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*53 Syracuse L. Rev. 1067***LENGTH:** 14251 words**ESSAY:** WHAT IS A NAVIGABLE WATER? CANOES COUNT BUT KAYAKS DO NOT**NAME:** Richard J. Pierce, Jr.+**BIO:** + Richard J Pierce, Jr., is Lyle T. Alverson Research Professor of Law at George Washington University. Far more important for purposes of this article, Professor Pierce is an active member of American Whitewater Affiliation, Blue Ridge Voyageurs, Canoe Cruisers of America, Greater Baltimore Canoe Club, Keel-Haulers Canoe Club, Monocacy Canoe Club, and Mason-Dixon Canoe Club.**SUMMARY:**

... In its 2002 opinion in *FPL Energy Maine Hydro LLC v. Federal Energy Regulatory Commission*, the D.C. Circuit upheld a decision by the Federal Energy Regulatory Commission (F.E.R.C.) that the Messalonskee Stream is a "navigable water of the United States. ... " The F.E.R.C. concluded, "we find that these three successful canoe trips, when considered together with supporting evidence concerning the conditions and characteristics of the stream, provide substantial evidence that the Messalonskee Stream is a navigable water of the United States. ... Third, anyone who commissions an "average paddler" to test a waterway's navigability will need to purchase adequate liability insurance. ... The F.E.R.C. could interpret, or reinterpret, the "canoe test" as the "degree of difficulty" test; e.g., a waterway with a class two rapid is navigable but a waterway with a class four rapid is not. ... Any waterway that can be traversed by a kayak would be determined to be navigable, since a canoe can traverse any waterway that a kayak can traverse. ... Ironically, application of a navigable in fact test that recognizes recreational boating as a commercial use of a waterway, rather than the canoe test, would yield the opposite results in both *Pennsylvania Electric* and *Kennebec Water District*. ...

TEXT:

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Introduction

In its 2002 opinion in *FPL Energy Maine Hydro LLC v. Federal Energy Regulatory Commission*, the D.C. Circuit upheld a decision by the Federal Energy Regulatory Commission (F.E.R.C.) that the Messalonskee Stream is a "navigable water of the United States." n1 The Messalonskee is not used at present, and has not been used in the past, either for commerce or for recreational boating. n2 The F.E.R.C. based its decision solely on "three "successful' canoe trips taken for purposes of litigation, as well as the physical characteristics of the stream." n3 The Court upheld the F.E.R.C.'s reasoning that any waterway "that may be traversed by a canoe" [*1068] is navigable. n4 The Court also concluded that the F.E.R.C.'s many decisions that have applied the "canoe test" to determine that a waterway is navigable are entirely consistent with the F.E.R.C.'s decisions that have concluded that waterways that are regularly used by kayaks are not navigable. n5 The Court italicized "canoe" and "kayak." n6 It noted that a kayak is a "specialized sporting craft," while a canoe is "a simpler type of commercial transportation." n7

As a law professor, I would give the D.C. Circuit's opinion and the underlying F.E.R.C. opinions high marks. They are well-researched and well-reasoned. I would award each an "A" if it was an answer to a law school exam question. Both the D.C. Circuit's opinion and the F.E.R.C. opinions look a bit different, however, when I read them instead in my capacity as a paddler. I have described the opinions on several paddler websites and referred to them with great frequency while paddling rivers. In that context, they elicit gales of laughter. Every time one of my buddies runs a class four rapid in a canoe, I remind him that he is defying the agencies and courts by doing the impossible. There is no difference between a

canoe and a kayak in terms of a boat's capability to traverse a waterway. Canoes regularly traverse the waterways that the F.E.R.C. has determined to be non-navigable because they are regularly used by kayaks. Thus, the test that the F.E.R.C. routinely applies and that the D.C. Circuit has upheld cannot possibly distinguish between navigable and non-navigable waters.

The modern agency and court opinions that attempt to distinguish between navigable and non-navigable waters are reminiscent of the Eighteenth Century opinions in which courts applied the rule of capture to determine who has enforceable property rights in oil and gas. n8 Those opinions also fared well when evaluated by lawyers and judges, but they were laughably naive from the perspective of a geologist. The courts believed that oil and gas were like water in a stream and like wild animals. n9 "Their fugitive and wandering existence" required that they be subject to a legal regime in which enforceable property rights in oil and gas depend entirely upon their "capture" through drilling and production. n10 The [*1069] naivete of the courts that applied the rule of capture to oil and gas cost the United States hundreds of billions of dollars in the forms of unnecessary drilling costs and wasted hydrocarbons. n11 I doubt that the equally naive modern opinions on navigability will prove as costly as the Eighteenth Century opinions on ownership of oil and gas, but the high cost of the misguided oil and gas opinions illustrates the dangers of resolving legal disputes without understanding the factual context in which they arise. The "canoe test" is based on a misunderstanding of navigability that is as profound as the misunderstanding of geology that led courts to adopt the "rule of capture" applicable to oil and gas.

In Part I, I illustrate the importance of the "canoe test" by describing the many effects of a determination that a waterway is, or is not, navigable. In Part II, I describe the opinions in which the F.E.R.C. created and applied the "canoe test" and the opinion in which the D.C. Circuit upheld that test. In Part III, I doff my law professor's robe and don my paddler's sprayskirt to explain why the canoe test will not work. In Part IV, I describe the two centuries of court decisions that preceded the adoption of the canoe test and explain how those decisions evolved naturally into the canoe test. In Part V, I explore alternative ways of distinguishing between navigable and non-navigable waters and recommend adoption of an alternative test—a waterway is navigable if it is in fact used for any form of navigation, including any form of pleasure boating. Finally, in Part VI, I suggest ways in which agencies and courts can reduce the risk of adopting naive legal tests that are incapable of performing their intended tasks.

I. The Effects of a Determination of Navigability

A decision that a waterway is navigable has many important legal effects on property rights and on regulatory jurisdiction. n12 If a waterway was navigable at the time a state joined the union, the state owns the bed of the waterway under the "equal footing" doctrine. n13 That effect of a determination of navigability often yields ownership disputes in which a [*1070] state argues that a waterway is navigable and the federal government, as the owner of the lands riparian to the waterway, argues that it is not. n14

If a waterway is a "navigable water of the United States," the federal government has the power to subject it to exclusive federal regulation, at least with respect to navigation issues. n15 Congress has exercised that power in several statutes, including the Suits in Admiralty Act, n16 the Public Vessels Act, n17 the Admiralty Jurisdiction Act, n18 the Rivers and Harbors Act, n19 and the Federal Power Act. n20 Thus, a determination that a waterway is a navigable water of the United States has effects that include: the Coast Guard has jurisdiction over navigation safety on the waterway; no one can obstruct navigation on the waterway without first obtaining the permission of the Army Corps of Engineers; and, no one can build a dam on the waterway without first obtaining permission from the F.E.R.C..

From the perspective of a recreational boater, the principle effect of a determination that a waterway is a navigable water of the United States is to preclude landowners and local authorities from obstructing navigation on the waterway. Disputes between paddlers, on the one hand, and landowners or local authorities, on the other, arise with considerable frequency. They typically manifest themselves either in the form of a shotgun-toting owner of rights riparian to the waterway who threatens to kill any paddler who trespasses on "his" river, or in the form of a county sheriff who arrests paddlers for trespassing on a river. If the waterway is a navigable water of the United States, the paddler cannot be violating any state or local law by navigating the waterway, and the riparian rights owner or sheriff is violating federal law by obstructing navigation on the waterway.

Both the determination that a waterway is navigable and the determination that a waterway is a navigable water of the United States are questions of federal law. n21 The vast majority of waterways that are navigable are also navigable waters of the United States and vice versa. A few waterways are navigable waters of the United States even though they [*1071] do not qualify as navigable for purposes of determining who owns the bed of the waterway, however, and a

few are navigable for ownership purposes even though they are not navigable waters of the United States. The less than complete overlap between the two categories of waterways is attributable to three differences between the definition of navigable and the definition of a navigable water of the United States. A waterway is navigable for ownership purposes if it was navigable in fact in its natural and ordinary condition at the time of statehood. n22 By contrast, a waterway is a navigable water of the United States if it is now, or ever has been, navigable in fact, or if it is capable of becoming navigable in fact with reasonable improvements, and it is part of a link in interstate or foreign commerce. n23

The requirement that a waterway form a link in interstate or foreign commerce excludes few navigable waters from being navigable waters of the United States. Virtually all waterways in North America either cross state or international lines or flow into other waterways that do. A navigable water is not a navigable water of the United States only if it is now, and always has been, impossible to navigate or to portage from it to a border crossing. In order to isolate a navigable water within a single state, it must be separated from all border crossings by insurmountable obstacles. Dams do not count for that purpose, since a waterway always remains navigable if it was ever navigable. n24 Even unrunnable waterfalls do not count if they are portageable. n25 Thus, for instance, the Niagara River has been held to be navigable throughout its entire length, even though it includes both an unrunnable waterfall and class four and five rapids. n26 The class four and five rapids immediately below Niagara Falls have been determined to be navigable, and Niagara Falls has been determined to be portageable. n27

A determination that a waterway is a navigable water of the United States has the effect of giving the federal government exclusive power to regulate navigation on the waterway, and of prohibiting either state and [*1072] local officials or private individuals from obstructing navigation on the waterway without first obtaining permission from a federal agency. n28 Such a determination leaves states with discretion to make their own decisions with respect to a wide range of issues other than navigation, however. Thus, for instance, California prohibits riparian rights holders from interfering with fishing by anyone in any navigable water, n29 while Virginia authorizes riparian rights holders to exclude third parties from fishing on a navigable water where the rights holder claims title to the bed of the waterway under a patent from the Crown. n30 Moreover, the federal right to navigate a navigable water of the United States does not include any right of access to the waterway. n31 Thus, for instance, a paddler has a right to paddle such a waterway, but he must use a public access point or obtain the permission of a private landowner to cross his land in order to reach the waterway.

II. The "Canoe Test"

The F.E.R.C. and the D.C. Circuit have now applied the canoe test in several cases. n32 A description of the opinions in two cases will suffice to illustrate the test. In one case, the F.E.R.C. decided that the Messalonskee Stream is navigable. n33 In the other, it decided that the Youghiogheny River is not navigable. n34 The D.C. Circuit upheld the F.E.R.C.'s decision with respect to the Messalonskee and concluded that it was entirely consistent with the F.E.R.C.'s contrary decision with respect to the Youghiogheny. n35

A. The Messalonskee Stream

In Kennebec Water District, the F.E.R.C. determined that the Messalonskee Stream is a navigable water of the United States. n36 The Messalonskee is a small stream in Maine. It runs into the Kennebec River. Since the Kennebec is clearly a navigable water of the United States, the [*1073] Messalonskee also qualifies as such if it is navigable in fact. n37 The F.E.R.C. concluded that the Messalonskee had never been used for purposes of commerce, transportation, or recreational boating. n38 It also concluded, however, that the Messalonskee could be navigable even though it had never been used for any of those purposes. n39 The F.E.R.C. relied on three oft-quoted passages from Supreme Court decisions to support this point. The Supreme Court has held that:

(1) "the capability of use by the public for purposes of transportation and commerce affords the true criterion of the navigability of a river, rather than the extent and manner of that use." n40

(2) "personal or private use by boats [can] demonstrate [] the availability of the stream for the simpler types of commercial navigation." n41

(3) "The question remains one of fact as to the capacity of rivers in their ordinary condition to meet the needs of commerce. This capacity may be shown by physical characteristics and experimentation as well as by the uses to which the streams have been put." n42

Acting on the basis of those passages, the F.E.R.C. and the parties to the dispute sent three canoes down the

Messalonskee to determine its characteristics and to conduct an experiment to determine whether it is navigable. n43 Each of the canoeists was successful. Each reported that he paddled two class two rapids and experienced no "difficulty greater than steering around obstacles, such as boulders and fallen trees." n44 The F.E.R.C. concluded that "the physical characteristics of the Messalonskee Stream ... and the successful ... passages by the [canoeists] ... demonstrate that the Messalonskee Stream ... is a navigable water of the United States." n45 In a footnote, the F.E.R.C. distinguished prior cases in which it determined that waterways were not navigable because "the stream's physical characteristics are such that only skilled whitewater boaters can safely navigate it." n46

In its order denying rehearing, the F.E.R.C. admitted that "the Commission staff was unable to find any evidence of actual use of the [*1074] Messalonskee Stream" n47 The company that planned to construct a dam on the stream argued that "test trips" alone are insufficient to establish that a stream is navigable. n48 It argued that such "test trips" would be probative of navigability only if they were "coupled with evidence of past or current commercial or recreational use." n49 The F.E.R.C. rejected that argument and cited Supreme Court opinions to support its conclusion that the "test trips" in the canoes and "any similar personal or private use ... would be equally relevant to a determination of suitability for commercial navigation." n50 The F.E.R.C. concluded, "we find that these three successful canoe trips, when considered together with supporting evidence concerning the conditions and characteristics of the stream, provide substantial evidence that the Messalonskee Stream is a navigable water of the United States." n51

The D.C. Circuit upheld the F.E.R.C.'s determination that the Messalonskee is a navigable water of the United States. n52 It cited numerous Supreme Court and circuit court opinions that support the F.E.R.C.'s conclusion that "the three 'successful' canoe trips taken for purposes of litigation, as well as the physical characteristics of the stream" are sufficient to qualify it as a navigable water of the United States. n53 The Court noted that the F.E.R.C. has often relied on evidence of recreational use of a stream as a proxy for its suitability for commercial use. n54 It agreed with the F.E.R.C. that, in the absence of evidence of either commercial or recreational use of a waterway, the F.E.R.C. can use test trips by canoes as proxies for both recreational and commercial uses. n55 The Court noted with approval that the F.E.R.C. had "repeatedly found waterways to be navigable that can be traversed by a canoe" n56 Like the F.E.R.C., the Court distinguished past cases in which the F.E.R.C. had held waterways to be non-navigable because they "could only be navigated by a kayak" n57 The Court noted that those waterways include class four rapids that are suitable only for "use by skilled kayakers or whitewater [*1075] rafters," as opposed to the class two rapids of the Messalonskee "that were successfully crossed by a canoe ... a simpler type of commercial transportation." n58

B. The Youghiogheny River

In *Pennsylvania Electric Company*, decided a few years before *Kennebec Water District*, the F.E.R.C. determined that a nineteen mile segment of the Youghiogheny River is not a navigable water of the United States. n59 The segment of the river at issue, commonly referred to as the Upper Yough, flows from the river's confluence with Deep Creek in Maryland to the Pennsylvania border. n60 If the Upper Yough is navigable, it is clearly a navigable water of the United States, both because the Youghiogheny itself crosses the Maryland-Pennsylvania border and because it then flows into the Monongahela River, a major waterway that supports barge traffic to the Gulf of Mexico by way of the Ohio River and the Mississippi River. n61

As in the case of the Messalonskee Stream, the F.E.R.C. found "no historical evidence of the transportation of either persons or cargo ... by water" on the Youghiogheny. n62 The F.E.R.C. must have been using a narrow definition of "transportation," however, because it also found evidence that "the Youghiogheny River [is] used for recreational boating." n63 The recreational boating uses of the Yough are described in detail in numerous sources and are well known to the hundreds of thousands of people who have paddled the Yough. n64 The Yough is second only to the Nantahala River in North Carolina in its popularity for recreational use. n65 During the spring, summer, and fall, thousands of people from the states of Maryland, Pennsylvania, West Virginia, New Jersey, and Ohio arrive at the two major put-ins at Sang Run, Maryland and Ohiopyle, Pennsylvania every weekend to paddle the Yough. The River is [*1076] so jammed with kayaks, canoes, and rafts that it is often a challenge to find an empty eddy. The recreational boating uses of the Yough include a mix of private boaters - kayakers and canoeists who arrive with their own boats - and half a dozen commercial outfitters who run guided rafting trips and who rent canoes, kayaks, and rafts for use on unguided trips.

The extensive use of the Yough for recreational boating obviously distinguishes it from the Messalonskee - a waterway that apparently has been traversed only three times on "test trips" undertaken solely for litigation purposes. n66 That difference would seem to provide stronger support for a determination that the Yough is a navigable waterway, while the

Messalonskee is not, than for the opposite pair of determinations that were made by the F.E.R.C. and upheld by the D.C. Circuit, however.

The F.E.R.C. explained the basis for its determination that the Upper Yough is not navigable, even though it is in fact navigated by tens of thousands of boaters every year, by applying the "kayaks do not count" part of its "canoe test." n67 The F.E.R.C. recognized that "there is significant use of the more placid reaches [of the Youghiogheny] by canoes." n68 It concluded that the Upper Yough is not navigable, however, because it "can only be navigated by a kayak (or comparably specialized sporting craft designed for river running) maneuvered by an expert paddler." n69 The F.E.R.C. referred to prior cases in which it had determined a waterway to be navigable because it could be traversed by a canoe, and to prior cases in which it had determined a waterway not to be navigable because it could only be traversed by a kayak. n70

No court reviewed directly the F.E.R.C.'s decision that the Upper Yough is not navigable. The D.C. Circuit referred to that decision and others like it with approval, however, in its decision on review of the F.E.R.C.'s order determining the Messalonskee Stream to be navigable. n71 The court approved of the F.E.R.C.'s consistent distinction between waterways that are navigable because they can be traversed by "canoes" and waterways that are not navigable because they can only be traversed by "kayaks." n72

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III. The "Canoe Test" is not Viable

In my capacity as a law professor, I see a lot to like in the "canoe test." It seems simple, pragmatic, and predictable. If a waterway is used by canoes, it is navigable. If it is used only by kayaks, it is not navigable. If an agency, a court, an individual, or a firm is uncertain about the proper characterization of a waterway, that uncertainty can be replaced with a definitive determination through the quick and easy vehicle of a couple of test trips. If two or three canoeists successfully traverse the waterway, it is navigable.

In my capacity as a paddler who spends about one hundred days a year paddling a wide variety of waterways, however, I know that the canoe test is utterly worthless as a means of distinguishing among waterways. There is no river or creek that can be traversed by a kayak but that cannot be traversed by a canoe. The F.E.R.C. and the courts apparently believe that canoes can traverse only class two rapids while kayaks can traverse class four rapids. n73 In fact, canoeists regularly paddle class three, class four, class five, and even class six rapids. n74

A boat's design can make it easier or harder to paddle a rapid. Most [*1078] paddlers would prefer to use a modern plastic-hulled, decked boat, rather than a 1950's vintage open cockpit, aluminum canoe, to paddle the Upper Yough, for instance. The canoe test places too much emphasis on boat design generally as a determinant of navigability, however, and it focuses specifically on a design characteristic – kayak versus canoe – that bears no relationship at all to navigability.

A few data points should be sufficient to illustrate both of those points. Anyone who doubts the capability of canoes to traverse class four rapids need only observe the people who put on the Upper Yough at Sang Run, Maryland any Friday or Monday morning during warm weather. n75 Such an observer would see many paddlers put on in a wide variety of canoes, some decked and some open. If a F.E.R.C. decision maker or a D.C. Circuit judge wants evidence that is closer at hand, he need only drive a few miles from his office to Great Falls Park early in the morning or late in the afternoon on any sunny day. He can watch canoeists paddle the class five Great Falls of the Potomac. n76

Of course, most of the canoes that are used regularly to paddle class four rapids today are of modern design. It is easy to overestimate the importance of boat design, however, in determining whether a waterway is navigable. The history of paddling provides abundant evidence of the capability of crudely-designed boats to traverse significant rapids. Two incidents that took place early in the Twentieth Century should suffice to illustrate the point. The first two people who were successful in paddling alone the then-class five rapids of the Grand Canyon used unusual boats. One was made from a horse watering trough while the other was made from an outhouse! n77

It should be obvious by now that the F.E.R.C.'s version of the "canoe test" is totally incapable of distinguishing among waterways. Even an "outhouse test" would be ineffective for that purpose. A paddler with some combination of skill and guts can paddle virtually any waterway with virtually any type of boat – kayak, canoe, or converted outhouse. Before [*1079] abandoning the canoe test completely, however, it is worth considering whether some variation of the test might make sense. In addition to the distinction between kayaks and canoes, the F.E.R.C. has referred to two other potential bases for distinguishing among waterways in its decisions that apply the canoe test – the skill of the paddler of a boat used

to test a waterway's navigability, n78 and the class of the most difficult rapids encountered in paddling a waterway. n79

While the F.E.R.C.'s decisions emphasize the distinction between kayaks and canoes, they also include descriptive references to the skills of paddlers. Thus, for instance, the F.E.R.C. stated that the Upper Yough "cannot be safely navigated by an average recreational canoeist" but can only be navigated by a "craft ... maneuvered by an expert paddler." n80 That description is accurate. By comparison, the three canoeists who successfully paddled the Messalonskee on the three test trips appear not to have been highly skilled, and the F.E.R.C.'s description of that stream suggests that it would be appropriate for use by relatively inexperienced and low-skilled paddlers. n81 The F.E.R.C. and the courts could rely on these descriptive passages to support an interpretation, or reinterpretation, of the canoe test that de-emphasizes the nature of the craft to be used to apply the test and emphasizes instead the characteristics of the paddler that is used to apply the test. The test could be restated as the "average paddler test." It could then be applied by commissioning two or three "average paddlers" to attempt to paddle any waterway whose navigability is subject to dispute.

There are serious practical impediments to adoption and use of such a test, however. First, someone would have to define the "average paddler." The average paddler must have some experience with whitewater and some whitewater skills. Even the class two rapids of the Messalonskee cannot be traversed safely by a paddler with no whitewater experience or skills. n82 Canoeists and kayakers die every year paddling class two rapids. n83 If the average paddler has some whitewater skills and experience, how much is [*1080] too much? The descriptive passages and reasoning in the F.E.R.C. opinions imply that the "average paddler" has enough skill to paddle a class two rapid, but not enough skill to paddle a class four rapid. n84

Second, who would determine whether a paddler is too highly skilled to qualify as an "average paddler" and how would someone make that determination? Many kayakers and canoeists are capable of evaluating the skill and experience level of a paddler to determine whether she is capable of traversing a stream safely. Trip leaders often engage in that process to decide whether to include a paddler in a group that is about to paddle a river. It is relatively easy to devise, and to implement, a test to determine whether someone has skills that are adequate to perform a function. It is devilishly hard, however, to devise, and to implement, a test to determine whether someone is overqualified to perform a function. I suppose agencies and courts could hire experienced whitewater instructors and club trip leaders to evaluate the skills of potential testers of the navigability of waterways. If the instructor or trip leader would allow the potential tester on a class three or four trip, he is too highly skilled to be a tester. Thus, only people who cannot safely paddle class three or four rapids would qualify as "testers."

Third, anyone who commissions an "average paddler" to test a waterway's navigability will need to purchase adequate liability insurance. An inexperienced or low-skilled paddler can easily die as a result of a mistake even in a class two rapid of the type the F.E.R.C. found on the Messalonskee. n85 If agencies and courts use "average paddlers" - those who have been determined to be incapable of safely paddling class four rapids - to "test" the navigability of waterways with class four rapids, the tests are unlikely to be "successful." In this context, the converse of a "successful" test trip might well be a fatal test trip. I doubt whether agencies and courts really want to get in the business of urging people to take serious safety risks as a prerequisite to a favorable agency or court decision.

Even if agencies or courts were able to devise practicable means of implementing some version of an "average paddler" test, such a test would yield results that are unacceptable on other grounds. A perfectly crafted and implemented version of the "average paddler" test would be capable only of distinguishing among waterways based on the degree of difficulty of the rapids a paddler would encounter in an attempt to traverse the [*1081] waterway. Thus, for instance, an "average paddler" presumably would succeed in navigating the class two rapids of the Messalonskee but would fail in her attempt to traverse the class four rapids of the Upper Yough. But there are much easier and more reliable ways of determining the difficulty of navigating a body of whitewater than through use of an "average paddler" test.

The American Whitewater Affiliation (AWA) publishes criteria that have been used for many decades to place rapids in one of six classes determined by degree of difficulty. n86 A rapid or a river can be classified easily through application of the AWA criteria without having to find an "average paddler" who is willing to risk her life by "testing" the navigability of a rapid or a river. Indeed, the vast majority of waterbodies in the United States that are likely to be the subject of a navigability dispute have already been classified by degree of difficulty in numerous guidebooks n87 and paddling club lists of rivers. n88 The F.E.R.C. has often referred to the physical characteristics of waterways and to the AWA ratings of rapids in its decisions applying the canoe test. The F.E.R.C. could interpret, or reinterpret, the "canoe test" as the "degree of difficulty" test; e.g., a waterway with a class two rapid is navigable but a waterway with a class four rapid is not.

Such a test would be easy to apply, but it would not be consistent with the applicable law. As the F.E.R.C. has repeatedly recognized, "it is well settled that navigability does not depend on the ease or difficulty of navigation." n89 Agencies and courts have determined that many rivers with class four or higher rapids are navigable for over a century. n90

Two famous cases illustrate and explain the practice of classifying as navigable rivers with class four rapids. First, every forum that has considered the issue – two federal agencies, a state court, and a federal court – has determined that the Niagara River is navigable in its entirety. n91 The rapid called Niagara Falls is not paddlable but it is portageable. The class four and five rapids that extend for several miles downstream of the Falls are clearly navigable. n92 They have supported commercial navigation, including the Maid of the Mist and two commercial rafting companies, for [*1082] many decades. n93

Second, in 1801 Thomas Jefferson determined that the "Cheat River ... is navigable ... except for dry seasons." n94 I paddle the Cheat at least ten times a year. It has over forty significant rapids, including at least six class four rapids. n95 Jefferson did not explain why the Cheat is navigable, but the history of the Cheat supplies an easy answer. The Cheat was used to float logs during the eighteenth and nineteenth centuries and into the early twentieth century. Indeed, one of the most difficult rapids on the Cheat – High Falls – was rendered far more dangerous by a dynamite explosion detonated by loggers to dislodge a logjam many years ago. n96

Thus, Jefferson determined that the Cheat is navigable for the same reason that two courts and two agencies determined that the Niagara is navigable. Both waterways are clearly "navigable-in-fact," even though they include class four rapids. As I discuss in the next section of this article, the Supreme Court has held consistently that any waterway is navigable in law if it is navigable in fact, and that a waterway is navigable in fact if it has ever supported waterborne commerce. n97 Since many waterways with class four rapids supported commerce in the form of log floats, shingle floats, and canoes carrying furs at some point in their history, many waterways that include class four rapids are clearly navigable by any standard. n98 It follows that agencies and courts cannot make determinations of navigability or non-navigability through application of a "degree of difficulty" test, an "average paddler" test, or any other test that has the effect of excluding from the definition of navigable all waterways that include class four rapids.

IV. The History of the Law of Navigability

Now that I have rejected the version of the "canoe test" applied by the F.E.R.C. and approved by the D.C. Circuit, as well as potential variations of that test like an "average paddler test" or a "degree of difficulty test," I must propose an alternative test. I cannot fulfill that responsibility, however, without first describing the rich body of case law that led the [*1083] F.E.R.C. and the courts to adopt the canoe test and that must support any alternative test I propose. Unlike many issues, the question of navigability has not created much controversy among Supreme Court Justices. All of the important legal principles applicable to navigability disputes were announced in five opinions of the Supreme Court. n99 Four of those opinions were unanimous, while one provoked a single-Justice dissenting opinion. n100 The Supreme Court laid the foundation for the law of navigability in its 1870 decision in *The Daniel Ball*. n101 The Court announced a set of principles it has applied ever since:

Those rivers must be regarded as public navigable rivers in law, which are navigable in fact. And they are navigable in fact when they are used, or are susceptible of being used, in their ordinary condition, as highways for commerce, over which trade and travel are or may be conducted in the customary modes of trade and travel on water. And they constitute navigable waters of the United States within the meaning of the acts of Congress, in contradistinction from the navigable waters of the States, when they form in their ordinary condition by themselves, or by uniting with other waters, a continued highway over which commerce is or may be carried on with other States or foreign countries in the customary modes in which such commerce is conducted by water. n102

The Court then applied the "navigable in fact" test to the Grand River in Michigan. n103 The Court determined that the Grand is a navigable water of the United States because it "is capable of bearing a steamer ... laden with merchandise and passengers" to Lake Michigan, where it forms a "continued highway" for interstate and foreign commerce. n104

In 1874, the Court built on that foundation in *The Montello*. n105 The Court held that the Fox River and the Wisconsin River form an "uninterrupted" highway for interstate commerce. n106 By the time the Court decided the case, the two

rivers had been "improved" with locks, dams, and canals, so that they could be used by steamboats. n107 The Court held, [*1084] however, that the Fox and Wisconsin Rivers were navigable in fact "in their ordinary condition," i.e., before any of the locks, dams, and canals were put in place. n108 The Court recognized that the Fox originally had "several rapids and falls" that the Court characterized as "difficult." n109 Yet, the Court noted that the Fox and Wisconsin carried "the immense fur trade of the Northwest" for over a century. n110 Fur traders used canoes to navigate the rapids and falls of the Fox and then portaged "three leagues" to the Wisconsin. n111 Thus, the Court found that "the natural navigation of the river is such that it affords a channel for useful commerce." n112 It concluded that any waterway is navigable if it can support "useful commerce" even if "its navigation may be encompassed with difficulties ... such as rapids" n113 The Court noted that any other definition of navigability would deprive the public of the use of "many of the large rivers of the country over which rafts of lumber of great value are constantly taken to market." n114 The Court denied that its test would encompass "every small creek in which a ... canoe can be made to float at high water" because the navigable in fact test requires that a waterway "must be generally and commonly useful to some purpose of trade or agriculture." n115

The Court's next application of the navigable in fact test was in its 1921 decision in *Economy Light & Power Co. v. United States*. n116 The Court held that the Desplaines River is navigable even though it includes "a rapid ... with boulders and obstructions" n117 The Desplaines was used to carry furs by canoe "from early fur-trading days (about 1675) down to the end of the first quarter of the nineteenth century." n118 The Court said that a waterway is navigable even if it has "occasional obstructions or portages" and even if it is not navigable "at all seasons ... or at all stages of the water." n119 Many agencies and courts have relied on *The Montello* and *Economy Light & Power* to support holdings that rivers are navigable even when they contain class three, four, or five rapids if they were used to [*1085] float logs or to transport furs by canoe. n120

The Court's next foray in this field was its 1931 decision in *United States v. Utah*. n121 The Court concluded that all of the portions of the Green, Grand, San Juan, and Colorado Rivers within the state of Utah that were at issue were navigable when Utah became a state in 1896. n122 The United States argued that there was no evidence that the waterways at issue had been used "by Indians, fur traders, and early explorers." n123 The Court concluded that a waterway could be navigable, however, even if it had never been used for navigation. n124 "The extent of existing commerce is not the test." n125 Rather, the "susceptibility [of the waterway to commercial use] ... is the crucial question." n126 Moreover, "this capacity may be shown by physical characteristics and experimentation as well as by the uses to which the streams have been put." n127

The United States also argued that the waterways at issue are not navigable because they include rapids and because they are impassable at times. n128 The Court rejected both arguments. n129 The Court repeated its prior statement that a river can be navigable even if it includes rapids, although it characterized the rapids at issue as "small." n130 The Court also concluded that the rivers are navigable, even though they are impassable at times, because they are susceptible to navigation "during at least nine months of each year," and not merely in "short periods of temporary high water." n131

The most recent of the Court's major pronouncements on navigability was its 1940 decision in *United States v. Appalachian Electric Power Co.* n132 The Court held that portions of the New River in Virginia are navigable waters of the United States. n133 The Court began by noting that [*1086] "the uses to which streams may be put vary from the carriage of ocean liners to the floating of logs" n134 The Court recognized that the New has rapids and "small falls," but it stated that "there has never been doubt that" a waterway is navigable "despite the obstruction of falls, rapids, sand bars, carries, or shifting currents." n135 The Court recognized that the actual use of the New for commerce "was not large" or "regular," but it held that use of a waterway need not be "continuous" to support a determination of navigability and that even "small traffic" is sufficient for that purpose. n136 There was no evidence of commercial use of some sections of the river, but only "isolated bits of boating." n137 The Court held, however, that "lack of commercial traffic [is not] a bar to a conclusion of navigability where personal or private use by boats demonstrates the availability of the stream for the simpler types of commercial navigation." n138

This brief history of the development of the law of navigability helps to explain why the F.E.R.C. and the D.C. Circuit adopted the "canoe test." To recap the relevant history, the Court first announced the "navigable in fact" test in *The Daniel Ball*. n139 It then defined that test in *The Montello* and *Economy Power & Light* to include rivers with rapids if those rivers were used to float logs or to transport furs by canoe. n140 The Court then held in *Utah* that a waterway is navigable even if it was never used for commerce if it is susceptible to such use and that "experimentation" is a legitimate method of determining a river's susceptibility to commercial use. n141 Finally, in *Economy Power & Light*, the Court held that

personal and recreational uses of a river can demonstrate a river's susceptibility to commercial use. n142 It logically follows that successful experimentation through the use of a canoe on a test trip is enough to demonstrate a river's "susceptibility" to commercial use in the form of log floats and/or transportation of furs by canoe. As both this history and the opinions of the F.E.R.C. and the D.C. Circuit demonstrate, an agency or court can find unambiguous support for each step in that reasoning process in the five major Supreme Court opinions on navigability.

The F.E.R.C.'s version of the canoe test has another component that is more problematic, however. In several cases, the F.E.R.C. has held that a [*1087] river is not navigable because it can be traversed only by a kayak and not by a canoe. n143 The D.C. Circuit approved of that part of the canoe test in FPL Energy Maine Hydro LLC. n144 The Supreme Court's opinions do not provide direct support for the "kayaks do not count" part of the canoe test, but they can be read to support that part of the test by implication. If kayaks can traverse rivers that cannot be traversed by log floats or canoes, the Supreme Court's reasoning in its five major navigability opinions would seem to imply that a river that can only be traversed by a kayak is not navigable because it has not been shown to be susceptible to commercial use.

This is the point at which it becomes apparent that the error inherent in the F.E.R.C.'s version of the canoe test, and the D.C. Circuit's approval of that test, is not an error of law. The fatal flaw in the canoe test is a mistaken belief with respect to the factual context in which navigability disputes frequently arise. Any river that can be traversed by a kayak can also be traversed by a canoe, and most rivers that can be traversed by kayaks could also support a log or shingle float. n145 Indeed, while log floats are increasingly rare in the United States, several class four Canadian rivers that are popular with canoeists and kayakers are still used to float logs. n146 Moreover, each of the rivers that the F.E.R.C. has determined to be non-navigable because it can be traversed only by kayaks is in fact paddled regularly by many canoeists. Thus, for instance, many canoes and rafts – both private and commercial – regularly traverse the Upper Yough. As a matter of legislative fact, rather than as a matter of law, there are no waterways that can be determined to be non-navigable because they can be navigated by kayaks but not by canoes. n147 If anyone wants to challenge the accuracy of that assertion, I will gladly provide a list of scores of canoeists who would be pleased to "test" any class four or five waterway in the world to "demonstrate [] the availability of the stream for the simpler types of commercial navigation," in the Supreme Court's words. n148

[*1088]

V. An Alternative Test

In Section III, I ruled out an "average paddler test" or a "degree of difficulty test" as inconsistent with the law. In Section IV, I ruled out the F.E.R.C.'s version of a "canoe test" as inconsistent with the facts. I must now identify and evaluate alternative tests that would be consistent with both the applicable law and the contextual facts. Two alternatives come to mind initially. First, the F.E.R.C. could retain some version of the "canoe test" but eliminate as factually unsupportable the "kayaks do not count" part of the test. Second, the F.E.R.C. could retain the present version of the "canoe test," including the "kayaks do not count" part of the test, and allow any party who argues that a waterway is navigable to demonstrate that it is susceptible to commercial navigation by commissioning a canoeist to test the waterway by attempting to paddle it. I would then provide any such party, including the F.E.R.C. staff, with a long list of canoeists who can safely paddle any class four or five rapid. Either of those alternatives would have the same effect. Any waterway that can be traversed by a kayak would be determined to be navigable, since a canoe can traverse any waterway that a kayak can traverse.

Either of those versions of the "canoe test" would be consistent with the applicable case law and the contextual facts, but I prefer a third alternative. The F.E.R.C. could simply hold that any waterway that is in fact used for recreational boating is navigable. The Ninth Circuit adopted and applied that test in its well-reasoned opinion in *Alaska v. Ahtna*. n149 *Alaska* argued that the Gulkana River is navigable, while the United States argued that it is not. The Bureau of Land Management (BLM) made a determination that the Gulkana is not navigable, but the Court reversed and held that the Gulkana is navigable because it is used for recreational boating. n150

The court described the uses of the Gulkana as follows:

Most of the use of the River is recreational. On a typical busy weekend day in June or July, 20 boats will use the lower 30 miles of the River, carrying approximately 60 people.

Since the 1970's it has been possible to take guided ... sightseeing trips on the River ... Rafts usually carry five passengers and one guide, providing for a load often in excess of 1,000 lbs. Average [*1089] fare is \$150 per passenger. n151

The court noted that commercial rafting on the Gulkana supports rafting companies and their employees. n152 The Court then rejected the government's argument that recreational uses of a river, including its use for commercial rafting, are insufficient to support a finding of navigability; "to deny that this use of the River is commercial because it relates to the recreation industry is to employ too narrow a view of commercial activity." n153 The agencies and courts that have determined the Niagara River to be navigable used similar reasoning. n154

With just a couple of changes, the Court's description of recreational boating on the Gulkana would be an accurate description of recreational boating on the Upper Yough or on any other river that the F.E.R.C. has held to be non-navigable through application of the "kayaks do not count" part of its "canoe test." In fact, all of the rivers that the F.E.R.C. has determined to be non-navigable through application of the "kayaks do not count" part of the canoe test have much more recreational boating activity than the Gulkana. The court said that "20 boats ... carrying approximately 60 people" use the Lower Gulkana on a "busy weekend day in June and July." n155 By contrast, over a hundred boats carrying several hundred people paddle the Upper Yough on a busy weekend day in June or July.

Like the Gulkana, the Upper Yough supports several commercial rafting companies and their scores of employees. Like the Gulkana and the Niagara, the Upper Yough is in fact regularly used in commerce today. Unlike the Cheat and many other class four rivers, the Upper Yough was never used to transport furs or to float logs. That is, or should be, irrelevant, however. Few, if any, rivers in the United States are used for either of those purposes today. The use of a river for either purpose in prior centuries is sufficient to demonstrate that the river is navigable, but the converse does not follow. The use or non-use of a river to transport furs or logs in the eighteenth or nineteenth century can be explained primarily with reference to its location – a factor that is independent of the navigability of the river. n156 In any event, the navigable in fact test should [*1090] focus primarily on today's commercial uses of waterways, including recreational boating uses, rather than on uses that have long been rendered obsolete by changes in economic conditions.

Ironically, application of a navigable in fact test that recognizes recreational boating as a commercial use of a waterway, rather than the canoe test, would yield the opposite results in both Pennsylvania Electric and Kennebec Water District. The F.E.R.C. necessarily would hold that the Upper Yough is a navigable water because it is used regularly for recreational boating and because it supports substantial commerce in rafting. By contrast, the F.E.R.C. could, and probably should, hold that the Messalonskee Stream is not a navigable water because it is not now, never has been, and probably never will be, navigated for any purpose except litigation.

VI. Broader Lessons to be Learned from the "Canoe Test"

The "canoe test," like the "rule of capture" applicable to property rights in oil and gas, illustrates the risk that courts will make serious mistakes if they adopt legal doctrines or tests applicable to a set of disputes without first obtaining a sufficient understanding of the factual context in which those disputes arise. How can we reduce that risk?

For the past century the United States legal system has enjoyed considerable success in reducing the risk that generalist judges will make costly mistakes in resolving a class of specialized disputes by relying on expert agencies to resolve those disputes, subject only to deferential judicial review. n157 In the past two decades, judicial review of many agency decisions has become even more deferential as a result of the Supreme Court's recognition that agencies often have advantages over courts in addition to their presumed superior knowledge of the factual context in which a specialized set of disputes arise. n158 The Supreme Court has recognized that agencies often have advantages over courts in the forms of greater political accountability for policy decisions and greater ability to maintain consistency and coherence in implementing a regulatory or benefit program. n159

Relying on an agency to resolve navigability disputes does not appear to be a promising way of reducing the risk of mistakes like the canoe test, [*1091] however. Indeed, the canoe test was created by an agency. When I read the opinions of the F.E.R.C. and of the D.C. Circuit in navigability disputes not as a law professor, but as an expert on the navigability of whitewater streams, I find it difficult to decide which institution is more naive about this class of disputes. I respect the F.E.R.C.'s considerable expertise with respect to the performance of energy markets, but neither it nor the D.C. Circuit has any understanding of the characteristics of streams that make them navigable.

There are other problems with the traditional expert agency solution to the problem in this context as well. Navigability decisions are made by numerous federal agencies and by state and federal courts. The D.C. Circuit deferred to the F.E.R.C. when it upheld the canoe test, n160 but no deference was due. Indeed, there is no good reason for any court to accord deference to any agency decision with respect to the navigability of a stream. No agency has expertise in this field. Moreover, Congress has not given a single agency the power to make all navigability determinations. Rather, Congress has dispersed that power among many agencies and courts. In this situation, there is no basis for an inference that Congress intended to confer responsibility for this class of decisions on any agency, and deferential judicial review of agency decisions would not enhance consistency and coherence in implementing any regulatory or benefit system. The courts have declined to accord deference to agency decisions in other situations of this type. n161

Of course, Congress could adopt an expert agency approach to this problem. Congress could assign the task of making all navigability determinations to either a single existing agency, e.g., the Coast Guard, or to a new agency, e.g., the Federal Navigability Commission, and provide the funding and staffing required for that agency to develop expertise in making navigability determinations. I doubt that would be a good use of scarce resources, however.

In this context at least, the most efficient means of reducing the risk of mistakes attributable to naivete would be to rely to a greater extent on expert witnesses. It is highly unlikely that the F.E.R.C. would have [*1092] adopted its "canoes count but kayaks do not" test if it had the benefit of testimony from a witness with expertise with respect to the navigability of streams. More broadly, any court or agency should be prepared to retain one or more experts to assist it in understanding the contextual facts important to the resolution of a class of disputes any time it harbors doubts about the adequacy of its understanding of those facts.

FOOTNOTES:

n1. *287 F.3d 1151 (D.C. Cir. 2002); Kennebec Water District, 84 F.E.R.C. P 61,027 (July 16, 1998) (order on rehearing and exceptions to initial decision); Kennebec Water District, 88 F.E.R.C. P 61,118 (July 28, 1999) (order denying rehearing).*

n2. *Kennebec Water District, 88 F.E.R.C. P 61,118 (July 28, 1999).*

n3. *Id.*

n4. *FPL Energy Maine Hydro LLC, 287 F.3d at 1158.*

n5. *Id. at 1158.*

n6. *E.g., id.*

n7. *Id.*

n8. See generally, *Westmoreland & Cambria Natural Gas Co. v. DeWitt, 18 A. 724 (Pa. 1889); Brown v. Vandergrift, 1875 WL 13177 (Pa. Nov. 20, 1875).*

n9. E.g., *Westmoreland & Cambria Natural Gas Co.*, 18 A. at 724; *Brown*, 1875 WL at 13177.

n10. *Brown*, 1875 WL 13177, at 3.

n11. See, e.g., Daniel Yergin, *The Prize: The Epic Quest for Oil, Money, and Power* 32 (1991); Bruce M. Kramer & Patrick H. Martin, *The Law of Pooling and Utilization* 2-5 (3d ed. 1989); Richard J. Pierce, Jr., *State Regulation of Natural Gas in a Federally Deregulated Market: The Tragedy of the Commons Revisited*, 73 *Cornell L. Rev.* 15, 20-23 (1987); Stephen Williams, *Running Out: The Problem of Exhaustible Resources*, 7 *J. Legal Stud.* 165 (1978), (explanations this effect).

n12. See Richard M. Frank, *Forever Free: Navigability, Inland Waterways, and the Expanding Public Interest*, 16 *U. C. Davis L. Rev.* 579 (1983) (analyzing the many types of navigability disputes that can arise and the applicable law).

n13. See *Mumford v. Wardell*, 73 U.S. 423, 436 (1867); *Pollard v. Hagan*, 44 U.S. 212, 229 (1845).

n14. E.g., *Alaska v. Ahtna*, 891 F.2d 1401, 1403 (9th Cir. 1989); *United States v. Utah*, 283 U.S. 64, 72 (1931).

n15. *Gilman v. City of Philadelphia*, 70 U.S. 713, 716 (1865); *The Daniel Ball*, 77 U.S. 557, 561 (1870).

n16. 46 U.S.C. 741-752 (1979).

n17. 46 U.S.C. 781-790 (1975).

n18. 46 U.S.C. 740 (1975).

n19. 33 U.S.C. 401-406 (1983).

n20. 16 U.S.C. 791a-828c (1978).

n21. *United States v. Appalachian Elec. Power Co.*, 311 U.S. 377, 398-99 (1940); *Utah*, 283 U.S. at 75.

n22. *Utah*, 283 U.S. at 75-76.

n23. *Appalachian Elec. Power Co.*, 311 U.S. at 406-09. The Court recognized an exception to that rule in *Kaiser Aetna v. United States*, 444 U.S. 164 (1979). The government cannot make changes to a previously non-navigable, privately-owned water body that has the effect of converting it into a publicly-accessible navigable water without compensating the owner for the value of any improvements that were made by the owner and that the government is now effectively giving to the general public.

n24. *Economy Light & Power Co. v. United States*, 256 U.S. 113, 118 (1921).

n25. *Id.* at 122; *The Montello*, 87 U.S. 430, 440 (1874).

n26. *Sawczyk v. Coast Guard*, 499 F. Supp. 1034, 1040 (W.D.N.Y. 1980).

n27. *Id.* at 1039-40.

n28. Frank, *supra* note 12, at 587-89.

n29. *Marks v. Whitney*, 491 P.2d 374, 381 (Cal. 1971).

n30. *Kraft v. Burr*, 476 S.E.2d 715, 717 (Va. 1996).

n31. *Loving v. Alexander*, 745 F.2d 861, 867-68 (4th Cir. 1984).

n32. E.g., *FPL Energy Maine Hydro LLC*, 287 F.3d at 1151; *Kennebec Water District*, 84 F.E.R.C. P 61,027 (July 16, 1998); *PacifiCorp Electric Operations*, 73 F.E.R.C. P 61,365 (Dec. 22, 1995); *Pennsylvania Electric Co.*, 56 F.E.R.C. P 61,435 (Sept. 26, 1991); *David Zinkie*, 53 F.E.R.C. P 61,029 (Oct. 4, 1990); *Swans Falls Corp.* 53 F.E.R.C. P 61,309 (Dec. 3, 1990).

n33. *Kennebec Water District*, 84 F.E.R.C. P 61,027 (July 16, 1998).

n34. *Pennsylvania Electric Co.*, 56 F.E.R.C. P 61,435 (Sept. 26, 1991).

n35. *FPL Energy Maine Hydro LLC*, 287 F.3d at 1160.

n36. *Kennebec Water District*, 84 F.E.R.C. P 61,027 (July 16, 1998).

n37. Id.

n38. Id.

n39. Id.

n40. *The Montello*, 87 U.S. at 441.

n41. *Appalachian Elec. Power Co.*, 311 U.S. at 416.

n42. *Utah*, 283 U.S. at 83.

n43. 84 F.E.R.C. P 61,027 (July 16, 1998).

n44. Id.

n45. Id.

n46. Id. at n.17.

n47. *Kennebec Water District*, 88 F.E.R.C. P 61,118 (July 28, 1999) (denying rehearing).

n48. Id.

n49. Id.

n50. Id.

n51. Id.

n52. *FPL Energy Maine Hydro LLC*, 287 F.3d at 1160.

n53. *Id.* at 1156.

n54. *Id.* at 1157-58.

n55. *Id.* at 1156, 1160.

n56. *Id.* at 1158.

n57. *Id.*

n58. *Id.*

n59. 56 F.E.R.C. P 61,435 (Sept. 26, 1991).

n60. *Id.*

n61. *Id.* See generally Watershed Atlas of the Monongahala and Allegheny Rivers: A Project of the Pennsylvania Environmental Council, available at <http://www.watershedatlas.org> (last visited Mar. 12, 2003).

n62. *Pennsylvania Electric Co.*, 56 F.E.R.C. P 61,435 (Sept. 26, 1991).

n63. *Id.*

n64. E.g., Ed Grove et al., *Appalachian Whitewater Volume II: The Central Mountains* 22-25, 126-33 (1994); Ed Gertler, *Maryland and Delaware Canoe Trails* 10-11 (1983). The Top, Upper, Middle, and Lower sections of the Yough are described in detail in numerous guidebooks and on numerous websites, e.g., the many sites that can be found by searching under "Youghiogheny rafting."

n65. Grove et al., *supra* note 64, at 22.

n66. *FPL Energy Maine Hydro LLC*, 287 F.3d at 1156.

n67. *Pennsylvania Electric Co.*, 56 F.E.R.C. P 61,435.

n68. Id.

n69. Id.

n70. Id.

n71. *FPL Energy Maine Hydro LLC*, 287 F.3d at 1158.

n72. Id.

n73. Id.

n74. See American Whitewater Affiliation, International Scale of River Difficulty, available at <http://www.americanwhitewater.org> for the American Whitewater Affiliation's International Scale of River Difficulty that describes the classes as follows:

Class I—Moving water with a few riffles and small waves; few or no obstructions.

Class II—Easy rapids with waves up to three feet and wide, clear channels that are obvious without scouting; some maneuvering is required.

Class III—Rapids with high, irregular waves often capable of swamping an open canoe; narrow passages that often require complex maneuvering; may require scouting from shore.

Class IV—Long, difficult rapids with constricted passages that often require precise maneuvering in very turbulent waters. Scouting from shore is often necessary, and conditions make rescue difficult. Generally not possible for open canoes; boaters in covered canoes and kayaks should be able to Eskimo roll.

Class V—Extremely difficult, long and very violent rapids with highly congested routes that nearly always must be scouted from shore. Rescue conditions are difficult and there is significant hazard to life in event of a mishap. Ability to Eskimo roll is essential for kayaks and canoes.

Class VI—Difficulties of Class V carried to the extreme of navigability. Nearly impossible and very dangerous. For teams of experts only, after close study and with all precautions taken.

The AWA description is many decades old and is out-of-date in one important respect. The description of class IV rapids distinguishes between open canoes and decked canoes. That distinction was important until about twenty years ago, when open canoeists learned to roll their boats. For the past twenty years, many open canoeists have been paddling class four and above rapids on a regular basis.

n75. Grove et al., *supra* note 64, at 133 (a picture of an open canoe running "Meat Cleaver" rapid on the Upper

Yough). For the last several years, the company that controls the dam above Sang Run has routinely released enough water to allow recreational paddling on most Fridays and Mondays during warm weather. The dam operator releases enough water to support recreational boating less frequently on Saturdays and Sundays. During cold weather, the Upper Yough is often available for recreational boating even without a dam release, but the number of paddlers is lower in cold weather for obvious reasons.

n76. See Grove et al., *supra* note 64, at 173-76, for a description of the Great Falls of the Potomac (on page 176, there is a photograph of an open canoe running Great Falls).

n77. World Premiere Monday: The Grand Canyon (The History Channel television broadcast) (describing the two incidents with accompanying pictures).

n78. E.g., *Pennsylvania Electric Co.*, 56 F.E.R.C. P 61,435 (Sept. 26, 1991).

n79. E.g., *Kennebec Water District*, 88 F.E.R.C. P 61,118 (July 28, 1999).

n80. *Pennsylvania Electric Co.*, 56 F.E.R.C. P 61,435 (Sept. 26, 1991). See also *PacifiCorp Electric Operations*, 73 F.E.R.C. P 61,365 (Dec. 22, 1995) (the Deschutes River in Oregon is not navigable because it "can only be navigated by a kayak ... maneuvered by an expert paddler.").

n81. *Kennebec Water District*, 88 F.E.R.C. P 61,118 (July 28, 1999).

n82. *Id.* at 7.

n83. The most frequent causes of fatalities in class two rapids are drownings due to strainers – trees that fall across waterways and trap debris and unwary paddlers – and foot entrapments – situations in which a paddler comes out of a canoe or kayak and gets his foot stuck between the rocks on the bottom of the waterway. Fatalities attributable to those sources can occur even in a mild rapid with a relatively weak current.

n84. Compare *Kennebec Water District*, 88 F.E.R.C. 61,118 (July 28, 1999), with *Pennsylvania Electric Co.*, 56 F.E.R.C. P 61,435 (Sept. 26, 1991).

n85. See *supra* note 83.

n86. See *supra* note 74.

n87. See, e.g., Grove et al., *supra* note 64, at 22 (difficulty ratings).

n88. See, e.g., Keel-Haulers Canoe Club 2002, Classification of Rivers, available at <http://kneelhauler.org/kh.htm> (difficulty ratings) (last visited Mar. 16, 2003).

n89. *Kennebec Water District*, 88 F.E.R.C. P 61,118 (July 28, 1999).

n90. E.g., *Sawczyk*, 499 F. Supp. at 1039.

n91. *Id.* at 1039-40.

n92. *Id.* at 1039.

n93. *Id.*

n94. Thomas Jefferson, Notes on the State of Virginia available at <http://xroads.virginia.edu/~HYPER/JEFERSON/ch02.h> (last visited Mar. 19, 2003).

n95. See, e.g. Grove et al., *supra* note 64, at 113, for one example of the many guidebooks describe the Cheat.

n96. *Id.* at 118.

n97. *Appalachian Elec. Power Co.*, 311 U.S. at 377; *Utah*, 283 U.S. at 64; *Economy Light & Power Co.*, 256 U.S. at 113; *The Montello*, 87 U.S. at 430; *The Daniel Ball*, 77 U.S. at 55.

n98. See *infra* cases accompanying note 120.

n99. See generally, *Appalachian Elec. Power Co.*, 311 U.S. at 377; *Utah*, 283 U.S. at 64; *Economy Light & Power Co.*, 256 U.S. at 113; *The Montello*, 87 U.S. at 430; *The Daniel Ball*, 77 U.S. at 55.

n100. *Appalachian Elec. Power Co.*, 311 U.S. at 429 (Roberts, J., dissenting).

n101. 77 U.S. 557.

n102. *Id.* at 563.

n103. *Id.* at 564.

n104. *Id.*

n105. 87 *U.S.* 430.

n106. *Id.* at 439-40.

n107. *Id.* at 440.

n108. *Id.* at 439, 441-42.

n109. *Id.* at 439-40, 442.

n110. *Id.* at 440.

n111. *Id.*

n112. *Id.* at 443.

n113. *Id.*

n114. *Id.* at 441.

n115. *Id.* at 442 (quoting *Rowe v. Granite Bridge Corp.*, 38 *Mass.* 344, 347 (*Mass.* 1838)).

n116. 256 *U.S.* 113.

n117. *Id. at 118.*

n118. *Id. at 117.*

n119. *Id. at 122.*

n120. E.g., *Loving*, 745 F.2d at 864; *North Dakota ex rel. Bd. of University and School Lands v. Andrus*, 671 F.2d 271 (8th Cir. 1982); *Puget Sound Power & Light Co. v. F.E.R.C.*, 644 F.2d 785, 787 (9th Cir. 1981); *Connecticut Light & Power Co. v. FPC*, 557 F.2d 349, 356–57 (2d Cir. 1977); *Montana Power Co. v. FPC*, 185 F.2d 491, 495 (D.C. Cir. 1950).

n121. 283 U.S. 64.

n122. *Id. at 87.*

n123. *Id. at 81.*

n124. *Id. at 86.*

n125. *Id. at 82.*

n126. *Id.*

n127. *Id. at 83.*

n128. *Id. at 84–86.*

n129. *Id.*

n130. *Id. at 85.*

n131. *Id. at 87.*

n132. *311 U.S. 377.*

n133. *Id. at 418-19.*

n134. *Id. at 405.*

n135. *Id. at 408-09, 412-13.*

n136. *Id. at 409.*

n137. *Id. at 413-15.*

n138. *Id. at 416* (citing *Utah*, 283 U.S. at 82).

n139. *77 U.S. at 565.*

n140. *87 U.S. at 442; 256 U.S. at 122-24.*

n141. *283 U.S. at 83.*

n142. *266 U.S. at 122-23.*

n143. E.g., *PacifiCorp Electric Operations*, 73 F.E.R.C. P 61,365 (Dec. 22, 1995); *Pennsylvania Electric Co.*, 56 F.E.R.C. P 61,435 (Sept. 26, 1991).

n144. *287 F.3d at 1157-58.*

n145. There probably are some streams that can be paddled in a canoe or kayak but that cannot be used to float logs or shingles because they are too narrow. That fact should be irrelevant, however, since they can be paddled by a canoe, with or without furs in the boat.

n146. I have personal knowledge of three: the Gatineau, the Shipshaw, and the Matawin.

n147. See Richard J. Pierce, Jr., *Treatise on Administrative Law* 10.5 (4th ed. 2002) (defining of legislative fact).

n148. *Appalachian Elec. Power Co.*, 311 U.S. at 416.

n149. 891 F. 2d 1401 (9th Cir. 1989). But see *LeBlanc v. Cleveland*, 198 F.3d 353 (2d Cir. 1999) (stating in dicta that pleasure boating is not a commercial maritime activity that can support a finding that a waterway is navigable.)

n150. *Id.* at 1405.

n151. *Id.* at 1403.

n152. *Id.* at 1405.

n153. *Id.*

n154. See *Sawczyk*, 499 F. Supp. at 1039.

n155. *Ahtna*, 891 F.2d at 1403.

n156. Thus, for instance, the F.E.R.C. noted that the Yough was not used by canoes or logs in the nineteenth century because there was already a road and a railroad that could be used for that purpose. *Pennsylvania Electric Co.*, 56 F.E.R.C. P 61,435 (Sept. 26, 1991). By contrast, the Cheat was used to float logs in the nineteenth century because there was then no viable alternative in the form of either a road or railroad.

n157. See generally Pierce, *supra* note 147, at chapters one and three.

n158. *Chevron U.S.A., Inc. v. Natural Resources Defense Council Inc.*, 467 U.S. 837, 845 (1984).

n159. See Pierce, *supra* note 147, at 3.4 and 3.5, (discussing *Chevron U.S.A., Inc.*, 467 U.S. at 845).

n160. *FPL Energy Maine Hydro LLC*, 287 F.3d at 1156.

n161. E.g., *Contractor's Sand & Gravel Inc. v. Federal Mine Safety & Health Review Commission*, 199 F.3d 1335, 1339 (D.C. Cir. 2000) (court owes no deference to agency interpretation of a statute where Congress has delegated to courts power to implement the statute); 1185 *Avenue of the Americas Associates v. Resolution Trust Corp.*, 22 F.3d 494, 497 (2d Cir. 1994) (court owes no deference to agency interpretation of statute where Congress has delegated power to implement statute to multiple agencies). See *Pierce*, supra note 147, at 3.5, for a discussion of the cases.

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