species under its jurisdiction. The ESA prohibits takes of threatened and endangered species, with only a few specific exceptions, including for scientific research and enhancement purposes. Permit issuance criteria require that research activities are consistent with the purposes and policies of the ESA and will not have a significant adverse impact on the species or stock. The CNMI requests the modification to accomplish CNMI recovery research objectives, research mandates, and gather needed information in the most efficient and effective manner possible.

1.1.3 Research Objectives

The purpose of the applicant's research would be to gain a better understanding of sea turtle populations in the near shore waters of the Northern Mariana Islands. Researchers would collect basic biological information on the population and health of green and hawksbill turtles. The research would gather information that would assist NMFS' efforts to recover endangered and threatened sea turtles.

1.2 OTHER EA/EIS THAT INFLUENCE SCOPE OF THIS EA

An EA (NMFS 2006) was prepared for issuance of the original Permit (No. 1556) which determined that issuance of the permit and the associated research was expected to minimally affect the physical or biological environment and would be unlikely to affect the socioeconomic environment or pose a risk to public health and safety. NMFS determined that the proposed research would not result in significant impacts to any portion of the human environment. Minor modification No. 1556-01 was issued later but did not require a supplemental EA. The minor amendment authorized the researchers to add painting of the carapace as a marking technique. This non-invasive marking technique allows researchers to avoid unnecessary capture of the same individual during the same sampling trip. Since authorization of the proposed modification

would result in a lower level of environmental impact than originally anticipated under Permit No. 1556, NMFS PR decided to process CNMI's request for this additional marking method as a minor modification.

The proposed modification, No. 1556-02, would not change the location or capture methods of research activities. No additional effects on the physical, social, and economic environment would occur and this part of the environment is not re-examined in this SEA. The modification would add two research activities to the list of activities that could be conducted on sea turtles already authorized to be captured, and the scope of this SEA is limited to the potential impacts to green and hawksbill sea turtles.

1.3 SCOPING SUMMARY

The purpose of scoping is to identify the issues to be addressed and the significant issues related to the proposed action, as well as identify and eliminate from detailed study the issues that are not significant or that have been covered by prior environmental review. An additional purpose of the scoping process is to identify the concerns of the affected public and Federal agencies, states, and Indian tribes. CEQ regulations implementing the National Environmental Policy Act of 1969 (NEPA; 42 U.S.C. 4321 et seq.) do not require that a draft SEA be made available for public comment as part of the scoping process.

1.3.1 Public Comments on Application

A Notice of Receipt for the application was published in the *Federal Register*, announcing the availability of the application for public comment (74 FR 45421, September 2, 2009). No substantive comments were received.

1.4 APPLICABLE LAWS AND NECESSARY FEDERAL PERMITS, LICENSES, AND ENTITLEMENTS

This section summarizes federal, state, and local permits, licenses, approvals, and consultation requirements necessary to implement the proposed action, as well as who is responsible for obtaining them.

1.4.1 National Environmental Policy Act (NEPA)

NEPA was enacted in 1969 and requires consideration of environmental issues in federal agency planning and decision making. The procedural provisions of NEPA are provided in 40 CFR Parts 1500-1508, outlining federal agency responsibilities under NEPA. The National Oceanic and Atmospheric Administration (NOAA) has published procedures for implementing NEPA in NOAA Administrative Order 216-6 (NAO 216-6). NAO 216-6 specifies that issuance of scientific research permits under the ESA is among a category of actions that are generally exempted (categorically excluded) from further environmental review, except under extraordinary circumstances. While issuance of scientific research permits is typically subject to a categorical exclusion, NMFS is preparing a SEA for this action to provide a more detailed analysis of effects to ESA-listed species. This SEA is prepared in accordance with NEPA, its implementing regulations, and NAO 216-6.

1.4.2 Endangered Species Act

Section 9 of the ESA, as amended, and Federal regulations pursuant to section 4(d) of the ESA prohibit the take of endangered and threatened species, respectively, without special exemption. Permits to take ESA-listed species for scientific purposes (or for the purpose of enhancing the propagation or survival of the species) may be granted pursuant to Section 10 of the ESA and in accordance with NMFS' implementing regulations. Permit issuance criteria require that research activities are consistent with the purposes and policies of the ESA.

Section 10(d) of the ESA stipulates that, for NMFS to issue permits (or permit modifications) under section 10(a)(1)(A) of the ESA, the Agency must find that the permit: was applied for in good faith; if granted and exercised will not operate to the disadvantage of the species; and will be consistent with the purposes and policy set forth in Section 2 of the ESA.

Section 2 of the ESA sets forth the purposes and policy of the Act. The purposes of the ESA are to provide a means whereby the ecosystems upon which endangered and threatened species depend may be conserved, to provide a program for the conservation of such endangered species and threatened species, and to take such steps as may be appropriate to achieve the purposes of the treaties and conventions set forth in section 2(a) of the ESA. It is the policy of the ESA that all Federal departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purposes of the ESA. Permits and permit modifications issued pursuant to section 10 of the ESA are for activities that are likely to further the conservation of the affected species.

Section 7 of the ESA requires consultation with the appropriate federal agency (either NMFS or the U.S. Fish and Wildlife Service) for federal actions that "may affect" a listed species or adversely modify critical habitat. NMFS issuance of a permit modification affecting ESA-listed species or designated critical habitat, directly or indirectly, is a federal action subject to these Section 7 consultation requirements. Section 7 requires federal agencies to use their authorities in furtherance of the purposes of the ESA by carrying out programs for the conservation of endangered and threatened species. NMFS is further required to ensure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of any threatened or endangered species or result in destruction or adverse modification of habitat for such species.

1.4.3 Magnuson-Stevens Fishery Conservation and Management Act

Section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) requires NMFS to complete an Essential Fish Habitat (EFH) consultation for any action authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken by the agency that may adversely affect EFH.

CHAPTER 2 ALTERNATIVES INCLUDING THE PROPOSED ACTION

This chapter describes the range of potential actions (alternatives) determined reasonable with respect to achieving the stated objective, as well as alternatives eliminated from detailed study. This chapter also summarizes the expected outputs and any related mitigation of each alternative.

2.1 ALTERNATIVE 1 – NO ACTION

Under the No Action alternative, no permit modification would be issued. The existing permit would remain in effect and the effects would be those analyzed in the EA conducted for issuance of the permit. No additional effects from a modification would occur.

2.2 ALTERNATIVE 2 – PROPOSED ACTION (ISSUANCE OF PERMIT MODIFICATION WITH STANDARD CONDITIONS)

Under the Proposed Action alternative, a permit modification would be issued for activities as proposed by the applicant, with the permit terms and conditions as issued by NMFS. The purpose of the proposed research is to study the sea turtles inhabiting the waters surrounding the CNMI in the Pacific Ocean. The proposed modification would allow researchers to annually mark up to 100 green and 40 hawksbill sea turtles using a moto tool, to conduct oral examinations on each of the animals, and to conduct research year round. These changes would allow the permit holder to more effectively mark animals, minimize unnecessary recaptures, and collect additional information. Researchers would continue to capture, measure, tag, and sample animals as described in the 2006 EA prepared for the issuance of the original permit. However, they would also use a moto tool to etch a number in the carapace and paint in the grooves created by the moto tool. They would also examine the mouth of animals before releasing. The permit conditions of the existing permit included to mitigate the effects of the research would remain in effect. Table 1 outlines the number of protected species, by species, that would be authorized to be taken, and the locations, manner, and time period in which they may be taken. The bold indicates the take affected by the modification. The modification would be valid through June 1, 2011.

Table 1: Annual takes of green (*Chelonia mydas*) and hawksbill (*Eretmochelys imbricata*) sea turtles under Permit No. 1556-02

Number	Species	Life Stage	Sex	Origin	Take Activity	Location	Dates
85	C.mydas	post hatchlings, juveniles. Sub-adults, adults	male & female	wild	Capture, measure, flipper tag, PIT tag, tissue sample, photograph, mark with paint **or mark using moto tool technique, oral exam,** release	Saipan, Tinian, Rota	**Year Round**

Number	Species	Life Stage	Sex	Origin	Take Activity	Location	Dates
15	C.mydas	sub-adults, adults	male & female	wild	Capture, measure, flipper tag, PIT tag, satellite transmitter tag, tissue sample, photograph, **mark using moto tool technique, oral exam,** release	Saipan, Tinian, Rota	**Year Round**
35	E. imbricata	post hatchlings, juveniles. Sub-adults, adults	male & female	wild	Capture, measure, flipper tag, PIT tag, tissue sample, photograph, mark with paint **or using moto tool technique, oral exam,** release	Saipan, Tinian, Rota	**Year Round**
5	E. imbricata	sub-adults, adults	male & female	wild	Capture, measure, flipper tag, PIT tag, satellite transmitter tag, tissue sample, photograph, **mark using moto tool technique, oral exam,** release	Saipan, Tinian, Rota	**Year Round**

*Year round sampling*Previously the researchers were authorized to sample from April through October. These original sample dates were chosen to coincide with nesting season and calmer seas. Over the past year the researchers have found that it is feasible to capture turtles throughout the year and they are not limited by inclement weather as originally thought. They are requesting their six-month capture window be expanded to include the entire year.

Moto Tool Etching
Moto tool etching would use a high speed (20,000 rpm) battery powered tool called a dremel "moto tool" to mildly engrave (1-2mm deep) a desired identification number into, but not through, a carapacial scute. A non-toxic white paint would then be applied to the inscription where it is retained and serves to prominently display the numbers. This type of paint has been used in the past by researchers with no harm to the animals or the environment (G. Balazs, Permit No. 1581).

Oral Exam
At one of the slight "open" pulses of the turtle's mouth that occurs during examination, the end of a speculum would be inserted into the mouth. Only modest pressure would ever be needed or exerted. In rare cases a turtle may have jaws locked tight. It those instances (about <5%) the attempt would be terminated and the turtle documented as being unexamined. Researchers would examine the inside of the mouth for presence of food particles and remove them gently with a forceps to study diet preferences.

CHAPTER 3 AFFECTED ENVIRONMENT

The proposed action under File No. 1556 would take place in the waters of the Northern Mariana Islands. Activities would occur around the islands of Saipan, Tinian, and Rota. Sampling would include the outside of the barrier reef system on the southern and western coastline of Saipan, Naftan Point, Agingan Point, and up to Banzi Cliff in Marpi.

The affected environment would not change as a result of the proposed action and remains as previously described in the original EA (NMFS 2006).

CHAPTER 4 ENVIRONMENTAL CONSEQUENCES

This chapter represents the scientific and analytic basis for comparison of the direct, indirect, and cumulative effects of the alternatives. Regulations for implementing the provisions of NEPA require consideration of both the context and intensity of a proposed action (40 CFR Parts 1500-1508).

4.1 EFFECTS OF ALTERNATIVE 1: No Action

An alternative to the proposed action is no action, i.e., denial of the permit modification request. This alternative would eliminate any potential risk to all aspects of the environment and target species from the proposed research activities. It would prohibit researchers from gathering information year round that could help endangered and protected sea turtles.

4.2 EFFECTS OF ALTERNATIVE 2: Issue permit modification with standard conditions

The issuance of the modification would not increase the number of sea turtles that can have research activities conducted on them. However, additional new activities would be authorized and research would be conducted year round. The environmental consequences to the individual sea turtles for the capture, handling, and other existing activities have not changed from how they were described and analyzed in NMFS (2006). Animals from the population would now be subjected to the effects resulting from shell etching via the moto tool and oral examination. The section 7 consultation conducted for this proposed action and resulting biological opinion concluded that the effects of the proposed research activities have the potential to elicit short-term changes in sea turtle behavior, but are not likely to result in long-term effects on individuals or populations. NMFS believes that the turtle would feel the vibration but experience no pain from the moto tool. Based on the observations of other researchers using the technique on green and hawksbill sea turtles the etched area would grow back within a year (G. Balazs, Permit No. 1581). Balazs has been using this technique successfully with no complications and presented his findings at the Annual Workshop of Sea Turtle Biology and Conservation in 1995 (Balazs 1995).

Although the turtle may experience short-term stress or discomfort from the oral examination, this stress would not be significant. No appreciable amount of food would be removed from the mouth and the exam would only be conducted if researchers could ensure no harm to the animal would occur. This research would affect the turtles by harassing individual turtles during the research thus raising levels of stressor hormones, and the turtle may experience some discomfort during research activity procedures. The NMFS Pacific Islands Fisheries Science Center has conducted oral exams on approximately 2,000 sea turtles with no injuries to the animals (G. Balazs, pers. comm. 2009).

NMFS does not expect any delayed mortality of turtles following their release based on past research efforts by other researchers and adherence to certain protocols identified in the proposed action. While researchers would now work year round, they would not increase the number of animals taken. The basic research activities authorized under the permit would have minimal impact on any life stages captured and would not have any significant effect on the sea turtles no matter which month the animal is captured. The data generated by the applicants over the duration of these studies will provide beneficial information that will be important to the management and recovery of sea turtles. The information collected as a direct result of permit issuance will be available to implement the goals identified in Recovery Plans. NMFS believes it is reasonable to assume that issuance of the proposed permit modification would have long-term beneficial effects for sea turtle species. Issuance of this permit modification would not be expected to reduce the numbers, distribution, or reproduction of sea turtles in the wild or reduce the likelihood of survival and recovery of these species.

The modification would not change the capture technique and thus would not affect other portions of the environment beyond those already described and evaluated in NMFS (2006). The impacts to the environment remain minimal due to the hand capture methodology. Conducting research year round would allow them to better sample the population, however the hand capture methodology would continue to allow researchers to avoid interaction with other species or parts

of the environment. All existing conditions to minimize the impact of the research to the environment would remain in effect.

4.3 SUMMARY OF COMPLIANCE WITH APPLICABLE LAWS, NECESSARY FEDERAL PERMITS, LICENSES, AND ENTITLEMENTS

NMFS has determined that the proposed research modification is consistent with the purposes, policies, and applicable requirements of the ESA and NMFS regulations.

4.3.1 Endangered Species Act

This section summarizes conclusions resulting from consultation as required under section 7 of the ESA. The consultation process was concluded after close of the comment period on the application to ensure that no relevant issues or information were overlooked during the initial scoping process. The conclusion of the opinion was that the proposed action would not likely jeopardize the continued existence of any of species and would not likely destroy or adversely modify designated critical habitat.

4.3.2 Compliance with Magnuson-Stevens Fishery Conservation and Management Act

As outlined in NMFS (2006) EA, the proposed action would not be expected to adversely affect EFH. The modification did not raise any additional EFH concerns not already contemplated in the EA.

4.4 COMPARISON OF ALTERNATIVES

While the No Action alternative would limit environmental effects to those analyzed in NMFS (2006), the opportunity would be lost to collect additional information that would contribute to better understanding sea turtles and that would provide information to NMFS that is needed to implement NMFS management activities. The Proposed Action alternative would only impact individual sea turtles using research activities thoroughly reviewed and carefully implemented, which would elicit minimal response from the sea turtles, and which would insignificantly impact the environment. The effects would be minimal and this alternative would allow the collection of valuable information that could help NMFS recover sea turtles. Neither the No Action nor the Proposed Action Alternatives are anticipated to have adverse population level effects on sea turtles. Given the Proposed Action's minimal impact to the environment and the potential positive benefits of the research, it is the most desirable action to pursue.

4.5 MITIGATION MEASURES

There are no additional mitigation measures beyond those conditions that would be required by the permit, as modified. The conditions that would be required are outlined in NMFS (2006). All of these conditions are intended to minimize unavoidable adverse effects of the various research activities. The permit conditions also require regular reports on the effectiveness of the research at achieving the applicant's stated objectives (and thus at achieving the purpose and need of the federal action) and on the effectiveness of the mitigation measures required by the permit. By statute, regulation, and permit conditions, NMFS has authority to modify the permit

or suspend the research if information suggests it is having a greater than anticipated adverse impact on target species or the environment.

4.6 UNAVOIDABLE ADVERSE EFFECTS

The research would involve wild animals that are not accustomed to being captured, thus the research activities will unavoidably result in some harassment. The proposed modification would result in a greater level of disturbance and stress to sea turtles than under the original permit. However, the modified research is not expected to have more than a minimal additional effect on individual sea turtles, and no effect on populations, with animals recovering within approximately a day of the procedures. While individual animals may experience short-term stress and discomfort in response to the activities of researchers, the impact to individual animals is not expected to be significant. The minimization measures imposed by permit conditions are intended to reduce, to the maximum extent practical, the potential for adverse effects of the research on these species. Since the proposed action would only occur on sea turtles, no other portion of the human environment would be affected in a manner not already considered in NMFS (2006).

4.7 CUMULATIVE EFFECTS

Cumulative effects are defined as those that result from incremental impacts of a proposed action when added to other past, present, and reasonably foreseeable future actions, regardless of which agency (federal or nonfederal) or person undertakes such actions. Cumulative impacts can result from individually minor but collectively significant actions that take place over a period of time.

The number of activities that would be conducted on each individual sea turtle would increase slightly. However, given the nature of the additional activities the expected cumulative effects to the targeted sea turtles species at the individual level have not significantly changed from that described in NMFS (2006). While the effects of the proposed research activities have the potential to elicit short-term changes in sea turtle behavior, as discussed in this SEA they are not likely to result in long-term effects on individuals or their populations. NMFS does not expect any delayed mortality of turtles following their release based on past research efforts by other researchers and adherence to certain protocols identified in the proposed action. The data generated by the applicant over the duration of the study will provide beneficial information that will be important to the management and recovery of sea turtles. The information collected as a direct result of permit modification issuance will be available to implement the goals identified in Recovery Plans. NMFS believes it is reasonable to assume that issuance of the proposed permit modification would have long-term beneficial effects for sea turtle species. Issuance of this permit modification would not be expected to reduce the numbers, distribution, or reproduction of sea turtles in the wild or reduce the likelihood of survival and recovery of these species. The incremental impact of the action when added to other past, present, and reasonably foreseeable future actions discussed here would not be significant at the individual, population, or species level of the affected sea turtles.

It is likely that issuance of the proposed permit would have some cumulative adverse effects on the target animals due to the disturbances associated with research activities. These adverse effects would likely be additive to those resulting from disturbance under other permits, and to

disturbances related to other human activities in the action area. Some animals may be acclimated to a certain level of human activity and may be able to tolerate disturbance associated with these activities with little adverse impacts on population or species vital rates. However, even animals acclimated to a certain level of disturbance may be adversely affected by additive effects that exceed their tolerance threshold. Based on the review of past, present and future actions that impact the target species, the incremental contribution of the short-lived impacts associated with the proposed action is not anticipated to result in significant cumulative impacts to the human environment.

Overall, the preferred alternative would not be expected to have more than short-term effects on endangered and threatened sea turtles species. The impacts of the non-lethal research activities are not expected to have more than short-term effects on individual sea turtles and any increase in stress levels from the research would dissipate within approximately a day and injuries caused by tagging and sampling are expected to heal. Even if an animal was exposed to additional research effort (e.g., a week later), no significant cumulative effects of research would be expected given the nature of the effects. NMFS does not expect the authorization of the proposed research activities of the preferred alternative to appreciably reduce the species' likelihood of survival and recovery in the wild because it would not likely adversely affect their birth rates, death rates, or recruitment rates. In particular, NMFS does not expect the proposed research activities to affect adult female turtles in a way that appreciably reduces the reproductive success of adults, the survival of young, or the number of young that annually recruit into the breeding populations of any of the target species.

The incremental impact of the action when added to other past, present, and reasonably foreseeable future actions discussed here would not be significant at a population level. The data generated by the tagging, measuring, and sampling activities associated with the proposed action would help determine the movement and habitat use of sea turtles found in the waters of the action area. The research would provide information that would help manage, conserve, and recover threatened and endangered species and would outweigh any adverse impacts that may occur. The cumulative effects to all other portions of the environment have not changed from that described in NMFS (2006).

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