September 20, 2022

Via electronic and certified mail

Gina Raimondo, Secretary
U.S. Department of Commerce
1401 Constitution Ave, N.W.
Washington, DC 20230
TheSec@doc.gov

Kimberly Damon-Randall, Director
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910-3225
kimberly.damon-randall@noaa.gov

Michael Tosatto, Regional Administrator
National Marine Fisheries Service
Pacific Islands Regional Office
1845 Wasp Boulevard, Bldg 176
Honolulu, HI 96818
michael.tosatto@noaa.gov

Andy Strelcheck, Regional Administrator
National Marine Fisheries Service
Southeast Regional Office
263 13th Avenue South
St. Petersburg, FL 33701
Andy.strelcheck@noaa.gov

Re: 60-Day Notice of Intent to Sue: Violations of the Endangered Species Act and Administrative Procedure Act Related to 20 Threatened Coral Species

On behalf of the Center for Biological Diversity (the "Center"), this letter serves as a 60-day notice of intent to sue the National Marine Fisheries Service ("NMFS") over violations of the Endangered Species Act ("ESA"), 16 U.S.C. §§ 1531 et seq., and the Administrative Procedure Act ("APA"), 5 U.S.C. §§ 551 et seq., for NMFS's denial of the Center's petition to promulgate regulations necessary for the conservation of 20 corals listed under the ESA. The Center is a non-profit, public interest environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center has more than 1.7 million members and online activists throughout the United States and internationally. The Center and its members are concerned with the conservation of imperiled corals and the effective implementation of the ESA.

NMFS's denial of the Center's 2020 petition requesting protective regulations for corals pursuant to Section 4(d) of the ESA is arbitrary and capricious and violates the APA and the ESA. As detailed below, the petition requested that NMFS extend all take prohibitions under ESA Section 9 (with limited exceptions) and promulgate additional protective regulations needed for the survival and recovery of the listed corals. NMFS's decision that extending Section 9 protections including a ban on imports of listed corals is not "necessary and advisable" is contravened by record evidence that collection harms corals, contributes to the extinction of some species, and should be addressed, particularly since the United States is the world's top importer of stony corals. Likewise, NMFS determined that global threats stemming from climate change as well as

localized threats such as fishing, land-based sources of pollution, and sedimentation do not merit protective measures because such measures would have "limited effectiveness." NMFS's determination is belied by record evidence that carbon emissions are the primary driver of the existential threats facing corals and that the best available science demonstrates that if corals have any chance of surviving into the next century carbon emissions must be vastly curtailed and localized threats minimized. In short, NMFS's rationale for denying the Center's petition runs counter to the evidence before it, is arbitrary and capricious, and violates the APA and ESA.

Moreover, NMFS's failure to promulgate *any* regulations that would protect the threatened coral under the ESA is contrary to the ESA's plain language. 16 U.S.C. § 1533(d) ("whenever any species is listed as a threatened species . . ., the Secretary *shall issue* such regulations as he deems necessary and advisable to provide for the conservation of such species" (emphasis added)). NMFS has acknowledged that carbon emissions are the primary threat to these corals, that collection and trade poses a threat to their continued existence, and that corals face numerous other, serious threats. Nevertheless, NMFS has failed to issue any protective regulations whatsoever to address any of the substantial threats to the corals' existence. NMFS's failure to issue protections to conserve these threatened corals is a violation of the ESA.

This letter constitutes formal 60-day notice of intent to initiate litigation under the citizen suit provision of the ESA. We are writing to request that you take immediate action to remedy these violations of law.

I. Statutory Framework

Considered "the most comprehensive legislation for the preservation of endangered species ever enacted by any nation," the Endangered Species Act embodies Congress's "plain intent" to "halt and reverse the trend toward species extinction, whatever the cost." *Tenn. Valley Auth. v. Hill*, 437 U.S. 153, 180, 184 (1978). The statute "provide[s] a program for the conservation of . . . endangered species." 16 U.S.C. § 1531(b). Its goal is not to maintain a species on life support but to recover the species such that it no longer requires the statute's protections. *Id.* § 1532(3).

NMFS has a duty under the ESA to use its authorities to conserve the 20 threatened coral species it listed as threatened in September 2014. 16 U.S.C. § 1536(a)(1). Section 2(c) of the ESA establishes that it is "the policy of Congress 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 this Act." *Id.* § 1531(c). The ESA defines "conservation" to mean "the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary." *Id.* § 1532(3).

The ESA provides many tools to conserve imperiled species. For example, Section 7 prevents federal agencies from taking actions that jeopardize listed species; Section 4 requires the development and implementation of recovery plans; and Section 9 prohibits taking endangered species. More specifically, Section 9 prohibits:

(A) import [of] any such species into, or export [of] any such species from the United States;
(B) take [of] any such species within the United States or the territorial sea of the United States;
(C) take [of] any such species upon the high seas;
(D) possess[ion], sell[ing], deliver[ing], carry[ing], transport[ing], or ship[ping], by any means whatsoever, any such species taken in violation of subparagraphs (B) and (C);
(E) deliver[ing], receiv[ing], carry[ing], transport[ing], or ship[ping] in interstate or foreign commerce, by any means whatsoever and in the course of commercial activity, any such species;
(F) sell[ing] or offer[ing] for sale in interstate or foreign commerce any such species; or
(G) violat[ing] any regulation pertaining to such species or to any threatened species of fish or wildlife . . . and promulgated by the Secretary pursuant to authority provided by this chapter.

16 U.S.C. § 1538(a)(1).

While the prohibitions of Section 9 do not apply automatically to threatened species, Section 4(d) provides that "the Secretary *shall* issue such regulations as he deems necessary and advisable to provide for the conservation of [threatened] species." 16 U.S.C. § 1533(d) (emphasis added). This duty is mandatory per the plain language of the statute. *See Forest Guardians v. Babbitt*, 174 F.3d 1178, 1187 (10th Cir. 1998) ("when a statute uses the word 'shall,' Congress has imposed a mandatory duty upon the subject of the command"); *Sweet Home Chapter of Communities for a Great Oregon v. Babbitt*, 1 F.3d 1, 7-8 (D.C. Cir. 1993) ("the first sentence of § 1533(d) . . . requires the [agency] to issue whatever other regulations are 'necessary and advisable,' including regulations that impose protective measures beyond those contained in [Section 9]").

Section 4(d) also authorizes NMFS to extend Section 9's prohibitions to threatened species. 16 U.S.C. § 1533(d) ("The Secretary may by regulation prohibit with respect to any threatened species any act prohibited under [Section 9] of this title"); *Sweet Home*, 1 F.3d at 7-8 ("The second sentence [of Section 4(d)] gives the [agency] discretion to apply any or all of the [Section 9] prohibitions to threatened species without obligating it to support such actions with findings of necessity.").

II. The 20 Coral Species

Responding to a 2009 listing petition from the Center, on September 10, 2014, NMFS published a final rule listing 20 coral species as threatened under the Endangered Species Act, including five Caribbean coral species (*Dendrogyra cylindrus*, *Orbicella annularis*, *Orbicella faveolata*, *Orbicella franksi*, and *Mycetophyllia ferox*) and fifteen Indo-Pacific coral species (*Acropora globiceps*, *Acropora jacquelineae*, *Acropora lokani*, *Acropora pharaonis*, *Acropora retusa*,

Acropora rudis, *Acropora speciosa*, *Acropora tenella*, *Anacropora spinosa*, *Euphyllia paradivisa*, *Isopora crateriformis*, *Montipora australiensis*, *Pavona diffluens*, *Porites napopora*, and *Seriatopora aculeata*). 79 Fed. Reg. 53,852 (Sept. 10, 2014).

NMFS determined that the most important threats contributing to extinction risk for these species are ocean warming, disease (as related to climate change), and ocean acidification. *See id*. NMFS stated that "these impacts are currently occurring, and are expected to worsen, posing increasingly severe effects on the species considered in this final rule." *Id.* Other threats that NMFS identified as significant to the current and future extinction risk of these corals are trophic effects of fishing, sedimentation, nutrients, sea-level rise, predation, and collection and trade. *Id.* Specifically, NMFS acknowledged that "[t]he imports of live corals taken directly from coral reefs . . . increased by 600 percent between 1988 and 2007, while the global trade in live coral increased by nearly 1,500 percent. Harvest of stony corals is usually highly destructive, and results in removing and discarding large amounts of live coral that go unsold and damaging reef habitats around live corals." *Id.*

a. Threats From Climate Change

NMFS determined in its final listing rule that climate change underlies three primary, existential threats facing these 20 coral species: ocean warming, disease, and ocean acidification. Climate change threatens corals through elevated temperatures, which lead to bleaching events and the spread of coral disease, as well as through ocean acidification, which reduces larval survival and impedes reef formation and maintenance.

As detailed in the Center's 4(d) petition, ocean warming and acidification caused by greenhouse gas pollution are wreaking havoc on reef ecosystems worldwide. Scientific research definitively links anthropogenic ocean warming to the catastrophic, mass coral bleaching events that have been documented since 1980 and are increasing in frequency alongside increasing atmospheric CO2 concentrations.[1] Climate change also exacerbates coral disease, leading to widespread declines of threatened and endangered species.[2] Exacerbating the harms from rising temperatures is ocean acidification, as the ocean is absorbing atmospheric carbon emissions and increasing acidity at a rate faster than anything experienced in the past 300 million years.[3] Ocean

[1] Hoegh-Guldberg, Ove et al., Coral reefs under rapid climate change and ocean acidification, 318 Science 1737 (2007); Donner, Simon D. et al., Coping with commitment: projected thermal stress on coral reefs under different future scenarios, 4 PLoS ONE e5712 (2009); Eakin, C. Mark et al., Caribbean corals in crisis: record thermal stress, bleaching, and mortality in 2005, 5 PLoS ONE e13969 (2010); NMFS., Recovery Plan for Elkhorn (*Acropora palmata*) and Staghorn (*A. cervicornis*) Corals (2015); Hughes, Terry P. et al., Global warming and recurrent mass bleaching of corals, 543 Nature 373 (2017); Hughes, Terry P. et al., Spatial and temporal patterns of mass bleaching of corals in the Anthropocene, 359 Science 80 (2018); Manzello, Derek P. et al., Role of host genetics and heat-tolerant algal symbionts in sustaining populations of the endangered coral *Orbicella faveolata* in the Florida Keys with ocean warming, 25 Global Change Biology 1016 (2019); Cheng, Liging et al., How fast are the oceans warming?, 363 Science 128 (2019); Leggat, William P. et al., Rapid coral decay is associated with marine heatwave mortality events on reefs, 29 Cell Biology 1 (2019).

[2] Randall, C.J. & R. van Woesik, Some coral diseases track climate oscillations in the Caribbean, 7 Nature Sci. Reports 5719 (2017).

[3] U.S. Global Climate Change Research Program (USGCRP), Climate Science Special Assessment: Fourth National Climate Assessment, Vol. I (2017).

acidification is already reducing calcification rates in coral reefs worldwide, leading to reef bioerosion and dissolution.[4]

In recognition of the threat that climate change poses to imperiled coral species, in its 2015 Recovery Plan for elkhorn and staghorn corals, listed under the ESA in 2006, NMFS stated that "actions must be taken to address ocean warming and acidification impacts."[5] The science that underlies NMFS's call to lower carbon emissions driving ocean acidification and ocean warming is equally applicable to the 20 coral species at issue here.

b. Threats from Collection and Trade

As detailed in the Center's petition, collection and trade also threatens corals. The United States is the world's major importer of corals, importing approximately 70 percent of all live corals and 90 percent of all stony coral documented in trade. Coral collection to service this trade can cause significant impacts including habitat damage, decreased survival, and exotic species introduction; overharvest can, in some cases, lead to localized extinction.[6] Due to their slow growth rates and irregular recruitment, stony corals are particularly vulnerable to overexploitation by extraction.[7]

Recognizing the threat that extraction poses to coral reefs, numerous coral range nations have prohibited harvest and trade in corals, and extraction of corals is highly restricted within the United States; for example, collection is illegal in Hawaii. Yet the U.S. government has not restricted coral imports beyond compliance with the Convention on International Trade in Endangered Species, which fails to adequately protect corals from trade, and trade remains a threat to coral species including ESA-listed corals.

III. The Center's 4(d) Petition

[4] Albright, Rebecca et al., Reversal of ocean acidification enhances net coral reef calcification, 531 Nature 362 (2016).; Heron, Scott F. et al., Impacts of Climate Change on World Heritage Coral Reefs: A First Global Scientific Assessment (UNESCO World Heritage Centre, Paris, France, 2017).; Eyre, Bradley D. et al., Coral reefs will transition to net dissolving before end of century, 359 Science 908 (2018).

[5] NMFS 2015, Recovery Plan for Elkhorn Coral (*Acropora palmata*) and Staghorn Coral (*A. cervicornis*); *available at* https://repository.library.noaa.gov/view/noaa/8950

[6] 79 Fed. Reg. at 53,901; Bruckner, A.W., *Proceedings of the International Workshop on the Trade in Stony Corals: Development of Sustainable Management Guidelines*, NOAA Technical Memorandum NMFSOPR-23 (2002); Rhyne, A. *et al*., *Long-term trends of coral imports into the United States indicate future opportunities for ecosystem and societal benefits*, 5 Conservation Letters 478 (2012); Thornhill, Daniel J., *Ecological impacts and practices of the coral reef wildlife trade* (2012); U.S. Coral Reef Task Force, International Working Group, Trade Subgroup, INTERNATIONAL TRADE IN CORAL AND CORAL REEF SPECIES: THE ROLE OF THE UNITED STATES (2000).

[7] Bruckner, A.W., Proceedings of the International Workshop on the Trade in Stony Corals: Development of Sustainable Management Guidelines, NOAA Technical Memorandum NMFSOPR-23 (2002).

In 2020, the Center petitioned NMFS to issue a protective regulation pursuant to ESA Section 4(d), 16 U.S.C. § 1533(d), for the 20 threatened coral species. Specifically, the Center urged NMFS to promulgate protective provisions needed for survival and recovery of the listed corals including by extending all prohibitions of ESA Section 9 (with limited exceptions to promote science and restoration as provided in ESA Section 10).

The petition highlighted the threats facing the listed coral species, particularly climate change and trade. As recognized by NMFS in the final listing rule, one of the primary threats to the listed coral species posed by climate change is elevated ocean temperature. For example, elevated temperatures have been shown to cause "complete larval mortality and inhibited … settlement of *O. faveolata*."[8]

The Center also documented how significant trade in stony corals poses a threat to the listed coral species, particularly the Indo-Pacific species. Stony coral species represent over half (56%) of corals in trade, with *Acropora* and *Euphyllia* comprising the top two genera imported "live."[9] Many of the 20 listed coral species have been documented in U.S. trade; however, the vast majority of traded corals are not identified to the species level – in just one year, records reveal that 380,000 individual coral specimens were imported labeled only as the order Scleractinia (stony coral).[10]

The Center sought provisions that are necessary and advisable to protect corals from their greatest threat: climate change. Even with only 1.5°C of global warming, scientists predict that the majority (70-90%) of tropical coral reefs will be lost. At 2°C, 99% of these corals will disappear. It is undisputed that immediate and rapid greenhouse gas reductions are essential to stopping the trend toward coral extinction and ensuring the listed species' recovery. The final listing rule identifies ocean warming, ocean acidification, and disease as primary contributors to extinction risk for the 20 listed coral species. 79 Fed. Reg. at 53,890-53,896. A robust body of scientific research clearly supports the notion that protecting the listed corals from extinction and ensuring their recovery requires that the United States adopt greenhouse gas mitigation regulations significantly stronger than those currently in force or proposed. Additionally, the Center's petition sought protective measures to address existential local threats including, but not limited to, disease, habitat degradation, fishing, and water pollution. The petition further sought the protections of Section 9 for the conservation and recovery of the 20 listed coral species, as evidenced by ample support in the final listing rule, status report, management report, and additional scientific literature that the corals would benefit from these measures.

IV. NMFS's Denial of the Center's Petition

[8] Pitts, Kelly A., Early life history response of reef building coral, *Orbicella faveolata*, to ocean acidification and warming, Master's Thesis, Nova Southeastern Univ. (Nov. 2018)..

[9] Craig, V. *et al.*, *Review of trade in ornamental coral, coral products and reef associated species to the United States*, World Wildlife Fund (2012); Rhyne, A. et al., Long-term trends of coral imports into the United States indicate future opportunities for ecosystem and societal benefits, 5 Conservation Letters 478 (2012).

[10] Rhyne, A. et al., Long-term trends of coral imports into the United States indicate future opportunities for ecosystem and societal benefits, 5 Conservation Letters 478 (2012).

NMFS denied the Center's petition on May 5, 2021. On trade and collection, NMFS cited the final listing rule to support its assertion that enforcement of Section 9 prohibitions was unnecessary. Denial at 2 (citing 79 Fed. Reg. at 53,852 (Sept. 10, 2014) ("[C]ollection and trade is considered to be a minor source of take of these coral species and was determined to pose a low-level threat that minimally contributes to the extinction risk of these threatened corals")). For the 15 Indo-Pacific listed corals, NMFS asserted that species are difficult to identify, "and thus are easily confused with a large number of similar, unlisted species," and take prohibitions would frustrate enforcement activities. *Id.* Regarding protective regulations addressing climate change and localized threats, NMFS found such rules would "have limited effectiveness in addressing these threats or meaningfully furthering the conservation of these species." Denial at 3. NMFS "[t]herefore, decline[d] to extend some or all of Section 9 prohibitions for the benefit of these species" and concluded it did not" find it necessary and advisable to promulgate the particular, tailored protective regulations for these species as described in the petition." *Id.*

V. Violations of Law

1. Failure to Promulgate Regulations Necessary and Advisable for the Protection of the Species

Section 4(d) of the ESA provides that "the Secretary *shall* issue such regulations as he deems necessary and advisable to provide for the conservation of [threatened] species." 16 U.S.C. § 1533(d) (emphasis added). Per this mandate, NMFS is required to issue a 4(d) rule providing protective measures that are necessary and advisable for the listed corals' conservation, concurrent with a final listing determination. NMFS's failure to issue a protective regulation in response to the Center's petition violates the ESA and is arbitrary and capricious and contrary to law. 16 U.S.C. § 1533(d); 5 U.S.C. § 706(2)(A).

While NMFS has discretion as to which protective measures it adopts pursuant to Section 4(d), the measures must serve to conserve the species. *Sierra Club v. Clark*, 755 F.2d 608, 612-13 (8th Cir. 1985) (Service's discretion to issue regulations under Section 4(d) "is limited by the requirement that the regulations he is to issue must provide for the *conservation* of threatened species") (emphasis in original). Here, the 20 listed coral species require a protective regulation for their conservation and recovery, detailed above, and as evidenced by ample support in the final listing rule, status report, management report, scientific literature, and the Center's petition.[11] While protective regulations promulgated pursuant to Section 4(d) need not mirror Section 9's prohibitions, NMFS's failure to issue *any* protective regulations violates the ESA's plain command.

NMFS's failure to promulgate regulations necessary for the conservation of the 20 listed species violates the ESA. NMFS has acknowledged that current policies and regulations are insufficient to conserve listed coral, noting in the elkhorn and staghorn Recovery Plan that corals' recovery will require "uniform policies and regulations across their entire geographic ranges," a reduction in atmospheric CO2 concentrations, and comprehensive regulations to reduce regional threats

[11] Brainard *et al.* 2012; NMFS 2012; 79 Fed. Reg. 53,852.

(*e.g.*, improved design and enforcement of fishing regulations, marine protected area designation, wastewater treatment, and land use plans protective of coral reefs).[12] Yet here NMFS implemented nothing to mitigate key threats to the listed coral species.

2. Arbitrary and Capricious Denial of Petition

NMFS's denial of the Center's petition requesting protective regulations for 20 listed coral species is arbitrary and capricious and contrary to law, further violating the APA and the ESA. 5 U.S.C. § 706(2)(A) (a reviewing court shall hold unlawful and set aside agency action found to be arbitrary, capricious, . . . or otherwise not in accordance with the law"); 16 U.S.C. § 1533(d). The agency's determination that extending take prohibitions, including a ban on import/trade, is not "necessary and advisable" because trade is a "low" threat is contravened by record evidence that collection harms corals, contributes to the extinction of some species, and should be addressed.

Moreover, NMFS's 4(d) denial contravenes its previous decision to issue a 4(d) rule for elkhorn and staghorn coral. In 2006, NMFS listed both elkhorn and staghorn as threatened. 71 Fed. Reg. 26,852 (May 9, 2006). NMFS did not identify overharvest/collection as a "major stressor" to the species, finding that, due to existing bans on harvest throughout most of the U.S. and Caribbean, "overharvest does not appear to be a significant threat." 71 Fed. Reg. at 26,858. Yet in 2008, NMFS unilaterally issued a 4(d) rule, applying Section 9(a) prohibitions to elkhorn and staghorn coral. 73 Fed. Reg. 64,264 (Oct. 29, 2008). NMFS found the trade and import prohibition "necessary and advisable," even though "there was no evidence . . . of trade in live specimens taken from foreign waters and imported into the United States" due to extraction and trade bans. *Id.* at 64,270. Yet NMFS found it "possible that the ESA listing might encourage a black market." *Id.* NMFS further noted that "[w]hile lesser stressors. . . have not been the primary causes of the species' decline, managing them will contribute to the [species'] conservation . . . by slowing the rate of decline and reducing the synergistic effects of multiple stressors." *Id.* In contrast, many of the 20 coral species (particularly the Indo-Pacific corals) are in trade, which the agency admits can "contribute to individual species' extinction risk." 79 Fed. Reg. at 53,901. Yet the agency arbitrarily and capriciously finds a trade ban here not necessary and advisable.

Extending Section 9 take prohibitions would also benefit corals from threats beyond collection and trade. By prohibiting take of corals, NMFS could ensure that private and state-sanctioned activities such as water pollution, development, and destructive fishing practices do not result in injury or death to listed coral species. *See* 16 U.S.C. § 1538(a) (Section 9 prohibition of take of listed species); *Id.* § 1539 (Section 10 incidental take permit for private party). Extending Section 9 prohibitions would promote local protection and prevent harm and habitat degradation to the species, which will ultimately enhance the capacity of these species to rebound from large-scale stressors such as ocean warming and acidification.

NMFS's denial of the Center's petition for 4(d) regulations to address climate change is also arbitrary and capricious and a violation of the ESA. NMFS acknowledges that primary threat to the listed corals is climate change. 79 Fed. Reg. at 53,890-96. The harms to corals from

[12] Recovery plan, *supra* note 5, at IV-24.

anthropogenic climate change and ocean acidification are imminent and well-documented, and there is a clear causal link between greenhouse gas emissions and these harms. The robust body of scientific research provided in the petition clearly supports the notion that protecting the listed corals from extinction and ensuring their recovery requires that the U.S. adopt greenhouse gas mitigation regulations significantly stronger than those currently in force or proposed. Existing national and international regulatory mechanisms to abate greenhouse gas pollution are insufficient to address the threats posed to corals by climate change. Conservation of these 20 coral species will require significant and immediate reductions in greenhouse gas emissions, and NMFS's denial of 4(d) protections to address this primary threat is arbitrary and capricious and is contrary to law and violates the ESA. 5 U.S.C. § 706(2)(A); 16 U.S.C. § 1533(d).

In summary, NMFS's denial of the Center's petition requesting a Section 4(d) protective regulation for 20 listed species is arbitrary and capricious and contrary to law and violates the ESA. *See* 5 U.S.C. § 706(a)(2); 16 U.S.C. § 1533(d). In finding that prohibition of take, import, sale, and export and greenhouse gas regulations are not "necessary and advisable," NMFS failed to consider an important aspect of the problem and offered an explanation that runs counter to the evidence before it, as record evidence shows climate change and collection harm coral and may threaten extinction of some coral species.

Conclusion

If NMFS does not act to correct the violations described in this letter, the Center will pursue litigation in U.S. district court in 60 days. The Center will seek injunctive and declaratory relief and legal fees and costs regarding these violations. If you have wish to discuss this matter or believe this notice is in error, please contact us via the contact information below.

Sincerely,

Emily Jeffers
Staff Attorney
Center for Biological Diversity
1212 Broadway, Suite 800
Oakland, CA 94612
(408) 348-6958
ejeffers@biologicaldiversity.org

Sarah Uhlemann
International Program Director
Center for Biological Diversity
2400 NW 80th Street, #146
Seattle, WA 98117
(206) 327-2344
suhlemann@biologicaldiversity.org