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Tab 1

DECLARATION OF LORRAINE DANA

I, Lorraine Dana, state as follows:

1. My name is Lorraine Dana. My full name is Dorothy Lorraine Dana, but I have never used my first name. My married name is Lorraine Nelson.

2. I am a member of the Penobscot Nation and have resided on Indian Island in the Penobscot River since I was 12 years old. My date of birth is xxxxxxxxxx, 1937.

3. The mainland town closest to Indian Island is Old Town, Maine.

4. Prior to residing on Indian Island, I resided on Mattanawcook Island in the Penobscot River with my father, Chester Dana, his wife, Liza Winchester Heigh, and my brother, Chester Dana, Jr. My father held Mattanawcook Island by assignment from the Penobscot Nation. After he passed away in 1975, I inherited my father's assignment to Mattanawcook Island and other islands near it, including Chokecherry Island. Until his death, my father resided on Mattanawcook Island for most of the year.

5. The mainland town closest to Mattanawcook Island is Lincoln, Maine.

6. My father was born and raised on Mattanawcook Island until he came of age and joined the United States Marine Corps. When he was a child, there was a village of Penobscot families on the island, but most of the residents eventually moved to either Indian Island or to Old Lemon Island further down the Penobscot River. My father was the last Penobscot tribal member to live year round on Mattanawcook Island. His main diet, and the diet of the other Penobscot families who lived there, consisted of fish and muskrat from the Penobscot River and other animals that they hunted or trapped.

7. My brother and I were adopted by Liza Heigh in 1942. We lived a short time in Enfield, Maine, but then moved to Mattanawcook Island. My father never wavered from his tradition of hunting, fishing, and trapping in the Penobscot River because he depended on this tradition to put food on the table. My brother and I fished in the River and across to the main land where there was a special cove where pickerel were plentiful. We ate what we caught. My father fished just about every day to feed our family and also provided muskrat and wildlife for us. We went to school in Lincoln, crossing the river every day.

8. When my father took fish and other water-dwelling animals from the Penobscot River, he never sought or carried a permit or license from the State of Maine. My brother and I likewise never sought or carried a permit or license from the State of Maine when taking fish from the River. It never occurred to us that one would be necessary because we considered the River to be our home.

9. My brother and I never encountered state wardens or other state officials while fishing on the River and I never heard of my father ever encountering a state warden or other official while fishing, hunting, or trapping on the River.

10. When I was 12 years of age, I moved back to Indian Island where I resided with my mother, Beatrice Phillips; my half-brothers, Neil, Reuben ("Butch"), Clifford, and Guy Phillips; and my half-sisters, Donna and Cheryl Phillips. Because of hardship raising a family on her own, my mother relied heavily upon the Penobscot River for food. My brothers fished and hunted for food. Clifford was an avid fisherman. He caught perch, pickerel, and bass to feed our family. My mother also bought muskrat to feed our family from tribal members who trapped muskrat in the Penobscot River.

11. I raised my own children on Indian Island as a single parent and continued to rely upon the River for food because I had little means. I had two sons, Barry and Robert, two daughters, Lori and Kelly. In the 1970s, Barry, being the older son of the two, spent much of his spare time hunting and fishing to help provide food for our family. Barry also provided fiddleheads that he picked on the banks alongside of the Penobscot River and flagroot, which we used for medicine. Flagroot grows on the River bottom up and down the Penobscot River.

12. While my father was alive, I regularly took my sons and my daughters to visit him at Mattanawcook Island during the spring and summer. While there, we relied upon the fish and muskrat that he caught from the River as our primary food source.

13. I recall the events surrounding the settlement of the Penobscot Nation's land claims against the State of Maine, including the proposal for the settlement presented to Penobscot tribal members in March of 1980. I voted against the settlement. I thought it was rushed and complicated. I also feared that the State of Maine would end up controlling our ability to fish, hunt, and trap for our food from the Penobscot River.

14. I recall testifying before the United States Senate Committee on the land claims in July, 1980. At that time, I was identified as "Lorraine Nelson." I have reviewed the following passage of that testimony at page 419 of Volume 1 of *Proposed Settlement of Maine Indian Land Claims, Hearings Before the Select Committee on Indian Affairs United States Senate*:

> My son hunts and fishes my islands to help provide for our family, and if we are to abide by State laws, as this bill intends us to, my family will endure hardship because of the control of the taking of deer and fish. You know as well as I, inflation has taken its toll, and at the present time I am unemployed and have a family of five to support. Two of these children are going to college. I have brought them up by myself.

15. In giving this testimony and stating that "my son hunts and fishes my islands," I was referring to the fact that my son, Barry, hunted deer at Mattanawcook, Chokecherry, other islands assigned to me, and that he fished the River from his canoe all around those islands and between them, including near the mainland shores, in order to provide food for my family. Although I referred to "my islands," I was referring to the fact that he also fished all around Indian Island and other islands near Indian Island, including Orson and Marsh islands, and the waters between those islands, as well as the waters between those islands and the mainland shores, in order to provide food for my family.

16. I have never distinguished between the islands in the Penobscot River, where I and other members of the Penobscot Nation reside, and the River. The River is as much a part of our daily lives as the islands where we maintain our homes. So when I testified to the Senate Committee on the settlement of the land claims that "my son . . . fishes my islands," I was referring to his fishing in the River as described above.

17. My father, my brother, and I would commonly say we would "fish" an island when referring to fishing in the River in waters in the vicinity of an island. This simply meant that we were fishing in the waters of the Penobscot River in areas where we knew there were fish, and this was anywhere in the River, including in coves of the mainland shores.

18. I am familiar with the islands in the so-called "main stem" of the Penobscot River, from Indian Island, north up to Medway. There are no waters (such as ponds or streams) to support fish on those islands. Fish exist only in the Penobscot River, not on the islands.

19. I have personal knowledge of the foregoing facts.

I declare under penalty of perjury that the foregoing is true and correct.

Dated: 03/25/15

/s/ Lorraine Dana
Lorraine Dana

Tab 2

UNITED STATES DISTRICT COURT
DISTRICT OF MAINE

PENOBSCOT NATION	)	
	)	
Plaintiff,	)	Civil Action No. 1:12-cv-00254-GZS
	)	
v.	)	
	)	
JANET T. MILLS, et als.	)	
	)	
Defendants.	)	

DECLARATION OF CHRISTOPHER B. FRANCIS

Christopher B. Francis hereby declares and states as follows:

1. My name is Christopher B. Francis.

2. I am an enrolled member of the Penobscot Nation.

3. My date of birth is xxxxxxxxxxx, 1971, and have resided at Indian Island in the Penobscot River all of my life.

4. I have personal knowledge of the facts stated herein.

5. During my childhood, throughout the 1970s and into the early 1980s, my family relied upon fish, fresh water claims, and muskrat caught, gathered, and trapped from the waters and bed of the Penobscot River (the "River") surrounding Indian Island and northward for a substantial portion of our diet.

6. We relied upon all portions of the River, bank to bank, for these food sources.

7. From the spring (April) until the late fall (November), we relied upon these food sources from the River for three or four meals per week.

8. At each such meal, we caught, gathered, or trapped enough of these food sources from the River to feed my mother, my father, and me, which was between two and three pounds per meal.

9. The River species we ate during these meals included, but were not limited to, small mouth bass, perch, pickerel, catfish, fresh water clams, eel, and muskrat.

10. During this same period of time (throughout the 1970s and into the early 1980s), other families of Penobscot members at Indian Island similarly relied upon these same food sources for their diet as regularly as my family did.

11. Until the mid-1990s, I was often asked by elder members of the Tribe for fish from the River for their meals, and I often provided them with fish that I caught from the River near Indian Island, which they ate.

12. As my family became more aware of the contamination of fish and other River resources in the 1980s and 1990s, we refrained from relying as heavily upon the River for food. Other Penobscot families did the same.

I declare under penalty of perjury that the foregoing is true and correct.

Dated: 03/25/15

/s/ Christopher B. Francis
Christopher B. Francis

Tab 3

DECLARATION OF BARRY DANA

I, Barry Dana, state as follows:

1. My name is Barry Dana. I am a member of the Penobscot Nation. My date of birth is xxxxxxxxx, 1958.

2. My mother is Lorraine Dana. In the past, she was also known as "Lorraine Nelson."

3. I was raised by my mother with my brother, Rob, and my sisters, Lori and Kelly, on Indian Island in the Penobscot River.

4. The mainland town closest to Indian Island is Old Town, Maine, where I attended high school until I graduated in 1977. I attended the University of Maine at Orono from 1977 to 1981.

5. From the time I was a teenager and throughout high school and college, I fished and hunted in the Penobscot River to provide food for my family. When I was a high school freshman, I built my own canoe for traveling, hunting and fishing on the River. Before that, I borrowed canoes from other Penobscot tribal members.

6. Starting my freshman year of high school in 1973, when I had my own canoe, I fished in the Penobscot River after school almost every day, from early spring until late fall, in order to provide food for our family. I fished all around Indian Island and other islands near Indian Island, including Orson and Marsh islands, and in the waters between those islands, as well as the waters between those islands and the mainland shores. I caught perch, pickerel, bass, chub, catfish, and eel, and my family ate what I caught two to three times per week, sometimes more. I used the entire river, bank to bank, to catch fish and eel because I always understood the River to belong to the Penobscot Nation, as our reservation.

7. During this time, I also collected flagroot plants, from the same areas of the River, and my family used flag root for medicinal purposes. Flagroot grows on the bottom of the River near shores. I collected it from the waters near the mainland shores as readily as from the waters near island shores.

8. During my childhood and adolescence, my mother's father, Chester Dana, resided at Mattanawcook Island (near the mainland town of Lincoln, Maine) most of the year, and my mother, my siblings, and I visited him on a regular basis. During those visits, my grandfather fished and trapped in the River. My family ate fish and muskrat that he harvested from the River. We also ate the deer meat and waterfowl that he secured by hunting.

9. During high school and thereafter, including while I attended the University of Maine at Orono between 1977 and 1981, I hunted deer at Mattanawcook Island and fished the waters surrounding it and Chokecherry Island as well as in the waters between those islands up to the mainland shores on the west and east sides of the River. I did this to provide food for myself and for my family members.

10. In growing up on Indian Island and at Mattanawcook, I never distinguished between the islands in the Penobscot River, where I and other members of the Penobscot Nation lived, and the River. We were always on the River to gather food and flagroot and to travel and play. It was integral to our way of life.

11. Following stories and the traditions of my grandfather and other elders of the Penobscot Nation, I first journeyed up the Penobscot River to Katahdin, a mountain of great spiritual significance to Penobscot people, while in high school. Starting in 1981, as a tribute to our ancient connection to the River, I began annual journeys in the form of a run from Indian Island up along the River ending at Katahdin. Other Penobscot tribal members have joined me in this annual tribute ever since. Our members not only run to Katahdin, but some of us canoe 90 miles up the River from Indian Island to the west branch of the Penobscot at Pockwockamus falls, and then run and walk the last 7 miles to Katahdin.

12. I am familiar with the islands in the so-called "main stem" of the Penobscot River, from Indian Island, north up to Medway. There are no waters of any sort (such as ponds or streams) to support fish, eel, muskrat, or other water dwelling animals on those islands. They live only in the Penobscot River, not on the islands.

13. I have personal knowledge of the foregoing facts.

I declare under penalty of perjury that the foregoing is true and correct.

Dated: 07/03/14

/s/ Barry Dana
Barry Dana

Tab 4

UNITED STATES DISTRICT COURT
DISTRICT OF MAINE

PENOBSCOT NATION	)	
	)	
Plaintiff,	)	Civil Action No. 1:12-cv-00254-GZS
	)	
v.	)	
	)	
JANET T. MILLS, et als.	)	
	)	
Defendants.	)	

DECLARATION OF KIRK LORING

I, Kirk Loring, hereby state as follows:

1. My name is Kirk Loring. I am an enrolled member of the Penobscot Nation (the "Tribe" or the "Nation"). I grew up on Indian Island, and I served as Chief Game Warden for the Tribe from 1976 until 2001.

2. When I was a born, on xxxxx, 1948, the only means of accessing Indian Island and the other islands in the Penobscot River where Penobscot tribal members lived was by canoe or other boat.

3. In 1950, a bridge was built between the mainland shore and Indian Island. Attached hereto as Exhibit A are three photographs of the Penobscot River and Indian Island, looking out from the mainland, where the bridge now exits.

4. While growing up on Indian Island, my family always relied upon the Penobscot River as a source for food. We regularly ate fish and muskrat from the River. It was common for many tribal members to rely upon the River as a source of food, particularly fish, turtles, eels, and muskrat.

5. I spent much of my youth on the Penobscot River, canoeing, fishing, trapping and engaging in other activities. I never saw law enforcement officers from the State of Maine while engaging in these activities on the River, and I rarely saw anyone other than Penobscot tribal members on the River from Indian Island, northward.

6. While growing up on Indian Island and fishing and trapping in the Penobscot River to put food on the table, I never sought, or applied for, a permit or license from the State of Maine; it never occurred to me that one would be necessary, and I never heard of or observed any tribal member carrying a license or permit from the State of Maine while taking fish or other water-dwelling animals from the Penobscot River for food.

7. While growing up, I always considered the River, from Indian Island northward, to be the Tribe's Reservation. I never distinguished between the islands and the River when I thought about our Reservation. It was inconceivable to me that the River upon which my family relied for food, upon which my family travelled to visit other Penobscot island communities, and upon which I spent almost all of my free time as a youth was not as much my rightful home as Indian Island. My views in this regard have never changed.

8. On January 12, 1976, I became a game warden for the Penobscot Nation. That year, the Tribe was able to hire three other wardens, my brother Chip, John Mitchell, and David Hamilton, all enrolled members of the Tribe. Later in 1976, I was given the title of Chief Game Warden for the Nation, and I served in that position until my retirement in April, 2001.

9. Throughout my tenure as Chief of the Penobscot Nation's Warden Service, the Tribe's wardens patrolled the River from sun up to sun down, from Indian Island to Medway, every day from mid-April, after the break-up of the winter ice, until November, when the River again became ice bound.

10. I am very familiar with the islands in the River from Indian Island northward to the confluence of the east and west branches at Medway. There are no ponds or streams on the surfaces of Indian Island or other islands in the River northward thereof up to confluence of the west and east branches of the River to support fish, eel, muskrat, beaver, or waterfowl, and their taking involves fishing, hunting, or trapping in the River.

11. In the first year of my service as Chief Game Warden, I encountered a non-tribal member engaged in muskrat trapping in the River in waters off of the so-called Brown Islands, which are situated in the River to the southwest of the mainland town of Winn. This individual had no permit. I warned him that he was trespassing on the Penobscot Indian Reservation, and I confiscated his trap.

12. In 1990, I was involved in a Penobscot Tribal Court case, *Penobscot Nation v. Kirk Fields* (Criminal Action Docket Nos. 90-36 and 90-37) in which the State of Maine turned over the prosecution of a tribal member to the Penobscot Nation for hunting a deer in the Penobscot River with a motor boat between the mainland Town of Greenbush and Jackson Island. True copies of the Penobscot Nation Tribal Court Criminal Complaints issued against Mr. Fields are attached hereto as Exhibits B and C and a true copy of my Complaint and Investigation Report in the matter is attached hereto as Exhibit D.

13. I have personal knowledge of the foregoing facts.

I declare under penalty of perjury that the foregoing is true and correct.

Dated: April 10, 2015

/s/ Kirk Loring
Kirk Loring

Tab 5

UNITED STATES DISTRICT COURT
DISTRICT OF MAINE

PENOBSCOT NATION,	)	
	)	
Plaintiff,	)	Civil Action No. 1:12-cv-00254-GZS
	)	
v.	)	
	)	
JANET T. MILLS, *et al.*,	)	
	)	
Defendants.	)	
	)	

DECLARATION OF TIMOTHY GOULD

I, Timothy Gould, depose and state as follows:

1. My name is Timothy Gould. I am an enrolled member of the Penobscot Nation, a federally recognized Indian tribe (the "Tribe" or the "Nation").

2. I was born in 1960 and grew up on the Penobscot Indian Reservation on Indian Island on the Penobscot River.

3. During my childhood, my family relied on the River, from Indian Island northward for food. We regularly ate fish and muskrat caught and trapped in the River. We also regularly ate fiddleheads gathered from the shores of islands as well as from the mainland shores of the River.

4. When thinking about the Penobscot Reservation, we never distinguished between the islands and the bed and waters of the River where we gathered our food, and that was everywhere on the River, bank to bank and between the Islands from Indian Island and northward. I have always considered the bed and waters of the River, from Indian Island at least as far north to Medway (the "Main Stem") to be as much our reservation as the islands.

5. I spent much of my youth (from age 12 into my 20s) on the Main Stem canoeing, fishing, and engaging in other activities. While on the Main Stem during those years, I cannot recall ever seeing State of Maine law enforcement officers. The only law enforcement officers I saw were Penobscot game wardens. It was extremely rare to see anyone other than other Penobscot tribal members on the

Main Stem. During those years, I can recall seeing non-tribal individuals on the Main Stem only once, and I recall being very surprised to see them. They were in a canoe near Orson Island.

6. I commenced work as a game warden for the Penobscot Nation in 2001 and assumed the position of Chief Warden that same year. The Penobscot Nation Warden Service enforces the laws of the Penobscot Nation governing hunting, trapping and other taking of wildlife on the Main Stem as well as tribal laws governing sustenance fishing by members of the Tribe.

7. As a matter of course, the Tribe's wardens patrol the Main Stem every day.

8. Our patrolling on the River was enhanced by our procurement of "jet boats" in 2001, which are powered by jets just below the water surface, unencumbered by most sunken logs, rocks, and ledges in the River.

9. Maine game wardens have, on occasion, patrolled the Main Stem in the company of Penobscot wardens in Penobscot boats. This happened about two or three times per summer until approximately 2007.

10. I have seen Maine game wardens on the Main Stem in boats, other than Penobscot boats, no more than six times in the fourteen years I have served as Chief Game Warden for the Penobscot Nation, and I have not known or heard of State wardens issuing a summons from their own boats, other than one issued to Penobscot tribal member, Miles Francis in the 1990s.

11. I have read the Affidavit of Jennifer Davis Dykstra, "ECF No. 52-2" in this matter, in which Ms. Dykstra attributes a number of statements to me and one "Richard Allen" and refers to us as "Tribal Wardens." There is no Penobscot game warden by the name of Richard Allen. (She may have meant Richard Adams.) I recall the day in question, but I was not involved in any conversation with Ms. Dykstra. I was inspecting individuals in a separate boat.

12. I have never told anyone that the Penobscot Nation requires individuals on the River to have an "access permit" "for access for any reason onto the river." By practice, the only discussions I have with non-tribal individuals about Penobscot permits on the Main Stem have to do with hunting and trapping permits.

13. I have never told anyone that they should "call the Tribe if [they] see State of Maine Wardens on the river."

14. As Chief of the Penobscot warden service, I closely monitor the enforcement and other operations of our warden service on the Main Stem.

a. Penobscot wardens have never told non-tribal members that they need a $40.00 access permit to fish or engage in boating on the Main Stem. They have, however, explained that non-tribal members need the Penobscot hunting permit, which we refer to as a "duck hunting access permit" to engage in duck hunting on the Main Stem. They have also explained that the Tribe prohibits non-sustenance trapping of fur-bearing animals on the Main Stem, but will, on occasion, issue "nuisance" trapping permits to deal with animals that are harming resources.

b. Penobscot wardens have never sought to exclude non-tribal members from the Main Stem; nor have they ever claimed authority to prevent any non-Tribal member from boating on the River.

15. I have read the Affidavit of Steven Morin, "ECF No. 52-4" in this matter, in which Mr. Morin states that I came up to him and Jerrod Hughes and informed them that they "needed a tribal permit to trap anywhere in the Penobscot River because the Tribe owned the bed of the river from bank-to-bank." I never had such a conversation with Mr. Morin, and I have never told anyone that "the Tribe owns the bed of the river." I have informed individuals who hunt or trap on the waters or bed of the Main Stem that Penobscot permits are required for those activities, but never in a provocative or demanding manner.

16. I do recall encountering Jerrod Hughes in the spring of 2013 with trapping equipment. This was when the ice was just out on the River and trappers tend to be active. Mr. Hughes told me that he was in the company of two others, but that he was the only one trapping. He said that his friends were watching. I never spoke with anyone other than Mr. Hughes.

17. Mr. Hughes said that he was beaver trapping on the Main Stem, and when I asked, he said he did not have a trapping permit from the Tribe. I explained that he would need a permit from the Tribe, and he could apply for a nuisance permit through John Banks, the Natural Resources Director for the Tribe. The conversation was very cordial.

18. I later had a discussion with Mr. Banks about prospects for providing Mr. Hughes with a nuisance permit, given the damage that beavers were doing to trees on the islands.

19. Within about 5-7 days later, I learned that Mr. Banks had a nuisance permit for Mr. Hughes. I retrieved it and gave it to another Penobscot game warden, Troy Francis, to deliver it to Mr. Hughes.

20. I later saw Mr. Hughes near a tributary of the Main Stem and he told me that someone was springing his traps. I told him I would keep an eye out for any such activity. As in our first meeting, the conversation was cordial and friendly.

21. On July 20, 2012 I learned from PN Police Chief Robert Bryant that there had been an incident on the River in the area of the eddy near Sandy Beach on Indian Island in which State wardens had stopped three tribal members.

22. Shortly thereafter I received a call on my cell phone from State warden David Georgia saying that someone wished to speak with me. Warden Georgia then handed the telephone to State warden Lieutenant Daniel Scott.

23. Lt. Scott asked me to meet him at the Old Town boat launch to discuss the incident that had occurred earlier that day on the River. I agreed and we met there, together with State warden Sargent Gillis, a short time later.

24. I have read the affidavit of Lt. Scott (ECF No. 118-5) filed in this matter. I did not, as Lt. Scott asserts in paragraphs 9 and 12 of his affidavit, ever say anything about whether State wardens should or should not be patrolling the River.

25. As I recall, Lt. Scott did not say he was concerned "that officials from PN were on the River telling MDIFW Wardens to leave."

26. Lt. Scott and I did discuss our concerns about the incident. I told him that PN considers the river to be part of the Reservation and that as tribal wardens we patrol in the area we consider to be the Reservation.

27. He expressed concern that there could be a conflict on the River given the dispute about jurisdiction, a concern which I told him I shared.

28. Our conversation was at all times cordial and non-confrontational. I told Lt. Scott that we are all professionals and we agreed that the jurisdictional dispute would not be decided at our level but rather in some other forum. I recall telling Lt. Scott that as a tribal member and a tribal warden, I hoped that the Tribe would not lose any more ground when the issue was finally resolved.

29. Lt. Scott asked me if I intended to have my wardens order state wardens off the River and I told him I had no such intention.

30. I explained to Lt. Scott that Warden Georgia frequently called tribal wardens asking them to take him out on the Main Stem to patrol. I explained that tribal wardens declined these requests because the Tribe stopped doing joint patrols on the River because of the dispute about who has jurisdiction. I told Lt. Scott that

Warden Georgia kept calling asking to do joint patrols and appeared unhappy that tribal wardens declined his requests.

31. The Tribe incorporates the laws of Maine as the law of the Tribe by providing that: "State of Maine Law Title 12 shall govern (but not be limited to) the taking of fish and wildlife in all instances where there are no applicable tribal ordinances." Thus, pursuant to that section, Penobscot game wardens routinely check boaters on the Main Stem for compliance with Title 12's provisions, such as requisite boat registrations and personal flotation devices.

32. I have never heard any non-tribal member complain about the Penobscot warden service other than what State wardens have presented by means of affidavits in this case.

33. Our wardens regularly meet with compliments from non-tribal members in their interactions with non-tribal members on the Main Stem. (The letter dated May 30, 2005 attached hereto is an example.) Just last week, I checked a boat on the Main Stem operated by individuals from Massachusetts. Although I did not recognize them, they said that the recognized me because I checked in on them exactly one year ago. They expressed their enjoyment of the River and their gratitude for the Penobscot warden service in its concern for their safety. I expressed my mutual enjoyment of the River and said I was glad they were having a good time.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on:

06/19/15

/s/ Timothy Gould
Timothy Gould

Tab 6

RECEIVED FEB 2 2 1988

JAMES E. TIERNEY
ATTORNEY GENERAL

STATE OF MAINE
DEPARTMENT OF THE ATTORNEY GENERAL
STATE HOUSE STATION 6
AUGUSTA, MAINE 04333

February 16, 1988

William J. Vail, Chairman
Atlantic Sea Run Salmon Commission
State House Station #41
Augusta, Maine 04333

Dear Chairman Vail:

I am writing in response to your inquiry of February 5, soliciting the advice of this office concerning whether there is any legal impediment to the taking of approximately twenty Atlantic salmon from the Penobscot River by the use of gill nets by members of the Penobscot Indian Nation. For the reasons which follow, it is the Opinion of this Department that, on the facts as we understand them, such action would not be prohibited.

As you indicate in your letter, and as we have verified with representatives of the Penobscot Indian Nation, members of the Nation intend, during the Atlantic salmon run this coming summer, to place gill nets in the Penobscot River within the boundaries of the Penobscot Reservation. The purpose of these nets is to catch up to twenty Atlantic salmon for the consumption of members of the Nation. Since the use of gill nets is generally prohibited within the inland waters of the State, 12 M.R.S.A. § 7608, you ask whether this activity would be legal.

In the opinion of this Department, it would be. Pursuant to Section 6207(4) of the Act to Implement the Maine Indian Claims Settlement, 30 M.R.S.A. § 6201, et seq., enacted by the Maine Legislature in 1980, members of the Passamaquoddy Tribe and the Penobscot Nation are authorized to take fish, within the boundaries of their respective Indian Reservations, and "[n]otwithstanding any rule or regulation promulgated by the

Commission or any other law of the State," so long as the fish so taken are used for "their individual sustenance." On the facts as they are presented to us, the salmon to be taken this summer are few in number and will be consumed by members of the Penobscot Nation. They will not be in any way sold or processed for sale to others. That being the case, the activity in question would clearly fall within the purview of Section 6207(4) and would therefore not violate "any other law of the State," including the prohibition against taking fish with gill nets.

This is not to say, however, that the State is without recourse in the event that fishing activity by an Indian tribe or nation threatens the existence of the resource in question. Pursuant to Section 6207(6), you, in your capacity as Commissioner of Inland Fisheries and Wildlife, have the power to initiate proceedings leading to the adoption of remedial measures applicable to activity by an Indian tribe or nation which is "adversely affecting or is likely to adversely affect the stock of any fish or wildlife." While the taking of twenty fish this summer would not seem to pose such a threat, you should be aware of your powers in the event that such a threat should in the future arise.

I hope the foregoing answers your question. Please feel free to reinquire if further clarification is necessary.

Sincerely,

JAMES T. TIERNEY
Attorney General

CH/ao
cc: Priscella A. Attean,
Penobscot Indian Representative

Tab 7

Nos. 16-1424; 16-1435; 16-1474; 16-1482

IN THE UNITED STATES COURT OF APPEALS
FOR THE FIRST CIRCUIT

PENOBSCOT NATION; UNITED STATES, on its own behalf,
and for the benefit of the Penobscot Nation,

Plaintiffs-Appellants/Cross-Appellees,

v.

JANET T. MILLS, Attorney General for the State of Maine; CHANDLER WOODCOCK, Commissioner for the Maine Department of Inland Fisheries and Wildlife; JOEL T. WILKINSON, Colonel for the Maine Warden Service; STATE OF MAINE; TOWN OF HOWLAND; TRUE TEXTILES, INC.; GUILFORD-SANGERVILLE SANITARY DISTRICT; CITY OF BREWER; TOWN OF MILLINOCKET; KRUGER ENERGY (USA) INC.; VEAZIE SEWER DISTRICT; TOWN OF MATTAWAMKEAG; COVANTA MAINE LLC; LINCOLN SANITARY DISTRICT; TOWN OF EAST MILLINOCKET; TOWN OF LINCOLN; VERSO PAPER CORPORATION,

Defendants-Appellees/Cross-Appellants,

EXPERA OLD TOWN; TOWN OF BUCKSPORT; LINCOLN PAPER AND TISSUE LLC; GREAT NORTHERN PAPER COMPANY LLC,

Defendants-Appellees,

TOWN OF ORONO,

Defendant.

ON APPEAL FROM THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MAINE

PRELIMINARY PRINCIPAL BRIEF FOR PENOBSCOT NATION

[*continued on next page*]

KAIGHN SMITH, JR.
JAMES T. KILBRETH, III.
DAVID M. KALLIN
Drummond Woodsum
84 Marginal Way, Suite 600
Portland, ME 04101
(207) 772-1941
ksmith@dwmlaw.com

Of Counsel:
MARK A. CHAVAREE
Penobscot Nation

---

and enforcement authorities, the Penobscot Nation's reservation encompasses the bed and waters of the Penobscot River attending its islands, bank-to-bank.

II. Historical Background

The Penobscot Nation (the "Nation" or the "Tribe") is a federally recognized Indian tribe. 80 Fed. Reg. 1945 (Jan. 14, 2015). Congress describes its "aboriginal territory" as "centered on the Penobscot River" and its "land-ownership orientation" as "riverine." S.Rep., 11; H.R.Rep., 11.

The Penobscots have long-depended upon the resources of the Penobscot River for subsistence. *See, e.g.,* Add.98-99,104-105,109-13; [Joint Appendix ("JA")]ECF124 at 7501¶¶5-6; ECF140-2 at 7861¶3.[2] The fish, eel, turtle, waterfowl, muskrat, beaver and other animals upon which Penobscot tribal members have relied for food are obtained in and on the Penobscot River. Add.98-99,109¶¶6-7; ECF140-1 at 7856¶7; ECF140-21 at 7946¶8; ECF141 at 8056¶60, 8060¶64; ECF148 at 8763¶22. There are no waters on the surfaces of the islands to support fish and these water-inhabiting animals. ECF124-2 at 7511¶12; ECF 141 at 7986¶6. The Tribe's river-based subsistence practices are imbedded in the Tribe's language, culture, traditions, and belief-systems, including its creation

[2] The Tribe provides the summary portions of the report of its expert, Professor Harald Prins, in the Addendum. The district court erred in failing to consider this and other expert reports as hearsay, Order at 4,n.3, because the parties expressly waived hearsay objections to these reports and other Joint Exhibits. ECF111 at 6813¶1.

legends. Add.98-99. Penobscot family names, *ntútem* (or "totems" in English), reflect the creatures of the River: *Neptune* (eel); *Sockalexis* (sturgeon), *Penewit* (yellow perch), *Orono/Tama'hkwe* (beaver), *Nicola/Nicolar* (otter), and *Francis* (fisher). ECF105-88 at 3741. And the Penobscots refer to themselves as *Pa'nawampske'wiak*, or "People of where the river broadens out." ECF105-88 at 3716.

The Penobscots do not distinguish between the islands where they maintain their villages and the waters and beds of the Penobscot River surrounding and between those islands, upon which they rely for subsistence and cultural practices. ECF124 at 7501¶5; ECF124-2 at 7511¶¶6,10; ECF140-2 at 7861¶4. Indeed, the principal Penobscot island village variously called *Panawamskeag* or *Pem ta guaiusk took*, has been translated as "great or long River." ECF105-88 at 3722-23.[3] Penobscot hunting districts are called *nzibum*, translated in English as "my river." Add.99. From treaty times until 1950 (when a bridge was built between Old Town and Indian Island), the Penobscots were a river-bound People, travelling between their island communities by the River. Add.99; ECF141 at 8060-61. *See also* Penobscots and birch bark canoes at ECF106-34 at 3976; ECF106-37 at 3979;

[3] This village, initially known by non-Indians as "Indian Old Town" and today referred to as "Indian Island," ECF105-88 at 3722, is located just above a series of ledges and falls, historically the Tribe's most prized fishing site, *id.* at 3782-88. *See* Add.106-08 (maps of Indian Island and other islands upriver).

ECF106-38 at 3980; ECF106-52 at 3994; ECF106-55 at 3997; ECF106-56 at 3998; ECF119-20 at 7319-22 (describing photographs).

The Penobscots' riverine-based culture and subsistence economy are not romantic notions of the distant past, but remain fundamental to the Tribe in the modern era. *See* Add.112-13; ECF124-2 at 7511¶11; ECF106-32 at 3974 (described at ECF119-20 at 7320¶23 (tribal youth cultural program)). *See also* S.REP., 17 (addressing fear of "acculturation"). For generations, and well into the 1990s, until water pollution suppressed their sustenance practices, Penobscot families relied upon fish, muskrat, eel, freshwater clams, and other food sources from the River, some for up to four meals per week to the tune of two to three pounds per meal. Add.109-13.

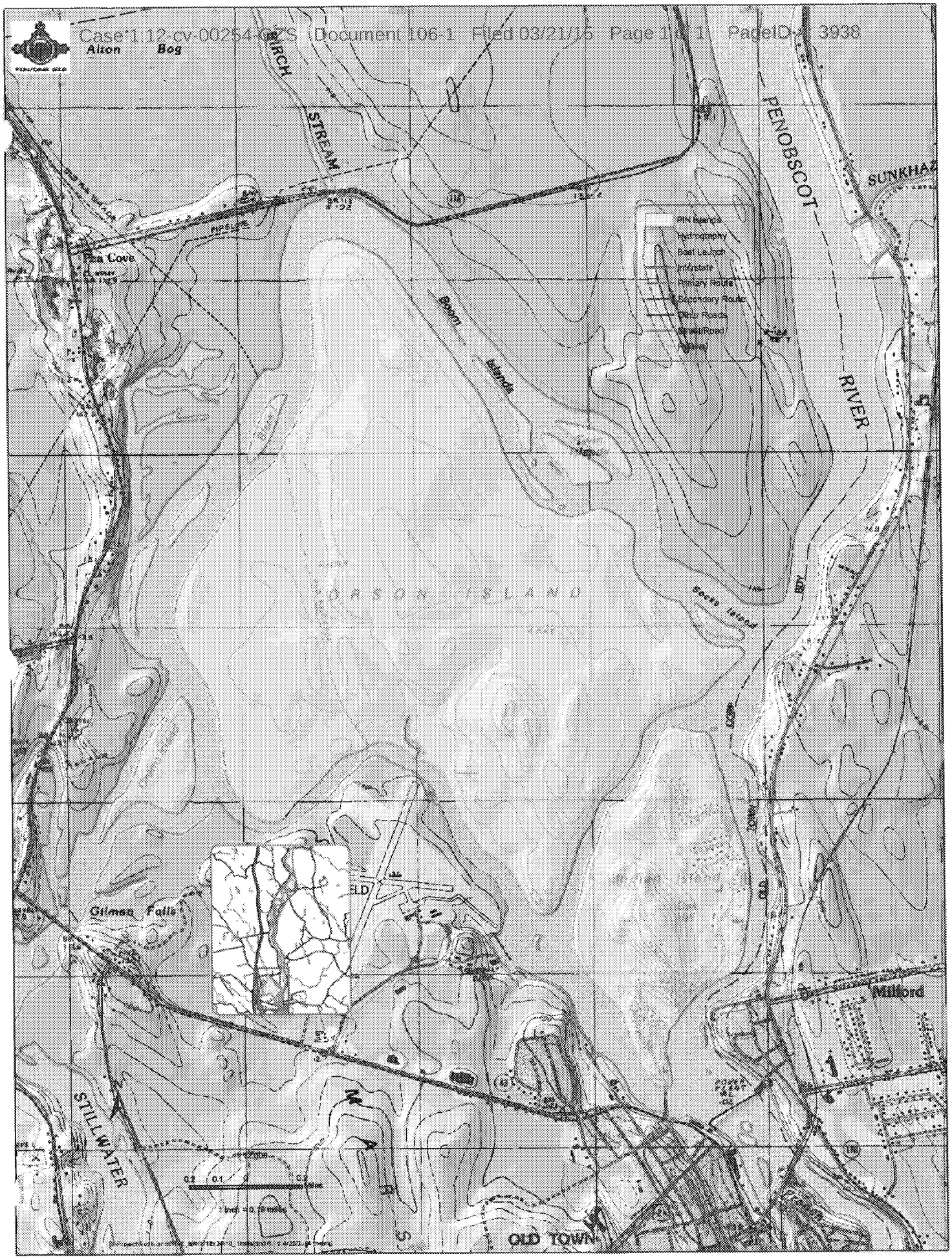
On the eve of the Revolutionary War in 1775, the Provincial Congress in Boston resolved to protect the Tribe's territory "beginning at the head of the tide of the Penobscot river and extending six miles on each side of said river" in exchange for the Tribe's pledge to support the Americans' war effort. ECF107-17 at 4521. "Despite requests from the Maine Indians, the federal government did not protect the tribes following the Revolutionary War [and] [t]he Penobscot Nation lost the bulk of its aboriginal territory in treaties [with Massachusetts] consummated in 1796 and 1818." S.REP. 11-12.

In the 1796 treaty, the Penobscot Nation ceded its aboriginal territory "on both sides of the River Penobscot" from the head of the tides "at Nichol's rock, so called, and extending up the said River thirty miles." Add.91; P.D.5 at 32-33 (copy of original).[4] *See also* ECF105-88 at 3719 (explaining Nichol's rock). The treaty stated that "all the islands in said River, above Old Town, including said Old Town Island, within the limits of said thirty miles," were reserved to the Tribe, but it was silent on the Tribe's continued use and occupation of the River within those limits and above the thirty mile limit. Add.91. This area included substantial Penobscot villages on the islands and shores of the River, including *Madawam'kik* Point (Mattawamkeag) and *Matna'guk* (Lincoln Island). *See* ECF105-88 at 3725 (describing these and other Penobscot communities); ECF106-6 at 3943 (Map of Lincoln and other islands).

In the 1818 treaty, the Nation ceded the rest of its territory "on both sides of the River" from above the thirty mile stretch ceded in the 1796 treaty, with the exception of four townships abutting the River. Add.93-94; P.D.7 at 38-43 (copy of original). The 1818 treaty likewise was silent on the Tribe's use and occupation of the River, but stated that the Tribe "shall have, enjoy and improve all of the four

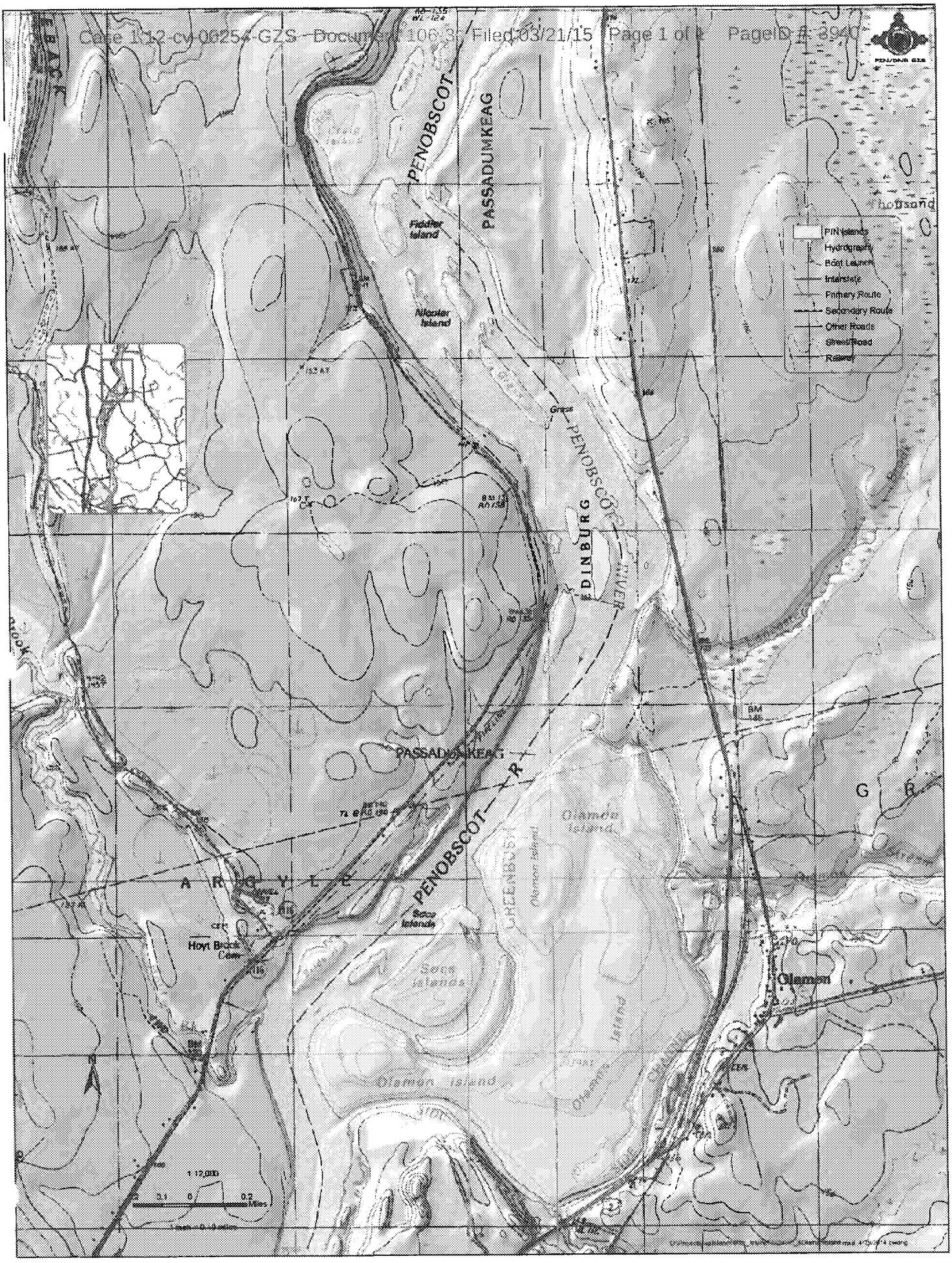
[4] The parties jointly submitted public documents ("P.D.") to the district court, ECF112 at 6816-28, and waived all objections to their admissibility, other than relevancy, for the purpose of summary judgment. ECF111 at 6813-14¶2. Pertinent ones are included in the parties' Joint Appendix.

Tab 8


Alton Bog
STREAM
PENOBSCOT
SUNKHAZ
Pea Cove
Boom Islands
RIVER
PIN Islands
Hydrography
Boat Launch
Interstate
Primary Route
Secondary Route
Other Roads
Street/Road
Railway
ORSON ISLAND
Socks Island
Gilman Falls
Milford
STILLWATER
OLD TOWN

PN-007346

Tab 9


PENOBSCOT
PASSADUMKEAG
Fiddler Island
Nicolar Island
PENOBSCOT
EDINBURG
RIVER
PASSADUMKEAG
PENOBSCOT
R
A R G Y L E
Hoyt Brook Cem
Olamon Island
Olamon Island
Olamon
G R
PIN Islands
Hydrography
Boat Launch
Interstate
Primary Route
Secondary Route
Other Roads
Street/Road
Railway
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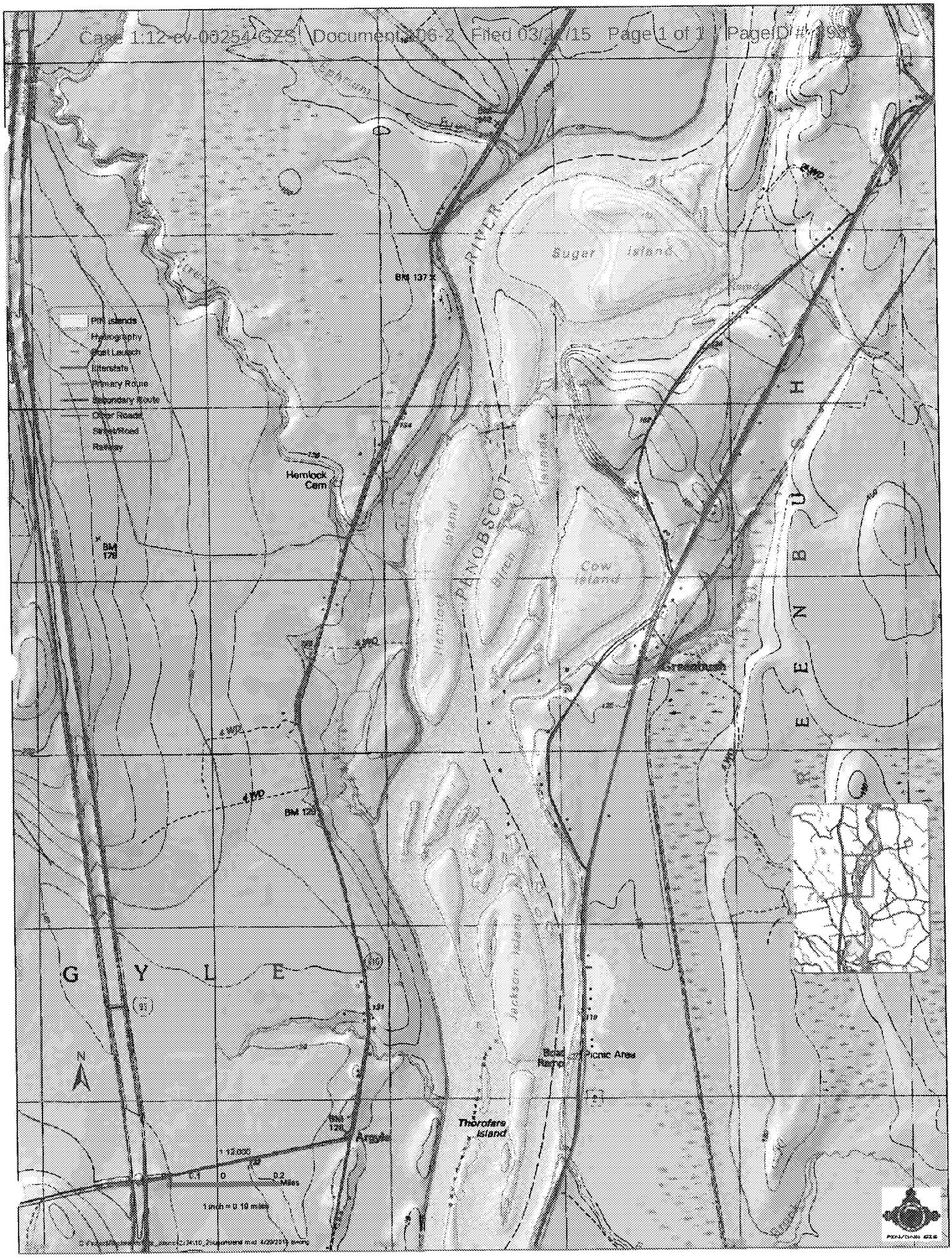
0.2 Miles

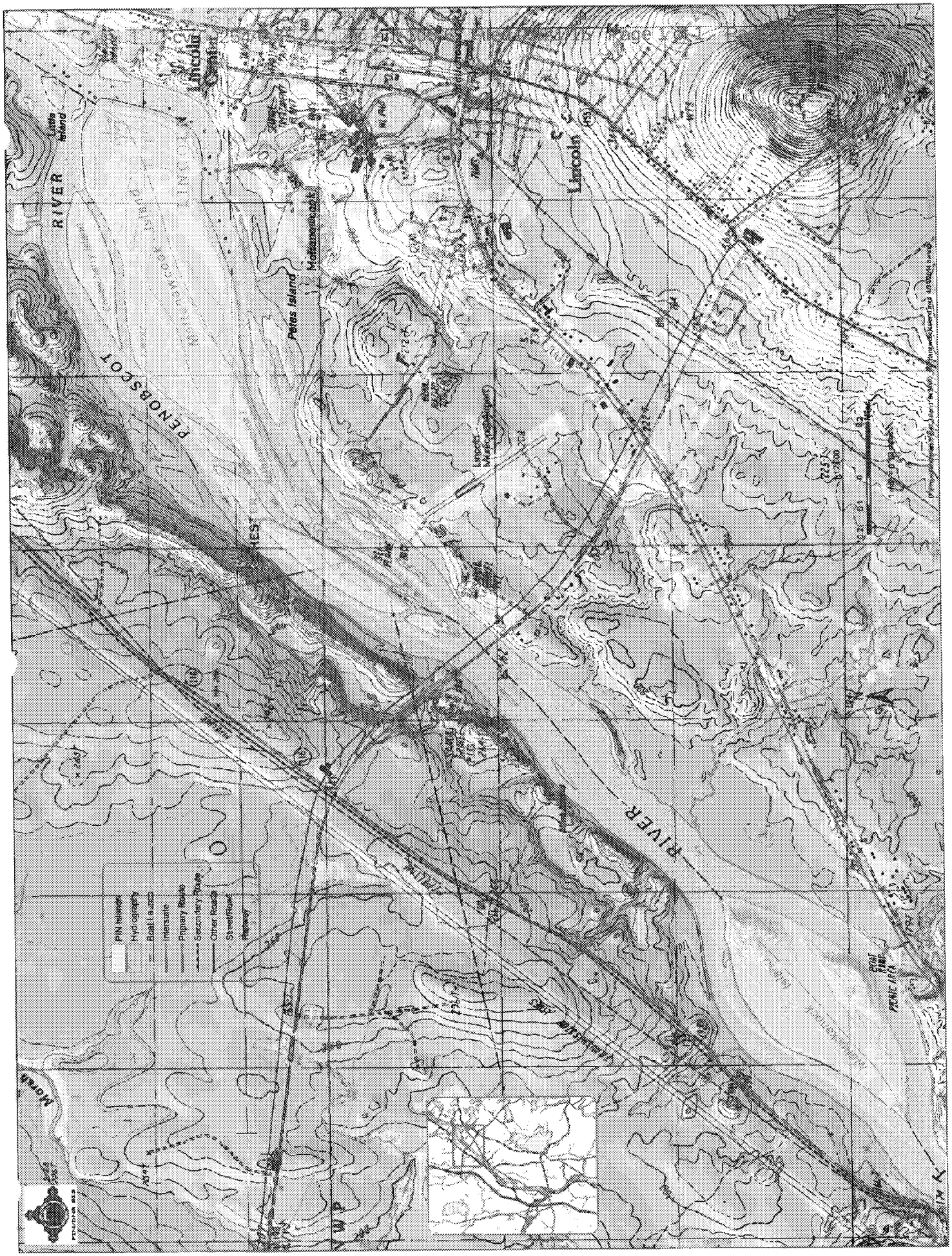
PN-007343

Tab 10


Sugar Island
RIVER
BM 137
Hemlock Cem
PENOBSCOT
Birch
Cow Island
Hemlock Island
Greenbush
Jackson Island
Picnic Area
Thorofare Island
Argyle
BM 178
BM 128
G Y L E
N
1:12,000
0.1 0 0.2 Miles
1 inch = 0.19 miles

PN-007345

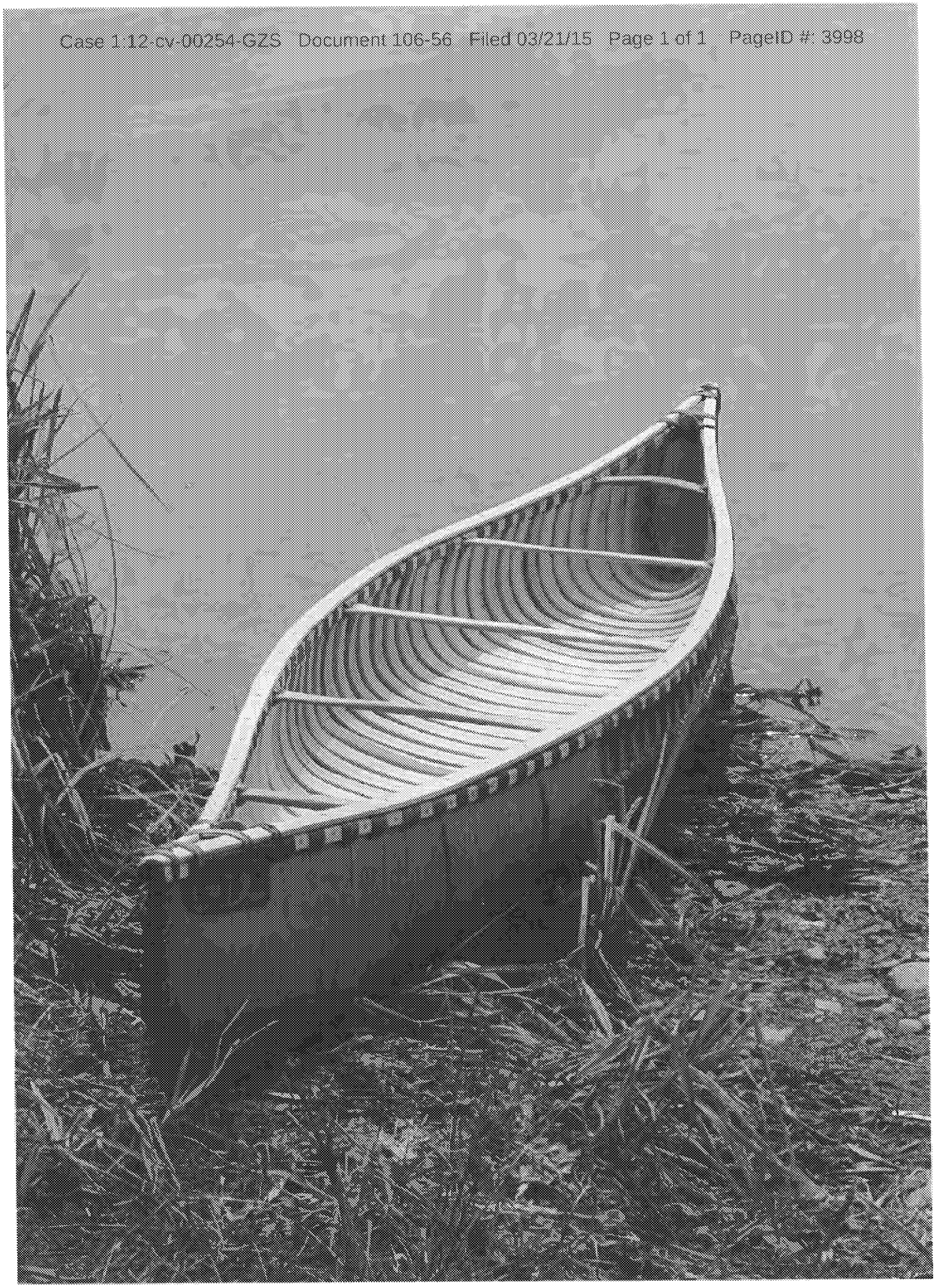
Tab 11


PENOBSCOT
RIVER
Lincoln
Lincoln Center
Little Island
Pétes Island
Mattanawcook
Lincoln Municipal Airport
PIN Islands
Hydrography
Boat Launch
Interstate
Primary Route
Secondary Route
Other Road
Street/Road
Railway
Marsh
PENOBSCOT RIVER
PICNIC AREA
BOAT RAMP

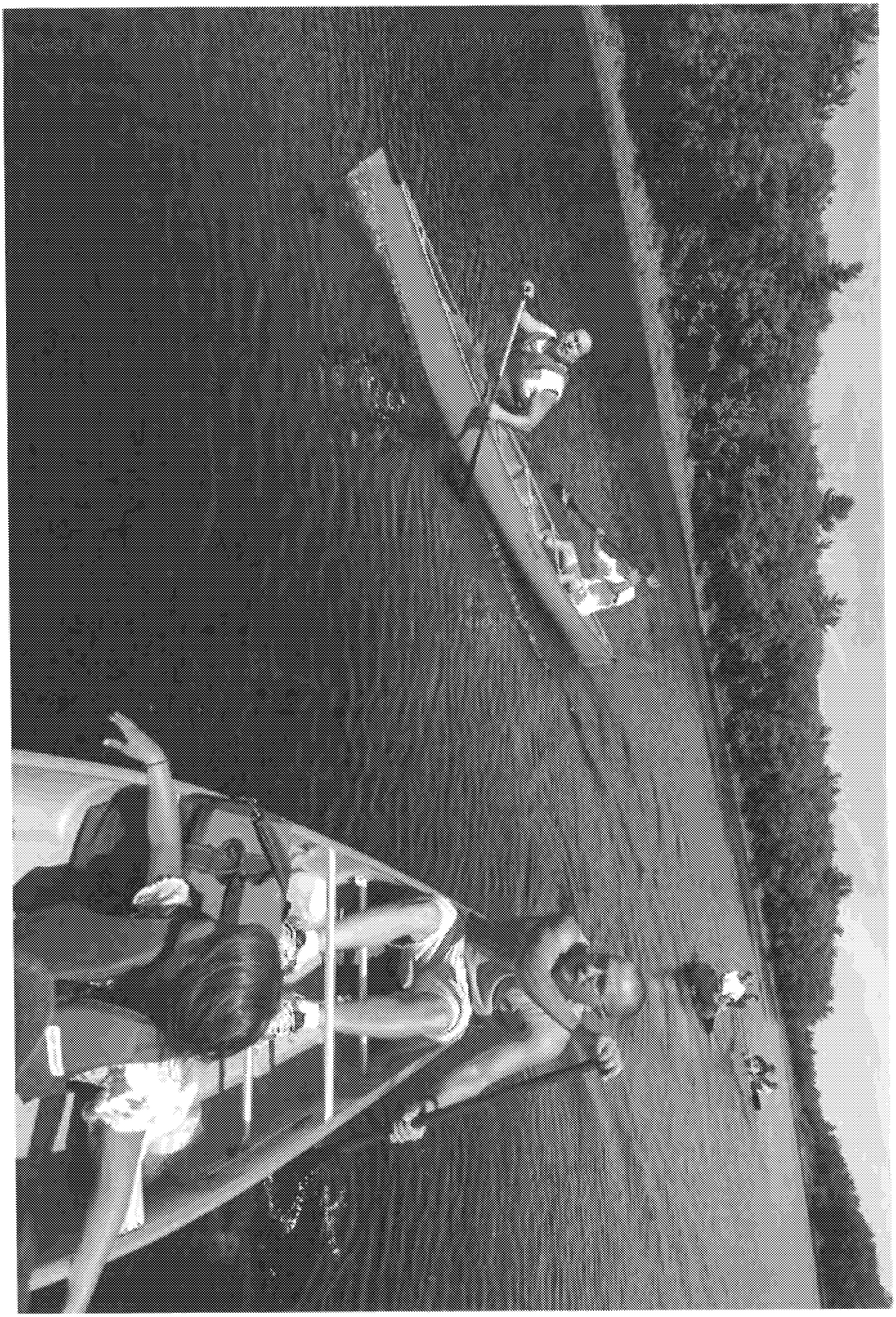
PN-007351

Tab 12

PN-005482



PN-006805



PN-006739

Tab 13

[4310-02-M]

DEPARTMENT OF THE INTERIOR

Bureau of Indian Affairs

INDIAN TRIBAL ENTITIES [1] THAT HAVE A GOVERNMENT-TO-GOVERNMENT RELATIONSHIP WITH THE UNITED STATES

Delegation of Authority

JANUARY 31, 1979.

This notice is published in exercise of authority delegated by the Assistant Secretary—Indian Affairs under 5 U.S.C. 2 and 9; and 230 DM 1 and 2.

Notice is hereby given in accordance with 25 CFR 54.6(b) by the Bureau of Indian Affairs of the tribal entities that have a government-to-government relationship with the United States. The United States recognizes its trust responsibility to these Indian entities and, therefore, acknowledges their eligibility for programs administered by the Bureau of Indian Affairs. The listed entities are not necessarily eligible for programs administered by other Federal Agencies. The list of eligible Alaskan entities will be published at a later date.

INDIAN TRIBAL ENTITIES [1] THAT HAVE A GOVERNMENT-TO-GOVERNMENT RELATIONSHIP WITH THE UNITED STATES

Absentee-Shawnee Tribe of Oklahoma, Acoma Pueblo of New Mexico
Aqua-Caliente Band of Cabuilla Indians (Palm Springs), Aqua-Caliente Indian Reservation, California
Ak Chin Indian Community, Maricopa, Ak Chin Reservation, Arizona
Alabama-Quassarte Creek Tribal Town, Oklahoma
Alturas Rancheria of Pit River Indians, California
Apache Tribe of Oklahoma
Arapahoe Tribe of Wind River Reservation, Wyoming
Assiniboine and Sioux Tribes of the Fort Peck Reservation, Montana
Augustine Band of Cahuilla Mission Indians, Augustine Reservation, California
Bad River Band of Lake Superior Chippewa Indians, Bad River Reservation, Wisconsin
Barona Capitan Grande Band of Diegueno Mission Indians, Barona Reservation, California
Bay Mills Indian Community, Bay Mills Reservation, Michigan
Berry Creek Rancheria of Maidu Indians, California
Big Bend Rancheria of Pit River Indians, California
Big Lagoon Rancheria of Smith River Indians, California
Big Pine Band of Owens Valley Paiute Shoshone Indians, Big Pine Reservation, California
Blackfeet Tribe, Blackfeet Indian Reservation, Montana
Bridgeport Paiute Indian Colony, California
Burns Paiute Indian Colony, Oregon
Cabazon Band of Cahuilla Mission Indians, Cabazon Reservation, California
Cachil Delle Band of Wintun Indians of Colusa Rancheria, California
Caddo Tribe of Oklahoma
Cahuilla Band of Mission Indians, Cahuilla Reservation, California
Cahto Indian Tribe of the Laytonville Rancheria, California
Campo Band of Diegueno Mission Indians, Campo Reservation, California
Capitan Grande Band of Diegueno Mission Indians, Capitan Grande Reservation, California
Cayuga Nation of New York
Cedarville Rancheria of Northern Paiute Indians, California
Chemehuevi Tribe, Chemehuevi Reservation, Arizona
Cher-Ae Heights Indian Community of the Trinidad Rancheria, California
Cherokee Nation of Oklahoma
Cheyenne-Arapaho Tribes of Oklahoma
Cheyenne River Sioux Tribe, Cheyenne River Reservation, South Dakota
Chickasaw Nation of Oklahoma
Chippewa-Cree Tribe of the Rocky Boy Reservation, Montana
Chitimacha Tribe of Louisiana
Choctaw Nation of Oklahoma
Citizen Band of Potawatomi Indians of Oklahoma
Cochiti Pueblo of New Mexico
Cocopah Tribe of Arizona
Coeur D'Alene Tribe, Coeur D'Alene Reservation, Idaho
Cold Springs Rancheria of Mono Indians, California
Colorado River Tribes of the Colorado River Indian Reservation, Arizona
Comanche Tribe of Oklahoma
Confederated Tribes of the Chehalis Reservation, Washington
Confederated Tribes of the Colville Reservation, Washington
Confederated Tribes of the Goshute Reservation, Nevada & Utah
Confederated Salish & Kootenai Tribes of the Flathead Reservation, Montana
Confederated Tribes of the Siletz Reservation, Oregon
Confederated Tribes of the Umatilla Reservation, Oregon
Confederated Tribes of the Warm Springs Reservation, Oregon
Cortina Rancheria of Wintum Indians, California
Coushatta Tribe of Louisiana
Covelo Indian Community of the Round Valley Reservation, California
Coyote Valley Band of Pomo Indians, California
Creek Nation of Oklahoma
Crow Tribe of Montana
Crow Creek Sioux Tribe of the Crow Creek Reservation, South Dakota
Cuyapaipe Band of Diegueno Mission Indians, Cuyapaipe Reservation, California
Delaware Tribe of Western Oklahoma
Devils Lake Sioux Tribe, Devils Lake Sioux Reservation, North Dakota
Dry Creek Rancheria of Pomo Indians, California
Duckwater Shoshone Tribe, Duckwater Reservation, Nevada
Eastern Band of Cherokee Indians of North Carolina
Eastern Shawnee Tribe of Oklahoma
Elem Indian Colony of Pomo Indians of California
Ely Indian Colony, Nevada
Enterprise Rancheria of Maidu Indians, California
Flandreau Santee Sioux Tribe, South Dakota
Forest County Potawatomi Indian Community of Wisconsin
Fort Belknap Indian Community, Fort Belknap Reservation, Montana
Fort Bidwell Indian Community, Paiute Indians of the Fort Bidwell Reservation, California
Fort Independence Indian Community, Paiute Indians of the Fort Independence Reservation, California
Fort McDermitt Paiute-Shoshone Tribes, Fort McDermitt Reservation, Nevada
Fort McDowell, Mohave-Apache Indian Community, Fort McDowell Indian Reservation, Arizona
Fort Mojave Tribe of Arizona
Fort Still Apache Tribe of Oklahoma
Gila River Indian Community, Gila River Reservation, Arizona
Grindstone Indian Rancheria of Wintun-Wailaki Indians, California
Hannahville Potawatomi Indian Community of Michigan
Havasupai Tribe, Havasupai Reservation, Arizona
Hoh Tribe, Hoh Indian Reservation, Washington
Hoopa Valley Tribe of the Hoopa Valley Reservation, California
Hopi Tribe of Arizona
Hopland Band of Pomo Indians, Hopland Rancheria, California
Hualapai Tribe, Hualapai Reservation, Arizona
Inaja & Cosmit Reservation (Diegueno Indians), California
Iowa Tribe of Kansas & Nebraska
Iowa Tribe of Oklahoma
Islete Pueblo of New Mexico
Jackson Rancheria of Me-Wuk Indians, California
Jemez Pueblo of New Mexico
Jicarilla Apache Tribe, Jicarilla Apache Indian Reservation, Arizona
Kaibab Band of Paiute Indians, Kaibab Indian Reservation, Arizona
Kalispel Indian Community, Kalispel Reservation, Washington
Karok Tribe of California
Kashia Band of Pomo Indians of Stewards Point Rancheria, California
Kaw Tribe of Oklahoma
Keweenaw Bay Chippewa Indian Community, L'Anse Reservation, Michigan
Kialegee Tribal Town of Creek Indians, Oklahoma
Kickapoo Tribe of Kansas
Kickapoo Tribe of Oklahoma
Kiowa Tribe of Oklahoma
Kootenai Tribe of Idaho
La Jolla Band of Luiseno Mission Indians, LaJolla Reservation, California
La Posta Band of Diegueno Mission Indians, La Posta Reservation, California
Lac Courte Oreilles Band of Lake Superior Chippewa Indians, Lac Courte Oreilles Reservation, Wisconsin
Lac du Flambeau Band of Lake Superior Chippewa Indians, Lac du Flambeau Reservation, Wisconsin
Laguna Pueblo of New Mexico
Las Vegas Tribe of Paiute Indians, Las Vegas Colony, Nevada
Lookout Rancheria of Pit River Indians, California
Los Coyotes Band of Cahuilla Mission Indians, Los Coyotes Reservation, California
Lovelock Paiute Tribe, Lovelock Indian Colony, Nevada

[1] Includes within its meaning Indian tribes, bands, villages, groups and pueblos as well as Eskimos and Aleuts.

ED_002388A_00006541-00046

Lower Brule Sioux Tribe, Lower Brule Reservation, South Dakota
Lower Elwha Tribal Community, Lower Elwha Reservation, Washington
Lower Sioux Indian Community, Lower Sioux, Reservation, Minnesota
Lummi Tribe, Lummi Reservation, Washington
Makah Tribe, Makah Reservation, Washington
Manchester Band of Pomo Indians, Manchester-Pt. Arena Rancheria, California
Manzanita Band of Diegueno Mission Indians, Manzanita Reservation, California
Menominee Tribe, Menominee Reservation, Wisconsin
Mesa Grande Band of Diegueno Mission Indians, Mesa Grande Reservation, California
Mescalero Apache Tribe, Mescalero Reservation, New Mexico
Miami Tribe of Oklahoma
Miccosukee Tribe of Florida
Middletown Rancheria of Pomo Indians, California
Minnesota Chippewa Tribe, Minnesota (Six component reservations: Boise Fort Band (Nett Lake), Fond du Lac Band, Grand Portage Band, Leech Lake Band, Mille Lac Band, White Earth Band)
Mississippi Band of Choctaw Indians, Mississippi
Moapa Band of Paiute Indians, Moapa River Reservation, Nevada
Modoc Tribe of Oklahoma
Montgomery Creek Rancheria of Pit River Indians, California
Morongo Band of Cahuilla Mission Indians, Morongo Reservation, California
Muckleshoot Tribe, Muckleshoot Reservation, Washington
Nambe Pueblo of New Mexico
Navajo Tribe of Arizona, New Mexico and Utah
Nez Perce Tribe of Idaho, Nez Perce Reservation, Idaho
Nisqually Indian Community, Nisqually Reservation, Washington
Nooksack Indian Tribe of Washington
Northern Cheyenne Tribe, Northern Cheyenne Reservation, Montana
Northwestern Band of Shoshone Indians of Utah (Washakie)
Oglala Sioux Tribe of the Pine Ridge Reservation, South Dakota
Omaha Tribe of Nebraska
Oneida Nation of New York
Oneida Tribe of Wisconsin, Oneida Reservation, Wisconsin
Onondaga Nation of New York
Osage Tribe of Oklahoma
Ottawa Tribe of Oklahoma
Otoe-Missouria Tribe, Oklahoma
Paiute-Shoshone Indians of the Bishop Community, Bishop Colony, California
Paiute-Shoshone Indians of the Fallon Reservation, Nevada
Paiute-Shoshone Indians of the Lone Pine Community, Lone Pine Reservation, California
Pala Band of Luiseno Mission Indians, Pala Reservation, California
Papago Tribe of Arizona
Pascua Yaqui Tribe of Arizona
Passamaquoddy Tribe of Maine
Pauma Band of Luiseno Mission Indians, Pauma & Yuima Reservation, California
Pawnee Tribe of Oklahoma
Payson Tonto Apache Tribe of Arizona
Pechanga Band of Luiseno Mission Indians, Pechanga Reservation, California
Penobscot Tribe of Maine
Peoria Tribe of Oklahoma
Picuris Pueblo of New Mexico
Pit River Tribe, X-L Ranch Reservation, California
Pojoaque Pueblo of New Mexico
Ponca Tribe of Oklahoma
Port Gamble Indian Community, Port Gamble Reservation, Washington
Prairie Band of Potawatomi Indians of Kansas
Prairie Island Sioux Indian Community, Prairie Island Reservation, Minnesota
Puyallup Tribe, Puyallup Reservation, Washington
Pyramid Lake Paiute Tribe, Pyramid Lake Reservation, Nevada
Quapaw Tribe of Oklahoma
Quechan Tribe of the Fort Yuma Indian Reservation, California
Quileute Tribe, Quileute Reservation, Washington
Quinault Tribe, Quinault Reservation, Washington
Ramona Reservation, California
Red Cliff Band of Lake Superior Chippewa Indians, Red Cliff Reservation, Wisconsin
Red Lake Band of Chippewa Indians, Red Lake Reservation, Minnesota
Reno-Sparks Indian Colony, Nevada
Resighini Rancheria, Coast Indian Community of Yurok Indians, California
Rincon Band of Luiseno Mission Indians, Rincon Reservation, California
Roaring Creek Rancheria of Pit River Indians, California
Robinson Rancheria of Pomo Indians, California
Rosebud Sioux Tribe, Rosebud Indian Reservation, South Dakota
Rumsey Rancheria of Wintun Indians, California
Sac & Fox Tribe of the Mississippi in Iowa
Sac & Fox Tribe of the Missouri in Kansas
Sac & Fox Tribe of Oklahoma
Saginaw Chippewa Tribe of the Isabella Reservation, Michigan
Salt River Pima-Maricopa Indian Community, Salt River Reservation, Arizona
San Carlos Apache Tribe, San Carlos Reservation, Arizona
San Felipe Pueblo of New Mexico
San Ildefonso Pueblo of New Mexico
San Juan Pueblo of New Mexico
San Manual Band of Serrano Mission Indians, San Manual Reservation, California
San Pasqual Band of Diegueno Indians, San Pasqual Reservation, California
Sandia Pueblo of New Mexico
Santa Ana Pueblo of New Mexico
Santa Clara Pueblo of New Mexico
Santa Rosa Indian Community, Santa Rosa Rancheria of California
Santa Rosa Band of Cahuilla Mission Indians, Santa Rosa Reservation, California
Santa Ynez Band of Chumash Mission Indians, Santa Ynez Reservation, California
Santa Ysabel Band of Diegueno Mission Indians, Santa Ysabel Reservation, California
Santee Sioux Tribe, Santee Reservation, Nebraska
Santo Domingo Pueblo of New Mexico
Sauk-Suiattle Indian Tribe of Washington
Sault Ste. Marie Chippewa Tribe of Michigan
Seminole Nation of Oklahoma
Seminole Tribe of Florida
Seneca Nation of New York
Seneca-Cayuga Tribe of Oklahoma
Shakopee Mdewakanton Sioux Community of Minnesota (Prior Lake)
Sheep Ranch Rancheria of Me-Wuk Indians, California
Sherwood Valley Rancheria of Pomo Indians, California
Shingle Springs Rancheria (Verona Tract) of Miwok Indians, California
Shoalwater Bay Tribe, Shoalwater Bay Reservation, Washington
Shoshone Tribe of the Wind River Reservation, Wyoming
Shoshone-Bannock Tribes of the Fort Hall Reservation, Idaho
Shoshone-Paiute Tribe of the Duck Valley Reservaton, Nevada
Sisseton-Wahpeton Sioux Tribe, Lake Traverse Reservation, South Dakota
Skokomish Tribe, Skokomish Reservation, Washington
Skull Valley Band of Goshute Indians, Utah
Soboba Band of Luiseno Mission Indians, Soboba Reservation, California
Sokoagon Chippewa Community, Mole Lake Band, Wisconsin
Southern Ute Tribe, Southern Ute Reservation, Colorado
Spokane Tribe of the Spokane Reservation, Washington
Squaxin Island Tribe, Squaxin Island Reservation, Washington
St. Croix Chippewa Indians of Wisconsin, St. Croix Reservation, Wisconsin
St. Regis Band of Mohawk Indians of New York
Standing Rock Sioux Tribe, Standing Rock Reservation, North & South Dakota
Stockbridge-Munsee Mohican Indian Community, Wisconsin
Stillaguamish Tribe of Washington
Summit Lake Paiute Tribe, Summit Lake Reservation, Nevada
Suguamish Tribe, Port Madison Reservation, Washington
Susanville Rancheria of Paiute, Maidu, Pit River & Washoe Indians of California
Swinomish Indian Tribal Community, Swinomish Reservation, Washington
Sycuan Band of Diegueno Mission Indians, Sycuan Reservation, California
Table Bluff Rancheria of California
Table Mountain Rancheria of Yokut Indians of California
Taos Pueblo of New Mexico
Te-Moak Bands of Western Shoshone Indians, Nevada (Battle Mountain, Elko & South Fork)
Tesuque Pueblo of New Mexico
Thlopthlocco Creek Tribal Town of Oklahoma
Three Affiliated Tribes of the Fort Berthold Reservation, North Dakota
Tonawanda Band of Seneca Indians of New York
Tonkawa Tribe of Oklahoma
Torres-Martinez Band of Cahuilla Mission Indians, Torres-Martinez Reservation, California
Tule River Tribe, Tule River Reservation, California
Tulalip Tribes of the Tulalip Reservation, Washington
Tuolumne Band of Me-Wuk Indians, Tuolumne Rancheria, California
Turtle Mountain Band of Chippewa Indians, Turtle Mountain Reservation, North Dakota
Tuscarora Nation of New York
Twenty-Nine Palms Band of Luiseno Mission Indians, 29 Palms Reservation, California
United Keetoowah Band of Cherokee Indians, Oklahoma

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Upper Lake Band of Pomo Indians of Upper Lake Rancheria, California
Upper Sioux Indian Community, Upper Sioux Reservation, Minnesota
Upper Skagit Tribe of Washington
Ute Indian Tribe of the Uintah & Ouray Reservation, Utah
Ute Mountain Tribe, Ute Mountain Reservation, Colorado, New Mexico & Utah
Utu Utu Gwaiti Paiute Tribe of the Benton Paiute Reservation, California
Viejas Baron Long Captain Grande Band of Diegueno Mission Indians, Viejas Reservation, California
Walker River Paiute Tribe, Walker River Reservation, Nevada
Washoe Tribe of Nevada & California (Carson Colony, Dresslerville & Washoe Ranches)
White Mountain Apache Tribe, Fort Apache Reservation, Arizona
Wichita Tribe of Oklahoma
Winnebago Tribe of Nebraska, Winnebago Reservation, Nebraska
Winnebago Tribe of Wisconsin
Winnemucca Indian Colony, Nevada
Wyandotte Tribe of Oklahoma
Yakima Tribes of the Yakima Reservation, Washington
Yankton Sioux Tribe, South Dakota
Yavapai-Apache Indian Community, Camp Verde Reservation, Arizona
Yavapai-Prescott Tribe, Yavapai Reservation, Arizona
Yerington Paiute Tribe of Nevada (Campbell Ranch)
Yomba Shoshone Tribe of the Yomba Reservation, Nevada
Yurok Tribe of the Hoopa Valley Reservation, California
Zia Pueblo of New Mexico
Zuni Pueblo of New Mexico

For additional information contact Patricia Simmons, Division of Tribal Government Services, Branch of Tribal Relations, 1951 Constitution Avenue, N.W., Washington, D.C. 20245, telephone number, 202-343-4045.

FORREST J. GERARD,
Assistant Secretary,
Indian Affairs.

[FR Doc. 79-3979 Filed 2-5-79; 8:45 am]

[4310-84-M]

Bureau of Land Management

NORTHERN TIER PIPELINE CO.

Public Hearings and Extension of Comment Period for Draft Environmental Statement (INT DES 79-3) on the Crude Oil Transportation System

Notice is hereby given that public hearings will be held at:

Coeur d'Alene, Idaho: 1:30 p.m., March 6, 1979, Convention Center, North Shore Motor Hotel, South 115 2nd Street.
Billings, Montana: 1:30 p.m., March 6, 1979, Room 152, Liberal Art Building, Eastern Montana College.
Helena, Montana: 1:30 p.m. March 7, 1979, Highway Department Auditorium, 2701 Prospect Ave.
Glendive, Montana: 1:30 p.m., March 7, 1979, Holliday Lodge—Jordan Hotel, 223 North Merrill.
Missoula, Montana: 1:30 p.m., March 8, 1979, Lewis & Clark Room, Village Red Lion Motor Inn, 100 Madison.
Williston, North Dakota: 1:30 p.m., March 8, 1979, Farm Credit Community Room, 603 Main Street.
Ephrate, Washington: 1:30 p.m., March 12, 1979, Auditorium, Grant County Public Utility District, 30 C Street, S.W.
Crookston, Minnesota: 1:30 p.m., March 13, 1979, Agricultural Research Center, University of Minnesota, Crookston.
Olympia, Washington: 1:30 p.m., March 13, 1979, Auditorium, State Office Building No. 2, 12th and Jefferson.
Minot, North Dakota: 1:30 p.m., March 14, 1979, Frontier Theater, Student Union Building, Minot State College.
Seattle, Washington: 9:30 a.m., March 14, 1979, North Auditorium, 4th Floor, New Federal Building, 912 2nd Ave.
Bismarck, North Dakota: 1:30 p.m., March 15, 1979, Highway Department Auditorium, State Capitol.
Port Angeles, Washington: 1:30 p.m. & 7:30 p.m., March 15, 1979, Little Theater, Peninsula College, 1502 East Lauridsen Blvd.
Juneau, Alaska: 1:30 p.m., March 19, 1979 Gold Room, Baranof Hotel, North 127 Franklin St.
Skagway, Alaska 7:00 p.m., March 20, 1979 City Hall Council Chambers.

A Notice of Availability of the draft environmental statement (ES) for a crude oil transportation system for Port Angeles, Washington, to Clearbrook, Minnesota, was published in the FEDERAL REGISTER on January 18, 1979. The original comment period was scheduled to close March 20, 1979. This is to announce that the comment period has been extended for 13 days and is now scheduled to close April 2, 1979. Copies of the draft ES are available for inspection at the locations defined in the above referenced Notice of Availability.

The Public Utility Regulatory Policies Act of 1978 was enacted on November 16 1978. Title V of this Act (Crude Oil Transportation Systems) provides for the submission of competing applications for systems capable of transporting Alaskan and other crude oil to northern tier and inland States. It also provides a mechanism for the President to choose between such competing applications, as well as providing for the expeditious processing of all such applications.

Three competing applications have been filed under Title V by the Northern Tier Pipeline Company, Northwest Energy Company (Foothills), and Kitimat Pipeline Ltd. All three of these applications are discussed in the draft ES issued January 11, 1979.

The purpose of the public hearing is to give the public the opportunity to comment on the draft ES with regards to the provisions of section 102(2)(C) of the National Environmental Policy Act of 1969.

The public hearings will be conducted by an Administrative Law Judge, U.S. Department of the Interior. Individuals wishing to testify may do so by appearing at a hearing location as indicated above. Testimony may be limited to 10 minutes if necessary to assure that everyone has an opportunity to speak. Written comments are also invited. Prior to giving testimony at the public hearings, individuals, or spokespersons are requested to complete a hearing registration form. Registration form may be obtained by contacting the Bureau of Land Management Oregon State Director, Northern Tier Project, Room 1250, Lloyd Building, 700 N.E. Multnomah, Portland, Oregon 97232. Written comments may be submitted at hearing locations or sent to the Oregon State Director's Office. Comments received by the close of the review period, April 2, 1979, will be considered prior to writing the final ES. The response to each comment received by April 2, 1979, will be noted in the final ES.

Dated: February 1, 1979.

ARNOLD E. PETTY,
Director,
Acting Associate.

[FR Doc. 79-3970 Filed 2-5-79; 8:45 am]

[1505-01-M]

[Oregon 016753; 2330 (943.4)]

OREGON

Opportunity for Public Hearing and Republication of Notice of Proposed Withdrawal

Correction

In FR Doc. 79-1782, appearing at page 3788, in the issue for Thursday, January 18, 1979, on page 3788, in the third column, in the land description, under Willamette Meridian—Revested Oregon and California Railroad Grant Lands, between the tenth and eleventh lines a sentence was omitted which should inserted to read: "Sec. 21, S½NW¼SW¼NW¼ and SW¼SW¼NW¼;".

[4310-84-M]

SHORT-TERM COAL LEASING

Bidding Methods and Fair Market Value

AGENCY: Department of the Interior, Bureau of Land Management.

ACTION: Request for public comments on bidding method to be used in short-term bypass coal lease sales.

ED_002388A_00006541-00048

Tab 14

STANDARD FORM 26, JULY 1966
GENERAL SERVICES ADMINISTRATION
FED. PROC. REG. (41CFR) 1-16.101

AWARD/CONTRACT

PAGE 1 OF

1. CONTRACT (Proc. Inst. Ident.) NO.: S50C14200154
2. EFFECTIVE DATE: 10/01/79
3. REQUISITION/PURCHASE REQUEST/PROJECT NO.:
4. CERTIFIED FOR NATIONAL DEFENSE UNDER BDSA REG. 2 AND/OR DMS REG. 1. RATING:

5. ISSUED BY CODE:
Bureau of Indian Affairs, Eastern Area Office, Branch of Contracts and Grants, 1951 Constitution Avenue, N.W. Washington, D.C. 20240

6. ADMINISTERED BY (If other than block 5) CODE:

ORIGINAL

7. DELIVERY: [X] FOB DESTINATION [ ] OTHER (See below)

8. CONTRACTOR NAME AND ADDRESS CODE: FACILITY CODE:
(Street, city, county, State, and ZIP code)
Penobscot Indian Nation
Community Building - Indian Island
Old Town, Maine, 04468

9. DISCOUNT FOR PROMPT PAYMENT: N/A

10. SUBMIT INVOICES (4 copies unless otherwise specified) TO ADDRESS SHOWN IN BLOCK 5

11. SHIP TO/MARK FOR CODE:

12. PAYMENT WILL BE MADE BY CODE:
Bureau of Indian Affairs, Eastern Area Office, Branch of Finance and Accounting - Code 1000
1951 Constitution Avenue, N.W.
Washington, D. C. 20240

13. THIS PROCUREMENT WAS [ ] ADVERTISED, [X] NEGOTIATED, PURSUANT TO: [ ] 10 U.S.C. 2304 (a)( ) [X] 41 U.S.C. 252 (c)(10 (15) 25 USC 13 & 25 USC 450 (638)

14. ACCOUNTING AND APPROPRIATION DATA
See Attached Listing

15. ITEM NO.	16. SUPPLIES/SERVICES	17. QUANTITY	18. UNIT	19. UNIT PRICE	20. AMOUNT
	COST-REIMBURSABLE CONTRACT For the operation of the Reservation Programs for the Penobscot Indian Nation located in the State of Maine, for Fiscal Year 1980. This cost-reimbursable contract consists of this Face Sheet and the following: Part 100 - Work Statement Part 200 - Special Provisions Part 300 - General Conditions Attachment "A", Contractor's Plan of Operation and the Budget.	.....	.....	.....	$585,587.00

21. TOTAL AMOUNT OF CONTRACT $ 585,587.00

CONTRACTING OFFICER WILL COMPLETE BLOCK 22 OR 26 AS APPLICABLE

22. [X] CONTRACTOR'S NEGOTIATED AGREEMENT (Contractor is required to sign this document and return original copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all the services set forth or otherwise identified above and on any continuation sheets for the consideration stated herein. The rights and obligations of the parties to this contract shall be subject to and governed by the following documents: (a) this award/contract, (b) the solicitation, if any, and (c) such provisions, representations, certifications, and specifications, as are attached or incorporated by reference herein. (Attachments are listed herein.)

23. NAME OF CONTRACTOR
BY Wilfred Pehrson (Signature of person authorized to sign)

NAME AND TITLE OF SIGNER (Type or print): Wilfred Pehrson, Tribal Governor
25. DATE SIGNED: 9-19-79

26. [ ] AWARD (Contractor is not required to sign this document.) Your offer on Solicitation Number _____, including the additions or changes made by you which additions or changes are set forth in full above, is hereby accepted as to the items listed above and on any continuation sheets. This award consummates the contract which consists of the following documents: (a) the Government's solicitation and your offer, and (b) this award/contract. No further contractual document is necessary.

27. UNITED STATES OF AMERICA
BY Edward J. Gregory (Signature of Contracting Officer)

28. NAME OF CONTRACTING OFFICER (Type or print): Edward J. Gregory, Contracts and Grants Officer, Eastern Area Ofc.
29. DATE SIGNED: OCT 12 19

PN-008994

BUDGET
F.Y. 1980
PENOBSCOT INDIAN NATION

APPROPRIATION AND PROGRAM	DIRECT COSTS	INDIRECT COSTS	TOTAL
1. Agricultural Extension S50-06/0/3215/2168	$ 15,100.00	$ 3,060.00	$ 18,160.00
2. Employment Development S50-06/0/3715/3365	$126,700.00	$15,927.00	$142,627.00
3. Forestry S50-06/0/3815/5290	$ 57,300.00	$11,502.00	$ 68,802.00
4. Housing S50-06/0/3215/2435	$ 55,300.00	$11,502.00	$ 66,802.00
5. Wildlife and Parks S50-06/0/3815/5790	$ 77,200.00	$16,058.00	$ 93,258.00
6. Law Enforcement Program S50-06/0/3215/2361	$ 70,000.00	$14,560.00	$ 84,560.00
7. Real Estate Services S50-06/0/3415/4290	$ 92,200.00	$19,178.00	$111,378.00
Sub-Total Direct Costs	$493,800.00		
8. Indirect Costs S50-06/0/3215/2664		$91,787.00	
TOTAL.....			$585,587.00

PN-008995

Office of the Governor and Council
Wilfred Pehrson,
Governor
Edwin Mitchell,
Lt. Governor
Timothy Love,
Representative

Community Building
Indian Island
Old Town, Maine 04468
(207) 827-7776

CONTRACT FOR

1. Agricultural Extension
2. Employment Development
3. Forestry
4. Housing Imporvement Program
5. Law Enforcement Program
6. Real Estate Services
7. Wildlife and Parks

BY THE
PENOBSCOT NATION

September 5, 1979

PENOBSCOT NATION
FISH & GAME DEPARTMENT

MUNICIPAL BUILDING
INDIAN ISLAND, MAINE 04468
TEL.: 207/827-6233
DISPATCHERS 207/827-7188

PENOBSCOT NATION

WILDLIFE AND PARKS

NARRATIVE FY80

SCOPE OF WORK

During the 1980 fiscal year, the Wildlife and Parks personnel was charged with the responsibilities of maintaining peace, order, public safety, conservation and Fish and Wildlife Laws north of Indian Island. This area includes 146 to 199 islands lying in the Penobscot River. The islands vary in size from less than 1 acre to 1400 acres. They also run through 17 townships and two counties. The duties of the personnel include the enforcement of Tribal State, and Federal Fish and Wildlife Laws, as well as enforcement of criminal laws. While enforcing these various laws, Wildlife and Parks personnel were also responsible for compiling information about Fish and Wildlife activities, as well as water quality and fire control on the Reservation lands and waterways.

WORK PLAN

The Wildlife and Parks program gathered data on the muskrat, a fur bearing animal which is common to the Penobscot River. After taking a survey of the river as well as taking down information from local Indian trappers this Department recommeded to the Governor and Council to close the fall trapping season to the taking of fur bearing animals (muskrat). Also recommended to the Governor and Council by this Department, was the tagging of all fur bearing animals in order to collect further data of these species.

The Penboscot waterway is part of the natural flight pattern for migrating waterfowl. During the duck hunting season many hours have been spent in the enforcement of trespass complaints on Reservation Lands. Some of these waterfowl nest on the Penobscot Reservation during the summer months. As there are Federal Laws governing migratory birds, State and Federal Wardens assist our personnel during this season.

During the winter months, this Department logs many hours checking hunting camps and recreational areas for vandilism, burgulary, theft, etc., While doing this, Wildlife and Parks personnel also enforce snowmobile regulations as well as handle all off road accident investigations on the Penobscot lands. Many hours are spent investigating dog-deer complaints. Not only are there reports of domestic dogs chasing deer, but there is a severe increase of coyote reports. As several of the Penobscot Islands have deer yards many hours are spent monitering these yards to ensure the safety and well being of the White Tailed Deer.

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FISH & GAME DEPARTMENT

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Due to a price hike in the fur market, there has been an increase in the number of trappers. Wildlife and Parks personnel monitor all trapping seasons closely. Beaver trappers are checked regularly for violations, as well as to monitor for statistical reasons. Due to the number of bear taken the season was closed early. There are several other fur bearing animals taken each year, such as mink, otter, raccoon, fox, etc. To monitor these animals as to increase, and decline, this Department recommends tagging of all fur bearing animals.

The Fiddlehead Fern is an edible plant that grows in abundance on Reservation islands and is subjected to the encroachment by non-Penobscots. Many tribal members supplement their livelihood gathering the fiddlehead fern and taking it to market. Wildlife and Parks personnel also monitor the reservation lands for trespassers who continue to gather these ferns without obtaining a permit from this Department.

Fishing and boating along with the litter laws are enforced during the summer months. We monitor the spring salmon run very closely as we have had reports of salmon poaching along the Penboscot River. Boating activities are also monitored very closely for violations on the Penobscot River because there seems to be an increase in this activity.

Deer and moose hunting seasons are monitored from Oct. 1 thru Nov. 30 with respect to the tagging of these animals. Data collected consists of the sex, size, and age of all species, and where the animals were taken from.

TRAINING

The training for our personnel for FY80 consisted of the following:

SPECIAL TRAINING

8 weeks criminal Investigator School (1 officer)
15 Weeks typing school (all personnel)
Continuous Physical Training
Basic Police School (1 officer)
Waterfowl & Mammal I.D. Classes
Law Enforcement classes at U of M (all personnel)

IN-SERVICE TRAINING

1. Self-Defense
2. Use of Police Baton & P.R. 24 Monadock
3. Arrest & Handcuffing Techniques
4. Firearms Training/Qualifications
5. Management Courses

COORDINATION

The Warden Supervisor is held accountable as to the administration of the Wildlife and Parks program. Monthly activity reports are submitted to the Governor and Council. The Warden Supervisor is held responsible for ensuring

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FISH & GAME DEPARTMENT

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that all personnel are working their scheduled hours along with keeping all Wildlife and Parks vehicles and equipment in top working order. A continuing effort is put in as to the training of Wildlife and Parks personnel as to enable them to handle all situations they may encounter. The jurisdiction issue has been the biggest setback for this Department in FY80. The positive boundry lines and waterway jurisdiction is as yet to be settled. By just having the presence of Wildlife and Parks personnel on the Penobscot lands has been a deterent to crime. But by not having a sound book of laws to go by has opened the door for some, to question the actions of Wildlife and Parks personnel. During FY80 a budget cut prevented a proposed expansion in the Wildlife Management Area, and without an increase for the FY81 contract it puts a burden on the Wildlife Management Plan now in its preliminary stage.

WILDLIFE AND PARKS

Scope of Work

The work to be performed will be to enforce state, tribal and federal laws and ordinances related to hunting, fishing, boating, snowmobiling, etc., including the apprehension and prosecution of violators. In addition contract funds will be utilized in the promotion of wildlife conservation and environmental protection and the performance of search and rescue work.

Work Plan

1. To enforce fish, game, environmental, boating, snowmobile, trapping and criminal state, federal, and tribal laws and ordinances.
2. To protect natural resources and identify conservation needs.
3. To investigate hunting, fishing, boating, wildlife and off-highway snowmobile accidents.
4. To check camps and recreational properties (especially during the winter months) for indications of breaking, entering and larceny and to prosecute the person(s) responsible for such actions.
5. To provide appropriate training for the personnel.
6. To maintain and revise, as necessary, adequate records and reports.

Coordination

Recently the Tribal Council consolidated the Fish and Game and Police Departments into the Department of Public Safety/Protection as a means of improving the efficiency of the Tribal Administration. The Director of this Department will be responsible for ensuring that the work plan is completed, for coordinating appropriate activities, functions and administrative procedures with other tribal agencies/departments and for assisting and cooperating with other agencies whenever needed.

Personnel System

The Penobscot Nation has a personnel system which includes policies and procedures for job classification, compensation, recruitment, condition of employment and grievances.

Each program director for the above contracts performs the following

duties for the Penobscot Governor and Council:

1. Establish detailed program goals and objectives and develop a plan of operation for implementation. This is to be submitted to the Governor and Council for approval.

2. Implement the program as approved by the Governor and Council including the employment of staff.

3. Carry out all administrative functions necessary to the proper management of the program.

4. Provide the Governor and Council with monthly activity and financial status reports and any other required reports.

Equipment and Facilities

All the equipment and facilities needed to carry out each contract, but presently not available are listed in the itemized budgets for each program. Office space for each program will be made available in the appropriate Tribal buildings - municipal, housing or community building.

Accountant's Certification

ATTACHED.

Property Management

The program directors are responsible for the safekeeping of all program equipment and will list and mark for identification all non-expendable items. Equipment will then be assigned in writing to individual employees. The Tribal Administration has the overall responsibility of assuring that appropriate records are kept and monitoring conformance to the contract.

Payment

A letter of credit will be obtained to secure an advance of funds. Treasury checks are to be mailed directly to the attention of the Governor of the Penobscot Nation.

Bank Account

A separate bank account titled, Penobscot Indian Nation - BIA Funds, Account Number has been opened at the Merrill Trust Company, 1 North Main Street, Old Town, Maine 04468, for the funds to be received under this this contract.

Contract Term

Contract term - One Year

Proposed Starting Date - October 1, 1979

Administration

Governor: The Penobscot Governor is the Chief Executive Officer of the Penobscot Nation. The Governor's responsibilities are to carry out the directives of the Tribal Council, to oversee all functions and programs on the reservation and to advocate and protect the rights of Penobscot tribal members.

Lieutenant Governor: The Penobscot Lieutenant Governor serves in the absence of the Governor and performs duties assigned by the Governor.

Tribal Administrator: The Penobscot Tribal Administrator is responsible directly to the Governor and Tribal Council. The main duties are to administer the day to day activities of tribal programs through meetings, monitoring, planning, providing technical assistance, and through other methods and assignments provided by the Governor and Tribal Council.

Tab 15

Calendar No. 1050

96TH CONGRESS, 2d Session } SENATE { REPORT No. 96-957

AUTHORIZING FUNDS FOR THE SETTLEMENT OF INDIAN CLAIMS IN THE STATE OF MAINE

SEPTEMBER 17 (legislative day, JUNE 12), 1980.—Ordered to be printed

Mr. MELCHER, from the Select Committee on Indian Affairs, submitted the following

REPORT

[To accompany S. 2829]

The Select Committee on Indian Affairs, to which was referred the bill (S. 2829) to authorize funds for the settlement of Indian claims in the State of Maine, having considered the same, reports favorably thereon with an amendment in the nature of a substitute and recommends that the bill as amended do pass.

* * *

* * *

Historical Background

The Passamaquoddy Tribe, the Penobscot Nation, and the Houlton Band of Maliseet Indians were first contacted in the area which is the State of Maine and the Province of New Brunswick by the earliest explorers of the North American continent.

All three tribes are riverine in their land-ownership orientation. The aboriginal territory of the Penobscot Nation is centered on the Penobscot River. The aboriginal territory of the Passamaquoddy Tribe is centered on the Saint Croix River and the smaller river systems to the west. The aboriginal territory of the Houlton Band of Maliseet Indians is centered on the Saint John River.

When the Revolutionary War broke out, General George Washington requested the assistance of these tribes and, on June 23, 1777, Colonel John Allan, of the Massachusetts militia who was the director of the federal government's Eastern Indian Department, negotiated a treaty with these Indians, pursuant to which the Indians were to assist in the Revolutionary War in return for protection of their lands by the United States and provision of supplies in times of need. This treaty was never ratified by the United States, although Allan's journals indicate that the Indians played a crucial role in the Revolutionary War.

Despite requests from the Maine Indians, the federal government did not protect the tribes following the Revolutionary War. In 1794, the Passamaquoddy Tribe entered into an agreement with the Commonwealth of Massachusetts (which then had jurisdiction over all of what is now Maine), in which the tribe relinquished all but 23,000

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acres of its aboriginal territory. Subsequent sales and leases by the State of Maine further reduced this territory to approximately 17,000 acres. The Penobscot Nation lost the bulk of its aboriginal territory in treaties consummated in 1796 and 1818. A sale to the State of Maine in 1833 resulted in the loss of four townships by the Penobscot Nation.

History of Litigation

The validity of these agreements with the Tribes was not seriously questioned until, in 1972, the Governors of the Passamaquoddy Tribe asked the United States to bring suit on behalf of their Tribe on the ground that its agreement with Massachusetts was invalid because it had never been approved by the federal government as required by the Nonintercourse Act.

The Nonintercourse Act—which is also known as the Trade and Intercourse Act—was first enacted by the newly-formed Congress of the United States in 1790 and was subsequently re-enacted five times. It consisted of many provisions regulating a wide spectrum of activities between American Indians and Indian Tribes and the non-Indian citizens of the United States. Salient among those provisions was a section which prohibited the transfer of any lands from Indians or Indian tribes without the approval of the United States. As reenacted in 1793, this section read, in pertinent part:

> * * * no purchase or grant of lands, or any title or claim thereto, from any Indians or nation or tribe of Indians, within the bounds of the United States, shall be of any validity in law or equity, unless the same be made by a treaty or convention entered into pursuant to the constitution * * *.

A fine of up to one thousand dollars and imprisonment for up to one year were provided for violation of this section. All the subsequent reenactments of the Nonintercourse Act included this section in one form or another. In 1834, it was enacted in its present form and is currently codified at Title 25, section 177 of the United States Code. The importance of this provision to federal Indian policy is critical and it has been described as "the linchpin of federal Indian law."

The tribe's request was denied by the United States on grounds that the Nonintercourse Act does not apply to nonrecognized tribes and on the grounds that there was, thus, no trust relationship between the United States and the Maine Tribes. The Passamaquoddy Tribe then brought a declaratory judgment action against the Secretary of the Interior and the United States Attorney General. In 1972, the tribes won an order forcing the United States to file a protective action on its behalf. In 1975, the United States District Court for the District of Maine held that the Indian Nonintercourse Act applies to all tribes, including those which are not federally-recognized, and that the Act creates a trust relationship between the United States and all such tribes. Later that year, the United States Court of Appeals for the First Circuit unanimously reaffirmed the *Passamaquoddy* decision, holding that the trust relationship created by the Act includes, at minimum, an obligation to investigate and take such action as may be warranted under the circumstances when an alleged violation of the Nonintercourse Act is brought to the government's attention.

The issues raised in the *Passamaquoddy* case were reaffirmed in two subsequent decisions involving Maine Indians: *Bottomly* v. *Passamaquoddy Tribe*, 599 F. 2d 1061 (1st Cir. 1979) (holding that Maine Tribes are entitled to protection under the federal Indian common law doctrines) and *State of Maine* v. *Dana*, 404 A. 2d 551 (Me. 1979), cert. denied 100 F. Ct. 1064 (Feb. 1980) (holding that reservation land of dependent Maine Indian Tribes constitutes Indian country as that term is used in federal law).

History of Settlement Discussions

The settlement process began in March of 1977 when President Carter appointed retired Georgia Supreme Court Justice William Gunter to study the case. After substantial study of the merits of the claims and the defenses to them, Justice Gunter recommended that the case be settled. The White House acted on this suggestion by appointing a three-person work group to develop a settlement plan which consisted of Eliot Cutler, Associate Director of the Office of Management and Budget for Energy, Natural Resources and Science; Leo Krulitz, Solicitor of the Department of the Interior; and A. Stephens Clay, Judge Gunter's law partner. Negotiations between this work group and the tribes produced an agreement between the tribes and the administration, which was announced in February, 1978. An agreement between the administration and officials of the State of Maine was announced in November, 1978. But it was not until March, 1980, that an agreement supported by all parties was announced.

Following its March announcement, the current agreement was approved by the Passamaquoddy Tribe, the Penobscot Nation and the Houlton Band of Maliseet Indians. The agreement was then adopted by the Maine legislature and signed into law by the Maine Governor Joseph Brennan, on April 2, 1980. The proposal was introduced in Congress on June 13, 1980, by Senator William Cohen and Senator George Mitchell of Maine.

Need

After the Court of Appeals affirmed the District Court decision the Justice Department undertook an analysis of the Tribes' claim. In a memorandum written in 1977, the Department described the case as "potentially the most complex litigation ever brought in the Federal courts with social costs and economic impacts without precedent and incredible litigation costs to all parties." This conclusion was based on the size of claim, the number of persons living within the disputed area, and the native of the legal issues involved. For, the Tribes claim up to 12.5 million acres, or 60 percent of the State of Maine and, in the nearly two hundred years that had intervened between the time the first agreement was reached and the present day, more than 350,000 people had moved onto the now disputed land.

If the case were to be litigated, it would involve a host of novel issues and, given the magnitude of the claim each side would be certain to appeal each ruling of the court. Moreover, the court would be required to decide questions of fact concerning events which began before this country was founded. Estimates of the time it would take to litigate such a case range from five to more than fifteen years. In the meantime, according to testimony offered to this Committee, titles to

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land in the entire claim area would be clouded, the sale of municipal bonds would become difficult if not impossible, and property would be difficult to alienate. Although the State of Maine estimates its chances of succeeding, if the case were to be litigated, at 60 per cent, all the parties agree that such a victory would be pyrrhic. In July of this year, Secretary of the Interior Cecil Andrus, in testimony before this Committee, described this legislation as "critical" and urged its passage.

SPECIAL ISSUES

Testimony before the Committee and written materials submitted for the record reveal the following concerns about the settlement embodied in S. 2829 and the Maine Implementing Act, all of which the Committee believes to be unfounded:

1. *That the settlement will terminate the three Maine Tribes.*—In July 1, 1980, testimony, Interior Secretary Cecil Andrus stated that the setlement does not terminate the three Tribes in Maine. The Committee agrees with the Secretary. Numerous provisions of S. 2829 and the Maine Implementing Act make reference to the Maine Tribe as tribes, and Sec. 6(h) specifically provides

> That as Federally recognized Indian tribes the Passamaquoddy Tribe, the Penobscot Nation and the Houlton Band of Maliseet Indians shall be eligible to receive all of the financial benefits which the United States provides to Indians, Indian nations or tribes or bands of Indians, to same extent and subject to the same eligibility criteria as are generally applicable to other Indians, Indian nations or tribes or bands of Indians.

2. *That the settlement amounts to a "destruction" of the sovereign rights and jurisdiction of the Passamaquoddy Tribe and the Penobscot Nation.*—Until recently, the Maine Tribes were considered by the State of Maine, the United States, and by the Maine courts, to have no inherent sovereignty. Prior to the settlement, the State passed laws governing the internal affairs of the Passamaquoddy Tribe and the Penobscot Nation, and claimed the power to change these laws or even terminate these tribes. In 1979, however, it was held in *Bottomly* v. *Passamaquoddy Tribe*, 599 F.2d 1061 (1st Cir. 1979), that the Maine Tribes still possess inherent sovereignty to the same extent as other tribes in the United States. The Maine Supreme Judicial Court reversed its earlier decisions and adopted the same view in *State* v. *Dana*, 404 A.2d 551 (Me. 1979), *cert. denied*, 100 S.Ct. 1064 (Feb. 19, 1980). While the settlement represents a compromise in which state authority is extended over Indian territory to the extent provided in the Maine Implementing Act, in keeping with these decisions the settlement provides that henceforth the tribes will be free from state interference in the exercise of their internal affairs. Thus, rather than destroying the sovereignty of the tribes, by recognizing their power to control their internal affairs and by withdrawing the power which Maine previously claimed to interfere in such matters, the settlement strengthens the sovereignty of the Maine Tribes.

The settlement also protects the sovereignty of the Passamaquoddy Tribe and the Penobscot Nation in other ways. For example, Secs.

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6206(1) and 6214, and 4733 of the Maine Implementing Act provide that these Tribes, as Indian tribes under the United States Constitution, may exclude non-Indians from tribal decision-making processes, even though non-Indians live within the jurisdiction of the tribes. Other examples of expressly retained sovereign activities include the hunting and fishing provisions discussed in paragraph 7 below, and the provisions contained in Title 30, Sec. 6209 as established by the Maine Implementing Act and Sec. 6 in S. 2829 which provide for the continuation and/or establishment of tribal courts by the the Passamaquoddy Tribe and the Penobscot Nation with powers similar to those exercised by Indian courts in other parts of the country. Finally, Sec. 7(a) of S. 2829 provides that all three Tribes may organize for their common welfare and adopt an appropriate instrument to govern its affairs when acting in a governmental capacity. In addition, the Maine Implementing Act grants to the Passamaquoddy Tribe and Penobscot Nation the state constitutional status of municipalities under Maine law. In view of the "homerule" powers of municipalities in Maine, this also constitutes a significant grant of power to the Tribes.

3. *The settlement provides none of the protections that is afforded other tribes.*—One of the most important federal protections is the restriction against alienation of Indian lands without federal consent. Sections 5(d)(4) and 5(g)(2) and (3) of S. 2829 specifically provides for such a restriction and, as was made clear during the hearings, this provision is comparable to the Indian Non-Intercourse Act, 25 U.S.C. § 177. Sections 6 and 8 of S. 2829 also specifically continue the applicability of the Indian Bill of Rights of the 1968 Civil Rights Act, the Indian Child Welfare Act, and all other federal Indian statutes to the extent they do not affect or preempt authority granted to the State of Maine under the terms of the settlement.

4. *Individual Indian property and claims by Indians who hold individual use assignments will be taken in the settlement.*—The settlement envisions four categories of Indian land in Maine: individually-assigned existing reservation land, existing reservation land held in common, newly-acquired tribal land within "Indian territory," and newly-acquired tribal land outside "Indian territory." Only newly-acquired land within Indian territory and newly-acquired tribal land to be held in trust for the Houlton Band of Maliseet Indians will be taken in trust by the United States. Existing land within the reservations, whether held by individuals pursuant to a use assignment or in comomn bv the Tribe as a whole, will not be taken by the United States in trust. These lands will simply be subject to a federal restriction against alienation which will prevent their loss or transfer to a non-tribal member. Sec. 5(f)(2)(C) of S. 2829 provides that the Department of the Interior will have no role in transfers of individual tribal property from one tribal member to another, and Sec. 18 of the Maine Implementing Act, ends the power of the Maine Commissioner of Indian Affairs to interfere with such internal transfers.

The settlement will also have no effect on claims by inividual Indian land owners or individual Indian assignment owners. Section 4 of S. 2829 and Title 30. Sec. 6213 as established by the Maine Implementing Act specifically protect claims which individual Indians

have for causes of action arising after December 1, 1873. For these reasons, trespass actions brought by individual Indians will not be affected.

5. *The Settlement will subject tribal lands to property taxation.*—Sec. 6208 of the Maine Implementing Act specifically prohibits the imposition of such a tax. The confusion over this issue apparently comes from two provisions of the settlement: Title 30, Sec. 6208(2) as established by the Maine Implementing Act, which provides for payments in lieu of taxes on lands within Indian Territory, and Sec. 6(h) of S. 2829 which provides that lands held in trust for the Passamaquoddy Tribe or the Penobscot Nation or subject to a restriction against alienation, shall be considered "Federal Indian reservations for purposes of federal taxation."

Title 30, Sec. 6208 as established by the Maine Implementing Act does not impose any taxes on any land within Indian territory. A tax is a charge against property which can result in a taking of that property for non-payment of the tax. Section 6208 does not provide for such a tax, and S. 2829 forbids such a tax. The actual workings of this provision are explained in detail in the Committee section-by-section analysis of the Maine Implementing Act which appears in this report. That analysis explains, among other things, that these payments in lieu of taxes will most likely be paid with funds provided to the tribes by the federal government.

Sec. 6(h) of S. 2829, which treats the Passamaquoddy and Penobscot Indian Territories as federal reservations for purposes of federal taxes is designed to insure that activities within these Territories are entitled to the same Federal tax exemptions which apply on reservations of other Federally recognized tribes. The provision is intended only to benefit the Tribes.

6. *That the provision for eminent domain takings will lead to a rapid loss of Indian land.*—While Sec. 6205(3), (4), and (5) of the Maine Implementing Act and Sec. 5 (h) and (i) of S. 2829 provide a mechanism for takings for public uses, these provisions impose preconditions on such takings which are more stringent than any other known to the Committee. Before a taking could ever be effectuated within the reservations, an entity proposing such a taking must demonstrate that there is no reasonably feasible alternative to the taking. No taking, whether within or without the reservation, can lead to a diminution of Indian lands, and any taken land must be replaced. The settlement provides machinery for adding such substitute lands to the reservation or Indian territory from which they are taken.

7. *Subsistence hunting and fishing rights will be lost since they will be controlled by the State of Maine under the Settlement.*—Prior to the settlement, Maine law recognized the Passamaquoddy Tribe's and the Penobscot Nation's right to control Indian subsistence hunting and fishing within their reservations, but the State of Maine claimed the right to alter or terminate these rights at any time. Under Title 30, Sec. 6207 as established by the Maine Implementing Act, the Passamaquoddy Tribe and the Penobscot Nation have the permanent right to control hunting and fishing not only within their reservations, but insofar as hunting and fishing in certain ponds is concerned, in the

newly-acquired Indian territory as well. The power of the State of Maine to alter such rights without the consent of the affected tribe or nation is ended by Sec. 6(e)(1) of S. 2829. The State has only a residual right to prevent the two tribes from exercising their hunting and fishing rights in a manner which has a substantially adverse effect on stocks in or on adjacent lands or waters. This residual power is not unlike that which other states have been found to have in connection with federal Indian treaty hunting and fishing rights. The Committee notes that because of the burden of proof and evidence requirements in Title 30, Sec. 6207(6) as established by the Maine Implementing Act, the State will only be able to make use of this residual power where it can be demonstrated by substantial that the tribal hunting and fishing practices will or are likely to adversely affect wildlife stock outside tribal land.

8. *The lands and trust funds provided in the Settlement will not benefit the Indians because of the lack of adequate controls.*—In testimony before the Committee, one of the Indian opponents to the bill stated his belief that the Indians would receive no benefits from the trust fund established under the settlement, and that all income would be used by the Secretary of the Interior. This fear is unfounded. Section 6(b) of S. 2829 requires the Secretary to make all trust fund income available to the respective Tribe and Nation quarterly, and provides that he may make no deduction for the United States' expense in the administration of the fund.

Fears that the Tribes will not have adequate control over the management of the trust funds are equally unfounded. The legislation specifically provides that the funds shall be managed in accordance with terms put forth by the Tribes. As is explained elsewhere in this report, the Secretary must agree to reasonable terms put forth by the tribes, and through the Administrative Procedure Act, the Tribes may obtain judicial review of any refusal by the Secretary to agree to reasonable terms. While the United States will not be liable for losses which result from investments that the Tribes request which are outside the scope of the Department of the Interior's existing authority, such investments cannot be made except at the request of the Tribe or Nation which seeks such an investment.

9. *The Settlement will lead to acculturation of the Maine Indians.*—Nothing in the settlement provides for acculturation, nor is it the intent of Congress to disturb the cultural integrity of the Indian people of Maine. To the contrary, the Settlement offers protections against this result being imposed by outside entities by providing for tribal governments which are separate and apart from the towns and cities of the State of Maine and which control all such internal matters. The Settlement also clearly establishes that the Tribes in Maine will continue to be eligible for all federal Indian cultural programs.

Summary of Major Provisions

S. 2829 provides congressional implementation and ratification of the terms of the settlement negotiated among the parties; that is, the Passamaquoddy Tribe, the Penobscot Nation. the Houlton Band of Maliseet Indians, the State of Maine, the private owners of large tracts of land, and the United States.

Tab 16

Claims & AG memos

RICHARD S. COHEN
ATTORNEY GENERAL

STEPHEN L. DIAMOND
JOHN S. GLEASON
JOHN M. R. PATERSON
ROBERT J. STOLT
DEPUTY ATTORNEYS GENERAL

STATE OF MAINE

DEPARTMENT OF THE ATTORNEY GENERAL

AUGUSTA, MAINE 04333

August 12, 1980

OFFICE OF THE GOVERNOR
RECEIVED
AUG 12 1980

Senator John Melcher
Select Committee on Indian Affairs
U.S. Senate
Washington, D.C.

Re: S. 2829, The Maine Indian Claims Settlement Act

Dear Sir:

During the Committee's hearing on this bill on July 1 and 2, 1980, the Committee requested that Governor Brennan, Senator Collins, Representative Post and me to respond in writing to certain questions posed by the Bangor Daily News and former Governor James B. Longley concerning the bill and the State Implementing legislation. This letter constitutes a joint response to that request.

It is important to note that many of the questions posed by both the Bangor Daily News and former Governor Longley contain inaccurate assumptions about this bill and the State legislation which should be corrected to assure a clear understanding of the issues.

The following are questions from Bangor Daily News editorial of March 28, 1980, with our joint response:

1. "What are the implications for Maine if the State legislature ratifies the proposal and the U.S. Congress refuses to go along with the revised and extravagent price tag?"

This question is premised on the initial assumption that the appropriation provided for in the S. 2829 is excessive. Much of the testimony before the Senate Committee addresses this point and there is no need to repeat those points in this letter.

However, several items are worthy of restatement. As my written testimony noted, the payment to the Maine Tribes under S. 2829 is proportionally less than that provided for in the Rhode Island Settlement enacted by Congress in 1978 and is far less than the total cost of the Alaska Settlement. Moreover, the size of the trust fund and the land base provided in S. 2829 first appeared in settlement proposals made several years ago by the Administration. For all these reasons, I have recommended a settlement at the figures contained in S. 2829. The position of Governor Brennan and the Maine Legislative leadership appears in their testimony in the record. Of course, it is ultimately and appropriately the responsibility of Congress to determine the amount of money that should be spent to extinguish these claims.

The possible implications of Congressional failure to enact S. 2829 were presented in detail by several persons who testified before the Committee. That testimony, which details the likely social and economic hardship if the case went to trial, does not need repetition here. If the settlement failed because of the defeat of S. 2829, the fact that the State has enacted the State Implementing Act would have no effect, either legally or otherwise, on the State's position in possible future litigation. The fact that the State and Indian Tribes had attempted to reach a negotiated settlement could not be used as evidence in any future litigation. If any further litigation results from failure to enact S. 2829, the State would have made no concessions and would not have impaired its litigation position by enacting the State Implementing Act. In addition, if S. 2829 were defeated, the State Implementing Act, by its own terms, would not take effect, and current Maine and federal law would remain in place.

2. "Why did the state attorney general agree to let the attorney for the timberland owners and the Indians establish the price tag for the settlement without his participation as spokesman for the state?"

This issue was discussed in my testimony to the Committee. Briefly restated, it was my view, consistent with earlier statements of former Governor Longley, that any land acquired by the Tribes under any settlement should come from willing sellers at fair market value. Since State participation in those sales negotiations could be perceived as pressuring parties to sell, the State officials responsible for negotiations thought it inappropriate to participate in that aspect of the settlement discussions.

3. "If one of the major landsellers, Dead River Co., is prepared to sell much of its timber acreage to the Indians, isn't that highly suggestive of a government giveaway?"

Apparently the assumption here is that the only reason one seller is willing to sell most of its land is that the price is greater than its worth and cannot be refused. Thus, the questions suggest that at least this seller, and perhaps others, would be unfairly enriched. To state the assumption seems sufficient to refute it. However, the Committee also received testimony that explained why the Dead River Co. had decided to sell off most of its timber acreage. Those reasons do not reflect any suggestion of taking advantage of a "government giveaway."

Perhaps the intent of this question was to raise the issue of land values under the settlement. As the Committee heard, the experts retained by various parties agreed that the prices for the acreage involved were fair and in line with current market values for similar acreage in Maine. The Department of Interior's experts also independently reviewed the acreage and prices and agreed that they reflected fair market value.

4. "There are reportedly 9,500 Indian cases yet to be resolved by Congress. When the state Legislature ratifies this settlement offer, it is unwittingly establishing a precedent for the entire country?"

When the Maine Legislature considered the State Implementing Act, it believed that it was following precedent rather than establishing it, in that it was seeking to resolve the claims by negotiated settlement rather than by litigation. The concept of settlement as a precedent was established by the Rhode Island and Alaskan settlements and has consistently been encouraged by the federal government.

Apart from that consideration, the question assumes that all 9,500 Indian claims are the same and that this settlement would be model applicable to all. In fact this is not so. Only a handful of all claims identified thus far are similar in concept to Maine's and none is so large. Most of the western claims have nothing in common with this case other than the fact that the claimants are Indian. It is a mistake, therefore, to assume that this settlement will be a pattern for resolution of all others.

It is in the nature of negotiated settlements that particular provisions meet the requirements of the interested parties. Each settlement must have unique characteristics that reflect the nature and implications of the underlying claim, the relative risks to the parties, traditions of the area involved and the desires of the parties. In this sense, the settlement provisions in the Maine Act and S. 2829 are not precedents. Every future settlement will have to reflect the unique considerations in each case to meet the parties' requirements.

5. "Have all of the intricacies of the jurisdictional language been examined by an expert without vested interest? Does the jurisdictional language bestow a preferential treatment upon the tribes which will foster an unrelenting chain of legal disputes in the years ahead?"

This question incorrectly assumes that the Governor and Attorney General, and their staffs, in accepting the settlement agreement and the Maine Implementing Act, have not carefully reviewed the jurisdictional language in that Act. The question further suggests that the Governor, Attorney General and members of the Maine Legislature somehow had a "vested interest" or personal stake in the matter and were not acting out of concern for the general welfare of Maine citizens. This suggestion is false.

Not only did we carefully review the language of the bill, we brought in outside counsel to do so as well and have encouraged any other experts to review and make corrective suggestions. At the time of enactment of the Maine Implementing Act the intricacies of the State and Indian jurisdictional relationship had been carefully scrutinized by several independent experts, by the Legislature and by many public speakers. It has been knowledgeably and thoroughly assessed and accepted.

The second part of the question contains the assumption that the Indians receive "preferential" treatment. Under the State Implementing Act, the Penobscot Nation and Passamaquoddy Tribe are given certain rights and authority within the 300,000 acres of "Indian Territory." To the extent that these rights and authority exceed that given any Maine municipality, they do so only to a limited extent and in recognition of traditional Indian activities. (The Houlton Band of Maliseets are not granted this "municipal" status). The most significant aspect of this limited expansion of authority is in the area of hunting and trapping and, to a limited extent, fishing in Indian Territory. Even in this area, the Indian Tribes must treat Indians and non-Indians alike, except for subsistence provisions, and Tribal authority can be overriden by the State if it begins to affect

hunting, trapping or fishing outside the Indian Territory. Generally the Act does not provide Indians with preferential treatment. To the contrary, we believe the Implementing Act establishes a measure of equality between Indian and non-Indian citizens normally not existing in other States. Indeed, the Act recovers back for the State almost all of the jurisdiction over existing reservations that had been lost as a result of recent Court decisions.

Obviously no one can guarantee that there will be no litigation in the future over the meaning of certain provisions in the Maine Implementing Act or S. 2829. However, the provisions of S. 2829 and the Implementing Act have been carefully drafted and reviewed to eliminate insofar as possible any future legal disputes, Particular care was taken to insure that S. 2829 is adequate to finally extinguish the land claims, and as to those provisions we are satisfied that they have been drafted as carefully as possible. Nevertheless, litigation over this and other provisions is always possible and we cannot prevent the filing of future suits. Any contract, agreement or legislation always contains unanticipated ambiguities that sometimes can only be resolved through the courts. In our judgment, however, should questions arise in the future over the legal status of Indians and Indian lands in Maine, those questions can be answered in the context of the Maine Implementing Act and S. 2829 rather than using general principles of Indian law.

6. "If the Indians get their money and land in Maine, will the Native American Rights Fund and other foundations that have bankrolled the Indians in their legal quest dispatch an army of well-financed lawyers to Maine to chase down other historic injustices heaped upon the Native Americans by our forefathers?"

Though we cannot say what the plans of the Native American Rights Fund or similar organizations may be, the Maine Implementing Act and S. 2829 clearly and absolutely extinguish all Indian land claims in Maine. These two Acts will finally and completely settle those issues and remove any legal ground for attempting to resurrect the historical incidents that gave rise to the present claims. As to any other disputes that may arise in the future, we assume the Tribes will use available legal resources and rights just as any other citizen would.

7. "What about the so-called "Tribal Commission," which constitutes the critical intermediary body in potential jurisdictional disputes between Indians and non-Indians? Is itsmembership makeup realistic or evan workable?"

The Tribal Commission's functions are to regulate fishing in Great Ponds and rivers in Indian Territory and to make recommendations on the "social, economic and legal relationship" between the State and tribes. Its balanced composition, with a retired State or Federal Judge as chairman, seems appropriate for its tasks. We believe the composition of the Commission is reasonable and workable and had we not we would not have agreed to its inclusion in the settlement.

8. "In view of the congressional mood to balance the budget, how can Maine's Congressional delegation possibly get behind a settlement proposal whose price tag is two and a half times what was originally agreed to?"

First, the question incorrectly refers to an earlier, less costly settlement as having been "agreed to." While the State did agree in 1978 to a $37 million settlement proposal, the Tribes did not. We know of no settlement proposal that was agreed to by all parties and that involved less money than that called for in S. 2829.

In addition, and as my prepared testimony reflects, the total value to the Tribes of S. 2829 is roughly similar to several earlier settlement proposals sponsored by the Federal government and is less than the value of the proposal of the White House in February, 1978. To the extent that there has been any increase in the estimate of settlement costs, it is largely because of the changing value of land and the fact that land values were understated in earlier proposals. In any event, we would not presume to speak for Maine's Congressional Delegation, the members of the Delegation can adequately respond for themselves. As indicated in our answer to question 1, Congress will have to decide on the appropriateness of the legislation and proposed appropriation, after considering all the factors addressed in testimony given the Committee.

9. "Are Maine citizens prepared to submit, to embrace the expedient lifting of the lawsuit cloud and render to history an irrevocable record of a citizenry intimidated by specters bereft of principle and conviction?"

This is a polemical statement in the form of a question and does nothing to advance reasoned debate of these issues.

The question would have been more fairly phrased if it asked: "Does the Settlement reasonably reflect a fair assessment of risks involved in litigation and is the negotiated jurisdictional arrangement a fairly balanced distribution of governmental authority over tribal lands?" We think that the answer to the question thus phrased is "yes."

The Governor, Attorney General and members of the Joint Select Committee of Maine Legislature have examined the basis for the claim, the risks of litigation and implications of this settlement in detail. All agreed that the settlement now pending was a principled and prudent way to bring this complex legal and social problem to a fair and final conclusion. This is a resolution consistent with our belief that all Maine people ought to be treated equally and fairly and that we should not expose the people of Maine to unnecessary legal and economic risks resulting from a lawsuit if it can be avoided. We believe that the majority of Maine citizens share the view that the settlement represents a reasonable and rational alternative to lengthy, costly and divisive litigation.

The following questions were posed by former Governor Longley in his statement of March 23, 1980.

1. "Why would $81 million dollars plus special tax breaks be negotiated by pulp and paper companies and private landowners, with Indian Legal Counsel, without any state involvement?"

The answer to this question is essentially the same as that in response to Question #2 of the Bangor Daily News. In addition, I would note again that former Governor Longley, when in office, repeatedly stated his belief that the State should not participate in those land negotiations.

2. "Why has the price of land been substantially increased from the time I was Governor, when private landowners quoted prices ranging from $100 to $112 per acre, vis a vis the present price quoted under this settlement agreement of $181 per acre. This is a difference of over $20 million dollars. Who is to receive this money?"

The price of $100-$112 per acre to which Governor Longley refers was a value per acre proposed by the White House in 1978. Inquiries by the State and statements of landowners at the time revealed that figure to be unrealistically low even then. It is therefore inappropriate to use it as the basis for criticizing

the values now proposed. In addition, the price of land, like other things, has risen in the two and one-half years since the value cited by Governor Longley was used by the Administration. Moreover, the value of $181 per acre is an average and includes parcels, some of which are valued at far less and some at more. The identity of the selling, private landowners has already been made public.

3. "To the extent both federal and state taxes are involved, why shouldn't citizens and the news media of Maine have an actual list of:

(a) Land to be purchased and where and from whom?

(b) The price to be paid per acre to individual landowners?"

That information in response to part (a) was presented to the public and the Joint Select Committee of the Maine Legislature at the public hearing on the Maine Implementing Act. It is part of the public record. Values of particular parcels have, we understand, been provided to the Department of Interior in order that it might evaluate the proposed prices. Additional information relative to part (b) has been solicited by this Committee from the landowners involved.

We support full public disclosure of all the details of the transactions between the tribes, the U.S. Department of the Interior and the private landowners as a part of the ongoing public discussion of this issue.

4. "Why wouldn't it be appropriate for the Legislature to ask the Indian Tribes to submit this claim to the United States Court of Claims without any economic sanctions during the trial, if the Indians refuse whatever Congress recommends?"

This proposal is one that was repeatedly suggested by former Governor Longley, but which the Tribe and the Federal government consistently rejected. Asking the Indians to voluntarily abandon their claim to land, as the question suggests, was futile. Continued pursuit of this proposal would have been fruitless.

The basic premise of any settlement is that both parties voluntarily agree to it. The Maine Legislature has no power to erase the Indians' Claims without their consent, and in recent years Congress has indicated that it will not act to resolve Indian claims without Tribal consent. The Indians have continually asserted that they will not settle the claim without some land as well as money. Moreover, in 1976 legislation was introduced in Congress at Governor Longley's request which would have largely accomplished the suggestion contained in this question. The proposal was rejected by Congressional leadership as inconsistent with longstanding Congressional Indian policy.

5. ". . . is it fair to say there is not going to be additional tax imposed on the taxpayers of Maine (as they also pay federal taxes)?"

Presumably the federal appropriation will be paid out of present federal revenues. Thus, it seems fair to say that there will be no additional taxes imposed.

6. "I feel that unless each Maine lawmaker thinks $81 million dollars is fair, they should search their conscience as to whether it is fair to pass the buck to the Maine Delegation and the United States Congress."

The Maine Legislature did not "pass the buck" to anyone. It studied the provisions of the Maine Implementing Act and the proposed federal bill, S. 2829. The Maine Legislature carried out its responsibilities of reviewing and designating the 300,000 acres of Indian Territory and resolving the jurisdictional relationship between the State and the Indian Tribes. The Legislature did not have the responsibility or authority to appropriate the federal money. Thus, it could not make a decision on the appropriateness or fairness of that figure.

7. "Should the federal government or the Indian Tribes reimburse the State of Maine from any settlement they might receive for the millions of dollars the taxpayers of Maine have paid our Indian citizens due to the fact the federal government in the past refused to recognize our Maine Indians as eligible for federal assistance while still pouring millions of dollars into the Western Indian reservations(?)"

This suggestion, like many other options, was in fact considered by the State but rejected by us. In our judgment it would have been futile to ask Congress to reimburse the State

for its past expenditures as well as asking Congress to pay the Tribes for extinguishment of the claim. The State has, however, taken the position that the millions of dollars that it has spent on Maine Indians is its contribution to the settlement agreement. It is for this reason that we expect the Federal Government to meet the expense of purchasing land and creating a trust fund. To ask the Indians or federal government to reimburse the State would only increase the federal cost of the settlement, thus making it more difficult to have the settlement implemented by Congress. Thus, the State has simply proposed that Congress consider the State's past payments as its share of the settlement.

8. "Does the Maine Implementing Act establish 'separate and preferential laws for Indian Citizens,' or has it thus rendered favored treatment to one class of citizen, or in effect, endorsed the concept of a second class of citizen at the expense of the rest of the citizens of Maine?"

The implication in the term "preferential treatment" for Indians has already been discussed in the response to the Bangor Daily News question # 5.

There are certain provisions in the Maine Implementing Act that permit in Indian Territory different laws than apply elsewhere in the State. These provisions embody a recognition of traditional Indian ways. They are minor changes and are far less intrusive on general state jurisdiction than the generally applicable laws that govern federal "Indian Country" generally.

As was stated in testimony, the Maine Tribes now have certain rights on their reservations that other citizens do not. The State is now powerless to change that fact. Should the Tribes be successful in recovering land in a lawsuit they would enjoy these same additional rights on these other lands also. Under current general law, their rights are far more extensive than those accorded under either the Maine Implementing Act or S. 2829. As we stated above, we think the Maine Implementing Act restores equality of treatment of Indians and non-Indians which was lost under recent Court decisions. Rather than creating and continuing "preferential treatment" the Implementing Act and S. 2829 insure equality of treatment. To the extent there are some minor distinctions in the application of State law in Indian Territory and elsewhere in Maine, those differences are in our judgment minor and represent a fair compromise and balancing of Tribal, State and Federal interests.

We wish to thank the State Committee for the opportunity to respond for the record on the series of questions raised by the Bangor Daily News and former Governor Longley. We believe that the record of your hearings on S. 2829 and the Maine Implementing Act clearly show that these questions have been adequately answered.

We hope that the Committee will shortly act favorably on this bill.

Sincerely,

RICHARD S. COHEN
Attorney General

RSC:mfe

cc: Honorable William S. Cohen
Honorable George J. Mitchell

Tab 17

United States Department of the Interior

BUREAU OF INDIAN AFFAIRS
WASHINGTON, D.C. 20245

IN REPLY REFER TO:

APR - 8 1994

Ms. Carol M. Browner
Administrator
United States Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

Dear Administrator Browner:

I am writing to express my strong concern regarding the possible issuance of a National Pollutant Discharge Elimination System Permit (NPDES) under the Clean Water Act (33 U.S.C. § 1342) to Lincoln Pulp and Paper Company, Inc. (Lincoln) to discharge into the waters of the Penobscot River in Maine. Lincoln is engaged in the manufacture of kraft pulp, fine paper and tissue. It has applied to the Environmental Protection Agency (EPA) for reissuance of its NPDES permit to discharge treated process wastewater, non-contact cooling water and storm water runoff into the river. It is my understanding that this permit is under review by Region 1 of the EPA, for possible issuance this spring.

The Penobscot Indian Nation (Nation) is a federally recognized Indian Tribe, whose reservation consists of islands in the Penobscot River. Numerous reservation islands, including the Nation's main community at Indian Island, are located downstream of the Lincoln discharge point, and are thus directly impacted by the Lincoln discharge. For centuries, tribal members have relied upon the resources of the Penobscot riverine environment for subsistence and for religious and ceremonial purposes. Most particularly, this reliance has depended upon the taking and eating of fish from the river, and the gathering of plant material from the islands.

Recognition of the Nation's fishing rights was included in historical agreements and communications between the Nation and colonial and state governments. Confirmation of the right to take fish for individual sustenance within the boundaries of the reservation is a specific component of the 1980 Maine Indian Claims Settlement Act. (See The Maine Implementing Act, 30 M.R.S.A. §6201, et seq., as confirmed by the Maine Indian Claims Settlement Act, 25 U.S.C. §1721, et seq.). The Nation thus has a protected right to the fish in the Penobscot River within the boundaries of its reservation. This right demands that there be sufficient fish to take and that such fish be safe to eat. United States v. State of Washington - Phase II, 506 F. Supp. 187, 203 (W.D. Wash. 1980), aff'd in part and rev'd in part, 694 F.2d 1374 (9th Cir. 1982),

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PN-000230

vacated, opinion replaced on rehearing en banc, 759 F.2d 1353 (9th Cir. 1985), cert. denied, 474 U.S. 994 (1985); See e.g., Kittitas Reclamation District v. Sunnyside Valley Irrigation District, 763 F.2d 1032, 1033-34 (9th Cir. 1985) (Treaty reservation of fish implies reservation of sufficient flows to prevent salmon "redds" or nests from exposure to air); United States v. Anderson, 736 F.2d 1358 (9th Cir. 1984) (Court required non-Indians to maintain minimum stream flows necessary for survival of tribal fishery.)

Discharge from the Lincoln Plant includes 2,3,7,8 tetrachlorodibenzo-p-dioxin (dioxin). The Penobscot River is listed on Maine's Clean Water Act Section 304(1) list of water bodies not attaining state water quality standards due to the point source discharge from Lincoln, and the presence of dioxin in that discharge. Low doses of dioxin are known to produce toxic effects, including cancer incidences and deleterious reproductive consequences, in laboratory animals. The State of Maine has already declared a fish consumption advisory for the stretch of the Penobscot River below the Lincoln discharge point. This advisory warns potential fish consumers that no more than two (eight ounce) meals of fish should be eaten each month, and that pregnant women and nursing mothers should avoid eating any fish taken from this stretch of the river. Since the stretch of the river subject to the fish consumption advisory corresponds to the Nation's prime fishing area, its fishing rights are detrimentally impacted by the Lincoln discharge.

As you know, any federal government action, including action by the EPA, is subject to the United States' fiduciary responsibilities toward Indian Tribes. Nance v. Environmental Protection Agency, 645 F.2d 701, 711 (9th Cir. 1981), cert. denied, 454 U.S. 1081 (1981). The federal government has charged itself with moral obligations of the highest responsibility and trust such that, in dealing with Indian Tribes, it is judged by the most exacting fiduciary standards. Seminole Nation v. United States, 316 U.S. 286, 297 (1942). Federal actions which reduce the quantity of fish present in reservation waters, either by adverse impacts to water quality or fish habitat, have been considered a breach of the federal government's trust responsibility towards Indians. Northwest Indian Cemetery Protective Association v. Peterson, 565 F. Supp. 586, 605 (N.D. Calif. 1983), 764 F.2d 581 (9th Cir. 1985). Federal agencies must ensure that environmental degradation, such as exists on the Penobscot River, not be allowed to impair the Nation's fishing rights. See, United States v. Washington - Phase II, 506 F. Supp. at 204.

The Ninth Circuit in Nance required that EPA fulfill its trust responsibility both procedurally and substantively. Thus, while offering a tribe the opportunity to comment on a proposed action may fulfill the procedural responsibility, only by substantively addressing those comments can EPA completely fulfill its fiduciary duties. Here, the Nation has commented extensively on the proposed NPDES permit, voicing serious concerns with the discharge and resulting impacts to the health of tribal members and to fish. To discharge its trust responsibility, EPA must address those concerns.

In its comments, the Nation has emphasized numerous points, of which I will reiterate only a few. First, the Nation urges EPA to mandate establishment of a chlorine-free process at the Lincoln plant to be phased in over a seven year period. Second, the Nation demands that the risk level for dioxin provide adequate protection to members of the Nation, considering in particular the higher rates for fish consumption applicable to tribal members who traditionally have depended on fish for sustenance. Further, EPA's proposed detection limit does not guarantee compliance with the proposed instream standard, which will allow a higher level of dioxin in the water than would be permitted in the draft permit.

Your Pollution Prevention Policy encourages the utilization of EPA's permitting programs to achieve pollution prevention and source reduction. (See June 15, 1993, Memorandum from the Administrator, EPA, p. 4) Despite this initiative, however, the draft permit proposes to increase effluent limits through an increase in production of bleached kraft pulp. Authorization of increased effluent limits would appear to contradict your policy. Further, I am concerned that the production increase will result in higher levels of dioxin in the river, with further detrimental impacts on tribal health and natural resources.

Finally, I wish to point out that President Clinton's recent Executive Order regarding environmental justice should be applied to this permit process. As you know, one purpose of the Order and of the federal government's increased emphasis on environmental justice is to ensure that minorities in our society live in healthy communities. As you have noted, minority communities have borne a disproportionate burden of modern industrial life. Far too often, this burden has fallen upon Native Americans. Due to the island location of its reservation, the Penobscot Indian Nation is subject to a disproportionate burden of the risks and the harms occasioned by industrial plants, such as Lincoln. I feel very strongly that our Native American communities should no longer bear this burden.

Thus, I urge EPA to give the concerns of the Nation special attention as your agency processes this permit, and to respond to those concerns in keeping with the federal trust responsibility to this tribe.

Thank you for your attention.

Sincerely,

Ada E. Deer

Ada E. Deer
Assistant Secretary-Indian Affairs

cc: John P. DeVillars
Joseph Torres
The Honorable Jerry Pardilla

Tab 18

United States Department of the Interior

OFFICE OF THE SOLICITOR
Washington, D.C. 20240

SEP 2_ 1997

John P. DeVillars
Regional Administrator
Environmental Protection Agency
Region 1
J.F.K. Federal Building
Boston, MA 02203-0001

Re: Penobscot Indian Nation Request for Evidentiary Hearing
Lincoln Pulp & Paper NPDES permit No. ME0002003

Dear Mr. DeVillars:

The Department of the Interior (Department) has reviewed the correspondence filed with you by the Penobscot Indian Nation (PIN), Lincoln Pulp and Paper Company (Lincoln), and the State of Maine, Department of the Attorney General (State), in the above-referenced Request for Evidentiary Hearing concerning NPDES Permit No. ME0002003. Certain of the positions set forth in those filings cause concern to this Department, in its role as primary agency within the Federal Government charged to act on behalf of Indian Tribes. Consequently, my intent in this letter is to ensure that your agency is fully aware of the positions of this Department, and of the United States, concerning certain issues relevant to the Maine Indian Claims Settlement Act, the Federal Trust responsibility to Maine Indians, and the fishing rights of the Penobscot Indian Nation.[1]

I address three major points, as follows:

1. <u>The Nature of the Federal Government's trust responsibility to the PIN;</u>

2. <u>Interpretation of PIN's fishing rights;</u>

3. <u>PIN's right to appeal the NPDES permit</u>

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[1] The First Circuit has recognized the Secretary of the Interior as the administrator of the Maine Indian Claims Settlement Act (MICSA). <u>Passamaquoddy Tribe v. State of Maine</u>, 75 F.3d 784, 794 (1st Circuit, 1996). Moreover, the Department of the Interior is recognized to have reasonable power to discharge effectively its broad responsibilities in the area of Indian affairs, and its actions in interpreting tribal rights are accorded substantial deference. <u>Parravano v. Babbitt</u>, 70 F.3d 539, 544 (9th Cir. 1995), <u>cert. denied</u>, 116 S. Ct. 2546 (1996).

PN-003218

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1. The Nature of the Federal Government's trust responsibility to the PIN

As you know, the United States has a trust responsibility to protect the lands and resources of federally recognized Indian Tribes. In the exercise of this trust responsibility, the United States is held to the most exacting fiduciary standards. Seminole Nation v. United States, 316 U.S. 286 (1942). This fiduciary responsibility extends to all agencies of the Federal Government, including the Environmental Protection Agency (EPA). Nance v. EPA, 645 F.2d 701, 711 (9th Cir. 1981).

The Department acknowledges that the Maine Tribes came late to federal recognition and protection. However, as of 1975, when the First Circuit recognized that the protections of the federal Trade and Intercourse Act (1 Stat. 137 (1790), now codified at 25 U.S.C. § 177) did apply to the Maine Tribes (See Joint Tribal Council of Passamaquoddy Tribe v. Morton, 528 F.2d 370, 379-380 (1st Circuit, 1975)), the United States has recognized and acted in furtherance of its trust responsibility to protect the lands and natural resources of the Maine Indians, beginning with the United States advocacy on the Tribes' behalf in the Maine land claims litigation. This litigation, which alleged that Massachusetts and Maine illegally took lands of the Maine Indians without federal involvement or consent in violation of the Trade and Intercourse Act, was settled through the enactment by Congress in 1980 of the Maine Indian Claims Settlement Act (MICSA), 25 U.S.C. § 1721, et seq., which ratified Maine's Act to Implement the Maine Indian Claims Settlement, 30 M.R.S.A. § 6201, et seq. (Implementing Act).

Contrary to the assertions made in several of the filings before you, the United States did not through MICSA limit its trust responsibility. While the MICSA did create a unique relationship between the State of Maine and the Maine Tribes, the federal trust obligation to protect the lands and natural resources of the Maine Tribes continues. The Penobscot Nation is a federally recognized Indian Tribe (61 Fed. Reg. 58211, 58213 (1996)) and, as such, is entitled to those rights and benefits which the United States provides to Indians based upon their status as Indians. See 25 U.S.C. § 479a-1(a); H. Rep. No. 96-1353, p. 18, *reprinted in* 1980 U.S.C.C.A.N. 3786, p. 3794. The Penobscot Reservation is a federal reservation under the jurisdiction of the United States. 25 U.S.C. §§ 2 and 9.

The Department thus finds erroneous the views expressed which suggest that EPA has no special relationship with the Penobscot Indian Nation. In MICSA, Congress formally confirmed the federal recognition of the Penobscot Nation, the Passamaquoddy Tribe and the Houlton Band of Maliseet Indians. 25 U.S.C. §§ 1722, 1721, 1725(i). (Subsequent Congressional action extended this federal recognition to the Aroostook Band of Micmacs. Pub. L. No. 102-171, 105 Stat. 1143 (1991).) Congress has declared that this

recognition requires that the United States protect tribal resources through the trust responsibility. Pub. L. No. 103-454, 108 Stat. 4791 (1994).

The Department further finds no merit in the claim that MICSA extinguished PIN's sovereignty. Federal recognition connotes recognition of a Tribe's inherent sovereignty. Pub. L. No. 103-454, 108 Stat. 4791 (1994). See also Rhode Island v. Narragansett Indian Tribe, 19 F.3d 685, 694 (1st Cir. 1994). Passage of MICSA did not terminate the Maine Tribes and thus did not extinguish PIN's sovereignty. Instead, as noted in the legislative history, the "settlement strengthens the sovereignty of the Maine Tribes." H. Rep. No. 96-1353 at 15 (1980), *reprinted in* 1980 U.S.C.C.A.N. 3786, p. 3790. See also Senate Rep. No. 96-957, pp. 14-15 (1980).

It has been asserted that section 1725(h) of the MICSA, a section of the Act which reflects the unique relationship between the Maine Tribes and the State, prevents the application of the trust responsibility and federal case law interpreting its requirements in Maine (25 U.S.C. § 1725(h)). Through this section, Congress provided that the application of federal Indian law (including case law) in Maine can be precluded, but only if such law would affect or preempt the civil, criminal, or regulatory jurisdiction of the State. If Maine's jurisdiction is unaffected, federal law does apply. See H.R. Rep. No. 96-1353 at 19-20 (1980), *reprinted in* 1980 U.S.C.C.A.N., 3786, pp. 3794-5; Senate Report No. 96-957 at 30 (1980).

In the Department's view, section 1725(h) has no applicability to this situation.[2] The NPDES program has not been delegated by the United States to the State of Maine; it thus remains a federal program for which EPA is the permitting authority. EPA's consideration of federal law to determine its obligations to the PIN in making the NPDES permit decision, therefore, is required in this case.[3]

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[2] While the State does have authority under section 401 of the Clean Water Act to certify that a proposed discharge meets its water quality standards, this does not mean that EPA cannot impose a more stringent standard in its permit. 40 C.F.R. § 124.55(c) provides that a state may not condition or deny a certification on the grounds that State law allows a less stringent permit condition.

[3] There is also no merit to the claim that, because MICSA is an Act of Congress rather than a treaty, EPA cannot consider federal case law in determining tribal rights and federal obligations. As with a treaty, MICSA is similarly the "supreme law of the Land," and creates rights and liabilities which are virtually identical to those established by treaties. See Parravano v. Babbitt, 70 F.3d 539, 544 (9th Cir. 1995), cert.

Since there exists a trust relationship between the Maine Tribes and the United States, EPA must act as a trustee when taking federal actions which affect tribal resources. When taking such actions, EPA's fiduciary obligation requires it to first protect Indian rights and resources. See Parravano v. Babbitt, 70 F.3d 539 (9th Cir. 1995), cert. denied, 116 S. Ct. 2546 (1996); Pyramid Lake Paiute Tribe of Indians v. Morton, 354 F. Supp. 252 (D.D.C. 1972), rev'd. in part on other grounds, 499 F.2d 1095 (D.C. Cir. 1974), cert. denied, 420 U.S. 962 (1975) (holding that for the Secretary of Interior to fulfill his fiduciary duty to Tribe while determining amount of water to be diverted from dam for benefit of irrigation district and to detriment of tribal fishery in downstream Pyramid Lake, the "Secretary must insure, to the extent of his power, that all water not obligated by court decree or contract with the District goes to Pyramid Lake"); Northern Cheyenne Tribe v. Hodel, 12 Indian L. Rep. 3065 (D. Mont. May 28, 1985) (Rejecting Secretary's argument that national interest in developing coal resources outweighed trust duty and stating that "identifying and fulfilling the trust responsibility is even more important in situations such as the present case where an agency's conflicting goals and responsibilities combined with political pressure asserted by non-Indians can lead federal agencies to compromise or ignore Indian rights.") Thus, fulfillment of EPA's trust responsibility must entail considerations beyond the minimum requirements in the Clean Water Act (CWA) and in MICSA to fully protect the PIN's rights and resources.

2. Interpretation of PIN's fishing rights

The historic treaties between PIN and Massachusetts (Maine then being part of the Massachusetts territory) provide the basis for rights expressly confirmed to the PIN through the Implementing Act and MICSA. As a result, PIN's fishing right has two components - the aboriginal right retained through treaty and confirmed by MICSA, and a statutory right included within the Implementing Act.

a. PIN's confirmed aboriginal fishing rights

Through a series of treaties which culminated in the 1818 Treaty with Massachusetts, the PIN retained the islands and natural resources, including fishing rights, within the Penobscot River, beginning at Indian Island and extending upriver. Congress, through its ratification in MICSA of the Maine Implementing Act which defined the retained Penobscot Reservation, confirmed this reservation of lands and resources, including fishing rights, to the PIN. See 30 M.R.S.A. § 6203(8); 25 U.S.C. §§ 1722(i); 1725(b)(1). While Section 1723(b) of MICSA did extinguish

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denied, 116 S. Ct. 2546 (1996); Felix Cohen, Handbook of Federal Indian Law, p. 127 (1982 ed.).

aboriginal title to lands or natural resources given up by the PIN through transactions illegal under the Trade and Intercourse Act, MICSA did **not** extinguish aboriginal title to lands or natural resources retained by the PIN. Rather, Congress confirmed those retained aboriginal rights to the PIN. According to the legislative history of MICSA, fishing rights are an example of natural resources considered **"expressly retained sovereign activities."** H.R. Rep. No. 96-1353 at p. 15 (1980), *reprinted in* 1980 U.S.C.C.A.N. 3786, p. 3791 (emphasis added).

I attach the brief filed by the United States in Maine's Supreme Judicial Court in Atlantic Salmon Federation v. Maine Board of Environmental Protection, 662 A.2d 206 (Me. 1995), in which the United States position regarding the PIN's fishing right is set out. In short, the brief states that:

> The Penobscot Nation's right is a reserved right, meaning it was reserved from the greater aboriginal rights of the Nation to the use and occupancy of its territory which had not been validly extinguished under 25 U.S.C. 177, prior to the enactment of the Maine Implementing Act and the federal Settlement Act ratifying its terms. The fishing right, therefore, is not a grant from the state of Maine in the exercise of its sovereign authority over fish and wildlife within its borders; it is a reservation from the aboriginal rights given up by the Penobscot Nation in the settlement which finally extinguished its aboriginal rights.

Brief for the United States as Amicus Curiae, filed before the Supreme Judicial Court of Maine in Atlantic Salmon Federation, et al., v. Maine Board of Environmental Protection, Law Docket No. Ken-94-779, January 27, 1995, (p. 15).

b. PIN's statutory fishing right under the Maine Implementing Act

In addition to PIN's retained aboriginal fishing rights within its Reservation, the Maine Implementing Act expressly confirmed to PIN a fishing right, providing that

> the members of the . . . Penobscot Nation may take fish, within the boundaries of their respective Indian reservations, for their individual sustenance ...

30 M.R.S.A. § 6207(4). The State of Maine has only a residual right to prevent the PIN from exercising its fishing right in a manner which has a substantial adverse impact on fish stocks in or on adjacent waters - the legislative history compares this residual power to that which other states retain with respect to federal Indian treaty fishing rights. See H.R. Rep. No. 96-1353 at p. 17 (1980), *reprinted in* 1980 U.S.C.C.A.N. 3786, p. 3793. Indeed, the State of Maine has acknowledged that, in recognition of "traditional Indian activities" such as fishing, preferential

treatment is to be provided to Maine Indians. See letter from Attorney General Richard Cohen to Senator John Melcher (August 12, 1980), reprinted in U.S. Senate, Select Committee on Indian Affairs, Hearings on S. 2829, Proposed Settlement of Maine Indian Land Claims. See also Letter from Maine Attorney General James Tierney to Atlantic Sea Run Salmon Commission Chair William Vail (Feb. 16, 1988), in which the State recognized that the Penobscot Nation possesses a right to take fish from the Penobscot River for consumption in a manner otherwise prohibited by state law, due to the provisions in the Maine Implementing Act. (Copies attached.)

As provided in the Implementing Act, the PIN fishing right applies within the boundaries of the Penobscot Reservation, as it is defined in the Implementing Act. The Reservation is defined to expressly include the islands in the Penobscot River, beginning at Indian Island and continuing upriver, which were reserved by the PIN in its historic treaties. 30 M.R.S.A. § 6203(8). In those treaties, the PIN ceded lands beginning at the river's edge and extending upland, thereby retaining its rights to the beds and banks of the Penobscot River. See Wilson & Son v. Harrisburg, 107 Me. 207, 210 (1910). Pursuant to the 1818 Treaty, PIN's riparian ownership to the bed and banks of the river is limited only by the commonly recognized right of the public to use the river for navigation. See Pearson v. Rolfe, 76 Me. 380, 386 (1884). In confirming the PIN Reservation, the Implementing Act recognized the retention of PIN's riparian rights to the Penobscot River, including the beds and banks of the river.[4]

As a riparian owner, PIN possesses certain rights under state law which relate to the interpretation of its statutorily-based fishing right. Maine law recognizes that a riparian proprietor, such as the PIN, has a legal right:

> to take fish from the water over his own land, to the exclusion of the public. Waters v. Lilley, 4 Pick. (Mass.) 145, 16 Am. Dec., 333. He does not own the water itself, but he has the right to the natural flow of the stream, and the right to the use and benefit of it, as it passes through his land, for all the domestic and agricultural purposes to which it can be reasonably applied, and no proprietor above or below can unreasonably divert, obstruct or pollute it. Waluppa Reservoir Co. v. Fall River, 147 Mass., 548, 554, 18 N.E. 465, 1 L.R.A., 466; Auburn v. Water Power Co., 90 Maine 576-585, 38 Atl. 561, 38 L.R.A., 188.

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[4] Report of the Joint Select Committee on Indian Land Claims Relating to LD 2037, "An Act to Provide for Implementation of the Settlement of Claims by Indians in the State of Maine and to create the Passamaquoddy Indian Territory and Penobscot Indian Territory," included within Appendix, Senate Select Committee on Indian Affairs, hearing July 1-2, 1980.

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> The only limitation upon the absolute rights of riparian proprietors in non-tidal rivers and streams is the public right of passage for fish, and also for passage of boats and logs. ... All these rights which the riparian proprietor has in the running streams are as certain, as absolute, and as inviolable as any other species of property, ...

Opinion of the Justices of the Supreme Judicial Court, 118 Me. 503, 507 (1919) (emphasis added).

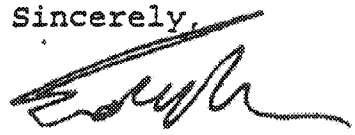
The PIN Reservation encompasses the area into which Lincoln discharges its outfall. As such and as a riparian proprietor, PIN possesses certain rights under Maine law, including the right to take fish and the right that others not unreasonably pollute the waters overlying those lands.

3. PIN's right to appeal

The Department finds particularly questionable the attempt to have EPA deny the PIN's right of appeal. We have examined the NPDES regulations which define standing to request a hearing in this matter. In the Department's view, PIN is an "interested person" as provided in 40 C.F.R. §124.74, which is the sole indicated criterion for filing a request for hearing. Moreover, the PIN meets the criteria under the definitions for "Indian Tribe" and of "person" under 40 C.F.R. § 124.2 as well. The definition for "Indian Tribe" specifically states that "[f]or the NPDES program, the term 'Indian Tribe' means any Indian Tribe, band, group, or community recognized by the Secretary of the Interior and exercising governmental authority over a Federal Indian reservation." 40 C.F.R. § 124.2. PIN meets these requirements. There would appear, thus, no grounds on which to contest PIN's status to request an evidentiary hearing in this proceeding.

Thank you for this opportunity to provide the views of the Department. Please contact me if you have any further questions.

Sincerely,



Edward B. Cohen
Deputy Solicitor

Enclosures

cc: The Honorable Francis Mitchell, Chief, PIN
Patty Goldman, Sierra Club Legal Defense Fund
Paul Stern, State of Maine, Office of the Attorney General
Kate Geoffroy, Pierce Atwood

EPA, Office of General Counsel, Washington, D.C.
EPA, Office of Regional Counsel, EPA, Boston
EPA, Indian Desk, Washington, D.C.
Department of Justice, Indian Resources Section
Department of Justice, Office of Tribal Justice
Office of the Regional Solicitor, Boston
Bureau of Indian Affairs, Office of Trust Responsibilities
Bureau of Indian Affairs, Eastern Area Office
Fish and Wildlife Service, Maine Field Office

PN-003225

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Tab 19

Office of the Chief and Council
Francis D. Mitchell
Chief
Brenda A. Fields
Sub-Chief
Paul Bisulca
Representative

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Indian Island
Old Town, Maine 04468
(207) 827-7776
FAX (207) 827-6042

March 3, 1997

Ada E. Deer
Assistant Secretary for Indian Affairs
US Department of Interior
1849 C Street, N.W., Room 4160
Washington, D.C. 20245

John D. Leshy
Solicitor
US Department of Interior
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James D. Baker
Under Secretary
Oceans, Atmosphere and Administrator
National Oceanic and Atmospheric Administration
US Department of Commerce
14th and Constitution Avenue N.W., Room 5128
Washington, D.C. 20230

John G. Rogers
Acting Director
US Fish & Wildlife Service
US Department of Interior
1849 C Street, N.W., Room 3256
Washington, D.C. 20245

RE: Initiating a Natural Resources Damages Action on Behalf of the Penobscot Indian Nation

Dear Assistant Secretary Deer, Solicitor Leshy, Director Rogers, and Under Secretary Baker:

The Penobscot Indian Nation has treaty and reserved rights to land, waters, and associated natural resources in the Penobscot River. In addition, the members of the Penobscot Indian Nation have a statutorily recognized right to fish in the Penobscot River for individual sustenance, a right that our tribal members exercise to meet critically important nutritional, cultural, and spiritual needs. In the past, the United States has recognized and defended these rights as a trustee.

As explained below, our natural resources have suffered decades of significant damage due to water pollution generated by a pulp and paper mill located immediately adjacent to reservation lands and waters. On behalf of the Penobscot Indian Nation, I formally request that the United States, as trustee, initiate a natural resources damages action pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, 42 U.S.C. §§ 9601-9675, to recover for damages to these natural resources on behalf of the tribe.

Since 1968, the Lincoln Pulp and Paper (LP&P) Company has operated a bleached kraft pulp and paper mill on the banks of the Penobscot River adjacent to the Penobscot Indian reservation lands and waters. In the past and continuing today, LP&P has relied on chlorine-based compounds for manufacturing its products, and it has discharged its manufacturing and

production waste water into the Penobscot River.

Beginning in 1987, the State of Maine posted advisories warning that consuming fish from the Penobscot River poses a serious health threat because of dangerous levels of dioxin in fish tissue. These same advisories continue today and recommend that adult males consume no more than one fish meal per month. Pregnant women and children are urged to avoid consuming any fish from the river. We now know that the principal source of the dioxins and related highly toxic compounds (such as furans) contaminating the river and the resident fish is the Lincoln Pulp and Paper Company mill.

As you may know, dioxin has been identified as a strikingly potent and persistent toxic compound that causes cancer in multiple species, disrupts the endocrine system, and suppresses the immune system. Research now definitively demonstrates that dioxins form during pulp and paper manufacturing when chlorine-based chemicals are used for bleaching, and these dioxins are released into rivers via discharge of waste waters. LP&P operates its mill without any legal limits on the quantities of dioxin and related compounds it could discharge into the river.

Unfortunately, the fish consumption advisories on the Penobscot River appear to be only one indicator of more widespread and serious natural resource damage caused by the mill's toxic pollution. This past summer, the United States Fish and Wildlife Service (FWS) completed a biological opinion for a proposed NPDES permit for the mill. For the first time, FWS examined the effect of LP&P's operations on bald eagles resident to a stretch of the Penobscot River that includes tribal lands and waters. FWS concluded that LP&P's discharges of dioxin are responsible at least in part for past reproductive failures of bald eagles along this portion of the river. FWS further concluded that these failures will continue -- at a rate of up to six eagles in the next five years -- even as the mill takes initial steps toward reducing its dioxin discharges. Research by our Department of Natural Resources on the extent and effect of LP&P's toxic discharges on other resident species, such as turtles and muskrats, is just beginning. River sediment studies demonstrate substantial dioxin and dioxin-equivalents contamination downstream from the mill.

The extent of the damage caused by LP&P's contamination of the Penobscot Indian Nation's lands, water, and natural resources cannot be underestimated. After a decade of fish consumption advisories on the Penobscot River, we face the reality that the important cultural connection of our tribal members -- especially our children -- to the Penobscot River is fading. Experiencing the communal exercise of our treaty rights creates a sense of self-worth, and belonging to the Penobscot Nation, and it connects our people to their land, culture, ancestors, and history. The deprivation of these rights, and the severing of this connection between our people and their land and history, is generating significant cultural damage, and this poses a serious issue for our members and leaders.

For these reasons, we strongly believe that a natural resources damages action must be pursued against the Lincoln mill to begin the process of restoring the Penobscot River. At the same time, the Penobscot Indian Nation lacks the resources and expertise to investigate or

pursue such a claim. For this reason, we are requesting that the United States, as trustee, initiate an action on the tribe's behalf. The staff of our Department of Natural Resources has amassed a substantial amount of relevant data and is ready and available to assist your staff as necessary.

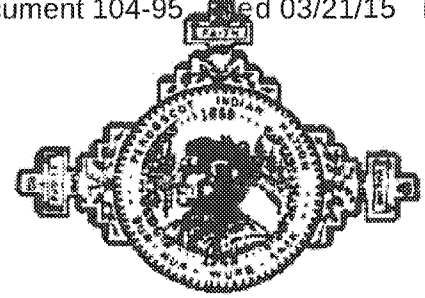
I am available to meet with you if necessary. Please feel free to contact me in the meantime with any questions.

Sincerely,

Francis D. Mitchell, Chief
Penobscot Nation

cc: Steven K. Linscheid
Suzanne Schaeffer
Kerry O'Hara
Craig O'Connor
Andy Raddant

Office of the Governor and Council
Richard H. Hamilton
Governor
Arnold E. Neptune
Lt. Governor
Paul Bisulca
Representative



Community Building
Indian Island
Old Town, Maine 04468
(207) 827-7776
FAX (207) 827-6042

-EXECUTIVE ORDER-

AN ORDER TO DESIGNATE A TRUSTEE FOR NATURAL RESOURCES

No. 1, FY 96
Date: 07/23/96

WHEREAS, the Penobscot Indian Nation is a Federally Recognized Sovereign Indian Tribe with a reservation consisting of Indian Island and all islands in the Penobscot River northward thereof; and

WHEREAS, the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. Section 9607 (hereinafter "CERCLA") requires the designation of a Natural Resource Trustee to initiate a natural resource damage assessment;

NOW THEREFORE, I, Richard H. Hamilton, Governor of the Penobscot Tribe, do hereby designate John S. Banks as its authorized official to act on behalf of the Penobscot Indian Nation as trustee for natural resources under CERCLA and its implementing regulations. As the authorized official, John S. Banks shall assess damages for injury to, destruction of, or loss of all natural resources under his trusteeship for the purpose of a natural resource damage assessment, and he shall make all determinations required for such assessment pursuant to CERCLA and its implementing regulations.

Effective Date

The effective date of this Executive Order is July 23, 1996

Richard H. Hamilton
Governor

Tab 20

United States Department of the Interior

BUREAU OF INDIAN AFFAIRS
Washington, D.C. 20240

IN REPLY REFER TO:

NOV 18 1998

Memorandum

To: Franklin Keel, Director
Eastern Area, Bureau of Indian Affairs

From: Acting for Hilda Manuel
Deputy Commissioner of Indian Affairs

Subject: Redelegation of Authorized Official for the Upper Penobscot River, ME Natural Resource Damage Assessment and Restoration Activities.

Under the authority delegated in 207 DM 6.3.B, and the provisions of 521 DM § 2.2.J (4) Bureau Heads, when designated, act on behalf of the Secretary as the Authorized Official (AO) in conducting Natural Resource Damage Assessment and Restoration activities. As prescribed by 207 DM 6.3.C, this authority is hereby redelegated to the Director, Eastern Area Office, Bureau of Indian Affairs.

Attached are the memorandum effecting the Secretaries designation as well as memoranda signed by myself and the two other Bureau Heads or their designees with program responsibilities affected by the Upper Penobscot River, ME, Natural Resource Damage Assessment and Restoration activities.

Attachments

EXECUTIVE CORRESPONDENCE

United States Department of the Interior

OFFICE OF THE SECRETARY
Washington, D.C. 20240

NOV 10 1998

Memorandum

To: Hilda Manual
Deputy Commissioner for Indian Affairs

From: Willie R. Taylor, Director
Office of Environmental Policy and Compliance

Subject: Designation of Authorized Official for the Upper Penobscot River, ME, Natural Resource Damage Assessment and Restoration Activities

Under the authority delegated in 207 DM 6.3.B, and the provisions of 521 DM § 2.2.J(4), Bureau Heads, when designated, act on behalf of the Secretary as the Authorized Official (AO) in conducting Natural Resource Damage Assessment and Restoration activities. Such authority may be redelegated, but no lower than to the Regional Director or equivalent. The Director, Fish and Wildlife Service, in Director's Order No. 104, has delegated her AO authorities and responsibilities (including authority to concur with designation of AOs) to Service Regional Directors.

Attached are memoranda signed by the three Bureau Heads or their designees with program responsibilities affected by the below listed activity. Pursuant to 521 DM § 2.2.J(4), the Deputy Commissioner of Indian Affairs is hereby designated as Authorized Official for the following Natural Resource Damage Assessment and Restoration activity:

Upper Penobscot River, ME, Natural Resource Damage Assessment and Restoration Activities.

Attachments

cc: Director, NPS
Regional Director, FWS, Hadley, MA
NRDAR Program Manager

DO NOT WRITE ON THIS COVER AS IT IS INTENDED FOR RE-USE
RETURN IT WITH THE FILE COPIES TO ORIGINATING OFFICE

Tab 21

UNITED STATES BANKRUPTCY COURT
DISTRICT OF MAINE

In Re: EASTERN PULP & PAPER, Debtor	Chapter 11 Case No. 00-11613(JBH)
In Re: EASTERN FINE PAPER, INC., Debtor	Chapter 11 Case No. 00-11612(JBH)
In Re: LINCOLN PULP & PAPER CO., INC. Debtor	Chapter 11 Case No. 00-11614(JBH)
	[*Jointly Administered*]

PROOF OF CLAIM OF THE UNITED STATES ON BEHALF OF THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY AND THE DEPARTMENT OF THE INTERIOR

1. This Proof of Claim is filed by the Attorney General of the United States at the request of the United States Environmental Protection Agency ("EPA"), and the United States Department of the Interior ("DOI"), in its own capacity and on behalf of the Penobscot Indian Nation. This Proof of Claim relates to environmental liabilities of the Debtor to the United States under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended ("CERCLA"), 42 U.S.C. §§ 9601 et seq., as well as damages for injury to, destruction of, or loss of natural resources under the trusteeship of the United States, including the reasonable costs of assessing such injury, destruction or loss under Section 107 of CERCLA, 42 U.S.C. § 9607. This Proof of Claim also relates to the recovery of damages

suffered by the Penobscot Indian Nation ("Nation") for the loss of its sustenance fishing right and cultural use due to the contamination of the waters and sediments of the Penobscot River, which includes areas of the Nation's reservation, caused by the discharges of dioxin and/or other hazardous substances into the Penobscot River by the Debtor, Lincoln Pulp and Paper Company, Inc. ("Lincoln" or "Debtor").

The Site

2. Lincoln manufactures kraft pulp, fine paper, and tissue at its 385-acre kraft manufacturing facility located at 50 Katahdin Avenue, Lincoln, Penobscot County, Maine. On-site industrial operations began in approximately 1827. The Debtor has been operating on the Site since approximately 1969.

3. Lincoln maintains approximately fifteen structures, the majority of which are located in the southwestern section of the property. The most prominent of these structures include the paper mill, pulp mill, tissue mill, lime kiln, wastewater treatment facility ("WWTF"), boiler houses, sawdust gallery, storage and maintenance buildings, and several aboveground storage tanks ("ASTs"). In addition, the property contains fifteen solid waste disposal areas which cover approximately fifty-six acres of the facility. The property is bordered by the Penobscot River to the north, an active railroad right-of-way to the east, private residences and commercial properties to the south, and a junkyard and undeveloped property to the west. Two perennial streams transect the property - the Mattanawcook and an unnamed stream.

4. During operation of its kraft pulp and paper manufacturing facility, the Debtor has discharged dioxin and furan containing compounds into the Penobscot River, contaminating the fish, sediments, and other natural resources of the River. Dioxin is a chemical

suspected of causing cancer in humans. Sampling done at the Lincoln Pulp & Paper Site ("Lincoln Site") also revealed elevated levels of several hazardous substances under CERCLA.

CERCLA

5. The Debtor is liable to the United States with respect to releases and threatened releases of hazardous substances at the Lincoln Site in the State of Maine. The EPA is currently evaluating the Site in order to determine whether it should be listed on the National Priorities List, 40 C.F.R. Part 300, Appendix B ("NPL"), which is a list of hazardous waste sites nationwide that pose the greatest threat to public health, public welfare, and the environment. *See* 42 U.S.C. § 9605(a).

6. The Debtor is liable under Section 107(a) of CERCLA, 42 U.S.C. § 9607(a), which provides that four separate categories of persons are liable to the United States with respect to releases and threatened releases of hazardous substances, including the following:

> (1) the owner and operator of a vessel or a facility,
>
> (2) any person who at the time of disposal of any hazardous substance owned or operated any facility at which such hazardous substances were disposed of,
>
> . . .

42 U.S.C. § 9607(a)(1), (2). The Debtor has owned the Lincoln Pulp & Paper mill since approximately 1968 and is therefore liable as the owner and operator under CERCLA. There has been a release or threat of release of hazardous substances at the Lincoln Site. The Debtor's liability is joint and several with other liable parties, if any.

7. Past Costs. In response to the releases and threats of releases of hazardous substances at the Lincoln Site, the United States has incurred "response costs" within the

meaning of Sections 101(25) and 107(a) of CERCLA, 42 U.S.C. §§ 9601(25) and 9607(a). The EPA has conducted and/or overseen various response actions at the Site pursuant to Section 104 of CERCLA, 42 U.S.C. § 9604, including, but not limited to, conducting a Site assessment, performing a Site investigation, and testing soil, sediment, and water samples. To date, EPA has incurred costs of approximately $307,000 related to such response actions. The United States files a claim for such costs in the amount of $307,000, plus interest.

8. Future Response Obligations. The EPA has not yet determined whether the Lincoln Site will be listed on the NPL. If the Site is listed, the United States may determine that a remedial action is necessary to address an imminent and substantial endangerment to the public health, welfare, or the environment resulting from the release or threatened release of hazardous substances from the Site. It is the position of the United States that any injunction compelling Debtor to comply with an order issued pursuant to Section 106 of CERCLA, 42 U.S.C. § 9606, or under any other statutory or regulatory provision, would not be a "claim" within the meaning of Section 101(5) of the Bankruptcy Code and therefore not dischargeable in bankruptcy. This Proof of Claim is filed to protect the United States' rights with respect to such obligation of the Debtor. To the extent that this Court determines that such an injunctive obligation constitutes a "claim" dischargeable in bankruptcy, the United States hereby asserts that "claim" for protective purposes only and estimates that it may cost the Debtor between $400,000 to in excess of $60 million. The United States reserves the right to take further actions in the future to enforce the obligations of the Debtor, debtor-in-possession, and any reorganized debtor. Nothing in this Proof of Claim constitutes a waiver of any rights of the United States or an election of remedies.

Natural Resource Damages

9. The United States also hereby asserts a claim on behalf of DOI–in its own capacity and on behalf of the Penobscot Indian Nation–for injury to, destruction of, or loss of natural resources under the trusteeship of DOI and/or the Nation at the Lincoln Site. As no remedial action has been completed, the eventual amount of natural resource injury, destruction or loss, including the reasonable costs of assessing the existence and extent of such injury, destruction or loss, is unknown. To date, the United States has incurred between $680,000 and $1.1 million in costs associated with assessment of the natural resource damages at the Lincoln Site.

10. The Debtor is liable for all past and future costs relating to injury to, destruction of, or loss of natural resources associated with the Lincoln Site, including the reasonable costs of assessing such injury, destruction, or loss. Lincoln's liability to the United States is joint and several with other liable parties, if any.

11. The EPA has not yet determined whether the Lincoln Site will be listed on the NPL. DOI may exercise its authority to initiate a CERCLA response action, in the absence of EPA's decision to list the Site on the NPL, pursuant to Executive Order Number 12580 (as amended by Executive Order Number 13016). DOI may determine that a remedial action is necessary to address an imminent and substantial endangerment to the public health, welfare, or the environment resulting from the release or threatened release of hazardous substances from the Site. It is the position of the United States that any injunction compelling Debtor to comply with an order issued pursuant to Section 106 of CERCLA, 42 U.S.C. § 9606, or under any other statutory or regulatory provision, would not be a "claim" within the meaning of Section 101(5)

of the Bankruptcy Code and therefore not dischargeable in bankruptcy. This Proof of Claim is filed to protect the United States' rights with respect to such obligation of the Debtor. To the extent that this Court determines that such an injunction constitutes a "claim" dischargeable in bankruptcy, the United States hereby asserts that "claim" for protective purposes only and estimates that it may cost the Debtor between $400,000 to in excess of $60 million. The United States reserves the right to take further actions in the future to enforce the obligations of the Debtor, debtor-in-possession, and any reorganized debtor. Nothing in this Proof of Claim constitutes a waiver of any rights of the United States or an election of remedies. This portion of the Proof of Claim for natural resource damages may overlap with the United States' protective claim on behalf of EPA for CERCLA future response obligations. *See* Paragraph 8, *supra*.

Claims under Federal Common Law, Maine Statutory Law, and Maine Common Law

12. Since 1987, the State of Maine has issued a fish consumption advisory for the Penobscot River downstream of the Debtor's manufacturing facility due to the presence of dioxin in bass and suckers.

13. The Debtor is liable to the Penobscot Indian Nation under federal common law, Maine statutory law, and Maine common law for damages caused by the Debtor's acts of nuisance, trespass and strict liability.

14. Pursuant to 17 M.R.S.A. § 2701, "[a]ny person injured in his comfort, property or enjoyment of his estate by a common and public or a private nuisance may maintain against the offender a civil action for his damages, unless otherwise specially provided."

15. Pursuant to 17 M.R.S.A. § 2702, the Court may order the Debtor to abate or remove the nuisance at the Debtor's expense.

16. Pursuant to 17 M.R.S.A. § 2802, "[t]he use of any building or place for the exercise of trade, employment or manufacture that, by noxious exhalations, offensive smells or other annoyances, becomes injurious and dangerous to the health, comfort or property of individuals or the public; . . . corrupting or rendering unwholesome or impure the water of a river, stream, pond or acquifer; . . . are nuisances . . ."

17. The Debtor's actions have injured the health, comfort or property of the Nation by rendering the water of the Penobscot River unwholesome or impure for fishing and other cultural enjoyment. The Maine legislature has established that such action constitutes a nuisance. 17 M.R.S.A. § 2802; see also, 17 M.R.S.A. § 2701.

18. The Debtor is also liable under the State of Maine's common law claims of continuing nuisance and continuing trespass because the dioxin contamination caused by the Debtor's manufacturing facility discharges continues to remain unabated on the Nation's reservation and continues to harm the fish, sediments, and other natural resources of the Penobscot River. See, Jacques v. Pioneer Plastic, Inc., 676 A.2d 504 (Me, 1996); Hanlin Group, Inc. v. Intern'l Minerals and Chem. Corp., 759 F. Supp. 925 (D. Me. 1990).

19. The dioxin and/or other hazardous substances discharged by the Debtor into the Penobscot River have contaminated, and continue to contaminate, the fish and sediments of the River, rendering the fish unsafe to eat.

20. Maine law provides that one who disposes of hazardous waste be held strictly liable for the damage that disposal causes to others. See, 38 M.R.S.A. § 1319-U(5). The Debtor is liable under the State of Maine's statutory and common law for strict liability because the Debtor has discharged dioxin and/or other hazardous substances from its manufacturing

facility into the Penobscot River causing damages to the Nation's sustenance fishing right and cultural use. See, Murray v. Bath Iron Works, 867 F. Supp. 33 (D. Me. 1994)(finding Maine Law Court would recognize common law strict liability action for disposal of hazardous waste); Saco Steel Co. v. Saco Defense, Inc., 910 F.Supp. 803 (D. Me. 1995).

21. The Debtor is liable to the United States for damages suffered by the Penobscot Indian Nation for the loss of its sustenance fishing right and cultural use of the fish and waters.

22. The Debtor's actions giving rise to these claims have caused the United States, as trustee of the Penobscot Indian Nation, to incur damages representing the loss of the Penobscot Indian Nation's sustenance fishing right and cultural use of fish and other resources.

23. The claims made by the United States, on behalf of the Nation, under federal common law, Maine statutory law, and Maine common law for damages caused by the Debtor's acts of nuisance, trespass and strict liability may overlap with the Proof of Claim for natural resource damages asserted in Paragraph 10, *supra*.

24. In accordance with 17 M.R.S.A. § 2702, the Debtor should be ordered to abate or remove the nuisance at the Debtor's expense.

25. This Proof of Claim also asserts a protective claim regarding any Order issued by the Court pursuant to 17 M.R.S.A. § 2702, or under any other statutory or regulatory provision, requiring the Debtor to abate or remove the nuisance. Any such Order requiring abatement or removal of the nuisance is a mandatory obligation of the Debtor that does not constitute a claim within the meaning of Section 101(5) of the Bankruptcy Code. This Proof of Claim is filed to protect the Nation's rights with respect to such obligation of the Debtor,

including the obligation to abate and remove the nuisance. The United States, on behalf of the Nation reserves the right to take further actions in the future to enforce the obligations of the Debtor, debtor-in-possession, and any reorganized debtor. Nothing in this Proof of Claim constitutes a waiver of any rights of the United States, on behalf of the Nation, or an election of remedies.

26. This protective Proof of Claim asserted by the United States on behalf of the Nation may overlap with the United States' Proof of Claim set forth in Paragraphs 8 and 11.

Priority of Claims

27. The United States' claims for natural resource damages occurring post-petition, and all post-petition CERCLA liabilities with respect to the property of the estate, are entitled to administrative priority under 11 U.S.C. §§ 503(b) and 507(a)(1).

28. The protective claims asserted by the United States with respect to injunctive obligations of the Debtor are not dischargeable claims; but if they are found to be dischargeable claims, they would be administrative expense obligations of the Debtor.

29. All claims or rights asserted in this Proof of Claim, other than those referred to in Paragraphs 27 and 28, are filed as general unsecured claims, except to the extent that such claims are secured by insurance proceeds recovered by the Debtor.

30. To the extent that the United States' position with respect to Paragraph 27 or 28 is denied, such claim or right is asserted as a general unsecured claim.

Miscellaneous Provisions

31. No judgments against the Debtor have been rendered with respect to this Proof of Claim.

32. No payments to the United States have been made by the Debtor with respect to this Proof of Claim.

33. This Proof of Claim reflects the known liability of the Debtor to the United States. The United States reserves the right to amend this Proof of Claim to assert subsequently discovered liabilities, and to update its estimates as to its future response costs and natural resource damages.

34. This Proof of Claim is without prejudice to any right under 11 U.S.C. § 553 to set off, against this claim, debts owed (if any) to the Debtor or the Debtor's estate by this or any other federal agency.

35. No perfected security interests are held for these claims in property of the Debtor.

Respectfully submitted,

JOHN C. CRUDEN
Acting Assistant Attorney General
United States Department of Justice
Environment and Natural Resources
Division

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UNITED STATES BANKRUPTCY COURT — DISTRICT OF Maine — PROOF OF CLAIM

Name of Debtor: Lincoln Pulp & Paper Co., Inc.

Case Number: 00-11614 (JBH)

NOTE: This form should not be used to make a claim for an administrative expense arising after the commencement of the case. A "request" for payment of an administrative expense may be filed pursuant to 11 U.S.C. § 503.

Name of Creditor (The person or other entity to whom the debtor owes money or property): United States of America

Name and address where notices should be sent:
Jeffrey K. Sands
Myles E. Flint II
U.S. Department of Justice
P.O. Box 7611, Ben Franklin Station
Washington, DC 20044
Telephone number: 202-514-3908

☐ Check box if you are aware that anyone else has filed a proof of claim relating to your claim. Attach copy of statement giving particulars.

☐ Check box if you have never received any notices from the bankruptcy court in this case.

☐ Check box if the address differs from the address on the envelope sent to you by the court.

THIS SPACE IS FOR COURT USE ONLY

Account or other number by which creditor identifies debtor:

Check here if this claim ☐ replaces ☐ amends a previously filed claim, dated: _____

1. Basis for Claim

☐ Goods sold
☐ Services performed
☐ Money loaned
☐ Personal injury/wrongful death
☐ Taxes
☒ Other See Attached

☐ Retiree benefits as defined in 11 U.S.C. § 1114(a)
☐ Wages, salaries, and compensation (fill out below)
Your SS #: _____
Unpaid compensation for services performed from _____ (date) to _____ (date)

2. Date debt was incurred:

3. If court judgment, date obtained:

4. Total Amount of Claim at Time Case Filed: $ See Attached

If all or part of your claim is secured or entitled to priority, also complete Item 5 or 6 below.

☐ Check this box if claim includes interest or other charges in addition to the principal amount of the claim. Attach itemized statement of all interest or additional charges.

5. Secured Claim.

☐ Check this box if your claim is secured by collateral (including a right of setoff).

Brief Description of Collateral:
☐ Real Estate ☐ Motor Vehicle
☐ Other _____

Value of Collateral: $_____

Amount of arrearage and other charges at time case filed included in secured claim, if any: $_____

6. Unsecured Priority Claim.

☒ Check this box if you have an unsecured priority claim

Amount entitled to priority $ See Attached

Specify the priority of the claim:

☐ Wages, salaries, or commissions (up to $4,650),* earned within 90 days before filing of the bankruptcy petition or cessation of the debtor's business, whichever is earlier - 11 U.S.C. § 507(a)(3).
☐ Contributions to an employee benefit plan - 11 U.S.C. § 507(a)(4).
☐ Up to $2,100* of deposits toward purchase, lease, or rental of property or services for personal, family, or household use - 11 U.S.C. § 507(a)(6)
☐ Alimony, maintenance, or support owed to a spouse, former spouse, or child - 11 U.S.C. § 507(a)(7).
☐ Taxes or penalties owed to governmental units - 11 U.S.C. § 507(a)(8)
☒ Other - Specify applicable paragraph of 11 U.S.C. § 507(a)(1)

*Amounts are subject to adjustment on 4/1/04 and every 3 years thereafter with respect to cases commenced on or after the date of adjustment.

THIS SPACE IS FOR COURT USE ONLY

7. Credits: The amount of all payments on this claim has been credited and deducted for the purpose of making this proof of claim.

8. Supporting Documents: *Attach copies of supporting documents,* such as promissory notes, purchase orders, invoices, itemized statements of running accounts, contracts, court judgments, mortgages, security agreements, and evidence of perfection of lien. DO NOT SEND ORIGINAL DOCUMENTS. If the documents are not available, explain. If the documents are voluminous, attach a summary.

9. Date-Stamped Copy: To receive an acknowledgment of the filing of your claim, enclose a stamped, self-addressed envelope and copy of this proof of claim.

Date: May 01 2001

Sign and print the name and title, if any, of the creditor or other person authorized to file this claim (attach copy of power of attorney, if any): Trial Attorney

Penalty for presenting fraudulent claim: Fine of up to $500,000 or imprisonment for up to 5 years, or both. 18 U.S.C. §§ 152 and 3571.

UNITED STATES BANKRUPTCY COURT
DISTRICT OF MAINE

In Re: EASTERN PULP & PAPER, Debtor	Chapter 11 Case No. 00-11613(JBH)
In Re: EASTERN FINE PAPER, INC., Debtor	Chapter 11 Case No. 00-11612(JBH)
In Re: LINCOLN PULP & PAPER CO., INC. Debtor	Chapter 11 Case No. 00-11614(JBH) [*Jointly Administered*]

PROOF OF CLAIM OF THE UNITED STATES ON BEHALF OF THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY AND THE DEPARTMENT OF THE INTERIOR

1. This Proof of Claim is filed by the Attorney General of the United States at the request of the United States Environmental Protection Agency ("EPA"), and the United States Department of the Interior ("DOI"), in its own capacity and on behalf of the Penobscot Indian Nation. This Proof of Claim relates to environmental liabilities of the Debtor to the United States under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended ("CERCLA"), 42 U.S.C. §§ 9601 et seq., as well as damages for injury to, destruction of, or loss of natural resources under the trusteeship of the United States, including the reasonable costs of assessing such injury, destruction or loss under Section 107 of CERCLA, 42 U.S.C. § 9607. This Proof of Claim also relates to the recovery of damages

Tab 22

United States Department of the Interior

OFFICE OF THE SOLICITOR
Washington, D.C. 20240

IN REPLY REFER TO

JAN 30 2015

Avi S. Garbow
General Counsel
United States Environmental Protection Agency
1200 Pennsylvania Ave NW
Washington, D.C. 20460

Re: Maine's WQS and Tribal Fishing Rights of Maine Tribes

Dear Mr. Garbow:

The State of Maine has submitted proposals to the Environmental Protection Agency (EPA) to implement Water Quality Standards (WQS) within waters set aside for federally recognized tribes under applicable state and Federal law for uses including sustenance fishing (hereinafter described as Maine Indian Waters).[1] To assist in your review of Maine's proposals, you have asked for the Department of the Interior's views regarding tribal fishing rights in Maine and particularly the relationship between tribal fishing rights and water quality. We have reviewed applicable law and, for the reasons explained below, conclude that all four of the Maine tribes—the Penobscot Nation, the Passamaquoddy Tribe, the Houlton Band of Maliseet Indians, and the Aroostook Band of Micmacs—have federally-protected tribal fishing rights. These fishing rights should be taken into account in evaluating the adequacy of WQS in Maine.

1. Overview of Tribal Fishing Rights in Maine Indian Waters

As you are well aware, the four federally recognized Indian tribes in the State of Maine are subject to a unique statutory framework established by the state-law Act to Implement the Maine Indian Claims Settlement ("Maine Implementing Act"),[2] the state-law Micmac Settlement Act,[3] the federal Maine Indian Claims Settlement Act ("MICSA"),[4] and the

[1] We note that the exact boundaries of at least some Indian lands and territories in Maine remain in dispute. For example, the United States has intervened in a lawsuit filed by the Penobscot Nation against Maine claiming that the Penobscot Reservation includes waters in the Main Stem of the Penobscot River. *See* Order on Pending Motions in *Penobscot Nation v. Mills*, 1:12-cv-00254-GZS (D. Maine Feb. 4, 2014) (granting US motion to intervene) . It is beyond the scope of this letter to precisely identify all Maine Indian Waters. The location of Maine Indian Waters for each Tribe would have to be defined based on all applicable law, including statutory language, applicable property law doctrine, and lands reserved by treaty and retained by the tribes pursuant to statute. We do not elaborate here on the question of whether the Maine tribes have additional fishing rights outside of Indian lands and territories.
[2] 30 M.R.S. §§ 6201 *et seq.*
[3] 30 M.R.S. §§ 7201 *et seq.*
[4] 25 U.S.C. §§ 1721 *et seq.*

federal Aroostook Band of Micmacs Settlement Act[5] (collectively the "Settlement Acts").[6]

There is no dispute that the four Maine tribes have historically engaged in fishing in Maine waters and that fishing is an important cultural and economic activity for Maine tribal members.[7] Because of differences in their history and applicable statutory language, the fishing rights of the two Southern Tribes—the Passamaquoddy Tribe and the Penobscot Indian Nation— derive from different legal sources than the fishing rights of the Northern Tribes—the Houlton Band of Maliseet Indians and the Aroostook Band of Micmacs. But all Maine tribes possess fishing rights that EPA should consider when analyzing proposed water quality standards in Maine.

The fishing rights of the Passamaquoddy Tribe and Penobscot Indian Nation in their Reservation waters[8] are expressly reserved[9] fishing rights: the Maine Implementing Act

---

[5] P.L. 102-171, 105 Stat. 1143 (1991).

[6] In MICSA, Congress formally confirmed the federal recognition of the Penobscot Nation, the Passamaquoddy Tribe and the Houlton Band of Maliseet Indians. 25 U.S.C. § 1725(i). Federal recognition was extended to the Aroostook Band of Micmacs eleven years later with the enactment of P.L. 102-171 (Sec. 6(a)), so now these four Maine tribes are recognized as eligible for the rights and benefits of Indian tribal status. *See generally* 25 U.S.C. § 479a-1(a) (providing for listing of federally recognized tribes that are all entitled to "services provided by the United States to Indians because of their status as Indians").

[7] Notably, several standalone provisions in Maine law recognize and arguably encourage the continuing centrality of fishing to the traditions and health of Maine tribes. First, the State of Maine recognizes and facilitates fishing as a central part of tribal culture by issuing permits to tribal members to fish in Maine waters at no cost. 12 M.R.S. § 10853(8). Second, the State has enacted legislation providing for special treatment of tribal members engaged in fishing for marine organisms, exempting them from many state permitting requirements and providing a broad exemption for many tribal sustenance and ceremonial uses. 12 M.R.S. § 6302-A. Concerns of the tribes with the process by which this language was adopted and objections to the definition of sustenance are explained in a recent report by the Maine Tribal-State Commission. Me. Indian Tribal-State Comm'n, *Assessment of the Intergovernmental Saltwater Fisheries Conflict between Passamaquoddy and the State of Maine* (June 17, 2014), *available at* http://www.mitsc.org/documents/148_2014-10-2MITSCbook-WEB.pdf ("Commission Saltwater Fisheries Report").

[8] 30 M.R.S. § 6203(5) (defining Passamaquoddy Indian Reservation as "those lands reserved to the Passamaquoddy Tribe by agreement with the State of Massachusetts dated September 19, 1794" except for lands transferred by the Tribe after these treaties but before enactment of the Maine Implementing Act, and with certain additional specifications); § 6203(8) (defining Penobscot Indian Reservation as "the islands in the Penobscot River reserved to the Penobscot Nation by agreement with the States of Massachusetts and Maine" except for islands transferred by the Tribe after these treaties but before the enactment of the Maine Implementing Act and with the addition of other specifically enumerated parcels). Legislative history confirms that the Reservations include riparian and littoral rights under State law or treaties:

> The boundaries of the Reservations are limited to those areas described in the bill, but include any riparian or littoral rights expressly reserved by the original treaties with Massachusetts or by operation of state law.

State of Maine, Maine legislature, Joint Select Committee on the Indian Land Claims, Report of the Joint Select Committee on Indian Land Claims Relating to LD 2037 "An Act to provide for Implementation of the Settlement of Claims by Indians in the State of Maine and to Create the Passamaquoddy Indian Territory and Penobscot Indian Territory," at p. 3, para. 14.

[9] A reserved right is a right that has been retained since aboriginal times. Section 6207(4)'s sustenance fishing right applies within these Reservations retained by the Southern Tribes first under treaties and now under the Settlement Acts, see *supra* note 8, since aboriginal times. Congress used an apt phrase that

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acknowledges the right of Penobscot Nation and Passamaquoddy members to "take fish . . . for their individual sustenance" within their reservations free of state regulation.[10]

These statutorily-acknowledged fishing rights are rooted in treaty guarantees[11] that were upheld through the Settlement Acts. The Passamaquoddy Tribe's 1794 treaty with the State of Massachusetts explicitly reserves a Passamaquoddy fishing right in the St. Croix River (then known as the Schoodic River): the treaty guarantees "to said Indians the privilege of fishing on both branches of the river Schoodic without hindrance or molestation."[12] The Penobscot treaties of 1818 (with Massachusetts) and 1820 (with Maine) do not expressly mention fishing rights because they did not cede the Penobscot River, explicitly retaining islands and granting to non-members only the right to "pass and repass" the River. The Penobscot Nation had historically relied on fishing, and the islands mentioned in the Treaty would have been of little value if they were not accompanied by fishing grounds.[13]

The Maine Implementing Act further provides for tribal sustenance fishing in certain ponds on lands located outside the Southern Tribes' reservations, but held in trust by the United States as part of the Indian territories established under the Settlement Acts. The Southern Tribes have exclusive authority to enact ordinances regulating the taking of fish on ponds of less than ten acres in their trust lands which "may include special provisions for the sustenance of the individual members of the Passamaquoddy Tribe or the Penobscot Nation."[14] The Maine Implementing Act also includes special provisions for

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captures the reserved right concept in the legislative history for the Federal Maine Indian Claims Settlement Act, characterizing fishing rights as an example of natural resources considered "expressly retained sovereign activities." H.R. Rep. No. 96-1353 at p 15 (1980).

[10] This reading is established by language in 30 M.R.S. § 6207(4):

> Notwithstanding any rule or regulation promulgated by the commission or any other law of the State, the members of the Passamaquoddy Tribe and the Penobscot Nation may take fish, within the boundaries of their respective Indian reservations, for their individual sustenance subject to the limitations of subsection 6 [providing for the State to limit tribal fishing if necessary to protect the stock of fish].

State regulation is allowed only in the case of conservation necessity, as laid out in the Maine Implementing Act at 30 M.R.S. § 6207(6).

[11] These treaties were State treaties, negotiated not with the United States but with the Commonwealth of Massachusetts; Maine later adopted the responsibility to implement these treaties in its state constitution. See Maine Constitution, Art. X, Sec. 5:

> The new State shall, as soon as the necessary arrangements can be made for that purpose, assume and perform all the duties and obligations of this Commonwealth, towards the Indians within said District of Maine, whether the same arise from treaties, or otherwise.

Available at http://www.maine.gov/legis/lawlib/const1820.pdf. (Note that per Art. X, Sec. 7, the text quoted here is omitted from printed copies of the Maine Constitution, but still remains in force and effect.). The Settlement Acts preempt any contrary language in the treaties, but the legislative history discussed in *supra* note 8 explains that expressly reserved riparian rights under the treaties were retained under the Settlement Acts.

[12] The text of the treaty is available at http://www.wabanaki.com/1794_treaty.htm.

[13] *See, e.g., Alaska Pacific Fisheries v. U.S.*, 248 U.S. 78, 86-89 (1918) (holding that where Congress set aside lands for the Metlakahtla Indians, a fishing tribe, it impliedly reserved fishing rights in the adjacent waters).

[14] 30 M.R.S. § 6207(1).

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regulation of certain waters by the Maine Indian Tribal-State Commission.[15] Thus, through the Maine Implementing Act, the State has recognized the Southern Tribes' sustenance fishing rights within their territories, and the importance of fish to tribal members' diet.

Although the term "sustenance" is not defined in the Settlement Acts, it is reasonable to conclude that the term encompasses, at a minimum, the notion of tribal members taking fish to nourish and sustain themselves. Moreover, the Indian law canons of construction require that ambiguous terms in statutes must be construed "most favorably towards tribal interests."[16] Where fishing rights of traditional fishing tribes are concerned, this rule of liberal construction applies with special force: one court has held that treaties must be construed "in the sense in which they would naturally be understood by the Indians . . . . especially the reference to the right of taking fish."[17] The term "sustenance" in section 6207(4) of the Maine Implementing Act should thus be construed broadly[18] to incorporate at least the right of tribal members to take sufficient fish to nourish and sustain them,[19] with no specific quantitative limits other than the conservation necessity limit that the statutory language specifically places on the tribal fishing right.[20] When interpreting the scope of the Maine tribes' fishing right as the tribes would understand them, EPA should consider that the tribes' ability to fish was, and continues to be, essential to their livelihood and culture.

The sources of the fishing rights of Maine's Northern Tribes are different in that they are not discussed explicitly in the Settlement Acts. However, express language in a statute or

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[15] The Commission is an intergovernmental body made up of members appointed by the Tribes and the State. 30 M.R.S. § 6212. 30 M.R.S. § 6207(3) authorizes the Commission to promulgate fishing rules and regulations within specified waters on or adjoining the Penobscot Nation's and Passamaquoddy Tribe's territories, taking into account the "needs or desires of the tribes to establish fishery practices for the sustenance of the tribes or to contribute to the economic independence of the tribes."

[16] *Rincon Band of Luiseno Mission Indians of Rincon Reservation v. Schwarzenegger*, 602 F.3d 1019, 1032 (9th Cir. 2010). *See also Montana v. Blackfeet Tribe*, 471 U.S. 759, 766 (1985) ("Statutes are to be construed liberally in favor of the Indians, with ambiguous provisions interpreted to their benefit."). The Indian canons of construction have been held to apply to interpretation of the Settlement Acts. *See infra* note 48 and accompanying text.

[17] *Washington v. Wash. State Commercial Passenger Fishing Vessel Ass'n*, 443 U.S. 658, 676, 678 (1979).

[18] Tribes have argued that in addition to fishing for individual consumption, the definition of sustenance traditionally incorporated two other components: barter and exchange. Commission Saltwater Fisheries Report, *supra* note 7, at p. 22-23

[19] A study prepared for EPA in collaboration with the Maine Tribes discusses what level of fish consumption is representative of sustenance fishing in Maine Indian waters. Harper, Barbara and Darren Ranco, *Wabanaki Traditional Cultural Lifeways Exposure Scenario*, prepared for EPA in collaboration with the Maine Tribes, July 9. 2009, available at http://www.epa.gov/region1/govt/tribes/pdfs/DITCA.pdf.

[20] This statutory provision establishing a right of the State to regulate in limited situations of conservation necessity is consistent with the federal common law rule. *See United States v. Oregon*, 769 F.2d 1410, 1416 (9th Cir. 1990) (describing findings that court must make in order to uphold regulation of treaty rights to take fish, including that "States must consider the protection of the treaty right to take fish . . . as an objective co-equal with the conservation of the fish runs for other uses"); *United States v. Washington*, 384 F. Supp. 312, 401 (W.D. Wash. 1974) ("Neither the Indians nor the non-Indians may fish in a manner so as to destroy the resource or to preempt it totally.").

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treaty is not necessary to establish the existence of a tribal fishing right.[21] Tribal fishing rights are implied through an analysis of the purpose of these land settlements—to create a permanent land base—and the trust property interests created pursuant to the Acts. As described below, these fishing rights are also rooted in state common law on the right of riparian owners to fish on their properties in addition to the Settlement Acts and federal common law on the importance and durability of tribal fishing rights.

The fundamental requirement for a fishing right is access to fishable waters, and legislative history for the Maine Implementing Act specifically addresses the issue of the tribes' access to waters in connection with their trust lands:

> Any lands acquired by purchase or trade may include riparian or littoral rights to the extent they are conveyed by the selling party or included by general principles of law.[22]

This language allows for riparian rights to attach to the tribal trust lands held by the United States for the Northern Tribes, which are acquired by purchase and then put into trust.[23] In Maine, a right to fish is a right "included by general principles of law" when riparian lands are acquired,[24] and this language thus confirms that Maine's legislature recognized the right of the Maine tribes to engage in fishing on their reservation and trust

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[21] The hunting and fishing rights that were held to survive termination of the Tribe's status as a federally recognized tribe in the seminal case *Menominee Tribe of Indians v. United States* were created by treaty language providing that tribal land would be "held as Indian lands are held." 391 U.S. 404, 405-06 (1968). *See also United States v. Dion*, 476 U.S. 734, 738 (1986) (explaining that "[a]s a general rule, Indians enjoy exclusive treaty rights to hunt and fish on lands reserved to them, unless such rights were clearly relinquished by treaty or have been modified by Congress," and that these rights need not be expressly mentioned in the treaty). State regulatory jurisdiction is not incompatible with a tribal fishing right; the existence of state laws dealing with tribal fishing in Maine, *see supra* note 7, reinforces that the State acknowledges the importance of tribal fishing rights. Carole E. Goldberg et al., AMERICAN INDIAN LAW: NATIVE NATIONS AND THE FEDERAL SYSTEM 1177-78 (6th ed. 2010) ("It is important to see that jurisdictional protections supplement rather than displace tribal property rights to hunt and fish.").

[22] State of Maine, Maine legislature, Joint Select Committee on the Indian Land Claims, Report of the Joint Select Committee on Indian Land Claims Relating to LD 2037 "An Act to provide for Implementation of the Settlement of Claims by Indians in the State of Maine and to Create the Passamaquoddy Indian Territory and Penobscot Indian Territory," at p. 3, para. 14.

[23] *See* 25 U.S.C. § 1724(d)(4) (providing for "land or natural resources to be acquired by the United States to be held in trust for the benefit of the Houlton Band"); 30 M.R.S. § 6205-A (providing for acquisition of "Houlton Band Trust Land"; P.L. 102-171, 105 Stat. 1143, § 5 (providing for acquisition of "Aroostook Band Trust Lands"); 30 M.R.S. § 7202(2) (defining Aroostook Band Trust Land).

[24] The right of riparian landowners to fish is predicated on both State and federal common law. Based on the default Maine property rule, owners of riparian land also own out to the thread, or middle, of most streams. *Wilson & Son v. Harrisburg*, 107 Me. 207, 211 (1910) ("With respect to the rights of the riparian proprietor in floatable and non-tidal streams, it is the settled law of this State that he owns the bed of the river to the middle of the stream and all but the public right of passage."). Riparian property owners have the right to fish on their lands. *See* Answers to Questions Propounded to the Justices of the Supreme Judicial Court by the House of Representatives, 118 Me. 503, 507 (1919) (noting that "[t]he riparian proprietor has the right to take fish from the water over his own land").

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lands alike when these lands are riparian to fishable waters. On the Northern Tribes' trust lands, this right is subject to reasonable State regulation.[25]

Even more importantly, however, the Northern Tribes[26] have more than the right of a Maine citizen to fish – they have the right to do so on lands set aside and held in trust for them. The establishment of trust land is one of the most important functions the United States performs for tribes. Trust lands provide a permanent land base, protecting these lands against loss,[27] and providing territory over which tribes may exercise governmental authority, albeit subject to the constraints imposed by the Settlement Acts.[28] Trust lands also protect and sustain tribal culture and ways of life, including tribal sustenance fishing

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[25] The Settlement Acts provide that State law applies to the trust lands of the Northern Tribes. We describe this as a right of "reasonable regulation" because the Settlement Acts did not contemplate and should not be read to allow State law that is discriminatory against tribes or not consistent with the Settlement Acts, including the federal purpose of holding this land base in trust. In section 1725(a) of MICSA, Congress approved 30 M.R.S. § 6204 of the Maine Implementing Act regarding the application of state law to Indian lands, specifying that Maine civil and criminal law would generally apply to these lands. While conferring civil and criminal jurisdiction on the State of Maine over the Northern Tribes' trust lands, nothing in section 1725 abrogates federal authority to protect these tribal trust lands. 25 U.S.C. § 1725(a) reads:

> Except as provided in section 1727(e) [dealing with Indian Child Welfare Act definitions] and section 1724(d)(4) [regarding acquisition of land and natural resources for the Houlton Band of Maliseet Indians] of this title, all Indians, Indian nations, or tribes or bands of Indians in the State of Maine, other than the Passamaquoddy Tribe, the Penobscot Nation, and their members, and any lands or natural resources owned by any such Indian, Indian nation, tribe or band of Indians and any lands or natural resources held in trust by the United States, or by any other person or entity, for any such Indian, Indian nation, tribe, or band of Indians shall be subject to the civil and criminal jurisdiction of the State, the laws of the State, and the civil and criminal jurisdiction of the courts of the State, to the same extent as any other person or land therein.

[26] This discussion is aimed at the Northern Tribes, but we note that some of the Southern Tribes' Territories include lands held in trust that would have fishing rights based on this same trust land focused analysis. Some, but not all, of these lands have fishing rights confirmed through other statutory language, *see supra* notes 14-15 and accompanying text.

[27] For the Houlton Band of Maliseet Indians, 30 M.R.S. § 6205-A(3) describes restraints against alienation of these trust lands. The same language applying to the trust land of the Aroostook Band of Micmacs,is found at 30 M.R.S. § 7204(3). With respect to the Micmacs, legislative history is even plainer that Congress intended the trust lands to provide a land base for subsistence purposes: "The ancestors of the Aroostook Micmac made a living as migratory hunters, trappers, fishers and gatherers until the 19th century . . . .Today, without a tribal subsistence base of their own, most Micmacs in Northern Maine occupy a niche at the lowest level of the social order." S. Rep. No. 102-136 at 5, 9 (1991) (quoting testimony of Dr. Harold E.L. Prins).

[28] Even for the Northern Tribes, the Maine Implementing Act recognizes that the tribes may retain certain aspects of governmental authority over tribal members. For example, 30 M.R.S. §6209-C(1)(a) provides:

> The Houlton Band of Maliseet Indians has the right to exercise exclusive jurisdiction, separate and distinct from the State, over . . . [c]riminal offenses for which the maximum potential term of imprisonment does not exceed one year and the maximum potential fine does not exceed $5,000 and that are committed on the Houlton Band Jurisdiction Land by a member of the Houlton Band of Maliseet Indians, except when committed against a person who is not a member of the Houlton Band of Maliseet Indians or against the property of a person who is not a member of the Houlton Band of Maliseet Indians.

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practices, which fosters tribal self-determination.[29] The legislative history for MICSA supports the view that one of Congress's purposes in providing Maine tribes with a land base was to preserve their culture.[30] The connection between fishing rights and land ownership is particularly emphasized in the Settlement Acts: the Maine Implementing Act defines the "land or other natural resources" to be purchased with federal funds and placed into trust as "any real property or other natural resources, or any interest in or right involving any real property or other natural resources, including, but without limitation, minerals and mineral rights, timber and timber rights, water and water rights and hunting and *fishing rights*."[31] The exercise of these fishing rights by Tribes is fully consistent with the Settlement Acts.[32]

In sum, the Federal Government as the owner of the trust lands for the benefit of the Tribes has a substantial interest in providing all Maine tribes, including the Northern Tribes, with a functional land base that ensures the continuation of their sustenance practices and cultural activities.[33]

2. Tribal Fishing Rights Include the Subsidiary Right to Sufficient Water Quality to Render the Rights Meaningful.

In Maine, EPA must determine how tribal fishing rights intersect with EPA's authority under the Clean Water Act to approve or disapprove State WQS. We are not aware of any case law addressing an identical situation to the one raised by Maine's proposed WQS. However, Federal courts have acknowledged the importance of permanent, enforceable fishing rights for tribes and have interpreted these rights expansively.

Tribal fishing rights encompass subsidiary rights that are not explicitly included in treaty or statutory language but are nonetheless necessary to render them meaningful. For example, in the 1905 case *United States v. Winans*, the Supreme Court held that a tribe must be allowed to cross private property to access traditional fishing grounds.[34]

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[29] *See* Final Rule, Acquisitions: Appeals of Land Acquisition Decisions, 78 Fed. Reg. 67928, 67929 (November 13, 2013) (noting in Background section that taking land into trust serves the "goals of protecting and restoring tribal homelands and promoting tribal self-determination" and "reaches the core of the Federal trust responsibility").

[30] Sen. Rep. No. 96-957, at 17 ("Nothing in the settlement provides for acculturation, nor is it the intent of Congress to disturb the cultural integrity of the Indian people of Maine."). Several of the Maine tribes submitted comments to the EPA about Maine's WQS describing the centrality of fishing to their cultures.

[31] 30 M.R.S. § 6203(3) (Emphasis added). MICSA includes this definition almost verbatim at 25 U.S.C. § 1722(b). 25 U.S.C. § 1724(d) authorizes the Secretary to "expend . . . the land acquisition fund for the purpose of acquiring land or *natural resources* for the . . . . Houlton Band of Maliseet Indians." Emphasis added. Section 5(a) of the Aroostook Band of Micmacs Settlement Act, P.L. 102-171, provides similarly that the Secretary is authorized "to expend . . . the Land Acquisition Fund for the purposes of acquiring land or natural resources for the Band" and defines natural resources to include fishing rights at section 3(4).

[32] Recognizing that Maine tribes have a tribal fishing right would not impinge upon Maine's right to regulate such a fishing right. The existence of a tribal fishing right does not affect or preempt Maine's regulatory jurisdiction as described in 25 U.S.C. § 1725(h).

[33] See *supra* note 30 and accompanying text.

[34] 198 U.S. 371, 384 (1905).

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Similarly in *Kittitas Reclamation District v. Sunnyside Valley Irrigation District*, the Ninth Circuit held that a tribe's fishing right could be protected by enjoining water withdrawals that would destroy salmon eggs before they could hatch.[35] In *Grand Traverse Band of Ottawa and Chippewa Indians v. Director, Michigan Department of Natural Resources*, the Sixth Circuit found that the treaty right to fish commercially in the Great Lakes includes a right to temporary mooring of treaty fishing vessels at municipal marinas because without such mooring the Indians could not fish commercially.[36] While the issues presented by diminished water quality in Maine are different from the issues presented by inadequate access to fishing places or the need to protect fish populations, the result for tribes if water quality in Maine Indian Waters is not protected is the same: Indian tribes will not be able to fish for their sustenance healthfully.

The rules in the cases identified above are all variations on the fundamental holding of *Washington v. Washington State Commercial Passenger Fishing Vessel Association* that tribes with reserved fishing rights are entitled to something more tangible then "merely the chance . . . occasionally to dip their nets into the territorial waters."[37] The holding of *Washington*, while specific to the treaty language at issue in that case, is consistent with similar holdings from other courts examining the question of whether a tribal fishing right implicitly contains within it the right to additional protections to render the fishing right meaningful. For example, in holding that a Tribe's hunting and fishing rights persisted, the Minnesota Supreme Court explained that "[c]ertainly, it would be incongruous to construe the treaty as denying the Indians their very means of existence while purporting to grant them a home."[38]

In the context of water quantity, courts have recognized that tribal fishing rights include the subsidiary right to water flow sufficient to maintain fish health and reproduction in order to effectuate the fishing right. In *United States v. Adair*, the Ninth Circuit held that the tribe's fishing right implicitly reserved sufficient waters to "secure to the Tribe a continuation of its traditional . . . fishing lifestyle."[39] The logic that supports the tribe's right to water quantity adequate to support a lifestyle based on fishing in *Adair* supports a conclusion that EPA should take tribal fishing rights into account when reviewing Maine's water quality standards. If water quality diminishes to the point where the fish are no longer safe to eat or able to reproduce, tribal fishing rights will suffer a diminution just as surely as they suffer from inadequate quantity of water to support fish.[40]

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[35] 763 F.2d 1032, 1034-35 (9th Cir. 1985).
[36] 141 F.3d 635, 639-40 (6th Cir. 1989).
[37] 443 U.S. 658, 679 (1979).
[38] *Minnesota v. Clark*, 282 N.W.2d 902, 909 (Minn. 1979).
[39] 723 F.2d 1394, 1409-10 (9th Cir. 1983). *See also Colville Confederated Tribes v. Walton*, 647 F.2d 42, 47-48 (9th Cir. 1981) (implying reservation of water to preserve tribe's replacement fishing grounds); *Winters v. United States*, 207 U.S. 564, 576 (1908) (express reservation of land for reservation impliedly reserved sufficient water from the river to fulfill the purposes of the reservation); *Arizona v. California*, 373 U.S. 546, 598-601 (1963) (creation of reservation implied intent to reserve sufficient water to satisfy present and future needs).
[40] The leading federal Indian law treatise explains:

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Ongoing litigation in Washington State involving questions about the extent to which tribal fishing rights encompass associated rights to protection for fish habitat also informs our analysis.[41] The tribes and the United States have argued that tribal fishing rights impose a duty on the state of Washington to refrain from building or maintaining road culverts that directly block fish passage both to and from breeding areas and therefore significantly and directly kill fish, diminish fish populations, and diminish habitat.[42] In 2013, the court adopted this analysis, concluding that the tribes' treaty based fishing right had been "impermissibly infringed" through the construction and operation of culverts that "has reduced the quantity of quality of salmon habitat, prevented access to spawning grounds, reduced salmon production . . . and diminished the number of salmon available for harvest."[43] The court issued a permanent injunction forcing the State to renovate its culvert system.[44] The decision is currently on appeal, but the district court's reasoning is consistent with the view that tribal fishing rights can be protected under the Clean Water Act.

When diminished water quality has hindered tribal uses of water outside the fishing context, courts have held for tribes and found that a right to put water to use for a particular purpose must include a subsidiary right to water quality sufficient to permit the protected water use to continue. In an Arizona case, *United States v. Gila Valley Irrigation District*, farmers with a more junior right whose properties were located upstream from a reservation were required to take steps to decrease the salinity of the tribe's water so that "the Tribe receives water sufficient for cultivating moderately salt-sensitive crops."[45] Other courts have noted that in some situations protecting water

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> Fulfilling the purposes of Indian reservations depends on the tribes receiving water of adequate quality as well as sufficient quantity. . . . . [H]abitat protection is an integral component of the reserved [fishing] right. In order to protect the fishery habitat, tribes should have a right not only to a sufficient amount of water, but also to water that is of adequate quality.

COHEN'S HANDBOOK OF FEDERAL INDIAN LAW § 19.03[9], at 1236 (Nell Jessup Newton ed., 2012) (footnotes and citations omitted).

[41] The United States District Court for the Western District of Washington court held that several Washington State tribes' treaty fishing rights "implicitly incorporated the right to have the fishery habitat protected from manmade despoliation." *United States v. Washington*, 506 F. Supp. 187, 203 (W.D. Wash. 1980) (Phase II). The court explained that "the existence of an environmentally-acceptable habitat is essential to the survival of the fish, without which the expressly-reserved right to take fish would be meaningless and valueless." *Id.* at 205. That decision was vacated on procedural grounds. *United States v. Washington*, 759 F.2d 1353, 1357 (9th Cir. 1985) (en banc) (requiring plaintiffs to allege specific environmental harms before any declaratory judgment could issue, noting that "[i]t serves neither the needs of the parties . . . nor the interests of the public for the judiciary to employ the declaratory judgment procedure to announce legal rules imprecise in definition and uncertain in dimension").

[42] In *United States v. Washington*, 2007 U.S. Dist. LEXIS 61850, 37-38 (W.D. Wash. Aug. 22, 2007), the district court held in favor of the federal and tribal plaintiffs.

[43] *United States v. Washington*, 2013 U.S. Dist. LEXIS 48850, 75 (W.D. Wash. 2013).

[44] *Id.* at 78-79.

[45] 920 F. Supp. 1444, 1454-56 (D. Ariz. 1996), aff'd, 117 F. 3d 425 (9th Cir. 1997).

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quality is fundamental to the protection of tribal rights to self-determination.[46] Given the importance of fishing to Maine tribes, protection of water quality sufficient to enable the tribes to continue to fish and to consume the fish they are able to catch is comparable to protecting water quality to allow the tribe in the *Gila Valley* case to continue to grow crops.

In summary, fundamental, long-standing tenets of federal Indian law support the interpretation of tribal fishing rights to include the right to sufficient water quality to effectuate the fishing right. Case law supports the view that water quality cannot be impaired to the point that fish have trouble reproducing without violating a tribal fishing right; similarly water quality cannot be diminished to the point that consuming fish threatens human health without violating a tribal fishing right. A tribal right to fish depends on a subsidiary right to fish populations safe for human consumption. If third parties are free to directly and significantly pollute the waters and contaminate available fish, thereby making them inedible or edible only in small quantities, the right to fish is rendered meaningless. To satisfy a tribal fishing right to continue culturally important fishing practices, fish cannot be too contaminated for consumption at sustenance levels.

3. The Trust Relationship Counsels Protection of Tribal Fishing Rights in Maine

EPA has already recognized that Maine tribes' fishing rights should be considered in regulating water quality in a 2003 decision regarding Maine's authority to issue permits under the Clean Water Act.[47] As EPA noted in that decision, the First Circuit has held that the Indian law canons of construction obliging courts to construe statutes which diminish the "the sovereign rights of Indian tribes . . . strictly" apply to the Maine tribes and that the requirement that ambiguity be interpreted in favor of tribes is "rooted in the unique trust relationship between the United States and Indians."[48]

In its decision, EPA announced that when reviewing proposed permits under the Clean Water Act[49] it would "require the state to address the tribes' uses [for sustenance fishing] consistent with the requirements of the CWA."[50] EPA's 2003 analysis of tribal fishing rights and federal review authority under the Clean Water Act was cogent and the agency should follow through on this policy in reviewing Maine's WQS.[51]

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[46] *See Bugenig v. Hoopa Valley Tribe*, 229 F.3d 1210, 1222 (9th Cir. 2000) ("[I]t is difficult to imagine how serious threats to water quality could not have profound implications for tribal self-government."); *City of Albuquerque v. Browner*, 97 F.3d. 415, 423 (10th Cir. 1996) (upholding tribal water quality standards that were more stringent than federal standards and observing that the authority to establish such high standards "is in accord with powers inherent in Indian tribal sovereignty").
[47] 68 Fed. Reg. 65052, 65068 (Nov. 18, 2003).
[48] *Penobscot Nation v. Fellencer*, 164 F.3d 706, 709 (1st Cir. 1999) (internal quotation marks omitted).
[49] The EPA specifically cited the provision codified at 33 U.S.C. § 1342(d).
[50] 68 Fed. Reg. at 65,068.
[51] The First Circuit, reviewing this EPA decision in *Maine v. Johnson,* found that EPA's analysis of the relationship between fishing rights and water quality was not ripe for consideration. 498 F.3d 37, 48 (1st Cir. 2007) ("The current relationship of the United States to [Maine] tribes, and the EPA's continued authority under the Clean Water Act to review Maine's exercise of ceded powers, present quite different

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Secretary Jewell has recently reaffirmed the federal trust responsibility to tribes. Consistent with the principles of Secretarial Order 3335 on Reaffirmation of the Federal Trust Responsibility to Federally Recognized Indian Tribes, federal agencies should "[e]nsure to the maximum extent possible that trust and restricted fee lands, trust resources, and treaty and similarly recognized rights are protected."[52] In addition, consultation is a critically important part of the United States' government to government relationship with tribes, and the EPA should continue to fully consult with tribes regarding decisions that have implications for trust resources, including fishing rights.[53]

4. Conclusion

The Maine tribes rely on clean water, and in particular, on water of a quality sufficient to allow the tribes to engage meaningfully in fishing in Maine Indian Waters. Maine tribes rely on fish as a dietary staple and vital component of their cultures, and a diminution in their ability to take fish at sustenance levels results in a loss of food as well as a threat to their ability to carry on their traditions.

The Maine tribes have fishing rights connected to the lands set aside for them under federal and state statutes. Further, these fishing rights would be rendered meaningless if they did not also imply a right to water quality of a sufficient level to keep the fish edible so that tribal members can safely take the fish for their sustenance. The right of all four tribes to take fish is well-founded under State as well as Federal law as discussed in this letter.

Thank you for your attention to these matters of great importance to the Maine tribes. I appreciate the opportunity to submit these views for your consideration.

Sincerely,

Hilary C. Tompkins
Solicitor

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questions [from the ones decided in the case]. . . . [W]e take no view today as to the ultimate resolution of these potential issues.").

[52] Secretarial Order 3335 (August 20, 2014), Sec. 5, Principle 2, *available at* http://www.usbr.gov/native/policy/SO-3335_trustresponsibility_August2014.pdf.

[53] *See generally,* Executive Order 13175 on Consultation and Coordination with Indian Tribal Governments (Nov. 6, 2000).

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Tab 23

PENOBSCOT NATION
WATER QUALITY STANDARDS
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PENOBSCOT NATION
WATER QUALITY STANDARDS
September 5, 2014

SUBCHAPTER I. GENERAL PROVISIONS

Section 101. Purpose.

A. Pursuant to its inherent sovereign authority to protect the health and welfare of its members and its political integrity and economic security, the Penobscot Nation hereby enacts these Penobscot Water Quality Standards ("PWQS" or "Standards"). The purpose of these Standards is to protect, maintain, and improve the quality of Penobscot Waters for public and private drinking water supplies; to promote the habitation, growth, and propagation of native and other desirable aquatic plant and animal life; to protect existing and future domestic, cultural, agricultural, recreational, and industrial uses; and to protect any other existing and future beneficial uses of Penobscot Waters, including economic uses. Penobscot people have resided upon Penobscot Waters and have depended upon fish, plants, and wildlife from those waters for their physical, cultural, and spiritual survival from time immemorial. The Penobscot Nation, in its government-to-government dealings with the Commonwealth of Massachusetts, the State of Maine, and the United States, has ceaselessly worked to protect Penobscot Waters and the fish, plant, and wildlife habitats therein. Through these Standards, the Penobscot Nation exercises its sacred stewardship of the river from which it derives its name and upon which its people derive their identity. To carry out these purposes, these Standards:

(1) Designate the existing and attainable uses for which Penobscot Waters shall be protected;

(2) Prescribe water quality standards to sustain these designated uses; and

(3) Assure that degradation of Penobscot Waters shall be minimized and that economic growth shall occur consistent with preserving the Nation's existing clean water resources.

B. An additional purpose of the Penobscot Nation in enacting these Standards is to achieve at least the minimum level of water quality required by the law of the State of Maine.

Section 102. Applicability.

These Standards apply to all Penobscot Waters and to all persons and all activities within the Penobscot Nation. These Standards will become applicable and effective for purposes of the Clean Water Act, 33 U.S.C. §§ 1251-1387, if and to the extent they are approved by EPA pursuant to Clean Water Act § 303(c), 33 U.S.C. § 1313(c). Once effective, these Standards

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shall supersede and replace any pre-existing water quality standards enacted by the Penobscot Nation.

Section 103. Definitions.

A. For purposes of these PWQS:

(1) *Acute Criteria* means a one-hour average concentration in ambient waters which should not be exceeded more than once every three years on average. In general, acute criteria thresholds are higher than those for chronic criteria.

(2) *Acute Toxicity* means toxicity that exerts short-term lethal impacts on representative sensitive organisms with a duration of exposure generally less than, or equal to, 96 hours. Acute toxicity may include other effects such as, but not limited to, behavioral changes or immobilization.

(3) *Attainable Use* means a use of water that has the water quality and all other characteristics necessary to support and maintain such use, or that would support and maintain such use after the implementation of these Standards.

(4) *Best Management Practices* means methods, measures, or practices undertaken to prevent or reduce the pollution of Penobscot Waters, including to control, restrict, or diminish nonpoint sources of pollution, and that are consistent with these Standards.

(5) *Bioaccumulation* means the process of a chemical accumulating in a biological food chain by being passed from one organism to another as the contaminated organism is consumed by another organism.

(6) *Chronic Criteria* means the four-day average concentration of a pollutant in ambient water which should not be exceeded more than once every three years on average. Generally, chronic criteria thresholds are lower than those for acute criteria.

(7) *Chronic Toxicity* means toxicity that exerts sub-lethal negative effects such as growth or reproductive impairment, or which becomes lethal after long-term exposure, generally measured by a 28-day test on representative sensitive organisms.

(8) *Clean Water Act ("CWA")* means the federal Clean Water Act codified at 33 U.S.C. §§ 1251-1387, as amended.

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(9) *Confirmed Sustenance Fishing and Hunting Rights* means the rights of Penobscot members to take fish (including anadromous and catadromous fish) and wildlife (including waterfowl, muskrat, and beaver) for their sustenance as confirmed by Congress pursuant to the Maine Indian Claims Settlement Act, 25 U.S.C. §§ 1721-1735, *ratifying* 30 M.R.S.A. §§ 6201-6214.

(10) *Criteria* means elements of water quality standards that are expressed as pollutant concentrations, levels, or narrative statements representing a water quality that supports a particular designated use. When criteria are met, water quality should protect the designated use.

(11) *Cultural and Ceremonial Use* means a use of water for cultural, religious, and traditional practices by members of the Penobscot Nation. Such use involves the intentional and incidental ingestion of water, immersion into or inhalation of water, or use of sediments.

(12) *Designated Use* means a use of water described in Section 401 that is to be protected under these Penobscot Water Quality Standards.

(13) *Director* means the Director of the Penobscot Nation's Department of Natural Resources ("DNR") or his or her designee.

(14) *EPA* means the U.S. Environmental Protection Agency.

(15) *Effluent* means a discharge into Penobscot Waters from other-than natural sources.

(16) *Ephemeral Water* means a water body that flows temporarily in direct response to precipitation or snowmelt and with a channel that is always above the water table.

(17) *Existing Uses* means those uses actually attained in a water body on or after November 28, 1975, whether or not they are referred to in these Standards.

(18) *Geometric Mean* means a mean calculated by converting all values to logarithms, averaging the logarithms, and determining the antilogarithm of that average.

(19) *Intermittent Stream* means a stream or reach that flows only at certain times of the year when receiving flow from springs, melting snow, or localized precipitation. It also means a stream or reach that does not flow continuously when water losses from evaporation or seepage exceed available stream flow.

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(20) *Mixing Zone* means a three-dimensional zone in which discharged effluent mixes with the receiving water and within which there is a gradation of water quality.

(21) *Nonpoint Source* means a source of pollution that is not a discernible, confined, and discrete conveyance (for example, surface runoff).

(22) *NTU* means nephelometric turbidity unit, which is a unit of turbidity based on a standard method using formazin polymer or its equivalent as the standard reference suspension. NTUs are numerically identical to formazin turbidity units.

(23) *Oil* means oil in any form, including but not limited to petroleum, crude oil, gasoline, diesel oil, lubricating oil, oil refuse, sludge, vegetable oil, animal oil, and oil mixed with waste.

(24) *Penobscot Indian Reservation* means the Penobscot Indian Reservation confirmed by Congress pursuant to the Maine Indian Claims Settlement Act, 25 U.S.C. §§ 1721-1735, *ratifying* 30 M.R.S.A. §§ 6201-6214.

(25) *Penobscot Nation* or *Nation* means, with regard to territory, (a) all land (including submerged lands and banks of lands that may be dry for part of the year) and waters within the Penobscot Indian Reservation, including but not limited to submerged lands and waters in which Penobscot Nation tribal members enjoy Confirmed Sustenance Fishing and Hunting Rights, notwithstanding the issuance of any patent and including rights-of-way running through such lands and waters, and notwithstanding the presence of manmade items like dams, piers, abandoned boom piers, abandoned logs, bridge supports, or other structures or things that may exist on or in such lands and waters, and (b) all land and waters outside of the Penobscot Indian Reservation acquired by the United States and held in trust on behalf of the Penobscot Nation.

(26) *Penobscot Waters* means all surface waters, including but not limited to all or portions of rivers, streams (including perennial, intermittent, and ephemeral streams and their tributaries), lakes, ponds, marshes, waterways, wetlands, sloughs, wet meadows, impoundments, riparian areas, springs, and all other bodies or accumulations of surface water, natural or artificial, public or private, including those dry for part of the year, that are within or bordering upon the Nation. Consistent with federal requirements, the Nation may exclude from Penobscot Waters certain waste treatment systems.

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(27) *Perennial Water* means a flowing or non-flowing surface water that is present continuously throughout the year.

(28) *Person* means any individual, partnership, company, corporation, firm, association, or society; any federal, state, or local government or any of its programs, agencies, or other subdivisions; or any Indian tribe, including the Penobscot Nation, or any tribal agencies, divisions, departments, programs, enterprises, companies, or other entities.

(29) *Point Source* means any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, landfill leachate collection system, container, or concentrated animal feeding operation ("CAFO"), from which pollutants are or may be discharged into a water body. The term does not include agricultural storm water discharges (except from CAFOs) or return flows from irrigated agriculture.

(30) *Pollutant* means any type of contaminant, including but not limited to toxic substances, hazardous substances, dredge spoil, solid waste, sewage, chemicals, pesticides, herbicides, fungicides, rodenticides, fertilizers, incinerator residue, discarded equipment, rock, sand, dirt, sewage, and oil, regardless of whether in liquid, solid, or gaseous form.

(31) *Pollution* means any man-made or man-induced alteration of the chemical, physical, biological, or radiological integrity of Penobscot Waters.

(32) *Program Manager* means the Water Resources Program Manager within the Penobscot Nation Department of Natural Resources or his or her designee.

(33) *Turbidity* means a measure of the cloudiness or muddiness of water that causes incident light to be scattered or absorbed rather than transmitted in straight lines.

(34) *Water Body* means any Penobscot Water, including any portion thereof.

(35) *Wetlands* means areas that are inundated or saturated by surface or groundwater frequently and long enough to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. The term generally includes swamps, marshes, bogs, and similar areas.

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Section 104. Authorities and Responsibilities.

The Penobscot Nation hereby delegates to the DNR Director the authority and duty to administer these Standards. The day-to-day operations necessitated by these Standards are delegated to the DNR Water Resources Program, which operations include but are not limited to sampling and monitoring water quality and preparing for the mandatory triennial review process, including any interim review of the Standards that may be needed. The Water Resources Program is also authorized to develop related water quality protection programs, such as but not limited to a CWA § 319 nonpoint source management program, CWA § 401 certification program, or groundwater quality program, in consultation with the Director and as approved by the Penobscot Nation Chief and Tribal Council.

Section 105. Revisions to Penobscot Water Quality Standards.

A. *Triennial Review.* Consistent with CWA § 303(c)(1), 33 U.S.C. § 1313(c)(1), as amended, the Nation, through its Water Resources Program, shall hold public hearings at least once every three years to review and, as appropriate, revise these Penobscot Water Quality Standards. Revisions shall incorporate relevant scientific and engineering advances with respect to water quality and shall be made pursuant to the public comment and hearing procedures described in subsection B of this section. Whenever the Nation revises or adopts a new standard, the revised or new standard shall be submitted to EPA for review pursuant to CWA § 303(c)(2), 33 U.S.C. § 1313(c)(2), as amended.

B. *Public Comment and Hearing.* Any revisions to these Penobscot Water Quality Standards shall be made pursuant to the following procedures:

(1) Public notice

The Program Manager shall provide the public with notice of any proposed revisions to these PWQS by:

(a) mailing or emailing notice to other Penobscot departments and programs, federal agencies, and agencies of affected tribes and states that are likely to have an interest in the rulemaking, such as environmental agencies and agencies and departments with jurisdiction over fish and wildlife and other natural resources;

(b) mailing or emailing notice to persons on a list maintained by the Water Resources Program of persons who may be interested in or affected by the proposed revisions to the PWQS;

(c) publishing notice in a daily or weekly newspaper of general circulation at the Penobscot Nation, and

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(d) using any other method that the Program Manager finds to be appropriate for eliciting public participation, such as issuing a press release, posting notice on a web page, or providing notice at a public or traditional forum.

The notice shall provide at least 30 days for the public to comment in writing on the proposed revisions.

(2) Public hearing

The Program Manager also shall provide a public hearing on proposed revisions to these Standards so that comments may be made orally. Notice of a public hearing shall be made at least 45 days prior to the hearing, unless there are no substantial documents that must be reviewed for effective hearing participation and no complex or controversial matters to be addressed, in which case the notice may be provided at least 30 days before the hearing. Public notice of the hearing may be made at the same time as public notice of the proposed revisions to the PWQS, and the two notices may be combined.

(3) Contents of notice

Public notices issued under this subsection shall contain the following information:

(a) Name and address of the office proposing the revisions;

(b) A brief description of the proposed revisions;

(c) Name, address, email address, and telephone number of a person from whom interested persons may obtain further information, including copies of the proposed revisions (the proposed revisions also may be posted on a website and the website address provided);

(d) A brief description of the comment procedures and the time and place of the public hearing;

(e) The location of the administrative record, the times at which the record will be open for public inspection, and a statement that all comments submitted will be available as part of the administrative record; and

(f) Any additional information that the Program Manager considers appropriate to provide.

If the public notice for a hearing is issued separately from the public notice of the proposed revisions, in addition to providing the information listed in subparagraphs (a)-(f) of this paragraph (3), the public notice for the hearing shall

reference the date of any previous public notices relating to the proposed revisions and include a brief description of the nature and purpose of the hearing, including applicable procedures.

(4) Procedures for Public Hearing

(a) The Program Manager shall designate a Hearing Moderator for the public hearing. The Program Manager or a member of the staff of the Water Resources Program or another program within DNR may serve as the Hearing Moderator, so long as the Hearing Moderator does not have a financial interest in the outcome of the proposed revisions. The public hearing is not an adjudicative hearing and is conducted solely for the purpose of providing an opportunity to the public to orally present their views on the proposed revisions to the Standards. The Hearing Moderator shall be responsible for the orderly conduct of the public hearing but is not empowered to make any findings of fact, conclusions of law, or recommendations on the proposed revisions to the Standards.

(b) Hearings shall be held at a time and place that facilitates attendance by the public.

(c) The Program Manager, a member of the Water Resources Program staff, or the Hearing Moderator shall inform the audience of the issues involved in the proposed revisions, the considerations the Water Resources Program and the Director will take into account, the Director's tentative determinations (if any) to be recommended to the Penobscot Nation Chief and Tribal Council, and any information that is particularly solicited from the public.

(d) Any person may submit oral or written statements and information concerning the proposed revisions to the Standards. The Hearing Moderator may set reasonable limits on the time allowed for oral statements. The Hearing Moderator shall allow the submission of written statements at the hearing but shall not require a written statement instead of or as a condition of making an oral statement.

(e) A tape recording or written transcript shall be made of the hearing. At the conclusion of the hearing, the Hearing Moderator shall forward to the Director the record of the hearing, which shall consist of the tape recording or written transcript and any materials submitted at the hearing. The hearing record shall be made available to the public for review.

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(f) If the Program Manager determines it is necessary, after consultation with the Director, the Program Manager shall extend the public comment period provided under paragraph (B)(1) of this section to allow the record to remain open for at least 20 days after the public hearing to provide an opportunity for submission of rebuttal and supplementary information.

(5) Obligation to Raise Issues During the Public Comment Period

(a) All persons who believe that a proposed revision to the Standards should be issued, modified, or withdrawn must raise all reasonably ascertainable issues and submit all reasonably available arguments and facts supporting their position, including all supporting material, by the close of the public comment period.

(b) The Program Manager, in consultation with the Director, may extend the public comment period on his or her own initiative or on request if the Program Manager determines that such extension is necessary to obtain full public participation and may grant additional time to comment to any person who demonstrates a need for such time.

(6) Reopening the Public Comment Period

(a) Whenever any data, information, or arguments submitted during the public comment period appear to raise substantial new questions concerning a proposed revision to the Standards or whenever the Water Resources Program becomes aware of significant new information, the Director may take one of the following actions:

(i) Withdraw the proposed revision to the Standards;

(ii) Prepare a new proposed revision and direct the Program Manager to reopen the public comment period; or

(iii) Direct the Program Manager to reopen or extend the comment period to give interested persons an opportunity to comment on the information or arguments submitted.

(b) The Program Manager shall issue public notice under paragraph (B)(1) of this section of any action taken pursuant to this paragraph (6). In addition to the requirements of paragraph (B)(1) of this section, the notice for any action taken to reopen the public comment period shall state the scope of the reopening. Such scope shall be limited to the substantial new questions or significant new information that caused the reopening.

(c) If the comment period is reopened pursuant to subparagraphs (a)(ii) or (iii) of this paragraph (6), all reasonably available legal and factual grounds concerning the substantial new questions or significant new information, including any supporting material, shall be submitted in writing by a date not less than 30 days after the date of the public notice issued pursuant to subparagraph (6)(b). Persons desiring to comment may request longer comment periods, which the Program Manager, in consultation with the Director, may grant to the extent that the Program Manager finds is necessary to effect the purpose of the reopening.

(7) Response to Comments and Administrative Record

(a) Response to comments

The final revisions to the Standards shall be accompanied by a response to comments received. The response shall fully consider all comments received during the public comment period, including any comments received during a public hearing. The response shall specify which of the proposed revisions have been changed, if any, and the reasons for the change; briefly describe and respond to all significant comments raised during the public comment period, including the public hearing; and be made available to the public.

(b) Administrative record

(i) The administrative record shall consist of:

(A) The proposed revisions;

(B) The public notice(s);

(C) All comments received during the public comment period, including comments received during any extension or reopening of the public comment period;

(D) The tape or transcript of the public hearing and any written materials submitted at the hearing;

(E) The response to comments and any new material that is referenced in response to comments;

(F) Any other documents contained in the supporting file for the revisions to the Standards; and

(G) The final revised Standards.

The documents required under this subparagraph (7)(b)(i) shall be added to the record as soon as possible after their receipt or issuance. The administrative record shall be complete upon issuance of the revised Standards. The administrative record shall be available for public inspection beginning no later than the date of the public notice, despite not yet being complete.

(ii) Material readily available at the DNR office or published material that is generally available need not be physically included with the rest of the administrative record.

(8) Issuance and Effective Date of Revised Standards

(a) The Director shall issue the final revised Standards based on the administrative record.

(b) The revised Standards shall become effective upon approval by the Penobscot Nation General Meeting~~Chief and Tribal Council~~.

(c) The Program Manager shall give public notice of the adoption of the revised Standards as soon as possible pursuant to paragraph (B)(1) of this section and shall mail or email a notice to the same persons as were mailed or emailed notice of the proposed revisions, as well as to all persons who commented on the proposed revisions and to anyone else who requests to receive notice.

C. *Judicial Review.*

(1) Exhaustion

Any person challenging revised Standards must have followed the procedures set forth in subsection (B) of this section as a prerequisite to seeking judicial review of the revised Standards.

(2) Notice of Appeal

A person may seek judicial review in the Penobscot Nation Tribal Court no later than 30 days after the Director issues notice, pursuant to subparagraph (B)(8)(c) of this section, of the revised Standards at issue.

(3) Filing the Administrative Record

Within 30 days following the date that a petition for review is filed pursuant to paragraph (2) of this subsection (C), the Director shall file in the Penobscot

Nation Tribal Court a certified index of the administrative record on which the revised Standards were based.

(4) Standard for Review

The Court's review shall be based on the administrative record. The Court may affirm, reverse, modify in whole or in part, or remand to DNR for further consideration any revised Standard, provided that the Court may reverse, modify, or remand only if the action at issue is arbitrary and capricious, an abuse of discretion, or otherwise not in accordance with the law; in excess of jurisdiction or statutory authority; without observance of procedure required by law; or unsupported by substantial evidence. In no event shall the Court award damages against the Nation.

Section 106. Severability.

If any provision of these Standards or the application of any provision of these Standards to any person or circumstance is held to be invalid, the remainder of these Standards and the application of such provision to other persons or circumstances shall remain unaffected.

Section 107. Water Rights.

The water rights of the Nation and the authority of the Nation to allocate quantities of water and administer water rights within its jurisdiction shall not be superseded, abrogated, or otherwise impaired by these Standards.

Section 108. Collaboration with Federal and State Agencies.

The Nation will collaborate with federal and state agencies to prevent, reduce, and eliminate water pollution in coordination with programs for managing water resources.

Section 109. Dispute Resolution.

If a dispute arises between the Nation and a state or another Indian tribe approved by EPA to administer a water quality standards program due to differing water quality standards between the two jurisdictions, the Nation will follow the Dispute Resolution Mechanism promulgated by EPA and found at 40 C.F.R. §131.7, as may be revised from time to time.

SUBCHAPTER II. ANTIDEGRADATION POLICY AND IMPLEMENTATION PLAN

Section 201. Antidegradation Policy.

A. Existing water uses and the level of water quality necessary to protect existing water uses shall be maintained and protected.

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B. Where existing water quality exceeds levels necessary to support existing uses, including but not limited to the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water, that water quality shall be maintained and protected unless the Nation finds, after full interagency coordination and public participation, that a lower level of water quality is required in order to accommodate important economic or social development in the area of the water in question. In allowing such degradation of water quality, the Nation shall nevertheless ensure water quality adequate to protect existing uses fully.

C. The Nation shall mandate the highest statutory and regulatory requirements for all new and existing point sources and the most cost-effective and reasonable best management practices for control of nonpoint source pollution.

D. Where high-quality waters constitute an exceptional recreational, cultural, or ecological resource of the Nation, those waters may be designated as Outstanding Tribal Resource Waters. The existing water quality of Outstanding Tribal Resource Waters shall be fully maintained and protected and no permanent degradation of such water quality shall be permitted for any reason.

E. This antidegradation policy includes protection against water quality impairment associated with thermal discharges and shall be implemented consistent with CWA § 316, 33 U.S.C. § 1326, as amended.

Section 202. Implementation.

A. The Water Resources Program shall implement these Standards, including the antidegradation policy, by establishing and maintaining controls on the introduction of pollutants into Penobscot Waters and by taking the actions listed below in coordination with federal, tribal, and state agencies, as appropriate:

(1) Review the adequacy of existing data on Penobscot Waters, including their quality and designated uses, as well as on any activities that may detrimentally impact those waters and uses, and obtain additional data where required;

(2) Monitor water quality to assess the effectiveness of pollution controls and to determine whether designated uses are being supported and water quality standards are being attained;

(3) Obtain and assess information on the impact of effluents on receiving waters, including the capability of receiving waters to support designated uses and achieve these PWQS;

(4) Advise prospective dischargers of discharge requirements, and coordinate with the appropriate permitting agencies as to the same;

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(5) Require the highest and best degree of wastewater treatment practicable, commensurate with protecting and maintaining designated uses and existing water quality;

(6) Develop water quality-based effluent limitations and provide comment on technology-based effluent limitations, as appropriate, for inclusion in any permit issued to a discharger pursuant to CWA § 402, 33 U.S.C. § 1342, as amended;

(7) Require that effluent limitations or other appropriate limitations applicable to activities with the potential to discharge into Penobscot Waters be included in any permit as a condition for certification by the Nation pursuant to CWA § 401, 33 U.S.C. § 1341, as amended;

(8) Coordinate water pollution control activities with other local, tribal, state, and federal agencies, as appropriate;

(9) Develop and pursue inspection programs to ensure that dischargers comply with the requirements of these Standards and to support the enforcement of federal permits issued by the U.S. Environmental Protection Agency or the U.S. Army Corps of Engineers;

(10) Provide technical assistance to wastewater treatment facility operators;

(11) Publish results of water quality investigations and interpretation of those results;

(11) Encourage, in conjunction with other agencies, implementation of best management practices to control nonpoint sources of pollution and so to support designated uses and meet these PWQS;

(12) Examine existing and future Penobscot Nation policies pertaining to septic systems, solid waste disposal, and other relevant activities to ensure that those policies are consistent with meeting these PWQS;

(13) Determine whether in-stream flows and water levels are adequate to support designated uses and to meet these PWQS;

(14) Conduct an antidegradation analysis for regulated actions that may impair water quality; and

(15) Implement specific policies and procedures to protect designated Outstanding Tribal Resource Waters.

B. In the event that water quality monitoring identifies water bodies where attainable quality is less than the water quality required under designated uses, these Standards may be revised to reflect actual attainability for those water bodies subject to the provisions of the Clean Water Act

and consistent with the use attainability analysis described in 40 C.F.R. § 131.10(g), as may be revised from time to time.

SUBCHAPTER III. NARRATIVE WATER QUALITY STANDARDS

Section 301. General Standards.

A. All Penobscot Waters shall be free from pollution in amounts or combinations that, for any duration, may with reasonable probability:

(1) Injure or otherwise adversely affect human health, public safety, or the public welfare;

(2) Injure or otherwise adversely affect the habitation, growth, or propagation of indigenous aquatic plant and animal communities or any individual member of these communities, of any desirable non-indigenous member of these communities, or of waterfowl accessing the water body; or otherwise adversely affect the physical, chemical, or biological conditions upon which these communities and their indigenous or desirable non-indigenous members depend;

(3) Settle to form bottom deposits that injure or adversely affect the habitation, growth, or propagation of indigenous aquatic plant and animal communities or any member of these communities, of any desirable non-indigenous member of these communities, or of waterfowl accessing the water body; or otherwise adversely affect the physical, chemical, or biological conditions on which these communities and their members depend;

(4) Cause physical, chemical, or biological conditions that promote the habitation, growth, or propagation of undesirable, non-indigenous species of plant or animal life in the water body;

(5) Cause solids, oils, grease, foam, scum, or other objectionable floating materials and suspended substances of a persistent nature to collect on the surface of the water body, including in the form of a film or iridescence, or cause a deposit on a shoreline, bank, or on aquatic vegetation.

(6) Cause objectionable or aesthetically undesirable color in the water body. Color-producing substances from a single discharge other than natural sources may not increase the color of any water body from background levels by more than 20 color pollution units. The total increase in color pollution units caused by all waste discharges to the water body must be less than 40 color pollution units from background levels;

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(7) Cause objectionable odor in or in the area of the water body that would impair any of the designated uses. The criteria adopted to prevent organoleptic effects are found in Appendix I;

(8) Cause objectionable taste in the water body or in edible plant, fish or animal life, including waterfowl, that reside in, on, or adjacent to the water body. The criteria adopted to prevent organoleptic effects are found in Appendix I;

(9) Cause objectionable turbidity. Turbidity shall not reduce light transmission to a point where aquatic biota are inhibited or to a point that causes an unaesthetic and substantial visible contrast with the natural appearance of the water. Specifically, turbidity shall not exceed 5 NTU over background when background turbidity is 50 NTU or less, with no more than a 10% increase when background turbidity is more than 50 NTU;

(10) Cause the growth of algae or aquatic plants that inhibit or prohibit the habitation, growth, or propagation of other aquatic life or that impair the Cultural and Ceremonial Use or other designated uses.

B. Penobscot Waters shall be virtually free from pathogens. Water used for irrigation of table crops (for example, lettuce, peppers, or onions) shall be virtually free of Salmonella and Shigella species.

C. Toxic substances from other than natural sources and from algal toxins due to the growth of algae caused by pollution shall not be present in Penobscot Waters in quantities, concentrations, or combinations that are toxic to human, animal, plant, or aquatic life; that interfere with the normal propagation, growth, and survival of sensitive indigenous aquatic biota; or that will or are reasonably expected to bioaccumulate in tissues of fish, shellfish, or other aquatic organisms to levels that will impair the health of aquatic organisms or wildlife or result in unacceptable tastes, odors, or health risks to humans. There shall be no acute toxicity and no significant chronic toxicity in any Penobscot Waters. For toxic substances lacking EPA-published criteria, biomonitoring data may be used to determine compliance with this standard in accordance with EPA standard acute and chronic biological test protocols, as listed in Section 305. Human health criteria shall be based on an ingestion rate of 286 grams per day of fish and other aquatic organisms (derived from the Wabanaki Traditional Cultural Lifeways Exposure Scenario 2009 - *Resident fish and Aquatic life from Inland Non-Anadromous diet*), and a cancer risk level of 1×10^{-6}.

D. No person shall place into Penobscot Waters or onto their banks in such a way as would allow the materials to enter Penobscot Waters the following or similar materials: refuse, rubbish, demolition or construction debris, trash, garbage, motor vehicles, motor vehicle parts, batteries, appliances, tires, other non-ceremonial waste, or fill, sand or similar material except when used

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for the purpose of nonpoint source pollution control such as bank stabilization or as authorized by a permit issued under CWA § 404, 33 U.S.C. § 1344, as amended.

Section 302. Temperature.

A. Normal, seasonal variations of temperature in surface waters shall be maintained. However, high water temperatures caused by unusually high ambient air temperatures are not violations of these standards.

B. In a stream, the introduction of heat by other than natural causes shall not increase the temperature, as measured upstream from the point of introduction, by more than 2.7° C (5° F), based on the weekly average of the maximum daily temperatures measured at mid-depth or three feet, whichever is less.

C. In no event shall any discharge cause the receiving water to exceed a weekly average temperature of 66° F or a daily maximum temperature of 73° F. When the ambient temperature of the stream naturally exceeds the limits set forth in this section, no discharge alone or combined with others shall cause the in-stream temperature increase to exceed 0.5° F above the receiving water temperature.

Section 303. Minerals.

The existing mineral content of Penobscot Waters shall not be altered by municipal, industrial, or in-stream activities or other waste discharges so as to interfere with their designated uses. Generally, increases exceeding one-third over naturally occurring levels will not be allowed.

Section 304. Radioactive Materials.

Concentrations of radioactive constituents shall not exceed EPA Safe Drinking Water Act (SDWA) standards except when concentrations caused by naturally occurring materials exceed those standards, in which case the latter concentrations shall apply. Notwithstanding the foregoing sentence, if a standard more stringent than the SDWA standard is indicated for a designated use, the more stringent standard will apply for that designated use.

Section 305. Determining Compliance with Narrative Standards.

Biomonitoring testing following current EPA test methods shall be used to determine compliance with the narrative criteria in §§ 301 through 303, provided that adequate funding is available. These protocols can be found in the publication, Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, 4th Ed. (October 2002), EPA No. 821-R-02-013, or the most current edition. Additionally, the Nation will rely on the following references:

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- EPA, Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, 5th Ed. (October 2002), EPA No. 821-R-02-012, or the most current edition.

- EPA, Technical Support Document For Water Quality-based Toxics Control (March 1991), EPA 505/2-90-001, or the most current edition.

- EPA, Quality Criteria for Water (The Gold Book) (May 1986), EPA 440/5-86-001, or the most current edition.

Section 306. Biological Criteria.

A. All Penobscot Waters shall be of sufficient quality to support aquatic species without detrimental changes in the resident biological communities.

B. The Nation's goal is that all Penobscot Waters will be free from substances, whether attributable to point source discharges, nonpoint sources, or in-stream activities, in concentrations or combinations which impair the structure or limit the function of the resident aquatic community as it naturally occurs.

C. The structure and function of the resident aquatic community shall be measured by biological assessment methods approved by the Program Manager, which may include Maine DEP Chapter 579 Classification Attainment Evaluation Using Biological Criteria for Rivers and Streams.

D. Determination of impairment or limitation of the resident aquatic community shall be based on a comparison with the aquatic community found at an appropriate reference site or region.

Section 307. Mixing Zones.

A. A mixing zone is a defined and limited part of a water body adjacent to a point source of pollution in which initial dilution of wastewater occurs and in which certain numeric water quality standards may be exceeded provided that all the following requirements are met:

(1) Mixing zones shall be limited to perennial streams;

(2) All mixing zones shall have defined boundaries, beyond which applicable water quality standards shall be met;

(3) In no instance shall the narrative water quality standards in § 301 be violated;

(4) In no instance shall the concentration of any toxic pollutant exceed the aquatic habitat acute numeric standard for that pollutant. The aquatic habitat acute numeric standard for all toxic pollutants shall be met at the point of discharge;

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(5) In perennial streams, a continuous zone of passage around a mixing zone shall be maintained in which all applicable water quality standards are met and which provides for migration of aquatic life without exposure to pollutant concentrations that exceed chronic toxicity for aquatic habitat numeric standards. The mixing zone shall be no larger than 25% of the cross-sectional area or volume of low flow and no wider than 50% of stream width;

(6) Mixing zones are prohibited for the following persistent bioaccumulative toxic pollutants:

(a) Aldrin/Dieldrin
(b) Benzo(a)pyrene
(c) Benzoperylene
(d) Chlordane
(e) DDT and its metabolites (DDD and DDE)
(f) Dioxin
(g) Furan
(h) Endrin,
(i) Endrin aldelhyde
(j) Heptachlor
(k) Heptachlor epoxide
(l) Hexachlorobenzene
(m) Isodrin
(n) Lead and lead compounds
(o) Lindane
(p) Mercury
(q) Methoxychlor
(r) Mirex
(s) Octachlorostyrene(u) PCBs,
(t) Pendimethalin
(u) Pentachlorobenzene
(v) Tetrabromobisphenol A
(w) Toxaphene, and
(x) Trifluralin

B. The Penobscot Nation will consider the requirements in subsection (A)(1)-(5) of this section in determining whether to grant a mixing zone.

C. The water quality criteria in these PWQS shall apply within a mixing zone unless specific alternative criteria have been determined by the Director, pursuant to the provisions of Section 105(B), and approved by the Penobscot Nation Chief and Tribal Council and U.S. EPA

Region 1. Mixing zones shall not be granted in lieu of reasonable control measures to reduce point source pollutant discharges but will be granted to complement such control measures. A limited mixing zone, serving as a zone of initial dilution in the immediate area of a point source of pollution, may be allowed if the conditions set out in this section are met.

Section 308. **Wetlands.**

All wetlands within the Penobscot Nation are Penobscot Waters and are subject to narrative criteria and applicable antidegradation provisions unless site-specific numerical criteria have been assigned. It shall be a goal of the Nation to maintain the water quality of wetlands at natural background levels, within the natural range of variation for the particular wetland. For substances that are not naturally occurring, water quality requirements shall be based upon protecting existing uses of the wetland consistent with antidegradation requirements, the Nation's narrative water quality criteria, or appropriate criteria guidance issued by the EPA. Wetlands shall not be considered as repositories or treatment systems for wastes from human sources.

Section 309. Lakes and Ponds.

A. All lakes and ponds within the Penobscot Nation are Penobscot Waters and are subject to these Standards, except that no permits may be issued under CWA Section 402 for discharges into lakes and ponds within the Penobscot Nation.

B. All water bodies identified as either lakes or ponds in Section 403, Table 1 of these Standards are described by their trophic state based on measures of the chlorophyll ā content, secchi disk transparency, total phosphorous content and other appropriate criteria. These waters must have stable or decreasing trophic state, subject only to natural fluctuations, and must be free from culturally induced algal blooms that impair their use and enjoyment.

SUBCHAPTER IV. DESIGNATED USES AND ASSOCIATED NUMERIC WATER QUALITY STANDARDS

Section 401. **List of Designated Uses and Associated Standards.**

The following are the designated uses for Penobscot Waters:

A. *Domestic Water Supply.* The water body is used as a potable water supply for drinking or cooking. Disinfection or other processing may be required. Standards specific to this use, expressed in mg/L unless otherwise indicated and for dissolved state only, are listed in Appendix I and IV. This use is the same as Maine's "drinking water after treatment" use.

B. *Primary Human Contact/Cultural and Ceremonial.* The water body is used for activities that may cause the human body to come into direct contact with the water, typically to the point of submergence, including probable ingestion, inhalation of vapor, or contact with membrane

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material of the body. Examples include swimming and cultural and ceremonial use. Criteria specific to this use are in Appendices I and IV (Human Health Criteria). In addition, the following standards shall apply:

(1) Bacteria

Geometric mean maximum Escherichia coli (E. coli) may not exceed 100 colonies/100 ml during any 30-day interval, or may not exceed a Statistical Threshold Value (STV) of 320 colonies/100 ml with a frequency of more than 10% during the same 30-day interval.

(2) The open water shall be free from algae in concentrations causing a nuisance condition or causing gastrointestinal or skin disorders or other adverse health effects. Water column chlorophyll ā concentrations shall not exceed 8 µg/L.

(3) Concentrations of the following substances shall not exceed the following (where "Substance" means total unless otherwise indicated):

Substance	**Criterion**	**Substance**	**Criterion**
Diazinon	2.0 µg/L	Barium(dissolved)	2.0 mg/L
Ethylbenzene	0.7 mg/L	Beryllium (dissolved)	4.0 µg/L
Methoxychlor	40.0 µg/L	Cadmium (dissolved)	5.0µg/L
2,4-Dicholorphen-oxyacetic acid	70.0 µg/L	Chromium (dissolved)	0.1mg/L
Toluene	1.0 mg/L	Cyanide (amenable to chlorination)	0.2 mg/L
Trihalomethanes (total)	80.0 µg/L	Fluoride	4.0 mg/L
Trichloroethylene	5.0 µg/L	Total inorganic Nitrogen[1]	10.0 mg/L
1,1,1-Trichloro-ethane	0.20 mg/L	Mercury	~~1.7~~2.0µg/L ~~acute 0.91µg/L chronic~~
Xylenes (total)	10.0 mg/L	Selenium (total recoverable)	50.0 µg/L
Antimony (dissolved)	6.0 µg/L	Thallium (dissolved)	2.0 µg/L

[1] Total Inorganic Nitrogen shall be calculated as Ammonia (NH3) + Ammonium (NH4) + Nitrate (N03) + Nitrite (N02).

(4) pH range: 6.5 – 9.0

C. *Secondary Human Contact.* The water body is used for activities, such as recreation, that may cause the water to come into direct contact with human skin but normally not to the point of submergence, ingestion, or contact with human membrane material; such contact would occur

only incidentally and infrequently. Examples include fishing and boating. Standards specific to this use are as follows:

(1) Bacteria

Geometric mean maximum Escherichia coli (E. coli) may not exceed 100 colonies/100 ml during any 30-day interval, or may not exceed a Statistical Threshold Value (STV) of 320 colonies/100 ml with a frequency of more than 10% during the same 30-day interval.

(2) pH range: ~~6.0-8.5~~ 6.5 – 9.0.

(3) The open water shall be free from algae in concentrations causing a nuisance condition or causing gastrointestinal or skin disorders.

D. *Aquatic Life and Wildlife Habitat.* The water body is used by non-domesticated plants and animals, including fish and aquatic insects, that are not considered pathogens, vectors for pathogens, or intermediate hosts for the pathogens of humans or domesticated livestock and plants. The water is used for direct consumption, foraging, habitat, cover, or propagation, and the aquatic ecosystem supports healthy aquatic life, including sensitive indigenous species in all of their life cycles. Waters designated for this use shall not contain any substance at concentrations that would be deleterious to any non-domesticated plant or animal that could bioaccumulate or biomagnify to deleterious levels. The acute and chronic criteria for aquatic life listed in Appendices II and III apply. Additionally, the following criteria shall not be exceeded:

Substance	**Criterion**	**Substance**	**Criterion**
DDT and metabolites	11 ng/L	Mercury	1.1 ng/L
PCBs (total of all forms)	74 ng/L	Selenium (total recoverable)	2 µg/L

Note: Substances are totals unless otherwise indicated.

E. *High-Quality Coldwater Fishery.* The water body contains adequate water flow, water chemistry (DO, pH, etc.), temperature, and biological characteristics that are suitable for the support and spawning of indigenous coldwater fish such as Brook trout, landlocked salmon, and Atlantic salmon or their hybrids. Standards specific to this use are as follows:

(1) Dissolved oxygen minimum: 7 mg/l or 75% of saturation, whichever is higher

Spawning season (October 1 – May 14) – to ensure spawning and egg incubation of indigenous cold water species.

Dissolved oxygen 7-day mean: 9.5 mg/L

Dissolved oxygen 1-day minimum: 8.0 mg/L

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(2) Daily maximum temperature: 23°C (73°F)

Weekly average temperature: 19° C (66° F)

(3) pH range: ~~6.6-8.8~~ 6.5 – 9.0

(4) Turbidity: 10 NTU

(5) Conductivity (at 25° C): 300 μmhos/cm (unless natural background is higher)

(6) Chlorine: 2 μg/L

In addition, the acute and chronic criteria for aquatic life listed in Appendices II and III apply.

F. *Coldwater Fishery.* The water body has a water temperature and other characteristics that are suitable for the support of coldwater fish such as Brook trout, landlocked salmon, Atlantic salmon, or their hybrids. Standards specific to this use are as follows:

(1) Dissolved oxygen minimum: 5 mg/l, or 60% of saturation, whichever is higher

(2) Daily maximum temperature: 23°C (73°F)

(3) Weekly average temperature: 19° C (66° F)

(4) pH range: ~~6.6-8.8~~ 6.5 – 9.0

(5) Total ammonia (as N) shall not exceed at any time EPA's national recommended Acute Criteria or exceed more than once in any three-year period the Chronic Criteria contained in Appendix III.

(6) Total residual chlorine maximum: 11μg/L

In addition, the acute and chronic criteria for aquatic life listed in Appendices II and III apply.

H. *Fish Culture.* Water from the water body is used for production of coldwater or warmwater fish in a hatchery or rearing station. There are no numeric water quality standards specific to this use. The General Standards in § 301 apply.

I. *Sustenance Fishing.* The water body is used for carrying out sustenance fishing and is necessary to provide a sufficient diet of fish to sustain a healthy population of members of the Penobscot Nation. Criteria specific to this use are in Appendices I and IV (Human Health Criteria).

J. *Irrigation.* The water body is used for watering agricultural crops and other plants by means of ditches, pipes, sprinkler systems, water-spreading berms, or other artificial means, whether traditional, historical, or contemporary. This use is similar to Maine's "agriculture" use. Concentrations of the following substances shall not exceed the following criteria:

Substance	Criterion	Substance	Criterion
Aluminum (dissolved)	5.0 mg/L	Lithium (dissolved)	2.5 mg/L
Boron (dissolved)	0.75 mg/L	Molybdenum (dissolved)	0.01 mg/L
Cobalt (dissolved)	0.05 mg/L	Vanadium (dissolved)	0.1 mg/L
Fluoride (dissolved)	1.0 mg/L	Uranium	See § 11-2-34

K. *Livestock and Wildlife Watering.* The water body is consumed by livestock, non-domestic animals (including migratory birds), or both for water supply, habitation, growth, or propagation. Concentrations of the following substances shall not exceed the following criteria:

Substance	Criterion	Substance	Criterion
Aluminum (dissolved)	5.0 mg/L	Copper (dissolved)	0.5 mg/L
Arsenic (dissolved)	0.2 mg/L	Fluoride (dissolved)	2.0 mg/L
Boron (dissolved)	5.0 mg/L	Total Mercury	0.01 mg/L
Cadmium (dissolved)	0.05 mg/L	Selenium (total recoverable)	0.05 mg/L
Chromium (dissolved)	1.0 mg/L		
Cobalt (dissolved)	1.0 mg/L	Vanadium (dissolved)	0.1 mg/L

L. *Industrial Process and Cooling Water Supply.* The water body is used in conjunction with the production of goods or services for profit. There are no numeric water quality standards specific to this use. The General Standards in Section 301 apply.

M. *Hydroelectric power generation.* The water body is used in conjunction with the generation of hydroelectric power. There are no numeric water quality standards specific to this use. The General Standards in Section 301 apply.

N. *Outstanding Tribal Resource Waters.* These waters represent a unique sacred and cultural resource of the Penobscot Nation, due for example to their use, their being part of the traditional value system of the Penobscot Indian Nation, or their uncharacteristic beauty. They are therefore given this most protective status to ensure their preservation. Other waters whose high quality makes them an exceptional recreational, cultural, or ecological resource of the Nation may also be designated Outstanding Tribal Resource Waters pursuant to the procedures in Section 105. The standards in Appendix IV shall apply to this use.

Section 402. Designated Use Modifications.

Modifications to designated uses, including the addition or removal of a designated use or establishment of a use subcategory, may be made pursuant to the provisions of Section 105(B) and consistent with the requirements of 40 C.F.R. § 131.10, as may be revised from time to time.

Section 403. Designated Use Table.

Table 1 identifies the designated uses for Penobscot Waters.

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Table 1

	Designated Uses →	Domestic Water Supply	Primary Human Contact /Cultural and Ceremonial	Secondary Human Contact	Aquatic Life and Wildlife Habitat	High-Quality Coldwater Fishery	Coldwater Fishery	Fish Culture	Sustenance Fishing	Irrigation	Livestock and Wildlife Watering	Industrial Process and Cooling Water Supply	Hydroelectric power generation	Outstanding Tribal Resources Waters
Location	**Surface Water ↓**													
Penobscot Indian Reservation	Penobscot River - Confluence of East & West Branch to Mattawamkeag River	X	X	X	X		X	X	X	X	X	X	X	
	Penobscot River - Confluence of Mattawamkeag River to Milford Dam	X	X	X	X	X	X	X	X	X	X	X	X	
	East Branch Penobscot River, adjacent to Reservation, parcel in T6R8 WELS	X	X	X	X	X	X		X	X	X			X
Trust Land T2 R9/T3 R9/T3 R8	Mattamiscontis Stream, and tributaries	X	X	X	X	X	X	X	X	X	X			X

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	Designated Uses →	Domestic Water Supply	Primary Human Contact /Cultural and Ceremonial	Secondary Human Contact	Aquatic Life and Wildlife Habitat	High-Quality Coldwater Fishery	Coldwater Fishery	Fish Culture	Sustenance Fishing	Irrigation	Livestock and Wildlife Watering	Industrial Process and Cooling Water Supply	Hydroelectric power generation	Outstanding Tribal Resources Waters
Location	**Surface Water ↓**													
	East Branch Seboeis Stream	X	X	X	X	X	X		X	X	X			
	Trout Brook	X	X	X	X	X	X		X	X	X			
	Mountain Brook, and tributaries	X	X	X	X	X	X		X	X	X			
	Squirrel Brook	X	X	X	X	X	X		X	X	X			
	East Branch Lake	X	X	X	X				X	X	X			
	Mattamiscontis Lake	X	X	X	X				X	X	X			X
	Little Mattamiscontis Lake	X	X	X	X				X	X	X			
	South Branch Lake	X	X	X	X				X	X	X			X
Trust Land T1 R6	Hay Brook	X	X	X	X	X	X		X	X	X			
	Mud Brook	X	X	X	X	X	X		X	X	X			
	Salmon Stream and tributaries	X	X	X	X	X	X		X	X	X			

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	Designated Uses →	Domestic Water Supply	Primary Human Contact /Cultural and Ceremonial	Secondary Human Contact	Aquatic Life and Wildlife Habitat	High-Quality Coldwater Fishery	Coldwater Fishery	Fish Culture	Sustenance Fishing	Irrigation	Livestock and Wildlife Watering	Industrial Process and Cooling Water Supply	Hydroelectric power generation	Outstanding Tribal Resources Waters
Location	**Surface Water ↓**													
	Little Salmon Stream Lake	X	X	X	X				X	X	X			
Trust Land T6 R8	East Branch Penobscot River	X	X	X	X	X	X		X	X	X			X
	Wadleigh Brook	X	X	X	X	X	X		X	X	X			
	Mountain Catcher Brook	X	X	X	X	X	X		X	X	X			
	Mountain Catcher Pond	X	X	X	X				X	X	X			
	Grand Lake Matagamon	X	X	X	X				X	X	X			X
	Morrell Pond	X	X	X	X				X	X	X			
Trust Land Williamsburg	Merill Brook	X	X	X	X	X	X		X	X	X			
	West Branch Pleasant River	X	X	X	X	X	X		X	X	X			X

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	Designated Uses →	Domestic Water Supply	Primary Human Contact /Cultural and Ceremonial	Secondary Human Contact	Aquatic Life and Wildlife Habitat	High-Quality Coldwater Fishery	Coldwater Fishery	Fish Culture	Sustenance Fishing	Irrigation	Livestock and Wildlife Watering	Industrial Process and Cooling Water Supply	Hydroelectric power generation	Outstanding Tribal Resources Waters
Location	**Surface Water ↓**													
	West Branch Pleasant River and tributaries	X	X	X	X	X	X		X	X	X			
	Whetstone Brook and tributaries	X	X	X	X		X		X	X	X			
Trust Land Argyle	Birch Stream and tributaries	X	X	X	X	X	X		X	X	X			X
	Hemlock Stream	X	X	X	X	X	X		X	X	X			
	Ephriam Brook	X	X	X	X		X		X	X	X			
Trust Land Lakeville	E. Branch Passadumkeag River and tributaries	X	X	X	X	X	X		X	X	X			
	Cranberry Brook	X	X	X	X		X		X	X	X			
	Upper Sysladobsis Stream	X	X	X	X		X		X	X	X			
	Taylor Brook and tributaries	X	X	X	X	X	X		X	X	X			
	Upper Sysladobsis Lake	X	X	X	X				X	X	X			
	Sysladobsis Lake	X	X	X	X				X	X	X			

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	Designated Uses →	Domestic Water Supply	Primary Human Contact/Cultural and Ceremonial	Secondary Human Contact	Aquatic Life and Wildlife Habitat	High-Quality Coldwater Fishery	Coldwater Fishery	Fish Culture	Sustenance Fishing	Irrigation	Livestock and Wildlife Watering	Industrial Process and Cooling Water Supply	Hydroelectric power generation	Outstanding Tribal Resources Waters
Location	**Surface Water ↓**													
Trust Land Lee	E. Branch Passadumkeag River and tributaries	X	X	X	X	X	X		X	X	X			
Trust Land Alder Stream Twp	Nash Brook	X	X	X	X	X	X		X	X	X			
	North Branch Dead River	X	X	X	X	X	X		X	X	X			
	Little Alder Stream and tributaries	X	X	X	X	X	X		X	X	X			
	Alder Stream and tributaries	X	X	X	X	X	X		X	X	X			
	Snow Mountain Pond	X	X	X	X				X	X	X			X
	Round Mountain Pond	X	X	X	X				X	X	X			X
	Blanchard Pond	X	X	X	X				X	X	X			

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Section 404. Application and Construction.

A. The criteria assigned to a water body are those required to sustain all designated uses of the water body and, with regard to bacteria, the water body class. When a Penobscot Water has more than one designated use, as listed in Table 1, the applicable numeric standards for each parameter shall be those necessary to maintain all the designated uses of that water body, that is, the most stringent of those established for that body of water (taking into consideration its water body class in the case of Primary Human Contact/Cultural and Ceremonial designated use).

B. The criteria specific to a designated use shall be maintained at all times for narrative criteria and for persistent bioaccumulative toxic pollutants, including those listed in §307(A)(6), and at all times for all other pollutants except when flows are below critical low flow rates. For human health criteria, the critical low flow rate is the harmonic mean flow or, for ephemeral waters, the modified harmonic mean. For aquatic life, the critical low flow for acute criteria is 1Q10 and for chronic criteria is 7Q10. For all other numeric criteria, the critical low flow is 7Q10.

"Harmonic mean flow" is the number of daily flow measurements divided by the sum of the reciprocals of the flows; that is, it is the reciprocal of the mean of reciprocals. "Modified harmonic mean" is based upon the nonzero flow intervals and modified by including a factor to adjust for the proportion of intervals with zero flow. The equations are as follows:

Harmonic Mean = $\frac{n}{\sum 1/Q}$

where n = number of flow values
and Q = flow value

Modified Harmonic Mean = $\left[\frac{\sum_{i=1}^{Nt-No} \frac{1}{Qi}}{Nt - No}\right]^{-1} x \left[\frac{Nt - No}{Nt}\right]$

where Qi = nonzero flow
Nt = total number of flow values
And N_0 = number of zero flow values

C. Water quality standards established for the attainment and maintenance of upstream designated uses shall be sufficient to protect the attainment and maintenance of downstream designated uses.

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D. These PWQS provide the basis for managing discharges attributable to point and nonpoint sources of pollution, including in-stream activities. These PWQS are not used to control natural background phenomena.

E. These PWQS are intended to protect the water quality of Penobscot Waters in a manner that is at least as protective as would be provided by the law of the State of Maine. Thus, if any of these Standards is less protective of water quality than would be provided by the law of the State of Maine, the standard provided by Maine law shall apply.

Section 405. Additional Numeric Water Quality Criteria.

Tables listing additional numeric water quality criteria may be found in Appendices I through IV of these Standards.

SUBCHAPTER V. SAMPLING AND ANALYSIS, VARIANCES AND EXCEEDANCES

Section 501. Sampling and Analysis.

Sample collection, preservation, and analysis used to determine water quality and to maintain these Standards shall be performed in accordance with the Penobscot Nation's Quality Assurance Plan and procedures prescribed by the latest EPA analytical references, including but not limited to the latest editions of any of the following authorities:

(1) American Public Health Association, Standard Methods for the Examination of Water and Wastewater, 22nd Ed. (2012), or the most current edition;

(2) EPA, Methods for Chemical Analysis of Water and Wastes, 3rd Ed. (March 1983), EPA No. 600/4-79-020, or the most current edition; or

(3) Guidelines Establishing Test Procedures for the Analysis of Pollutants, 40 CFR Part 136.

Section 502. Variances.

A. The Director, with the approval of the Penobscot Nation Chief and Tribal Council and EPA, pursuant to subsection H of this section, may grant a variance from a water quality standard for a point source discharge provided that the discharger demonstrates that treatment more advanced than that required to comply with technology-based effluent limitations is necessary to comply with the water quality standard and:

(1) It is not technically feasible to achieve compliance within the next three years, or

(2) The cost of treatment would result in substantial and widespread economic and social impact.

B. A variance may be granted on a pollutant-specific basis only. A point source discharge is required to comply with all other applicable PWQS for which a variance is not granted. No variances may be granted for point source discharges to Outstanding Tribal Resource Waters.

C. A variance applies only to a specific point source discharge. The granting of a variance does not modify a water quality standard. Other point source discharges to the water body shall comply with all applicable Standards, including any Standard for which a variance has been granted for a specific point source discharge.

D. A variance is for a fixed term not to exceed three years. Variances are not renewable but, upon adequate justification, may be reissued by the Director, with the approval of the Penobscot Nation Chief and Tribal Council and of EPA, pursuant to subsection H of this section. In addition, the Director shall reevaluate a variance upon the issuance, reissuance, or modification of the discharge permit for the point source discharge.

E. A person who seeks a variance from a water quality standard shall submit a letter to the Director requesting a variance. The request shall include the following information:

(1) Identification of the specific pollutant and water quality standard for which the variance is sought;

(2) Identification of the receiving water;

(3) For an existing point source discharge, a detailed description of the existing discharge control technologies that are used to achieve compliance with applicable water quality standards. For a new point source discharge, a detailed description of the proposed discharge control technologies that will be used to achieve compliance with applicable water quality standards;

(4) Documentation that the existing or proposed discharge control technologies will comply with applicable technology-based effluent limitations and that more advanced treatment technology is necessary to achieve compliance with the water quality standard for which a variance is sought;

(5) A detailed discussion of why compliance with the water quality standard cannot be achieved;

(6) A detailed discussion of the discharge control technologies that are available for achieving compliance with the water quality standard for which a variance is sought;

(7) Documentation of one or both of the following:

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(a) That it is not technically feasible to install and operate any of the available discharge control technologies to achieve compliance with the water quality standard for which a variance is sought, or

(b) That installation and operation of each of the available discharge technologies to achieve compliance with the water quality standard would result in substantial and widespread economic and social impact;

(8) Documentation that the point source discharger has reduced, to the maximum extent practicable, the discharge of the pollutant for which a variance is sought through implementation of pretreatment, source reduction, or a waste minimization program;

(9) A detailed description of proposed interim discharge limitations that represent the highest level of treatment achievable by the point source discharge during the term of the variance. Interim discharge limitations shall not be less stringent than technology-based effluent limitations.

F. In determining whether to recommend that the Penobscot Nation Chief and Tribal Council grant or deny the request for a variance, the Director shall consider the following factors: bioaccumulation, bioconcentration, predicted exposure on biota and the likelihood that resident biota will be adversely affected, the known or predicted safe exposure levels for the pollutant of concern, and the likelihood of adverse human health effects.

G. The Director shall issue public notice and shall provide an opportunity for a public hearing on whether the request for a variance should be granted or denied, pursuant to the procedures in § 105(B).

H. A variance is subject to review and approval by the Penobscot Nation Chief and Tribal Council and the EPA.

I. The final decision on a request for a variance is subject to judicial review pursuant to Section 105(C).

Section 503. Compliance Schedules.

The Penobscot Nation Chief and Tribal Council may allow, on a case-by-case basis, inclusion of a compliance schedule in a National Pollutant Discharge Elimination System ("NPDES") permit that is issued to an existing facility if it is determined by the permitting authority that more time is required to meet the NPDES permit requirements based on new or revised water quality standards. The compliance schedule shall require compliance at the earliest practicable time and shall specify milestones and their anticipated dates in order to track a permittee's progress towards compliance. Notwithstanding the forgoing, a compliance schedule

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shall not be issued for NPDES permit requirements designed to meet water quality standards for Outstanding Tribal Resource Waters.

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APPENDICES

APPENDIX I: ORGANOLEPTIC EFFECT CRITERIA

(Organoleptic Effect Criteria are contaminants whose presence causes adverse taste or odors in water or fish.)

Pollutant	**Organoleptic Effect Criteria**
	(µg/L)
Acenaphthene	20
Color	
Iron	300
Monochlorobenzene	20
Tainting Substance	
3-Chlorophenol	0.1
4-Chlorophenol	0.1
2,3-Dichlorophenol	0.04
2,5-Dichlorophenol	0.5
2,6-Dichlorophenol	0.2
3,4-Dichlorophenol	0.3
2,4,5-Trichlorophenol	1
2,4,6-Trichlorophenol	2
2,3,4,6-Tetrachlorophenol	1
2-Methyl-4-Chlorophenol	1800
3-Methyl-4-Chlorophenol	3000
3-Methyl-6-Chlorophenol	20
2-Chlorophenol	0.1
Copper	1000

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APPENDIX I: ORGANOLEPTIC EFFECT CRITERIA (continued)

Pollutant	**Organoleptic Effect Criteria**
	(µg/L)
2,4-Dichlorophenol	0.3
2,4-Dimethylphenol	400
Hexachlorocyclopentadiene	1
Manganese	
Nitrobenzene	30
Pentachlorophenol	30
Phenol	300
Zinc	5000

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APPENDIX II: AQUATIC LIFE CRITERIA

Pollutant	**CMC 1**	**CCC 1**
	(acute)	**(chronic)**
	(µg/L)	**(µg/L)**
Acrolein	3ug/L	3ug/L
Aesthetic Qualities	NARRATIVE STATEMENT—SEE DOCUMENT	
Aldrin	3.0	
Alkalinity		20000
alpha-Endosulfan	0.22 A	0.056 A
Aluminum pH 6.5 – 9.0	750 B	87 B
Ammonia	FRESHWATER CRITERIA ARE pH, Temperature and Life-stage DEPENDENT	
Arsenic	340 C,D	150 C,D
Bacteria	FOR PRIMARY RECREATION AND SHELLFISH USES	
beta-Endosulfan	0.22 A	0.056 A
Boron	NARRATIVE STATEMENT	
Carbaryl	2.1	2.1
Cadmium	2.0 D,E	0.25 D,E
Chlordane	2.4	0.0043
Chloride	860000	230000
Chlorine	19	11
Chloropyrifos	0.083	0.041
Chromium (III)	570 D,E	74 D,E
Chromium (VI)	16 D	11 D
Color	NARRATIVE STATEMENT	
Copper	13.4 D,E	8.96 D,E
Cyanide	22 F	5.2 F
Demeton		0.1
Diazinon	0.17ug/L	0.17ug/L
Dieldrin	0.24	0.056
Endrin	0.086	0.036
gamma-BHC (Lindane)	0.95	

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APPENDIX II (continued)

Pollutant	**CMC 1**	**CCC 1**
	(acute)	**(chronic)**
	(µg/L)	**(µg/L)**
Gases, Total Dissolved	NARRATIVE STATEMENT	
Guthion		0.01
Hardness	NARRATIVE STATEMENT	
Heptachlor	0.52	0.0038
Heptachlor Epoxide	0.52	0.0038
Iron		1000
Lead	65 D,E	2.5 D,E
Malathion		0.1
Mercury Methylmercury	1.4 D	0.77 D
Methoxychlor		0.03
Mirex		0.001
Nickel	470 D,E	52 D,E
Nonylphenol	28ug/L	6.6ug/L
Nutrients	NARRATIVE STATEMENT and trophic status for lakes and ponds	
Oil and Grease	See Subchapter III, Section ~~11-2-31~~ 301-A(5)on General Standards	
Oxygen, Dissolved Freshwater	See Subchapter IV, Section ~~11-2-41~~401-E(1) and F (1) on Designated Uses and Associated Standards	
Parathion	0.065 B	0.013 B
Pentachlorophenol	19 G	15 G
pH		6.5 – 9
Phosphorus Elemental		

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APPENDIX II (continued)

Pollutant	CMC 1 (acute) (µg/L)	CCC 1 (chronic) (µg/L)
Polychlorinated Biphenyls (PCBs)		0.014 H
Selenium	I	5
Silver	3.2 D,E	
Solids Suspended and Turbidity	See Subchapter III, Section ~~11-2-31~~ 301-A(5) and (9)on General Standards	
Sulfide-Hydrogen Sulfide		2.0
Tainting Substances	See Subchapter III, Section ~~11-2-31~~ 301-A(7-8) on General Standards	
Temperature	See Subchapter III~~V~~, Section ~~11-2-41~~302 on Temperature, and Subchapter IV, Section 401-E(2) and F(2)-on Designated Uses and Associated Standards	
Toxaphene	0.73	0.0002
Tributyltin (TBT)	0.46	0.072
Zinc	120 D,E	120 D,E
4,4'-DDT	1.1 J	0.001 J

A This value applies to the sum of alpha-endosulfan and beta-endosulfan.

B This value for aluminum is expressed in terms of total recoverable metal in the water column.

C This water quality criterion applies to total arsenic.

D Freshwater criteria for metals are expressed in terms of the dissolved metal in the water column.

E The freshwater criterion for this metal is expressed as a function of hardness (mg/L) in the water column. The value given here corresponds to a hardness of 100 mg/L. Criteria values for other hardness may be calculated per the factors and equations for calculating hardness-dependent metals' criteria that are included in this Appendix.

F This recommended water quality criterion is expressed as ug free cyanide (as CN)/L.

G Freshwater aquatic life values for pentachlorophenol are expressed as a function of pH. Values displayed in table correspond to a pH of 7.8.

H This criterion applies to total PCBs (e.g., the sum of all congener or all isomer or homolog or Aroclor analyses.)

I The CMC = 1/[(f1/CMC1) + (f2/CMC2)] where f1 and f2 are the fractions of total selenium that are treated as selenite and selenate, respectively, and CMC1 and CMC2 are 185.9 ug/l and 12.82 ug/l, respectively.

J This criterion applies to DDT and its metabolites (i.e., the total concentration of DDT and its metabolites should not exceed this value).

1 Criteria Maximum Concentration (CMC) is an estimate of the highest concentration of a material in surface water to which an aquatic community can be exposed briefly without resulting in an unacceptable effect.

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2 The Criterion Continuous Concentration (CCC) is an estimate of the highest concentration of a material in surface water to which an aquatic community can be exposed indefinitely without resulting in an unacceptable effect.

APPENDIX II: AQUATIC LIFE CRITERIA (continued)

Parameters for Calculating Freshwater Dissolved Metals Criteria That Are Hardness-Dependent						
Chemical	**mA**	**bA**	**mC**	**bC**	**Freshwater Conversion Factors (CF)**	
					CMC	**CCC**
Cadmium	1.0166	-3.924	0.7409	-4.719	1.136672-[(*ln*hardness)(0.041838)]	1.101672-[(*ln*hardness)(0.041838)]
Chromium III	0.819	3.7256	0.819	0.6848	0.316	0.86
Copper	0.9422	-1.7	0.8545	-1.702	0.96	0.96
Lead	1.273	-1.46	1.273	-4.705	1.46203-[(*ln*hardness)(0.145712)]	1.46203-[(*ln*hardness)(0.145712)]
Nickel	0.846	2.255	0.846	0.0584	0.998	0.997
Silver	1.72	-6.59	—	—	0.85	—
Zinc	0.8473	0.884	0.8473	0.884	0.978	0.986

Hardness-dependant metals' criteria may be calculated from the following:

CMC (dissolved) = exp{mA [*ln*(hardness)]+ bA} (CF)
CCC (dissolved) = exp{mC [*ln*(hardness)]+ bC} (CF)

Appendix III.A: Temperature and pH-Dependent Values of the CMC (Acute Criterion Magnitude) in mg/L Total Ammonia Nitrogen – *Oncorhynchus spp.* Present

pH	Temperature (°C)																
	0-14	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**
6.5	33	33	32	29	27	25	23	21	19	18	16	15	14	13	12	11	9.9
6.6	31	31	30	28	26	24	22	20	18	17	16	14	13	12	11	10	9.5
6.7	30	30	29	27	24	22	21	19	18	16	15	14	13	12	11	9.8	9.0
6.8	28	28	27	25	23	21	20	18	17	15	14	13	12	11	10	9.2	8.5
6.9	26	26	25	23	21	20	18	17	15	14	13	12	11	10	9.4	8.6	7.9
7.0	24	24	23	21	20	18	17	15	14	13	12	11	10	9.4	8.6	8.0	7.3
7.1	22	22	21	20	18	17	15	14	13	12	11	10	9.3	8.5	7.9	7.2	6.7
7.2	20	20	19	18	16	15	14	13	12	11	9.8	9.1	8.3	7.7	7.1	6.5	6.0
7.3	18	18	17	16	14	13	12	11	10	9.5	8.7	8.0	7.4	6.8	6.3	5.8	5.3
7.4	15	15	15	14	13	12	11	9.8	9.0	8.3	7.7	7.0	6.5	6.0	5.5	5.1	4.7
7.5	13	13	13	12	11	10	9.2	8.5	7.8	7.2	6.6	6.1	5.6	5.2	4.8	4.4	4.0
7.6	11	11	11	10	9.3	8.6	7.9	7.3	6.7	6.2	5.7	5.2	4.8	4.4	4.1	3.8	3.5
7.7	9.6	9.6	9.3	8.6	7.9	7.3	6.7	6.2	5.7	5.2	4.8	4.4	4.1	3.8	3.5	3.2	3.0
7.8	8.1	8.1	7.9	7.2	6.7	6.1	5.6	5.2	4.8	4.4	4.0	3.7	3.4	3.2	2.9	2.7	2.5
7.9	6.8	6.8	6.6	6.0	5.6	5.1	4.7	4.3	4.0	3.7	3.4	3.1	2.9	2.6	2.4	2.2	2.1
8.0	5.6	5.6	5.4	5.0	4.6	4.2	3.9	3.6	3.3	3.0	2.8	2.6	2.4	2.2	2.0	1.9	1.7
8.1	4.6	4.6	4.5	4.1	3.8	3.5	3.2	3.0	2.7	2.5	2.3	2.1	2.0	1.8	1.7	1.5	1.4
8.2	3.8	3.8	3.7	3.5	3.1	2.9	2.7	2.4	2.3	2.1	1.9	1.8	1.6	1.5	1.4	1.3	1.2
8.3	3.1	3.1	3.1	2.8	2.6	2.4	2.2	2.0	1.9	1.7	1.6	1.4	1.3	1.2	1.1	1.0	0.96
8.4	2.6	2.6	2.5	2.3	2.1	2.0	1.8	1.7	1.5	1.4	1.3	1.2	1.1	1.0	0.93	0.86	0.79
8.5	2.1	2.1	2.1	1.9	1.8	1.6	1.5	1.4	1.3	1.2	1.1	0.98	0.90	0.83	0.77	0.71	0.65
8.6	1.8	1.8	1.7	1.6	1.5	1.3	1.2	1.1	1.0	0.96	0.88	0.81	0.75	0.69	0.63	0.59	0.54
8.7	1.5	1.5	1.4	1.3	1.2	1.1	1.0	0.94	0.87	0.80	0.74	0.68	0.62	0.57	0.53	0.49	0.45
8.8	1.2	1.2	1.2	1.1	1.0	0.93	0.86	0.79	0.73	0.67	0.62	0.57	0.52	0.48	0.44	0.41	0.37
8.9	1.0	1.0	1.0	0.93	0.85	0.79	0.72	0.67	0.61	0.56	0.52	0.48	0.44	0.40	0.37	0.34	0.32
9.0	0.88	0.88	0.86	0.79	0.73	0.67	0.62	0.57	0.52	0.48	0.44	0.41	0.37	0.34	0.32	0.29	0.27

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Appendix III.B: Temperature and pH-Dependent Values of the CMC (Acute Criterion Magnitude) in mg/L Total Ammonia Nitrogen – *Oncorhynchus spp.* Absent

pH	Temperature (°C)																				
	0-10	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**
6.5	51	48	44	41	37	34	32	29	27	25	23	21	19	18	16	15	14	13	12	11	9.9
6.6	49	46	42	39	36	33	30	28	26	24	22	20	18	17	16	14	13	12	11	10	9.5
6.7	46	44	40	37	34	31	29	27	24	22	21	19	18	16	15	14	13	12	11	9.8	9.0
6.8	44	41	38	35	32	30	27	25	23	21	20	18	17	15	14	13	12	11	10	9.2	8.5
6.9	41	38	35	32	30	28	25	23	21	20	18	17	15	14	13	12	11	10	9.4	8.6	7.9
7.0	38	35	33	30	28	25	23	21	20	18	17	15	14	13	12	11	10	9.4	8.6	7.9	7.3
7.1	34	32	30	27	25	23	21	20	18	17	15	14	13	12	11	10	9.3	8.5	7.9	7.2	6.7
7.2	31	29	27	25	23	21	19	18	16	15	14	13	12	11	9.8	9.1	8.3	7.7	7.1	6.5	6.0
7.3	27	26	24	22	20	18	17	16	14	13	12	11	10	9.5	8.7	8.0	7.4	6.8	6.3	5.8	5.3
7.4	24	22	21	19	18	16	15	14	13	12	11	9.8	9.0	8.3	7.7	7.0	6.5	6.0	5.5	5.1	4.7
7.5	21	19	18	17	15	14	13	12	11	10	9.2	8.5	7.8	7.2	6.6	6.1	5.6	5.2	4.8	4.4	4.0
7.6	18	17	15	14	13	12	11	10	9.3	8.6	7.9	7.3	6.7	6.2	5.7	5.2	4.8	4.4	4.1	3.8	3.5
7.7	15	14	13	12	11	10	9.3	8.6	7.9	7.3	6.7	6.2	5.7	5.2	4.8	4.4	4.1	3.8	3.5	3.2	2.9
7.8	13	12	11	10	9.3	8.5	7.9	7.2	6.7	6.1	5.6	5.2	4.8	4.4	4.0	3.7	3.4	3.2	2.9	2.7	2.5
7.9	11	9.9	9.1	8.4	7.7	7.1	6.6	6.0	5.6	5.1	4.7	4.3	4.0	3.7	3.4	3.1	2.9	2.6	2.4	2.2	2.1
8.0	8.8	8.2	7.6	7.0	6.4	5.9	5.4	5.0	4.6	4.2	3.9	3.6	3.3	3.0	2.8	2.6	2.4	2.2	2.0	1.9	1.7
8.1	7.2	6.8	6.3	5.8	5.3	4.9	4.5	4.1	3.8	3.5	3.2	3.0	2.7	2.5	2.3	2.1	2.0	1.8	1.7	1.5	1.4
8.2	6.0	5.6	5.2	4.8	4.4	4.0	3.7	3.4	3.1	2.9	2.7	2.4	2.3	2.1	1.9	1.8	1.6	1.5	1.4	1.3	1.2
8.3	4.9	4.6	4.3	3.9	3.6	3.3	3.1	2.8	2.6	2.4	2.2	2.0	1.9	1.7	1.6	1.4	1.3	1.2	1.1	1.0	0.96
8.4	4.1	3.8	3.5	3.2	3.0	2.7	2.5	2.3	2.1	2.0	1.8	1.7	1.5	1.4	1.3	1.2	1.1	1.0	0.93	0.86	0.79
8.5	3.3	3.1	2.9	2.7	2.4	2.3	2.1	1.9	1.8	1.6	1.5	1.4	1.3	1.2	1.1	0.98	0.90	0.83	0.77	0.71	0.65
8.6	2.8	2.6	2.4	2.2	2.0	1.9	1.7	1.6	1.5	1.3	1.2	1.1	1.0	0.96	0.88	0.81	0.75	0.69	0.63	0.58	0.54
8.7	2.3	2.2	2.0	1.8	1.7	1.6	1.4	1.3	1.2	1.1	1.0	0.94	0.87	0.80	0.74	0.68	0.62	0.57	0.53	0.49	0.45
8.8	1.9	1.8	1.7	1.5	1.4	1.3	1.2	1.1	1.0	0.93	0.86	0.79	0.73	0.67	0.62	0.57	0.52	0.48	0.44	0.41	0.37
8.9	1.6	1.5	1.4	1.3	1.2	1.1	1.0	0.93	0.85	0.79	0.72	0.67	0.61	0.56	0.52	0.48	0.44	0.40	0.37	0.34	0.32
9.0	1.4	1.3	1.2	1.1	1.0	0.93	0.86	0.79	0.73	0.67	0.62	0.57	0.52	0.48	0.44	0.41	0.37	0.34	0.32	0.29	0.27

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Appendix III.C: Temperature and pH-Dependent Values of the CCC (Chronic Criterion Magnitude) in mg/L Total Ammonia Nitrogen

pH	Temperature (°C)																							
	0-7	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**
6.5	4.9	4.6	4.3	4.1	3.8	3.6	3.3	3.1	2.9	2.8	2.6	2.4	2.3	2.1	2.0	1.9	1.8	1.6	1.5	1.5	1.4	1.3	1.2	1.1
6.6	4.8	4.5	4.3	4.0	3.8	3.5	3.3	3.1	2.9	2.7	2.5	2.4	2.2	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.1
6.7	4.8	4.5	4.2	3.9	3.7	3.5	3.2	3.0	2.8	2.7	2.5	2.3	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1
6.8	4.6	4.4	4.1	3.8	3.6	3.4	3.2	3.0	2.8	2.6	2.4	2.3	2.1	2.0	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.1
6.9	4.5	4.2	4.0	3.7	3.5	3.3	3.1	2.9	2.7	2.5	2.4	2.2	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.0
7.0	4.4	4.1	3.8	3.6	3.4	3.2	3.0	2.8	2.6	2.4	2.3	2.2	2.0	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.1	0.99
7.1	4.2	3.9	3.7	3.5	3.2	3.0	2.8	2.7	2.5	2.3	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.0	0.95
7.2	4.0	3.7	3.5	3.3	3.1	2.9	2.7	2.5	2.4	2.2	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.1	1.0	0.96	0.90
7.3	3.8	3.5	3.3	3.1	2.9	2.7	2.6	2.4	2.2	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.1	1.0	0.97	0.91	0.85
7.4	3.5	3.3	3.1	2.9	2.7	2.5	2.4	2.2	2.1	2.0	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.1	1.0	0.96	0.90	0.85	0.79
7.5	3.2	3.0	2.8	2.7	2.5	2.3	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.0	0.95	0.89	0.83	0.78	0.73
7.6	2.9	2.8	2.6	2.4	2.3	2.1	2.0	1.9	1.8	1.6	1.5	1.4	1.4	1.3	1.2	1.1	1.1	0.98	0.92	0.86	0.81	0.76	0.71	0.67
7.7	2.6	2.4	2.3	2.2	2.0	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.1	1.0	0.94	0.88	0.83	0.78	0.73	0.68	0.64	0.60
7.8	2.3	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.0	0.95	0.89	0.84	0.79	0.74	0.69	0.65	0.61	0.57	0.53
7.9	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.0	0.95	0.89	0.84	0.79	0.74	0.69	0.65	0.61	0.57	0.53	0.50	0.47
8.0	1.8	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.1	1.0	0.94	0.88	0.83	0.78	0.73	0.68	0.64	0.60	0.56	0.53	0.50	0.44	0.44	0.41
8.1	1.5	1.5	1.4	1.3	1.2	1.1	1.1	0.99	0.92	0.87	0.81	0.76	0.71	0.67	0.63	0.59	0.55	0.52	0.49	0.46	0.43	0.40	0.38	0.35
8.2	1.3	1.2	1.2	1.1	1.0	0.96	0.90	0.84	0.79	0.74	0.70	0.65	0.61	0.57	0.54	0.50	0.47	0.44	0.42	0.39	0.37	0.34	0.32	0.30
8.3	1.1	1.1	0.99	0.93	0.87	0.82	0.76	0.72	0.67	0.63	0.59	0.55	0.52	0.49	0.46	0.43	0.40	0.38	0.35	0.33	0.31	0.29	0.27	0.26
8.4	0.95	0.89	0.84	0.79	0.74	0.69	0.65	0.61	0.57	0.53	0.50	0.47	0.44	0.41	0.39	0.36	0.34	0.32	0.30	0.28	0.26	0.25	0.23	0.22
8.5	0.80	0.75	0.71	0.67	0.62	0.58	0.55	0.51	0.48	0.45	0.42	0.40	0.37	0.35	0.33	0.31	0.29	0.27	0.25	0.24	0.22	0.21	0.20	0.18
8.6	0.68	0.64	0.60	0.56	0.53	0.49	0.46	0.43	0.41	0.38	0.36	0.33	0.31	0.29	0.28	0.26	0.24	0.23	0.21	0.20	0.19	0.18	0.16	0.15
8.7	0.57	0.54	0.51	0.47	0.44	0.42	0.39	0.37	0.34	0.32	0.30	0.28	0.27	0.25	0.23	0.22	0.21	0.19	0.18	0.17	0.16	0.15	0.14	0.13
8.8	0.49	0.46	0.43	0.40	0.38	0.35	0.33	0.31	0.29	0.27	0.26	0.24	0.23	0.21	0.20	0.19	0.17	0.16	0.15	0.14	0.13	0.13	0.12	0.11
8.9	0.42	0.39	0.37	0.34	0.32	0.30	0.28	0.27	0.25	0.23	0.22	0.21	0.19	0.18	0.17	0.16	0.15	0.14	0.13	0.12	0.12	0.11	0.10	0.09
9.0	0.36	0.34	0.32	0.30	0.28	0.26	0.24	0.23	0.21	0.20	0.19	0.18	0.17	0.16	0.15	0.14	0.13	0.12	0.11	0.11	0.10	0.09	0.09	0.08

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APPENDIX IV: HUMAN HEALTH CRITERIA

When calculating ambient water quality criteria to protect human health, criteria shall be based on a fish ingestion rate of 286 grams per day (derived from the Wabanaki Traditional Cultural Lifeways Exposure Scenario 2009 (Resident fish and Aquatic life from Inland Non-Anadromous diet), and for carcinogenic compounds a cancer risk level of 1×10^{-6}.

		Human Health For Consumption of:			
Pollutant	**CAS Number**	**Water + Organism**	**Organism Only**		**Publication Year**
		(µg/L)	**(µg/L)**		
Acenaphthene	83329	59 G	61 G		2002
Acrolein	107028	0.6	0.6		2009
Acrylonitrile	107131	0.012	0.02		2002
Aldrin	309002	0.000003	0.000003		2002
alpha-BHC	319846	0.0003	0.0003		2002
alpha-Endosulfan	959988	5	5		2002
Anthracene	120127	1985	2448		2002
Antimony	7440360	4.9	39.2		2002
Arsenic	7440382	0.009 A	0.02 A		1992
Asbestos	1332214	7 million fibers/L B			1991
Barium	7440393	1000			1986
Benzene	71432	0.3650	0.8558		2002
Benzidine	92875	0.000011	0.00001		2002
Benzo(a) Anthracene	56553	0.0009	0.001		2002
Benzo(a) Pyrene	50328	0.0009	0.001		2002
Benzo(b) Fluoranthene	205992	0.0009	0.001		2002
Benzo(k) Fluoranthene	207089	0.0009	0.001		2002
Beryllium	7440417	H			
beta-BHC	319857	0.0010	0.001		2002
beta-Endosulfan	33213659	5.30	5.44		2002
Bis(2-Chloroethyl) Ether	111444	0.016	0.03		2002
Bis(2-Chloroisopropyl) Ether	108601	1035	3964		2002
Bis(2-Ethylhexyl) Phthalate	117817	0.128	0.13		2002
Bromoform	75252	2.9	8		2002
Butylbenzyl Phthalate	85687	116	118		2002
Cadmium	7440439	H			
Carbon Tetrachloride	56235	0.07	0.10		2002
Chlordane	57749	0.00005	0.00005		2002
Chlorobenzene	108907	57 G	95 G		2003

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APPENDIX IV (continued)

		Human Health For Consumption of:			
Pollutant	**CAS Number**	**Water + Organism**	**Organism Only**		**Publication Year**
		(µg/L)	**(µg/L)**		
Chlorodibromomethane	124481	0.27	1		2002
Chloroform	67663	3.7	11		2002
Chlorophenoxy Herbicide (2,4-D)	94757	100 H			1986
Chromium (III)	16065831	H Total			
Chromium (VI)	18540299	H Total			
Chrysene	218019	0.0009	0.001		2002
Copper	7440508	1,300 G			1992
Cyanide	57125	122 C	122 C		2003
Dibenzo(a,h)Anthracene	53703	0.0009	0.001		2002
Dichlorobromomethane	75274	0.37	1.1		2002
Dieldrin	60571	0.000003	0.000003		2002
Diethyl Phthalate	84662	2448	2682		2002
Dimethyl Phthalate	131113	56929	67988		2002
Di-n-Butyl Phthalate	84742	255	275		2002
Dinitrophenols	25550587	58	324		2002
Endosulfan Sulfate	1031078	5	5		2002
Endrin	72208	0.0037	0.0037		2003
Endrin Aldehyde	7421934	0.018	0.018		2002
Ether, Bis(Chloromethyl)	542881	0.000016	0.000018		2002
Ethylbenzene	100414	110	131		2003
Fluoranthene	206440	8	9		2002
Fluorene	86737	265	326		2002
gamma-BHC (Lindane)	58899	0.107	0.113		2003
Heptachlor	76448	0.0000049	0.0000049		2002
Heptachlor Epoxide	1024573	0.0000024	0.0000024		2002
Hexachlorobenzene	118741	0.000018	0.000018		2002
Hexachlorobutadiene	87683	0.32	1.13		2002
Hexachlorocyclo-hexane-Technical	608731	0.0123	0.0414		
Hexachlorocyclopentadiene	77474	26 G	68 G		2003
Hexachloroethane	67721	0.19	0.20		2002

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APPENDIX IV (continued)

		Human Health For Consumption of:			
Pollutant	**CAS Number**	**Water + Organism**	**Organism Only**		**Publication Year**
		(µg/L)	**(µg/L)**		
Ideno(1,2,3-cd)Pyrene	193395	0.0009	0.0011		2002
Isophorone	78591	23	59		2002
Manganese	7439965	50 D	100	-	
Methylmercury	22967926		0.2 mg/kg E	See Title 38 MRSA §420(1-B) and 413(11)	2001
Methoxychlor	72435	100 H			1986
Methyl Bromide	74839	32	91		2002
Methylene Chloride	75092	4.1	36		2002
Nickel	7440020	91	104		1998
Nitrates	14797558	10,000			1986
Nitrobenzene	98953	12	42 G		2002
Nitrosamines	—	0.0008	1.24		1980
Nitrosodibutylamine, N	924163	0.0043	0.013		2002
Nitrosodiethylamine, N	55185	0.0008	1.24		2002
Nitrosopyrrolidine, N	930552	0.016	2.1		2002
N-Nitrosodimethylamine	62759	0.00068	0.18		2002
N-Nitrosodi-n-Propylamine	621647	0.0043	0.03		2002
N-Nitrosodiphenylamine	86306	0.35	0.37		2002
Pentachlorobenzene	608935	0.09	0.09		2002
Pentachlorophenol	87865	0.11	0.19		2002
pH	—	6.5~~0~~ – 9.0~~8.5~~			1986
Phenol	108952	8749 G	52448 G		2009
Polychlorinated Biphenyls (PCBs)		0.0000039 F	0.0000039 F		2002
Pyrene	129000	198	245		2002
Selenium	7782492	104	255		2002
Solids Dissolved and Salinity	—				1986
Tetrachlorobenzene,1,2,4,5-	95943	0.06	0.07		2002
Tetrachloroethylene	127184	0.16	0.20		2002
Thallium	7440280	0.027	0.029		2003
Toluene	108883	553	915		2003
Toxaphene	8001352	0.000017	0.000017		2002

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Trichloroethylene	79016	1.10	1.83		2002

APPENDIX IV (continued)

		Human Health For Consumption of:			
Pollutant	**CAS Number**	**Water + Organism**	**Organism Only**		**Publication Year**
		(µg/L)	**(µg/L)**		
Trichlorophenol,2,4,5-	95954	209	223		2002
Vinyl Chloride	75014	0.021	0.15		2003
Zinc	7440666	1360 G	1562 G		2002
1,1,1-Trichloroethane	71556	H			
1,1,2,2-Tetrachloroethane	79345	0.102	0.24		2002
1,1,2-Trichloroethane	79005	0.374	0.95		2002
1,1-Dichloroethylene	75354	194	437		2003
1,2,4-Trichlorobenzene	120821	4	4		2003
1,2-Dichlorobenzene	95501	70	79		2003
1,2-Dichloroethane	107062	0.33	2.2		2002
1,2-Dichloropropane	78875	0.33	0.9		2002
1,2-Diphenylhydrazine	122667	0.010	0.012		2002
1,2-Trans-Dichloroethylene	156605	114	620		2003
1,3-Dichlorobenzene	541731	52	59		2002
1,3-Dichloropropene	542756	0.28	1.3		2003
1,4-Dichlorobenzene	106467	10	12		2003
2,3,7,8-TCDD (Dioxin)	1746016	3.1E-10	3.1E-10	See also Title 38 MRSA §420(2)	2002
2,4,6-Trichlorophenol	88062	0.14	0.15		2002
2,4-Dichlorophenol	120832	15 G	18 G		2002
2,4-Dimethylphenol	105679	49	52 G		2002
2,4-Dinitrophenol	51285	58	326		2002
2,4-Dinitrotoluene	121142	0.073	0.21		2002
2-Chloronaphthalene	91587	94	97		2002
2-Chlorophenol	95578	8.7 G	9.1 G		2002
2-Methyl-4,6-Dinitrophenol	534521	8	17		2002
3,3'-Dichlorobenzidine	91941	0.0017	0.0017		2002
3-Methyl-4-Chlorophenol	59507	G	G		
4,4'-DDD	72548	0.000019	0.000019		2002
4,4'-DDE	72559	0.000013	0.000013		2002
4,4'-DDT	50293	0.000013	0.000013		2002

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A This water quality criterion for arsenic refers to the inorganic form only.

B This criterion for asbestos is the Maximum Contaminant Level (MCL) developed under the Safe Drinking Water Act (SDWA).

C This water quality criterion is expressed as total cyanide.

D This criterion for manganese is not based on toxic effects, but rather is intended to minimize objectionable qualities such as laundry stains and objectionable tastes in beverages.

E This criterion applies to methyl mercury concentration in fish tissue.

F This criterion applies to total PCBs (e.g., the sum of all congener or all isomer or homolog or Aroclor analyses).

G The organoleptic effect criterion is more stringent than the value for priority toxic pollutants.

H A more stringent Maximum Contaminant Level (MCL) has been issued by EPA under the Safe Drinking Water Act. Please refer to the drinking water regulations in 40 CFR Part 141 or call the Safe Drinking Water Hotline (1-800-426-4791) for values.

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Tab 24

PENOBSCOT NATION
Department of Natural Resources

Response to Comments on Draft Water Quality Standards

On June 11, 2014, the Penobscot Nation Department of Natural Resources ("Department") published a notice in the Bangor Daily News stating that draft Penobscot Water Quality Standards ("WQS") were available for public review and comment prior to adoption of final WQS by the Penobscot Nation. A copy of the notice, together with a copy of the draft WQS, also was made available on the Department website, and copies of the notice and WQS were emailed directly to the U.S. Environmental Protection Agency, Region 1 (New England), Maine Department of Environmental Protection, U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration, Atlantic Salmon Federation, Maine Rivers, Penobscot River Restoration Trust, and Penobscot Nation tribal government officials and employees. The public was given until August 11, 2014 to provide written comments. The Department also held a public hearing on August 6, 2014, at the Penobscot Nation Community Center, Indian Island, Maine, to give the public the opportunity to present their comments orally as well as in writing.

The Department received written comments from two members of the public, the Natural Resources Council of Maine, the State of Maine, and a coalition of companies and municipalities with interests in the Penobscot River watershed ("Municipal and Industry Coalition").[1] The Department also received oral comments from 18 individuals at the public hearing. The Department has reviewed all the comments it received from the above-described outreach and is responding to all significant comments, as set forth below:

Comments Received at Public Hearing

Approximately 50 people attended the public hearing. Of the 18 people who spoke at the hearing, half were Penobscot members and the other half were nearby residents and other interested individuals. All 18 commenters spoke in support of the WQS.

All the Penobscot commenters described the central role that the Penobscot River plays in the life of the tribe and of their obligation as tribal members to protect the river. The commenters noted the close contact that they have with the river, from living next to it, swimming in it, and eating fish from it. Several also noted their dependence on the river for their cultural and traditional practices and beliefs, which involve using the river itself, plants that grow in and around it, and animals that live and swim in it and frequent its shores. These commenters also described the spiritual quality that the river has in Penobscot culture.

[1] The Municipal and Industry Coalition consists of the City of Brewer, Town of Bucksport, Town of East Millinocket, Town of Howland, Town of Lincoln, Town of Mattawamkeag, Town of Millinocket, Town of Orono, Guilford-Sangerville Sanitary District, Lincoln Sanitary District, Veazie Sewer District, Covanta Maine, LLC, Great Northern Paper Company, LLC, Kruger Energy (USA) Inc., Lincoln Paper and Tissue, LLC, Red Shield Acquisition, LLC, True Textiles, Inc., and Verso Paper Corporation.

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In light of their connection to the Penobscot River, Penobscot commenters emphasized that the health of the river is critical to the tribe's survival, in terms of preserving tribal culture, protecting the health of individual tribal members, and safeguarding the plants and wildlife that depend upon the river and its ecosystem. Several commenters stated that they viewed themselves as stewards of the river, and several viewed the WQS as being an expression of the tribe's sovereignty and right to protect its culture and very existence. A number of nonmember commenters agreed, stating that the Penobscot Nation has been the best steward of the river and sets an example for others to follow.

Both member and nonmember commenters expressed concerns with proposed development in and around the river and its watershed. Specific concerns mentioned were the east-west corridor, mountaintop mining, landfills, and an oil pipeline. The commenters saw the WQS as a way to protect the river and ensure its management as a resource now and for future generations.

All commenters expressed appreciation to the Penobscot Nation, and to the Penobscot Nation Department of Natural Resources in particular, for developing the WQS.

Response to Public Hearing Comments

The Department sincerely thanks the commenters for their support and encouragement.

Written Comments Received

Comment 1:

The Natural Resources Council of Maine commented in support of the Penobscot WQS and expressed particular support for criteria in the WQS that reflect increased fish consumption rates and also for the bacteria and chlorophyll a criteria in the WQS.

Response to Comment 1:

The Department appreciates the support of the Natural Resources Council of Maine and its recognition of the importance of water quality for the Penobscot River and the Penobscot Nation.

Comment 2:

Anne D. Burt, an environmental justice consultant, commented in support of the Penobscot WQS and the Nation's oversight of water quality in Penobscot Waters.

Response to Comment 2:

The Department is grateful for the support of its draft standards and its efforts to protect water quality in Penobscot Waters.

Comment 3:

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Read Brugger, a member of the public, commented in support of the Penobscot WQS and the Penobscot Nation's stewardship over its water resources. He stated that the WQS would contribute to the health of the Penobscot River, ensure compliance with federal standards when state standards are less stringent than the federal, and provide for management of water resources in a manner benefiting all members of the community.

Response to Comment 3:

The Department appreciates the expression of support for the WQS. To clarify a point made in Mr. Brugger's comment, Penobscot Waters will be subject to standards that are at least as stringent as federal water quality criteria, as required by Clean Water Act ("CWA") § 510. Penobscot standards may be more stringent than federal standards pursuant to CWA § 510 and 40 C.F.R. § 131.4(a). Moreover, since Penobscot WQS may not be less stringent than the federal, they will not incorporate criteria in the Maine WQS that do not meet CWA requirements. See Response to Comment 5.

Comment 4:

The State of Maine commented that the Penobscot Nation does not have environmental regulatory authority over Penobscot Waters (as defined in the Penobscot WQS) due to the Maine Indian Land Claims Settlement Act, 25 U.S.C. § 1721 *et seq.*, and the Maine Implementing Act, 30 M.R.S.A. § 6201 *et seq.*, and therefore does not have the authority to enact the WQS.

Response to Comment 4:

The Penobscot Nation maintains that it has inherent sovereign authority to enact the WQS, as set forth in Section 101 of the WQS. *See Bottomly v. Passamaquoddy Tribe,* 599 F.2d 1061 (1st Cir. 1979) (until Congress acts, Indian tribes retain their inherent sovereign powers). The promulgation of water quality standards to protect the Nation's reservation sustenance fishery in the Penobscot River involves the exercise of just such authority. *See Wisconsin v. E.P.A.,* 266 F.3d 741, 748-49 (7th Cir. 2001) (discussing inherent sovereign authority of tribes to promulgate water quality standards); *Montana v. U.S. E.P.A.,* 137 F.3d 1135, 1141 (9th Cir. 1998) (same); *City of Albuquerque,* 97 F.3d at 418, 423 n.12 (same). Congress has not divested the Penobscot Nation of such authority.

Comment 5:

The State of Maine also commented that the Maine water quality standards are adequate and there is therefore no need for the Penobscot Nation to enact tribal standards.

Response to Comment 5:

The Maine WQS are in fact inadequate in several significant respects. For example, Maine's bacteria criteria for Class B and Class C waters, 38 M.R.S.A. § 465(3)(B) and (4)(B), respectively, are not as stringent as the current federal bacteria criteria and so violate CWA § 510

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(see Response to Comment 3). Maine's criteria are based on 1986 EPA water quality criteria but EPA issued updated water quality criteria, including bacteria criteria, in 2012. The Penobscot standards for bacteria in waters designated primary human contact/cultural and ceremonial (Section 401(B)) and secondary human contact (Section 401(C)) are based on the 2012 EPA water quality criteria.

In addition, the human health criteria listed in the Penobscot WQS, Appendix IV, reflect a fish ingestion rate (286 grams per day), based on the Wabanaki Traditional Cultural Lifeways Exposure Scenario 2009, that is significantly higher than the rate used to calculate Maine's human health criteria (32.4 grams per day, except for inorganic arsenic which uses 138 grams per day in 06-096 CMR 584, Appendix A). Maine's human health criteria are therefore inappropriate for Penobscot Waters.

Also, even if the Maine WQS were adequate, the Penobscot Nation would have the right to impose more stringent standards if it determined that they were necessary. CWA § 510; 40 C.F.R. § 131.4(a). The Penobscot Nation determined that more stringent human health criteria were necessary to protect tribal members that consume a significant amount of fish and shellfish from Penobscot Waters in accordance with traditional and cultural practices.

Finally, the Penobscot Nation wishes to make clear that, at the same time as its WQS are more stringent than the Maine WQS in some instances, in all instances the Penobscot WQS are intended to be at least as stringent as the Maine WQS. The Penobscot WQS have therefore been revised by adding language in Section 101(B) and Section 404(E) to clarify this intent.

Comment 6:

The Municipal and Industry Coalition maintains that the Penobscot Nation does not have jurisdiction over Penobscot Waters, as defined in the Penobscot WQS, because the Maine Implementing Act, 30 M.R.S.A. § 6203(8), does not specify that the waters surrounding the Penobscot Indian Reservation are part of the Reservation.

Response to Comment 6:

The Penobscot Nation disagrees with the Coalition. As the United States Department of the Interior has confirmed, the Penobscot Indian Reservation includes the Penobscot River wherein Congress confirmed that the Penobscot Nation engages in "expressly retained sovereign activities," namely, sustenance fishing, hunting, and trapping. S. Rep. No. 96-957, at 15; H.R. Rep. No. 96-1353, at 15, *reprinted in* 1980 U.S.C.C.A.N. at 3791. *See, e.g.*, Letter from U.S. Department of the Interior Deputy Solicitor General Edward B. Cohen to U.S. EPA Region 1 Regional Administrator John P. DeVillars, p. 4 (Sept. 2, 1997).[2] *See also* Opinion of Maine Attorney General James Tierney, dated February 16, 1988 to William J. Vail, Chair, Atlantic Sea Run Salmon Commission (confirming the Penobscot Nation's sustenance fishing right in the

[2] The letter from Edward B. Cohen is an attachment to the Penobscot Nation's 2012 request for an EPA determination of qualification for NPDES permit program approval, available at http://www.epa.gov/region1/govt/tribes/pdfs/cd/PINRequest4NPDESTAS.pdf.

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Penobscot River)[3]; Letter from Bennett Katz, Chair, Maine Indian Tribal State Commission, dated November 1, 1995, to Lois Cashell, Secretary, FERC (same).[4]

Comment 7:

The Municipal and Industry Coalition comments that the Penobscot Nation cannot receive "treatment as a state" ("TAS") to establish water quality standards under CWA § 518 due to the provisions of the Maine Indian Claims Settlement Act and the Maine Implementing Act, the legislative history of CWA § 518, and the holding in *Maine v. Johnson*, 498 F.3d 37 (1st Cir. 2007).

Response to Comment 7:

This comment is not a comment on the Penobscot WQS but rather on the Penobscot Nation's authority to seek TAS for a water quality standards program under the CWA. It therefore is not addressed here. The Municipal and Industry Coalition may raise the comment at such time as the Penobscot Nation seeks TAS, and it will be addressed as part of that process.

Comment 8:

The Municipal and Industry Coalition maintains that sustenance fishing is not permitted in waters outside the Penobscot Indian Reservation, that the Penobscot Waters regulated in the Penobscot WQS are outside of the Penobscot Indian Reservation, and that sustenance fishing therefore cannot be included as a designated use in the Penobscot WQS.

Response to Comment 8:

See Response to Comment 6. Also, sustenance fishing is a valid designated use under CWA §§ 101(a)(2) and 303(c)(2) and 40 CFR Part 131 because it is designed to protect the health and welfare of tribal members, enhance water quality, and serve the purposes of the CWA.

Comment 9:

The Municipal and Industry Coalition maintains that numerous narrative and numeric water quality standards are unclear, inconsistent with existing Maine standards, and/or

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[3] The opinion of Attorney General Tierney is attached as Exhibit B to the United States' Complaint in Intervention in case 1:12-cv-00254-GZS, Document 58-2 (filed 2/4/14), United States District Court for the District of Maine, available via PACER, https://pacer.login.uscourts.gov/csologin/login.jsf?appurl=pcl.uscourts.gov/search.

[4] The letter of Bennett Katz is attached as Exhibit 1 to the United States' Reply to the State of Maine's Opposition to the United States' Motion to Intervene in case 1:12-cv-00254-GZS, Document 46-2 (filed 9/20/13), United States District Court for the District of Maine, available via PACER https://pacer.login.uscourts.gov/csologin/login.jsf?appurl=pcl.uscourts.gov/search.

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inappropriate for regulation of the Penobscot River and its tributaries and branches. Their specific comments and the Department's corresponding responses are provided below.

Comment 9a:

Penobscot WQS § 101 promotes the "propagation of native and other desirable aquatic plant and animal life," but such propagation may be inconsistent with the protection of indigenous fish and other aquatic species under the Maine WQS.

Response to Comment 9a:

The Penobscot WQS are separate and distinct from the Maine WQS. As such, the Penobscot Nation is entitled to promote different priorities from Maine in its WQS even if the Penobscot priorities have the potential to be inconsistent with Maine priorities. However, the propagation of native and other aquatic plant and animal life under the Penobscot WQS is intended to complement, not conflict with, the propagation of indigenous aquatic species pursuant to the Maine WQS. Moreover, the Penobscot WQS are intended to be at least as stringent as the Maine WQS (see Response to Comment 5).

Comment 9b:

Penobscot WQS § 101 refers to future beneficial uses of Penobscot Waters, but future uses are not clearly identified and will likely conflict with Maine regulations.

Response to Comment 9b:

Future uses of Penobscot Waters cannot be identified in the WQS because they are, by definition, not currently occurring in Penobscot Waters. Future uses may be impacted by a range of social, economic, and other conditions on the Penobscot Nation and in and upstream from Penobscot Waters. However, the potential future uses of any Penobscot Waters are currently limited to the designated uses listed in Subchapter IV of the Penobscot WQS and include domestic, cultural, agricultural, recreational, and industrial uses. Table 1 identifies the current designated uses of all Penobscot Waters. Any revisions to those designated uses would need to be made pursuant to the process outlined in WQS § 105, which provides, among other things, for public notice and comment and judicial review in Penobscot Nation Tribal Court.

Future uses of Penobscot Waters are not likely to conflict with designated uses of Maine waters. Under 40 CFR § 131.10, the designation of uses must "take into consideration the water quality standards of downstream waters" and ensure that "water quality standards provide for the attainment and maintenance of the water quality standards of downstream waters."

Comment 9c:

Penobscot WQS § 102 applies the water quality standards to all persons and all activities within the Penobscot Nation, but it does not specify activities that will be regulated and is broader than activities regulated under Maine laws.

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Response to Comment 9c:

Any activities that may affect water quality are covered by the WQS, but the only activities which may actually be impacted by the WQS are those which may cause degradation of Penobscot Waters, lead to violations of narrative or numeric standards, or otherwise violate the terms and conditions of the WQS, as specified in the WQS. It is therefore necessary to consider the WQS as a whole in order to identify covered activities, and by not listing specific regulated activities the WQS avoid the risk of over- or under-regulation. See also Response to Comment 5 (Penobscot WQS may be more stringent than Maine WQS).

Comment 9d:

The definition of "point source" in WQS § 103(29) does not contain many exemptions that are contained in Maine law (including erosion related to certain agricultural activities, aquaculture operations, and oil and hazardous substance spill response discharges).

Response to Comment 9d:

The exemptions to the definition of "point source" referenced by the Municipal and Industry Coalition are exemptions to the requirement to obtain a waste discharge license under Maine law, 38 MRSA 413. Those exemptions are not relevant here because the Penobscot WQS do not contain requirements for NPDES permits or other licenses for discharges. The definition of "point source" in WQS § 103(29) is consistent with the federal definition under the Clean Water Act.

Comment 9e:

WQS § 105(B)(8)(b) provides for revised standards to become effective upon approval of the Penobscot Nation Chief and Tribal Council, but revisions to WQS require EPA approval prior to taking effect.

Response to Comment 9e:

The Penobscot WQS are tribal law and, as such, do not require EPA approval before becoming effective as the law of the Penobscot Nation. WQS § 105(B)(8)(b) therefore does not require revision for the reason stated by the commenter. In reviewing this provision, however, the Department realized that, according to the Penobscot Nation's internal legislative process, revisions to the WQS should not become effective until approved by the Penobscot Nation General Meeting, and the Department has revised the provision accordingly.

As a separate matter, to the extent that the Penobscot Nation desires to have the WQS effective for CWA purposes, then the WQS must be approved by EPA. *See* CWA § 303(c)(2), 33 U.S.C. § 1313(c)(2). WQS § 102 expressly provides that "[t]hese Standards will become applicable and effective for purposes of the Clean Water Act, 33 U.S.C. §§ 1251-1387, if and to the extent they are approved by EPA pursuant to Clean Water Act § 303(c), 33 U.S.C. §

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1313(c)." This requirement is also acknowledged in WQS § 105(A), which states that "[w]henever the Nation revises or adopts a new standard, the revised or new standard shall be submitted to EPA for review pursuant to CWA § 303(c)(2), 33 U.S.C. § 1313(c)(2), as amended."

Comment 9f:

WQS § 201(D) provides for the designation of certain high-quality waters as Outstanding Tribal Resource Waters, but this designation may conflict with Maine's management goals for the same waters.

Response to Comment 9f:

The Nation has established valid designated uses, including the Outstanding Tribal Resource Waters designated use, under CWA §§ 101(a)(2) and 303(c)(2) and 40 C.F.R. Part 131, to protect the health and welfare of its members and enhance the quality of Penobscot Waters. As discussed in the Response to Comment 9a, the Penobscot WQS are separate and distinct from Maine WQS but the Penobscot Nation intends for its WQS to complement the Maine WQS. The Nation anticipates working with the State of Maine to resolve any discrepancies that may arise from the application of different designated uses in upstream and downstream waters. See also Response to Comment 5.

Comment 9g:

WQS § 202(A)(5) requires the "highest and best degree of wastewater treatment practicable," but the Nation's judgment may differ from the judgment of Maine or EPA, which would create uncertainties for dischargers.

Response to Comment 9g:

The Penobscot WQS are designed to ensure that the water quality of Penobscot Waters (a) meets the standards of the CWA, (b) is no less protected than under the standards required by Maine law, and (c) supports the uses of members of the Penobscot Nation, in particular, the taking of fish for sustenance. Although the Nation will exercise its discretion in determining the highest and best degree of wastewater treatment practicable and may require a more protective form of wastewater treatment than the State of Maine, this is no different than divergent requirements in neighboring states. Under the CWA and its implementing regulations, neighboring jurisdictions are encouraged to cooperate to ensure adequate protection of water resources. The Penobscot Nation is committed to working with the State of Maine to minimize the effects of Penobscot requirements that may be more stringent than those required by Maine.

Comment 9h:

WQS § 202(A)(6) notes that the Water Resources Program will develop water quality-based effluent limitations but does not specify the assumptions that would be used to develop such effluent limitations.

Response to Comment 9h:

The Department may specify assumptions that would be used to develop water quality-based effluent limitations in the future, but in the meantime will rely on "coordination with federal, tribal, and state agencies, as appropriate," as provided in WQS § 202(A). Moreover, any assumptions used must be consistent with the federal requirements specified in 40 C.F.R. § 122.44(d).

Comment 9i:

WQS § 202(A)(13) provides for the Water Resources Program to determine whether in-stream flows and water levels are adequate to support designated uses, but existing uses and permits could be significantly impacted by any changes the Nation makes to existing flows.

Response to Comment 9i:

The Nation will take steps to ensure that its designated uses are adequately protected but will also work cooperatively with the State of Maine to prevent unintended or avoidable impacts on Maine's WQS and permitting program. The Nation anticipates working with the State of Maine, as well as with EPA, to ensure adequate protection of Penobscot Waters. Nevertheless, the Nation may ensure that the designated uses of Penobscot Waters are supported in a manner consistent with the CWA and 40 C.F.R. Part 131, even if that means that Penobscot Waters are afforded more protection than under Maine's standards.

Comment 9j:

WQS § 301(C) includes human health criteria based on a fish ingestion rate of 286 grams/day and a cancer risk level of $1x10^{-6}$, but this approach creates the potential for dischargers to exceed criteria that are not considered violations under Maine law.

Response to Comment 9j:

The Nation's WQS may be more stringent than Maine standards. See Responses to Comments 5 and 9g. *See also* 40 C.F.R. § 131.10(b). In order to ensure adequate protection of the health and welfare of tribal members, the fish ingestion rate is based on the Wabanaki Traditional Cultural Lifeways Exposure Scenario 2009, and specifically on the inland non-anadromous diet contained in that Scenario because the populations of anadromous species in Penobscot Waters are currently too low to be harvested in significant quantities. See *id.* The cancer risk level of 1×10^{-6} is based on the risk level used in EPA's National Recommended Water Quality Criteria for deriving human health criteria for carcinogenic chemicals and the risk level used by Maine (06-096 C.M.R. 584) (ME DEP's Surface Water Quality Criteria for Toxic Pollutants for all carcinogenic chemicals except inorganic arsenic).

Comment 9k:

The proposed temperature standard in WQS § 302 conflicts with the temperature standards in ME DEP Chapter 582 because the Penobscot standard does not provide for site-specific temperature criteria.

Response to Comment 9k:

There is no requirement in the CWA or federal regulations that the Penobscot WQS be the same as the Maine WQS, as noted in many of the responses above, nor is there a requirement for site-specific temperature criteria in lieu of generally applicable temperature criteria. In addition, it should be noted that in some instances the Penobscot WQS provide for temperature ranges (for example, WQS § 302). Moreover, the Penobscot WQS provide opportunities for site-specific conditions to be considered and taken into account, notably in the provisions for mixing zones (§ 307), variances (§ 502), and compliance schedules (§ 503).

Comment 9*l*:

WQS § 3 prohibits any filling or altering of wetlands, even if approved by the U.S. Army Corps of Engineers or Maine DEP under wetland permitting statutes.

Response to Comment 9*l*:

This appears to be a comment on Section 301(D) (prohibiting the placement into Penobscot Waters, including wetlands, of fill or related material). However, Section 301(D) specifically authorizes the placement of fill or similar materials into Penobscot Waters or onto their banks if authorized by a permit for the discharge of dredged or fill material issued by the U.S. Army Corps of Engineers under CWA § 404.

Comment 9m:

The commenter asks for the source of several of the standards for the primary human contact/cultural and ceremonial designated use in WQS § 401(B), including for chlorophyll a in WQS § 401(B)(2) and for several other contaminants listed in WQS § 401(B)(3). The commenter then states that the concentration of 8 μg/L for chlorophyll a in WQS § 401(B)(3) is inconsistent with any Maine criterion and that there are criteria listed in WQS § 401(D) for other substances (including total inorganic nitrogen, mercury, DDT, PCBs, and selenium) for which Maine does not have corresponding regulations.

Response to Comment 9m:

The water column chlorophyll a concentration of 8 μg/L is based on avoiding algal bloom conditions which when present can cause skin irritation, gastrointestinal disorders, or other health effects. The concentration used in the WQS is consistent with the water column chlorophyll a environmental response variable for class B, C, and GPA waters in Maine DEP's Draft Nutrient Criteria for Surface Waters (06-096 Chapter 583).

The Department reviewed the mercury criteria in WQS § 401(B)(3) as a result of this comment, and has revised the criteria to reflect the federal drinking water standard (MCL). This approach is now the same as the approach taken with the other criteria mentioned by the commenter, which also are based on the federal drinking water MCLs.

As discussed previously, more stringent water quality protection under Penobscot WQS than under Maine WQS does not invalidate or require changes to the Penobscot WQS.

Comment 9n:

The WQS contain a pH range of 6.6 to 8.8 for cold water fisheries in § 401(E) but contain a pH range of5 to 9 in the appendix for acute and chronic criteria, making it unclear which pH range should apply.

Response to Comment 9n:

The pH range listed in Appendix II for acute and chronic criteria for aquatic life is 6.5 to 9.0 (not 5 to 9), and is based on the EPA criteria. The pH ranges in other parts of the WQS were based on the Maine criteria. However, the Department has since learned that the Maine criteria have not been updated since EPA issued the Gold Book in 1986, and therefore these and other pH ranges in the WQS have all been revised to incorporate the EPA criteria. The following provisions are affected: designated uses for secondary human contact (WQS § 401(C)(2)), high quality coldwater fishery (WQS § 401(E)(3)), and coldwater fishery (WQS § 401(F)(4)), and Appendix IV (human health criteria). In addition, the criteria for secondary human contact were added to those for primary human contact/cultural and ceremonial use (WQS § 401(B)(4)) for the sake of consistency.

* * *

All changes made to the WQS in light of the comments received are indicated above in the responses to comments and are indicated by underline and strike-out in the final Penobscot WQS. In addition, in reviewing the WQS, the Department realized that the East Branch Penobscot River was incorrectly identified as trust land only when it is in fact also part of the Penobscot Indian Reservation (WQS § 403 Table 1 – Designated Use Table); this error has been corrected. Also, the Department noticed that various references in Appendix II of the WQS to Subchapters III and IV are to a prior draft of the WQS and have been corrected as indicated in the final WQS. Finally, in order to avoid any chance of confusion, the Department has clarified in WQS § 102 that these final Penobscot WQS supersede any prior WQS that may have been enacted by the Penobscot Nation.

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Tab 25

Comments on the United States Environmental Protection Agency's Proposal of Certain Federal Water Quality Standards Applicable to Maine

Docket ID No. EPA-HQ-OW-2015-0804
June 20, 2016

* * *

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that it is acceptable under the CWA for the Nation's population of sustenance fishers to be exposed to a higher toxicity than the State's population of non-tribal member fishers. Furthermore, given EPA's federal trust obligations to the Maine Indian Tribes, it would be a violation of its trust responsibilities as well as arbitrary and capricious and contrary to law for EPA to depart from the rationale in EPA's disapprovals and now accept Maine's interpretation of the CWA and EPA's guidance regarding the same.

a. The Nation Supports a 286 g/day FCR

The Nation supports EPA's proposed FCR of 286 g/day. As EPA acknowledges, its guidance favors local data for setting FCR. The Wabanaki Cultural Lifeways Exposure Scenario ("Wabanaki Study"), which was completed in 2009, as well as the Fish consumption information provided by the Nation during its consultation with EPA (and previously incorporated by reference herein), provides the best currently available information for current fish consumption rates, unsuppressed by pollution or lack of fish.

The Nation notes that EPA's rationale is focused primarily on present fish consumption rates corrected for the effect of suppression based on pollution or lack of fish. However, the better approach is that recommended by scholars that suggest that "heritage" fish consumption rates are more appropriate for tribes, particularly with regard to rights-based fish consumption:

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> The initial methodology for obtaining fish consumption local data was published as a guide for conducting contemporary fish consumption surveys (USEPA 1989, 1992, 1998) that assumes the only desired information is how much fish people might be eating at the time. Current studies on tribal fish consumption often follow this guide even if they recognize that the baseline fish consumption rate is culturally important and higher than at present (Shilling et al. 2014). It is clear that this approach oversimplifies the issue and fails to capture information about fish consumption rates that are more relevant to many tribes, namely, heritage or rights based rates

Barbara L. Harper & Deward E. Walker Jr., Comparison of Contemporary and Heritage Fish Consumption Rates in the Columbia River Basin Human Ecology (2015). Because EPA's approval of the rights-based designated use of tribal sustenance fishing, an aboriginal right of the tribe since time immemorial that EPA correctly recognizes was reconfirmed in MIA § 6207(4) and (9), heritage fish consumption rates are more appropriate than present day fish consumption rates, even when an attempt is made to correct those present day FCR for suppression effects. [8]

Accordingly, the Nation believes that EPA should favor historical or "heritage" fish consumption for Native American populations, despite the fact that EPA is not proposing to do so in these rules. As EPA correctly notes, the Wabanaki Study concludes that 514 g/day is the best estimate of heritage fish

[8] The rationale for preferring heritage Native American fish consumption rates over contemporary Native American fish consumption rates is well articulated in the scientific literature, and the Nation adopts that rationale. *See* Barbara L. Harper & Deward E. Walker Jr., Columbia Basin Heritage Fish Consumption Rates, Human Ecology (2015); Barbara L. Harper & Deward E. Walker Jr., Comparison of Contemporary and Heritage Fish Consumption Rates in the Columbia River Basin Human Ecology (2015), attached hereto as Exhibit 1.

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consumption rates, reflecting consumption at a time when there were sufficient inland anadromous fish to support an inland anadromous diet. The Nation is hopeful that CWA protections and other fish restoration activities will continue to lead to an increase in the availability of those species, such that the Nation's tribal sustenance fishers may one day return to that inland anadromous diet. However, the Nation supports the EPA's proposal to use the more conservative estimate of 286 g/day as the best estimate of present day consumption corrected for suppression.

As scholars have concluded:

> It is clear that setting water quality standards using contemporary suppressed fish consumption rates fails to protect traditional fishing practices, to improve water quality, or to reduce contamination enough to enable tribes to safely eat traditional amounts of fish

Harper & Walker (2015). Accordingly, it is important for EPA to take into account both heritage fish consumption rates and best estimates at current fish consumption rates not suppressed by pollution or lack of availability of the fish. Similar to its approach here, EPA has proposed focusing on unsuppressed rates in the State of Washington, Docket ID No. EPA-HQ-OW-2015-0174. Correcting present day fish consumption rates for suppression by taking into account local data about heritage consumption rates is the most appropriate approach under the CWA.

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And EPA is correct in its conclusion that the Wabanaki Study is also the best source of local information when focusing on EPA's current guidance recommending using current unsuppressed fish consumption rates (rather than heritage fish consumption rates). Thus, for the reasons articulated in EPA's proposed rule, including those articulated in the Nation's September 23, 2014 responses to comments on it final tribal WQS, a FCR of 286 g/day represents the best available data on present day sustenance-level fish consumption, unsuppressed by pollution concerns.

To use a lower fish consumption rate, as urged by Maine, would be to allow Maine to effectively set a cap on the Nation's sustenance fishing right, which MIA expressly recognizes cannot be limited by any law of the State. MIA § 6207(4).

The Nation therefore supports the use of the 286 g/day FCR in setting these standards.

b. The Nation Proposes Revisions to EPA's Suggested Trophic-Specific FCR

EPA correctly notes that the Wabanaki Study presented estimates of the total amount of fish and aquatic organisms consumed and not the amount consumed of each trophic level, and EPA proposes to assume that Maine tribes consume the same relative proportion of fish and aquatic organisms from the different trophic levels 2 through 4 as the general U.S. population (identified in the 2015 criteria update as 36%, 40% and 24% of the total

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FCR). While this approach is not unreasonable, the Nation proposes instead to use the local data contained in the Wabanaki Study regarding the types of species consumed and cross reference the trophic level designations for those species as used for derivation of EPA's 2015 Criteria Update for Human Health Criteria bioaccumulation factors.

The Nation reviewed the 2015 National Bioaccumulation Factors tables that were used to determine the 2015 EPA Human Health Criteria. One of the tables lists the trophic level that each species is categorized into for the purposes of the BAF calculations. Very few, if any, of the species categorized as trophic level 2 are likely to be consumed by the Nation (and are not among the species identified in the Wabanaki Study); these are mostly organisms like insects, baitfish, mussels, and snails. As identified in the Wabanaki Study, most of the species available and eaten by the Nation would be either Trophic level 4 (salmon, bass, trout, yellow perch, or similar species) or Trophic Level 3 (smelt, bluegill/sunfish, white perch, alewife, crayfish). The Wabanaki Study identifies specific species available and eaten on page 61 (Table 1 – Nutritional data for representative species) of that study. Most of the inland species listed therein are trophic level 3 or 4. In contrast, the clams, oysters, snails, which are trophic level 2 are coastal species. Because EPA is using the Wabanaki Study's inland resident diet to estimate FCR, it is also appropriate

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to use those inland species for its trophic-specific calculations. This is particularly true for the Penobscot Nation.

Based on this analysis, the Nation therefor proposes a trophic level distribution of 10%, 30%, and 60% of the total amount consumed for trophic levels 2, 3, and 4, respectively). In other words, using trophic-specific fish consumption rates of 28.6 g/day (trophic level 2), 85.8 g/day (trophic level 3), and 171.6 g/day (trophic level 4) for the HHC for those compounds for which the 2015 criteria update includes trophic level specific BAFs. This approach is supported by the species designations identified in the Wabanaki Study, and follows EPA's guidance to prefer local data, when available.

2. **Pollutant Bioaccumulation and Bioconcentration Factors**

Other than suggesting the above change to the estimates of trophic-specific FCR, the Nation supports EPA's approach to pollutant bioaccumulation and bioconcentration factors.

3. **Cancer Risk Level**

For the reasons articulated by the EPA, the Nation supports a 10^{-6} CRL in EPA's criteria for carcinogens for waters covered by the proposed action.

4. **Relative Source Contribution**

For the reasons articulated by the EPA, the Nation supports EPA's approach to relative source contribution.

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5. Body Weight

The Nation proposes using local data of 70kg rather than the national average of 80kg. EPA states that it is not aware of any local body weight data applicable to Maine tribes that would suggest a different value. However, there are two local sources of such information with regard to the Penobscot: 1) an EPA peer-reviewed regional applied research effort project, and 2) the Nation's tribal water quality standards legislatively adopted by the Nation's Tribal Council. EPA published the peer-reviewed study entitled: "The Penobscot River and Environmental Contaminants: Assessment of Tribal Exposure Through Sustenance Lifeways, U.S. EPA Region I, Final RARE Report, August 2015 (available at: https://www.epa.gov/sites/production/files/2015-12/documents/final-rare-report-august-2015.pdf). One of the express purposes of that study was to "Establish protocols for assessing the level of exposure to PCBs, dioxins/furans and mercury to PIN tribal members as a consequence of gathering tribal plants for medicinal and nutritional purposes; as well as consuming fish, wood duck, and snapping turtle as a primary source of nutrition." That study identified and used an adult body weight of 70 kg as appropriate for risk assessment for Penobscot sustenance fishers. In addition, the Penobscot tribal water quality standards use a body weight of

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70 kg, which reflects a legislative determination by the Nation that 70 kg is a reasonable estimate of adult body weight for tribal members.

For consistency with the Nation's tribal water quality standards and EPA's recent study, and because it represents EPA preferred local data, the Nation proposes that EPA use an adult body weight of 70 kg.

6. Drinking Water Intake

For the reasons articulated by the EPA, the Nation supports EPA's approach to drinking water intake.

7. Pollutant-Specific Reference Doses and Cancer Slope Factors

For the reasons articulated by the EPA, the Nation supports EPA's approach to pollutant-specific reference doses and cancer slope factors, however the Nation suggests that the proposed criteria be recalculated based on the above-suggested revisions to: 1. trophic-specific FCR and the related pollutant bioaccumulation and bioconcentration factors, and 2) assumed adult body weight.

VI. The Penobscot Nation Supports the Proposed WQS for Waters in Indian Lands

1. Bacteria Criteria

For the reasons articulated by the EPA, the Nation supports EPA's approach to its recreational and shellfishing proposed bacteria criteria. Specifically, the Nation supports EPA's proposed use of the 32 NGI per 1,000 primary contact illness rate, which is the same illness rate that Nation used in

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its own PIN WQS standards resulting in criteria of geometric mean max for E. coli of 100 colonies/100 ml and a STV of 320 colonies/100 ml. As EPA indicates, use of this rate results in a geometric mean criteria which most closely matches Maine's criteria.

Furthermore, the Nation supports EPA's proposed recreational bacteria criteria because they include an explicit duration and frequency of exceedance in order to protect primary contact use. The Nation reiterates its comment that these waters are used year-round by tribal members for paddling and fishing and ceremonial uses. The Nation supports EPA's proposed application of recreational bacteria criterion year-round. Given the dramatic changes in periods of ice cover in recent years, and the likelihood for this change in ice cover to continue to result in unpredictable periods of open water, the Nation would be opposed to any periods (including December through February) in which the recreational bacteria criteria were made inapplicable.

2. Ammonia Criteria for Fresh Waters

For the reasons articulated by the EPA, the Nation supports EPA's approach to its proposed ammonia criteria for fresh waters.

3. pH Criterion for Fresh Waters

For the reasons articulated by the EPA, the Nation supports EPA's approach to its proposed pH criterion for fresh waters.

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4. Temperature Criteria for Tidal Waters

For the reasons articulated by the EPA, the Nation supports EPA's approach to its proposed temperature criteria for tidal waters.

5. Natural Conditions Provisions

For the reasons articulated by the EPA, the Nation supports EPA's approach to its proposed natural conditions provisions.

6. Mixing Zone Policy

For the reasons articulated by the EPA, the Nation supports EPA's approach to its proposed mixing zone policy

VII. The Penobscot Nation Supports the Proposed WQS for All Waters in Maine

1. Dissolved Oxygen Criteria for Class A Waters

For the reasons articulated by the EPA, the Nation supports EPA's approach to its proposed dissolved oxygen criteria for Class A waters.

2. Waiver or Modification of WQS

For the reasons articulated by the EPA, the Nation supports EPA's approach to its proposed regulations regarding waiver or modification of WQS.

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VIII. The Penobscot Nation Supports the Proposed WQS for Waters in Maine Outside Indian Lands

1. HHC for Phenol Consumption of Water Plus Organisms

For the reasons articulated by the EPA, the Nation supports EPA's approach to its proposed regulations regarding phenol consumption of water plus organisms.

IX. Economic Analysis

The Nation supports EPA's proposed economic analysis and would like to highlight EPA's conclusion that there would be very little economic impact to the State or existing dischargers based on the proposed WQS in Penobscot territory and its sustenance fishery reservation.

CONCLUSION

These proposed WQS are good for the people of Maine and the health of Maine waters, just as they are good for the people of the Penobscot Nation and the health of its members. These standards are necessary to comply with the CWA and will enable fish to continue to return to these waters. For all of the above reasons, the EPA should take final action to implement these proposed WQS.

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Attachments:

Attachment 1: Barbara L. Harper & Deward E. Walker Jr., Columbia Basin Heritage Fish Consumption Rates, Human Ecology (2015);
Attachment 2: Barbara L. Harper & Deward E. Walker Jr., Comparison of Contemporary and Heritage Fish Consumption Rates in the Columbia River Basin Human Ecology (2015).

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Columbia Basin Heritage Fish Consumption Rates

Barbara L. Harper & Deward E. Walker

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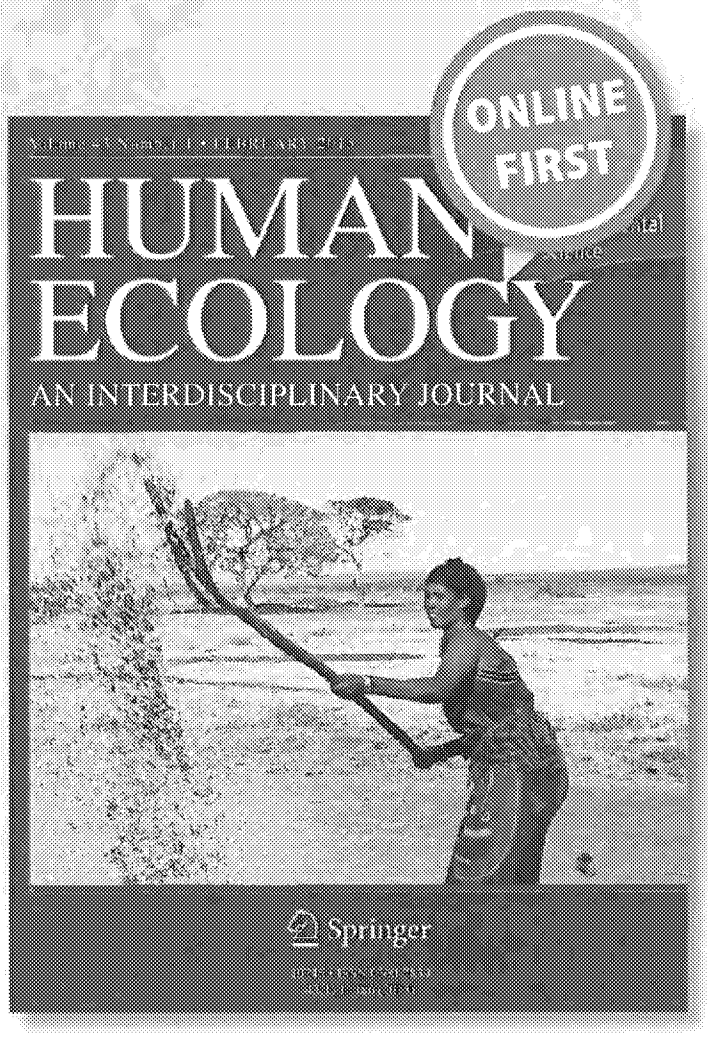

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Columbia Basin Heritage Fish Consumption Rates

Barbara L. Harper · Deward E. Walker Jr.

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Abstract The distinction between contemporary Native American fish consumption rates and original baseline heritage rates is important as heritage rates have long been recognized as a baseline relevant to the fishing tribes of the Pacific Northwest, and are generally protected by Treaties and case law. This paper reviews two approaches to accurately defining heritage fish consumption rates in the Columbia Basin. One approach is dietary reconstruction based on several lines of evidence (ethnographic, archaeological, historical ecology, nutritional) to estimate overall dietary composition and the caloric contribution of fish, especially salmon. The second approach is review of abundance, harvest, and consumption rates augmented with ethnographic and archaeological evidence over the same geographical area. The two methods independently arrive at the same range for heritage rates, and the wealth of evidence that has accumulated over 75 years of investigation suggests that these are robust conclusions.

Keywords Fish consumption rates · Heritage consumption rates · Columbia Basin · Columbia River · Pacific Northwest · Native American · Ethnographic surveys

The Concept of Heritage Fish Consumption Rates

The primary exposure parameter for evaluating human health risk from contaminants in fish is a daily fish consumption rate, generally expressed as grams per day (gpd). Contemporary fish consumption rates are required if the goal is to understand current risks in order to design immediate intervention strategies such as fish advisories. However, if the goal is to protect Treaty rights or to understand what the human health risks would be if people ate fish as if they were uncontaminated (i.e., assuming that there are no impediments or restrictions on resource use), then a baseline or unrestricted fish consumption rate is needed. More specifically, if the regulatory goal is to improve water quality in order to protect the health of Native Americans whose traditional diets include fish, then the appropriate rate is an unrestricted traditional amount of fish consumption. The objective of the Clean Water Act is to "is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters," thereby making greater amounts of fish safe to consume, so the policy question is where to base water quality standards along the gradient of contemporary suppressed rates to full heritage rates. The scientific question is how to verify the most accurate baseline traditional fish consumption rates.

Baseline traditional fish consumption rates are more appropriately termed heritage or rights-based rates. The concept of the heritage rate has been confirmed as a treaty-reserved rate through many court cases (Newell 1993; Ulrich 1999; O'Neill 2000, 2013; NEJAC 2002). The right to consume heritage amounts of fish extends to all members of a treaty tribe even if current circumstances prevent most from doing so. It is important to emphasize that tribes are not just communities of subsistence consumers or groups of more sensitive subpopulations; they are governments with treaty-protected rights to preserve their health and cultural practices, including eating fish at traditional rates. Treaties remain in force and are relevant to contemporary regulatory decision processes.

The initial methodology for obtaining fish consumption data was published as guidance for conducting contemporary fish consumption surveys (USEPA 1989, 1992, 1998, 2000,

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2011; Moya 2004) and assumed that the only information to be established is how much fish people are eating at present. Although many riverine and coastal tribes still eat more fish than the general population, contemporary fish consumption rates are nevertheless suppressed (O'Neill 2000, 2013; Donatuto and Harper 2008) due to habitat degradation, dams, and land development, as well as contaminant levels in fish that require fish advisories in order to protect human health. Thus, surveys of contemporary fish consumption rates may only confirm that fisheries are currently impaired or that people are heeding applicable fish advisories. The largest contemporary survey in the middle Columbia Basin, the Columbia River Inter-Tribal Fish Commission (CRITFC), surveyed four Native American tribes in 1991–1992 and found that the annual mean fish (all finfish) consumption rate for tribal adults (consumers and non-consumers) was 58.7 gpd. Excluding non-consumers of fish (7 % of surveyed adults), the mean fish consumption rate for surveyed tribal adult fish consumers was 63.7 gpd. The 95th percentile was 170 gpd and the 99th percentile was 389 gpd, and data from the highest consumers were considered outliers and eliminated from the analysis (CRITFC 1994). Reviewing two approaches to establishing baseline heritage fish consumption rates for the Columbia River Basin we show that even the contemporary 99th percentile of the CRITFC survey is lower than the average heritage rates for the Columbia River Basin.

There is a long history of dietary reconstruction in the fields of ethnobiology and nutritional anthropology that provides reasonable and supportable numerical descriptions of heritage food consumption. This work has generally taken one of two approaches: (1) reconstruction of the entire diet to ascertain the role of individual resources such as fish within the context of total caloric and other nutritional needs, generally at a level of detail approximating a food pyramid; or (2) evaluation of a specific resource abundance to ascertain harvest or catchment quantities relative to the amount consumed, traded, or used for other purposes, along with estimates of the population size that could be supported by that quantity of the resource. There are enough data for the Columbia Basin to support both approaches in a manner that is repeatable, verifiable, peer-reviewed, and corroborated by a variety of measures.

Approaches to Dietary Reconstruction

Due to the length of time that tribal fisheries and fish consumption have been blocked or impaired, most heritage rates must be determined through a multi-disciplinary approach that examines a broad range of evidence collected over almost a century. To some extent, contemporary statistical or ethnographic surveys of traditional peoples can inform the derivation of a true heritage rate if the people in question continue to use large parts of their traditional territory for subsistence (Wolfe and Walker 1987; Berkes 1979, 1983, 1990; Berkes *et al.* 1995). But because indigenous fishing was severely impaired by missionaries, laws, fences, assault, and arrest for many generations, personal knowledge of how much fish constitutes a heritage rate has diminished, so heritage rates cannot be determined by asking people what they remember eating as a child or to speculate about how much fish they would like to eat. However, traditional knowledge can help identify species consumed and provide information about their relative importance.

The field of ethnobiology describes general patterns of natural resource use (Anderson 2011) drawing on archaeology, anthropology, ecology, linguistics, nutrition, geology, and many other fields (Kelly 1986, 1995; Anderson 2011). Diets (nutritional requirements and energy budgets) have been a focus of hunter-gatherer studies for over five decades (Jenicke 2001; Boone 2002) and many investigators have reviewed and synthesized information on diet, physical activity and health of hunter-gatherers around the world (e.g., Lee et al. 1968; Winterhalder 1981; Cohen and Armelagos 1984; Cohen 1989; Kelly 1995;, Kuhnlein and Receveur 1996; Kuhnlein *et al.* 1996, 2006; Eaton *et al.* 1997).

A subset of this literature uses foraging theory models that are based on the premise that foragers' decisions are made in order to maximize short-term energy return rates while foraging. In general, labor cost is attained by multiplying minutes spent in a certain activity (e.g., paddling a canoe or digging roots) by standardized measures of energy expenditure from published sources (calorimetry measurement for various activities adjusted for age, weight, and gender). These methods map real non-random subsistence movement across actual landscapes and account for climate variation, knowledge of resource locations and real-time decisions based on needs and local annual conditions, seasonality, species variation, and kinship and trade relationships (Walker 1967).

Ethnobiology research into traditional diets encompasses a wide range of older ethnographic studies, ethnohistory, first-hand historical accounts, archaeology, food sale/purchase records, ecological history, geospatial history (maps, place names; Walker 1993a,b, 2010), family names, oral history, and data about nutrition, paleo-medicine, isotope analysis, and DNA analysis. This range of data can come together in a "convergence of several lines of evidence" (Trigger 1986; White 1999; Galloway 2006). For example, direct observations of fish harvest numbers, numbers of people splitting the harvest, family size, patterns of trade and sharing and other socio-cultural information can be cross-checked with biomedical information about grams of protein per fish and dietary recommendations for calories and nutrients, and further compared to archaeological evidence of nutritional adequacy from examination of skeletal remains and village sites and of seasonal abundance.

In the Pacific Northwest, anthropologists and archaeologists have long recognized Pacific salmon as the crucial food

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resource that underpinned the complex foraging cultures of the Northwest Coast of North America, equivalent to the bison on the Plains, wild rice or *manoomin* in northern areas, maize and beans in the Southwest, and corn, beans and squash in the eastern woodlands (Coupland *et al.* 2010). As new faunal evidence continues to accumulate, it is increasingly clear that use of salmon was very highly specialized and was a critical component of the 'Developed Northwest Coast Pattern.' Indeed, some indigenous peoples on the Northwest Coast were among the most highly resource-specialized hunter–gatherer groups in the world (Coupland *et al.* 2010).

There are a multitude of studies of Pacific Northwest resource use, many of which examine coastal shellfish use. We describe a few examples in order to demonstrate the robustness of the data for northwest indigenous groups. Some groups made few moves away from their winter villages because resources were available throughout the year, while other groups employed a series of short-term camps, base camps, and summer, winter, and year-round villages, according to richness, degree of specialization, density, accessibility, reliability, and seasonality of local resources (Lepofsky and Lyons 2003). Middens from some coastal village sites indicate stable occupation for 7,000 to 10,000 years (Carlson 1979, 1998; Anderson 1981; Cannon 1991, 2000; Donald and Mitchell 1996; Cannon *et al.* 1999; Erlandson *et al.* 2008; Canon and Burchell 2009; Burchell *et al.* 2013). Along with archaeological context and ethnographic accounts of salmon species use and preference, seasonality of salmon use has been evaluated through analysis of ancient DNA from Pacific salmon vertebrae along with osteometric measurements such as vertebrae size to unambiguously identify individual salmonid species (Yang *et al.* 2004; Speller *et al.* 2005; Ewonus *et al.* 2011; Grier *et al.* 2013).

The general validity of ethnographic and historical research to quantify overall subsistence diets has been corroborated by modern analytical methods. The natural abundance of stable carbon, nitrogen, sulfur, and oxygen in foods varies as a function of the photosynthetic pathway of the floral food sources, the consumption of animal sources (including the animal source's floral diet), and the incorporation of terrestrial or marine foods in the diet (Hedges *et al.* 2004; Privat *et al.* 2007; Salamon *et al.* 2008). Analysis of both animal or human teeth and bone collagen provides evidence of long-term dietary behaviors.

For example, Jones and Quinn (2009) evaluated prehistoric Fijian diet and subsistence by integrating faunal and ethnographic evidence with stable isotopic analysis of human and animal skeletal material. Salamon and colleagues (2008) studied Mediterranean diets by comparing historical and isotopic results, and Petroutsa and Manolis (2010) examined Bronze Age Greek diets through stable isotope analysis in human and faunal remains combined with documentary and archaeological evidence. White (1999) reconstructed Ancient Mayan diets using multiple methods, including traditional archaeology, paleopathology of human remains, paleoecology, social chronologies, and isotopic and elemental analysis. Oeggl and colleagues (2007) reported on the isotopic analysis of strontium, lead, and oxygen in the Iceman's (O'tzi's) teeth that confirmed his place of origin and early childhood, while his last few days were described through analyses of pollen and of the food residues in his intestines, which also provided information about historical plant associations. Williams *et al.* (2005) and Benson *et al.* (2007) used oxygen isotopes in cellulose remains to evaluate the seasonality of the water source used for maize cultivation in the Colorado Plateau.

There are no comparable studies in the southern Columbia River Basin, although stable isotopic evidence from the Kennewick Man (a 9000 year old skeleton found along the banks of the Columbia River near Kennewick, WA) indicated that he ate large amounts of salmon and other fish or animals that fed on the anadromous fish-based food chain (Schwarcz *et al.* 2014). Lovell *et al.* (1986) evaluated the historic utilization of migratory salmon by people who lived along the rivers of interior British Columbia by stable carbon isotope analysis of 44 skeletal samples up to 2,000 years old. They concluded that, on average, those groups with easy access to the salmon obtained about one-half to two-thirds of their protein from salmon.

Heritage Rates in the Columbia Basin

For thousands of years and continuing into the living memory of the current generations of tribal members, the Columbia Basin has been extremely productive and has supported large populations of people. Ethnohistory of the Columbia Basin includes reports of Lewis and Clark and other explorers, settlers, naturalists, artists and photographers, trappers, traders, missionaries, and early ethnographers (Krech 1991). The zone on the Columbia River around the Dalles and Celilo Falls was over many millennia a major trade center for fresh and dried salmon for many tribes (Anastasio 1985; Walker 1992; Boyd 1996). When Lewis and Clark explored the region in the early nineteenth century, huge numbers of salmon returned to spawn every year (Thwaites 1905). At that time, the Columbia and its tributaries provided 12,935 miles of pristine river habitat with abundant spawning areas (Craig and Hacker 1940).

Archaeological data extend the time scale of human resource use in the Columbia Basin back 10,000 years or more, illuminating how indigenous cultures evolved and how the climate and various food sources changed over time (Walker 1967; Cressman 1977; Marshall 1977; Northwest Power Planning Council (NPPC) 1986; Schalk 1986; Hunn 1990; Hewes 1998; Trosper 2002; Lyman 2003; Davis 2007; Gresh 2007 citing Ames and Marshall 1980). Some of the earliest evidence for aboriginal use of salmon has been found at major

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rapids and falls, such as Five-Mile Rapids (Long Narrows) on the Columbia River near The Dalles, Oregon, and Kettle Falls/ Spokane Valley (Cressman 1977; Schalk 1986). Salmon vertebrae have been recovered from The Dalles that are up to 10, 000 years old (Butler and O'Connor 2004), and from Kettle Falls from 7,000–9,000 years old. Large seasonal fisheries at Kettle Falls (northern Washington state) were reported to support eight tribes (Walker 1967), with equally large or larger numbers at the Dalles and Celilo Falls.

Peoples of the Pacific Northwest were fishing societies with unusually high population densities, complex social organization, large villages, and other features ordinarily found only among agricultural peoples (Ray 1939, 1977; Ames and Marshall 1980; Schalk 1986). Unlike the Euroamerican commercial fisheries that developed in the latter nineteenth century, the Native American fisheries were dispersed over thousands of rivers, streams, and creeks of the Columbia River watershed (Schalk 1986) in a single overall social and economic system (Schwede 1966, 1970; Walker 1967, 1993a, b, 1998, 2010; Anastasio 1985). As reported by Scholz *et al.* (1985), "Indian fishing activity was spread throughout the Columbia Basin and salmon fishing was as important to upriver tribes as it was to the lower river tribes on both the Snake and Columbia Rivers." In addition to the major harvest areas, many other fishing sites also were noted by Lewis and Clark and other early explorers, trappers, and traders, and included falls, spawning, and passage areas (Swindell 1942).

Salmon and steelhead were a major staple food, eaten fresh for as much as 6 months of the year and dried or smoked to store for the lean winter months, as well as used as a flavoring, thickener, and in other forms (Hunn 1990). The quantitative importance of salmonids in aboriginal subsistence varied from area to area within the Columbia drainage, but there was some degree of dependence upon salmon in virtually all areas of the Basin that provided accessible spawning habitat. Resident fish (sturgeon, suckers, whitefish, others) were also readily available. More broadly, the salmon fisheries from northern California (Hewes 1947, 1973; Baumhoff 1963; McEvoy 1986) northward through British Columbia and Alaska have provided sustained yields for at least several thousand years (Newell 1993; Trosper 2002).

There is a general consensus that fish, particularly salmon, formed from one-third to one-half of the food supply of Columbia Basin tribes (Walker 1967; Hunn 1981, 1990; Anastasio 1985; Hewes 1998). This amount falls in the range of 700–1000 kcal/day per person based on a total of 2000–2500 kcal/day, or approximately 600–850 gpd (1.3 to 1.8 lbs/ day) assuming 117 kcal/100 g of smoked chinook salmon (http://ndb.nal.usda.gov/ndb/foods/show/4532). If salmon supplied one-third to one-half of the daily protein, based on a recommendation of 50 g protein/d (http://www.cdc.gov/ nutrition/everyone/basics/protein.html) and assuming 19 g protein/100 g of smoked chinook salmon, then a much smaller amount of salmon would have supplied adequate protein, provided that the caloric difference was replaced by much larger quantities of *Lomatium* roots, the other major staple (Hunn 1981).

Per Capita Fish Consumption – Early Estimates Through 1974

There have been many estimates of total salmonid abundance, harvest, and/or consumption for different tribal groups within the Columbia Basin and throughout the entire salmon region from California to Alaska (Craig and Hacker 1940; Griswold 1953; Baumhoff 1963; Walker 1967, 1993a,b, 2010; Hewes 1973; Scholz *et al.* 1985; Schalk 1986; NPPC 1986; Lichatowich 1999; Finney *et al.* 2000; Gresh *et al.* 2000; Meengs and Lackey 2005; Davis 2007).

Gresh *et al.* (2000) estimated the historic biomass of salmon returning annually to the Pacific Northwest (Washington, Oregon, Idaho, and California) to be 350 to 500 million pounds. More recently Meengs and Lackey (2005) estimated the annual aboriginal harvest to have been about 10 million pounds per year, or 1.75 to 5.36 million fish of all anadromous species. The NPPC (1986) estimated that average annual salmon runs before development of the basin ranged from about 10 to 16 million fish. Commercial harvests of spring, summer, and fall chinook salmon, not including aboriginal harvest, reached an all-time high of nearly 43 million pounds in 1883, and varied between 17 and 37 million pounds between 1890 and 1920 (Fulton 1968, 1970). Chapman (1986) estimated peak-period commercial catches from mean catch weights during the five consecutive years of greatest total harvest, and from mean weights of fish reported in the early literature. These catches were 1,700,000 summer chinook salmon (1881–1885), 382, 000 steelhead (1892–1896), 1,100,000 fall chinook salmon (1915–1919), 400,000 spring chinook salmon, 476,000 coho salmon (1894–1898), 1,915,000 sockeye salmon (1883–1887), and 359,000 chum salmon (1915–1919).

Most of the earlier authors who considered per capita fish consumption rates assumed 2000 calories per day as the total human requirement. The earliest catch and consumption estimates, developed by Craig and Hacker (1940), posited an average annual per capita consumption rate of 365 lb (1 lb/ day or 454 gpd) for the entire region. Hewes (1947, 1973), using ethnographic data from central California to Alaska and the Yukon estimated a total annual salmon catch of 127,775, 800 lb for the entire area based on a human requirement of 2, 000 kcal/day and 900 kcal/lb of salmon. Within the Columbia Basin, Hewes' estimates of per capita consumption range from 50 to 100 lb on the uppermost reaches of Columbia River tributaries, to 500–600 lb on Columbia River mainstem fisheries, with some areas even higher (Table 1).

In 1974, Judge George Boldt reaffirmed the right of most Washington tribes to act as "co-managers" of salmon

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Table 1 Aboriginal fish consumption rate estimates. All units are per capita consumption in pounds/year, as originally reported. gpd = grams per day

Native group or tribe	Hewes 1947, 1973	Adjusted for calorie loss and waste. Schalk 1986	Walker 1985 as cited in Scholz *et al.* (1985)	Other
Klickitat, Yakama, Wanapum, Wishram, Palouse	400	863	1200 of which 900 are anadromous salmonid	
Tenino Umatilla Walla Walla	500	744	1000 of which 750 are anadromous salmonid	
Cayuse	365	564	Not discussed separately	
Wenatchi, Sinkiuse, Methow, Nespelem, Sanpoil. Colville	500	976	1200 of which 1080 are anadromous salmonid	Walker 1967 adjusted Hewes to 950; Scholz adjusted Hewes to 976
Spokane	500	976	Scholz *et al.* (1985)=948 Walker 1967 = 965 Walker 1985=1080 (1200 of which 1080 are anadromous salmonid)	Harper *et al.* (2002)=865 gpd
Kalispel, Coeur d'Alene,	100	219	Scholz *et al.* (1985)=658; Walker 1967=584; Walker 1985=750 (1000 total fish of which 750 are anadromous salmonid)	
Pend d'Oeille, Flathead	100	219	Walker 1985=400 (800 total fish of which 400 are anadromous salmonid)	
Okanagon, Lakes	500	1250	Walker 1985=1000 total fish of which 750 are anadromous salmonids	
Kutenai	300	481	Scholz *et al.* (1985)=658 Walker 1967 = 584 Walker 1985=900 (1000 of which 900 are salmonid, and the rest resident fish)	Scholz *et al.* (1985) 300–365; Walker 1967 adjusted Hewes to 584 Walker; Scholz adjusted Hewes to 982.
Nez Perce	300	646	Walker 1985=1000 total fish of which 900 are anadromous salmonid	Walker 1967 = 582 as cited by Hunn 1990 Table 13, the median for Plateau tribes.
Bannock, Northern Paiute, Northern Shoshone	50	179	Shoshone Paiute=400 total fish of which 300 are anadromous salmonids; Shoshone Bannock=800 total fish of which 600 are anadromous salmonids	Walker 1993a, b Shoshone-Bannock Minimum river use average 64 lbs/year Median river user. 282 lbs/year
Average Columbia-Fraser Plateau	365 or 438			Walker 1967 says the average may be 365 lbs but the median (583 lbs.) should be used as more realistic, with a range from 365 to 800 lbs.

Hewes 1947, 1973 labels his tables as consumption (based on population size and calories)

Schalk 1986 cites Hewes table as being catch as well as consumption. Schalk adjusts for migration calorie loss as well as for waste (citing Hunn 1981 that 80 % of the weight of the fish is edible). The total catch would have been larger for dog food and trade with some use for fuel

Walker 1985 as cited by Scholz is labeled consumption, not catch

alongside the State, and to continue to harvest them (*United States v. Washington*, 384 F. Supp. 312). Forty-nine academic and tribal experts testified to the importance of salmon and the amounts caught and eaten. The court cited 500 lb per capita as a reasonable amount for salmon consumption on the Columbia River mainstem, in addition to recognizing that resident species were eaten in addition to anadromous species.

Per Capita Consumption—Improved Estimates

Estimates of Native American fish consumption have continued to improve through the recognition that a primary stimulus to extensive Plateau travel was the quality of salmon at different points on the Columbia River. Although the flesh of salmon is rich and oily in the lower reaches of the river, it becomes less so as they ascend the river since they do not feed during the spawning runs, and expend much energy on the long journey, thus making fishing and trading more attractive in the Celilo area, as well as available earlier in the season. Most Native informants are well aware of this and have different words for salmon quality at various locations (Walker 1967). The indigenous inhabitants selected specific salmon for different purposes; those taken earlier in the spawning run were used for food, fuel, preservation by smoking, making pemmican, and immediate trade, while salmon with lower oil content were easier to air-dry for longer term storage or lighter

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in weight to carry; different species might be selected for feeding dogs or for other reasons (Walker 1967, 1997).

Two authors (Walker and Hunn) have conducted original and intensive ethnographic field research regarding fish consumption rates, and others (Scholz and Schalk, among others) have compiled and evaluated consumption rates and other evidence. There is agreement that Hewes' total harvest estimates were too low (Walker 1967; Hunn 1981; Walker 1985 as cited in Scholz *et al.* 1985, Schalk 1986; NPPC 1986) because he assumed a caloric content for salmon throughout the entire region based upon fish as they enter freshwater in prime condition. As reported by the Northwest Power Planning Council (1986), a general average per capita consumption rate of 500 lb per capita is a reasonable estimate, but "the total annual per capita estimate for fish consumed rises significantly when a migration calorie-loss factor is included." Several authors have adjusted Hewes' estimates to account for the fact that salmonids lose up to 75 % of their caloric content during migration to the furthest spawning grounds (Idler and Clemens 1959; Hunn 1981) based on the distance traveled upstream (Table 1). Schalk (1986) also concluded that increasing the Hewes per capita estimates was more consistent with the ethnographic and ethnohistoric data.

For the Dalles region, Walker (1967, 1986) raised the Craig and Hacker and Hewes estimates of 365 to 500 lb per capita per year based on river miles and calorie loss. Walker also states that, in light of the known annual dietary dependence on fish among indigenous societies of the Plateau, it seems reasonable to conclude that the Plateau fish consumption range was between 365 and 800 lbs. per capita with the annual average probably close to 583 lbs or 725 gpd.[1]

Conclusion

The approach of dietary reconstruction, augmented with a large variety of ethnographic, archaeological, and biomedical data, and the approach of evaluating abundance and harvest data, augmented with population estimates and migratory calorie loss both support a range of 500 to 583 lb per capita per year (620 to 725 gpd) as the average heritage rate for the Columbia River mainstem. This convergence of conclusions by multiple authors reflects the robustness of the data.

The data compiled for this paper also show that heritage fish consumption rates for the 15 tribes located within the Columbia River watershed are substantially higher than contemporary averages. The average contemporary fish consumption rate for the four CRITFC Tribes is roughly 10 times lower than the amount eaten by some of today's traditional fishermen (540 gpd, from Harris and Harper 2007), the adjudicated rate of 620 gpd, and the 725–1000 gpd estimated by Walker (1985). The 99th percentile of contemporary consumption (389 gpd) measured in the CRITFC study is still somewhat less than the lower end of the documented range of average traditional fish consumption (454 gpd or 1 lb per day).

These methods have also been supported by the US Environmental Protection Agency (USEPA), which approved the Spokane Tribe's water quality standards in 2013 using their heritage fish consumption rate of 865 gpd (Harper *et al.* 2002), the only tribe thus far using a full heritage rate. As acknowledged by USEPA in the letter approving the Spokane Tribe's standards, the methodology for using multiple lines of evidence including both dietary reconstruction and estimates of abundance near the Tribe's location to determine heritage rates are valid and protective of the Spokane Tribe's traditional lifestyle (USEPA 2013).

This review describes the range of traditional fish consumption rates and provides general estimates that are reasonable, supportable, and (through the Boldt decision) already adjudicated. Additionally, these catch estimates have been used by the federal government and courts to calculate the amount of salmon lost due to dam construction. Further considerations for more localized estimates would be selection of a salmon-only or an all-fish (or finfish plus shellfish) value, and whether the particular application requires a basin-wide average or a tribe-specific value that might require additional intensive research. It is our recommendation that deriving a single heritage fish consumption rate for a large area that includes a wide range of salmon habitats (e.g., Columbia River mainstem, or major and minor tributaries) be considered very carefully, although a supportable default assumption for the entire Columbia Basin is in the range of 500 to 583 pounds per capita per year.

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B Harper. *Heritage or Rights-Based Fish consumption Rates in the Columbia Basin.* 2013 Tribal Leaders Summit, October 7–11, 2013. Northern Quest Resort & Casino, Spokane WA. Invited presentation, posted at http://tels.kalispeltribe.com/

[1] Scholz *et al.* (1985:73) comment, "Walker (1967) estimated that the average annual per capita consumption for the Columbia Basin Tribes was 584 pounds. We deliberately used Hewes' [lower] figures to maintain a conservative bias in developing our estimation of consumption, even though Walker's figures are likely more accurate."

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References

[CRITFC] Columbia River Inter-Tribal Fish Commission (1994). A Fish Consumption Survey of the Umatilla, Nez Perce, Yakama, and Warm Springs Tribes of the Columbia River Basin. Technical Report no. 94–3. Columbia River Intertribal Fish Commission, Oregon. Abstract posted at: http://www.critfc.org/reports/a-fish-consumption-survey-of-the-umatilla-nez-perce-yakama-and-warm-springs-tribes-of-the-columbia-river-basin/.

[NPPC] Northwest Power Planning Council. (1986). Compilation of information on salmon and steelhead total run size, catch, and hydropower related losses in the upper Columbia River Basin, above Grand Coulee Dam. Upper Columbia United Tribes Fisheries Technical Report #2 http://www.nwcouncil.org/reports/1985/ucut-fisheries-technical-report/ Last accessed 10/20/14.

[USEPA] US Environmental Protection Agency. (1989). Assessing Human Health Risjs fro Chemically Contaminated Fish and Shellfish: A Guidance Manual. EPA-503/8-89-002. Available online from http://nepis.epa.gov/EPA/ Last accessed 10/20/14.

[USEPA] US Environmental Protection Agency. (1992). Consumption Surveys for Fish and Shellfish: A Review and Analysis of Survey Methods. EPA 822/R-92-001. Posted at http://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=20003KQE.PDF Last accessed 10/20/14.

[USEPA] US Environmental Protection Agency. (1998). Guidance for Conducting Fish and Wildlife Consumption Surveys. EPA-823-B-98-007. EPA Office of Water, November 1998. Posted at http://water.epa.gov/scitech/swguidance/fishshellfish/techguidance/upload/1999_11_03_fish_survey methods.pdf Last accessed 10/20/14.

[USEPA] US Environmental Protection Agency. (2000). Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health. http://water.epa.gov/scitech/swguidance/standards/criteria/health/methodology/ Last accessed 10/20/14.

[USEPA] US Environmental Protection Agency. (2011). Exposure Factors Handbook 2011 Edition (Final). USEPA National Center for Environmental Assessment, Office of Research and Development EPA/600/R-09/052F. http://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=236252. First published in 1989 and later updated in 1997. Last accessed 10/20/14.

[USEPA] US Environmental Protection Agency, Region 10. Correspondence to The Honorable Rudy People, Chairman of the Spokane Tribe of Indians, from Danial Opalski, Director, Office of Water and Watersheds, December 19, 2013. http://www.epa.gov/region10/pdf/water/wqs/spokane_cover_letter_TSD_Dec192013.pdf Last accessed 10/20/14.

Ames, K. M., and Marshall, A. G. (1980). Villages, Demography and Subsistence Intensification on the Southern Columbia Plateau. North American Archaeologist 2: 25–52.

Anastasio, A. (1985). The Southern Plateau: An Ecological analysis of Intergroup Relations. Northwest Anthropology Research Notes (no citation). Second textbook edition, University of Idaho: Revised from Northwest Anthropological Research Notes 6: 109–229, 1972.

Anderson, A. J. (1981). A Model of Prehistoric Collecting on the Rocky Shore. Journal of Archaeological Science 8: 109–120.

Anderson, E. N. (2011). Ethnobiology: Overview of a Growing Field. In Anderson, E. N., Pearsall, D., Hunn, E., and Turner, N. (eds.), Ethnobiology. Wiley-Blackwell, Hoboken, pp. 1–14.

Baumhoff, M. A. (1963). Ecological determinants of aboriginal California populations. University of California Publications in American Archaeology and Ethnology 49(2): 155–236. Berkeley: University of California Press.

Benson, L. V., Berry, M. S., Jolie, E. A., Spangler, J. D., Stahle, D. W., and Hattori, E. M. (2007). Possible Impacts of Early-11th-, Middle-12th-, and Late-13th-Century Droughts on Western Native Americans and the Mississippian Cahokians. Quaternary Science Reviews 26: 336–350.

Berkes, F. (1979). An Investigation of Cree Indian Domestic Fisheries in Northern Quebec. Arctic 32(1): 46–70.

Berkes, F. (1983). Quantifying the Harvest of Native Subsistence Fisheries. In Wein, R. W., Riewe, R. R., and Methven, L. R. (eds.), Resources and Dynamics of the Boreal Zone. Association of Canadian Universities for Northern Studies, Ottawa, pp. 346–363.

Berkes, F. (1990). Native Subsistence Fisheries: A Synthesis of Harvest Studies in Canada. Arctic 43(1): 35–42.

Berkes, F., Hughes, A., George, P. J., Preston, R. J., Cummins, B. D., and Turner, N. J. (1995). The Persistence of Aboriginal Land Use: Fish and Wildlife Harvest Areas in the Hudson and James Bay Lowland, Ontario. Arctic 48(1): 81–93.

Boone, J. L. (2002). Subsistence Strategies and Early Human Population History: an Evolutionary Ecological Perspective. World Archaeology 34(1): 6–25.

Boyd, R. (1996). People of The Dalles: The Indians of Wascopam Mission. University of Nebraska Press, Lincoln.

Burchell, M., Cannon, A., Hallmann, N., Schwarcz, H. P., and Schöne, B. R. (2013). Inter-Site Variability in the Season of Shellfish Collection on the Central Coast of British Columbia. Journal of Archaeological Science 40: 626–636.

Butler, V. L., and O'Connor, J. E. (2004). 9000 Years of Salmon Fishing on the Columbia River, North America. Quaternary Research 62(1): 1–8.

Cannon, A. (1991). The Economic Prehistory of Namu: Patterns in Vertebrate Fauna. Department of Archaeology, Simon Fraser University, Publication 19. Simon Fraser University, Burnaby.

Cannon, A. (2000). Assessing Variability in Northwest Coast Salmon and Herring Fisheries: Bucket-Auger Sampling of Shell Midden Sites on the Central Coast of British Columbia. Journal of Archaeological Science 27: 725–737.

Cannon, A., Schwarcz, H. P., and Knyf, M. (1999). Marine-Based Subsistence Trends and the Stable Isotope Analysis of Dog Bones from Namu, British Columbia. Journal of Archaeological Science 26: 399–407.

Canon, A., and Burchell, M. (2009). Clam Growth-Stage Profiles as a Measure of Harvest Intensity and Resource Management on the Central Coast of British Columbia. Journal of Archaeological Science 36: 1050–1060.

Carlson, C. C. (1979). The Early Component at Bear Cove. Canadian Journal of Archaeology 3: 177–194.

Carlson, R. (1998). Coastal British Columbia in the Light of North Pacific Maritime Adaptations. Arctic Anthropology 35: 23–35.

Chapman, D. W. (1986). Salmon and Steelhead Abundance in the Columbia River in the Nineteenth Century. Transactions of the American Fisheries Society 115(5): 662–670.

Cohen, M. N. (1989). Health and the Rise of Civilization. Yale University Press, New Haven.

Cohen, M. N., and Armelago, G. J. (eds.) (1984). Paleopathology and the Origins of Agriculture. Academic Press, Orlando.

Coupland, G., Stewart, K., and Patton, K. (2010). Do you Never Get Tired of Salmon? Evidence for Extreme Salmon Specialization at Prince Rupert Harbour, British Columbia. Journal of Anthropological Archaeology 29: 189–207.

Craig, J. A., and Hacker, R. L. (1940). History and Development of the Fisheries of the Columbia River. Bulletin No. 32 in Bulletin of the U. S. Bureau of Fisheries 49: 133–216. Available online at http://docs.lib.noaa.gov/rescue/Fish_Commission_Bulletins/data_rescue_fish_commission_bulletins.html.

Cressman, L. S. (1977). Prehistory of the Far West: Homes of Vanished Peoples. University of Utah Press, Salt Lake City.

Davis, L. G. (2007). Paleoseismicity, Ecological Change, and Prehistoric Exploitation of Anadromous Fishes in the Salmon River Basin,

ED_002388A_00006541-00215

Author's personal copy

Western Idaho, USA. North American Archaeologist 28(3): 233–263.

Donald, L., and Mitchell, D. H. (1996). Nature and Culture on the Northwest Coast of North America: The Case of Wakashan Salmon Resources. In Burch, E. S., and Ellanna, L. J. (eds.), Key Issues in Hunter-Gatherer Research. Berg Publishing, Washington, D.C, pp. 95–117.

Donatuto, J., and Harper, B. L. (2008). Issues in Evaluating Fish Consumption Rates for Native American Tribes. Risk Analysis 28(6): 1497–1506.

Eaton, S. B., Eaton, S. B., and Konner, M. J. (1997). Paleolithic Nutrition Revisited: A Twelve-Year Retrospective on its Nature and Implications. European Journal of Clinical Nutrition 51: 207–216.

Erlandson, J. M., Moss, M. L., and Des, L. M. (2008). Life on the Edge: Early Maritime Cultures of the Pacific Coast of North America. Quaternary Science Reviews 27: 2232–2245.

Ewonus, P. A., Cannon, A., and Yang, D. Y. (2011). Addressing Seasonal Site Use Through Ancient DNA Species Identification of Pacific Salmon at Dionisio Point, Galiano Island, British Columbia. Journal of Archaeological Science 38: 2536–2546.

Finney, B. P., Gregory-Eaves, I., Sweetman, J., Douglas, M. S. V., and Smol, J. P. (2000). Impacts of Climatic Change and Fishing on Pacific Salmon Abundance Over the Past 300 Years. Science 290: 795–799.

Fulton, L. A. (1968). Spawning areas and abundance of Chinook salmon (*Oncorhynchus tshawytscha*) in the Columbia River Basin – past and present. U.S. Fish and Wildlife Service Special Scientific Report: Fisheries, No. 571.

Fulton, L. A. (1970). Spawning areas and abundance of steelhead trout and coho, sockeye, and chum salmon in the Columbia River Basin – past and present. National Oceanic and Atmospheric Administration Special Scientific Report: Fisheries No. 618.

Galloway, P. (2006). Practicing Ethnohistory: Mining Archives, Hearing Testimony, Constructing Narrative. University of Nebraska Press, Lincoln, NE.

Gresh, T., Lichatowich, J., and Schoonmaker, P. (2000). An Estimation of Historic and Current Levels of Salmon Production in the Northeast Pacific Ecosystem: Evidence of a Nutrient Deficit in the Freshwater Systems of the Pacific Northwest. Fisheries 25(1): 15–21.

Grier, C., Flanigan, K., Winters, M., Jordan, L. G., Lukowski, S., and Kemp, B. M. (2013). Using Ancient DNA Identification and Osteometric Measures of Archaeological Pacific Salmon Vertebrae for Reconstructing Salmon Fisheries and Site Seasonality at Dionisio Point, British Columbia. Journal of Archaeological Science 40: 544–555.

Griswold, F. (1953). Aboriginal patterns of trade between the Columbia Basin and the Northwest Plains. M.A. Theses, Montana State University, Missoula, MT.

Harper, B. L., Flett, B., Harris, S., and Abeyta, K. F. (2002). The Spokane Tribe's Multipathway Subsistence Exposure Scenario and Screening Level RME. Risk Analysis 22: 513–526.

Harris, S. G., and Harper BL. (1997). A Native American Exposure Scenario. Risk Analysis 17: 789–795.

Hedges, R. E. M., Stevens, R. E., and Richards, M. P. (2004). Bone as a Stable Isotope Archive for Local Climatic Information. Quaternary Science Reviews 23: 959–965.

Hewes, G. W. (1947). Aboriginal use of fishery resources in northwestern North America. Doctoral dissertation, University of California Berkeley.

Hewes, G. W. (1973). Indian Fisheries Productivity in pre-Contact Times in the Pacific Salmon Area. Northwest Anthropological Research Notes 7(2): 133–155.

Hewes, G. W. (1998). Fishing. In Walker Jr., D. E. (ed.), Handbook of North American Indians, Volume 12: Plateau. Smithsonian Institution, Washington, DC, pp. 620–640.

Hunn, E. S. (1981). On the Relative Contribution of Men and Women to Subsistence Among Hunter-Gatherers of the Columbia Plateau: A Comparison With Ethnographic Atlas Summaries. Journal of Ethnobiology 1(1): 124–134.

Hunn, E. S. (1990). NCh'i-Wana, The Big River: Mid-Columbia Indians and Their Land. University of Washington Press, Seattle.

Idler, D. R., Clemens, W. A. (1959). The energy expenditure of Fraser River sockeye salmon during the spawning migration to Chilko and Stuart Lakes. Internation Pacific Salmon fisheries Commission, Progress report No. 6, New Westminster, British Columbia.

Jenicke, M. R. (2001). Nutritional ecology: Diet, Physical Activities, and Body Size. In Painter-Brick, C., Layton, R. H., and Rowley-Conwy (eds.), Hunter-gatherers: and Interdisciplinary Perspective. Cambridge University Press: New York and Cambridge UK, pp. 205–238

Jones, S., and Quinn, R. L. (2009). Prehistoric Fijian Diet and Subsistence: Integration of Faunal, Ethnographic, and Stable Isotopic Evidence from the Lau Island Group. Journal of Archaeological Science 36: 2742–2754.

Kelly, K. (1986). Navajo Land Use: An Ethnoarchaeological Study. Academic, Orlando, FL.

Kelly, R. L. (1995). The Foraging Spectrum: Diversity in Hunter-Gatherer Lifeways. Smithsonian Press, Washington DC.

Krech, S. (1991). The State of Ethnohistory. Annual Review of Anthropology 20: 345–375.

Kuhnlein, H. V., and Receveur, O. (1996). Dietary Change and Traditional Food Systems of Indigenous Peoples. Annual Review of Nutrition 16: 417–442.

Kuhnlein, H. V., Soueida, R., and Receveur, O. (1996). Dietary Nutrient Profiles of Canadian Baffin Island Inuit Differ by Food Source, Season, and Age. Journal of the American Dietetic Association 96(2): 155–162.

Kuhnlein, H. V., Smitasiri, S., Yesudas, S., Bhattacharjee, L., Dan, L., and Ahmid, S. (2006). Documenting Traditional Food Systems of Indigenous Peoples: International Case Studies. Centre for Indigenous Peoples' Nutrition and Environment. McGill University, Toronto. Posted at: http://www.cine.mcgill.ca/documents/manual.pdf.

Lee, R. B., et al. (1968). What Hunters do for a Living, or, How to Make out on Scarce Resources. In Lee, R. B., and DeVore, I. (eds.), Man the Hunter. Aldine, Chicago, pp. 30–42.

Lepofsky, D., and Lyons, N. (2003). Modeling Ancient Plant Use on the Northwest Coast: Towards an Understanding of Mobility and Sedentism. Journal of Archaeological Science 30: 1357–1371.

Lichatowich, J. (1999). Salmon Without Rivers: A History of the Pacific Salmon Crisis. Island Press, Washington, D.C.

Lovell, N. C., Chisholm, B. S., Nelson, D. E., and Schwarcz, H. P. (1986). Prehistoric Salmon Consumption in Interior British Columbia. Canadian Journal of Archaeology 10: 99–106.

Lyman, R. L. (2003). The Influence of Time Averaging and Space Averaging on the Application of Foraging Theory in Zooarchaeology. Journal of Archaeological Science 30: 595–610.

Marshall, A. G. (1977). Nez Perce social groups: An ecological interpretation. Doctoral dissertation, Washington State University, Pullman WA.

McEvoy, A. F. (1986). The Fisherman's Problem: Ecology and Law in the California Fisheries, 1850–1980. Cambridge University Press, Cambridge.

Meengs, C. C., and Lackey, R. T. (2005). Estimating the Size of Historical Oregon Salmon Runs. Reviews in Fisheries Science 13(1): 51–66.

Moya, J. (2004). Overview of Fish Consumption Rates in the United States. Human and Ecological Risk Assessment 10: 1195–1211.

NEJAC (2002). Fish consumption and environmental justice. USEPA: National Environmental Justice Advisory Council. Posted at http://www.epa.gov/environmentaljustice/resources/publications/nejac/fish-consump-report_1102.pdf.

ED_002388A_00006541-00216

Author's personal copy

Newell, D. (1993). Tangled Webs of History: Indians and the Law in Canada's. Pacific Coast Fisheries. University of Toronto Press, Toronto.

O'Neil, C. (2000). Variable Justice: Environmental Standards, Contaminated Fish, and "Acceptable" Risk to Native Peoples. Stanford Envtl. Law Journal 19, issue 3.

O'Neill, C. (2013). Fishable Waters. American Indian Law Journal 1(2): 181–284.

Oeggl, K., Kofler, W., Schmidl, A., Dickson, J. H., Egarter-Vigl, E., and Gaber, O. (2007). The Reconstruction of the Last Itinerary of "O'tzi", the Neolithic Iceman, by Pollen Analyses from Sequentially Sampled gut Extracts. Quaternary Science Reviews 26: 853–861.

Petroutsa, E. I., and Manolis, S. K. (2010). Reconstructing Late Bronze Age Diet in Mainland Greece Using Stable Isotope Analysis. Journal of Archaeological Science 37: 614–620.

Privat, K. L., O'Connell, T. C., and Hedges, R. E. M. (2007). The Distinction Between Freshwater- and Terrestrial-Based Diets: Methodological Concerns and Archaeological Applications of Sulphur Stable Isotope Analysis. Journal of Archaeological Science 34: 1197–1204.

Ray, V. F. (1939). Cultural Relations in the Plateau of Northwestern America. Publications of the Frederick Webb Hodge Anniversary Publication Fund, Vol. III. Los Angeles.

Ray, V. F. (1977). Ethnic Impact of the events incident to federal power development on the Colville and Spokane Indian reservations. Report prepared for the Confederated Tribes of the Colville Reservation and the Spokane Tribe of Indians, Nespelem, WA. Also cited in Confederated Tribes of the Colville Reservation v. United States, 43 Indian Claims Commission 505: 592–605 (1978).

Salamon, M., Coppa, A., McCormick, M., Rubini, R., Vargiu, R., and Tuross, N. (2008). The Consilience of Historical and Isotopic Approaches in Reconstructing the Medieval Mediterranean Diet. Journal of Archaeological Science 35: 1667–1672.

Schalk, R. F. (1986). Estimating Salmon and Steelhead Usage in the Columbia Basin Before 1850: The Anthropological Perspective. Northwest Environmental Journal 2(2): 1–26.

Scholz, A., O'Laughlin, K., Geist, D., Peone, D., Uehara, J., Fields, L., Kleist, T., Zozaya, I., Peone, T., Teesatuskie, K. (1985). Compilation of information on salmon and steelhead total run size, catch and hydropower related losses in the upper Columbia Basin above Grand Coulee dam. Fisheries Technical Report No. 2. Upper Columbia United Tribes fisheries Center, Eastern Washington University, Cheney, WA.

Schwarcz, H. P., Stafford, T. W., Knyf, M., Chisholm, B., Longstaffe, F. J., Chatters, J. C., and Owsley, D. W. (2014). Stable Isotopic Evidence for Diet and Origin. In Owsley, D. W., and Jantz, R. L. (eds.), Kennewick Man: The Scientific Investigation of an Ancient American Skeleton. Texas A&M University Press, College Station, pp. 310–322.

Schwede, M. L. (1966). An ecological Sstudy of Nez Perce settlement patterns. Masters thesis, Washington State University, Pullman.

Schwede, M. L. (1970). The Relationship of Aboriginal Nez Perce Settlement Patterns to Physical Environment and to Generalized Distribution of Food Resources. Northwest Anthropological Research Notes 4: 129–136.

Speller, C. F., Yang, D. Y., and Hayden, B. (2005). Ancient DNA Investigation of Prehistoric Salmon Resource Utilization at Keatley Creek, British Columbia. Canada Journal of Archaeological Science 32: 1378–1389.

Swindell, E. G. (1942). Report on the Source, Nature, and Extent of the Fishing, Hunting, and Miscellaneous Related Rights of Certain Indian Tribes in Washington and Oregon Together With Affidavits Showing Location of a Number of Usual and Accustomed Fishing Grounds and Stations. United States Department of the Interior, Bureau of Indian Affairs, Branch of Land Services, Portland, Oregon.

Thwaites, R. (1905). Original Journals of the Lewis and Clark Expedition, 1804–1805, vol. 8. Arthur H. Clark Co., New York.

Trigger, B. (1986). Ethnohistory: The Unfinished Edifice. Ethnohistory 33(3): 253–267.

Trosper, R. L. (2002). Northwest Coast Indigenous Institutions That Supported Resilience and Sustainability. Ecological Economics 41: 329–344.

Ulrich, R. (1999). Empty Nets: Indians, Dams, and the Columbia River. University of Oregon Press, Corvallis.

Walker, D. E. (1967). Mutual cross-utilization of economic resources in the Plateau: an example from aboriginal Nez Perce fishing practices. Washington State University Laboratory of Anthropology Report of Investigations No. 41.

Walker, D. E. (1992). Productivity of Tribal Dipnet Fishermen at Celilo Falls: Analysis of the Joe Pinkham Fish Buying Records. Northwest Anthropological Research Notes 26(2): 123–135.

Walker, D. E. (1993a). The Shoshone-Bannock: An Anthropological Reassessment. Northwest Anthropological Research Notes 27(2): 139–160.

Walker, D. E. (1993b). Lemhi Shoshone-Bannock Reliance on Anadromous and other Fish Resources. Northwest Anthropological Research Notes 27(2): 215–250. Use for riverine grouping along with Anastasio.

Walker, D. E. (1997). The Yakama System of Trade and Exchange. Northwest Anthropological Research Notes 31(1-2): 71–95.

Walker, D. E. (1998). Nez Perce. In Walker Jr., D. E. (ed.), Handbook of North American Indians, Volume 12: Plateau, vol. 12. Smithsonian Institution, Washington, DC, pp. 420–438.

Walker, D. E. (2010). Traditional Fishing Practices Among the Northern Shoshone, Northern Paiute, and Bannock of the Duck Valley Indian Reservation: A Progress Report. Journal of Northwest Anthropology 44(1): 53–62.

White, C. D. (1999). Introduction: Ancient Maya diet. Pages ix – xxvii in CD White, ed. Reconstructing Ancient Maya Diet. The University of Utah Press, Salt Lake City.

Williams, D. G., Coltrain, J. B., Lott, M., English, N. B., and Ehleringer, J. R. (2005). Oxygen Isotopes in Cellulose Identify Source Water for Archaeological Maize in the American Southwest. Journal of Archaeological Science 32: 931–939.

Winterhalder, B. (1981). Foraging Strategies in the Boreal Forest: An Analysis of Cree Hunting and Gathering. In Winterhalder, B., and Smith, E. A. (eds.), Hunter-Gatherer Foraging Strategies: Ethnographic and Archaeological Analyses. The University of Chicago Press, Chicago, pp. 66–98.

Wolfe, R. J., and Walker, R. J. (1987). Subsistence Economics in Alaska: Productivity, Geography, and Development Impacts. Arctic Anthropology 24: 56–81.

Yang, D. Y., Cannon, A., and Saunders, S. R. (2004). DNA Species Identification of Archaeological Salmon Bone from the Pacific Northwest Coast of North America. Journal of Archaeological Science 31: 619–631.

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Comparison of Contemporary and Heritage Fish Consumption Rates in the Columbia River Basin

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Abstract Fish consumption rates (e.g., pounds or grams per day (gpd), or meals per week) are used in a variety of regulatory processes such as setting water quality standards. Many Native American tribes eat more fish than the general population, especially in areas such as the Columbia River Basin, which was renowned for abundant fish. However, contemporary fish consumption rates are lower (i.e., they have been suppressed) than baseline heritage rates due to contamination, habitat degradation, loss of access, and legal and physical assault on tribal fishing. Nevertheless, traditional lifestyles are recognized and protected by intergovernmental treaties and/or aboriginal rights. The understanding of heritage rates is gaining importance as tribal cultures are reinvigorated, watersheds are restored, and understanding and respect for tribal lifeways improves. We compare the different methods used to derive Columbia Basin contemporary and heritage fish consumption rates. We highlight the need for caution in selecting a fish consumption rate until the derivation and context of the rate have been considered.

Keywords Fish consumption rates · Columbia Basin · Columbia River · Pacific Northwest · Native American Tribes · Statistical and ethnographic surveys

Introduction

The Clean Water Act, Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and other environmental laws use information about how humans interact with the environment in order to protect human health from excessive risk due to contamination in abiotic and biotic natural resources (Grubbs and Wayland 2000; O'Neill 2013). Human dose and risk are estimated using information about (1) the amount of chemical contamination in the water, fish, or other resource and (2) the degree of humans' exposure to the resource (daily water ingestion, daily fish consumption, or other resource contact rates). General environmental contact rates, including fish consumption rates, are published by the United States Environmental Protection Agency (USEPA) in its Exposure Factors Handbook (USEPA 2011) for various activities (e.g., exercise, sleep, recreation, various types of work), various groups of people (e.g., adults or children), and various routes of exposure (e.g., ingestion, inhalation, or dermal contact) based on studies published in the scientific literature. These studies often evaluate specific aspects of the general U.S. lifestyle and can be based on large data sets. However, for lifestyles with little specific data, such as tribal subsistence lifestyles, entire exposure scenarios including traditional diets must be constructed through original research and/or extrapolation (Harper *et al.* 2007, 2012).

One of the key exposure pathways for Native American and Alaskan Native fishing people is fish consumption. Fish intake is the primary route of exposure to several toxic contaminants, including PCBs and mercury. The primary input parameter for evaluating fish-based human health risk is a daily fish consumption rate. Under the Clean Water Act, USEPA guidance recommends that states and tribes base their water quality criteria first on local data regarding fish consumption practices; second, on data reflecting similar geography or population groups; third, on states' or tribes' own analysis of national data; and, lastly, on the USEPA's national default values (USEPA 2000; California OEHHA 2001).

USEPA's guidance on protecting human health and using fish consumption rates is inconsistent; its national default

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values are generally premised on protecting the 90th percentile (USEPA 2000, 2004a; WA State 2009), the 95th percentile (USEPA 2011: Ch. 10), or the 99th percentile (USEPA 2013a) of an exposure distribution. However, under the Clean Water Act USEPA recommends using average fish consumption rates as defaults (USEPA 2000, 2002:32) rather than upper percentiles. USEPA recommends 17.5 g/day for the general public and sport anglers, and 142.4 g/day for subsistence fishers, "which falls within the range of [contemporary] averages for this group" (USEPA 2000:I-13)

The Concept of Heritage Fish Consumption Rates

In addition to the inconsistency of using average or upper percentiles of contemporary fish consumption the USEPA also fails to distinguish between contemporary and heritage rates. The initial methodology for obtaining fish consumption local data was published as a guide for conducting contemporary fish consumption surveys (USEPA 1989, 1992, 1998) that assumes the only desired information is how much fish people might be eating at the time. Current studies on tribal fish consumption often follow this guide even if they recognize that the baseline fish consumption rate is culturally important and higher than at present (Shilling *et al.* 2014). It is clear that this approach oversimplifies the issue and fails to capture information about fish consumption rates that are more relevant to many tribes, namely, heritage or rights-based rates.

In this paper the term 'heritage fish consumption rates' refers to traditional (baseline) tribal fish consumption rates. The concept of the heritage rate has been confirmed as a Treaty-reserved rate for federally recognized Oregon and Washington Tribes through many court cases (Ulrich 1999; O'Neill 2013). The primary cases are (1) *Boldt:* United States v. Washington, 384 F. Supp. 312 (commonly referred to as the "Boldt decision," after its author, Judge George Boldt); (2) *Rafeedie:* United States v. Washington, 873 F. Supp. 1422 (commonly referred to as the "Rafeedie decision," after its author, Judge Edward Rafeedie); (3) *culverts:* Order on Cross-Motions for Summary Judgment, United States v. Washington, 2007 WL 2437166, and (4) Sohappy v. Smith, 302 F. Supp. 899, among others.

Because these rates were codified in treaties between Pacific Northwest Indian Nations and the United States and affirmed in court cases, they are also referred to as rights-based fish consumption rates, both treaty-based and aboriginal. For this paper, the focus of heritage rate data is on the relatively short time between explorer contact and the signing of treaties (1800–1855), although evidence that indigenous populations relied on salmon for many thousand years prior to this is also summarized. The treaties in the lower Columbia Basin were signed in 1855, and established to right to fish for subsistence.

While the data on heritage rates are derived from over a century of information, heritage rates should not be thought of as "historic" because this implies that no one still eats (or wants to eat) at those rates and that they are not relevant to today's regulatory decision processes. On the contrary, the existence of physical or chemical impediments to spawning does not diminish the underlying treaty right, and the right to eat at a heritage rate is still reserved to all citizens of tribes that signed various treaties. In addition, many tribal fisheries programs are making progress in habitat improvement and dam removal, which is increasing run size in some areas (e.g., the Elwha River and the Umatilla River). Further, many tribal health programs are recommending healthier (i.e., more traditional) diets that often include or are based on heritage fish consumption rates.

Although many tribes eat more fish than the general population, a great deal of data shows that contemporary fish consumption rates are nevertheless suppressed from the traditional 'baseline' fish consumption rates (i.e., the amount of fish that would be consumed if fish were clean, available, and accessible). Suppression can be caused by contamination (advisories), loss of access to fishing sites, and reduced fish populations due to habitat degradation, dams, and land development (Donatuto and Harper 2008; O'Neil 2000). Thus, surveys of contemporary fish consumption rates may only confirm that fisheries are currently impaired or that people are heeding any applicable fish advisories.

The number of tribal members able to obtain the full amount of fish has steadily diminished over time and with the construction of dams. However, the right to eat heritage amounts of fish extends to all members of a tribe even if current circumstances prevent many people from doing so. In fact, some tribal members still have access to adequate numbers of fish and still eat close to heritage rates, particularly as fisheries are improved.

It is clear that setting water quality standards using contemporary suppressed fish consumption rates fails to protect traditional fishing practices, to improve water quality, or to reduce contamination enough to enable tribes to safely eat traditional amounts of fish (Wendee 2013). There are many policy questions that arise because current environmental, social, or infrastructure conditions may not support an original baseline quantity of fish. Identifying the heritage treaty-based baseline fish consumption is a separate question from addressing all the ancillary issues involved in recovering fisheries by removing dams, improving habitat, establishing hatcheries, removing legal obstacles to fishing access, cleaning watersheds so fish advisories are not necessary, and changing laws and regulations. This paper summarizes and compares heritage and contemporary rates and empirically determines the

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original heritage rate, but does not make any policy recommendations.

Applications of Contemporary and Heritage Fish Consumption Rates

Methodology to quantify fish consumption rates includes contemporary statistical surveys and contemporary ethnography to ascertain contemporary rates, and multiple lines of evidence to ascertain heritage rates. Each method has its own utility in describing different aspects of contemporary or heritage fish consumption rates. The differences in methods and results underscore the need to define the consumption question carefully so the most appropriate method is chosen (Table 1).

Table 1 Range of fish consumption rates relevant to the Pacific Northwest

Amount (gpd)	Derivation
4	Estimated contemporary average from the Colville survey (Westat 2012)
6.5	Prior USEPA default national average used in the Clean Water Act; still the basis for many state water quality standards.
17.5	Current USEPA default national average recommended for developing water quality standards.
48.6	FDA recommends two 6-ounce meals per week
63.7	Contemporary 4-tribe average, all finfish, consumers only (CRITFC 2004)
82, 84	Contemporary means, all fish, Tulalip and Squaxin Tribes (Puget Sound, including marine species) (Toy *et al.* 1996)
117	Contemporary mean, Asian and Pacific Islanders (Sechena *et al.* 2003). Reanalyzed by WA Ecology (2013) as 74 gpd.
142.4	USEPA recommendation for subsistence fishing
175	Oregon water quality standards
214	Contemporary mean, Suquamish Tribe, all fish including marine species (The Suquamish Tribe 2000)
389	CTUIR water quality standards; 99th percentile of the CRIT FC (2004) survey.
454	Frequent response to the general question of how much fish Tribes consider to be a cutoff between contemporary and heritage rates, based on 1 pound per day.
540	Harris and Harper (1997) average from a survey of contemporary subset of 35 CTUIR traditional tribal fishermen.
620	Boldt decision, 500 pounds per capita per year, Columbia Basin salmonid average (Treaty right)
725	Walker (1985) estimate of average Columbia Basin heritage rate (583 pounds per capita per year)
865	Spokane Tribe water quality standards; heritage rate

1. In the CERCLA (or Superfund) process at contaminated sites, a baseline human health risk assessment (BHHRA) is performed to understand what the human health risk is, or would be, if people used the resources as if they were uncontaminated (i.e., assuming that there are no restrictions on resource use) to justify taking a remedial action. The exposure scenarios used in these assessments are designed to reflect Reasonable Maximum Exposures (RME), a concept that helps define the percentile within an exposed population that is to be used in remedy selection. At sites where tribes use the natural resources, a logical RME would be based on a Tribal exposure scenario, including a heritage fish consumption rate. Using the heritage rate would result in more protective cleanup goals.
2. The CWA includes provisions for setting prospective or aspirational standards to improve water quality, thereby making fish safer to consume, including at healthful levels of fish intake (O'Neil 2000). For the general population, an obvious rate might be equivalent to the recommended two 6-ounce fish meals per week (48.6 gpd, USFDA 2004; USEPA 2004b). For tribes, fish consumption rates might range from a default such as 17.5 gpd, a rate such as 175 gpd as an intermediate rate, or full baseline rates. Knowing the baseline heritage fish consumption rates (i.e., unrestricted or unsuppressed heritage rates) allows tribes, regulators, and the public to track incremental progress toward an ultimate goal.
3. Superfund cleanups generally have a single opportunity to develop a remedy that permanently cleans a site in order to regain unrestricted access and unlimited use, although 5-year reviews provide an opportunity for continued remediation. CERCLA 5-year review criteria include a goal of "unlimited use and unrestricted access" (UU/UA), meaning that there are no restrictions placed on the use of land or other natural resources (USEPA 2003). Information about baseline/heritage resource use, including fish consumption rates, can be used to define UU/UA for a site or region.
4. After CERCLA defines and implements a remedy to reduce contamination and risk, the Natural Resource Damage Assessment (NRDA) process addresses final restoration of the natural resources and the human uses of those resources. In cases where a fishery has been injured, knowing the baseline/heritage fish consumption rate supports the NRDA process by establishing a standard to which the resources and their ecosystem services should be restored. This information can also be used during watershed restoration, dam removal, sediment remediation, and similar situations.
5. Contemporary fish consumption rates are required to understand current risks based on current fish consumption and contamination rates in order to design immediate

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intervention strategies such as fish advisories. Although such a snapshot of contemporary intake and the resulting risks is sometimes mislabeled as a "baseline" exposure assessment, it is more accurate and helpful to reserve the term "baseline" for the fish consumption rates provided in an environment that is not degraded. Baseline is the condition to which resource quality should return. In this paper, contemporary conditions are not considered to be 'baseline' unless the resource is un-degraded or uncontaminated. This is a key distinction in setting environmental standards – is the goal to regain a higher environmental quality, or to maintain the status quo?

6. Contemporary fish consumption rates can help identify representative fish consumption rates for contemporary high-end consumers such as tribal peoples who are engaged in traditional subsistence practices. This information might be desired for cultural education, policy development, or research design.
7. Contemporary fish consumption rates can support exposure science and/or ecological research. For example, current fish consumption rates may be needed to develop or validate foodchain models by providing data used to compare uptake models to actual biotic and human exposure data (e.g., tracing Hg from the water and sediment through to foodchain and validating the model with human hair data). An accurate real-time fish consumption rate is required for the last step. Environmental epidemiology also requires information about contemporary fish consumption, such as tracking foodborne illness, evaluating health effects of environmental contaminants, or developing nutritional recommendations.

The framework presented above is not always followed in regulatory contexts. For example, federal and state water quality standards generally use contemporary fish consumption data, although this need not be the case. The water quality standards for the Spokane Tribe of Indians are based on the heritage rate (Harper *et al.* 2002); they are the first tribe to adopt this standard. The USEPA states that "The EPA is approving the majority of the Tribe's revised human health criteria because the methodology used by the Tribe to develop the fish consumption rate, and other variables used in developing the criteria, are scientifically sound and sufficient to protect designated uses, which are designed to protect fish consumption and drinking water rates characteristic of the traditional Spokane lifestyle" (USEPA 2013b). At the time of writing (2014), the Penobscot Nation in Maine is also proposing to use a heritage fish and other aquatic organisms consumption rate of 286 gpd for development of water quality standards.

Survey Methods and Columbia Basin Data

This paper compares the methods used to ascertain contemporary and heritage fish consumption rates; the data for the heritage rates is described in more detail in a companion paper (Walker and Harper this issue). The following section describes methods for obtaining contemporary fish consumption data.

Contemporary Statistical Surveys

Statistical surveys are used to obtain averages and percentiles within an existing defined population. Federal and state agencies have developed guidelines reflecting technical literature that has increasingly recognized the need for culturally appropriate methods needed to derive culture-specific information (USEPA 1989, 1992, 1998; WA State 2013).

Within a tribal population, participants in a statistical survey can be a random cross-section of the entire tribal population (e.g., drawn from enrollment or clinic lists), or a targeted subpopulation (e.g., elders or children with asthma or traditional fishermen). There are many well-recognized difficulties in defining and selecting tribal subpopulations, obtaining trust and participation, and interpreting results (Donatuto and Harper 2008) that apply to both statistical and ethnographic survey approaches.

Statistical surveys often use computer-based questionnaires to solicit information about catch rates (e.g., creel or fishing license surveys) or consumption rates (e.g., dietary history, food frequency questionnaires, or dietary recall surveys) administered by telephone, mail, or interview (Ferro-Luzzi nd.; Block 1982; Bingham *et al.* 1994; Moya 2004). These methods have been validated in various types of populations using multiple methods to correct for the well-recognized and systematic under- and over-reporting of different components of diet (Usher and Wenzel 1987; Kroke *et al.* 1999; Black *et al.* 2000; Tooze et al. 2006; Thompson and Subar 2008; Vucic *et al.* 2009). For validation, dietary surveys can also include food models, diaries, weighing actual food, nutritional analysis of the actual food, measuring or estimating personal energy expenditures, excretory and metabolite analysis, and other methods.

Statistical surveys can be difficult to administer and validate in indigenous populations, particularly in cases where the people continue to use large parts of their traditional territory for subsistence (Wolfe and Walker 1987; Berkes 1990; Berkes *et al.* 1995). Native harvest data are normally obtained by recall survey rather than direct observation, raising typical issues of species identification, precision and uniformity of survey parameters and interview terminology, sampling procedures, non-response bias, and response bias. Most estimates of the fish harvest of northern Native Canadians (Berkes 1990), for example, are recent and were carried out in

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connection with development proposals, or arose from conflicts between subsistence and commercial use of valuable salmon species (Berkes 1979, 1983; Hopper and Power 1991; Johnson *et al.* 2009). Nobman *et al.* conducted a large dietary survey of Alaska Natives using a food frequency questionnaire validated with 24-h recall interviews, clinical interviews, and food models. Their study documented the amount of different foods eaten differed by age groups within each gender, illustrating a real variability that would have been masked if only the group mean had been determined. Individual tribes also regulate their own harvests and typically work with states to set annual catch limits based on the size of annual runs, although it is problematic to extrapolate this information into fish consumption rates for individuals.

Medical and nutritional studies have provided additional information on Native harvests by documenting what people actually eat. Methods such as keeping personal dietary records are possible, although they are data-intensive and difficult to sustain in the field (e.g., at hunting or fishing camps, or on traditional gathering trips). Personal dietary records can include checklists for individual species and methods of preparation that are specific to a particular population, but are subject to issues with species identification. For example, there are several important roots in the *Lomatium* genus in the Columbia Basin that have different Native names but are not well-speciated by Linnaean classification (Hunn and French 1980), and fish and other animal species may be grouped in Native classification systems according to the role they play in Native diet and culture (Hunn 1980, 1981), rather than by Euroamerican genus and species. Thus, investigators and community members may need to come to an agreement on identification of the particular species of plants and animals consumed (common name, Latin or Linnaean name, and/or native language name), although some of this information may be considered proprietary and names can even vary among individual tribal dialects (e.g., among 15 Sahaptin dialects, Hunn 1980).

One comprehensive contemporary survey has been conducted in the Columbia Basin. During the fall and winter of 1991–1992, the Columbia River Inter-Tribal Fish Commission (CRITFC) surveyed fish consumption among four Native American tribes that reside in the middle Columbia River Basin on or near the Yakama, Warm Springs, Umatilla, or Nez Perce Reservations (CRITFC 1994) (for a summary see Washington State Department of Ecology 2013). A random sampling of fish consumption was conducted using respondents selected from patient registration files of the Indian Health Service. The survey questionnaire included a 24-h dietary recall and questions regarding seasonal and annual fish consumption. Food models were used to help respondents estimate the amounts of fish consumed. The mean fish (all finfish) consumption rate for all surveyed tribal adults (consumers and non-consumers) throughout the year was 58.7 gpd. Excluding non-consumers of fish (7 % of the surveyed adults), the mean fish consumption rate for surveyed tribal adult fish consumers was 63.7 gpd. The 95th percentile was 170 gpd and the 99th percentile was 389 gpd.

Perhaps the largest weakness with statistical surveys is that they imply a definitive answer about "what Tribes eat" and a precision about the surveyed population that may not always be warranted or accurate. This is particularly true for indigenous populations. Donatuto and Harper (2008) described problems in conventional fish consumption survey methods used in widely cited tribal fish consumption reports, including the CRITFC survey. A random sampling technique is employed in most of the surveys to capture a statistical mean. This is appropriate to answer some study questions; however, random sampling through the use of enrollment records may produce flawed results because many people, and especially traditional consumers and elders, are transient even within a reservation or simply wish to remain invisible. This may result in an effective oversampling of the low consumers, creating a downward bias. In addition, outlier data are sometimes eliminated or recoded based on the assumption that the respondents are mistaken about how much fish they eat. Yet traditional subsistence consumers, who represent the highest reported rates, are acutely aware of how much subsistence food they eat and, conversely, how much they are currently prevented from eating (Donatuto and Harper 2008). In the CRITFC survey, for example, the data points for the highest consumers were simply eliminated during compilation, in accordance with statistical convention. It was not recognized that these data points might be accurate, or that these people might represent subsistence fishers.

Within the Confederated Umatilla Tribes, a subset of 35 traditional consumers who adhere more closely to traditional subsistence practices such as harvesting and preparing their own food was surveyed shortly after the CRITFC study and found to consume an average of approximately 540 gpd (Harris and Harper 1997; see below). These results support the suggestion that there may be a definable group of high-consumers following specific traditional lifeways that can be evaluated separately. Simply asking "how much do Tribes eat?" misses the richness of tribal culture even when the purpose of the study is to document contemporary consumption rates.

A large survey of natural resource use was recently completed on the Confederated Tribes of the Colville Reservation (Westat 2012) as part of the investigation related to the Upper Columbia River Superfund site. The Colville Tribe is located along the Columbia River, above Grand Coulee Dam in the northern Columbia Basin. Prior to the construction of the dam, the Colville Tribe had access to the large Kettle Falls fishery. There is a fish advisory for this segment of the Columbia River, known as Lake Roosevelt (Lake Roosevelt Forum 2012).

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At the time of the survey (2010–2011), 4783 residents in 1784 households comprised the list of eligible participants (49 % of people living on the reservation were enrolled Colville Tribe members and 51 % were non-enrolled or non-native). From this list, a subset of 2645 people was selected as the target population, with oversampling of "heavy consumers" (undefined, comprising 51 % of the participants) and children, and 1165 people completed the survey process.

Three different types of survey instruments were administered to the Colville survey participants. Two of these focused exclusively on food consumption. A standard USDA interviewer-administered 24-h dietary-recall questionnaire using computer-assisted personal interviewing techniques was customized to include an additional 57 local and indigenous foods. The survey was administered multiple times (up to four) over the data collection period in order to capture seasonal variability in food consumption, although the majority of participants completed only two surveys over the course of a year. Another survey instrument, the Food Questionnaire (FQ), was developed specifically for this survey and included less frequently consumed foods consumed during the previous 12 months, asking where each food was obtained. Food models (plastic replicas) were also used. The third survey instrument, the Resource Use Profile questionnaire, was designed to collect data about non-dietary local practices.

The 1165 participants completed at least two 24-h recall surveys plus the FQ, for a total of 5469 interviews. Of the 1165 respondents, 83 % ate fish at least once during the previous year and 73 % reported eating salmon or kokanee[1] at least once during the 12 months prior to completion of the FQ, 46 % reported eating trout/steelhead, 13 % report consuming walleye, and 11 % reported consuming smallmouth bass. On average, each salmon consumer ate salmon/kokanee 15 times per year, trout 13 times per year, walleye nine times per year, and smallmouth bass 21 times per year. Overall, about half of the respondents, including non-consumers, ate fish once a month or less; those who ate fish more regularly were considered "heavy consumers." These data included repeat sampling (three to five per individual), so they cannot be used to directly calculate fish consumption rates. The average portion size (actually, the amount of fish consumed on a 'fish day' including the potential for more than one meal) was 126 g and the 90th percentile for serving size was 405 g (10.9 oz) to 637 g (22.4 oz) for non-enrolled and enrolled residents, respectively. Thus, the average resident of the Colville Reservation, including non-consumers, eats fish at a rate of around 4 gpd (12 meals month × 126 g/portion). Those who eat fish more frequently and in larger amounts might eat fish on 58 days per year (adding the meal frequency of the top four species), for a total of 63 gpd (58 meals at 405 gpd) to 101 gpd (58 fish days at 637 gpd). Since there is a fish advisory for eating different amounts of various species, the results may reflect adherence to the advisory; however, the potential cumulative health effects if all species were eaten at their recommended rates is not discussed.

Comparing the Umatilla (Harris and Harper 1997) and the Colville (Westat 2012) studies illustrates several points. The Umatilla study targeted traditional tribal fishing families because the goal was to document how much fish this subset of tribal members consumes today, while the Colville study goal was to document cross-sectional averages and ranges rather than a specific segment of the Indian and non-Indian reservation residents. Secondly, the Umatilla survey used a guided conversational ethnographic approach (see below) while the Colville study used a highly statistical approach. Third, the Umatilla study location is on the lower Columbia River where salmon runs still exist, while the Colville study location was primarily above Grand Coulee Dam, which blocked all anadromous salmon runs to the upper Columbia River. Thus, the study goals were quite different, the methods were different, and the results were very different. However both studies have been termed "contemporary tribal studies," and both purport to answer the question "how much fish do tribes eat?" Unless the different study goals, location, context, and methods are recognized, an unwary reader might conclude that upper Columbia River Tribes do not eat fish by choice or circumstance, and therefore water quality standards can be based on inappropriately low fish consumption rates.

Ethnographic Surveys

A suite of methods for collecting contemporary ethnographic data and eliciting expert information to investigate specific research questions has been developed over time (Winterhalder 1981; Meyer and Booker 1991; Hora 1992; Riley *et al.* 2006; O'Reilly 2012; Schensul and LeCompte 2012). Ethnographic methods are structured and systematic ways of gathering data but are more conversational and therefore more suitable than computer-based tools for certain types of communities such as indigenous communities who hold and employ traditional environmental knowledge (Berkes *et al.* 2000; Satterfield *et al.* 2000; Turner *et al.* 2000; Cochran *et al.* 2008; Donatuto *et al.* 2011), and who may prefer to communicate via oral history, conversation, and demonstrations. Ethnographic methods can seek the same general information as computer-based questionnaires to obtain numerical data, as well as broader narrative information.

Traditional ecological knowledge (TEK) represents direct human contact with the environment over thousands of years

[1] Kokanee are land-locked sockeye salmon that live their entire lives above the Grand Coulee dam and never have an ocean phase. The average size of kokanee at maturity is 9–12" long and 0.5 to 1 lb. http://www.fins1.com/kokanee.htm; http://www.env.gov.bc.ca/wld/documents/fishfacts/kokanee.pdf; http://fishandgame.idaho.gov/public/fish/?getPage=85; http://www.spokesman.com/stories/2013/apr/11/2013-is-year-of-the-kokanee-for-area-anglers/ Last accessed 10/20/14.

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(Berkes 1983). It is both practical and abstract (Berkes *et al.* 2000) and is based on long and detailed observation of natural processes that systematically builds a working knowledge of the ecology and the interaction of ecological components, including people, that is taught as natural law in indigenous communities. TEK has a growing role in environmental management (Berkes *et al.* 2000) and in international law and policy (Mauro and Hardison 2000).

Within the southern Columbia Plateau, three ethnographic studies have examined traditional fish consumption rates in contemporary settings. Hunn and Bruneau (1989) estimated contemporary but traditional dietary intakes for the periods 1944–1947 (pre-dam) and 1964–1966 (post-dam). They developed percentages of resources in the diet, based on a traditional fish consumption rate of 500 lbs/year for "river Yakima" (those traditional families of the Yakama Nation who retained residence and fishing sites on and near the Columbia River) and 400 lbs/year for the Nez Perce. They estimated that the fisheries had already been about half degraded by the 1940s, but traditional families still had access to traditional fishing sites.

Walker and Pritchard (1999) estimated radiation doses to Yakama tribal fishermen from the releases of radioactivity from the Hanford nuclear site into the Columbia River from the 1940s through the 1960s, based on interviews, maps, and fish consumption rates for the relevant time periods (rates adjusted from Hewes 1947, 1973; Hunn and Bruneau 1989; Harris and Harper 1997; Walker 1997).

Harris and Harper (1997) used ethnographic narrative surveys and interviews (conducted by Harris, a scientist and enrolled CTUIR[2] tribal member) to gather input from 35 traditional CTUIR tribal members and tribal fishermen about activities, seasonal patterns, diets, and other lifestyle elements that are important for preserving the traditional cultural-religious way of life. The interviewees indicated that their responses were more accurate than if they had been asked by nonmembers or non-Native tribal employees or even by other tribal members, and were more accurate than the answers they had provided during the CRITFC survey. Reasons given by the respondents included lack of trust, uncertainty whether information about high rates of fishing would be used to prosecute fishermen, a general reticence to provide traditional information, and a general concern whether an honest answer would indicate they were eating too much or too little fish. For example, some tribal members knowingly eat contaminated fish in order to preserve their treaty rights and because it is part of their religion, yet they are blamed for any resulting adverse health effects.

Cross-cultural relationships require time and effort on the part of the investigator, and this even extends to investigations within the same culture such as research conducted by tribal scientists within their own tribe. In general, any data obtained from communities, and from tribes in particular, may be inaccurate due to mistrust, lack of understanding on both sides (e.g., about goals, terminology, local mores, or local means of communication), a history of misuse of information or lack of promised follow-though, or simple failure to obtain the consent of the informants. However, if trust is built, ethnographic methods can provide more accurate information than other types of surveys including statistical surveys.

We suggest that USEPA and other regulatory agencies consider ethnographic methods as part of the best-practice tools to develop complete and relevant information in indigenous communities (USEPA SAB 2014). While both ethnographic and statistical approaches can be well designed and rigorous and thus be of high quality, USEPA should consider the merits and quality of non-statistical approaches. While statistical data can appear more precise, they can in fact be less accurate if inadequate attention is paid to clarifying objectives and to questionnaire design.

Heritage Rates in the Columbia Basin

When Lewis and Clark explored the region in the early nineteenth century, the Columbia and its tributaries provided 12, 935 miles of river habitat (Craig and Hacker 1940). It is well established that conditions in the Pacific Northwest supported a resilient and sustainable fish-based way of life (Trosper 2002). For thousands of years, and continuing into the living memory of current tribal members, the Columbia Basin has been extremely productive and has supported large populations of people who relied on or included fish in their diets.

Because fish consumption rates are currently suppressed, heritage rates cannot be determined by asking people what they eat today except in areas such as circumpolar regions where most or all nutrition is obtained directly from the environment. Rather, multiple lines of evidence must be evaluated in order to develop a numerical heritage rate. This evidence comes from a wide range of older ethnographic studies, ethnohistory, archaeology, food sale and purchase records, ecological history, oral history, and data about nutrition, paleomedicine, isotope analysis, and DNA analysis. Results can be confirmed with contemporary interviews to ascertain general validity on a qualitative basis.

In the Pacific Northwest, earlier abundance and distribution of salmonid species within the Columbia Basin and ethnographic, ethnohistorical, archaeological, geologic, and biological data on the ecology, harvest, use, and consumption of these species is well established. Ethnohistoric data include journals and diaries of early explorers, traders, missionaries, settlers, artists, photographers, as well as information obtained from the indigenous inhabitants. These accounts extend from the earliest contact through the period immediately before the

[2] Confederated Tribes of the Umatilla Indian Reservation.

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major impacts resulting from European contact, and further into the mid-twentieth century (Walker 1967; Northwest Power Planning Council (NPPC) 1986; Schalk 1986; Boyd 1996; Trosper 2002).

There is general consensus that fish, particularly salmon, formed from one-third to one-half of the food supply of Columbia Basin tribes until and even beyond the construction of the Columbia River dams (Walker 1967; Anastasio 1985; Hunn 1981, 1990; Hewes 1998). Before the dams were constructed, full heritage amounts of fish were widely available; after construction and during the era when people were forced off the river at gunpoint, fewer people had access to large amounts of fish, but some still did (and still do). This situation has improved to some degree since the right to obtain fish was adjudicated and since watershed and habitat improvements have been made, hatcheries constructed, research supporting salmon recovery pursued, and dam operations modified. Salmon and steelhead were major staples eaten fresh for as much as 6 months of the year and dried or smoked for the lean winter months. Many authors, starting with Lewis and Clark (Thwaites 1905) have estimated Columbia River fish harvest and consumption.

The earliest fish catch and consumption estimates were developed by Craig and Hacker (1940) and Hewes (1947, 1973). There is currently agreement that Hewes' original total harvest estimates were too low (Walker 1967, 1968; Walker 1985 as cited in Scholz *et al.* 1985; Hunn 1981, 1990; NPPC 1986; Schalk 1986; Schalk 1977).

In 1974, Judge George Boldt reaffirmed the right of most Washington tribes to act as "co-manager" of salmon alongside the State, and continue to harvest them (*United States v. Washington*, 384 F. Supp. 312). Based on the testimony of 49 experts and tribal members, the court cited 500 lbs per capita as a reasonable number for salmon consumption on the Columbia River (in addition to recognizing that resident species were eaten as well). Later, Walker (1985, 1993a, 1993b, 2010) examined available data and concluded that the Columbia Plateau fish consumption range was between 365 lbs and 800 lbs. per capita with the annual average close to 583 lbs (725 gpd); Scholz *et al.* (1985:77) agree that this is the most accurate estimate. While the USEPA recommendation of 142.4 gpd for subsistence fishing may be suitable for inland freshwater areas, it is clearly too low for west coast salmon rivers.

Discussion

The heritage fish consumption rates for tribes located within the Columbia River watershed are one to two orders of magnitude higher than contemporary averages (Fig. 1 and Table 1). Originally, the heritage rate was available to everyone; at present the heritage rate is available to few tribal members, depending on local environmental conditions, presence of dams, membership in a fishing family, access to fishing sites, ability to devote adequate time to fishing within state-regulated seasons, and other factors. This does not mean that heritage rates are no longer relevant or possible; they fluctuate within tribes and within families, and are the subject of many efforts to repair fisheries, practice indigenous cultural and

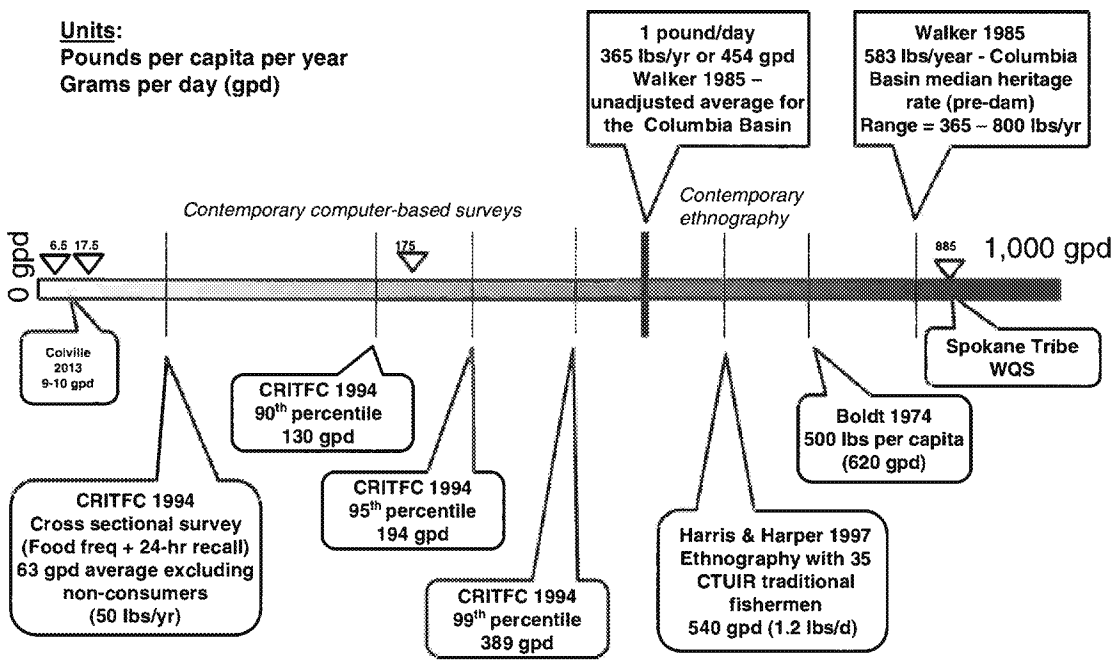

Fig. 1 Columbia Basin fish consumption rates

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religious lifestyles, exercise Treaty-reserved rights, and improve diets.

As acknowledged by USEPA in the letter approving the Spokane Tribe's standards, the methodology for using multiple lines of evidence, including ethnographic methods to determine heritage rates are valid and protective of the Spokane Tribe's traditional lifestyle. For contemporary studies, methods include (a) dietary recall and food frequency questionnaires (e.g., the CRITFC and Colville studies) and (b) contemporary ethnography combined with other relevant data (Walker 1985; Harris and Harper 1997). These methods can lead to quite different conclusions. Using dietary recall and food frequency questionnaires, the contemporary average consumption rate of the CRITFC Tribes is 63.7 gpd. However, using ethnographic methods, Harris and Harper (1997) found that traditional CTUIR fishermen still eat 540 gpd. The contemporary CRITFC cross-sectional average is roughly ten times lower than the amount eaten by contemporary traditional fishermen, while the latter is closer to the adjudicated rate of 620 gpd based on the Boldt decision and the 725–1000 gpd estimated by Walker (1985). The 99th percentile of contemporary consumption (389 gpd) measured in the CRITFC study is still less than the lower boundary of the documented range of traditional fish consumption (roughly 454 gpd or 1 lb/day). Similarly, the contemporary average for the residents of the Colville reservation, half of whom were considered to be high consumers, was very low compared to the heritage rate of 800–1200 gpd (Walker 1985) as estimated for upper Columbia River tribes. Thus, while statistical methods can give the appearance of precision, they do not accurately measure either the heritage rate or, we argue, the rate for traditional contemporary fishermen.

Fish consumption rates used in regulatory settings by states or USEPA range from 6.5 gpd (100 times lower than the heritage rate), 17.5 gpd (the current USEPA recommendation), to 175 gpd (Oregon, USEPA 2014), and other numbers in between. Although 175 gpd is much more protective of tribal health than the lower rates, it is not a heritage or full rights-based rate. The Spokane Tribe's water quality standards have recently been approved by USEPA using their heritage fish consumption rate of 865 gpd, making them the only tribe thus far to use a full heritage rate. It is a matter of science to determine fish consumption rates, and a matter of policy to choose the rate on which to base water quality standards, or which segment of the overall population to protect or fail to protect.

Our review describes the range of traditional fish consumption rates that provides general estimates that are reasonable, supportable, and already adjudicated. Additionally, catch estimates have been used by the federal government and the courts to calculate the amount of salmon lost to the tribes due to dam construction. While localized fish consumption rates can vary by local habitat (e.g., Columbia River mainstem, or major and minor tributaries), our review supports Walker's estimate of 583 lbs per capita per year (725 gpd) and the Boldt decision value of 500 lbs per year (620 gpd) as reasonable and supportable fish consumption rates. Further considerations would be whether to use a salmon-only or an all-fish (or finfish plus shellfish) value, and whether the particular application requires a basin-wide average or a tribe-specific value that might require additional intensive research.

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References

Anastasio, A. (1985). The Southern Plateau: An Ecological analysis of Intergroup Relations. Northwest Anthropology Research Notes, second textbook edition, Alfred W. Bowers Laboratory of Anthropology, University of Idaho, Moscow ID). Revised from Anastasio A. 1972. Northwest Anthropological Research Notes 6: 109–229.

Berkes, F. (1979). An investigation of Cree Indian Domestic Fisheries in Northern Quebec. Arctic 32: 46–70.

Berkes, F. (1983). Quantifying the Harvest of Native Subsistence Fisheries. In Wein, R. W., Riewe, R. R., and Methven, L. R. (eds.), Resources and Dynamics of the Boreal Zone. Association of Canadian Universities for Northern Studies, Ottawa, pp. 346–363.

Berkes, F. (1990). Native Subsistence Fisheries: A Synthesis of Harvest Studies in Canada. Arctic 43: 35–42.

Berkes, F., Hughes, A., George, P. J., Preston, R. J., Cummins, B. D., and Turner, N. J. (1995). The Persistence of Aboriginal Land Use: Fish and Wildlife Harvest Areas in the Hudson and James Bay Lowland. Ontario Arctic 48: 81–93.

Berkes, F., Colding, J., and Folke, C. (2000). Rediscovery of Traditional Ecological Knowledge as Adaptive Management. Ecological Applications 10: 1251–1262.

Bingham, S. A., Gill, C., Welch, A., Day, K., Cassidy, A., Khaw, K. T., Sneyd, M. J., Key, T. J. A., Roe, L., and Day, N. E. (1994). Comparison of Dietary Assessment Methods in Nutritional Epidemiology: Weighed Records v. 24 h Recalls, Food-Frequency Questionnaires and Estimated-Diet Records. British Journal of Nutrition 72: 619–643.

Black, A. E., Welch, A. A., and Bingham, S. A. (2000). Validation of Dietary Intakes Measured by Diet History Against 24 h Urinary Nitrogen Excretion and Energy Expenditure Measured by the Doubly-Labelled Water Method in Middle-Aged Women. British Journal of Nutrition 83: 341–354.

Block, G. (1982). A review of Validations of Dietary Assessment Methods. American Journal of Epidemiology 115: 492–505.

Boyd, R. (1996). People of The Dalles: The Indians of Wascopam Mission. University of Nebraska Press, Lincoln.

California OEHHA. (2001). Chemicals in Fish: Consumption of Fish and Shellfish in California and the United States. Final Report. Pesticide and Environmental Toxicology Section. Office of Environmental

ED_002388A_00006541-00226

Health Hazard Assessment. California Environmental Protection Agency. Oakland, California. Posted at: http://oehha.ca.gov/fish/pdf/Fishconsumptionrpt.pdf Last accessed 10/20/14.

Cochran, P. A., Marshall, C. A., Garcia-Downing, C., Kendall, E., Cook, D., McCubbin, L., and Gover, M. S. (2008). Indigenous Ways of Knowing: Implications for Participatory Research and Community. American Journal Public Health 98: 22–27.

Craig JA and Hacker RL. (1940). History and development of the fisheries of the Columbia River. Bulletin No. 32 in Bulletin of the U. S. Bureau of Fisheries 49: 133–216. Available online at http://fishbull.noaa.gov/49-1/craig.pdf Last accessed 10/20/14.

CRITFC: Columbia River Inter-Tribal Fish Commission. (1994). A Fish Consumption Survey of the Umatilla, Nez Perce, Yakama, and Warm Springs Tribes of the Columbia River Basin. Technical Report no. 94–3. Oregon: Columbia River Intertribal Fish Commission. Abstract posted at: https://www.deq.idaho.gov/media/895853-fish-consumption-survey-1994.pdf Last accessed 10/20/14.

Donatuto, J., and Harper, B. L. (2008). Issues in Evaluating Fish Consumption Rates for Native American Tribes. Risk Analysis 28: 1497–1506.

Donatuto, J. L., Satterfield, T. A., and Gregory, R. (2011). Poisoning the Body to Nourish the Soul: Prioritizing Health Risks and Impacts in a Native American Community. Health Risk and Society 13: 103–127.

Ferro-Luzzi A. (no date). Individual food intake survey methods. Posted at: http://www.fao.org/docrep/005/Y4249E/y4249e0a.htm Last accessed 10/20/14.

Grubbs GH, Wayland RH. (2000). Memorandum regarding the Clean Water Act. Posted at http://water.epa.gov/scitech/swguidance/standards/upload/2000_10_31_standards_shellfish.pdf. Last accessed 10/20/14.

Harper, B. L., Flett, B., Harris, S., and Abeyta, K. F. (2002). The Spokane Tribe's Multipathway Subsistence Exposure Scenario and Screening Level RME. Risk Analysis 22: 513–526.

Harper, B., Harding, A., Harris, S., and Berger, P. (2012). Subsistence Exposure Scenarios for Tribal Applications. Human and Ecological Risk Assessment 18: 810–831.

Harper BL, Harding AK, Waterhous T, Harris SG. (2007). Traditional Tribal Subsistence Exposure Scenario and Risk Assessment Guidance Manual. Posted at: http://health.oregonstate.edu/sites/default/files/research/pdf/tribal-grant/CTUIR-SCENARIO.pdf Last accessed 10/20/14.

Harris, S. G., and Harper, B. L. (1997). A Native American Exposure Scenario. Risk Analysis 17: 789–795.

Hewes GW. (1947). Aboriginal Use of Fishery Resources in Northwestern North America. Doctoral dissertation, University of California Berkeley.

Hewes, G. W. (1973). Indian Fisheries Productivity in Pre-contact Times in the Pacific Salmon Area. Northwest Anthropological Research Notes 7: 133–155.

Hewes, G. W. (1998). Fishing. In Walker Jr., D. E. (ed.), Handbook of North American Indians Plateau, vol. 12. Plateau, Smithsonian Institution, Washington, pp. 620–640.

Hopper, M., and Power, G. (1991). The Fisheries of an Ojibwa Community in Northern Ontario. Arctic 44: 267–274.

Hora, S. C. (1992). Acquisition of Expert Judgment: Examples from Risk Assessment. Journal of Energy Engineering 118: 136–148.

Hunn, E. S. (1990). NCh'i-Wana, The Big River: Mid-Columbia Indians and Their Land. University of Washington Press, Seattle.

Hunn, E. S., and French, D. H. (1980). Lomatium: A key Resource for Columbia Plateau Native Subsistence. Northwest Science 55: 87–94.

Hunn, E. S. (1980). Sahaptin Fish Classification. Northwest Anthropological Notes 14: 1–19.

Hunn, E. S. (1981). On the Relative Contribution of men and Women to Subsistence Among Hunter-Gatherers of the Columbia Plateau: A Comparison with Ethnographic Atlas Summaries. Journal of Ethnobiology 1: 124–134.

Hunn, E. S., and Bruneau, C. L. (1989). Estimations of Traditional Native American diets in the Columbia Plateau. PNL-SA-17296-HEDR. PNNL, Pacific Northwest National Laboratory, Richland.

Johnson, J. S., Nobmann, E. D., Asay, E., and Lanier, A. P. (2009). Dietary Intake of Alaska Native People in Two Regions and Implications for Health: The Alaska Native Dietary and Subsistence Food Assessment Project. International Journal of Circumpolar Health 68: 109–122.

Kroke, A., Klipstein-Grobusch, K., Voss, S., Möseneder, J., Thielecke, F., Noack, R., and Boeing, H. (1999). Validation of a Self-Administered Food-Frequency Questionnaire Administered in the European Prospective Investigation into Cancer and Nutrition (EPIC) Study: Comparison of Energy, Protein, and Macronutrient Intakes Estimated with the Doubly Labeled Water, Urinary Nitrogen, and Repeated 24-h Dietary Recall Methods. American Journal Clinical Nutrition 70: 439–447.

Lake Roosevelt Forum. (2012). Upper Columbia River (Lake Roosevelt) Fish Consumption Advisory Updated. Posted at http://www.lrf.org/Newsltrs/LRFnlSu2012.pdf Last accessed 10/20/14. Washington State fish advisories are posted at http://www.doh.wa.gov/CommunityandEnvironment/Food/Fish/Advisories Last accessed 10/20/14.

Mauro, F., and Hardison, P. D. (2000). Traditional Knowledge of Indigenous and Local Communities: International Debate and Policy Initiatives. Ecological Applications 10: 1263–1269.

Meyer, M. A., and Booker, J. M. (1991). Eliciting and Analyzing Expert Judgments. Academic, New York.

Moya, J. (2004). Overview of Fish Consumption Rates in the United States. Human and Ecological Risk Assessment 10: 1195–1211.

[NPPC] Northwest Power Planning Council. (1986). Compilation of Information on Salmon and Steelhead Total Run Size, Catch, and Hydropower Related Losses in the Upper Columbia River Basin, Above Grand Coulee Dam. Upper Columbia United Tribes Fisheries Technical Report #2 http://www.nwcouncil.org/reports/1985/ucut-fisheries-technical-report/ Last accessed 10/20/14.

O'Neill, C. (2013). Fishable Waters. American Indian Law Journal 1: 181–284.

O'Neil C. (2000). Variable Justice: Environmental Standards, Contaminated Fish, and "Acceptable" Risk to Native Peoples. Standard Environmental Law Journal 19(3).

O'Reilly, K. (2012). Ethnographic Methods. Routledge Press, New York.

Penobscot Nation. (2014). Water Quality Standards. DRAFT of June 10, 2014. Posted at: http://www.penobscotnation.org/dnr/PDF/Water%20Quality%20Standards/2014-06-10%20Draft%20Penobscot%20WQS%20for%20public%20comment.pdf Last accessed 10/20/14.

Riley, D. M., Newby, C. A., and Leal-Almaraz, O. (2006). Incorporating Ethnographic Methods in Multidisciplinary Approaches to Risk Assessment and Communication: Cultural and Religious Use of Mercury in Latino and Caribbean Communities. Risk Analysis 26: 1205–1221.

Satterfield, T., Slovic, P., and Gregory, R. (2000). Narrative Valuation in a Policy Judgment Context. Ecological Economics 34: 315–331.

Schalk, R. F. (1986). Estimating Salmon and Steelhead Usage in the Columbia Basin Before 1850: The Anthropological Perspective. Northwest Environmental Journal 2: 1–26.

Schalk, R. F. (1977). The Structure of an Anadromous Fish Resource. In Binford, L. R. (ed.), For Theory Building in Archaeology. Academic, New York, pp. 207–249.

Schensul, J. J., and LeCompte, M. D. (2012). Essential Ethnographic Methods: A Mixed Methods Approach (Ethnographer's Toolkit, 2nd ed. Altamira Press, Lanham.

ED_002388A_00006541-00227

Scholz A, O'Laughlin K, Geist D, Peone D, Uehara J, Fields L, Kleist T, Zozaya I, Peone T, Teesatuskie K. (1985). Compilation of Information on Salmon and Steelhead Total Run Size, Catch and Hydropower Related Losses in the Upper Columbia Basin above Grand Coulee dam. Fisheries Technical Report No. 2. Upper Columbia United Tribes fisheries Center, Eastern Washington University, Cheney, WA.

Sechena, R. S., Liao, S., Lorenzana, R., Nakano, C., Polissar, N., and Fenske, R. (2003). Asian American and Pacific Islander Seafood Consumption – A Community-Based Study in King County, Washington. Journal of Exposure Analysis and Environmental Epidemiology 13: 256–266.

Shilling F, Negrette A, Biondini L, Cardenas S. (2014). California Tribes Fish-Use: Final Report A Report for the State Water Resources Control Board and the US Environmental Protection Agency Agreement # 11-146-250 between SWRCB and UC Davis. http://www.waterboards.ca.gov/water_issues/programs/mercury/docs/tribes_%20fish_use.pdf Last accessed 10/20/14.

Thwaites, R. (1905). Original Journals of the Lewis and Clark Expedition, vol. 8. Arthur H. Clark Co., New York, pp. 1804–1805.

The Suquamish Tribe. (2000). Fish Consumption Survey of the Suquamish Indian Nation of the Port Madison Indian Reservation, Puget Sound Region, Washington. http://192.168.1.1:8181/http://www.deq.state.or.us/wq/standards/docs/toxics/suquamish2000report.pdf Last accessed 1/15/15.

Thompson, F. E., and Subar, A. F. (2008). Dietary Assessment Methodology. Nutrition in the Prevention and Treatment of Disease 2: 3–39.

Tooze, J. A., Midthune, D., Dodd, K. W., Freedman, L. S., Krebs-Smith, S. M., Subar, A. F., Guenther, P. M., Carroll, R. J., and Kipnis, V. (2006). A New Statistical Method for Estimating the Usual Intake of Episodically Consumed Foods with Application to Their Distribution. Journal of the American Dietetic Association 106: 1575–1587.

Toy KA, Polissar NL, Liao S, Mittelstadt GD. (1996). A Fish Consumption Survey of the Tulalip and Squaxin Island Tribes of the Puget Sound Region. Tulalip Tribes, Department of Environment, 7615 Totem Road, Marysville, WA 98721. http://192.168.1.1:8181/http://www.deq.state.or.us/wq/standards/docs/toxics/tulalipsquaxin1996.pdf Last accessed 1/25/15.

Trosper, R. L. (2002). Northwest Coast Indigenous Institutions that Supported Resilience and Sustainability. Ecological Economics 41: 329–344.

Turner, N. J., Ignace, M. B., and Ignace, R. (2000). Traditional Ecological Knowledge and Wisdom of Aboriginal Peoples in British Columbia. Ecological Applications 10: 1275–1287.

Ulrich, R. (1999). Empty Nets: Indians, Dams, and the Columbia River. University of Oregon Press, Corvallie.

[USEPA] US Environmental Protection Agency. (1998). Guidance for Conducting Fish and Wildlife Consumption Surveys. EPA-823-B-98-007. EPA Office of Water, November 1998. Posted at http://water.epa.gov/scitech/swguidance/fishshellfish/techguidance/upload/1999_11_05_fish_fishguid.pdf Last accessed 10/20/14.

[USEPA] US Environmental Protection Agency. (1992). Consumption Surveys for Fish and Shellfish: A Review and Analysis of Survey Methods. EPA 822/R-92-001. Posted at http://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=20003KQE.PDF Last accessed 10/20/14.

[USEPA] US Environmental Protection Agency. (1989). Assessing Human Health Risks from Chemically Contaminated Fish and Shellfish: A Guidance Manual. EPA-503/8-89-002. Available online from http://nepis.epa.gov/EPA/ Last accessed 10/20/14.

[USEPA] US Environmental Protection Agency. (2000). Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health. http://water.epa.gov/scitech/swguidance/standards/criteria/health/methodology/ Last accessed 10/20/14.

[USEPA] US Environmental Protection Agency. (2002). Estimated Per Capita Fish Consumption in the United States. http://water.epa.gov/scitech/swguidance/fishshellfish/outreach/upload/2002_08_28_fish_consumption_report.pdf Last accessed 10/20/14.

[USEPA] US Environmental Protection Agency. (2003). Five-Year Review Process in the superfund Program. http://www.epa.gov/superfund/cleanup/postconstruction/fiveyearreviewfactsheet.pdf Last accessed 10/20/14.

[USEPA] US Environmental Protection Agency. (2004a). An Examination of EPA Risk Assessment Principles and Practices. EPA/100/B-04/0001. http://www.epa.gov/osainter/pdfs/ratf-final.pdf Last accessed 10/20/14.

[USEPA] US Environmental Protection Agency. (2004b). What You Need to Know about Mercury in Fish and Shellfish http://water.epa.gov/scitech/swguidance/fishshellfish/outreach/advice_index.cfm Last accessed 10/20/14.

[USFDA] US Food & Drug Administration. (2004). What You Need to Know About Mercury in Fish and Shellfish (Brochure) http://www.fda.gov/food/resourcesforyou/consumers/ucm110591.htm Last accessed 10/20/14.

[USEPA] US Environmental Protection Agency. (2011). Exposure Factors Handbook 2011 Edition (Final). USEPA National Center for Environmental Assessment, Office of Research and Development. EPA/600/R-09/052F. http://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=236252. First published in 1989 and later updated in 1997. Last accessed 10/20/14.

[USEPA] US Environmental Protection Agency. (2013a). Human Health Ambient Water Quality Criteria and Fish Consumption Rates: Frequently Asked Questions. http://water.epa.gov/scitech/swguidance/standards/criteria/health/methodology/upload/hhfaqs.pdf Last accessed 10/20/14.

[US EPA] U.S. Environmental Protection Agency, Region 10. (2013b). Correspondence to The Honorable Rudy Peone, chairman of the Spokane Tribe of Indians, from Daniel D. Opalski, director, Office of Water and Watersheds. http://www.epa.gov/region10/pdf/water/wqs/spokane_cover_letter_TSD_Dec192013.pdf Last accessed 10/20/14.

Usher, P. J., and Wenzel, G. (1987). Native Harvest Surveys and Statistics: A Critique of Their Construction and Use. Arctic 40: 145–160.

Vucic, V., Glibetic, M., Novakovic, R., Ngo, J., Ristic-Medic, D., Tepsic, J., Ranic, M., Serra-Majem, L., and Gurinovic, M. (2009). Dietary Assessment Methods Used for Low-Income Populations in Food Consumption Surveys: A Literature Review. British Journal of Nutrition 101(Suppl 2): S95–S101.

Walker DE. (1967). Mutual Cross-Utilization of Economic Resources in the Plateau: An Example from Aboriginal Nez Perce Fishing Practices. Washington State University Laboratory of Anthropology Report of Investigations No. 41.

Walker, D. E. (1997). The Yakama System of Trade and Exchange. Northwest Anthropological Research Notes 31: 71–95.

Walker, D. E., and Pritchard, L. W. (1999). Estimated radiation Doses to Yakama Tribal Fishermen: A Test Application fo the Columbia River Dosimetry Model Developed for the Hanford Environmental dose Reconstruction Project. The Walker Research Group, Ltd., Boulder.

[WA State] Washington State Department of Ecology. (2009). Fish Consumption Rates for High Exposure Population Groups. Memo posted at: http://www.ecy.wa.gov/programs/tcp/regs/2009MTCA/issues/fishConsumptionRatesIssueSummaryJuly2009.pdf Last accessed 10/20/14.

[WA State] Washington State Department of Ecology. (2013). Fish Consumption Rates Technical Support Document A Review of Data and Information about Fish Consumption in Washington Version 2.0 Final. Publication No. 12-09-058. Posted at https://

ED_002388A_00006541-00228

fortress.wa.gov/ecy/publications/publications/1209058.pdf Last accessed 10/20/14.

Wendee, N. (2013). Meeting the Needs of the People: Fish Consumption Rates I the Pacific Northwest. Environmental Health Perspectives 121: A335–A339.

Westat. (2012). Upper Columbia River Site Remedial Investigation and Feasibility Study Tribal Consumption and Resource Use Survey. Final Report. Available online at www.colvilletribes.com/final_report__june_2012_.php Last accessed 10/20/14.

Winterhalder, B. (1981). Foraging Strategies in the Boreal forest: An Analysis of Cree Hunting and Gathering. In Winterhalder, B., and Smith, E. A. (eds.), Hunter-Gatherer Foraging Strategies: Ethnographic and Archaeological Analyses. The University of Chicago Press, Chicago, pp. 66–98.

Wolfe, R. J., and Walker, R. J. (1987). Subsistence Economics in Alaska: Productivity, Geography, and Development Impacts. Arctic Anthropology 24: 56–81.

ED_002388A_00006541-00229