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Last Lake Standing: Clean Water Act Jurisdiction in the Alaskan Frontier After *Rapanos v. United States*

by Matthew A. Axtell

Editors' Summary: Environmental professionals continue to consider the implications of the 2006 U.S. Supreme Court landmark decision regarding CWA jurisdiction, Rapanos v. United States. In this Article, Matthew A. Axtell uses Justice William O. Douglas' travel description of Alaska's Last Lake as a hypothetical to test the potential impact of the 2001 SWANCC decision as well as Rapanos on the federal government's CWA authority in Alaska. He begins by analyzing the CWA regulatory regime that applied for many years to Alaskan tundra wetlands before SWANCC and Rapanos. He then suggests that the broad assertions of federal authority under the old regime merit reevaluation in light of the Supreme Court's recent decisions. Finally, he applies concepts and guidance derived from SWANCC and Rapanos to the Last Lake hypothetical, studying whether the area may possess the physical, chemical, biological, and hydrological characteristics now necessary to qualify as a water of the United States subject to the CWA.

In 1893, with a recent census announcing the settlement of the American West, the historian Frederick Jackson Turner solemnly noted that “now, four centuries from the discovery of America . . . the frontier has gone.”¹ Only five years later, however, Alaska emerged as the nation's new “Last Frontier,” with thousands visiting Glacier Bay by cruise ship, and thousands more passing through Juneau, Skagway, and St. Michael on their way to the Klondike Gold Rush. Throughout Alaska's history, some have viewed the state's seemingly limitless store of natural resources from a pioneer perspective, calling for settlement, development, and resource extraction on par with frontier territories in the “Lower 48.” Others have attempted to preserve Alaska as America's “last great wilderness,” arguing against the introduction of roads, industry, and agriculture.² Tensions between these viewpoints manifest in present-day legal battles over goldmines,³ oil and gas extraction,⁴ and forestry⁵ in the Last Frontier.

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1. See Frederick Jackson Turner, *The Significance of the Frontier in American History*, in REREADING FREDERICK JACKSON TURNER 31-60 (John Mack Faragher ed., Yale Univ. Press 1998).
2. See RODERICK FRAZIER NASH, WILDERNESS AND THE AMERICAN MIND 272-315 (Yale Univ. Press 4th ed. 2001).
3. See Southeast Alaska Conservation Council v. Corps of Eng'rs, 486 F.3d 638, 37 ELR 20068 (9th Cir. 2007); Bering Strait Citizens for Responsible Resource Dev. v. Corps of Eng'rs, No. 07-35506, 2008 WL 1885741, 38 ELR 20004 (9th Cir. Jan. 3, 2008).

One of the most steadfast proponents of the preservationist approach toward Alaska in the 20th century was U.S. Supreme Court Justice William O. Douglas. In the late 1950s, Justice Douglas accompanied a scientific expedition into the Brooks Range, camping on the banks of what he described as a “pothole filled with dark blue water and over 200 acres in size.” The leaders of the expedition named the water body, only accessible by pontoon plane, “Last Lake.” During his visit, Justice Douglas concluded that Last Lake's tundra environment was “perishable” and “fragile,” pronouncing that “[t]his is—and must forever remain—a roadless, primitive area where all food chains are unbroken, where the ancient ecological balance provided by nature is maintained [as] our last sanctuary.”⁶ As a Sierra Club member, Justice Douglas successfully lobbied to include the lake and similar areas within the Arctic National Wildlife Refuge.⁷

4. See Robert Corbisier, *The Arctic National Wildlife Refuge, Correlative Rights, and Sourdough: Not Just for Bread Anymore*, 19 ALASKA L. REV. 393-431 (2002); Bonnie Docherty, *Challenging Boundaries: The Arctic National Wildlife Refuge and International Environmental Law Protection*, 10 N.Y.U. ENVTL. L.J. 70-116 (2001).
5. See Martin Nie, *Governing the Tongass: National Forest Conflict and Political Decision Making*, 36 ENVTL. L. 385-480 (2006).
6. See WILLIAM O. DOUGLAS, MY WILDERNESS: THE PACIFIC WEST 23, 30 (Doubleday 1960).
7. See NASH, *supra* note 2, at 293. For more on Douglas' environmental activism, see Adam Sowards, *William O. Douglas' Wilderness Politics: Public Protest and Committees of Correspondence*, 37 WESTERN HIST. Q. 21-42 (2006); Adam Sowards, *Modern Ahabs in Texas: William O. Douglas and Lone Star Conservation*, 44 J. WEST

Notwithstanding the site's current protected status, if an industrial interest were to obtain access to Last Lake and its surroundings and then proceed to dump, spill, or otherwise discharge pollutants without a permit, would the U.S. government have any recourse under the federal Clean Water Act (CWA)? If Justice Douglas wrote the opinion for the Supreme Court, the answer would be yes. During his time on the bench, Justice Douglas authored opinions that allowed governmental plaintiffs to bring suit under CWA predecessors to recover oil spill response costs and enforce water quality standards.⁸ But he left the Court in 1975, replaced by Justice John Paul Stevens. Today, it is less clear whether unpermitted discharges into areas like the Last Lake ecosystem would be subject to CWA regulation. In 2001 and 2006, Justice Stevens, himself a sympathetic Justice on environmental issues, wrote dissenting opinions in *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers (SWANCC)*,⁹ and *Rapanos v. United States*,¹⁰ cases appearing to restrict the geographic scope of federal jurisdiction under the CWA.

This Article uses Justice Douglas' description of Last Lake as a hypothetical to test the potential impact of *SWANCC* and *Rapanos* on the federal government's CWA authority in Alaska. In CWA enforcement matters, federal courts typically regard the question of whether the affected geographic area at issue qualifies as a water of the United States to be an element of the case.¹¹ Synthesizing relevant sections, the CWA applies civil and criminal sanctions to any "person" who discharges pollutants from a point source without a permit into an area that meets the definition of "navigable waters," further defined as "waters of the United States."¹² Thus, if the federal government were to proceed with an enforcement action for a discharge into Last Lake, it would be required to prove that the affected area constitutes a "water of the United States."

I. Alaska's Old Right Regulatory Regime Before *SWANCC* and *Rapanos*

Writing for the four-Justice plurality in *Rapanos*, Justice Antonin Scalia condemned what he termed "the immense expansion of federal regulation of land use that has occurred under the Clean Water Act—without any change in the governing statute—during the past five presidential administra-

tions."¹³ The CWA regulates discharges of pollutants into waters of the United States under two permitting regimes: (1) §404, regulating the discharge of "dredged or fill material" and implemented by the U.S. Army Corps of Engineers (Corps)¹⁴; and (2) §402, regulating the discharge of all other pollutants and implemented by the U.S. Environmental Protection Agency (EPA).¹⁵ Both regimes share the same definition of the term "water of the United States,"¹⁶ which EPA has the "overall authority" in interpreting.¹⁷

According to Justice Scalia, federal regulatory agencies had, by the time of *Rapanos*, "interpreted their jurisdiction over 'the waters of the United States' to cover 270-to-300 million acres of swampy lands in the United States—including half of Alaska," and had simply gone too far.¹⁸ While Justice Douglas would have countered that Alaska's "swampy lands" were in fact bursting with life and deserved such protection, Justice Scalia was correct that before *SWANCC* and *Rapanos*, the United States asserted broad CWA regulatory authority over virtually all tundra in the state. In 1979, the Corps took the lead in identifying the geographic extent of CWA regulation in Alaska, asserting §404 authority over all "wet and moist tundra in Alaska" as waters of the United States.¹⁹ This assertion occurred after almost one-half of the gravel on Alaska's North Slope had already been put into place to facilitate oil production,²⁰ and two years after the Corps had extended its regulatory program to the "maximum extent permissible under the Commerce Clause of the Constitution."²¹

The scope of the federal government's assertion of regulatory authority over Alaskan tundra was indeed immense. As reported by federal agencies, wetlands as a whole are more abundant in Alaska than in any other region of the United States, comprising approximately 43% of the state's surface area, or approximately 175 million acres, greater than 1.6 times the total size of California.²² In comparison, the entire remainder of the United States contains approximately 103 million acres of wetlands.²³ Federal agencies have also estimated that approximately 83% of the total land area of the Arctic coastal plain displays wetlands characteristics.²⁴ To date, however, the federal government has produced little, if any, detailed legal or scientific analysis to support its broad assertion of regulatory authority. For instance, when determining whether particular areas are subject to CWA jurisdiction in the Lower 48, the

39-46 (2005); Richard Huber, *William O. Douglas and the Environment*, 5 ENVTL. AFF. 209-12 (1976).

8. See *Illinois v. City of Milwaukee*, 406 U.S. 91, 106-07, 2 ELR 20201 (1972) (Douglas, J.) (enforcement of state water quality standards); *Askew v. American Waterways Operators, Inc.*, 411 U.S. 325, 335, 3 ELR 20362 (1973) (Douglas, J.) (recovery of oil spill response costs).

9. 531 U.S. 159, 31 ELR 20382 (2001).

10. 126 S. Ct. 2208, 36 ELR 20116 (2006).

11. See *United States v. Interstate Gen. Co.*, 152 F. Supp. 2d 843, 849, 32 ELR 20781 (D. Md. 2001); *United States v. Evans*, No. 3:05 CR 159 J 32HTS, 2006 WL 2221629, at *16, 36 ELR 20165 (M.D. Fla. 2006); U.S. Sentencing Memorandum, *United States v. McWane, Inc.*, No. 2:04-CR-199-RBP-RRA 28 (N.D. Ala. Dec. 1, 2005), at n.27.

12. Section 301(a) renders "unlawful" the "discharge of any pollutant" except in compliance with a permit under the CWA. As defined in the CWA, "discharge" includes the "discharge of a pollutant," which in turn includes "any addition of a pollutant to navigable waters from a point source." See 33 U.S.C. §1362(7). The CWA defines "navigable waters" as "the waters of the United States, including the territorial seas." See 33 U.S.C. §1362(12).

13. See 126 S. Ct. at 2215.

14. See 33 U.S.C. §1344.

15. See *id.* §1342.

16. See 40 C.F.R. §122.2 (2004) (EPA definition); 33 C.F.R. §328.3 (2004) (Corps definition).

17. See 43 Op. Att'y Gen. No. 15, at 5 (Sept. 5, 1979).

18. See 126 S. Ct. at 2215.

19. See U.S. GOVERNMENT ACCOUNTABILITY OFFICE, *ALASKA'S NORTH SLOPE: REQUIREMENTS FOR RESTORING LANDS AFTER OIL PRODUCTION CEASES* 41 (2002) (GAO-02-357).

20. *Id.*

21. See *Natural Resources Defense Council v. Callaway*, 392 F. Supp. 685, 686, 5 ELR 20285 (D.D.C. 1975); U.S. Dep't of the Army, *Permits for Activities in Navigable Waters or Oceans*, 40 Fed. Reg. 31320, 31326 (July 25, 1975).

22. See U.S. EPA ET AL., *ALASKA WETLANDS INITIATIVE SUMMARY REPORT* 2 (1994).

23. *Id.*

24. See U.S. EPA ET AL., *ALASKA WETLANDS INITIATIVE FINAL ISSUE PAPERS* 63-64 (1994).

Corps and EPA typically utilize U.S. Fish and Wildlife Service (FWS) National Wetlands Inventory (NWI) and U.S. Geological Survey (USGS) maps as support documentation.²⁵ But in Alaska, NWI maps apparently do not exist for areas north of the Brooks Range. Meanwhile, USGS maps for areas such as the North Slope were generally last updated in 1955 and 1975, prior to the commencement of oil extraction activities.²⁶

The United States has successfully avoided challenges to its broad assertions of CWA authority over Alaskan tundra by reducing procedural and substantive burdens on permit applicants. By 1981, oil and gas activities on the North Slope were covered by three General Permits.²⁷ From 1983 to 1989, the Corps instituted an “Abbreviated Processing Procedure” for oil and gas projects that authorized the discharge of dredged or fill material without any requirements for compensatory mitigation.²⁸ In 1983, still faced with the self-imposed burden of regulating nearly one-half of Alaska under the CWA, the Corps also considered issuing regulations clarifying the scope of CWA jurisdiction over “unusual areas such as the Arctic tundra which don’t neatly fit into a generic definition.”²⁹ A decade later, EPA proposed to exempt all Alaskan wetlands from mitigation requirements under CWA permitting programs until 1% of the state’s wetlands had been developed.³⁰ While the rule was eventually withdrawn, EPA and the Corps issued guidance recognizing that compensatory mitigation—the process of replacing filled wetlands with areas of similar ecological value—was not required in Alaska.³¹

Today, while permit applicants in Alaska may avail themselves to abbreviated permitted procedures and limited mitigation requirements, there are no court-reported instances of the United States actually enforcing its “all wet and moist Alaskan tundra” position in a prosecutorial context. In our hypothetical, a federal enforcement action at Last Lake would present a novel opportunity for defense counsel to challenge the federal government’s broad assertion of regulatory authority over all Alaskan tundra.

II. Alaska’s New Regulatory Regime Under *SWANCC* and *Rapanos*

Broad assertions of CWA regulatory jurisdiction in Alaska merit reevaluation in light of *SWANCC* and *Rapanos*. CWA

25. See U.S. EPA & U.S. ARMY CORPS OF ENGINEERS, APPROVED JURISDICTIONAL DETERMINATION FORM 8 (2007) [hereinafter APPROVED JD FORM].
26. See USGS MAP, BEECHY POINT B-4, B-3, B-2, A-3 (1955 base maps with 1970s revisions).
27. See ALASKA DISTRICT, U.S. ARMY CORPS OF ENGINEERS, GENERAL PERMITS NOS. 81-I, 81-II, 81-III (1981).
28. See ALASKA WETLANDS INITIATIVE FINAL ISSUE PAPERS, *supra* note 24, at 21.
29. See U.S. Dep’t of the Army, Proposal to Amend Permit Regulations for Controlling Certain Activities in Waters of the United States, 48 Fed. Reg. 21466, 21467 (May 12, 1983).
30. See U.S. EPA, Exception From Wetlands Mitigation Sequence for Alaska, 57 Fed. Reg. 52716 (Nov. 4, 1992). See also ROBERT W. PAGE & LAJUANA S. WILCHER, U.S. DEP’T OF THE ARMY & U.S. EPA, MEMORANDUM OF AGREEMENT BETWEEN THE DEPARTMENT OF THE ARMY AND THE ENVIRONMENTAL PROTECTION AGENCY, THE DETERMINATION OF MITIGATION UNDER THE CLEAN WATER ACT SECTION 404(b)(1) GUIDELINES 14 n.7 (1990).
31. See ALASKA WETLANDS INITIATIVE SUMMARY REPORT, *supra* note 22.

law has changed considerably since the United States began asserting its all wet and moist Alaska tundra position in 1979. The mid-1980s witnessed the height of permissive CWA regulation, beginning with *United States v. Riverside Bayview Homes*.³² There, the Supreme Court upheld CWA jurisdiction over wetlands adjacent to and directly abutting a navigable-in-fact creek.³³ A year later, the Corps and EPA published the Migratory Bird Rule, which defined isolated waters that could be used as habitat by migratory birds or endangered species as waters of the United States under the CWA.³⁴ Both *Riverside Bayview* and the Migratory Bird Rule coincided with the implementation of the federal government’s “all wet and moist tundra” regulatory position in Alaska.

Beginning in 2001, a more skeptical Supreme Court revisited the definition of waters of the United States on two occasions, increasingly drawing a more restricted view of federal jurisdiction. In *SWANCC*, the Court reviewed the federal government’s assertion of CWA jurisdiction over seasonally ponded, intrastate, non-navigable sand and gravel pits based solely upon their use by migratory birds.³⁵ In invalidating the Migratory Bird Rule, the Court noted that while *Riverside Bayview* held that the word navigable in the definition of “waters of the United States” was of “limited import,” it still had some effect: “The term ‘navigable’ has at least the import of showing us what Congress had in mind as its authority for enacting the CWA: its traditional jurisdiction over waters that were or had been navigable in fact or which could reasonably be so made.”³⁶

In *Rapanos*, the Court again addressed the limits of CWA jurisdiction, granting certiorari in part to review a decision by the U.S. Court of Appeals for the Sixth Circuit that CWA jurisdiction extended to wetlands that were adjacent to tributaries of navigable-in-fact waters.³⁷ The state of Alaska filed an amicus brief in opposition to the Sixth Circuit ruling, explaining that “under the Sixth Circuit analysis, wetlands located tens, or even hundreds of miles from the nearest navigable water body would be subject to federal jurisdiction.” According to the state, such an analysis was “particularly confounding in Alaska, since many of the wetlands or waters that may be subject to public or private development are often located many miles from a navigable water body, or the waters that emanate from them have no significant impact on the flow or condition of the navigable water body.”³⁸

The Supreme Court reversed the Sixth Circuit in *Rapanos*, remanding the case for further proceedings. In the plurality opinion by Justice Scalia, four Justices held that the lower court should determine “whether the ditches or drains near each wetland are ‘waters’ in the ordinary sense of containing a relatively permanent flow; and (if they are) whether the wetlands in question are ‘adjacent’ to these ‘waters’ in the sense of possessing a continuous surface connec-

32. 474 U.S. 121, 16 ELR 20086 (1985).

33. See *id.* at 131-32.

34. See U.S. Dep’t of the Army, Final Rule for Regulatory Programs of the Corps of Engineers, 51 Fed. Reg. 41206, 41217 (Nov. 13, 1986).

35. See 531 U.S. at 159.

36. See *id.* at 171-72.

37. See 126 S. Ct. at 2208.

38. Brief of Amici Curiae for States of Alaska et al. at 10, *Rapanos v. United States*, 126 S. Ct. 2208 (2006) (Nos. 04-1034, 04-1384).

tion.”³⁹ While concurring in the plurality result, Justice Anthony M. Kennedy announced a different jurisdictional test, concluding that the lower court should determine “whether the specific wetlands at issue possess a significant nexus with navigable waters.”⁴⁰ As in *SWANCC*, Justice Stevens, the dutiful successor of Justice Douglas, wrote a four-Justice dissent that would have upheld CWA jurisdiction.⁴¹

Following *Rapanos*, EPA and the Corps issued guidance supporting regulatory jurisdiction over water bodies in instances where either the Scalia plurality or the Kennedy concurrence tests were met. The guidance also placed jurisdictional water bodies into two groups: (1) waters where the agencies would assert regulatory jurisdiction “categorically”; and (2) waters where the agencies would assert jurisdiction only on a case-by-case basis following a “significant nexus analysis.” Under the categorical grouping, EPA and the Corps assert jurisdiction over traditional navigable waters and their adjacent wetlands, over non-navigable “relatively permanent tributaries” of traditional navigable waters, and over adjacent wetlands with a continuous surface connection with and directly abutting a relatively permanent, non-navigable tributary. Under the case-by-case grouping, EPA and the Corps assert jurisdiction over the following types of waters when they exhibit a significant nexus with a traditional navigable water: (1) non-navigable tributaries that are not relatively permanent; (2) wetlands adjacent to non-navigable tributaries that are not relatively permanent; and (3) wetlands adjacent to, but not directly abutting, a relatively permanent tributary.⁴²

According to federal *Rapanos* guidance, Justice Kennedy’s significant nexus analysis assesses the flow characteristics, aquatic functions, hydrology, and ecology of the tributary itself and its adjacent wetlands, testing to see whether they collectively affect the chemical, physical, and biological integrity of downstream traditional navigable waters in a manner that is neither “speculative” nor “insubstantial.”⁴³ Federal guidance also states that ephemeral streams and “swales or erosional features” characterized by low or short duration flow are unlikely to be waters of the United States after *Rapanos*.⁴⁴ Finally, guidance documents state that areas merely transporting overland flow after rain or snowmelt events are also generally not “waters of the United States.”⁴⁵

In the U.S. Court of Appeals for the Ninth Circuit, the Kennedy significant nexus test now provides the “controlling rule of law” to determine whether adjacent wetlands are considered “waters of the United States” under the CWA. In *Northern California River Watch v. City of Healdsburg*,⁴⁶

the Ninth Circuit ruled that a pond that actually drained into the Russian River satisfied the significant nexus test. Specifically, the court found (1) that the discharge of pollutants into the pond increased chloride levels in the river, (2) that the pond shared an “indistinguishable ecosystem” with the river, and (3) that the pond shared both an “actual surface connection” and “underground hydrologic connection” with the river.⁴⁷ In contrast, in *San Francisco Baykeeper v. Cargill Salt Division*,⁴⁸ the Ninth Circuit found that a pond separated by an earthen levee from the Mowry Slough, a navigable tributary of the San Francisco Bay, did not have the requisite significant nexus. The Ninth Circuit concluded that the effect of the pond on the slough was “speculative” and “insubstantial”; the United States had not provided any “evidence that any water has ever flowed from the Pond to the Slough.”⁴⁹

SWANCC, *Rapanos*, and the Ninth Circuit’s progeny signal the closure of an era of permissive CWA regulation. In Alaska, the federal government can no longer rely upon *Riverside Bayview* and the Migratory Bird Rule to regulate, ab initio, “all wet and moist Alaska tundra” as waters of the United States under the CWA. Instead, the United States must now provide evidence that is not speculative or insubstantial that the specific tundra area in question possesses a significant nexus with traditional navigable waters, such as evidence of an indistinguishable ecosystem with or actual surface or underground flow to traditional navigable waters.

III. The New Regime Applied to the Last Lake Hypothetical

In conjunction with its new *Rapanos* guidance, the Corps and EPA circulated a revised approved jurisdictional determination (JD) form for regulators and permit applicants to use in analyzing whether sites are subject to the CWA.⁵⁰ The Corps’ Alaska district in fact encourages all “permit applicants and others requiring jurisdictional determinations” to conduct their own preliminary JDs under the CWA.⁵¹ Were an unauthorized discharge to occur at Last Lake and the federal government to respond with a CWA enforcement action, defense counsel might consider retaining a wetlands expert to visit the site to collect and analyze data under the new post-*Rapanos* federal JD form, testing the area for CWA jurisdiction under both the continuous surface connection and significant nexus tests.

Last Lake is located approximately one-half mile from the Sheenjek River, which then empties into the Yukon River 100 miles downstream. The Yukon River in turn is listed by the Corps as a traditional navigable water of the United States.⁵² In our imaginary site visit by defense ex-

39. See 126 S. Ct. at 2235.

40. *Id.* at 2252.

41. *Id.* at 2252-65.

42. See U.S. EPA & U.S. ARMY CORPS OF ENGINEERS, CLEAN WATER ACT JURISDICTION FOLLOWING THE U.S. SUPREME COURT’S DECISION IN *Rapanos v. United States* and *Carabell v. United States* 4-11 (2007).

43. *Id.* at 10.

44. *Id.* at 11.

45. U.S. ARMY CORPS OF ENGINEERS, JURISDICTIONAL DETERMINATION FORM INSTRUCTIONAL GUIDEBOOK 16 (2007) [hereinafter GUIDEBOOK].

46. 496 F.3d 993, 999-1000, 37 ELR 20202 (9th Cir. 2007). See also *United States v. Moses*, 496 F.3d 984, 990, 37 ELR 20206 (9th Cir. 2007) and *Environmental Protection Information Ctr. v. Pacific Lumber Co.*, 469 F. Supp. 2d 803, 37 ELR 20012 (N.D. Cal. 2007).

47. See 496 F.3d at 1000. In *Moses*, the Ninth Circuit similarly found evidence to establish a significant nexus between a segment of the Teton Creek and the Teton and Snake rivers, where “water actually flow[ed]” from the Teton Creek in a “high, even torrential” flow for two months per year.

48. 481 F.3d 700, 37 ELR 20061 (9th Cir. 2007).

49. See *id.* at 708.

50. See APPROVED JD FORM, *supra* note 25, app.

51. See ALASKA DISTRICT, U.S. ARMY CORPS OF ENGINEERS, SPECIAL PUBLIC NOTICE 92-99 (1992).

52. Justice Douglas’ camp at Last Lake had the following coordinates: 68° 36’ N., 143° 45’ W. See Douglas, *supra* note 6, at 10. For the relationship of the Sheenjek River to the Yukon River, see

perts, the primary objective would be to observe the hypothetically most probable surface and near-surface hydrologic flow path from Last Lake to the Sheenjek, and then to the Yukon. First, the expedition would chart possible flow paths using available aerial photography and elevation measurements. Next, the team would test its hypotheses by walking the possible flow path in the field, observing and recording hydrological, physical, chemical, and biological data from points along the way.⁵³ The team could also conduct a “tracer test,” placing concentrated dye or food coloring into a water body to track flow velocities and destinations.⁵⁴ Finally, to maximize opportunities for finding sufficient hydrologic connections during ordinary wet conditions, the visit would likely occur within the federally defined “growing season” for the Brooks Range (May 30 to September 24),⁵⁵ and during the region’s snow-free “open water season” between ice break-up and freeze-up. Visits during the break-up period would be less revealing because, as explained above, areas merely transporting overland flow after snowmelt events are generally no longer waters of the United States after *Rapanos*.

While no site visit to Last Lake was conducted for the purposes of this Article, we do have Justice Douglas’ own description of the area. He visited in late August, during the growing season of the Brooks Range. According to Justice Douglas, the lake was “alive with birds,” full of grayling fish and aquatic insects, and ringed with fox, lynx, weasels, sheep, and caribou. After *SWANCC*, however, such vibrant diversity in migratory fauna is not sufficient to grant CWA jurisdiction. While the general area was full of wildlife, Justice Douglas also noted that his pothole lake was “isolated,” separated from the Sheenjek River by “swampy” tundra. At the same time, permafrost lay 14 inches belowground, acting as “an impervious layer which prevents normal drainage.” Moreover, although some pools and tributaries appeared to drain the lake at times of high surface water flow, “overflow ice” that was “frozen all summer” effectively blocked the sluices that he observed. Justice Douglas also noted that the region received only “slight” snow and precipitation, approaching “semidesert” conditions.⁵⁶

Given Justice Douglas’ description, it is possible that there would be no contiguous, flowing “tributary,” i.e., a flowing, channelized water body with a reliable ordinary high watermark, bed, and banks,⁵⁷ or any other hydrological

linkages extending from Last Lake to the Sheenjek or Yukon rivers. During the open water and growing season, the lake apparently did not receive a direct flow of water from other streams or lakes, nor emit a direct flow of water through its permanently blocked sluices to traditional navigable waters or their tributaries. Justice Douglas’ description also does not provide evidence of standing water connecting the lake with other tributaries. Instead, he observed that the lake was merely surrounded by diffuse and “swampy” tundra and potholes, areas perhaps best categorized as non-jurisdictional “swales or erosional features.”

Justice Douglas’ description makes it possible to imagine that the United States would be unable to produce sufficient evidence under *Rapanos* to prove that Last Lake and its immediate surroundings are subject to CWA regulatory enforcement as waters of the United States. The data indicate, for instance, that Last Lake does not fall within any categorically jurisdictional water bodies under the *Rapanos* plurality opinion. First, the lake is not a traditionally navigable water body, as it is not on the Corps’ federal list of Alaskan traditional navigable waters,⁵⁸ and is not subject to the ebb and flow of the tide.⁵⁹ Second, the lake is not a relatively permanent tributary because it does not carry flow directly or indirectly to traditionally navigable waters either year-round or seasonally, i.e., at least three months, through a channel with a “reliable” ordinary high watermark characterized by a bed and banks.⁶⁰ Instead, Justice Douglas’ pothole appears merely to be a relatively self-contained lake. Third, the data indicate that the lake area, separated from the Sheenjek River by swampy tundra, is not necessarily an adjacent, i.e., “bordering, neighboring, or contiguous,” wetland with a continuous surface connection to and “directly abutting” a relatively permanent tributary.

Last Lake may also fall outside of the categories subject to Justice Kennedy’s significant nexus analysis. First, for the same reason that Last Lake does not qualify as a relatively permanent tributary, it does not qualify as a non-relatively permanent tributary; the lake itself is not a channelized stream with an ordinary high watermark, bed, and banks carrying flow to a traditional navigable water. Second, the lake area is possibly not a wetland adjacent to a non-relatively permanent tributary. While the lake may be bordering, neighboring, or contiguous to diffuse soil surface saturation and seasonally or semi-inundated tundra, the only tributaries to the Sheenjek River that Justice Douglas observed were blocked by seemingly permanent ice formations. Third, at approximately one-half mile from the Sheenjek River, the lake area may not be sufficiently adja-

water.usgs.gov/yukon/program/design/2001Sites.php#fixed_sites (last visited Nov. 29, 2007).

53. Such data could include comparative data for Last Lake, the Sheenjek River, and the Yukon River on flow directions, flow velocity, applicable culvert data, high watermark observations, numbers of barriers, soil and vegetation types observed, macro-invertebrates observed, and water quality data (water temperature, conductivity, pH (concentration of hydrogen ions), salinity, dissolved solids, and oxygen contents).
54. The tracer test process is discussed in *United States v. Robison*, No. 05-17019, 2007 U.S. App. LEXIS 24825, at *4 (11th Cir. Oct. 24, 2007). A senior Corps expert in wetlands law has described this method as “the basic test for CWA jurisdiction.” See Lance D. Wood, *Don’t Be Misled: CWA Jurisdiction Extends to All Non-Navigable Tributaries of the Traditional Navigable Waters and to Their Adjacent Wetlands*, 34 ELR 10187 n.140 (Feb. 2004).
55. See ALASKA DISTRICT, U.S. ARMY CORPS OF ENGINEERS, SPECIAL PUBLIC NOTICE 06-445, PUBLICATION AND TRIAL IMPLEMENTATION OF ALASKA INTERIM REGIONAL SUPPLEMENT TO THE 1987 WETLAND DELINEATION MANUAL attach. 1 (2006).
56. See Douglas, *supra* note 6, at 10-22.
57. See GUIDEBOOK, *supra* note 45, at 55.

58. See ALASKA DISTRICT, U.S. ARMY CORPS OF ENGINEERS, NAVIGABLE WATERS (2008), available at <http://www.poa.usace.army.mil/reg/NavWat.htm> (Corps list of “navigable waters” of Alaska).

59. See 33 C.F.R. §328.3(a)(1) for definition of “waters of the United States” including “all waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide.” Federal jurisprudence elaborates on this jurisdictional ground for jurisdiction, stating that tidal areas below the mean high tide line are subject to the “navigational servitude,” i.e., “the power of Congress to keep the [water] open and its navigation unobstructed.” See *Willink v. United States*, 240 U.S. 572 (1916); *United States v. Stoeco Homes Inc.*, 498 F.2d 597, 4 ELR 20390 (3d Cir. 1974). Corps regulations also explain in part that tidal waters “end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by hydrologic, wind, or other effects.” See 33 C.F.R. §328.3(f).

60. See GUIDEBOOK, *supra* note 45, at 55.

cent to a relatively permanent tributary of a traditional navigable water to be jurisdictional.

Even assuming that the lake area were subject to Justice Kennedy's case-by-case analysis, Justice Douglas' data indicate that the site may not demonstrate the requisite significant nexus with either the Sheenjek or Yukon rivers to qualify as a water of the United States. Geographic proximity to traditional navigable waters is one factor to consider when testing for a significant nexus.⁶¹ In our case, however, tracing the most likely path of possible flow by reference to aerial photography (a flow path which may actually be nonexistent on the ground) results in the lake being over 100 miles from the Yukon River. Significant nexus analyses also call for an examination of the volume, duration, and frequency of flow from the area in question to traditional navigable waters.⁶² At Last Lake, however, Justice Douglas did not observe a contiguous path of surface water flow to a relatively permanent tributary in August, during the Brooks Range's open water season. Moreover, unlike *Healdsburg*, there was no groundwater connection from the Last Lake area to outer waters, as the site was underlain by impervious permafrost, preventing subsurface water flow.⁶³ Furthermore, as noted by Justice Douglas, much of the Arctic is semidesert landscape, receiving little annual precipitation. With little water entering the system from above, any seasonal inundation surrounding Last Lake was possibly evidence of a lack of water circulation rather than evidence of any outward flow. These facts also suggest that the lake may not be linked to a pathway capable of carrying pollutants to any traditionally navigable water or relatively permanent tributaries.⁶⁴

Further undermining a potential finding of significant nexus would be data demonstrating that unlike in *Healdsburg*, the lake area does not share an "indistinguishable ecosystem" with traditional navigable waters. During their site visit, for instance, defense experts may observe and record distinctions in vegetation, salinity content, and macro-invertebrate populations between Last Lake and the Sheenjek and Yukon rivers.

Finally, in conducting a significant nexus analysis at Last Lake, it is important to note that the federal government routinely authorizes the unmitigated fill of Alaskan wetlands in

areas much larger than many unauthorized discharges. The United States allows such fills under General Permits for activities such as placer mining, commercial development, and North Slope oil and gas extraction activities, determining the activities to have "minimal impacts."⁶⁵ The Corps has made similar determinations for activities authorized under individual §404 permits. In *Bering Strait Citizens for Responsible Resource Development v. U.S. Army Corps of Engineers*,⁶⁶ for instance, the Corps authorized an open pit mining project resulting in the net loss of 170.5 acres of wetlands near Nome, Alaska, after finding that the project would not "cause or contribute to significant degradation of waters of the United States," and would "likely have no impact on the greater ecosystem beyond the project site." In a pioneer-friendly ruling, the Ninth Circuit upheld the Corps' decision, noting the marginal incremental ecological benefits provided by the filled wetlands; as determined by the Corps, the filled wetlands were "not unique to the site," and the FWS had found that they were "the 'common habitat in the Alaska and the Nome region,' exceeding forty percent of the land in the State of Alaska."⁶⁷ Given that the federal government has already determined that permanent, unmitigated wetland fill from such mining operations causes only "minimal" and insignificant adverse environmental effects either individually or cumulatively, it may be difficult to show that pollutants from an unauthorized discharge incident are, at the same time, capable of having a "significant" harmful impact on traditional navigable waters many miles away.⁶⁸ Indeed, state environmental officials and scientists have recently stated that there is "scant evidence" that any oil spills on Alaska's North Slope have caused any long-term environmental damage.⁶⁹

IV. Conclusion

Taken together, Justice Douglas' observations and the facts from our imaginary site visit potentially demonstrate that the Last Lake area is not subject to CWA regulation as waters of the United States. But even if Last Lake were to fail Justice Scalia or Kennedy's tests for jurisdiction, this is not to say that all wet and moist tundra in Alaska is suddenly exempt from CWA regulation after *Rapanos*. Such a position, like the federal government's "all wet and moist tundra is waters of the United States" position, would be overbroad. Rather, after *Rapanos*, in order to regulate a particular area under the CWA, the federal government must now first provide site-specific evidence that is not speculative or insubstantial that the area indeed qualifies as a water of the United States. In the Last Lake hypothetical, our area could possi-

61. See APPROVED JD FORM, *supra* note 25, at 5.

62. See *id.* at 6.

63. See ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION, TUNDRA TREATMENT GUIDELINES (2005); P.J. WILLIAMS & M.W. SMITH, THE FROZEN EARTH: FUNDAMENTALS OF GEOCRYOLOGY (Cambridge 1989). But see B.J. Moorman, *Glacier-Permafrost Hydrology Interactions, Bylot Island, Canada*, in CRYOSPHERIC SYSTEMS: GLACIERS AND PERMAFROST (C. Harris et al. eds., Geological Society 2005) (subsurface flow through discontinuous, heated permafrost in limited cases). In the federal courts, one plaintiff has argued that Alaskan permafrost wetlands are incapable of having a "growing season," and thus cannot be classified as "wetlands" under federal wetlands delineation processes. See *Fairbanks N. Star Borough v. Corps of Eng'rs*, No. 4:06-CV-0026 (D. Alaska filed Aug. 28, 2006). It remains to be seen whether the effects of global climate change may in the future increase groundwater flow in Alaska due to thawing Arctic permafrost.

64. In certain cases, it is possible to imagine that the absence of any obvious physical connection may support a finding of significant nexus due to a particular wetland's pollutant-trapping, flood control, or runoff-storage functions. See *Rapanos v. United States*, 126 S. Ct. 2208, 2248, 36 ELR 20116 (2006) (Kennedy, J. citing filtering functions of wetlands). The burden of proving the existence of these functions and their significance in a particular case, however, like the burden of proving a physical connection, falls on the federal government, not the defendant, in an enforcement case.

65. See U.S. EPA, NPDES PERMIT NUMBER 14 (2003) (AKG-33-0000—formerly AKG-31-0000) (North Slope oil and gas extraction activities); see also <http://www.poa.usace.army.mil/reg/gps.htm> (list of Corps regional permits within the state of Alaska).

66. No. 07-35506, 2008 WL 1885741, 38 ELR 20004 (9th Cir. Jan. 3, 2008).

67. See *id.*

68. In Alaska, the very idea of what constitutes a "significant" environmental impact could be subject to debate. Preservationists such as Justice Douglas, conditioned to view the state's "complete ecosystems" as fragile and perishable, would likely find more environmentally detrimental incidents than "pioneers" (such as the Ninth Circuit in *Bering Strait*) apt to view the state's resources as virtually limitless and capable of absorbing most ecological stress.

69. See Jeannette Lee, *Slope Spills Range From Crude Oil to Saltwater*, ANCHORAGE DAILY NEWS, Aug. 13, 2007, at A1.

bly fail post-*Rapanos* tests for jurisdiction if sufficient facts were to establish the lake's physical, chemical, and biological isolation from the traditional navigable waters of the Yukon River.

JDs such as our imaginary site visit are costly and logistically challenging affairs, especially in Alaska, where many wetland sites are remote and inhospitable for much of the year. Rather than taking on the burden of performing an on-site JD to decide whether to apply for a CWA permit, many CWA permit applicants in Alaska will likely continue to concede the issue of jurisdiction after *Rapanos* by settling for "office determinations" of jurisdiction by federal regulators during the individual or general permitting process. In higher stakes enforcement contexts, however, federal defendants may choose to "roll the dice" on the water of the United States element of the government's case by including JDs in their defense strategies.⁷⁰

Whether or not they are successful, enforcement defense JDs could have the unintended consequence of obtaining new physical, chemical, and biological data for previously uncharted areas within the Last Frontier. In Alaska, however, more details about the state's prodigious array of natural resources often come at an environmental price. It is im-

70. JDs that are proffered by the defense are most persuasive when they are performed early in the enforcement process. For an example of an unsuccessful attempt to use a belated CWA jurisdictional challenge to withdraw a guilty plea for a criminal conviction, see *United States v. Cam*, No. 05-141-KI (D. Or. Dec. 21, 2007).

portant to recall that the federal position that "all wet and moist Alaska tundra" qualifies as "waters of the United States" was opposed by the state of Alaska in its *Rapanos* brief, and was criticized by Justice Scalia in his plurality opinion. By requiring more rigorous scientific documentation to satisfy the waters of the United States element, both the "continuous surface connection" and the "significant nexus" tests in *Rapanos* are functionally designed to identify incrementally fewer jurisdictional wetlands than the regulatory regime in existence before *Rapanos* was decided. While some Alaskan tundra areas may still be "saved" under alternate theories of CWA jurisdiction,⁷¹ others may now fall outside the scope of federal regulation as it is currently framed by the Supreme Court. Although Justice Douglas was successful in protecting Last Lake, *SWANCC* and *Rapanos* should warn Alaskan preservationists that they may not be so lucky in protecting all of the "next lakes" that adorn the landscape of the CWA's heady new frontier.

71. For instance, intrastate lakes frequently accessed by interstate tourists via pontoon plane could arguably be subject to CWA jurisdiction under 33 C.F.R. §328.3(a)(3)(i), which covers:

[A]ll other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters [w]hich are or could be used by interstate or foreign travelers for recreational or other purposes.