CENTER for BIOLOGICAL DIVERSITY Because life is good.

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Dear Director Ashe and Administrator Rausch,

On behalf of the Center for Biological Diversity (Center), we are writing to urge you to address the serious and growing threat sea-level rise poses to our nation's threatened and endangered species. In a recent analysis, the Center found that one in six species listed under the U.S. Endangered Species Act (ESA) is at risk from sea-level rise and increasing storm surge due to anthropogenic climate change. Many of these species are already suffering from significant habitat loss and degradation, and some are projected to lose their habitats entirely within this century absent significant reduction in greenhouse gas pollution. These coastal and island species need strong protections from the ever-increasing threats posed by sea-level rise if they are to survive and recover.

The U.S. Fish and Wildlife Service and National Marine Fisheries Service (Services) have the ability and duty to substantially improve the future outlook for coastal species. We urge the Services to take immediate steps to strengthen the policy guidance for managing sea-level rise and storm surge threats to species and their habitats and fully utilize the tools provided by the Endangered Species Act to reduce sea-level rise threats to listed species. This entails (a) using the best-available science on sea-level rise in decision-making, (b) conducting a comprehensive, science-based analysis of sea-level rise threats in listing determinations for coastally distributed species, (c) designating critical habitat that protects upland areas needed for landward migration as the oceans rise, (d) ensuring that recovery plans include actions to reduce sea-level rise threats, acknowledge the necessity of reducing greenhouse gas emissions to levels that allow recovery, conduct needed research and monitoring to better understand threats, and set recovery criteria that address sea-level rise threats, and (e) consultations that include sea-level rise analyses for coastal projects and consultations on major emissions sources to provide mitigation benefits that directly reduce the source of sea-level rise threats.

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The Center for Biological Diversity is a non-profit, public interest environmental organization dedicated to the protection of native species and their habitats through science, policy and environmental law, with more than 625,000 members and online activists throughout the United States.

I. Many of the Nation's Endangered Species Are At Risk From Sea-level Rise

The United States is home to more than 1,500 federally protected threatened and endangered species, many of which depend on coastal and island habitats for survival. As greenhouse gas pollution grows, rising sea levels and increasing storm surges already threaten endangered animals that inhabit coastal wetlands, beaches and other vulnerable coastal ecosystems. The Center analyzed data from the U.S. Fish and Wildlife Service (FWS), National Marine Fisheries Service (NMFS), and scientific literature to determine which species are most at risk from sea-level rise. Our analysis found that 17 percent -- one in six — of the nation's threatened and endangered species are at risk from rising sea levels in 23 coastal states. The most vulnerable groups were flowering plants, which represent a third of all at-risk species, followed by anadromous fishes, birds, mammals, reptiles and freshwater mussels.

To conduct this analysis, the Center compiled a list of all terrestrial and marine endangered and threatened species occurring in the United States as of August 2013 using the FWS's Environmental Conservation Online System and NMFS' endangered species page. Listed species include listed subspecies, distinct population segments (DPSs) and evolutionarily significant units (ESUs). Coastally distributed species were identified based on the occurrence maps provided by the Services. For each coastal species, we reviewed the ecology, distribution and threats in the most recent five-year review, or if not available, the recovery plan, critical habitat designation or published studies. Species were ranked as at-risk from sea-level rise if all or a portion of their current occupied habitat was in low-lying, nearshore coastal ecosystem vulnerable to inundation, erosion or saltwater intrusion (such as beaches, marshes and salt-intolerant coastal forests) from sea-level rise, and/or if sea-level rise was identified as a threat to the species by FWS or NMFS or in published studies. We have included a copy of this report for your consideration and it is available on our website at http://www.biologicaldiversity.org/campaigns/sea-level_rise/index.html.

II. Current Policy Guidance Is Insufficient to Protect Threatened and Endangered Species from Sea-level Rise and Must Be Strengthened

The key policy documents issued by the Services to provide a roadmap for managing climate change threats to species and ecosystems—the FWS Strategic Plan for Responding to Accelerating Climate Change and the accompanying 5-year Action Plan and the National Fish, Wildlife and Plants Climate Adaptation Strategy--offer little guidance on how federal agencies and their partners should protect species and habitats from sea-level rise threats, and these documents provide no strategies specific to listed species. We recommend that the Services strengthen this guidance by developing and implementing a detailed action plan for mitigating the sea-level rise threats to coastal species and ecosystems, including prioritized actions, responsible parties, and timelines. This sea-level rise action plan can be incorporated into the updates of the Service's existing policy documents. As detailed below, we recommend that this

action plan fully utilize the tools provided by the Endangered Species Act to minimize climate change threats to listed species.

III. The Services Should Fully Utilize the Tools Provided by the Endangered Species Act to Reduce Sea-level Rise Threats to Listed Species

We urge the Services to fully utilize the tools provided by the Endangered Species Act to manage and minimize sea-level rise threats to listed species, including critical habitat designation, recovery plans, and consultation. The Services have begun to use these tools but they have often been applied inconsistently across species and regional offices.

A. Providing the Best-Available Scientific Guidance on Sea-level Rise for Decision-making

When making listing determinations, designating critical habitat, or engaging in recovery planning, the Services must consistently rely on the best-available science on observed and projected sea-level rise at a regional scale in order to make the most scientifically informed decisions about the threats that sea-level rise poses to listed species and their habitats. The National Climate Assessment, which is updated every four years, can provide a good scientific basis for the Services' sea-level-rise-related decision-making, coupled with new publications and region-specific analyses.

B. Listing Decisions

The Services should ensure that listing analyses and determinations comprehensively consider the threats from sea-level rise and increasing storm surge. Recent listing decisions for coastally distributed species are highly variable in the quality of their sea-level rise analyses. Some listing decisions have detailed discussion and analysis while others do not even mention sea-level rise. For example, the 2013 final listing rule for three coastal Florida plant species--Cape Sable Thoroughwort, Florida Semaphore Cactus, and Aboriginal Prickly-Apple—included an extensive review of the science on current and projected sea-level rise and detailed analyses of how sea-level rise and increasing storm surge are affecting and will continue to affect these species (78 Fed. Reg. 63796). Based on this comprehensive analysis, sea-level rise was determined to pose a significant threat to these species. In contrast, the 2012 final listing rule for eight freshwater mussels--Alabama Pearlshell, Round Ebonyshell, Southern Kidneyshell, Choctaw Bean, Tapered Pigtoe, Narrow Pigtoe, Southern Sandshell, and Fuzzy Pigtoe--did not mention sea-level rise (77 Fed. Reg. 61664), even though most of these mussels occur in the lower, nontidal sections of coastal streams in Alabama and Florida which are projected to become increasingly saline as sea levels rise, threatening to eliminate mussel populations in those areas. A thorough sea-level rise analysis is critical not only for recognizing important threats for listing purposes, also because the threats analysis in listing determinations often forms the foundation for recovery plans, critical habitat designations, and consultations.

C. Critical Habitat Designation

The ESA explicitly allows the Services to designate critical habitat "outside the geographical area occupied by a species at the time it was listed, upon a determination that such areas are essential for the conservation of the species" (16 U.S.C. § 1532(5)). Because many species are shifting their ranges in response to climate change, designating habitat areas outside of the current range, including areas projected to provide suitable habitat in the future and habitat to facilitate movements to new areas, will become critical to helping species survive and recover under climate change. For many coastal species, habitat is being lost or degraded by increasing inundation, erosion, and saltwater intrusion due to sea-level rise, as well as flooding from stronger hurricanes and increasing storm surge. To reduce these impacts, we recommend that, in addition to designating currently occupied habitat, the Services should identify and designate sufficient unoccupied inland habitat, protected from inundation by sea-level rise and increasing storm surge, to help species and their habitats move landward and prevent coastal squeeze (i.e., squeezing species between rising waters and coastal development).

The Services have many tools at hand for modeling the impacts of sea-level rise and identifying future suitable habitat. And the Services have already conducted these types of critical habitat analyses. In the 2012 critical habitat designation for the western snowy plover, FWS designated unoccupied upland habitat to mitigate for habitat loss due to sea-level rise which was predicted to partially or fully inundate 36 of 60 critical habitat units (77 Fed. Reg. 36728). The FWS used high-resolution LiDAR data to determine how unit boundaries should be extended to compensate for habitat loss due to sea-level rise; designated critical habitat outside of the snowy plover's occupied range to ensure the conservation of the plover under threats from sea-level rise; and proposed to restore habitat to increase the amount of suitable habitat for plovers to offset losses from sea-level rise and other threats. Although more unoccupied habitat should have been designated for the plover (only 18 acres of upland unoccupied habitat were designated out of a total of 24,527 acres), this example provides an illustration of the feasibility and importance of a proactive approach.

D. Recovery Plans

Recovery plans provide an important opportunity to conduct a comprehensive analysis of sea-level rise threats on a species-specific basis and to set forth a prioritized action plan to eliminate or reduce those threats so that the species can achieve recovery. We recommend that recovery plans include five components for addressing sea-level rise and other climate-change-related threats: (1) a discussion of how climate change affects or is projected to affect the species and its habitat, (2) actions for research and/or monitoring to better understand those threats, (3) actions to eliminate or reduce the impacts of those threats on listed species (i.e., adaptation), such as identifying essential habitat to which species can migrate or be translocated as the oceans rise, (4) recognition of the necessity of reducing greenhouse gas emissions to levels that will allow the species' recovery (i.e., mitigation), and (5) recovery criteria that require the elimination or amelioration of those threats. Recent recovery plans are highly variable in their treatment of climate change threats and typically do not include many of these components. For example, the 2012 Recovery Plan for Hawaiian Waterbirds identified sea-level rise as a potential threat but recommended no actions to address this threat. In contrast, the 2009 Recovery Plan for the Northwest Atlantic Population of the Loggerhead Sea Turtle, which identified sea-level rise as a potential threat, recommended actions for research and emissions mitigation, while the Final

Revised Recovery Plan for the Laysan Duck recommended adaptation actions to reduce threats from sea-level rise. We recommend that the Services add specific guidance on addressing climate change threats including sea-level rise as they revise the Interim Endangered and Threatened Species Recovery Planning Guidance.

E. Consultation

The Section 7 consultation process provides an important opportunity to minimize climate-related threats to listed species from federal activities. We recommend that the Services conduct sea-level rise analyses in consultations for projects that may affect coastal species. Many projects that may have a federal nexus such as coastal development projects, coastal armoring, and beach renourishment activities are likely to be harmful to coastal species facing habitat loss and degradation due to sea-level rise. Service consultations should consider the importance of protecting inland habitat needed for landward migration; protecting coastal habitats such as marshes, seagrass beds, kelp forests, coral reefs and oyster reefs which buffer the coast from sea-level rise and provide essential habitat for listed species; and discouraging coastal armoring and other hardening of the coastline which increase erosion and can have harmful effects on listed species. Since sea-level rise threats only worsen with rising greenhouse gas emissions, the Services should also be conducting consultations on federal projects that will produce large amounts of greenhouse gas emissions that contribute to sea-level rise, with the goal of implementing reasonable and prudent mitigation measures to lower the project's greenhouse emissions and ultimate sea-level rise impacts on coastal species.

Thank you for your consideration of these comments. We look forward to discussing the Center's analysis and to working with the Services to strengthen protections for coastal species against the ever-increasing threats of sea-level rise.

Sincerely,

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