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Submitted electronically via regulations.gov

July 10, 2017

The Honorable Ryan Zinke
Secretary of the Interior
U.S. Department of the Interior
1849 C Street, NW
Monument Review, MS-1530
Washington, DC 20240

Re: Review of Certain National Monuments Established Since 1996; Notice of Opportunity for Public Comment (May 11, 2017)

Dear Secretary Zinke:

Defenders of Wildlife (Defenders) respectfully submits the following comments on Hanford Reach National Monument for consideration in the Department of the Interior’s “Review of Certain National Monuments Established Since 1996.”¹

Founded in 1947, Defenders of Wildlife is a national non-profit conservation organization focused on conserving and restoring native species and the habitat upon which they depend. Based in Washington, DC, the organization also maintains six regional field offices, including in the Pacific Northwest. Defenders is deeply involved in public lands management and wildlife conservation in region, including the protection and recovery of flora and fauna in Washington. We submit these comments on behalf of almost 1.2 million members and supporters nationwide, including our 36,481 members in Washington.

President Trump’s Executive Order 13792² directed you to “review” national monuments designated or expanded since January 1, 1996, pursuant to the Antiquities Act of 1906.³ Section 1 of the order, “Policy,” states in pertinent part: “[d]esignations should be made in accordance with the requirements and original objectives of the Act and appropriately balance the protection of landmarks, structures, and objects against the appropriate use of Federal lands and the effects on surrounding lands and communities.”

¹ 82 Fed. Reg. 22016 (May 11, 2017).

² 82 Fed. Reg. 20429 (May 1, 2017).

³ Act of June 8, 1906, ch. 3060, 34 Stat. 225, codified at 54 U.S.C. ch. 3203.

Section 2 of Executive Order 13792 establishes seven criteria for reviewing national monument designations or expansions since January 1, 1996, either 1) where the designation or the designation after expansion exceeded 100,000 acres or 2) “where the Secretary determines that the designation or expansion was made without adequate public outreach and coordination with relevant stakeholders.” The review is to determine whether each designation or expansion “conforms to the policy set forth in section 1 of the order.” At the conclusion of this review, you are to “formulate recommendations for Presidential actions, legislative proposals, or other appropriate actions to carry out that policy.”⁴

Twenty-seven national monuments are listed in the Notice of Opportunity for Public Comment, including five marine national monuments that are also subject to separate review under Executive Order 13795, “Implementing an America-First Offshore Energy Strategy.”⁵ Defenders firmly believes that none of America’s national monuments should be revoked, reduced in size or opened to nonconforming uses, including Hanford Reach and the 26 other (marine) national monuments identified for administrative review.

Hanford Reach National Monument protects invaluable cultural, historic and scientific resources that provide immeasurable social and economic benefits to local communities and citizens across the United States. These public lands merit the protections provided as a national monument, a designation that was made fully consistent with the Antiquities Act of and the policy set forth in section 1 of Executive Order 13792.

The president lacks the legal authority to revoke or reduce the size of a national monument and should additionally refrain from seeking legislative action or taking any other action to undermine the designation. Defenders of Wildlife therefore urges that your report should not include any recommendations to alter the size or status of Hanford Reach National Monument.

Thank you for your attention to these comments.

Sincerely,

A handwritten signature in black ink, appearing to read 'RD', with a horizontal line extending to the right.

Robert Dreher
Senior Vice President, Conservation Programs

⁴ 82 Fed. Reg. 22,016 (May 11, 2017).

⁵ Exec. Order No. 13795, 82 Fed. Reg. 20815 (May 3, 2017).

PROCLAMATION OF HANFORD REACH NATIONAL MONUMENT WAS LEGAL AND APPROPRIATE UNDER THE ANTIQUITIES ACT

The Antiquities Act Imposes Few Requirements Restricting the President's Authority to Designate National Monuments

In the Antiquities Act of 1906, Congress chose to implement the general policy of protecting “historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest” on federal lands by affording the president broad power to designate national monuments by proclamation.⁶

In designating national monuments under Antiquities Act, the only limits on the president's authority are that: (1) the area must contain “historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest”; (2) the area must be “situated on land owned or controlled by the Federal Government”; and (3) “[t]he limits of the parcels shall be confined to the smallest area compatible with the proper care and management of the objects to be protected.”⁷

Beyond these requirements, the president is afforded extensive discretion to protect federal lands and waters under the Antiquities Act. If Congress had sought to limit the type or size of objects that could be reserved under the Antiquities Act, the text of the statute would have reflected that limitation. Instead, as federal courts have repeatedly held, the plain language of the Antiquities Act bestows vast discretionary authority upon the president to select both the type and size of an object to be protected. For example, in rejecting a challenge to President Clinton's designation of Grand Staircase-Escalante National Monument premised on the argument that the legislative history of the Act demonstrated Congress' intent to protect only man-made objects, the reviewing court stated:

This discussion, while no doubt of interest to the historian, is irrelevant to the legal questions before the Court, since the plain language of the Antiquities Act empowers the President to set aside “objects of historic or scientific interest.” 16 U.S.C. § 431. The Act does not require that the objects so designated be made by man, and its strictures concerning the size of the area set aside are satisfied when the President declares that he has designated the smallest area compatible with the designated objects' protection. There is no occasion for this Court to determine whether the plaintiffs' interpretation of the congressional debates they quote is correct, since a court generally has recourse to congressional intent in the interpretation of a statute *only when the language of a statute is ambiguous*.⁸

⁶ 54 U.S.C. § 320301(a) (2012).

⁷ *Id.* § 320301(a), (b).

⁸ *Utah Ass'n of Chys. v. Bush*, 316 F. Supp. 2d 1172, 1186 n.8 (D. Utah 2004) (emphasis added) (citation omitted); *see also Mt. States Leg. Found. v. Bush*, 306 F.3d 1132, 1137 (D.C. Cir. 2002) (affirming the president's broad discretionary authority to designate natural, landscape-scale objects of historic or scientific interest).

Before passing the Antiquities Act of 1906, Congress had considered other antiquities bills that set forth a clearly defined list of qualifying “antiquities.”⁹ An earlier version of the Antiquities Act—considered immediately before the final Act—also would have made reservations larger than 640 acres only temporary.¹⁰ Rather than place limitations on the president’s authority, however, the final version of the Act expanded executive discretion by adding the phrase “other objects of historic or scientific interest” to the list of interests that may be protected as national monuments.¹¹

The addition of this language to the Act has significant implications for how it is administered. Former National Park Service Chief Historian Ronald Lee recognized that “the single word ‘scientific’ in the Antiquities Act proved sufficient basis to establish the entire system of ... national monuments preserving many kinds of natural areas.”¹² By the time the Federal Lands Policy and Management Act of 1976 (“FLPMA”) was enacted, 51 of the 88 national monuments that had been established “were set aside by successive Presidents ... primarily though not exclusively for their scientific value.”¹³

“Scientific Interests” Have Included Biological Features Since the Earliest National Monument Designations

The designation of national monuments for scientific interests is not a recent phenomenon. For more than 100 years, national monuments have been established for the “scientific interests” they preserve. These values have included plants, animals, and other ecological concerns. In 1908, for instance, President Theodore Roosevelt designated Muir Woods National Monument because the “extensive growth of redwood trees (*Sequoia sempervirens*) ... is of extraordinary scientific interest and importance because of the primeval character of the forest in which it is located, and of the character, age and size of the trees.”¹⁴ President Roosevelt also established Mount Olympus National Monument because it “embrace[d] certain objects of unusual scientific interest, including numerous glaciers, and the region which from time immemorial has formed summer range and breeding grounds of the Olympic Elk (*Cervus roosevelti*), a species peculiar to these mountains and rapidly decreasing in numbers.”¹⁵

President Roosevelt was not alone in utilizing the Antiquities Act’s broad authority to protect ecological marvels. For example, Presidents Harding, Roosevelt, Truman, and Eisenhower all

⁹ H.R. 12447, 58th Cong. § 3 (1904), *reprinted in* National Park Service, History of Legislation Relating to The National Park System Through the 82d Congress: Antiquities Act App. A (Edmund B. Rogers, comp., 1958) [hereinafter History of Legis.].

¹⁰ See S. 5603, 58th Cong. § 2 (1905), *reprinted in* History of Legis.

¹¹ S. 4698, 59th Cong. § 2 (1906), *reprinted in* History of Legis.

¹² Ronald F. Lee, The Antiquities Act of 1906 (1970), *reprinted in* Raymond H. Thompson, *An Old and Reliable Authority*, 42 J. OF THE S.W. 197, 240 (2000).

¹³ *Id.*

¹⁴ Proclamation No. 793, 35 Stat. 2174 (1908).

¹⁵ Proclamation No. 896, 35 Stat. 2247 (1909).

subsequently expanded Muir Woods National Monument for the same reasons it was originally designated.¹⁶ Likewise, in designating Papago Saguaro National Monument in 1914, President Wilson’s proclamation highlighted that the “splendid examples of the giant and many other species of cacti and the yucca palm, with many additional forms of characteristic desert flora [that] grow to great size and perfection . . . are of great scientific interest, and should, therefore, be preserved.”¹⁷

Further, in 1925, President Coolidge designated nearly 1.4 million acres as Glacier Bay National Monument because

the region [was] said by the Ecological Society of America to contain a great variety of forest covering consisting of mature areas, bodies of youthful trees which have become established since the retreat of the ice which should be preserved in absolutely natural condition, and great stretches now bare that will become forested in the course of the next century.¹⁸

Similarly, President Hoover enlarged Katmai National Monument “for the purpose of including within said monument additional lands on which there are located features of historical and scientific interest and for the protection of the brown bear, moose, and other wild animals.”¹⁹

President Franklin D. Roosevelt designated Channel Islands National Monument, in part, for the “ancient trees” it contained.²⁰ President Kennedy expanded Craters of the Moon National Monument to include “an island of vegetation completely surrounded by lava, that is scientifically valuable for ecological studies because it contains a mature, native sagebrush-grassland association which has been undisturbed by man or domestic livestock.”²¹

Federal Courts Have Confirmed the President’s Authority to Determine the Meaning of “Scientific Interests”

The broad objectives of the Antiquities Act, coupled with the vast deference afforded to the president in specifying a monument’s purpose, compel courts to uphold presidential determinations of what constitute “objects” and “scientific interests” when those findings are challenged.²² Beginning with a challenge to the designation of the Grand Canyon National Monument in 1920, the Supreme Court has promoted an expansive reading of the president’s discretion to determine which “scientific interests” may be protected. In its analysis, the Supreme Court simply quoted from

¹⁶ Proclamation No. 1608, 42 Stat. 2249 (1921); Proclamation No. 2122, 49 Stat. 3443 (1935); Proclamation No. 2932, 65 Stat. c20 (1951); Proclamation No. 3311, 73 Stat. c76 (1959).

¹⁷ Proclamation No. 1262, 38 Stat. 1991 (1914).

¹⁸ Proclamation No. 1733, 43 Stat. 1988 (1925).

¹⁹ Proclamation No. 1950, 47 Stat. 2453 (1931).

²⁰ Proclamation No. 2281, 52 Stat. 1541 (1938).

²¹ Proclamation No. 3506, 77 Stat. 960 (1962).

²² See *Utah Ass’n of Chys. v. Bush*, 316 F. Supp. 2d 1172, 1179 (D. Utah 2004) (“[I]here have been several legal challenges to presidential monument designations . . . Every challenge to date has been unsuccessful.”).

President Roosevelt’s proclamation to uphold the presidential finding that the Canyon “is an object of unusual scientific interest.”²³

In *Cappaert v. United States*, the Supreme Court upheld President Truman’s exercise of authority to add Devil’s Hole to the Death Valley National Monument by relying upon the designation’s objective of preserving a “remarkable underground pool,” which contained “unusual features of scenic, scientific, and educational interest.”²⁴ In his proclamation, President Truman’s noted “that the pool contains ‘a peculiar race of desert fish . . . which is found nowhere else in the world’ and that the ‘pool is of . . . outstanding scientific importance . . .’”²⁵ In its analysis, the Supreme Court acknowledged that “the language of the Act . . . is not so limited” as to preclude the president from exercising his broad discretion to protect such unique “features of scientific interest.”²⁶ As a result, the Supreme Court ultimately held that “[t]he pool in Devil’s Hole and its rare inhabitants are ‘objects of historic or scientific interest.’”²⁷

Similarly, in upholding the designation of Jackson Hole National Monument, the district court of Wyoming found that

plant life indigenous to the particular area, a biological field for research of wild life in its particular habitat within the area, involving a study of the origin, life, habits and perpetuation of the different species of wild animals . . . [all] constitute matters of scientific interest within the scope and contemplation of the Antiquities Act.²⁸

Likewise, when ruling on a challenge to the millions of acres that President Carter set aside as national monuments in Alaska, the district court of Alaska concluded that “[o]bviously, matters of scientific interest which involve geological formations or which may involve plant, animal or fish life are within this reach of the presidential authority under the Antiquities Act.”²⁹ The court also found that the Act protected a broad range of natural features, including the ecosystems of plant and animal communities relied upon by the Western Arctic Caribou herd.³⁰

Recently, Giant Sequoia National Monument was challenged on grounds that it protects objects that do not qualify under the Act.³¹ In rejecting that argument, the circuit court noted that “other objects of historic or scientific interest may qualify, at the President’s discretion, for protection as

²³ *Cameron v. United States*, 252 U.S. 450, 455–56 (1920) (quoting Proclamation No. 794, 34 Stat. 225 (1908)).

²⁴ *Cappaert v. United States*, 426 U.S. 128, 141 (1976) (internal quotations omitted) (quoting Proclamation No. 2961, 3 C.F.R. § 147 (1949-1953 Comp.)).

²⁵ *Id.*

²⁶ *Id.*

²⁷ *Id.* at 142 (emphasis added) (citing *Cameron v. U.S.*, 252 U.S. 450, 455–56 (1920)).

²⁸ *Wyoming v. Franke*, 58 F. Supp. 890, 895 (D. Wyo. 1945).

²⁹ *Anaconda Copper Co. v. Andrus*, 14 Env’t Rep. Cas. (BNA) 1853, 1855 (D. Alaska 1980).

³⁰ *Id.*

³¹ *Tulare County v. Bush*, 306 F.3d 1138, 1140–41 (D.C. Cir. 2002).

monuments. Inclusion of *such items as ecosystems and scenic vistas* in the Proclamation did not contravene the terms of the statute by relying on nonqualifying features.”³²

In addition, one court found that the designation of the Cascade-Siskiyou National Monument legitimately protects “scientific interests” within the meaning of the Act, because the Monument is

a “biological crossroads” in southwestern Oregon where the Cascade Range intersects with adjacent ecoregions ... the Hanford Reach National Monument, a habitat in southern Washington that is the largest remnant of the shrub-steppe ecosystem that once dominated the Columbia River basin ... and ... the Sonoran Desert National Monument, a desert ecosystem containing an array of biological, scientific, and historic resources.³³

There Are No Restrictions on the Size of the Objects That May be Designated as National Monuments

As the court in *Wyoming v. Franke* recognized: “What has been said with reference to the objects of historic and scientific interest applies equally to the discretion of the Executive in defining the area compatible with the proper care and management of the objects to be protected.”³⁴ In other words, the determination of “the smallest area compatible with the proper care and management of the objects to be protected” is almost entirely within the president’s authority.

The Supreme Court honored this principle in *Cameron v. United States* by finding that President Theodore Roosevelt was authorized to establish the 800,000-acre Grand Canyon National Monument.³⁵ Since then, courts have been exceedingly hesitant to infringe upon the president’s broad discretion in determining the “smallest area” possible encompassed by a monument—including the 1.7 million-acre Grand Staircase-Escalante National Monument.³⁶

Courts, moreover, are even less likely to disturb the president’s factual determinations when a proclamation contains the statement that the monument “is the smallest area compatible with the proper care and management of the objects to be protected.”³⁷ Beginning in 1978, presidents have included this declaration in all proclamations establishing or enlarging national monuments.³⁸

³² *Id.* at 1142 (emphasis added) (internal quotations omitted).

³³ *Mt. States Leg. Found. v. Bush*, 306 F.3d 1132, 1133–34 (D.C. Cir. 2002) (citations omitted).

³⁴ 58 F. Supp. 890, 896 (D. Wyo. 1945).

³⁵ 252 U.S. 450, 455–56 (1920).

³⁶ *Utah Ass’n of Clys. v. Bush*, 316 F. Supp. 2d 1172, 1183 (D. Utah 2004) (“When the President is given such a broad grant of discretion as in the Antiquities Act, the courts have no authority to determine whether the President abused his discretion.”).

³⁷ See, e.g., *Mt. States Leg. Found.*, 306 F.3d at 1137; *Tulare County v. Bush*, 306 F.3d 1138, 1142 (D.C. Cir. 2002).

³⁸ Including the determination that each national monument is confined to “the smallest area compatible with the proper care and management of the objects to be protected” began with President Carter (Proc. Nos.

Congress Has Demonstrated Its Approval of Large National Monument Designations

Individual presidential proclamations reserving significant amounts of land in national monuments has received much criticism. Rather than curbing the president’s power to do so, however, Congress has embraced the presidents’ inclusive interpretation and use of the authority of the Antiquities Act with limited exceptions.³⁹ Congress has shown explicit approval for these presidential withdrawals by re-designating national monuments as national parks, preserves, historic sites, or wildlife refuges and passing legislation otherwise approving the boundaries of national monuments. This congressional approval includes at least 69 national monuments, or 44 percent of those established, which encompass more than 70 percent of the acreage that has been withdrawn by the President under the Antiquities Act.⁴⁰

Future congressional approval has been more likely, moreover, when considering designations or subsequent expansions that “more than 100,000 acres.”⁴¹ Through 1981 and excluding monuments subject to the Secretary’s current review, Congress explicitly approved of 86 percent, or 25 of the 29, reservations fitting that description.⁴²

On average, these Congressional actions have taken more than 34 years from the time of the original designation or expansion – a figure that jumps to nearly 47 years when excluding the 17 Alaskan monument proclamations incorporated two years later by ANILCA.⁴³ In some cases, such as Craters of the Moon, however, it has taken Congress 78 years to act.⁴⁴ The monuments currently under

4611–4627), and was continued by Presidents Clinton (Proc. Nos. 6920, 7263–66, 7317–20, 7329, 7373–74, 7392–7401), G.W. Bush (Proc. Nos. 7647, 7984, 8031), and Obama (Proc. Nos. 8750, 8803, 8868, 8884, 8943–47, 8089, 9131, 9173, 9194, 9232–34, 9297–99, 9394–96, 9423, 9465, 9476, 9478, 9496, 9558–59, 9563–67).

³⁹ The only significant exceptions to the President’s authority conveyed by Congress has been the restriction on the extension or establishment of new national monuments in Wyoming, Act of Sept. 14, 1950, Pub. L. No. 787, § 1, 64 Stat. 849 (codified as amended at 54 U.S.C. § 320301(d), and making all Executive withdrawals of more than 5,000 acres in Alaska subject to congressional approval, 16 U.S.C. §3213(a). In addition, Congress withheld funds from the Chesapeake & Ohio Canal National Monument after it was designated by President Eisenhower in 1961. See Les Blumenthal, *Presidents as Preservationists: Antiquities Act gives Chief Executive Free Hand in Creating National Monuments*, NEWS TRIB. (Tacoma) A1 (May 28, 2000). A decade later, however, Congress re-designated the monument as a national historical park. 16 U.S.C. § 410y.

⁴⁰ Figures established in spreadsheet created with data from NPS, ARCHEOLOGY PROGRAM, *Antiquities Act 1906-2006: Monuments List*, (updated May 8, 2017 07:53:03), <https://www.nps.gov/archeology/sites/antiquities/monumentslist.htm> as well as presidential proclamations and acts of Congress not included in therein (hereinafter “MONUMENTS LIST DATA”).

⁴¹ Exec. Order No. 13792 § 2.

⁴² MONUMENTS LIST DATA.

⁴³ *Id.* See Alaska National Interest Lands Conservation Act (ANILCA), Pub. L. 96-487, Title II, § 201, Dec. 2, 1980 (codified at 16 U.S.C. § 410hh).

⁴⁴ MONUMENTS LIST DATA (Craters of the Moon is the longest time it took for Congress to act on a monument larger than 100,000 acres, but it took 105 years for Pinnacles National Monument to be re-designated as a National Park).

review, in contrast, have been in existence for only 20 years or less, which is well within the time of typical congressional action regarding national monuments.

Moreover, Congress has established 45 national monuments by statute, including several that were over 100,000 acres in size at the time of enactment: Badlands⁴⁵ (130,000 acres), Biscayne⁴⁶ (172,924 acres), Mount Saint Helens⁴⁷ (110,000 acres), El Malpais⁴⁸ (114,000 acres), and Santa Rosa and San Jacinto Mountains⁴⁹ (272,000 acres). Two of these, Badlands and Biscayne, were subsequently re-designated as national parks.

Only Congress Has the Authority to Revoke or Reduce the Size of a National Monument

Executive Order 13792 instructs the Interior Secretary to “review” national monuments designated or expanded under the Antiquities Act and “include recommendations for Presidential actions.” In a press briefing on the order, Secretary Zinke stated that it “directs the Department of Interior to make recommendations to the President on whether a monument should be rescinded, resized, [or] modified.”⁵⁰ However, any such actions taken by the president would be unlawful: only Congress has the authority to rescind, reduce, or substantially modify a national monument.

The president’s powers regarding management of public lands are limited to those delegated to him by Congress. While the Antiquities Act provides the president the power to “declare” and “reserve” national monuments, it does not grant him authority to rescind, resize, modify, or otherwise diminish designated national monuments.⁵¹

The Property Clause of the U.S. Constitution⁵² gives Congress “exclusive” authority over federal property,⁵³ in effect making “Congress[] trustee of public lands for all the people.”⁵⁴ “The Clause must be given an expansive reading, for ‘(t)he power over the public lands thus entrusted to

⁴⁵ P.L. 70-1021; 45 Stat. 1553.

⁴⁶ P.L. 90-606; 82 Stat. 1188.

⁴⁷ P.L. 97-243; 96 Stat. 301.

⁴⁸ P.L. 100-225; 101 Stat. 1539.

⁴⁹ P.L. 106-351; 114 Stat. 1362.

⁵⁰ Press Briefing on the Executive Order to Review Designations Under the Antiquities Act, Ryan Zinke, Sec’y of the Interior (Apr. 25, 2017), <https://www.whitehouse.gov/the-press-office/2017/04/25/press-briefing-secretary-interior-ryan-zinke-executive-order-review>.

⁵¹ 54 U.S.C. § 320301(a), (b).

⁵² U.S. Const. art. IV, § 3, cl. 2.

⁵³ See, e.g., *Utah Power & Light Co. v. United States*, 243 U.S. 389, 404 (1917).

⁵⁴ *United States v. City & Cty. of San Francisco*, 310 U.S. 16, 28 (1940).

Congress is without limitations.’⁵⁵ Congress may, of course, delegate its authority to manage these lands to executive agencies or the president,⁵⁶ as it did in the Antiquities Act.

In the Antiquities Act, Congress only delegated to the president the broad authority to *designate* as national monuments “historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest”—an authority limited only by the requirement that such reservations be “confined to the smallest area compatible with the proper care and management of the objects to be protected.”⁵⁷ Conspicuously absent from the Act, however, is language authorizing *any* substantive changes to national monuments once they have been established.

The omission of language granting the president the authority to rescind, reduce, or modify national monuments is intentional. Without it, an implicit congressional grant of these authorities cannot be read into the Antiquities Act.⁵⁸ If Congress intended to allow future presidents to rescind or reduce existing national monument designations, it would have included express language to that effect in the Act. Congress had done just that in many of the other public land reservation bills of the era.⁵⁹

Furthermore, Congress considered a bill that would have authorized the president to restore future national monuments to the public domain, which passed the House in 1925, but was never enacted.⁶⁰ Logically, that effort would have been redundant if such authority already existed under the Act. The Antiquities Act thus demonstrates that Congress chose to constrain the president’s authority not by limiting his ability to designate or expand national monuments, but by withholding the power to rescind, reduce, or modify monuments once designated or expanded. In every case where a monument has been eliminated, it has taken an act of Congress to do so, even in the case of New York’s Father Millet Cross National Monument, which was only 320 square feet in size.⁶¹

For nearly eighty years, the federal government’s position has been that the president lacks the authority to rescind, repeal, or revoke national monuments. Of course, if the president lacks such

⁵⁵ *Kleppe v. New Mexico*, 426 U.S. 529, 539–40 (1976) (quoting *San Francisco*, 310 U.S. at 29).

⁵⁶ *United States v. Grimaud*, 220 U.S. 506, 517 (1911); *Cameron v. United States*, 252 U.S. 450, 459–60 (1920); *Utah Ass’n of Cty. v. Bush*, 316 F. Supp. 2d 1172, 1191 (D. Utah 2004) (upholding Grand Staircase–Escalante National Monument) (citing *Yakus v. United States*, 321 U.S. 414 (1944)).

⁵⁷ 54 U.S.C. § 320301(a)–(b) (2012).

⁵⁸ *Ethyl Corp. v. EPA*, 51 F.3d 1053, 1060 (D.C. Cir. 1995) (refusing “once again, to presume a delegation of power merely because Congress has not expressly withheld such power.”).

⁵⁹ See National Forest Organic Act of 1897, Act of June 4, 1897, 30 Stat. 1, 34, 36 (authorizing President “to *modify* any Executive order that has been or may hereafter be made establishing any forest reserve, and by such modification may *reduce* the area or *change the boundary lines* of such reserve, or *may vacate altogether* any order creating such reserve.”) (emphasis added) (repealed in part by Federal Land Policy and Management Act of 1976 (FLPMA), Pub. L. 94-579, Title VII, § 704(a), Oct. 21, 1976; National Forest Management Act of 1976, 16 U.S.C. § 1609(a)); Pickett Act, Act of June 25, 1910, c. 421, § 1, 36 Stat. 847 (executive withdrawals were “temporary,” only to “remain in effect until revoked by him or by an Act of Congress.”) (repealed by FLPMA § 704(a)).

⁶⁰ H.R. 11357, 68th Cong. (1925).

⁶¹ 28 H.R. 4073, Pub. L. 81-292, 63 Stat. 691.

authority, it follows that the secretary lacks the authority to rescind, repeal, or revoke national monuments as well.⁶² In 1938, U.S. Attorney General Homer Cummings concluded that “[t]he Antiquities Act ... authorizing the President to establish national monuments, does not authorize him to abolish them after they have been established.”⁶³ The Attorney General Opinion went on to state:

The grant of power to execute a trust, even discretionally, *by no means* implies the further power to undo it when it has been completed. A duty properly performed by the Executive under statutory authority has the validity and sanctity which belong to the statute itself, and, unless it be within the terms of the power conferred by that statute, the Executive can no more destroy his own authorized work, without some other legislative sanction, than any other person can. To assert such a principle is to claim for the Executive the power to repeal or alter an act of Congress at will.⁶⁴

Despite the apparent contradiction to this passage, and without addressing its legality or providing much discussion, this Attorney General’s Opinion also recognized that “the President from time to time has diminished the area of national monuments established under the Antiquities Act.”⁶⁵ However, none of these Presidential actions that reduced the size of national monuments has ever been challenged in court. Perhaps more importantly, President Kennedy was the last to diminish a national monument⁶⁶ (adding to Bandelier National Monument 2,882 acres formerly controlled by the Atomic Energy Agency and removing the 3,925-acre Otwi Section containing “limited archaeological values”), and there have been no attempts by the President or the Secretary to rescind, resize, modify, or otherwise diminish designated national monuments since the enactment of FLPMA.⁶⁷

In FLPMA, Congress not only repealed nearly all sources of executive authority to make withdrawals except for the Antiquities Act,⁶⁸ but also overturned the implied executive authority to withdraw public lands that the Supreme Court had recognized in 1915 as well.⁶⁹ FLPMA’s treatment

⁶² Cf. *Utah Ass’n of Chys. v. Bush*, 316 F. Supp. 2d 1172, 1197 (D. Utah 2004) (“Because Congress only authorized the withdrawal of land for national monuments to be done in the president’s discretion, it follows that the President is the only individual who can exercise this authority because only the President can exercise his own discretion.”).

⁶³ Proposed Abolishment of Castle Pickney National Monument, 39 Op. Atty. Gen. 185, 185.

⁶⁴ *Id.* at 187 (emphasis added) (quoting 10 Op. Atty. Gen. at 364).

⁶⁵ *Id.* at 188. See also National Monuments, 60 Interior Dec. 9 (1947) (concluding that the president is authorized to reduce the area of national monuments by virtue of the same provision of Act).

⁶⁶ Proclamation 3539, May 27, 1963.

⁶⁷ Pub. L. 94-579 (Oct. 21, 1976), codified at 43 U.S.C. § 1701 *et seq.*

⁶⁸ *Id.* at Title II, § 204, Title VII, §704(a).

⁶⁹ *Id.*; *United States v. Midwest Oil Co.*, 236 U.S. 459 (1915).

of the Antiquities Act was designed, moreover, to “specifically *reserve to the Congress the authority to modify and revoke withdrawals* for national monuments created under the Antiquities Act.”⁷⁰

Consequently, the authority Congress delegated to the president in the Antiquities Act is limited to the designation or expansion of national monuments. Where a President acts in accordance with that power, the designation is “in effect a reservation by Congress itself, and . . . the President thereafter [i]s without power to revoke or rescind the reservation”⁷¹ Thus, as the district court in *Wyoming v. Franke* summarized, where “Congress presumes to delegate its inherent authority to [the president], . . . the burden is on the Congress to pass such remedial legislation as may obviate any injustice brought about [because] the power and control over and disposition of government lands inherently rests in its Legislative branch.”⁷²

HANFORD REACH NATIONAL MONUMENT

President Clinton established Hanford Reach National Monument (Hanford Reach or “Monument”) in 2000 through Presidential Proclamation 7319. The Monument spans nearly 200,000 acres in southeastern Washington, near the Tri-Cities of Richland, Kennewick and Pasco, and at the intersection of Benton, Franklin, Adams and Grant counties. The Monument is jointly managed by the U.S. Department of Energy and U.S. Fish and Wildlife Service, with a very small portion also managed by Washington Department of Fish and Wildlife.

A recent assessment analyzed ecological values of Hanford Reach by mapping and comparing a random sample of equivalent size areas in the region.⁷³ Based on this science-based analysis, the Monument ranked 98 percent for ecological connectivity and 96 percent for ecological intactness. The Monument is species rich and diverse, scoring at 85.6 percent for reptile diversity, 66 percent for bird diversity, and 82 percent on rarity-weighted species richness. Additionally, the Monument is highly resilient to climate change, with a score of 86.5 percent for climate resilience.

In recognition of these biological values, nearly all of Hanford Reach is also managed as a unit of the National Wildlife Refuge System, the only network of federal lands and waters dedicated to wildlife conservation. Encompassing 566 refuges with at least one in every U.S. state and territory, the Refuge System is essential to protecting our nation’s astounding diversity of wildlife, supports innumerable recreational and educational opportunities and generates billions of dollars in local, sustainable economic revenue. Designation of the Monument and subsequent and management

⁷⁰ H.R. REP. 94-1163, 9, 1976 U.S.C.C.A.N. 6175, 6183 (emphasis added).

⁷¹ Proposed Abolishment of Castle Pickney National Monument, 39 Op. Atty. Gen. 185, 187 (1938) (citing 10 Op. Atty. Gen. 359, 364 (1862)).

⁷² 58 F. Supp. 890, 896 (D. Wyo. 1945).

⁷³ Dickson, B.G., M.L. McClure, and C.M. Albano. 2017. A Landscape-level Assessment of Ecological Values for 22 National Monuments. Final Report submitted to the Center for American Progress. Conservation Science Partners. Truckee, CA (available at <http://www.csp-inc.org/wp-content/uploads/2017/06/NationalMonumentsAssessment.pdf>).

plans incorporated the preexisting Saddle Mountain National Wildlife Refuge on Hanford Reach, established by permit in the northern portion of Hanford Reach.

In Executive Order 13792, the administration implies that the Hanford Reach National Monument inappropriately protects cultural, historic and scientific resources and that the Monument perhaps includes more land than is necessary to protect such resources. There is no legal basis nor facts supporting this suggestion.

Hanford Reach National Monument Preserves a Significant Historic and Cultural Landscape in the United States

Flowing 1,214 miles from its origins in Canada to the Pacific Ocean, the Columbia River is the fourth largest river in North America. In the United States, the 51-mile Hanford Reach is the last free-flowing stretch of the River above Bonneville Dam. The Monument is comprised of lands originally acquired by the United States in 1943 during World War II for the Manhattan Project, and is one of the sites where the Cold War was fought and won

As discussed in great detail within the Monument's proclamation, the designation also protects extensive geological, archeological and cultural resources. The late-Miocene to late-Pliocene Ringold Formation, known as the White Bluffs, was formed from river and lake sediments deposited by the ancestral Columbia River and its tributaries. These striking cliffs form the eastern bank of the Columbia for nearly half of the length of the Reach, and are significant for the mammalian fossils that they contain. Fossil remains from rhinoceros, camel, and mastodon, among others, have been found within these bluffs.⁷⁴

Lands within Hanford Reach are also historically significant. More than 150 registered archaeological sites—the remains of Native American villages and early pioneer settlements dot the river shoreline. More than 10,000 years of human activity in this largely arid environment have left extensive archaeological deposits. Areas upland from the river show evidence of concentrated human activity, and recent surveys indicate extensive use of arid lowlands for hunting. Hundreds of prehistoric archaeological sites have been recorded, including the remains of pithouses, graves, spirit quest monuments, hunting camps, game drive complexes, quarries, and hunting and kill sites. A number of Native American groups still maintain cultural ties to the Monument. The Monument also contains historic structures and other remains from more recent human activities, including homesteads from small towns established along the riverbanks in the early 20th century.⁷⁵

⁷⁴ Proclamation 7319.

⁷⁵ Proclamation 7319.

The Designation of Hanford Reach National Monument Protects and Provides for the Proper Care and Management of Significant and Rare Landscape and Ecosystem Objects and Values

Courts have upheld that the Antiquities Act provides the President with the discretion to protect ecosystems, ecosystem features and large landscapes. In *Tulare vs. Bush* the court found that inclusion of ecosystems within the Proclamation “did not contravene the terms of the statute by relying on nonqualifying features.”⁷⁶ In fact, the Hanford Reach proclamation describes in great factual detail the diversity of qualifying ecosystem types and natural and scientific features found within the Monument boundaries. The facts demonstrate that President Clinton designated the area necessary to protect the diversity of ecosystems found within Hanford Reach along the Columbia River, including remote and intact ecosystems, watersheds, vegetation and community types, and habitat for fish, birds and other wildlife, including rare, endemic, sensitive and imperiled species.

Towering above the east bank of the Hanford Reach are the majestic White Bluffs—light colored cliffs, up to 250 feet high. The sediments comprising the White Bluffs are from an ancestral river and are nearly two miles wide within the Monument. Swallows, red-tailed hawks, kestrels, great horned owls, and prairie falcons use the sheer cliffs for nesting. Beyond the White Bluffs, vast upland areas at Hanford contain some of the very best of what little remains of the sagebrush steppe ecosystem that once dominated eastern Washington and much of the Columbia Basin plateau extending across three states. The river shoreline and adjacent Wahluke Slope provide large blocks of intact habitat supporting diverse native plants and animals, including more than 40 mammals, almost 200 species of birds, and 700 species of plants. A total of 127 populations/occurrences of thirty rare plant taxa—a tremendous number of rare plants in an area of this size—are documented on the Hanford Site, and seven rare plant species associated with the riverine emergent wetlands are found at various places along the Hanford Reach.

Remote landscapes relatively unmodified by human intrusion and development are increasingly rare within the region and nation. In a 2003 report, the Nature Conservancy found that “less than 40% of the great shrub-steppe ecosystem that once dominated the Columbia Plateau of Washington, Oregon, and Idaho has escaped development to date.”⁷⁷ Additionally, much of the remaining unconverted shrub-steppe exists in a highly degraded condition. This makes the Hanford Site’s relatively undisturbed shrub-steppe, riverine, and riparian habitats increasing valuable as more of these old habitats are developed and converted to other uses.

⁷⁶ *Tulare Cnty. v. Bush*, 306 F.3d at 1142.

⁷⁷ Evans, J.R., M.P. Lih, and P.W. Dunwiddie (eds.). 2003. Biodiversity Studies of the Hanford Site 2002-2003. Final report for the U.S. Department of Energy and the U.S. Fish and Wildlife Service, Hanford Reach National Monument. The Nature Conservancy, Washington Field Office. Seattle, WA. Available at https://www.fws.gov/uploadedFiles/Region_1/NWRS/Zone_2/Mid-Columbia_River_Complex/Hanford_Reach_National_Monument/Documents/biodiversity.pdf.

The Hanford Reach National Monument also provides for regionally significant landscape-level connectivity. Landscape connectivity is an increasingly important factor in the conservation of fish, wildlife, and plant populations.⁷⁸ Habitat loss, degradation and fragmentation pose the most important threat to the survival of native species, contributing to the shrinking distribution of many wildlife populations in North America. Landscapes fragmented by development and roads lead to increased mortality⁷⁹ for wide-ranging wildlife, including big game and large carnivores. Local populations, especially those of at-risk species, can decline and disappear without connectivity to support immigration.

The recognition and protection of habitat connectivity and wildlife corridors facilitates migration, dispersal, plant pollination, and gene flow within and across Monument boundaries. Establishing new areas and expanding existing protected areas is necessary to allow species to shift their ranges to adapt to climate change.⁸⁰ Connecting these habitat cores is also essential: wildlife corridors increase movement between isolated habitat patches by approximately fifty percent, compared to areas that are not connected by corridors.⁸¹

The Hanford Reach National Monument conserves a diversity of upland, aquatic and riparian ecosystems, vegetation and plant community types, including an inordinate amount of rare ecosystem types compared to other lands within the region. Riparian habitats are particularly important to conservation of fish, birds, and invertebrates, as well as native vegetation that provide food and cover for a multitude of wildlife species.⁸²

The Designation of Hanford Reach National Monument Protects and Provides for the Proper Care and Management of Significant Rare and At-risk Fish, Wildlife, and Plants and Habitats

Hanford Reach National Monument provides essential habitat for a wide variety of fish, wildlife and plant species, including rare, endemic and at-risk species, including key habitat areas for species

⁷⁸ Correa Ayram C.A., M.E. Mendoza, A. Etter, and D.R. Perez Salicrup. 2016. Habitat connectivity in biodiversity conservation: A Review of Recent Studies and Applications. *Progress in Physical Geography* 40(1): 7-37.

⁷⁹ Cushman, S.A., B. McRae, F. Adriaesen, P. Beier, M. Shirley, and K. Zeller. 2013. Biological corridors and connectivity. In: *KEY TOPICS IN CONSERVATION BIOLOGY 2*, First Edition. D.W. MacDonald and K.J. Willis (eds). John Wiley & Sons, Ltd.

⁸⁰ Heller, N.E. and E.A. Zavaleta. 2009. Biodiversity management in the face of climate change: a review of 22 years of recommendations. *Biological Conservation* 142: 14–32.

⁸¹ Gilbert-Norton, L., R. Wilson, J.R. Stevens, and K.H. Beard. 2010. A meta-analytic review of corridor effectiveness. *Conservation Biology* 24(3): 660-668.

⁸² Pacific Northwest National Laboratory. “What About the Hanford Reach?” (webpage) (updated June 2017); available at <http://science-ed.pnpl.gov/pals/resource/cards/reach.stm>.

listed under the Endangered Species Act (ESA). Altering the configuration of the Monument would remove lawful protections for these objects of scientific interest.

The Hanford Reach National Monument provides habitat values that are significant to the region, and the configuration of the Monument is necessary for the proper care and management of these habitat values. According to the U.S. Fish and Wildlife Service, 43 species of fish, including threatened and endangered salmon and trout; 42 mammal species; 258 bird species; 4 amphibian species; 11 reptile species; and over 1,500 invertebrate species have been documented within the Monument.⁸³

The Hanford Reach National Monument protects a number of at-risk species, including plants and animals listed under the ESA (Table 1). The Washington Department of Fish and Wildlife lists additional state-listed species in the Monument (Table 2).⁸⁴ According to the U.S. Department of Energy, at least 48 plant and animal species that occur on public lands bordering Hanford Reach are considered rare, threatened or endangered.⁸⁵

Common Name	Scientific Name	Federal Status
Chinook Salmon (Upper Columbia (spring run))	<i>Oncorhynchus tshawytscha</i>	Endangered
Pygmy Rabbit	<i>Brachylagus idahoensis</i>	Endangered
Bull Trout	<i>Salvelinus confluentus</i>	Threatened
Steelhead (Upper Columbia)	<i>Oncorhynchus mykiss</i>	Threatened
Umtanum Desert Buckwheat	<i>Eriogonum codium</i>	Threatened
White Bluffs Bladderpod	<i>Physaria douglasii</i> ssp. <i>tuplashensis</i>	Threatened
Bald Eagle	<i>Haliaeetus leucocephalus</i>	Species of Concern
Peregrine Falcon	<i>Falco peregrinus</i>	Species of Concern
Persistent-Sepal Yellow-cress	<i>Rorippa calycina</i>	Species of Concern

Common Name	Scientific Name	State Status
Pygmy Rabbit	<i>Brachylagus idahoensis</i>	Endangered

⁸³ U.S. Fish and Wildlife Service. “Hanford Reach National Monument: Wildlife” (webpage) (updated May 3, 2013); available at https://www.fws.gov/refuge/Hanford_Reach/Wildlife_Habitat/Wildlife.html.

⁸⁴ Washington Department of Fish and Wildlife. Washington State Species of Concern Lists (updated 2017); available at <http://wdfw.wa.gov/conservation/endangered/status/SE/>.

⁸⁵ Pacific Northwest National Laboratory. “What About the Hanford Reach?” (webpage).

Ferruginous Hawk	<i>Buteo regalis</i>	Threatened
Umtanum Desert Buckwheat	<i>Eriogonum codium</i>	Threatened
White Bluffs Bladderpod	<i>Physaria douglasii</i> ssp. <i>tuplashensis</i>	Threatened
White Pelican	<i>Pelecanus erythrorhynchos</i>	Threatened
Black-Tailed Jackrabbit	<i>Lepus californicus</i>	Candidate
Bull Trout	<i>Salvelinus confluentus</i>	Candidate
Burrowing Owl	<i>Athene cunicularia</i>	Candidate
Chinook Salmon (Upper Columbia (spring run))	<i>Oncorhynchus tshawytscha</i>	Candidate
Golden Eagle	<i>Aquila chrysaetos</i>	Candidate
Sockeye Salmon (Ozette Lake)	<i>Oncorhynchus nerka</i>	Candidate
Steelhead (Middle Columbia)	<i>Oncorhynchus mykiss</i>	Candidate
Steelhead (Upper Columbia)	<i>Oncorhynchus mykiss</i>	Candidate
Townsend's Ground Squirrel	<i>Urocitellus townsendii townsendii</i>	Candidate
Washington Ground Squirrel	<i>Urocitellus washingtoni</i>	Candidate

The significance of the Reach as both a migration corridor and spawning habitat for the Northwest's dwindling stocks of salmon is well documented. The Reach offers riffles, gravel bars, oxbow ponds, and backwater sloughs that support some of the most productive spawning areas in the Northwest. Approximately 80 percent of the upper Columbia Basin's fall chinook salmon spawn within the Hanford Reach.⁸⁶ As the last free-flowing, non-tidal stretch of the Columbia River, the Reach also serves as a migration corridor for several stocks of salmon and steelhead that spawn upstream of the Monument.

Forty-five other fish species important to the ecology of the Monument also occur in the Reach, including several fish species of special concern, such as mountain suckers, sandrollers, and Paiute and reticulate sculpins. A land locked isolated population of white sturgeon also occurs in the Reach. These waters may provide the only remaining, significant spawning habitat for this huge fish on the main stem of the Columbia River.⁸⁷

The Monument also provides critical habitat for the threatened and sensitive bird species. As described in President Clinton's proclamation, the Hanford Reach National Monument contains significant breeding populations of nearly all grassland and sagebrush steppe dependent birds, including loggerhead shrike, sage sparrow, sage thrasher, and ferruginous hawk. The Hanford Reach and surrounding wetlands provide important stop-over habitat for migratory and resident birds. The

⁸⁶ Proclamation 7319.

⁸⁷ The Nature Conservancy of Washington. 1997 The Columbia River's Hanford Reach and North Slope Lands'' The Nature Conservancy. Seattle, WA. (May 1997).

Monument also provides wintering habitat for bald eagles, white pelicans, and many species of waterfowl, such as mallards, green-winged teal, pintails, goldeneye, gadwall, and buffleheads.

Two plant species, the White Bluffs bladderpod and the Umtanum desert buckwheat, were discovered on the Hanford Site and are not known to exist anywhere else. Both the Umtanum desert buckwheat and White Bluffs bladderpod were listed as “threatened” under the ESA in 2013. Several other rare plant populations exist in the area, including dwarf evening primrose, Piper’s daisy, Snake River cryptantha, and desert dodder.⁸⁸ The Monument’s status and protections are essential to protecting these rare and sensitive plant species and communities in the region.

Hanford Reach National Monument is Consistent with Multiple-use Policy and Provides Significant Social and Economic Benefits to the Region and Communities

Hanford Reach National Monument supports a variety of multiple uses compatible with the purposes of the designation. Public use of the Monument doubled from approximately 20,000 visitors at the time of designation in 2000 to 43,000 annual visitors today. The Monument provides visitors a wide range of recreational options. Angling is the most popular activity, occurring year-round. The Monument has become a local and regional destination for salmon, steelhead, sturgeon and bass anglers. There are also regionally-significant opportunities for hunting waterfowl, upland birds and big game such as deer and elk. In fact, the largest elk in the state of Washington live in and frequent the Monument.⁸⁹ Visitors also enjoy hiking, birdwatching, horseback riding and nature photography at the Monument. The Columbia River itself is an especially popular feature for visitors to the Monument for boating, kayaking and canoeing, in addition to hunting and fishing.

Outdoor recreation is an increasingly important sector of the national and state economies, contributing a staggering \$730 billion to the national economy annually.⁹⁰ The Outdoor Industry Association estimated that in 2012, the last year for which data is available, outdoor recreation generated \$22.5 billion in consumer spending in Washington, \$7.1 billion in wages, \$1.6 billion in state and local tax revenue, and supported 227,000 jobs.⁹¹ Based on the 2012 state population of 6,897,000⁹² people, outdoor recreation generated \$234.68 in tax revenue per Washington resident,

⁸⁸ U.S. Fish and Wildlife Service. “Hanford Reach National Monument: Rare, Threatened or Endangered Species” (webpage) (updated Feb. 24, 2014); available at https://www.fws.gov/refuge/Hanford_Reach/Wildlife_Habitat/Rare_Species.html.

⁸⁹ U.S. Fish and Wildlife Service. “Hanford Reach National Monument: Wildlife” (webpage).

⁹⁰ The Wilderness Society. “National Monuments have a Monumental Impact on the U.S. Economy” (blog) (July 10, 2015); available at <http://wilderness.org/blog/national-monuments-have-monumental-impact-us-economy> (summarizing published data on the economic value of national monuments).

⁹¹ Outdoor Industry Association. “Advocacy: Outdoor Recreation Economy” (webpage); available at <https://outdoorindustry.org/advocacy/>.

⁹² Washington Office of Financial Management. April 1, 2017 Population of Cities, Towns and Counties Used for Allocation of Selected State Revenues, State of Washington; available at http://www.ofm.wa.gov/pop/april1/ofm_april1_population_final.pdf.

one of the highest per capita values in the nation. Additional analysis has found that conserving public lands, such as Hanford Reach National Monument, helps to “helps safeguard and highlight the amenities that attract people and businesses.”⁹³

The economic benefits provided by national monuments is reflected in communities surrounding Hanford Reach in Benton, Franklin and Grant counties. These communities experienced strong growth after its designation, continuing previous growth trends. From 2001, the year after the Monument was designated, to 2015, the region’s population grew by 37 percent, employment grew by 33 percent, real personal income grew by 59 percent, and real per capita income grew by 17 percent.⁹⁴ These trends mirror those documented in other parts of the West where national monuments have been designated. Eliminating, or reducing the size or protections afforded Hanford Reach National Monument could have negative impacts on local economies and communities that have come to depend on the designation.

CONCLUSION

Hanford Reach protects invaluable cultural, historic and scientific resources that provide immeasurable social and economic benefits to local communities and citizens across the United States. There is no question that these public lands warrant the protections provided under the Antiquities Act and that the designation is both consistent with the law as well as the policy set forth in section 1 of Executive Order 13792. The President lacks the legal authority to revoke or diminish a national monument and should additionally refrain from seeking legislative action or take any other action to undermine the designation.

⁹³ Headwaters Economics. 2017. Protected Lands and Economics: A Summary of Research and Careful Analysis on the Economic Impact of Protected Federal Lands; available at the https://headwaterseconomics.org/wp-content/uploads/Protected_Lands_Economics.pdf (citing D.A. McGranahan. 1999. Natural Amenities Drive Rural Population Change. Agric. Econ. Rep. No. 781. U.S. Department of Agriculture, Economic Research Service. Washington, DC).

⁹⁴ All economic data from U.S. Department of Commerce. 2016. Bureau of Economic Analysis, Regional Economic Accounts, Washington, DC; U.S. Department of Commerce. 2017. Census Bureau, County Business Patterns, Washington, DC.