LAKE SUPERIOR CHIPPEWA TREATY SECURED FISHING RIGHTS ON CEDED LANDS AND THE DEFENSE OF STATE MANAGEMENT

A CASE FOR FUTURE REFERENCE

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Administrative
Report No. 20

Fish Management
Bureau
Department of
Natural Resources
Madison, Wisconsin
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Lake Superior Chippewa Treaty Secured Fishing Rights on the Ceded Lands and the Defense of State Management - A Case for Future Reference

Introduction

Wisconsin has held a somewhat unique position with respect to relationships with the Lake Superior Chippewas and their assertion of fishing rights on waters adjoining or outside reservation boundaries. We are committed to a process of cooperative negotiating rather than the unilateral assertion of authority over the tribes. The latter can only lead to costly litigation, polarization of tribal members and the citizenry, and an erosion of the participative process of government.

The Chippewas clearly have reserved fishing rights on waters in the ceded territory of Wisconsin, lands acquired by the federal government in treaties of 1837 and 1842. The Court must clearly determine the nature and specificity of those rights. The tribes will, in the interim, logically attempt to establish their rights legislatively through acts of their tribal governments, such as an open-water fishing code, parallel but distinct from state rules.

Our choice is to determine through negotiation a mutual understanding of these fishing rights and to prepare a sound biological basis for whatever regulation results. Our ultimate concern if for the fish resource and those who benefit from its existence.

This case history should serve as a credible reference for fish managers faced with demands from special interest groups to place additional stresses on the often tenuous fish resources.

Discussion

On April 17, 1984, five tribes of Lake Superior Chippewas filed a motion with the U.S. District Court for the Western District of Wisconsin requesting an order restraining the State of Wisconsin from interfering with the exercise of reserved treaty fishing rights by members of the tribes pursuant to an off-reservation open water fishing code adopted by the tribes. Their action was predicated on a declaratory judgement issued by the same court March 6, 1984, indicating the tribes retained fishing rights on ceded lands of northern Wisconsin.

Following a preliminary hearing before the Hon. James E. Doyle, Senior Judge, attorneys for the tribes redrafted the request for a preliminary injunction specifying the statutes or regulations from which injunctive relief was sought. In the interim, a sixth tribe, the Bad River Band, adopted the open water fishery code, with some additions, and joined the action.

The tribes were anxious to exercise their treaty-secured rights during the 1984 spring spawning season, which necessitated prompt response from the Department. Their plea for a prompt decision was acknowledged by the court with the evidenciary hearing set giving very little time for preparation.

The Department reacted by calling together those managers, biologists, and law enforcement officers with direct knowledge of the Indian fisheries and the species and harvest methods prescribed in the tribal fishing code. In less than one week, each was to prepare an affidavit declaring their concern for the fishery proposed by the tribal code.

Prior to filing, tribal biologists had prepared affidavits in support of the Indian fishing code. Department biologists focused their attention on these as well as the code and the supporting brief submitted by tribal attorneys. In addition, tribal attorneys took depositions from James Addis and Ronald Poff, of the Bureau of Fish Management. These were documented and made available for review.

Attorneys for the State in this case were John Niemisto and Mary Bowman, both of the Department of Justice. On the basis of their review of the affidavits, they felt it was not necessary to call on the fisheries biologists for testimony in defense of the State's position.

On June 1, 1984, District Judge Doyle denied the tribe's motion for a preliminary injunction and encouraged the parties to return to negotiations. In his opinion, he accepted the scientific and expert opinions expressed by the Department's spokespersons and stated "they....bring to the subject a vast accumulation of information and insight, and a broader perspective (than that of the tribal biologists), developed institutionally over many years."

Affidavits from Department fisheries personnel should provide support for positions we take in future negotiations relating to Indian fishing in the ceded territory. In addition, they constitute a basis for our determination that any particular regulation or management practice is reasonable and necessary to prevent substantial depletion of the fish stocks. They should be considered as a foundation on which we can build a strong biological basis for future regulation of all fishing.

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Reference Material

1) Motion for preliminary injunction, Case No. 74-C-313, filed April 17, 1984.

2) Off-Reservation Open Water Fishing Code - 1984.

3) Preliminary injunction, redraft filed April 23, 1984.

4) Affidavit in support of motion..., Thomas R. Busiahn.

5) Affidavit in support of motion..., Neil E. Kmiecik.

6) Opinion and Order, 74-C-313, entered June 1, 1984.

The following affidavits were prepared and are appended. References are not normally included, due to their considerable volume.

7)	James Addis, Director Bureau of Fish Management	Department Policy, Strategies, Community Theory
8)	Ronald Poff, Section Chief Bureau of Fish Management	Gill Netting, Assessment, Fishing Code Analysis
9)	David A. Hanson, Biologist Bureau of Research	Muskellunge Population Dynamics
10)	Steven L. Serns, Biologist Bureau of Research	Walleye Population Dynamics
11)	Gerry Bever, Area Manager Northwest District	Lake Sturgeon Population Dynamics
12)	Lloyd M. Andrews, Manager North Central District	Northern Pike Population Dynamics
13)	Thomas D. Beard, Area Manager Dynamics Northwest District	Largemouth Bass Population
14)	Frank B. Pratt, Assistant Area Manager Northwest District	Smallmouth Bass Population Dynamics
15)	Lloyd M. Andrews, Manager North Central District	Lake Trout Population Dynamics
16)	Robert L. Hunt, Coldwater Group Leader Bureau of Research	Stream Trout Population Dynamics
17)	Bruce L. Swanson, Lake Superior Work Unit Supervisor Northwest District	Fishing Code Analysis, Trout

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DOCKET NUMBER 100
U. S. DISTRICT COURT WEST. DIST. OF WISCONSIN FILED
APR 17 198_ M.
JOSEPH W. SKUPNIEWITZ, CLERK
CASE NUMBER

IN THE UNITED STATES DISTRICT COURT

FOR THE WESTERN DISTRICT OF WISCONSIN

LAC COURTE OREILLES BAND OF LAKE SUPERIOR CHIPPEWA INDIANS, et al.,

Plaintiffs,

vs.

Case No. 74-C-313

STATE OF WISCONSIN, et al.,

Defendants.

MOTION FOR PRELIMINARY INJUNCTION BASED ON DECLARATORY JUDGMENT; NOTICE OF MOTION

The Lac Courte Oreilles Band of Lake Superior Chippewa Indians; the Lac du Flambeau Band of Lake Superior Chippewa Indians; the Red Cliff Band of Lake Superior Chippewa Indians; the St. Croix Chippewa Indians of Wisconsin; and the Sokaogon Chippewa Community, Mole Lake Band of Wisconsin, plaintiffs in the above-entitled action, in which a declaratory judgment in favor of the plaintiffs was issued by this court on March 6, 1984, now move the court, by and through the undersigned attorneys, for further necessary and proper relief against the State of Wisconsin and the other named defendants based on such declaratory judgment. This motion is made under the provisions of 28 U.S.C. s. 2202 and is based on the following grounds:

The five tribes above listed, under the umbrella of the Inter-Tribal Task Force on the Voigt Decision of the Great Lakes Indian Fish and Wildlife Commission, have adopted an Off-Reservation Open Water Fishing Code - 1984, and have developed an intertribal mechanism for enforcing its provisions. These regulations, which more than adequately protect the resource from depletion, preempt any regulatory authority which the state may otherwise possess over treaty fishers. They state may not, therefore, apply its fishing regulations to treaty fishers, and an injunction is needed to prevent the defendants from doing so.

WHEREFORE, the plaintiff tribes which have joined in this motion pray that an order be entered herein as follows: enjoining and restraining the defendants, their officers, agents, servants, employees, attorneys, and those persons in active concert or participation with them from interfering with the exercise of reserved treaty fishing rights by members of movant tribes pursuant to the Off-Reservation Open Water Fishing Code - 1984 through enforcement of state fishing laws or regulations inconsistent therewith or otherwise.

The movant tribes base this motion upon the files and records herein, and the affidavits and other materials contained in the Submission of Movant Tribes in Support of Motion for Preliminary Injunction and the Brief in Support of Motion for Preliminary Injunction, filed herewith.

NOTICE OF MOTION

TO: John Niemisto
Mary Bowman, attorneys for defendants
Wisconsin Department of Justice
Post Office Box 7857
Madison, Wisconsin 53707

PLEASE TAKE NOTICE that at a time, date, and place established by the court, the undersigned will bring the above motion for hearing in the courtroom then assigned to, and before, Hon. James E. Doyle, District Judge.

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WHEREFORE, the plaintiff tribes which have joined in this motion pray that an order be entered herein as follows: enjoining and restraining the defendants, their officers, agents, servants, employees, attorneys, and those persons in active concert or participation with them from interfering with the exercise of reserved treaty fishing rights by members of movant tribes pursuant to the Off-Reservation Open Water Fishing Code - 1984 through enforcement of state fishing laws or regulations inconsistent therewith or otherwise.

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By: Kathryn L. Tierney
Kathryn L. Tierney

James M. Jannetta

Howard J. Bichler
Howard J. Bichler

Off-Reservation Open Water Fishing Code - 1984

BE IT ORDAINED BY THE TRIBAL COUNCIL OF THE BAD RIVER BAND OF THE LAKE SUPERIOR TRIBE OF CHIPPEWA INDIANS

CHAPTER I INTRODUCTION

101 Title - This code shall be known as the Bad River Off-Reservation Open Water Fishing Code.

102 Authority - This code is enacted pursuant to Article V, Section 1(h) of the Constitution and By-laws of the Bad River Band.

103 Purpose - It is the purpose of this code to:

a) provide an orderly system for tribal control and regulation of open water fishing on the off-reservation lands and waters ceded by the Chippewa Indians in the Treaty of 1837, 7 Stat. 536 and the Treaty of 1842, 7 Stat. 591.

b) provide a means to promote the conservation and management of fish resources through the control of member off-reservation fishing activities.

104 Effective Date - This code shall be effective on the date adopted by the tribal council.

105 Abrogation and Greater Restrictions - Where this code imposes greater restrictions than those contained in other tribal codes, the provisions of this code shall govern.

106 Interpretation - In their interpretation and application, the provisions of this code shall be held to be minimum requirements and shall be liberally construed in favor of the tribe and shall not be deemed a limitation or repeal of any other tribal power or authority.

107 Severability and Non-Liability - If any section, provision or portion of this code is adjudged unconstitutional or invalid by a court of competent jurisdiction, the remainder of this code shall not be affected thereby. The tribe asserts there is no liability on the part of the Tribe, its agencies, or employees for damages that may occur as a result of reliance upon and conformance with this ordinance.

108 Applicability - This code shall apply to open water fishing activities on off-reservation lands and waters

throughout the ceded territory described in Section 103(a) of this code but shall not apply to Lake Superior and Lake Superior Tributary Streams, except as provided in Section 205(a) of this Code. This code does not regulate fishing activities conducted through an artificial hole in the ice. Any limitations within this code on the exercise of rights in certain lands and waters shall not be construed as a limitation of the tribe's fishing rights in the off-reservation ceded territories.

CHAPTER II - REGULATIONS

201 Length of Season - Unless otherwise stated, the 1984 Chippewa Off-Reservation Open Water Fishing Season shall be during the time period from April 16, 1984 to December 31, 1984.

202 Permissible Methods - The following methods are regulated by this code: spearing, hook and line, and gill netting.

203 Spearing - The following restrictions shall apply to spearing activities of tribal members in the off-reservation open waters listed in Section 205(a) of this code.

a) Spearing Permits - Fishermen using spears must obtain from the tribal Conservation Department a daily spearing permit. The daily spearing permit shall be uniform for all spearers and shall have printed or written on the front side the spearers name, address, phone number, tribal identification card number and shall indicate those lakes to be speared pursuant to the daily permit. The reverse side of the spearing permit shall be in the form of a creel census questionnaire to be completed by the spearer when required by this code.

b) Spearing Limited To Specified Lakes - Spearing activities shall be limited to those lakes and rivers listed in Section 205(a) of this code. Spearing permits may only be obtained from the tribal conservation office indicated for each lake or river as listed in Section 205(a) of this code.

c) Spearing Creel Surveys - Spearing Creel surveys shall be conducted on all nights for which spearing permits have been issued. Tribal members spearing shall be interviewed upon completion of their trip and must provide information when requested. Information collected shall include the number of fish harvested by species, weight, lake(s) fished, length of trip, and number of spearers. In addition, scale samples, dorsal throughout the ceded territory described in Section 103(a) of this code but shall not apply to Lake Superior and Lake Superior Tributary Streams, except as provided in Section 205(a) of this Code. This code does not regulate fishing activities conducted through an artificial hole in the ice. Any limitations within this code on the exercise of rights in certain lands and waters shall not be construed as a limitation of the tribe's fishing rights in the off-reservation ceded territories.

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d) Size and Bag Limits - The following size and bag limits shall apply to persons spearing pursuant to this code:

Species	Bag Limit	Minimum Size
Lake Sturgeon	1 per person per season	45 inches
All Trout (except lake trout)	10 per day of which only 5 may be rainbow or brown trout in aggregate	6 inches
Lake Trout	2 per day	17 inches
Largemouth Bass	5 per day	None
Smallmouth Bass	5 per day	None

There shall be no other size or bag limit for all other species of fish with the exception of Walleye and Muskellunge which limits are contained in Sections 203(e) and (f) of this code. No fish currently listed as endangered or threatened by the United States or the State of Wisconsin may be taken or possessed.

e) Muskellunge Size and Bag Limits - The size limit for muskellunge taken by spear shall be 30 inches. The daily bag limit of muskellunge taken by spear is 3 muskellunge per person per permit.

f) Walleye Size and Bag Limits - The size limit for speared walleye shall be 11 inches and larger. There shall be no individual bag limit for walleyes, except for those taken by spear in rivers, in which case the bag limit shall be 10 per day per person.

g) Spearing defined - Spearing is defined as reducing or attempting to reduce to possession by means of a hand held spear or other similar device which is directed by the spearer for the purpose of impalling the target fish. Spearing with the aid of an artificial light is permitted by this code. Spearing with devices which are artificially propelled including spear guns are prohibited.

h) <u>Fish Under Minimum Size</u> - Fish speared under the minimum size limits of subsections (d), (e) and (f) above shall be turned over to a tribal conservation warden for disposition pursuant to tribal policy; provided that no such disposition shall inure to the benefit of the fisher. Said fish shall be reported pursuant to the requirements of subsection (c) and shall be included in the daily bag limits applicable to said fish species.

204 Gill Netting

a) <u>Gill Net Permit</u> - Fishers using gill nets must obtain a gill net permit from the Tribal Conservation Department issuing permits for lakes described in Section 205(a) of this code. The permit must be carried whenever nets are being set, tended or lifted and when transporting netted fish. The permit shall describe the date, lake and approximate location of the set.

b) <u>Gill Net Permit Issuance</u> - Gill net permits will be issued to only one person per household and must be applied for three (3) days in advance of the netting activity. Before a permit may be issued by the Tribal Conservation Department, the Department must consult with the Great Lakes Indian Fish and Game Commission Fisheries Biologist. The Commission Biologist may reject a permit application based upon a determination that the aggregate lake harvest quota has been reached or will be reached by usage of existing permits or that insufficient personnel will be available to monitor the net lift.

c) <u>Notification of Wisconsin Department of Natural Resources</u> - The Tribal Conservation Department will notify the Wisconsin Department of Natural Resources District Office for the District in which any permit activity is to occur at least 24 hours in advance of the activity.

d) <u>Authorized Netting Lakes - Aggregate Lake Walleye Limits</u> - Netting shall be allowed on those lakes listed in Section 205(a) of this code. No more than 20,000 lbs. of walleye may be taken by gill netting in the aggregate during the open water fishing season. No netting permit shall be issued once the 20,000 lbs. limit has been reached and any outstanding gill net permits shall be cancelled.

h) Fish Under Minimum Size - Fish speared under the minimum size limits of subsections (d), (e) and (f) above shall be turned over to a tribal conservation warden for disposition pursuant to tribal policy; provided that no such disposition shall inure to the benefit of the fisher. Said fish shall be reported pursuant to the requirements of subsection (c) and shall be included in the daily bag limits applicable to said fish species.

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b) Gill Net Permit Issuance - Gill net permits will be issued to only one person per household and must be applied for three (3) days in advance of the netting activity. Before a permit may be issued by the Tribal Conservation Department, the Department must consult with the Great Lakes Indian Fish and Game Commission Fisheries Biologist. The Commission Biologist may reject a permit application based upon a determination that the aggregate lake harvest quota has been reached or will be reached by usage of existing permits or that insufficient personnel will be available to monitor the net lift.

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e) Size and Bag Limits - The following size and bag limits shall apply for all gill net activities for the following species:

Species	Bag Limit	Minimum Size
Lake Sturgeon	1 per person per season	45 inches
All Trout (except lake trout)	10 per day of which only 5 may be rainbow or brown trout in aggregate	6 inches
Lake Trout	2 per day	17 inches
Largemouth Bass	5 per day	None
Smallmouth Bass	5 per day	None

There shall be no other bag or size limits except for aggregate lake limits for walleye and a limit of two muskellunge over 32 inches per day may be kept. All live fish in excess of the bag limit or below the minimum size limit must be returned. All dead fish must be kept. No fish currently listed as endangered or threatened by the United States or the State of Wisconsin may be taken or possessed.

f) Netting Season - The Netting season shall extend on applicable lakes from May 15 to December 31, 1984. No netting permit shall be issued for a lake if the Commission Fisheries Biologist determines that muskellunge or Walleye spawning is occurring on that lake.

g) Gear Restrictions - Gill nets shall be of 3"-4½" mesh (stretch). The total length of a net set shall not exceed 300 feet. Gill nets must be marked with a float on each end bearing the Tribal Identification card number of the permit holder.

h) Placement Restrictions - Gill nets shall be set only in lakes listed in Section 205(a) of this code. Gill nets shall not be set within 300 feet of a lake outlet or inlet. Gill nets shall not be placed within 200 yards from a prior set if the lift of the prior set resulted in a number of dead fish kept which was greater than the bag limit for a given species or if the yield of walleye from two lifts does not exceed 10 lbs. combined. Gill nets must be lifted in the presence of authorized tribal personnel. Gill nets must be lifted within fiften (15) hours of being set but in any event must be lifted no later than 8 A.M. Gill nets must be set in such a manner that walleye are the targeted species.

i) Compliance Required - Fishers using gill nets shall comply with all restrictions including placement and gear restrictions contained in the permit.

j) Monitoring - All gill net lifts shall be monitored by a Tribal or Great Lakes Indian Fish and Wildlife Commission Biologist or Biological Technician who shall collect and keep detailed records from each lift. All information must be forwarded to the Great Lakes Indian Fish and Wildlife Commission Fishery Biologist.

k) Fish Tags - All fish taken by netting must be tagged with tags provided by the Tribal Conservation Department prior to land transportation.

l) Gill Netting - Defined - Gill netting is defined as reducing or attempting to reduce fish to possession through the use of a gill net which is a net designed to entangle fish and made of a single web of fine thread hung and fitted at the top and bottom with lead or maitre cord, line or rope to which are attached at the top floats and at the bottom, sinkers.

205 Spearing and Netting Lakes - Aggregate Limits - Permits

a) Authorized Spearing and Netting Lakes - Aggregate Lake Walleye and Muskellunge Limits - Spearing and netting may only take place in the following lakes. Spearing and netting permits may be obtained only from the appropriate Tribal conservation office located near the following groups of lakes. The yield of walleye (lbs/acre) for netting and spearing activity shall not exceed 0.5 lbs. in lakes classified as 1(a)A, 0.25 lbs. in other type 1 lakes and 0.20 lbs, in all type 2 and 3 lakes. Lake classifications for walleyes are those utilized in Wisconsin Walleye Waters, DNR Publication 9-3600 (75). The yield of muskellunge for spearing activity shall not exceed .12 lbs. per acre. The yield of .12 lbs. of muskellunge per acre may be adjusted upward to .2 lbs. per acre upon a determination by the Commission Biologist that water clarity (secchi tribal personnel. Gill nets must be lifted within fiften (15) hours of being set but in any event must be lifted no later than 8 A.M. Gill nets must be set in such a manner that walleye are the targeted species.

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St. Croix Tribal Conservation Department

Lake and County	Area (acres)	Class (Walleye)	Walleye Harvest Rate (lbs/acres)	Walleye Yield (lbs)	Muskellunge Yield (Spearing) lbs/lake
Sand - Barron	300	2B	.2	60	36
Big Sand - Burnett	1400	2B	.2	280	168
Upper Clam - Burnett	1218	2B	.2	240	146
Round - Polk	1031	2B	.2	210	124
Lower Clam - Burnett	337	2B	.2	67	40
Gaslyn - Burnett	164	-	.2	33	20
Bashow - Burnett	171	-	.2	34	21

Lac Du Flambeau Tribal Conservation Department

Lake and County	Area (acres)	Class (Walleye)	Walleye Harvest Rate (lbs/acres)	Walleye Yield (lbs)	Muskellunge Yield (Spearing) lbs/lake
Flambeau Flowage - Iron	13545	1(a)A	.5	6770	1625
Manitowish - Vilas	506	2B	.2	100	61
Squaw - Oneida	785	2B	.2	150	94
Island - Vilas	757	1(a)A	.5	379	91
Laura - Vilas	599	1(a)A	.2	120	72
Squirrel - Oneida	1352	2B	.2	270	162
Trout - Vilas	3870	1(a)A	.5	1930	464
Rest - Vilas	640	1(a)A	.5	320	77
Big - Vilas	850	1(a)A	.5	420	102
Carrol - Oneida	335	2B	.2	67	40
North Twin - Vilas	2782	1(a)A	.5	1391	334
*Big Crooked - Vilas	682	1(b)A	.25	170	-
*Big Arbor Vitae - Vilas	1065	1(a)B	.25	266	-
*Big Muskellunge - Vilas	923	3B	.2	185	-
*Star - Vilas	1150	1(a)A	.5	575	-
*Katherine - Oneida	555	2B	.5	278	-

*Netting Only

Lac Courte Oreilles Tribal Conservation Department

Lake and County	Area (acres)	Class (Walleye)	Walleye Harvest Rate (lbs/acres)	Walleye Yield (lbs)	Muskellunge Yield (Spearing) lbs/lake
Whitefish - Sawyer	917	1(a)A	.5	460	110
Round - Sawyer	2784	1A	.25	700	334
Nelson - Sawyer	2503	1(b)A	.25	620	300
Moose - Sawyer	1602	1(b)A	.25	400	192
Sand - Sawyer	928	1(b)A	.25	230	111
Sissabagama - Sawyer	719	1(b)A	.25	180	86
Chippewa Flowage - Sawyer	15300	1(b)B	.25	3830	1836
Chetac - Sawyer	2149	1B	.25	540	258
Lac Courte Oreilles - Sawyer	5038	2B	.2	1008	605
Grind Stone- Sawyer	3111	2A	.2	622	373

Mole Lake Tribal Conservation Department

Lake and County	Area (acres)	Class (Walleye)	Walleye Harvest Rate (lbs/acres)	Walleye Yield (lbs)	Muskellunge Yield (Spearing) lbs/lake
Pine - Forest	1677	2B	.2	335	201
Mole - Forest	73	2C	.2	15	9
Metonga - Forest	2157	1(a)A	.5	1080	259
Lucerne - Forest	1048	1(a)A	.5	520	126
Pickerel - Forest	1299	2B	.2	260	156
Rollingstone - Langlade	688	2B	.2	140	83
Pelican - Oneida	3585	2B	.2	715	430
Roberts - Forest	452	2B	.2	90	54
Kentuck - Vilas	995	3A	.2	199	119
Enterprise - Langlade	495	1(a)A	.5	248	59

Bad River Tribal Conservation Department
Red Cliff Tribal Conservation Department

Lake and County	Area (acres)	Class (Walleye)	Walleye Harvest Rate (lbs/acres)	Walleye Yield (lbs)	Muskellunge Yield (Spearing) lbs/lake
Gile Flowage - Iron	3384	1(a)A	.5	1690	406
Nemekagon - Bayfield	3285	1(a)A	.25	820	394
Upper Eau Claire - Bayfield	1030	1(a)A	.5	515	124
Middle Eau Claire - Bayfield	804	1(a)A	.5	400	96
Lower Eau Claire - Bayfield	776	1(a)A	.5	390	93
Owen - Bayfield	1250	1B	.25	310	150

Bad River Tribal Conservation Department

Lake and County	Area (acres)	Class (Walleye)	Walleye Harvest Rate (lbs/acres)	Walleye Yield (lbs)	Muskellunge Yield (Spearing) lbs/lake
*Potato River - Ashland	-	-	-	-	-
*Sioux/Little Sioux - Bayfield		-	-	-	-
*Fish Creek - Bayfield	-	-	-	-	-
*White River - Ashland	-	-	-	-	-
*Tyler's Forks - Ashland/ Iron		-	-	-	-

*Spearing only.

b) <u>Lake Closure</u> - Any lake from which the aggregate limit has been harvested shall be closed to further spearing or netting activities. The decision to close a lake shall be made by the Great Lakes Indian Fish and Wildlife Commission Fisheries Biologist. Daily information regarding the previous days netting or spearing harvest shall be transmitted by the appropriate tribal officials to the Commission Fisheries Biologist by 11:00 A.M. The decision to close shall be made by 12:00 noon and that decision shall be transmitted to the appropraite tribal agency.

Mole Lake Tribal Conservation Department

Lake and County	Area (acres)	Class (Walleye)	Walleye Harvest Rate (lbs/acres)	Walleye Yield (lbs)	Muskellunge Yield (Spearing) lbs/lake
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Pelican - Oneida	3585	2B	.2	715	430
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Bad River Tribal Conservation Department					
*Potato River- Ashland	-	-	-	-	-
*Sioux/Little Sioux- Bayfield		-	-	-	-
*Fish Creek- Bayfield	-	-	-	-	-
*White River- Ashland	-	-	-	-	-
*Tyler's Forks- Ashland/ Iron		-	-	-	-

*Spearing only.

b) <u>Lake Closure</u> - Any lake from which the aggregate limit has been harvested shall be closed to further spearing or netting activities. The decision to close a lake shall be made by the Great Lakes Indian Fish and Wildlife Commission Fisheries Biologist. Daily information regarding the previous days netting or spearing harvest shall be transmitted by the appropriate tribal officials to the Commission Fisheries Biologist by 11:00 A.M. The decision to close shall be made by 12:00 noon and that decision shall be transmitted to the appropraite tribal agency.

c) Tribal Permit Issuance - Spearing and netting permits shall be issued from the appropriate tribal conservation office listed with each group of lakes found in Section 205(a). The tribe authorizes those tribes listed as permit issuing tribes in Section 205(a) to be the sole issuing authority for those lakes indicated and accepts responsibility to be the sole permit issuing authority for issuance of spearing and gill net permits for those lakes listed with this tribe in Section 205(a). Issuance of permits by the tribal permitting agency is discretionary and subject to tribal control except that no permits may be issued when a lake has been closed or the Commission Fisheries Biologist determines that the lake aggregate limit will be reached through usage of existing permits or that a sufficient number of monitoring personnel is not available.

206 Hook and Line Fishing

a) Gear Restrictions - There shall be a limit of 6 lines per fisher.

b) Prohibited Baits - The use of the following live fish as bait is prohibited: carp, goldfish, redhorse, freshwater drum, burbot, bowfin, gar fish, buffalo fish, lamprey, alewive, gizzard shad, smelt, goldeye, mooneye, carp sucker, quillback, and crayfish.

c) Bag limits and Size Limits - There shall be a bag limit of one lake sturgeon of a minimum of 45 inches per season per person. The daily bag limit for muskellunge taken while motor trolling shall be 2 per day per person with a minimum size of 32 inches. No fish currently listed as endangered or threatened by the United States or the State of Wisconsin may be taken or possessed.

d) Hook and Line Fishing Defined - Hook and line fishing is defined as reducing or attempting to reduce fish to possession through the use of a rod and reel, snagging and motor trolling.

207 Cooperation with Deputized Conservation Wardens - Any tribal member engaged in fishing activities pursuant to this code shall cooperate with any reasonable request from a tribal or Great Lakes Indian Fish and Game Commission deputized warden or commission or tribal biologist concerning identification, permits, fish management and monitoring inquiries. Failure to cooperate shall be a violation of this code and may be punished by revocation of permits in addition to all other penalties authorized by this code.

208 DNR Monitoring - At all times, representatives of the Wisconsin Department of Natural Resources shall be allowed to monitor activities conducted pursuant to this open water fishing code. Representatives of the Wisconsin Department of Natural Resources shall be notified upon the issuance of each netting permit and may request information regarding the distribution of spearing permits.

209 Tribal Identification Cards - All tribal members fishing in the off-reservation ceded territory must have in his possession a valid tribal photo identification card.

210 Assessment Projects - The Commission Fisheries Biologist may conduct assessment projects in the off-reservation waters of the ceded territory after consultation with the Wisconsin Department of Natural Resources and members of the Voigt Inter-Tribal Task Force Committee of the Great Lakes Indian Fish and Wildlife Commission.

211 Special Restrictions - Special restrictions applicable to lakes upon which the Wisconsin Department of Natural Resources is conducting fish management experiments shall apply to tribal members. The following lakes have current on-going research projects and are specially regulated: Spruce Lake (Vilas County), Mystery Lake (Vilas), Pallett Lake (Vilas), Escanaba Lake (Vilas), Nebish Lake (Vilas), Long Lake (Iron), Bone Lake (Polk), Lake Winter (Sawyer), Big Lake (Vilas), Pine Lake (Iron), Clear Lake (Oneida), Little Bass Lake (Oneida), Wildwood Lake (Vilas), Kimball Lake (Langlade), Mueller Lake (Langlade), Sawyer Lake (Langlade), Balsam Lake (Bayfield), Beaver Lake (Bayfield), Little Star Lake (Bayfield), Spring Lake (Bayfield), McGee Lake (Langlade) and Little Arbor Vitae Lake (Vilas).

212 Waste of Natural Resources - No member shall unreasonably waste, injure or destroy or impair natural resources while fishing pursuant to this code.

213 Litter - No member shall leave or discard in the water cans, bottles, debris, refuse and other solid waste or dḗposit debris on public or private property while fishing pursuant to this code.

214 All streams and rivers during spawning season shall be closed to snagging and, except as provided by sec. 205 of this code, to spearing. Those fish refuges that are identified on site as such by the Wisconsin Department of Natural Resources,

shall be closed to spearing, snagging, or netting.

208 DNR Monitoring - At all times, representatives of the Wisconsin Department of Natural Resources shall be allowed to monitor activities conducted pursuant to this open water fishing code. Representatives of the Wisconsin Department of Natural Resources shall be notified upon the issuance of each netting permit and may request information regarding the distribution of spearing permits.

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212 Waste of Natural Resources - No member shall unreasonably waste, injure or destroy or impair natural resources while fishing pursuant to this code.

213 Litter - No member shall leave or discard in the water cans, bottles, debris, refuse and other solid waste or deposit debris on public or private property while fishing pursuant to this code.

214 All streams and rivers during spawning season shall be closed to snagging and, except as provided by sec. 205 of this code, to spearing. Those fish refuges that are identified on site as such by the Wisconsin Department of Natural Resources, shall be closed to spearing, snagging, or netting.

CHAPTER III ENFORCEMENT

301 Deputized Conservation Wardens - Any warden deputized by this tribe or by the warden supervisor may enforce provisions of this ordinance.

302 Warden Supervisor - A warden supervisor designated by the Great Lakes Indian Fish and Wildlife Commission shall oversee the enforcement activities of deputized Conservation Wardens in the off reservation ceded areas. The Head Conservation Warden is authorized to deputize conservation wardens and to direct enforcement efforts conducted pursuant to this code and if necessary shift enforcement personnel to those areas of greatest need.

303 State Conservation Wardens - Wisconsin Conservation Wardens and deputy conservation wardens are hereby empowered to enforce the provisions of this code and may institute proceedings in tribal court by use of state Department of Natural Resources citation forms set forth in Wis. Stat. 23.054.

304 Powers of Deputized Wardens -

a) Warrants and Process - Any warden deputized by this tribe or the warden supervisor may execute and serve warrants and processes issued by the tribal court in the same manner as any law enforcement officer of the State of Wisconsin may serve and execute such state warrants and processes under State law.

b) Stop and Search - For the purpose of enforcing this code, any warden deputized by this tribe or by the warden supervisor may stop and board any boat and stop any automobile or other vehicle, if the warden reasonably suspects there is a violation or breach of this code. Any warden deputized by this tribe or by the warden supervisor may, with or without a warrant, open, enter, and examine vessels, boats, wagons, trailers, automobiles, packages and other receptacles where the tribal warden has probable cause to believe that fish or other natural products taken or held in violation of this Off-Reservation Open Water Fishing Code.

c) Civil Remedial Enforcement - Any warden deputized by this tribe or by the warden supervisor may issue a citation to any tribal member if the warden reasonably believes that such person has breached a provision of this code and may seize and hold any property authorized to be seized pursuant to civil remedial forfeiture provisions of the Tribal Court Code. Upon a decree of forfeiture issued by the Tribal Court, the property forfeited shall be sold by the conservation wardens at the highest price obtainable and the proceeds remitted to the tribe pursuant to the civil remedial forfeiture provisions of the Tribal Court Code.

d) Citation contents - The citation shall contain a complaint, a case history, and a report of court action on the case. It must appear on the face of the citation that there is a reasonable basis to believe that a breach of this ordinance has been committed and that the person charged (defendant) has committed the offense. The citation form shall contain the following:

1. The name of the person to whom the citation was issued, together with the person's age and address, if available;

2. The tribal permit or license number of the defendant, if applicable;

3. The name and tribal department of the issuing oficer;

4. The offense alleged, the time and place of the occurrence, a statement that the defendant committed the offense, the ordinance provision charged, and a description of the offense in language which can be easily understood;

5. The maximum civil remedial money penalty for which the defendant might be found liable;

6. A date, time, and place for the Tribal Court appearance, and a notice to appear;

7. Provision for a deposit and stipulation of default in lieu of court appearance;

8. Notice that if the defendant fails to appear at the time fixed in the citation, that he will be default and judgment entered against him in an amount up to the maximum penalty;

9. Notice that if the defendant makes a deposit and stipulation of default, judgment will be entered against him in the amount of the deposit; and

10. Any other pertinent information.

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9. Notice that if the defendant makes a deposit and stipulation of default, judgment will be entered against him in the amount of the deposit; and

10. Any other pertinent information.

CHAPTER IV EMERGENCY AUTHORITY - COMMUNICATION WITH WISCONSIN DEPARTMENT OF NATURAL RESOURCES

401 Emergency Rule Making - Representatives of the Voigt Inter-Tribal Task Force Committee of the Great Lakes Indian Fish and Wildlife Commission may promulgate thirty (30) day emergency rules imposing greater restrictions than those contained in this code. At the end of the thirty (30) day period the rule shall expire unless adopted by the tribe.

402 Communications with the Wisconsin Department of Natural Resources - Communications dealing with the exercise of fishing rights pursuant to this code shall be between Tribal Representatives on the Voigt Inter-Tribal Task Force Committee of the Great Lakes Indian Fish and Wildlife Commission and District Directors or Department Heads of the Wisconsin Department of Natural Resources. The Commission and member tribes shall consult with the Wisconsin Department of Natural Resources concerning cooperative, ameliorative and protective measures deemed to be necessary to resolve resource problems. The Wisconsin Department of Natural Resources shall contact the Commission Fisheries Biologist whenever it has information which might indicate an actual or potential resource problem.

CHAPTER V PENALTIES AND PROCEDURES

501 Civil Remedial Money Penalty - Violation of any provision of this Off-Reservation Open Water Fishing Code shall subject said violator to a civil remedial money penalty of not less than $20 nor more than $500.

502 Civil Remedial Forfeiture of Property - Violation of any provision of this Off-Reservation Open Water Fishing Code may be punishable by civil remedial forfeiture of property.

503 Revocation of Fishing Privileges - Violation of any provision of this Off-Reservation Open Water Fishing Code may be punishable by forfeiture of future fishing privileges in the off-reservation ceded areas.

504 Tribal Court Jurisdiction - The Bad River Tribal Court is hereby given jurisdiction over violations of this code committed by members of the Bad River Band.

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WISCONSIN

LAC COURTE OREILLES BAND OF LAKE SUPERIOR CHIPPEWA INDIANS, et al.,
Plaintiffs,

vs.

Case No. 74-C-313

STATE OF WISCONSIN, et al.,
Defendants.

PRELIMINARY INJUNCTION

Upon completion of a hearing on plaintiff Tribes' Motions for a Preliminary Injunction before the Hon. James E. Doyle, Senior Judge, and upon review of the evidence presented and legal memoranda submitted by all parties in relation to said Motions, and argument being held thereon, and the Court being advised of the premises, it is

ORDERED, ADJUDGED, AND DECREED, that the State of Wisconsin; the Wisconsin Natural Resources Board; Carroll D. Besadny, Secretary, Wisconsin Department of Natural Resources (WDNR); James Huntoon, Administrator, WDNR Division of Resource Management; George Meyer, Administrator, WDNR Division of Enforcement; their officers, agents, servants, employees, and attorneys, and those persons in active concert or participation with them who receive actual notice of this order by personal service or otherwise (termed hereafter Defendants), are enjoined and restrained to obey, to respect, and to comply with each provision of this injunction from the date of its issuance through December 31, 1984, or upon the expiration of the open water treaty fishing season caused by the formation of ice prior to December 31, 1984.

1. Defendants shall not apply or enforce any of the following statutes or regulations to fishing activities of any member of the plaintiff Tribes who possesses a tribal photo identification card on any off-reservation water of the territory ceded by the Treaties of 1837 and 1842 (excepting Lake Superior and its tributary streams) to the extent, and only to the extent, that such statute or regulation prohibits fishing activity which is authorized in the inter-tribal code entitled, "Off-Reservation Open Water Fishing Code - 1984":

Wis. Stat. 29.02(1), (2) "Title to Wild Animals"

Wis. Stat. 29.03(2), (6) "Public Nuisance"

Wis. Stat. 29.05(1), (2), (7), (8), "Police powers; searches; seizures" -- to the extent these sections would otherwise apply to activities lawfully undertaken or fish lawfully obtained pursuant to the inter-tribal code;

Wis. Stat. 29.06 "Sale of confiscated game and apparatus"

Wis. Stat. 29.07 "Assistance of police officers:

Wis. Stat. 29.09 "Hunting, trapping, and fishing licenses" -- as applied to fishing licenses

Wis. Stat. 29.095 "Senior citizen recreation card" --as applied to fishing license

Wis. Stat. 29.14 "Nonresident fishing licenses"

Wis. Stat. 29.145 "Resident fishing licenses; exceptions"

Wis. Stat. 29.148 "Sturgeon spearing license"

Wis. Stat. 29.174(1), (2), (6), (7), (9) "Conservation of fish and game; powers of department" -- insofar as they purport to subject treaty fishers to WDNR regulations which conflict with the inter-tribal code

Wis. Stat. 29.175 "Nongame species"

Wis. Stat. 29.39 "Possession during close season or in excess of bag limit"

Wis. Stat. 29.395 "Game, possession in open season"

Wis. Stat. 29.43(1), (2), (3) "Transportation, general provisions"

1. Defendants shall not apply or enforce any of the following statutes or regulations to fishing activities of any member of the plaintiff Tribes who possesses a tribal photo identification card on any off-reservation water of the territory ceded by the Treaties of 1837 and 1842 (excepting Lake Superior and its tributary streams) to the extent, and only to the extent, that such statute or regulation prohibits fishing activity which is authorized in the inter-tribal code entitled, "Off-Reservation Open Water Fishing Code - 1984":

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Wis. Stat. 29.39 "Possession during close season or in excess of bag limit"

Wis. Stat. 29.395 "Game, possession in open season"

Wis. Stat. 29.43(1), (2), (3) "Transportation, general provisions"

Wis. Stat. 29.47(2), (4) "Transportation of fish"

Wis. Stat. 29.65(1)(i), (j), (k), (l) "Civil actions for damages caused by law violations"

Wis. Stat. 29.99(2), (4), (5), (6), (9), (10), (12) "General penalty provisions"

Wis. Stat. 29.995 "Penalties; repeaters"

Wis. Stat. 29.996 "Parties to a violation"

Wis. Stat. 29.997 "Natural resource assessments"

Wis. Stat. 29,998 "Natural resources restitution payments"

Wis. Admin. Code, NR 20.01 "Closed seasons"

Wis. Admin. Code, NR 20.03(1), (2), (3) "Season tables; open and closed seasons; size and bag limits and measurements"

Wis. Admin. Code, NR 20.04(3)(a), (am), (c), (d), (6) "Open seasons in specified waters"

Wis. Admin. Code, NR 20.06 "Prohibited fishing under particular conditions"

Wis. Admin. Code, NR 20.07(1)(a), (b), (d), (8), (10) "Prohibited methods of fishing"

Wis. Admin. Code, NR 21.04 "Sport fishing, seasons and limits (Wisconsin - Minnesota boundary waters)"

Wis. Admin. Code, NR 21.06(1)(a), (c) "Sport fishing restrictions (Wisconsin - Minnesota boundary waters)"

Wis. Admin. Code, NR 23.02 "Seasons; limits (Wisconsin - Michigan boundary waters)"

Wis. Admin. Code, NR 23.03 "Hook and line fishing (Wisconsin - Michigan boundary waters)"

Wis. Admin. Code, NR 23.04 "Fishing near dams (Wisconsin - Michigan boundary waters)"

Wis. Admin. Code, NR 26.01 "Fish refuges"

Wis. Admin. Code, NR 26.02 "Fish refuges"

Wis. Admin. Code, NR 26.05 "Fish refuges"

Wis. Admin. Code, NR 26.06 "Fish refuges"

Wis. Admin. Code, NR 26.09 "Fish refuges"

Wis. Admin. Code, NR 26.10 "Fish refuges"

Wis. Admin. Code, NR 26.11 "Fish refuges"

Wis. Admin. Code, NR 26.12 "Fish refuges"

Wis. Admin. Code, NR 26.14 "Fish refuges"

Wis. Admin. Code, NR 26.15 "Fish refuges"

Wis. Admin. Code, NR 26.16 "Fish refuges"

Wis. Admin. Code, NR 26.19 "Fish refuges"

Wis. Admin. Code, NR 26.20 "Fish refuges"

Wis. Admin. Code, NR 26.21 "Fish refuges"

Wis. Admin. Code, NR 26.22 "Fish refuges"

Wis. Admin. Code, NR 26.25 "Fish refuges"

Wis. Admin. Code, NR 26.27 "Fish refuges"

Wis. Admin. Code, NR 26.28 "Fish refuges"

2. Defendants shall not apply or enforce any of the following statutes or regulations to fishing activities of any member of the plaintiff Tribes who possesses a tribal photo identification card on any body of water listed in Section 205(a) of the inter-tribal code to the extent, and only to the extent, that such statute or regulation prohibits fishing activity, which is authorized by the inter-tribal code: ie, st. can't enf. vs tribe member violating the code

Wis. Stat. 29.03(1) "Public nuisance" -- for all gill nets for which a permit has been issued pursuant to the inter-tribal code

Wis. Stat. 29.286 "Possession of fishing equipment" -- as applied to gill nets for which a permit has been issued or a spear for which a permit has been issued

Wis. Stat. 29.30 "Fishing with nets and set lines" -- as applied to gill nets, only

Wis. Stat. 29.99(1) "General penalty provisions"

Wis. Admin. Code, NR 20.07(2)(a); (4)(a),(b),(e); (5)(a) "Prohibited methods of fishing"

Wis. Admin. Code, NR 23.05 "Spears (Wisconsin - Michigan boundary waters)"

Wis. Admin. Code, NR 26.11 "Fish refuges"

Wis. Admin. Code, NR 26.12 "Fish refuges"

Wis. Admin. Code, NR 26.14 "Fish refuges"

Wis. Admin. Code, NR 26.15 "Fish refuges"

Wis. Admin. Code, NR 26.16 "Fish refuges"

Wis. Admin. Code, NR 26.19 "Fish refuges"

Wis. Admin. Code, NR 26.20 "Fish refuges"

Wis. Admin. Code, NR 26.21 "Fish refuges"

Wis. Admin. Code, NR 26.22 "Fish refuges"

Wis. Admin. Code, NR 26.25 "Fish refuges"

Wis. Admin. Code, NR 26.27 "Fish refuges"

Wis. Admin. Code, NR 26.28 "Fish refuges"

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Wis. Stat. 29.30 "Fishing with nets and set lines" -- as applied to gill nets, only

Wis. Stat. 29.99(1) "General penalty provisions"

Wis. Admin. Code, NR 20.07(2)(a); (4)(a),(b),(e); (5)(a) "Prohibited methods of fishing"

Wis. Admin. Code, NR 23.05 "Spears (Wisconsin - Michigan boundary waters)"

3. Notwithstanding any provision of Chapter 29 of the Wiscon- Statutes, or regulation thereon, defendants shall allow fishing assessment projects undertaken pursuant to Section 210 of the inter-tribal code, provided that WDNR has had prior notice and opportunity to consult on each project before it is undertaken.

Entered this _____ day of _______, 1984.

BY THE COURT:

____
James E. Doyle, Senior Judge

IN THE UNITED STATES DISTRICT COURT

FOR THE WESTERN DISTRICT OF WISCONSIN

LAC COURTE OREILLES BAND OF
LAKE SUPERIOR CHIPPEWA INDIANS,
et al.,

Plaintiffs,

v. Case No. 74-C-313

STATE OF WISCONSIN, et al.,

Defendants.

AFFIDAVIT IN SUPPORT OF MOTION FOR PRELIMINARY INJUNCTION

The affiant, Thomas R. Busiahn, being first duly sworn, deposes and states as follows:

1. His name is Thomas R. Busiahn and his address is P.O. Box 382, Washburn, Wisconsin, 54891.

2. He is a fisheries biologist employed as supervisory biologist by the Great Lakes Indian Fish and Wildlife Commission, Odanah, Wisconsin, and has held such position since March, 1984. Prior to March, 1984, he held the same position with the Commission's predecessor organization, the Great Lakes Indian Fisheries Commission, starting in November, 1983.

3. He received the Master of Science degree in Fisheries Science from South Dakota State University in 1977, having written his thesis on "Food, Growth, and Reporduction of White Crappies and Black Crappies in Lake Poinsett, South Dakota". He received a

Exhibit 2

Bachelor of Science degree in Fish and Wildlife Management from the University of North Dakota in 1974.

4. Prior to his employment by the Great Lakes Indian Fisheries Commission he was employed as fisheries biologist, Red Cliff Band of Lake Superior Chippewa Indians (1979-83); fish biologist assistant, Virginia Commission of Game and Inland Fisheries (1977-79); graduate research assistant, South Dakota Cooperative Fish Research Unit (1975-77); and assistant fishery biologist, North Dakota Game and Fish Department (summers, 1973 and 1974).

5. He is certified as a Fisheries Scientist by the American Fisheries Society, December, 1981.

6. He is a member of the American Fisheries Society and the American Institute of Fishery Research Biologists.

7. He is or has been a member of the following committees and task forces: American Fisheries Society Native Peoples Fisheries Committee, Chairman, 1982-84; Lake Superior Lake Trout Technical Committee; State/Tribal Fisheries Technical Committee Monitoring Lake Superior Fisheries, 1980-83; National Task Force for Fish and Wildlife Resources on Indian Lands (Bureau of Indian Affairs), 1981-82.

8. He is the author of the following selected papers: Evaluation of predator stocking in southeastern Virginia reservoirs, 1977, Virginia Commission Game and Inland Fisheries Administrative Report (also presented at the Annual Tri-State Fisheries Conference, Roanoke, VA, 1977). Evaluation of predator stocking in southeastern Virginia impoundments, 1978, Virginia Commission Game and Inland

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Fisheries. Environmental Assessment Report, Virginia Dingell-Johnson Project F-39-P (Black Bay Fisheries Investigations), Virginia Commission Game and Inland Fisheries. A lake trout population model and its use in management, presented at a fishery biology short course for fish harvesters, University of Wisconsin - Superior, 1981 and 1982. Red Cliff Commercial Fishery Statistics for Fishing Year 1980, (also co-authored reports for 1981 - 1983). Commercial fishing effort for whitefish and lake trout in the Apostle Islands area, Lake Superior, 1980, co-authored with Bruce Swanson, Wisconsin DNR. Assessment of lake trout spawning in the western Apostle Islands, 1981, Red Cliff Fisheries Department Asssessment Report 81-1 (also authored similar reports in 1982 and 1983). Walleye Assessment fishery in southwestern Lake Superior, 1981, Red Cliff Fisheries Department Assessment Report 81-2 (also authored a similar report in 1982). Tribal-State relationships in the management of Indian treaty fisheries on the Great Lakes, presented at the National Indian Fisheries Management Conference, Union, Washington, September, 1982. Abundance, origin, and age composition of pre-recruit lake trout near Devils Island, Lake Superior, 1982, Red Cliff Fisheries Department Assessment Report 82-1, (also authored similar report in 1983). Management of teh Red Cliff Chippewa Treaty Fishery on Lake Superior, presented at the Wisconsin Chapter meeting, American Fisheries Society, 1983. Exotic salmonids in Lake Superior: Potential impacts on native fishes and a framework for future study, presented at a joint meeting, Wisconsin and Minnesota Chapters, American Fisheries Society, 1984.

9. He has had approved for publication in the journal _Fisheries_ the paper entitled "An Introduction to Native Peoples Fisheries Issue in North America."

10. He has done research on walleye (Stizostedion vitreum) prior to his employment by the Great Lakes Indian Fisheries Commission and is thoroughly acquainted with the life history and habitat of the species and the impact of fishing activity on their populations. He is well acquainted with the life history and management of the muskellunge, or musky (Esox masquinongy), through the technical literature.

11. The walleye is a widely distributed species native to North America. It inhabits lakes and streams of moderate depth and productivity. Its southern distribution is limited by temperature in that it requires a seasonal period of cold water temperatures to produce viable eggs. Waters of far northern lakes are too cold in summer to allow adequate growth to sustain walleye populations.

12. Wisconsin is near the center of the walleye's natural range and contains considerable habitat near the optimum for growth and reproduction. Individual Wisconsin lakes vary in their capacity for reproduction and harvest of walleye; biological and fishery surveys provide information which allows lakes to be classified as to their habitat quality and productivity. Classifying a lake on the basis of such factors as spawning habitat, temperature, depth, clarity, and food production, allows biologists to project the average abundance of walleye in the lake.

13. Walleyes spawn in the spring soon after ice-out in lakes

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and streams, scattering their adhesive eggs over the bottom. They provide no care to eggs or young. A gravel bottom produces the best survival of eggs, but walleyes will utilize other bottom types if gravel is not available. Egg survival on mud or sand is poor.

14. Walleyes produce relatively large numbers of eggs (range: 50,000 - 600,000). A characteristic of fish species that produce many eggs and provide no parental care is that eggs and larvae experience very high mortality. The rate of mortality of eggs and larvae varies over a wide range due to environmental variability. Environmental factors include: storms, which destroy eggs by wave or ice action; low temperatures, which delay hatching and retard growth, thereby increasing the time during which the eggs and larvae are vulnerable to predators; high temperatures in early spring followed by a period of low temperature, which allows eggs to hatch early, after which food is scarce and starvation occurs. The abundance of predatory fish and invertebrates also affects survival of the young through predation. All told, reproductive success of a walleye stock can vary as much as 50-fold due to the many complex factors affecting survival of early life stages.

15. It has been well established that the reproductive success of walleye populations is not strongly related to the abundance of spawners. In fact, within a wide range of spawners abundance, no detectable relationship exists between numbers of adults and subsequent reproduction. Walleyes of all sizes are cannibalistic when other food is lacking, so in some cases high abundance of adults may actually inhibit survival of yound.

16. Because of variable year-class strengths resulting from the above factors, it is not unusual for walleye population size to vary when a series of strong or weak year classes occurs. These fluctuations are due to randomly occuring environmental factors and complex (and poorly understood) biological interactions. This variation in population size is a natural phenomenon, which occurs independent of the fishery and the number of spawning fish, and illustrates the high potential recovery rate of a depressed walleye stock in good habitat.

17. Male and female walleyes mature sexually at about 15 and 17 inches in length, respectively. Males generally mature about one year earlier than females. The age of maturity depends on growth rates; most Wisconsin walleyes mature at 3 or 4 years of age.

18. The muskellunge is distributed from southern Quebec to southern Manitoba and south to the Ohio Valley. In Wisconsin the musky primarily inhabits the northern third of the state. Muskies have specific habitat requirements, including vegetation for cover and spawning and an adequate oxygen supply for survival of eggs and fry. Predation by other species, particularly northern pike, can also be a limiting factor.

19. Muskellunge spawn in the spring soon after ice-out and after northern pike have spawned. Spawning takes place over vegetation often in flooded areas. A declining water level after spawning can leave eggs stranded. An average female deposits 120,000 eggs (range: 6,000 - 265,000). The non-adhesive eggs settle onto vegetation or the bottom and are given no parental

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care. A lack of oxygen on the bottom can result in death of eggs or fry. The fry are prey to a variety of fish and invertebrates; predation by northern pike, including young-of-the-year has been identified as a major cause of mortality in some waters.

20. Adult muskies are solitary predators, hiding in cover and moving very little except to capture passing prey. They occupy fairly distinct home ranges which may change with the seasons. Their solitary territorial nature and specific habitat requirements limit the potential population size even in excellent habitat. Harvesting a musky leaves an unoccupied home range, which can be occupied by another musky moving in from less favorable habitat, partially compensating for the withdrawl.

21. Maintenance of natural muskellunge populations requires protection of spawning habitat quality and prevention of northern pike introductions where possible. Stocking of fry or fingerlings can often compensate for unsuccessful reporduction. Harvest management in sport fisheries, where the total harvest cannot be compiled, depends primarily on a minimum size limit which allows adults to spawn one or more times before being harvested.

22. Growth rates of fishes are affected by abundance; dense populations exhibit slower growth. In the extreme case, "stunting" of walleyes and some other species can occur. It is a general principle in fisheries management that removal of a portion of a population will increase growth of the remaining stock, up to a limit imposed by the productivity of the havitat and the physiology of the species. This "compensatory effect" occurs in walleye populations, so that fishing will actually cause a lake to increase

its production of walleye biomass up to a point.

23. The point where "overfishing" occurs (where harvest exceeds the production of biomass) can shift due to environmental effects (e.g. weather), but an average harvest potential can be determined with acceptable accuracy based on a calculation of biomass (or standing crop) per unit area, and rates of biomass production and withdrawal, also expressed per unit area. Variability among lakes is a problem, but can be handled by classifying lakes according to their physical, chemical and biological characteristics, and using average values of biomass, production, and withdrawals, for each class of lake.

24. In determining acceptable rates of removal in this fashion, the method of capture is irrelevant. Great differences exist in efficiency of fishing gear types, but they do not affect the outcome of the management strategy if monitoring and enforcement are sufficient to close the lake to harvest when the allowable harvest has been attained.

25. Fishing gear types and methods have different patterns of selectivity. Sport fishing tends to select for small to medium-size walleyes. Gill net selectivity depends mostly on mesh size, and has been well documented for walleyes. (For example, a 4-1/2 inch stretch mesh gill net is almost incapable of capturing a walleye less than 17 inches in length. A 3 inch mesh net can capture walleyes between 12 and 25 inches long.) Spearing is selective for mature walleyes because it is relatively non-size-selective.

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26. Spearing and netting can also be selective for a particular target species. For example, bass are unlikely to be taken by walleye spearers, since walleye spawning occurs approximately one month before bass move into the shallows. Netting can be practiced selectively, by location and depth of the net, and by size of the mesh. Some species are less susceptible to gill net capture because of their body configuration.

27. If fishing intensity is strictly controlled, neither gear efficiency nor selectivity is important in terms of impact on population viability. In general the need for regulation of the use of a fishing method is dependent both on its efficiency and the intensity of use. Trolling is one of the most effective of the hook and line methods, but it is much less efficient than netting. It is unlikely that trolling can have a significant biological impact on a fish population unless large numbers of people engage in the activity.

28. The off-reservation open water fishing codes adopted by the Bad River, Lac Courte Oreilles, Lac du Flambeau, Mole Lake, Red Cliff, and St. Croix Chippewa Bands, limit the spearing and netting catch of walleye and musky in lakes to a predetermined pounds per acre figure. Limits set in this fashion are sound biologically, since the production of a lake is proportionate to its surface area.

29. The pounds per acre harvest rates adopted are sound in that they will not by themselves adversely affect the conservation of walleye or muskellunge, and, in any case, constitute a small

portion of a biologically sound total allowable catch.

30. Fish population abundance can be monitored by analyzing catch rates. Other important biological data (e.g. age, length) can be obtained from samples of the catch. Under the tribes' off-reservation fishing codes, gill netting and spearing will be thoroughly monitored, so that extensive population data will be gathered from the activities.

31. Under the tribal codes, all net lifts are to be done in the presence of a biologist or biological technician, and all spearing activity is subject to on-site creel censusing by conservation wardens. Spearers who are not actually surveyed by wardens are to submit reports by telephone, confirmed by mail. In comparing self-reports with catches actually witnessed by a biologist or technician, it is the affiant's experience based on his work with the Red Cliff tribe that self-reports can be within acceptable limits of reliability and consistent with catches monitored on-site. A well designed self-reporting system, when used to supplement on-site monitoring, may therefore reasonably be relied upon in determining population trends and catches.

32. The type of monitoring required by the tribal codes will permit the closure of a lake to fishing activities if unfavorable population trends are revealed, and will allow the reclassification of the lake in future years if necessary.

33. A good fish management system is adaptive to new information and changing conditions. The tribal codes provide for expeditious adaptations through their monitoring and emergency rule-

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making procedures and provide for reconsideration of next year's regulations by a December 31, 1984 sunset provision.

34. The proposed fishing regulations of Bad River permit the taking of fish by spearing in certain designated streams. The regulations specify bag and size limits for major game fishes identical to those of the state-licensed sport fishery, except for walleyes, in which case the tribe's bag limit is ten and muskellunge, in which case the bag limit is three.

35. The monitoring of stream spearing through daily permits, on-site inspection, and required catch reports is similar to the monitoring system set up for lakes, and is much more stringent than that used by the Wisconsin DNR to monitor sport fisheries. Although there is no limit imposed on the total treaty catch in any stream or in the ceded territory, most of the catch limits that are provided (bag and size limits) have been deemed sufficient for conservation in Wisconsin sport fisheries. The take of walleye and muskellunge will probably be insignificant in terms of conservation of the species, because the selected streams are marginal habitat for these species. The monitoring system will in any case provide complete data on fishing effort and catches, facilitating any future necessary changes in regulation.

36. The affiant concludes in his professional opinion that the regulation and monitoring of treaty stream spearing are sufficient, if adequately enforced and carried out, to provide for the conservation of the fishery resources in question.

37. The affiant concludes in his professional opinion, and

based on his review of biological information, that the Bad River off-reservation open-water fishing code, if strictly enforced, will not adversely affect the conservation of any species.

Further affiant sayeth not.

Thomas R. Busiahn ______________________ 4/11/84 Date

STATE OF WISCONSIN)
County of Ashland) ss
)

Subscribed and sworn to before me this 11th day of April, 1984.

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Notary Public
My Commission ~~expires~~ is permanent

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IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WISCONSIN

LAC COURTE OREILLES BAND OF
LAKE SUPERIOR CHIPPEWA INDIANS,
et al.,

Plaintiffs,

v. Case No. 74-C-313

STATE OF WISCONSIN, et al.,

Defendants.

AFFIDAVIT IN SUPPORT OF MOTION FOR PRELIMINARY INJUNCTION

The affiant, being first duly sworn, deposes and states as follows:

1. His name is Neil E. Kmiecik and his address is 211 Harding, Ironwood, Michigan 49938.

2. He is employed as a fisheries biologist by the Great Lakes Indian Fish and Wildlife Commission, Odanah, Wisconsin, and has been so employed since December, 1983.

3. He received his Masters of Science in Fisheries from the University of Wisconsin - Stevens Point in 1980. He received his Bachelor of Arts degree from the University of Wisconsin - Madison in 1975.

4. From May, 1980 until December, 1983 he was employed as a Fishery Biologist by the United States Fish and Wildlife Service

Exhibit 1-A

in the evaluation section of the Sea Lamprey Control Program, Marquette, Michigan. From June, 1978 to September, 1978 he was employed as a fishery biologist by U.S. Fish and Wildlife Service, Bemidji, Minnesota collecting biological data on walleye and yellow perch populations in the Upper and Lower Red Lakes, Minnesota.

5. His academic honors include selection as Outstanding Student in Natural Resources for American Indian Program, 1978, University of Wisconsin - Stevens Point.

6. Since February, 1983, his professional work has been primarily directed at developing 1984 open water fishing season regulations for adoption by the Wisconsin Chippewa tribes. In performing this task he has reviewed the literature on selected Wisconsin fish populations and has consulted with United States Fish and Wildlife Service, Wisconsin Department of Natural Resources biologists, including other Great Lakes Indian Fish and Wildlife Commission biologists, including Thomas R. Busiahn; and fisheries biologists of Wisconsin Chippewa tribes.

7. Fishes of Wisconsin are found in an estimated 15,000 inland lakes (1 million acres) and 35,000 miles of stream. (This discussion does not consider the fishery resources of Lakes Michigan and Superior.) Within this vast area are scattered approximately 170 species of fish. Sportsmen concentrate their efforts on about 10 species based on their large size, fighting ability and good taste. In lakes, these fish include lake sturgeon, muskellunge, northern pike, largemouth bass, smallmouth bass, walleye, and lake trout; in rivers, fishermen seek brook,

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brown and rainbow trout. Other fish species that are generally smaller but remain popular because they taste good, are found in most fishable waters, and are easily caught include yellow perch, panfish (bluegill, crappie, rock bass), and white bass. In contrast to these "game" fish are the "rough" fish. Although many are edible, fight well, and are large, these species are less desirable probably because of their appearance or feeding habits. They include carp, suckers, sheepshead, bullhead and catfish.

8. The territory ceded by the Chippewa in the 1837 and 1842 treaties encompasses 19 counties entirely and portions of 11 other counties within the Northern one-third of Wisconsin. Of the nearly 15,000 lakes statewide, approximately 11,000 (500,000 acres) are in the 19 counties entirely within the ceded territory. Another 1,100 lakes (70,000 acres) are in the other 11 counties.

9. Fish species found throughout the ceded territory are similar to those present throughout the state. However, the greater portion of two major species, muskellunge and walleye, is found in the ceded territory. Approximately 178,000 muskellunge (30" and larger) are in 371,000 acres of water in Wisconsin. Of that number, a conserative estimate of muskellunge in the ceded territory would be 85%, or approximately 150,000 fish. An estimated 7.8 million walleye (11" and larger) are present in 1 million acres of rivers and streams in Wisconsin. Of these fish, at least 50% are in the ceded territory. Hence, although the ceded territory includes only about 1/3 of the state by area, at least 50% of the walleye and 85% of muskellunge resource available to fishers is present in the ceded territory.

10. In Wisconsin, walleye normally begin spawning in lakes during Spring within a week after "ice out", which usually is around April 22. Spawning occurs when water temperatures reach 44°-48°F and at depths of 30 inches and less. Eggs may be deposited over various types of substrate but clean gravel-rubble areas may offer the best chance for survival of fertilized eggs. An average female walleye produces nearly 100,000 eggs.

11. In general, less than 1% of the eggs deposited reach fingerling size. The number of fish that survive from egg until fingerling stage in Fall is not determined by the number of females that spawn or the number of eggs that are deposited. Serns (1982) found that in Escanaba Lake fingerlings were more abundant by a greater than 2:1 ratio in 1981 when 26 million eggs were deposited than in 1979 when 3 times as many eggs were deposited. Environmental factors, for example variability in water temperature during the first 30 days after egg deposition, heavily influence the strength of a year class. (All fish that survive from eggs deposited in a particular year are referred to as belonging to that year-class. That is, if 100 fingerlings survive from eggs deposited in 1980, they represent the 1980 year-class.)

12. Because the number of walleye spawning does not determine the number of fingerlings produced, there is no biological reason that a limited number of adult walleye cannot be harvested during spawning. DNR biologists generally concur. Vern Hacker, Wisconsin DNR fisheries biologist, in an article in the May-June, 1983, issue of Wisconsin Natural Resources, attached hereto as

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Exhibit , asked, "Is a closed season necessary? Does every female walleye have to spawn? The answer in my opinion - and probably the opinion of every fish manager in the state - is absolutely no."

13. The number of walleye in a lake varies among lakes and within a lake from year to year. The estimated number of adult walleye (Age III and older) in 35 studied Wisconsin lakes ranged from 0.2-20.8 fish/acre (mean = 6.8). (Klingbiel 1983, Walleye Worshop) Abundance in Escanaba Lake was estimated for 18 years during the period 1955-1977 and varied from 5.3-21 (mean = 14) walleye/acre. (Klingbiel 1983, Walleye Worshop)

14. As number of walleye varies so does the weight, or "standing crop," of the population. The weight of adult walleye in the 35 studied Wisconsin lakes ranged from 0.3-18.7 (mean = 5.2) pounds per acre. In Escanaba Lake, the standing crop varied from 3.8-18.5 (mean = 10) pounds/acre.

15. Although the number of adult walleye among lakes and within a lake may vary, the walleye that can be safely harvested each year is fixed at 35% of the adult population. In other words, whether there are 200, 3,000 or 40,000 adult fish in a lake, no more than 35% should be removed by fishing in any one year. This percentage might be exceeded occasionally in some lakes without any long term damage to the resource. On Escanaba Lake, anglers took from 13-42 (mean = 29) percent of adult walleye annually. Studies on 24 other lakes revealed that from 2-48 (mean = 24) percent of the walleye were removed by fishing (Klingbiel 1983).

Thus, on the average, 5 to 10% of the adult walleye that could be harvested in Wisconsin waters are not being removed. These fish are considered surplus production.

16. Muskellunge, or musky, spawn over a variety of bottom material in lake water less than 6 feet deep. Spawning occurs 15 to 35 days following "ice out" when water temperature is between 49° to 59°. Females commonly produce 120,000 eggs. Hatching and subsequent survival of musky is low and is limited by environmental factors such as low levels of dissolved oxygen and predation by other fish.

17. Statistical studies to estimate the number of musky in Wisconsin lakes have rarely been conducted. Indices of musky abundance usually have been developed based on volunteer catch reports collected by resort owners. Recently, Hanson (in press) reported that in 9 Wisconsin lakes, muskellunge abundance varied from 0.03 to 0.61 fish per acre and standing crop ranged from 0.2 to 6.0 pounds per acre. As with walleye, factors affecting levels of muskellunge abundance are: 1) year-class strength which may include naturally produced, as well as stocked fish, 2) environmental factors that affect survival, and 3) rate of harvest by fishermen.

18. In Wisconsin, muskellunge are managed by the state as a trophy fish, providing anglers the opportunity to catch a few, but large, fish. About 30% of the adult musky are currently harvested. In the 9 lakes studied by Hanson (in press), 13.8 to 42.0% (average 27.5%) of the adult fish were captured. In

Thus, on the average, 5 to 10% of the adult walleye that could be harvested in Wisconsin waters are not being removed. These fish are considered surplus production.

16. Muskellunge, or musky, spawn over a variety of bottom material in lake water less than 6 feet deep. Spawning occurs 15 to 35 days following "ice out" when water temperature is between 49° to 59°. Females commonly produce 120,000 eggs. Hatching and subsequent survival of musky is low and is limited by environmental factors such as low levels of dissolved oxygen and predation by other fish.

17. Statistical studies to estimate the number of musky in Wisconsin lakes have rarely been conducted. Indices of musky abundance usually have been developed based on volunteer catch reports collected by resort owners. Recently, Hanson (in press) reported that in 9 Wisconsin lakes, muskellunge abundance varied from 0.03 to 0.61 fish per acre and standing crop ranged from 0.2 to 6.0 pounds per acre. As with walleye, factors affecting levels of muskellunge abundance are: 1) year-class strength which may include naturally produced, as well as stocked fish, 2) environmental factors that affect survival, and 3) rate of harvest by fishermen.

18. In Wisconsin, muskellunge are managed by the state as a trophy fish, providing anglers the opportunity to catch a few, but large, fish. About 30% of the adult musky are currently harvested. In the 9 lakes studied by Hanson (in press), 13.8 to 42.0% (average 27.5%) of the adult fish were captured. In

some lakes, this harvest rate may be too high for the purpose of producing the trophy-type fish sportsmen desire. Large, trophy-size fish might better be produced by increasing the legal size and by reducing the rate of harvest. Such manipulations would not be necessary, however, to protect the species from depletion, but simply to increase the size of harvested fish. In order simply to meet a resource protection goal, a sustained yield of musky can be achieved through an annual harvest of 36% of the adult population. Judged on the basis of this goal, muskellunge harvest in some waters could be increased by 5-10%.

19. Spearing is a method of taking fish using a tined and barbed spear, 8 to 12 feet in length. Spearing can be done from a river bank or from a boat on a lake. Spearing is usually done at night, using either a hand-held artifical light, or a light attached to a hat or headband. When hand-held lights are used spearing is done in pairs. Shining the light on the water, the fisherman looks for the reflection from the eyes of the target fish. The eyes of musky and walleye reflect light.

20. The efficiency of spearing is limited by several factors. Turbidity of the water will decrease the chance of sighting a fish. On lakes wind-generated choppiness and rain will also cut down on visibility. Spearing can only be done during periods when fish are in shallow waters, as many species are when spawning.

21. Gill netting involves the setting out of a length of net composed of mesh all of a certain size. A fish may be wedged in a

gill net by swimming into the mesh to a point where it can neither go forward, because of the size of its body, nor backward because its gill covers catch on the mesh. If the mesh size is too large, a fish can swim through the net; if the mesh size is too small the fish will not be able to swim far enough into the net to catch its gill covers, and will be able to back out. Also, fish may be taken in nets by catching a body projection (such as, spine, barb or tooth) on the net and while rolling and thrashing to unhook itself, end up being entangled beyond escape. Certain species of fish with deep body configurations, such as crappies and bluegill, are less efficiently captured in a gill net. Gill nets are relatively inexpensive to buy and operate.

22. Although gill nets are an efficient method of capturing fish, they can be made selective. An informed choice of mesh size and location for setting nets can affect the species and size (and hence age) of the fish caught. Numbers of fish caught per set can be limited by the length of net put out. With timely checking and lifting of nets, non-target fish caught can often be released alive.

23. Trolling involves the fixing of a number of baited lines, usually no more than four, to a boat and pulling them through the water. The movement of the bait through the water simulates the activity of the target's forage fish. Trolling enables the fisher to cover more water than still-fishing methods.

24. The effectiveness of trolling is limited by many of the same factors that limit still-fishing with hook and line. The number of fish caught is limited to the number of hooks in the

gill net by swimming into the mesh to a point where it can neither go forward, because of the size of its body, nor backward because its gill covers catch on the mesh. If the mesh size is too large, a fish can swim through the net; if the mesh size is too small the fish will not be able to swim far enough into the net to catch its gill covers, and will be able to back out. Also, fish may be taken in nets by catching a body projection (such as, spine, barb or tooth) on the net and while rolling and thrashing to unhook itself, end up being entangled beyond escape. Certain species of fish with deep body configurations, such as crappies and bluegill, are less efficiently captured in a gill net. Gill nets are relatively inexpensive to buy and operate.

22. Although gill nets are an efficient method of capturing fish, they can be made selective. An informed choice of mesh size and location for setting nets can affect the species and size (and hence age) of the fish caught. Numbers of fish caught per set can be limited by the length of net put out. With timely checking and lifting of nets, non-target fish caught can often be released alive.

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24. The effectiveness of trolling is limited by many of the same factors that limit still-fishing with hook and line. The number of fish caught is limited to the number of hooks in the

water at a time and to the fishes' propensity for biting at the time.

25. Snagging involves using a barbed hook which, when jerked in the water catches in the body of a fish. The fish is then pulled out. Snagging can only be done when fish are concentrated, as below a barrier in a stream.

26. The off-reservation open water fishing codes adopted for 1984 by the Lac Courte Oreilles, Lac du Flambeau, Mole Lake, Red Cliff, and St. Croix Chippewa Bands regulate the taking of fish by establishing seasons, prescribing bag and size limits, restricting gear, limiting the waters upon which certain activities will be conducted, creating fish refuges, adopting endangered and threatened species classifications, and, most importantly, establishing pound per acre per lake and aggregate poundage limitations on the harvest.

27. Three methods of taking fish are prescribed by the codes - spearing, netting, and hook and line fishing (including rod and reel, trolling, and snagging) - to which the various types of regulations listed in the preceeding paragraph apply in various ways.

28. The fishing season for spearing and hook and line begins April 16, 1984 and lasts on any particular body of water until it is iced over, or until December 31, whichever comes first. Netting may not begin until May 15 or later for any particular body of water if spawning or walleye or muskellunge is still taking place.

29. The same size and bag limits as the state applies to

lake sturgeon, trout, and bass apply to those fish taken by spearing and netting. There is no per-person bag limit on walleye, except for those taken by spear from rivers, in which case there is a limit of 10 per person per day. There is no size limit for walleye except for those taken by spearing, in which case there is a minimum size of 11 inches. Muskellunge are limited to 3 per person per day for spearing and 2 per person per day for netting and by trolling. Musky must be at least 30 inches if taken by spear and 32 inches if taken by net or hook and line.

30. Waters upon which spearing and netting are allowed are limited to 49 lakes. In order for a member to spear or net on any of these waters, he or she will have to first get a permit specifying the date and location of the activity. The permitting process will allow extensive monitoring efforts to occur and, for lakes, will preclude fishing once the poundage per acre limitation has been reached.

31. Spearing will primarily be monitored by conservation wardens doing actual creel censusing of members while the activity is occuring. On-site monitoring will be supplemented by self-reporting which is required of all fishers. If a fisher has not been censused by a warden he or she must telephone in the catch report by 10:00 a.m. of the next morning, and must mail in or deliver a written catch report (form to be furnished on the back of the spearing permit) the same day.

32. Netting will be monitored by a biologist or biological

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32. Netting will be monitored by a biologist or biological

technician who will be present at every net lift.

33. Trolling will be monitored periodically during the season by contacting a sample of members who are fishing and thereby developing catch data. It is not currently expected that trolling activity will be of an intensity necessitating regulation beyond which is currently provided, but if such a need arises, a recommendation will be made to the Great Lakes Indian Fish and Wildlife Commission to promulgate emergency rules.

34. If information gathered from spearing and netting monitoring indicates that the pounds per acre limitation for a lake has been reached or is in imminent likelihood of being reached for either walleye or muskellunge the lake will be closed to further spearing or netting for that species. If 20,000 pounds of walleye is netted in aggregate from the 49 lakes, all walleye netting will be closed. If any one net lift yields more dead fish of a given species than the bag limit allows, or if the combined yield of two lifts is no greater than 10 pounds of walleye, no permit shall be issued for the setting of any net within 200 yards of the prior set or sets.

35. Each of the lakes upon which spearing and netting are permitted has had calculated for it a maximum yield (in pounds) of both walleye and muskellunge. These yields have been calculated using different formulae for the two different species, and for walleye using different formulae for different lakes.

36. Under the tribes' regulations, the maximum standing crop (weight) to be removed from any lake is fixed, with the only variability being in the number of fish removed to attain the fixed weight maximum. For example, if a given lake has a 300 pound maximum walleye take established, that limit may be reached either by taking 300-3 pound fish or 200-1.5 pound fish.

37. Walleye yields were established by applying the walleye waters classification scheme developed by the Wisconsin DNR (DNR Publication 9-3600 (75)) to established abundance and standing crop estimates published for 15 Wisconsin lakes (Klingbiel 1983 p 37). A table labeled Appendix A, showing the biological data for these 15 lakes, and showing, for purposes of illustration only (since most of the studied lakes are not on the tribes' list of spearing and netting lakes) the application of the spearing and netting regulations, is attached as Exhibit .

38. Abundance, standing crop and average weight of walleye in the various classed lakes tended to fall into three groups: all 1(a)A lakes, other class 1 lakes, and all class 2 and 3 lakes. In 1(a)A lakes walleye were relatively heavy (average weight: 0.8-1.9 lbs) and standing crop was high (7.6 pounds/acre or more). In other class 1 lakes, walleye generally weighed around 1 pound or less and standing crop was moderate (2.0 to 6.4 lbs/acre). Average weight and standing crop for lakes in the third grouping usually varied within the ranges described for all class 1 lakes. However, unlike class 1 lakes, levels of abundance and standing crop in some class 2 lakes were below 1 fish/acre or 1 pound/acre or both.

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39. Among the 15 studied lakes, the lakes in each of the three groups with the lowest standing crop and abundance estimates were taken as a benchmark, and all lakes in the same grouping were assumed to have at least the standing crop and abundance of that lake. Poundage per acre limitations were fixed for the three groups so as to restrict tribal harvest to 5%, more or less, of the adult walleye population in any given lake, which is, conservatively stated, the average rate of underharvest in studied Wisconsin waters. This was accomplished by assuming an average weight for walleye taken of 3 pounds.

40. Three pounds was selected as the average walleye weight based on studies conducted at the Lac du Flambeau reservation in Spring, 1983, and at the Lac Courte Oreilles reservation in Winter, 1983-84, which indicate that tribal spearers tend to select for larger walleye. The Lac du Flambeau survey indicated that the average walleye speared there weighed 3 pounds. The Lac Courte Oreilles data showed an average speared walleye weight of 3.4 pounds.

41. Netted walleye may not average 3 pounds. The required gill net mesh size selects for walleye weighing nearly one pound or more. To the extent that this lower average weight results in a tribal catch of more than 5% of the adult walleye population in a given lake, three compensatory mechanisms exist to bring the total catch by all users within the 35% adult harvest limit. First the non-Indian catch can be reduced for the 1984 season. Second, the tribal harvest can be cut off early if population

data gathered by monitoring indicates the tribal catch is averaging a significant lower weight. Third, all data can be analyzed at the end of the season, with no intervention made in 1984, and with compensatory action taken for the 1985 tribal and non-Indian seasons, with no substantial or long-term harm occuring.

42. In the 15 lakes studied, the standing crop of lakes classified by the state as 1(a)A walleye waters ranged from 7.6 pounds/acre to 11 pounds/acre, and the abundance ranged from 3.6 to 14.0 fish per acre. All 1(a)A lakes on the tribes' list (17 of the 49) were then assumed to have at least 7.6 pounds per acre of walleye, and at least 3.6 fish per acre.

43. For all 1(a)A lakes, .5 pounds/acre was set as the maximum harvest. The calculations for the allowable walleye harvest in Big Lake, Vilas County, are set forth here to illustrate the impact that the .5 pounds/acre figure would have on scheduled class 1(a)A lakes. Big Lake is 850 acres. The adult walleye population in Big Lake is assumed to be at least 7.6 pounds per acre, or 6,460 pounds for the entire lake. The abundance is assumed to be at least 3.6 fish per acre or 3,060 fish for the entire lake. At .5 pounds per acre, the tribal harvest will not exceed 425 pounds, or at 3 pounds per fish, 141 fish. Thirty-five percent of the estimated adult population, 1,071 fish, is the maximum allowable estimated catch for Big Lake. A tribal walleye catch of 141 fish would equal 4.9% of the total adult population and 13% of the total allowable catch.

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44. Of the 15 studied lakes, other class 1 lakes besides class 1(a)A lakes, had standing crops ranging from 2 pounds/acre to 6.4 pounds/acre, and abundance ranging from 2.6 fish/acre to 17.5 fish/acre. Other class 1 lakes on the tribes' list (9 of the 49) were therefore assumed to have a standing crop of at least 2 pounds/acre and an abundance of at least 2.6 fish per acre. At a harvest rate of .25 pounds/acre, the exploitation rate of the adult walleye population would be 3.2% or less.

45. To illustrate the application of these figures to the class 1 lakes, other than class 1(a)A lakes, on the tribes' list, Sand Lake in Sawyer County will be used. Sand Lake is 928 acres. The adult walleye population in Sand Lake is assumed to be at least 2 pounds per acre, or 1856 pounds for the entire lake. The abundance is assumed to be at least 2.6 fish per acre or 2,413 fish for the entire lake. At a harvest rate of .25 pounds/acre, the tribal harvest will not exceed 232 pounds, or at 3 pounds per fish, 77 fish. Thirty-five percent of the estimated adult population, 844 fish, is the maximum allowable catch for Sand Lake. A tribal walleye catch of 77 fish would equal 3.2% of the total adult population and 9% of the total allowable catch.

46. Of the 15 studied lakes, the standing crop of lakes classified as class 2 and 3 waters varied from .7 pounds/acre to 11.8 pounds/acre. The abundance varied from .2 walleye per acre to 6.0 walleye per acre. Eliminating lakes with an abundance less than 1 per acre, (see paragraphs below) the lowest pounds and

abundance figures for class 2 and 3 lakes are 3.2 pounds/acre and 2.9 fish/acre. All class 2 and 3 lakes on the tribes' list have therefore been assumed to have at least 3.2 pounds/acre, unless their abundance is less than 1 fish/acre, see paragraph 7 and 48, and at least 2.9 fish per acre.

47. For all class 2 and 3 lakes, .2 pounds/acre was set as the maximum tribal harvest. Sand Lake in Barron County illustrates the application of these figures. Sand Lake is 300 acres. The adult walleye population is assumed to be 3.2 pounds/acre or 960 pounds for the entire lake. The abundance is assumed to be at least 2.9 fish/acre or 870 fish for the entire lake. At .2 pounds per acre the tribal harvest will not exceed 60 pounds, or at 3 pounds per fish, 20 fish. Thirty-five percent of the estimated adult population, 304 fish, is the maximum allowable estimated catch for Sand Lake. A tribal walleye catch of 20 fish would equal 2% of the total adult population and 6.5% of the total allowable catch.

48. In two lakes on the tribes' list, Grindstone and Lac Courte Oreilles, the .2 pounds/acre maximum harvest would result in more than 5% of the adult walleye being harvested. These lakes are also on the list of the 15 studied lakes, and therefore detailed information is known about them. Applying the .2 pounds/acre catch rate to Lac Courte Oreilles would result in a catch of 9.5% of the adult walleye population, in excess of the surplus, but still well within the allowable catch of 35% of the population or even one-half of the allowable catch, 17.5% of the adult population.

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49. In Grindstone Lake, the established rate of 0.2 pounds per acre could result in more than 50% of the total allowable catch being removed by tribal fishermen. In this lake abundance and standing crop were extremely low - less than 1 fish and 1 pound per acre. If these low levels could be identified in other scheduled lakes, harvest rates would be adjusted. For example, if the rate in Grindstone Lake were reduced to 0.1 pound per acre, then total catch of three pound fish (104) would be less than 50% of the fish harvestable (218). Harvest rates may be reduced below rates listed on the schedule of lakes in such instances because the code allows that spearing and netting permits are issued at the discretion of the tribal permit agency.

50. The maximum walleye catch provided for by the lake schedule is 30,632 pounds. At an average weight of 3 pounds/fish, the maximum aggregate tribal walleye lake catch will amount to .13 percent of the adult walleye in the state, and less than one third of one percent of the adult walleye in the ceded territory. Even assuming a lower weight per walleye, the impact of the tribal fishing activity on the aggregate state walleye population will be extremely slight.

51. The muskellunge harvest is set by the tribal codes at .12 pounds/acre. This poundage figure is based on data compiled by Hanson (in press) and an assumption, based on data derived in part from a study conducted at the Lac Courte Oreilles reservation, where average weight and length of 50 musky speared during Winter, 1984 was 8 lbs and 32 inches. Hanson studied 9 class A musky lakes,

as classified by the Wisconsin DNR, and found a wide range of standing crop variation within the class: .03 to 6 pounds/acre. The Wisconsin DNR musky water classification scheme was not applied to determine rates of harvest, as was the case with walleye because of the wide variation within a single class and because estimates of musky abundance in class B and C lakes were not available. Using Hanson's data, one can conclude, however, that in most cases where there is a musky abundance of at least .16 fish per acre, that a catch of .12 pounds per acre will result in a moderate total harvest. In 7 out of 9 cases it will result in a catch (assuming 8 pounds/fish) below 10% of the total allowable catch, assuming the total allowable catch to be 36% of the total adult population. In the eight case, .12 pounds per acre will result in a catch of less than 50% of the total allowable catch. In the ninth case, harvest would be excessive. If scheduled lakes could be shown to contain abundance and standing crop levels that would result in more than 1/2 the total allowable catch being taken, as in Mud/Callahan Lake, then those lakes could have rates reduced by controlling the number of permits issued and strict monitoring of catch. The application of the .12 pounds/ acre figure to the Hanson data is shown in Appendix B, attached hereto as Exhibit .

52. The maximum muskellunge catch provided for by the lake schedule is 10,641 pounds. At an average weight per fish of 8 pounds, the maximum aggregate tribal musky catch will amount to less than three-quarters of one percent of the total adult musky

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in the state and less than one percent of the adult musky in the ceded territory.

53. The season that fish are caught is not a biological issue. As long as the maximum annual allowable catch is not exceeded for a species, it is of no significance whether the individual fish are caught during spawning season or at other time of the year. This is becasue removal of a fish at any time of the year - not just at spawning season - eliminates it from the spawning population. The concern with fishing during spawning season is that, because fish are so concentrated at that time, they are very vulnerable to harvest. The codes adopted by the tribes permit harvest during spawning season in lakes but preclude overharvest by limiting, on biological principles, the poundage per lake and in the aggregate that can be removed. In addition, the codes provide that no spearing or snagging may occur in any stream or river during spawning season.

54. The method by which fish are caught is not a biological issue. As long as the maximum annual allowable catch for the species is not exceeded, the method of capture - whether by gill net, spear, or hook and line - is without significance. The concern with spearing and, more so, with gill netting, is that the efficiency of these methods allows a greater catch therefore, if unregulated, can result in an overharvest. The codes adopted by the tribes permit harvest by spear and gill net but preclude overharvest by limiting, on biological principles, the poundage per lake and in the aggregate that can be removed.

55. Monitoring of catch as provided by the tribal codes will not only provide a daily count on the poundage of walleye and musky

taken by tribal fishers, enabling timely closure of any lake that has reached its maximum, but will provide a wealth of information, currently unavailable, on walleye and musky populations in Wisconsin, making future management by both tribes and the state that much more effective.

56. The affiant concludes in his professional opinion, based on biological data and principles, that fishing conducted under the tribes' off-reservation open water fishing codes, strictly enforced, will not adversely affect the conservation of walleye, muskellunge, lake sturgeon, largemouth bass, smallmouth bass, lake trout, and other trout species, and further, that fishing so conducted will not result in a catch by tribal members of more than 50% of the allowable catch of any aggregate or localized population of walleye and musky provided that in lakes where abundance and standing crop are identified as extremely low, harvest rates are reduced by limiting the number of permits issued.

Further affiant sayeth not.

Neil E. Kmiecik

4-11-84
Date

STATE OF WISCONSIN)
) ss
County of Ashland)

Subscribed and ~~sworn to~~ before me this 11th day of April, 1984.

Notary Public
My Commission ~~expires~~

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IN THE UNITED STATES DISTRICT COURT

FOR THE WESTERN DISTRICT OF WISCONSIN

LAC COURTE OREILLES BAND OF LAKE SUPERIOR CHIPPEWA INDIANS; RED CLIFF BAND OF LAKE SUPERIOR CHIPPEWA INDIANS; SOKAOGON CHIPPEWA INDIAN COMMUNITY, MOLE LAKE BAND OF WISCONSIN; ST. CROIX CHIPPEWA INDIANS OF WISCONSIN; BAD RIVER BAND OF THE LAKE SUPERIOR CHIPPEWA INDIANS; LAC DU FLAMBEAU BAND OF LAKE SUPERIOR CHIPPEWA INDIANS,

Plaintiffs,

v.

STATE OF WISCONSIN, WISCONSIN NATURAL RESOURCES BOARD, CARROLL D. BESADNY, JAMES HUNTOON, and GEORGE MEYER,

Defendants.

OPINION AND ORDER
74-C-313

For the purpose of deciding plaintiffs' motion for a preliminary injunction, and only for that purpose, I find as fact those matters set forth below under the heading "Facts."

Facts

Plaintiff, Lac Courte Oreilles Band of Lake Superior Chippewa Indians; plaintiff-intervenors, Bad River Band of the Lake Superior Tribe of Chippewa Indians, Red Cliff Band of Lake Superior Chippewa Indians, Lac du Flambeau Band of Lake Superior Chippewa Indians, the Sokaogon Chippewa Community of the Mole Lake Band of Wisconsin, and the St. Croix Chippewa Indians of Wisconsin are federally recognized Indian tribes which are the successors in interest to the signatory Lake Superior Chippewa bands in the Treaties of 1837 and 1842.

Defendants, State of Wisconsin; Wisconsin Natural Resources Board; Carroll D. Besadny, Secretary, Wisconsin Department of Natural Resources (WDNR); James Huntoon, Administrator, Division of Resource Management, WDNR; and George Meyer, Administrator, Division of Enforcement; are entities which promulgate and enforce, either directly or in a supervisory capacity, the open water fishing laws and regulations of the State of Wisconsin.

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The Lake Superior Chippewa during treaty times heavily utilized the fish resources of the ceded territory's lakes and streams for subsistence and as an article of commerce.

Fishing was done with gill nets, fish wiers and traps, dip nets and spears in the inland lakes and streams at treaty times.

Many species of fish were taken with these methods, including muskellunge, walleye, trout, northern pike, bass, sunfish, and suckers.

The reservation resident members of the plaintiff tribes rely upon fishing for a portion of their nutritional needs in substantial numbers, ranging from 80 to 100 per cent of the population.

The fishing methods of treaty times continue to be used by some members of some of the plaintiff tribes, with spearing used primarily during the fall and spring spawning seasons and with gill nets being used throughout the open water period, as the primary fishing method

Spearing is conducted primarily at night, with the aid of a light, and targets walleye, northern pike, and muskellunge as the preferred catch species.

Gill netting is conducted primarily through night sets, and targets walleye and cisco (lake herring) as the preferred catch species.

The total membership of the plaintiff tribes is approximately 12,000 in number. The total number of angler fishermen in Wisconsin is 1.8 million.

The plaintiff tribes have formed an organization entitled the Inter-Tribal Task Force on the Voight Decision, funded by the Bureau of Indian Affairs, U.S. Department of the Interior, which authored an inter-tribal open water fishing code.

The Task Force developed said code with the assistance of a fisheries biologist employed by said organization, tribal biologists, and the U.S. Fish & Wildlife Service.

Plaintiff tribes have established, in conjunction with other Indian tribes, the Great Lakes Indian Fish and Wildlife Commission in order to assist them in protecting the natural resources which are subject to the exercise of off-reservation usufructuary rights retained by treaty. Plaintiff tribes compose the Inland Committee of the Commission.

The Commission serves as the funding conduit and administrative body for the Inland Committee and provides technical biological services to the Committee through its professional biologist staff. The Commission also directs and administers a conservation enforcement program for the Inland Committee. Funding for its

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Each of the plaintiff tribes has the authority to regulate the treaty-derived usufructuary activities of its members which take place in the territory ceded by the Treaties of 1837 and 1842.

Each of the plaintiff tribes has enacted an open water fishing ordinance for calendar year 1984, which regulates the manner, means and location of fishing activities of its members in the ceded territory. The ordinances are an enactment of the code authored by the Inter-Tribal Task Force (also described herein as the Inland Committee of the Great Lakes Indian Fish and Wildlife Commission), and will be described herein as the Off-Reservation Open Water Fishing Code - 1984. The content of the Code is as it appears in plaintiffs' documents 11, 12, 13, 14, 15 and Bad River exhibit 3.

The lake limit for walleye set by the Code is based on standing crop and abundance estimates for each of the 49 lakes.

Monitoring of spearing activity is intended to be conducted by Commission conservation wardens, primarily, through the taking of creel censuses while spearing is taking place. On-site monitoring is planned to be supplemented by reporting requirements placed upon permitted tribal fishers.

Monitoring of netting activity is planned to be conducted by a biologist or a biological technician on-site for the lifting of each permitted net.

The Tribal Conservation Department which issues a netting permit intends to inform the Department of Natural Resources of its issuance and terms at least 24 hours prior to the date upon which the net will be used.

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Hook and line fishing is not a preferred fishing method of the members of the plaintiff tribes and take by such method will not be significant in amount.

Monitoring of fishing activities permitted by the Code by Commission conservation wardens is intended to be the primary mechanism for enforcement of the Code's provisions concerning the 49 lakes and six streams on which spearing and/or netting is permitted.

The services of two conservation wardens are to be provided to each tribe to monitor the spearing activities of tribal members in the lakes for which said tribe is designated by the Code as the permitting authority.

The services of one conservation warden are to be provided by the Commission to each tribe to monitor the netting and fall spearing activities of tribal members in the lakes for which said tribe is designated by the Code as the permitting authority.

Each Wisconsin conservation warden in the ceded territory has law enforcement responibility over an area of approximately 500 squre miles. The Commission wardens located at the six plaintiff tribes' reservations are to have responsibility for enforcing the Code over a total of 4700 square miles.

Additional enforcement personnel are intended to be provided if needed and available, by the Bureau of Indian Affairs.

Plaintiff tribes have available to them fisheries management expertise through Commission biologist staff and tribal biologists.

The Wisconsin open water fishing statutes and regulations at issue herein are not solely designed to ensure perpetuation of the fishery resource.

The Wisconsin open water fishing statutes and regulations prohibit the use of traditional Chippewa fishing methods on the inland waters of the ceded territory, and their enforcement would result in denial of opportunity to engage in those methods.

Enforcement of the Wisconsin open water fishing statutes and regulations will result in the arrest, charging, and prosecution of members of the plaintiff tribes, alleged to have violated them, and, if guilt is determined, in fines or imprisonment, or both, and in seizures and forfeitures.

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There are approximately 11,500 lakes in the ceded area. Approximately 850 lakes, with a total area of 113,000 acres, are known to be inhabited by walleyes.

The Red Cliff and Bad River Bands have access to subsistence fishing in Lake Superior and in waters located within the exterior boundaries of their respective reservations which meet current subsistence needs. They have fish available for harvest by gillnet including lake trout, brown trout, rainbow trout, walleye and other species found in Lake Superior.

The St. Croix, Lac Courte Oreilles, Lac du Flambeau and Mole Lake Bands of Chippewa have available, in water bodies located within their respective reservations, fish resources that provide at least part of each tribe's subsistence fishing needs.

State regulations, in their present form, are based largely on the need to protect, conserve and enhance Wisconsin's fishery resources. The fishery is impacted by a vast array of interdependent effects, both natural and man-induced, ranging from disease, weather, pollution, and harvest by fishers. These effects not only affect the reproductive potential, growth and survival of the fish community in any given water body, but also cause subtle interractions within the aquatic community that can irreversibly change community structure and lead to depletion of fish stocks.

Because user demand now is approximately equal to the availability of fish available for harvest, state fisheries biologists determined that it is necessary to limit harvest to

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The Department of Natural Resources ("DNR") has used artificial propagation to supplement natural reproduction and to establish new populations of predator species in lakes where they did not previously exist, and to rehabilitate populations that have been lost. Stocking activities in the ceded area include walleye, muskellunge, northern pike, large and small-mouth bass, channel catfish, brook, brown and rainbow trout, lake trout, and, in Lake Superior, splake, anadromous, brook, brown and steelhead trout and Chinook salmon.

The Wisconsin fishery resource has been protected through regulations on harvest since the early 1800's. Gillnets were outlawed on streams in 1853, as were the use of seines and nets in lakes less than twelve square miles in area. A brook trout season was established in 1858 and the black bass and walleye seasons were closed during spawning in 1881. Limits on number and size of fish taken and sale of fish were in effect by 1898.

Wisconsin's management system for most species is based on the theory of maximum sustained yield (MSY), sometimes described as the equilibrium yield theory. Application of MSY involves the projection of the number of adult fish in excess of those needed for spawning that are available for harvest (surplus production). Average harvest rates for various species have been established which range from a high of 50% for northern pike to approximately 35% for walleye and muskellunge. State regulations incorporating MSY concepts are aimed at keeping actual harvest below risky MSY projections. Because these harvest rates are based on averages, it is not correct to assume that existing actual harvest rates below that projected means that there is additional harvest available on any given lake.

State regulations that limit harvest of individual species are designed to keep actual harvest at a safe level below the MSY projections.

Spearing is an extremely effective method of harvest that targets larger spawning age fish of any given species. The impact of spearing has the capability to far surpass that of hook and line fishing. Spearing during spawning could severely deplete target fish populations.

Lake Sturgeon are a slow growing, late maturing and long lived fish species. Although found in many water bodies in the ceded area, they are not abundant. Female Lake Sturgeon reach sexual maturity when they are 24-26 years old. Lake Sturgeon spawn once every four to six years. Spawning migrations in northern Wisconsin occur in May and early June.

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If the existing population of Lake Sturgeon is over exploited, it is likely that the population will never recover to former abundance.

Walleyes are Wisconsin's most sought after game fish. They are a very important sport and food fish in Wisconsin waters.

Harvest of walleye by gillnetting, spearing and snagging, especially spawning aggregations, is extremely effective and is selective toward larger fish.

The selective harvest of larger walleyes would deplete those stocks and could, over time, result in a genetic shift in a population to a more slowly-growing individual.

Lake Trout populations on inland waters are scarce. Only four of the seven lakes where Lake Trout are found exhibit some natural reproduction. Three of the seven lakes (Trout, Black Oak and Crystal) are located in Northern Wisconsin (Vilas County). Trout and Black Oak Lakes have some natural reproduction; Crystal Lake population is solely dependent on stocked fish.

Lake Trout spawning occurs in the Fall, from mid-October to November in northern lakes.

Lake Trout are popular food fish and prized by anglers, but harvest is low by the hook and line fishery because of the low catch rate.

Lake trout are extremely vulnerable to capture by gill nets. Killing lake trout in gillnets would cause further depletion of existing minimal populations.

Muskellunge are native to some of the water bodies located in the ceded territory. Current populations in most native range waters are substantially supported by stocking large fingerlings.

Muskie naturally occur at very low densities. Consequently, traditional fish management survey methods generally capture too few muskie to estimate population abundance. Recent estimates of population abundance levels in nine class A muskie waters indicated an average abundance of one muskie thirty inches in length or longer for 3.7 surface acres. The amount of variation from the average was very large with the minimum density being one fish per 33.3 acres and the maximum being one fish per 1.6 acres.

Muskie spawn in shallow water (less than three feet) over muck and detritus substrate following Spring iceout when water temperatures are 40-60 F. Large females spawn the latest and would be highly vulnerable to harvest in mid to late May.

Maximum exploitation rates for muskie are 27% for maximum sustained yield fisheries and 17% for trophy harvest fisheries. These levels will likely prevent depletion.

The establishment of quotas for harvesting surplus muskie in Wisconsin is inappropriate since there is no present unharvested surplus.

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Spearing and gillnetting are extremely effective harvest methods for muskie. Since muskie and walleye are found in the same waters, gillnetting for walleye will likely result in a high incidental catch of muskie.

Largemouth and smallmouth bass are nest building species that are extremely vulnerable to harvest by spearing and hook and line during spawning in June and July. Males are vulnerable to harvest while guarding the nest; females are vulnerable to gillnetting during their pre and post spawning movement.

Current harvest levels of bass are at or near the maximum available harvest. A substantial increase in the harvest caused by spearing during spawning or gillnetting would likely cause depletion of the species and effect changes in the community structure of lakes where bass are now found.

The White River, above the Lake Superior District Power Company Dam, and Tyler Forks, have a resident brown, rainbow, and brook trout community. The lower White River, Potato River, Fish Creek, Sioux and Little Sioux Rivers have anadromous trout and salmon runs out of Lake Superior.

Walleye spawn in the Spring in the lower White River. Anadromous rainbow (Steelhead) trout spawn in the Spring (April to early June) and anadromous brown trout and pacific salmon spawn in the Fall (late August-December).

Spawning trout are extremely vulnerable to harvest by spearing. The general size of a speared fish is greater than that of a hook and line caught fish.

Spearing of anadromous trout spawning populations could result in adverse impacts on future spawning populations and could result in depleting the natural stocks in individual rivers.

Overharvest of spawning runs is likely.

Despite overtime work of northern Wisconsin wardens, deployment to northern Wisconsin of DNR wardens from southern and western Wisconsin, and activation of all limited and full term DNR employes possessing law enforcement credentials, present DNR protection of ceded area fish spawning runs is minimally adequate to prevent depletion.

Enforcement is barely adequate because incentive to break the law and fish the spawning runs is high, due to the high value of and availability of commercial markets for game fish. The degree of motivation to violate is evidenced by the DNR's issuance of about 700 citations annually during the 5 to 6-week peak spring spawning period, despite the commitment of all possible state and local enforcement personnel to provide visual deterrence to violators.

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Fish are frequently used as an item of commerce, trade and barter by members of the Lac du Flambeau Band.

Many Lac du Flambeau members spear walleye and muskie spawning runs on reservation, selling and bartering the fish widely within and outside the tribe.

Sale of game fish is not prohibited by the intertribal code.

Because Chippewa Tribe members could fish legally at times and in places where no one was permitted before, if the preliminary injunction is entered, DNR enforcement personnel would be required to spend time observing and seizing persons who might then prove to be tribal members.

Errors in harvest assumptions, or breakdowns in tribal or state enforcement, will result in a high probability of serious or irreparable damage, by gillnetting by tribal members, to the fish populations involved.

A gillnet is a weighted net stretched at a particular depth below the surface of the water, having a mesh size geared to the size and species of fish desired.

Gillnets would be set at night, when they are invisible to the target fish. Fish are captured when they get stuck in the net at a point behind their gills, and cannot back out. Mortality to captured fish is high, both because of damage to the gills as the fish struggles to free itself, and because the water temperatures of inland lakes are significantly higher (and oxygen supplies correspondingly lower) than in the parts of Lake Superior where gillnets are used.

Accurate forecasting for harvest by a regulated gillnet fishery on inland lakes with multiple fish populations is extremely difficult.

Gillnets are size-selective, but are not species-selective, and therefore their use cannot be effectively limited to the harvest of a single target species.

Gillnets fishing for walleye would effect an incidental catch of sturgeon and predator fish such as muskellunge, lake trout, bass, and northern pike.

Adverse weather conditions, or loss of buoy locators, make it impossible to lift the nets as planned, resulting in further capture and killing of fish.

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Over-exploitation, a situation where the fish population is placed in high risk of collapse or displacement, can occur even before the yield is observed to decline.

Catch rate does not decline in precise proportion to the decline in abundance of trout. Catch statistics alone are not accurate in detecting when more trout have been removed than the surviving spawning stock can replace through natural reproduction and recruitment. Fish to harvest can be found long after the point of overharvest has been passed.

Quantitative studies have not been completed on most of the lakes the tribes intend to harvest by highly effective methods such as spearing during spawning and gill netting.

Quantitative studies on selected individual lakes indicate that the actual populations range from less than .1 to more than 10 pounds per acre.

It is unsound management to establish harvest quotas based on total pounds without consideration of size selectivity and other factors impacting community structure.

Attempting to assess abundance by examining catch data alone is not a scientifically sound basis for determining permissible harvest levels.

Scientific surveys designed to determine abundance should include information concerning size, mortality and growth of individuals at each stage, and the relative size of individuals at each age.

Scientific surveys of actual fish populations exist for only some of the lakes in the ceded territory and for less than ten of the forty-six lakes proposed for Walleye harvest by gill net and spear in the intertribal code.

Lakes within the ceded area are not uniform in their productive capabilities. Department fishery surveys conducted on Walleye lakes in Northern Wisconsin establish populations ranging from 0.2 to 13.8 fish per acre and averaged 5.2 per acre for fish in excess of the size considered fully vulnerable to the sampling gear employed. Populations ranged from 0.7 to 12.5 pounds per acre, averaging 6.2 pounds per acre.

Because of the variable character of lakes in the ceded area and of the variations in standing stock populations, and specie complexities, it is not now possible to project permissible harvest levels across all lakes without risking severe depletion of fish populations in those lakes with less-than-average population levels.

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. . Even where the code's harvest limits are acceptable, the permit issuance and monitoring process is such that a small lake's permissible harvest of muskie, or even walleye, could be dangerously exceeded in a single night's permitted fishing. ....

Also, gillnets placed in violation of the intertribal code, or set by non-Indians, are very difficult and time-consuming to locate, and are likely in many cases to escape detection entirely.

Under Wisconsin's fish management plan, fish refuges are primarily established to protect spawning or otherwise concentrated and vulnerable fish populations.

Hook and line fishing, which is permitted at any time in refuges under the intertribal code, will result in exceptionally high harvests of spawning fish, because the fish are not normally cautious at that time and are more likely to bite.

Enforcement of refuge areas is feasible presently because no one at all is allowed to fish in refuges. It would be an additional burden on, and dilution of, DNR law enforcement effort to observe and check the credentials of every person fishing in a refuge. The incidence of non-Indian refuge violators would probably increase, because of the masking effect of treaty fishing.

Spearing spawners, gillnetting, and fishing in refuges, will tend to wipe out the largest, oldest year classes of fish.

Spearing spawning stocks would likely have a direct and significant impact on the fish abundance and community structure.

Elimination of a single year class across several species, or overharvest of a single species, may result in genetic shifts and may enable other species to take over the dominant role the ecosystem formerly occupied by the depleted species or year class.

Such community structure changes typically take many years to reverse, and expenditure of substantial public funds, or may be irreversible.

Indicators of over-exploitation most commonly employed are yield, abundance, age structure, total mortality, mean age of catch, variation in year class, strength, growth and age at maturity.

Recreational fishing is of great importance to the tourist economy of northern Wisconsin. Substantially reducing existing available fish populations would adversely impact the non-Indian fishing activity on lakes in the ceded territory.

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Only a limited number of tribal members own or have expressed an interest in using gillnets in the 1984 openwater fishing season.

Enforcement of regulations against illegal gillnetting on the inland waters of the ceded area is significantly more burdensome for state wardens than is similar enforcement on Lake Superior.

Control of fishing in vulnerable fish populations and of illegal spearing and netting on inland waters of the ceded area is accomplished in large part through almost complete prohibitions against particular gear, against possession of certain fish during certain times of the year, and against anyone fishing in designated refuge areas. Introduction of the right of a limited number of persons to legally ignore those prohibitions will have an adverse impact on state fisheries enforcement efforts, out of proportion to the number of treaty fishers.

Opinion

The preliminary injunction sought would prohibit defendants from applying or enforcing the provisions of certain specified Wisconsin statutes and ordinances to fishing activities of any member of plaintiff tribes, who possess a tribal photo identification card, on any off-reservation water of the Territories ceded by the Treaties of 1837 and 1842 (excepting Lake Superior and its tributary streams) to the extent, and only to the extent, that such statute or regulation prohibits fishing activity which is authorized in the Off-Reservation Open Water Fishing Code-1984. The injunction would also prohibit defendants from applying or enforcing the provisions of certain other specified Wisconsin statutes and ordinances to fishing activities by members with tribal photo identification cards, on certain bodies of water listed in section 205(a) of the Code-1984. The latter bears principally on spearing and gill-netting on a limited number of waters.

I.

As a possible aid to counsel, I offer a few comments about the findings of fact. The opening portion consists of findings proposed by plaintiffs and the latter portion of those proposed by defendants. Although the result is inartistic, I wished to include findings as sought by the parties, except for a few I have modified slightly and for a larger number I have declined to make.

With respect to scientific and expert opinion about the fish and the waters and environmental factors, and the possible or probable effects of activity such as fishing in refuges, spearing, and gill-netting, I have accepted generally the defendants' evidence. I respect the testimony of the witnesses presented by the plaintiffs, but I am influenced by the undoubted fact that the spokespersons for the DNR bring to the subject a vast accumulation of information and insight, and a broader perspective, developed institutionally over many years.

I have accepted generally the defendants' evidence concerning the enforcement difficulties DNR would experience if the preliminary injunction issues.

I have omitted as unnecessary many findings proposed by plaintiffs which simply describe the content of the Off-Reservation Open Water Fishing Code-1984, but I am mindful of that content and of plaintiffs' emphasis upon certain of the provisions.

On the matter of present and future tribal enforcement of the tribal Code, I have had difficulty. (1) At the evidentiary hearing, I expressed some impatience with efforts by plaintiffs to explore certain past difficulties as between DNR, on the one hand, and the Red Cliff and Bad River Bands, on the other. In examining the entire record presented to the court, as I have now done, I perceive more clearly that defendants had taken the initiative to assert various alleged failures of those two bands in tribal enforcement and in communications with DNR, and defendants were seeking to persuade me that from these past inadequacies, I should infer poor future performance by plaintiffs. I regret the impatience with plaintiffs' counsel. It was reasonable to respond to this defense initiative and to attempt to persaude me that the history was not as alleged and the suggested inferences should not be drawn. However, I have decided to

I have omitted as unnecessary many findings proposed by plaintiffs which simply describe the content of the Off-Reservation Open Water Fishing Code-1984, but I am mindful of that content and of plaintiffs' emphasis upon certain of the provisions.

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II.

Plaintiffs have already prevailed on the central issue in this case and their victory is firmly established with the conclusion of appellate review on that issue. They are understandably eager to taste the fruit of that victory without interference by the defendants. In this general sense, they are irreparably injured by delay. Also, in the wake of this lawsuit, whatever the exact judicial decision on state regulatory power may be, it is likely that the state will not be applying its full package of conservation statutes and regulations in full force to off-reservation hunting, trapping, and fishing by the Chippewa members in the ceded territory.

However, two major issues in this lawsuit remain to be decided: the definition of the nature and scope of treaty rights, and the definition and scope of the state's power to regulate the exercise of those treaty rights. The first may prove difficult. The second is certain to be difficult, and I will refer only to it in this discussion.

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From the time this case was remanded by the court of appeals to this court, counsel for all parties have been in accord that elaborate and time-consuming pretrial preparations must be engaged in before I will be in a position to make an adequately informed final judgment on the merits. We have not begun to reach the nitty-gritty. I have supposed that in the course of these preparations the parties would be evolving their considered and true positions on the exact perimeter of state regulatory power as to the specifics of Chippewa hunting, trapping, ice fishing, open-water fishing, and perhaps other activities in this or that specific portion of the ceded territory.

Understandably, the state desires a wide perimeter of power. Understandably, because it is obvious that the greatest good for the greatest number of the residents of the state can be realized only through a single, integrated, comprehensive managerial and regulatory response to an extremely complex and interdependent natural and human environmental phenomenon. The state's representatives would be less than true to their obligation if they were casually to consent to the shattering of that integrated and comprehensive response. However, while their strictly formal present position in this lawsuit is guarded, as well it might be, the actual position of the defendants has been helpfully forthright in acknowledging that the decision of the court of appeals must be given effect. Despite widespread misunderstanding among the general public and even hostility among some segments of the state's non-Indian constituency, the state has proceeded to enter into a series of short-run agreements with the Chippewa on hunting, trapping, and ice-fishing, by the terms of which the state acquiesced in greater freedom for members of the Chippewa tribe than for non-members.

Understandably, the Chippewa desire the narrowest perimeter for state power over them. Understandably, because in this lawsuit they have wrung recognition of a long-denied right pledged in solemn treaty: recognition wrung not from a Chippewa court, not from the World Court or from some other neutral tribunal, but from a court of the other treating party, the United States of America. Their representatives would be less than true to a proud tradition if they were casually to consent to abandonment of rights so long denied. However, while their strictly formal present position in this lawsuit could be described as a demand for virtually total be, the actual position of the defendants has been helpfully forthright in acknowledging that the decision of the court of appeals must be given effect. Despite widespread misunderstanding among the general public and even hostility among some segments of the state's non-Indian constituency, the state has proceeded to enter into a series of short-run agreements with the Chippewa on hunting, trapping, and ice-fishing, by the terms of which the state acquiesced in greater freedom for members of the Chippewa tribe than for non-members.

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$$\text{Annual Payments} = a = f\ (a/f)_{10}^{4\%}$$

$$a = \$6,386,303\ (.08329)$$

$$a = \$531,915$$

Calculate ten equal payments, a, for the ten year period beginning in the first year of landfill operation, year "A".

$$P_{A+10} = \frac{1}{(1+i)^{2007-(A+10)}}(\$8,404,136)$$

WHERE $i = 4\%$

The annual payment amount = a

$$a = P_{A+10}\ (a/f)_{10}^{4\%}$$

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freedom today from state interference with the exercise of the very hunting and fishing practices in which their ancestors engaged 150 years ago, the actual position of the plaintiffs has been helpfully forthright in acknowledging that under the law as pronounced by the Supreme Court of the United States, the state enjoys a degree of power to regulate. Despite misunderstanding, impatience and unrest which no doubt exists among tribal members, the tribal representatives have entered into the series of short-run agreements, by the terms of which the Chippewa acquiesced in limiting their activities.

The circumstances call for restraint and cooperation and, happily, they have been present. But it is in this unusual context that the plaintiffs' motion for a preliminary injunction has been filed and must be decided.

By any conventional doctrines governing interlocutory relief, plaintiffs have failed to meet their burden in two respects. They have failed to show they will suffer irreparable injury, pending a final decision in this case, if the preliminary injunction is not granted. They have failed to show the absence of irreparable harm to the defendant state and to the general public, if it is granted.

<u>Harm to plaintiffs if preliminary injunction is withheld</u>. The necessity to defend against non-malicious criminal proceedings in state courts has not been considered irreparable injury in the context of asserted federal constitutional rights, as distinct from federal treaty rights. I cannot assume that the state will commence such proceedings in cases in which it is clear that the Chippewa activity is not subject to state regulation. As to subsistence, reservation resident members of the plaintiff tribes have available fish resources. The Red Cliff and Bad River Bands have access to subsistence fishing in Lake Superior as well. There has been virtually no showing as to the degree to which the subsistence needs of Chippewa members will be met by off-reservation Chippewa fishing. The principal injury claimed, it appears, is one to which I will refer further in a moment: that is, deprivation of an opportunity for plaintiffs, as their counsel puts it, "to assess the prospects for implementation of the fishing right by the traditional means of spearing and gill netting," and to demonstrate to the public

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(and, I presume, to this court) that the plaintiffs have the capacity and the will to enforce an environmentally sound fishing code.

Absence of injury to defendant state and to the public, if preliminary injunction is granted. The key question is the probable efficacy of tribal enforcement of the tribal code. I respect the careful planning directed to recruiting tribal enforcement personnel and to developing tribal enforcement procedures. I expressly refrain from a finding that tribal enforcement of its code will be inadequate. But I also refrain from an affirmative finding that it will be adequate. I refrain too from an affirmative finding of probable adequacy. The fact is that as of April 17, 1984, when this motion for a preliminary injunction was filed, there was in being nothing approaching an adequate enforcement force. Despite apparently intense efforts, it is also a fact that as of May 9, 1984, when the evidentiary hearing on the motion ended, the planned enforcement apparatus and procedures were by no means fully in place. Gill netting and spearing are unquestionably radical means of harvesting fish, by present day standards. To permit these practices to occur in the absence of adequate tribal regulation and enforcement, on even a few occasions in a few bodies of water, has a real potential for irreparable harm.

Likelihood of ultimate success. The success in question, on this motion for a preliminary injunction, is success on the issues still to be resolved in this lawsuit, not on those resolved by the earlier decision of the court of appeals. Plaintiffs express extreme confidence in success, but they imply that judicial imposition of any limit on state regulatory power will constitute success. However, all parties are in the process of developing their true positions on precisely where the perimeter of state regulatory power should be set. Indeed, plaintiffs' counsel have explained that this is one of the uses to which they wish to put the "assessment" opportunity that would be afforded by a preliminary injunction. As for the defendants, their answers to the amended and intervenor complaints acknowledge that the perimeter remains uncertain until authoritatively defined by the courts, and defendants have not yet been required to articulate their view.

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My perception is that "success" will be determined by whether the ultimate judicial definition of the perimeter of state regulatory power coincides more closely with the perimeter for which plaintiffs eventually contend than with the perimeter for which defendants eventually contend. By this standard, I cannot make a sensible prediction, however tentative. I should add that I consider myself bound only by decisions of the Supreme Court of the United States and of the court of appeals for this circuit and not, for example, by decisions of the courts of appeals for the ninth or sixth circuits. Thus, I do not consider myself bound to apply a standard as favorable to plaintiffs, as that which plaintiffs urge on me.

My impression is that, for the purpose of applying the tests for a grant of a preliminary injunction, plaintiffs may consider that they need show a good chance only for partial ultimate success. That is, they consider modest the scope and significance of the exact preliminary injunction sought, and they may be contending that a permanent injunction at the close of the case will probably be at least as broad. I am not hospitable to the notion that in an action for wide-ranging permanent injunctive relief, in the absence of particularized need for specific limited relief, and through the device of a motion for an interlocutory injunction, the court should be called upon to render preliminary rulings, piecemeal, on the chance of ultimate success in obtaining only the limited relief.

Finally, I think it sensible and constructive for plaintiffs to engage in the "assessment" they desire and I hope it occurs. The exact nature of that assessment has not been developed in briefing or argument. Nor has it been shown that it cannot be accomplished in useful degree in the absence of a preliminary injunction, perhaps with the cooperation of defendants. In any event, I do not believe that I should grant preliminary injunctive relief for the very purpose of permitting an assessment (or that the loss of that opportunity for plaintiffs is the kind of irreparable loss entitling them to preliminary injunctive relief).

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<u>Order</u>

It is ordered that plaintiffs' motion for a preliminary injunction is denied.

Entered this 1st day of June, 1984.

BY THE COURT:

James E. Doyle

District Judge

IN THE UNITED STATES DISTRICT COURT

FOR THE WESTERN DISTRICT OF WISCONSIN

LAC COURTE OREILLES BAND OF
LAKE SUPERIOR CHIPPEWA INDIANS,
et al.,

Plaintiffs,

v. Case No. 74-C-313

STATE OF WISCONSIN, et al.,

Defendants

AFFIDAVIT IN OPPOSITION TO MOTION FOR PRELIMINARY INJUNCTION

The affiant, James T. Addis, being first duly sworn, disposes and states as follows:

1. His name is James T. Addis and his business address is P.O. Box 7921, Madison, Wisconsin 53707.

2. He is a fisheries biologist and is currently employed as Director of the Bureau of Fish Management, the Wisconsin Department of Natural Resources at the above address, and has held that position since September 1976.

3. He received his Master of Science Degree in Zoology specializing in Fisheries Science and Limnology from the Ohio State University in 1964, having written his thesis on the Limnology of Wauseon and Archbold Reservoirs in Relation to the Production of Walleye (*Stizostedion v. vitreum* (Mitchill)). He received a Bachelor of Science Degree in Agriculture majoring in Aquatic Zoology and Ecology from the Ohio State University in 1961.

4. Prior to his employment as Director of the Bureau of Fish Management he has had 20 years of progressively responsible experience in natural

resource management, administration, research and teaching. These responsibilities include District Fish Management Supervisor, Southeast District (1974-76); Instructor, Department of Zoology, The Ohio State University (1968-74); Supervisor, Inland Fisheries Research, The Ohio Department of Natural Resources (1965-68); Research Associate and Graduate Water Resources Training Fellow, The Natural Resources Institute, The Ohio State University (1961-64); Research Assistant, The Natural Resources Institute, The Ohio State University (1960-61).

5. His fisheries and ecological studies and research in the above-mentioned positions includes, in part, studies relating to fish production and yield on inland streams, lakes and reservoirs and extensive studies relating to the management of Great Lakes fishes. He has authored or coauthored numerous scientific reports relating to fisheries and limnology.

6. He is and has been a member of the American Fisheries Society since 1966 and has chaired its Environmental Concerns Committee, its Awards Committee; organized and served as the first chairperson of its Native People's Fisheries Committee. He is a member of the Scientific Honorary, the Society of Sigma Xi; the International Association of Great Lakes Research; the Wisconsin Academy of Arts and Letters; past member of the American Association for the Advancement of Science; and the American Society of Limnology and Oceanography. He is chairman of the Lake Superior Committee of the Great Lakes Fisheries Commission; Chairman of the Lake Superior Advisory Committee (GLFC); Chairman of the Fisheries Habitat Advisory Board (GLFC). He was a member of the steering committee for the adaptive management assessment workshop on lake trout, lamprey (GLFC).

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7. He is the author or coauthor of the following selected papers:

Britt, N.W., Addis, J. T. and Engel
(1973). Limnological Studies of Western Lake Erie, Bulletin of the Ohio Biological Survey; n.s. Vol. 4, No. 3, 89 pgs.

Addis, J. T.
1964. The limnology of Wauseon and Archbold reservoirs in relation to the production of the yellow walleye, Stizostedon v. vitreum (Mitchill). Annual Report Series of the Natural Resources Institute. 48 pgs.

Addis, J. T. and J. Erickson.
1968. The Ohio Fisherman. Ohio Department of Natural Resources, Div. of Wild. publ. 140: 31 pgs.

9. He has done research or conducted fisheries assessments on walleye, bass, trout, muskellunge, northern pike, centrarchid (bluegill and crappie) and percid (yellow perch) panfish, catfish and forage fishes. From his experience, DNR records and scientific literature he is acquainted with the life history, habitat and community ecology of these species and the impact that fishing activity or other effects altering population structure have on their ecology.

10. He is responsible for administering statewide fisheries program that employs about 240 professional and technical employes expending in excess of $10 million for the purpose of protecting, enhancing and conserving Wisconsin's fisheries resources. Wisconsin's resource base includes over 1 million acres in about 15,000 inland lakes and flowages, about 25,000 miles of warmwater streams, about 10,000 miles of trout streams, and 6.4 million acres of Great Lakes waters exclusive of enforcement. Within the ceded area, there are approximately 11,500 lakes. Of lakes known to be inhabited by walleyes, the ceded area contains approximately 850 with a total area of 313,000 acres.

11. The Department employs 181 fisheries employes who work in or adjacent to the ceded area and expends about $6 million to protect, enhance and conserve the fishery resources in this area.

12. That the mission of the Department of Natural Resources is to provide an adequate and flexible system for the protection, development and use of forests, fish and game, lakes and streams, plant life, flowers and other outdoor resources of this state.

13. Wisconsin Administrative Code guides Department employes in carrying out their responsibilities for conserving Wisconsin's fishery and aquatic resources and explicitly commits Department employes to involve federally recognized Indian tribes in our decision-making process. The Code explicitly acknowledges the treaty fishing rights on Lake Superior and allocates a quota to the Lake Superior treaty commercial fishery and home use fishery.

14. The following Fisheries Management Mission was developed by the Department for public use:

Fisheries Management Mission

To conserve Wisconsin's fishery and aquatic resources by protecting and maintaining the aquatic environment. To provide for wise public use and encourage respect for these resources, today and in the future through scientific management, selective development, and public involvement.

To recognize and respect the wholeness of our diverse natural environment, the interdependence and limits of all its unique and irreplaceable parts, and their vulnerability to abuse, contamination, and extinction.

To recognize and respect the diversity and interdependence of people, to respect their values, and to affirm their rights and privileges to enjoy and benefit from Wisconsin's fishery and aquatic resources.

To lead and help the people of Wisconsin exercise their common responsibility as stewards of these resources and trustees of the future.

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To lead and help the people of Wisconsin exercise their common responsibility as stewards of these resources and trustees of the future.

15. The present Department regulations imposed on all users are designed to take into account a number of interdependent effects and circumstances, so that the agency can fulfill the policy set forth above in statute, administrative code and its public mission statement.

The state regulations, in their present form, are based largely on the need to conserve the resource. They do, however, reflect the desire to provide trophy or so-called quality angling opportunities as asserted by the plaintiff's motion and supporting documents but only to a very limited extent.

Prior to the reaffirmation of ceded treaty fishing rights, it was the Department's intent to move toward a goal of managing for trophy and quality fishing. Public information programs have been conducted to promote the concept of trophy and quality fishing. The Deparment has initiated studies to assess the response of the fish community to quality regulation schemes. The Department fully acknowledges that its desire to provide trophy and quality angling opportunities may fly in the face of the objectives of the Chippewa Tribe members fishery under treaty rights, and that it may have to alter its plans in the ceded area to accommodate the treaty rights when they are defined by the Court.

To this end the Department negotiated an ice fishing agreement that differed significantly from state regulations, and initiated discussions on a open water fishing agreement prior to this litigation.

16. Recreational fishing is of great importance to Wisconsin; that is especially true of the tourist economy of northern Wisconsin. For example, the 1980 National Survey of Fishing, Hunting and Wildlife Associated Recreation provides the following statistical summary for Wisconsin.

Instate activities by anglers 16 years or older represent about 1.8 million anglers expending over 29 million days fishing statewide. Direct annual expenditures presently exceed $481 million. Over 6 million of the fishing trips are by nonstate residents representing a significant economic impact for all Wisconsin's residents. By maintaining this high level of use of a fragile resource (that has been badly depleted or even lost in other midwestern states) the Department has demonstrated that its management programs effectively conserve the resource, while allowing ample opportunity for their use.

Activities by anglers within the ceded area have not been directly estimated, however, this area attracts the majority of tourists engaged in fishing in Wisconsin. Therefore, the incidence of fishing by nonresidents and by transients, not of local residency, is safely assumed to be greater than the state average.

17. The maintenance of these fishery resources is an enormously complex problem, since they are impacted by a vast array of interdependent effects, both natural and man-induced, ranging from disease, weather, pollution to harvest by man. These effects not only affect the reproductive potential, growth and survival of the fish community, but also subtle interactions within the aquatic community that can irreversibly change community structure and lead to depletion of fish stocks.

18. The wide diversity of environmental, physical, chemical and biological character of waters in the ceded area preclude the use of simplistic generalized management models (such as that suggested in the Tribe's open water fishing code) for managing the waters of the ceded area since they cannot assure the protection of these waters from adverse. ecological impacts.

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19. That over the past 100 plus years the State of Wisconsin has developed a management system based on the far-reaching experience of a large, highly qualified staff of professional scientifically trained biologists and enforcement officers that has, in the face of rapidly growing use, both enhanced and protected the fisheries resources from depletion.

20. The Department expends nearly $1.5 million each year to conduct scientific surveys for assessing the status of fish populations and aquatic communities statewide. Cost which can be attributed to surveys in the ceded area exceed $350,000 annually (Table 1). It bases its management programs, including regulations, on these surveys to the extent possible. Because of the diversity and complexity of the inland waters and their inherent fragility, the Department has strictly limited the efficiency of legal fishing methods by limiting harvest to hook and line fishing, in combination with seasons, bag limits, closed areas, refuges, seasons, mandatory tagging, and encouraging anglers to release their catch. In combination these methods have largely protected fish stocks from depletion. In certain cases, however, predator fish are, even under these strict constraints, being harvested excessively. In response, the Department has shortened the muskellunge season and is assessing its options with reference to stricter regulations for bass and walleye.

21. The Department has used artificial propagation to supplement natural reproduction and to establish new populations of predator species in lakes where they did not previously exist and to rehabilitate populations that have been lost.

The coldwater propagation and stocking activities in the ceded area, involve a wide range of coldwater species including brook, brown and rainbow trout, lake trout, splake, anadromous brook, brown and steelhead trout, and chinook salmon.

The cool and warmwater propagation and stocking activities in the ceded area include walleye, muskellunge, northern pike, large and smallmouth bass, and channel catfish.

Table 2 summarizes the number of each species stocked and the overall cost for 1981.

Table 1. Survey Costs for 82-83

	Permanent Salary (including fringe)	LTE, 2, 3 (including fringe)	Total
Northwest District			
Cumberland	$25,164	$13,185	$38,393
Park Falls	12,185	9,475	21,660
Brule	19,771	15,077	34,848
	$57,164	$37,737	$94,901
North Central District			
Waters Classification	$ 47,160	$11,338	$ 58,498
Antigo	27,063	9,414	36,477
Woodruff	25,972	14,734	40,706
	$100,195	$35,486	$135,681
West Central District			
Eau Claire	$21,158	$12,076	$33,234
Lake Michigan District			
Waters Classification	$19,810	$18,271	$38,081
Marinette	29,613	19,269	48,882
	$49,423	$37,540	$86,963
TOTAL	$227,940	$122,839	$350,779

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22. During 1974 the Department with funding and advice from the United States Department of Interior, U. S. Fish and Wildlife Service, initiated a Comprehensive Fish and Wildlife Plan. The plan was published in 1979 and then-Secretary Earl's Foreward to that plan indicated an urgent need to properly represent and to be reactive to the public needs that have been assessed in the planning process.

Table 2. Numbers and Cost of Fish Stocked by Department of Natural Resources in Counties of Ceded Area in 1981.

Species	Fry	Others
Brook trout		265,000
Brown trout		440,000
Rainbow trout		257,000
Largemouth bass	750,000	540,000
Muskellunge	1,470,000	47,000
Hybrid muskellunge		300
Walleye	30,300,000	1,865,000
Northern pike	2,300,000	1,200
Panfish		120,000
Total	34,820,000	3,535,500
Cost of Propagation and Stocking =	$656,000	

Information obtained from Fish Distribution Summary - 1981 and Cost Report for 1981-82. Cost estimates were made for species not in cost reports.

Recognition that Wisconsin's fishery resources are finite and cannot support unlimited harvest is an underlying principle embodied in the planning process. In 1974 data and observations by fishery managers and the public already indicated that some inland populations were being heavily exploited. We also recognized that demand for fishing was steadily increasing and that past management models developed in the 1940's and 50's which assumed that hook and line fishing could not impact fish populations were no longer valid.

This need for reassessment of the so-called liberalized recreational fishing idea was the product of several changes in recreational fishing that had been emerging during the past 30 years. These include the rapid spread of the use of outboard motors, the invention of very effective gears such as the spinning reel, monifilament line, synthetic rods and the use of fish finders, which all greatly increase angling effectiveness. During the past 15 years, massive efforts to organize species-oriented fishing groups which provide excellent and effective training to anglers with regard to scientific fishing techniques has further increased angler effectiveness and exacerbated the problem of overharvest.

The planning process involved bringing together our professional fishery managers and researchers to evaluate the available data on fish abundance and fish harvest statewide. From this assessment, we estimated balance between the supply of harvestable fish and harvest. Next we projected future supply/demand relationships for each species at 5-year intervals from 1975-90.

Because of the vastness of the resource, survey data were not available for each of our approximately 15,000 lakes or all streams. Available empirical data were synthesized into statistical models that were then used to predict stocks on waters without specific quantitative surveys (methods and assumptions are explained in the text).

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Page 3-1 of the Fish Management Strategic Plan (Appendix 1) will serve as an example of this process. In 1975, we projected a statewide supply of legal trout (6 inches or longer) at 5,030,000 fish. Angler days afield were estimated at 1,594,000 days with a resulting harvest of 1,880,000 fish or 37 percent of the legal size fish. Methods of calculation are presented on page 3-7.

Managers and scientists involved with each species section of the plan assessed both empirical data on fish population dynamics and the scientific literature to establish the criteria for balance between supply and harvest. To a large degree, the only available population models were from systems employing models based on equilibrium yield theory. To estimate the maximum harvest attainable from the available fish stocks we use the maximum fishing rate or exploitation that would provide for a maximum sustained yield. In the case of stream trout that was determined to be a harvest rate of 40 percent or less of the legal size (6 inches or greater in length) fish.

During 1975 the harvest rate of 37 percent would lead us to conclude that an average stream trout populations were not being overharvested. However, we would predict some fishing down of size groups in certain localities and indeed did observe this in surveys as well as receiving complaints by anglers.

Since the overall purpose of this plan was to aid us in focusing our management efforts on those actions that would provide the most impact on the fishery, the remainder of the stream trout plan deals with goal setting, long-range objectives, assessment of problems and strategies for overcoming or mitigating problems.

Stream trout predictions indicated that statewide harvest would exceed the maximum level of 40 percent by 1985. Our current survey indicate that these projections are reliable, though somewhat less in the ceded area, and as a result, we have taken a number of actions to reduce trout harvest and to increase the supply.

As we approach the 40 percent harvest rate in a given body of water we will see a decline in the number of large, older fish and an increase in the number of fish near the size limit. This too has occurred in a number of areas.

Using similar projection techniques, we predicted that muskellunge and northern pike became fully exploited during 1980. Bass over 10 inches and walleye over 13 inches are now or very near at the maximum harvest values too. These conclusions apply both statewide and to the waters of the ceded area.

To impose a treaty fishery using highly efficient methods on top of the present state fishery raises the spectre of many lakes being overharvested. This is even more likely when one considers that much of the treaty fishing will occur during the spawning season and selectively harvest bigger, older fish that are less abundant.

23. The first regulatory actions to protect Wisconsin's fishery resources were taken by the territorial government in 1839. It required fishways at every dam, "except mill dams". Gill nets were outlawed on streams in 1853 as were the use of seines and nets in lakes less than 12 square miles in area. A brook trout season was established in 1858 and the black bass and walleye seasons were closed during spawning in 1881. Limits on number and size of fish taken and sale of fish were in effect by 1898.

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This is the historical background from which present day management philosophies emerged. As fish stocks declined or were stressed by pollution, overfishing or other effects, the state attempted to intervene on behalf of its people.

Modernday management is founded on a number of interdependent ecological concepts, some firmly based in our past and some emerging from "state of the art" community ecology theory.

The overall theme of our entire management system from its beginning in 1839 is that if fish are prevented from spawning by physical barriers or overharvest populations will collapse. By the late 40's this idea was incorporated into population biology in the form of the maximum sustained yield (MSY) or equilibrium theory concept.

MSY presupposes that once a manager understands the relationship between the number of spawners and the number of recruits (young fish born into the population); and accurately estimates the adult population, an equation can be developed to determine the number of adult fish in excess of those needed for spawning that are available for harvest (surplus production).

Theoretically this is a sound model, but one that is hard to implement in the real world, especially in a real world composed of 11,500 individual lakes harboring many populations in each lake within the ceded area. Welcomme and Henderson (1976) point out that although MSY has been cited for many years as a major objective of food fisheries and that a great deal of attention has been paid to methodologies for deriving MSY for various marine and freshwater stocks, the concept is applicable mainly to single stocks whose abundance is relatively unaffected by a changing environment. They further assert that MSY is sensitive to changes in the pattern of fishing on it., and that outside of a few major lakes such conditions are hardly representative of freshwater systems, and that it has been used successfully in very few cases.

The Department agreed to use a sustained yield model involving MSY on Lake Superior because the size of the system and nature of the fishery more adequately meet the needed assumptions. Even there it has not worked well and most of the rehabilitation is occurring in refuges and restricted areas. There is little wisdom in trying to directly apply Lake Superior management techniques to the diverse and fragile inland waters. It just won't work.

Recognizing the practical limitations of MSY, the state has developed its rules consistent with the underlying theory, but used empirical data and experience to devise a management system that largely avoids achieving the maximum harvest rates by severely limiting the efficiency of harvest methods. Bag limits have been imposed to allocate harvest equitably among users and to prevent individuals who encounter unusually vulnerable fish from harvesting a large number at one time. Very few anglers - consistently less than one in ten - catch a full bag limit per trip.

By preventing state anglers from snagging or using efficient gear and further restricting them from fishing in spawning populations by way of seasons and refuges, the state has been successful in preventing overharvest or levels near the theoretical limits of MSY.

Recently though, in the face of increasing fishing pressure and greater skill on the part of individual anglers, harvest began to approach and in certain cases exceed MSY as was predicted in the Strategic Plan.

When harvest levels approach MSY or when harvest selects specific ages or size groups, other ecological effects begin to impact on the community structure and individual populations within the community.

Kitchell et al (1981) point out that the result of simple manipulations conducted in complex trophic systems, such as harvesting a component that is both sparsely populated and of low biomass, is often surprising and certainly not expected from the precepts of traditional population biology models.

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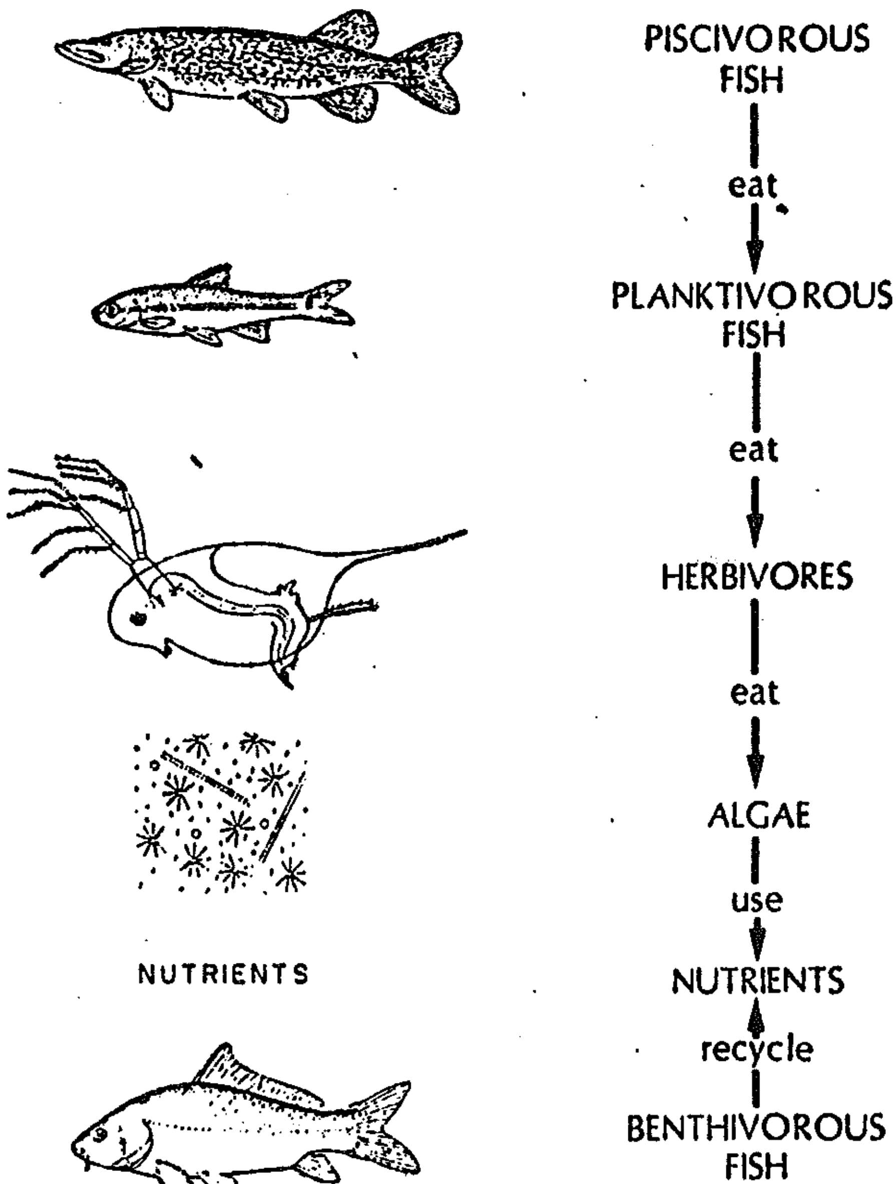
THE AQUATIC FOOD CHAIN
(Not to scale)



Lorman and Magnuson (1978) show that in a northern Wisconsin lake heavily exploited by angling and entry of an exotic crayfish that was larger and more aggressive, completely upset the community balance. The results were devastating in Lake Metonga where the freely foraging rusty crayfish decimated the benthic community, destroyed forage fish and walleye reproduction and resulted in the collapse of the walleye fishery. Kitchell et al (1981) also cite studies by Tonn and Magnuson relative to lakes where bass and northern pike played a pivotal species role in preserving community balance. When environmental effects such as oxygen depletion resulted in a reduction of bass and northern pike, perch and sunfish populations were not able to compete with cypriniform fishes (mudminnows) and community diversity was reduced, resulting in lakes of little use to man.

These are examples of changes that on the surface appear to be simple, but in fact cause enormously complex and dramatic secondary interactions that significantly change the fish community.

Anderson (1973) lays the groundwork for applying community concepts to fish populations by demonstrating that much more than sustained yield issues must be considered to assure balance in fish populations.

Although balance can provide a community that is more desirable for angling, it also has implications relative to survival. Balanced fish communities in ponds showed more stable recruitment than unbalanced fish communities in ponds. In this case balance is defined as populations that have the capacity to produce a satisfactory sustained yield of fish of suitable size in proportion to the productive capacity of the water.

In heavily exploited northern Wisconsin lakes, those approaching MSY, the risk involved with adding further exploitation -- especially directed at older, less abundant year classes -- is great.

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In heavily exploited northern Wisconsin lakes, those approaching MSY, the risk involved with adding further exploitation -- especially directed at older, less abundant year classes -- is great.

Research reported by Shapiro et al (1982) is representative of that being conducted to further understand and apply community ecology to real world problems. Figure 1 has been included in this affidavit to depict in very simplified form, the complexity of these concerns. Shapiro et al (1982) were seeking to restore or rehabilitate lakes that have been damaged by various interacting effects both natural and man-induced. A change in any level can and usually impacts all other levels. For example, removal of pisciverous fish (such as bass, walleye, northern pike) in lakes populated with cyprinid fishes (carp, mudminnow) can result in an undesirable situation similar to that occurring in winterkill lakes. For example, plankton-feeding fish increase rapidly, and subsequently overharvest the zooplankton (microscopic animals like water fleas), causing a food shortage that slows growth of the plankton feeders.

Algae and other plant plankton populations then increase in the absence of predation and winter or summerkills take place due to oxygen depletion. This results in bluegills and perch being replaced with cyprinids (like carp) and mudminnows which are more tolerant to low oxygen conditions.

We also can in certain cases seek to reverse this situation by eliminating planktiviorous fish so that animal plankton populations will boom. They eat algae, reducing those populations. The result is clearer water and less oxygen stress - a final result that is desirable but one that requires expenditures of considerable energy and money.

The point of this example is that we are not dealing with a simple single-species food chain, but very complex highly interactive and interdependent food webs. Changing any one part affects all parts.

24. The tribal fishing code was designed to imply careful limitation of harvest so that these sorts of effects might be avoided. It is commendable that tribal biologists attempted to recognize, even from a single population or MSY context, this need for limiting harvest.

In my opinion though, their effort fell short of protecting the resource for several reasons. First, they based their productivity estimates on a popular publication designed for use by tourists, not to scientifically manage a fishery. That publication is not a satisfactory document on which to base resource management.

Secondly, they assumed that most lakes and streams are not now being harvested at or near MSY and that bringing harvest to that level was safe. They hedged these arguments with the caveat that even if they were at or above MSY, half the harvest is their propriatory right and imply that overharvest is our problem not theirs leaving the state without time to restructure its regulations to accommodate their harvest.

Although their code acknowledges some degree of productivity variability between lakes, i.e., limiting spearing and netting harvest to 0.8 and 0.5 pounds per acre, respectively, even that does not acknowledge that the real populations in total range from less than 0.1 to more than 10 pounds per acre. Neither does their code acknowledge that the selective size impact of their harvest on already heavily exploited populations will cause serious community impacts.

Among their most damaging assumptions underlying their code is the idea that hook and line fishing has diminuous impact on fish populations. The implications of this assumption are exacerbated, especially when they have

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Among their most damaging assumptions underlying their code is the idea that hook and line fishing has diminuous impact on fish populations. The implications of this assumption are exacerbated, especially when they have removed most, if not all, of the limitations the state applies to anglers to minimize its efficiency. These deleted limitations include the use of seasons, refuges, bag limits, gear restrictions, and prevention of snagging - which is comparable to spearing in effectiveness.

This lack of concern for restricting hook and line harvest flies in the face of state data that tribal biologists possess, showing that hook and line harvests of muskellunge and walleye are at or above MSY.

The assumptions in their code further assume that since tribal members may not be interested in certain methods, i.e, snagging, that won't be a problem since few will participate. In his experience, he has found that when a individuals are restricted from exercising the methods they would prefer, they switch to the next most efficient option and maximize that method. In this case where spearing and netting are restricted in streams, he predicts that snagging and other techniques will be used, as they have been in the past.

The tribe has also assumed that they can enforce their proposed code. This is of course a pivotal question for if not enforced, the code will not have any constraining effect.

The state long ago recognized that it is extremely difficult if not impossible to obtain compliance from people fishing among large concentrations of fish. Limits are easily taken in these situations and many fishers lose sight of the need for the limits and tend to overbag or repeat bag by several trips in a day.

The tribe's assertion that they have a right to manage their fishing independent of the state is irrational. This sort of system cannot protect the resource nor can it protect the rights of people, Indian or non-Indian to use the resource in the long run.

The parties to this suit should see the complexity of this system and why it is essential that an integrated management approach is essential to protect the resource. Multiple jurisdiction for management cannot provide the conflict resolution necessary to manage this resource. Four managers and 12 wardens cannot develop a sound plan over the long run, let alone implement it.

The state has repeatedly acknowledged that once the court has defined the bounds of the treaty fishing right that we will include provisions for a meaningful exercise of these rights in our management plans. We recognize and acknowledge that this will in many cases result in our being required to limit state fishers and revise our long-term goals.

It is his professional opinion that fragmenting the management jurisdiction will result in severe adverse impacts on the fishery resource. This fact is well documented in the large scale marine commercial fisheries subject to multiple jurisdictions.

Pink tuna stocks collapsed even under a very sophisticated well coordinated multidisciplinary management plan. The proof of the pudding is proven by the difficulty you would have finding a can of pink tuna at the supermarket.

The state's management system is soundly designed and provides opportunity for the needs of all interests including the special rights of treaty signitories.

We have and will continue to seek equitable management consistent with the court's definition of these rights. Change is not easy, but it is possible and eventually is accepted. Multijurisdictional management will lead to continuous change, in an adversorial environment, and therefore lead to continual conflict. That is not likely to even become accepted.

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Further affiant sayeth not.

James T. Addis

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May 2, 1984

Date

STATE OF WISCONSIN)
) ss
County of Dane)

Subscribed and sworn to this 2nd day of May, 1984.

Nancy R. Diebold

Notary Public

My commission expires July 19, 1987

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1973. Applications of theory and research to management of warmwater fish populations. Trans. Amer. Fish. Soc. 102:1:167-171.

Lorman, James G. and J. J. Magnuson.
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2786L

IN THE UNITED STATES DISTRICT COURT

FOR THE WESTERN DISTRICT OF WISCONSIN

LAC COURTE OREILLES BAND OF
LAKE SUPERIOR CHIPPEWA INDIANS,
et al.,

Plaintiffs,

v. Case No. 74-C-313

STATE OF WISCONSIN, et al.,

Defendents

AFFIDAVIT IN OPPOSITION TO MOTION FOR PRELIMINARY INJUNCTION

The affiant, Ronald J. Poff, being first duly sworn, deposes and states as follows:

1. His name is Ronald J. Poff, and his address is 5217 Dorsett Drive, Madison, Wisconsin 53711.

2. He is a Natural Resources Administrator, employed by the Wisconsin Department of Natural Resources, Bureau of Fish Management, as Section Chief, Inland Fisheries and Investigations, and has been so employed since September 1, 1981. Prior to September, 1981, he held the position of Staff Supervisor, Great Lakes and Boundary Waters, later redefined as staff specialist for commercial fisheries, a position which he held beginning in 1970. He was employed from 1959 to 1970 as a lake classification biologist with the Department of Natural Resources.

3. He received a Bachelor of Science degree in the biological aspects of conservation from the University of Wisconsin in 1956.

4. As Section Chief his basic responsibilities are those broadly stated for the Bureau of Fish Management and more specifically as stated in the outline of program oversight for Inland Fisheries and Investigations.

a. Long Range Program Planning and Budgeting

b. Policy Development

c. Program Evaluation and Auditing

d. Legislation and Rules Development

e. Manual Code and Handbook

f. Liaison to Related Agencies

g. Public Information

h. Technical Information Management

i. Evaluation of Related Research

j. Personnel Selection, Evaluation and Training

Inland Fisheries and Investigations Program Oversight

a. Inland Management Program: The department is authorized to make rules, inaugurate studies, make investigations and surveys, and establish necessary services pursuant to s. 23.09(2), Stats., in the conduct of its statewide management program. The bureau provides program oversight.

b. Subprogram Development: Pursuant to s. 23.09(2), Stats., new services may be inaugurated and present ones further developed as needs arise. Elements of the fish management program (i.e., propagation) require further development to insure that supply more adequately relates to the demand for fish and fishing.

c. Public Information Development: An informed public is assurance that fish management programs have received adequate public input and are supported.

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c. Public Information Development: An informed public is assurance that fish management programs have received adequate public input and are supported.

d. Monitoring Program Results: Evaluating accomplishments and problems encountered with inland fisheries management and investigations provides direction to the program and is essential to formulation of new goals and objectives.

e. Training: Effective management requires personnel with a high level of professionalism with an ability to work effectively with other professionals as well as the public.

f. Engineering Liaison: In order to insure adequate budgeting, prioritization and progress on projects requiring engineering assistance a central clearing house in the bureau is necessary.

5. This affidavit is based on the affiant's personal knowledge, DNR records and opinions and observations based on scientific literature.

6. The use of gill netting for the harvest of fish from inland lakes and the concomittant use of catch data from gill nets to monitor fish population abundance present several problems to the management of these resources. Monitoring the gill net catch without gear standardization will be ineffective. Gill nets capture fish in three ways; they are wedged into the mesh, being held by a mesh around the body; they are gilled, being held by a mesh slipping behind the gill cover; they are tangled, being held by their teeth, fin spines, maxillaries or other protrusions. Gill nets are size-selective in that for a particular mesh size fish of some optimum size are generally most vulnerable to capture. Typically the catch will fall off to zero either side of this optimum size in a bell shaped curve representing numbers caught by length increment. For example, graded-mesh gill nets set for walleyes on Larson's Reef in Green Bay, October 21-30, 1980, contained mesh ranging from 2 1/2 to 6" stretched measure. The median length of walleye captured in each mesh size ranged from 41 cm (16 inches) in 3" mesh to 48 cm

(19 inches) in 4 1/4" mesh (WI DNR, unpublished). The average length of walleyes taken in gill nets of various mesh size fished in Lake of the Woods, MN, 1939-40, ranged from 13.2" in 3" mesh to 17.3" in 4 1/2" mesh. (MN DNR, unpublished). Gill net selectivity studies by Hamley and Regier (1973) discussed the bimodal character of selectivity curves due to the two methods of capture (wedging and tangling) common to gill nets fished for walleye. Nets of 3" to 4 1/2" stretched measure fished in Dexter Lake, Ontario, 1968-70 exhibited median catches of 45 and 60 cm respectively (17.7" and 23.6") and a broad range of 30 to 75 cm (11.8" to 30"). Fish tangled in the net were slightly larger in each mesh size than those wedged in the mesh.

The direct mortality of fish taken in gill nets may vary considerably from lake to lake dependent upon duration of the set, water temperature, degree to which they are preyed upon while caught in the net, turbulence at the netting site and physiological stress being experienced by the individual fish. He has observed dead fish in gill nets set over one night in Lake Superior to be about 10% of the total catch on several occasions, while similar sets on Lake Michigan have had as high as 90% on several occasions. Thus one can not assume a fixed proportion of the gill net catch will die before the nets are lifted.

The combined catch rate for walleyes captured in 3" - 4 1/2" stretched mesh gill nets set specifically for them on Larsens Reef, Green Bay, October 21 - 30, 1980, was 15.5 fish per 300' at approximately 1.5 pds per fish this represented a harvest of 23.3 pounds per 300' gill net lift.

The catch rate for walleyes captured in 1 1/2" - 4" stretched mech gill nets set overnight in 84 lakes in Minnesota in 1948 averaged 2.3 pounds per 250 ft. standard net (2.8 pds/300'). Minnesota statewide gill net catch indices for 1948-67 inclusive found in their Manual of Instructions for Lake

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Survey, (1970) indicate a median catch of 5.16 pounds per set of nets similar to those previously referred to (6.2 pds/300') and a range of 0.03 - 143.20 (0.04 - 172 pounds/300'). The Minnesota netting was not specifically for walleyes but rather as a basic lake survey. Mesh sizes were also selected to capture a much greater size range of fishes than that envisioned in the tribal ordinance.

Analysis of length-at-age data collected for walleyes from lakes in the ceded area indicates fish of the sizes commonly taken in 3"-4 1/2" gill nets are 4 to 9 years of age and represent the predominately older and larger mature fish of both sexes. Since females exhibit faster growth than males, they are first taken at an earlier age. Female walleyes begin to mature at age 4. While numbers of mature walleyes are not commonly related to year class strengths, populations with extremely few fish surviving to maturity may exist at or near the threshold at which numbers of spawners does limit year-class strength.

7. Any fish harvest scheme which permits the use of gill nets without specifying mesh size precisely, as well as mesh material, netting depth, and hanging ratio, will produce catch data subject to biases which cannot be ignored when evaluating the impact of the fishery on the targeted species.

Mesh material influences net efficiency in descending order from monofilament, multi-filament nylon, to cotton or linen nets. Efficiency is found to vary by as much as 3.6:1 between nylon net material and cotton (Berst, 1961). The diameter and flexibility of the mesh material also influences efficiency.

The hanging ratio (number of meshes tied to lead and cork line between units of length along the line) also effects efficiency. The ratio controls the shape of individual mesh in the net as well as the "slack" in the net.

For example the more "slack" the greater the entangling of deep bodied fish. The length of time a net is set also influences total catch. Nets do not entangle or ensnare fish at a uniform rate throughout the duration of the set. In clear water a few fish may "saturate" a net causing others to avoid it.

Bonde (1965) in Minnesota attempted to equate catch figures for surveys conducted in Minnesota and Ontario with gill nets and noted efficiency differences in the nets employed by the two. His work suggested the difference was caused by "net hang" or the way the nets were constructed.

Moyle, Kuehn and Burrows discussed gill net selectivity in relation to lake sampling in Minnesota (1948). They concluded there were large sampling errors associated with the way gill nets catch fish and that as measures of fish population size they could only be used in very general sense.

Size selectivity influences estimations of growth rate, mortality and length-weight relationships because the larger fish in each age group are caught more selectively.

Gill net mesh size selectivity curves will vary somewhat from lake to lake and season to season because of differences in distribution, behavior and condition of fish. To allow generalization over a number of lakes the nets and fishing methods must be standardized. Even so, generalization will only be suitable for the segment of the populations harvested.

8. Projecting abundance of walleyes in any particular lake is at best difficult, and the larger and deeper the lake the more difficult assessment becomes. Size, mortality and growth are all essential to estimate the number of individuals at each age and the relative size of individuals at each age. These estimates require reliable sampling methods for which fish of nearly all ages are vulnerable. Gill nets are not commonly employed for this purpose in

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inland water because of size selectivity problems. Most classifications of lakes on the basis of physical and chemical measures, i.e., size, mean depth, conductivity, etc., provide only the broadest categorization and should not be used as the basis for estimating allowable catch of any particular species of fish. While perhaps useful in estimating total standing crop of all fish, they fail to take into account the relative numbers of each species in the population and the food chain relationships which exist in each particular lake.

9. Overexploitation, a situation wherein the fish population is placed at high risk of collapse or displacement (OMNR, 1982), can occur even before the yield is observed to decline. Fish populations respond in various ways to exploitation. These responses may relate to population size, population structure, or physiological responses, eg. increased growth. The indicators of overexploitation most commonly employed are yield, abundance, age structure, total mortality mean age of catch, variation in year class strength, growth and age at maturity. Since they provide only circumstantial evidence of overexploitation (depletion) an accumulation of such evidence is required and they must be used in combination rather than singly to make sound decisions.

10. The Department's "Fish Management Handbook", Chapter 10, sets standards for investigations acceptable for estimating fish populations and associated measures. Review of fisheries projects conducted in the last two years suggests such investigations normally require two sampling seasons and cost $6-10,000. Adequate investigations exist for less than 10 of the 46 lakes proposed for walleye harvest by gill net and spear.

His review of the department files, admittedly not complete at this time suggests such studies are available for:

Big Crooked Lake, Vilas County
Whitefish Lake, Sawyer County
Lac Courte Oreilles, Sawyer County
Grindshore Lake, Sawyer County
Namekagon Lake, Bayfield County
Owen Lake, Bayfield County
Flambeau Flowage, Iron Conty,

within the ceded area.

11. There is a growing body of knowledge which indicates serious disruption of lake trophic systems and far-reaching adverse impacts on water quality occur with removal of the larger piscivorous fishes by whatever method to such an extent that their numbers are disproportionately less than would normally be found. An international expert consultation on the management of lakes by food-chain manipulation (1981) observed that fishery regulations can have profound effects on other trophic levels in the system (e.g., algal abundance). They concluded that fisheries management based solely on population dynamics and a single estimate of maximum sustainable yield will be slowly responsive to variability in the lake trophic system and be responsible for continuous changes in the system. They concluded that any change in harvest will change the trophic system and require a new estimate of maximum sustainable yield.

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Others considering biomanipulation for water quality enhancement formulated from their observations (Shapiro et al., 1982) a hierarchy of interactions within the trophic system which lead to predictable alterations of the system. Their observations indicate removal of piscivorous fish from the community allows for an increase in their prey, which are normally planktivorous fish, which in turn permits a decrease in their prey, the herbivorous zooplankton. This in turn permits an increase in the algal community and accelerates the recycling of basic lake nutrients, thus creating an environment much more conducive to the bottom feeding, less desirable fish species. This process, by increasing algal densities, produces a decrease in water quality.

Therefore, poorly conceived removals of piscivorous fishes such as walleye and muskellunge from these lakes may well produce long lasting detrimental results with respect to the fish community, water clarity and other measures of water quality.

12. Lakes within the ceded area are by no means uniform in their productive capabilities. They exhibit a broad range in chemical parameters commonly assumed to reflect productivity. They exhibit a broad range in physical parameters, reflective of their suitability for sustaining fish and they range from small, isolated seepage-fed lakes to large impoundments on major river systems. The Department of Natural Resources inventories of "Surface Water Resources" for the counties in the ceded area clearly reflect their varied fish populations as well.

The varied productivity of these waters is further evidenced in a review of Department fisheries surveys conducted on walleye lakes in northern Wisconsin compiled by Klingbiel and Ananthanarayanan (unpublished, 1984 appendix I). Populations in 43 lakes for which estimates were made ranged from 0.2 to 13.8 fish per acre and averaged 5.2 per acre (for fish in excess of the size considered fully vulnerable to the sampling gear employed). Populations ranged from 0.7 to 12.5 pounds per acre, averaging 6.2 pounds/acre.

Similar information from lakes in Minnesota reported by Moyle, et al., indicated a range in walleye populations from 0 to 54.5 pounds per acre with an average of 3.0 pounds per acre.

Wisconsin fish managers and biologists have observed exploitation rates ranging from 9 to 35 percent for walleyes in 8 of the lakes in the ceded area (based on creel census; see also appendix I). They observed that lakes with most desirable walleye populations exhibited exploitation rates of approximately 25%.

Review of files immediately available to fish managers and research biologists of the department has provided additional information relating to the status of fish populations in those lakes listed in section 205 a) of the Chippewa Open - Water Fishing Ordinance. This information is appended (Appendix II), and reflects the inconsistencies which exist among these waters in terms of their fish populations.

In view of the variable character of lakes in the ceded area and of the walleye populations and species complexes noted in these lakes, it is virtually impossible to project permissible harvest levels across all lakes without risking severe depletion of fish populations in those lakes with less-than-average population levels.

13. Spearing, unless strictly regulated, will severely deplete targeted fish populations. The impact of spearing has the capability to far surpass that of hook and line fishing. An incident April 13, 1984, on Sherman Lake, Vilas County, provides a striking example. Sherman Lake is 123 acres. Of 29 Wisconsin lakes having walleye population estimates the range was 0.7 to 19.8 pounds/acre and the average 7.5 pounds/acre. Of 12 lakes having walleye exploitation rates the range was 5-35% and the average was 17.5%. If the

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Sherman Lake population were considered average, 17.5%, the annual harvest by anglers would be 1.3 pounds/acre. In this instance three individuals spearing 3 hours each harvested 176 walleye totalling 224 pounds, or 1.82 pounds/acre. These fish averaged 15.2 inches in length and approximately 1.26 pounds in weight.

14. The Off-Reservation Open Water Fishing Code-1984, adopted by all bands of the Lake Superior Chippewa, including exceptions and amendments adopted by the Bad River Band, has been reviewed. The following comments constitute his analysis of the code in relation to sound management practices and prevention of substantial depletion of the fish stocks:

Sec. 108 Applicability: The applicability of the code has been extended to several Lake Superior tributary streams, which are known to seasonally harbor fish which are residents of Lake Superior for much of their life. In as much as the code does not apply to harvest of those species while in the waters of Lake Superior, it should not apply to them while in the critical act of spawning. With the exception of walleyes, these species are trout, the numbers of which are both dependent upon the numbers of spawning fish and the numbers of fish planted in waters of Lake Superior.

Sec. 201 Length of Season: The season is specified as the period from April 16, 1984 to December 31, 1984, without regard for the mid-summer largemouth bass and smallmouth bass spawning period and the fall and spring stream trout spawning periods. During these periods spawning fish are especially vulnerable. Bass guard their nests and may easily be taken by spear (permissible under the code) and by hook and line.

There is little or no survival of eggs and fry when male bass are removed from the nests, which also permits snagging. Stream trout congregate in shallow water during spawning where they are vulnerable to snagging, permitted under the code. Removal of spawning fish of those species whose total numbers are dependent upon the number of spawners, at a time when they are unusually congregated, constitutes a threat of severe depletion.

Sec. 203 b) Spearing Limited to Specified Lakes: Northern pike utilize marshes adjoining lakes for spawning. While streams and rivers are closed to spearing during spawning season (214) there are no provisions to protect spawning northern pike in marshes adjoining the lakes.

Sec. 203 d) Size and Bag Limits (spearing): The size and bag limits adopted for largemouth and smallmouth bass fail to afford protection to these fish while spawning in lakes in June/July.

Sec. 203 g) Spearing Defined: Since snagging is also a method of impaling the targeted fish, it should be included in this section rather than 206 d) and the restrictions of section 203 should apply to it. The effectiveness of snagging is much more like that of spearing than of fishing by hook and line.

Sec. 204 e) Size and Bag Limits (gill netting): This section specifies that all dead fish must be kept but fails to specify, as in 203 h) that dead fish netted under minimum size limits shall be included in daily bag limits.

Sec. 203 f) Netting Season: Lake trout spawn in late fall in two lakes intended for gill netting. Since numbers of lake trout are dependent on numbers of spawners, they should be afforded protection during spawning by curtailing gill netting in their lakes when lake trout are spawning and subject to incidental capture in nets set for walleye.

Sec. 204 g) Gear Restrictions: Permitting a broad range of gill net mesh sizes will lead to the harvest of the largest individuals initially, with subsequent harvest of smaller individuals as mesh size is reduced by under the code. Removal of spawning fish of those species whose total numbers are dependent upon the number of spawners, at a time when they are unusually congregated, constitutes a threat of severe depletion.

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Sec. 204 g) Gear Restrictions: Permitting a broad range of gill net mesh sizes will lead to the harvest of the largest individuals initially, with subsequent harvest of smaller individuals as mesh size is reduced by fishermen. During this process catch rates will remain stable or even increase as younger more abundant year classes are fished leading to a false assumption that the population as a whole is not diminished. Mesh size should be rigidly controlled, to prevent this deceptive practice.

Sec. 205 a) Authorized Spearing and Netting Lakes: Gillnets fished in Minnesota lakes for assessment purposes captured from 0 to 140 pounds of walleyes per 250 foot net set. Lakes with small walleye yield limits can be severely overharvested by a single net set if a system is not in place to limit permits prior to reaching the allowable harvest.

The department's publication Wisconsin Walleye Waters is an improper basis for establishing individual lake yield limits, in that it does not adequately reflect age and size distribution within the population and fails to indicate those lakes where the populations are supplemented through stocking.

In several instances yield limits are set for lakes where walleyes are either absent or exist only as remnant populations. Gaslyn and Bashow Lakes-Burnett County, have no walleyes. Walleyes are only present as remnant populations in Upper and Lower Clam Lakes-Burnett County, Sand Lake-Barron County; and Trout Lake-Vilas County. Muskellunge yield limits are set for several lakes without muskellunge; Big Sand, Upper Clam, Lower Clam, Gaslyn and Bashow Lakes-Burnett County, Nelson Lake-Sawyer County, Pine, Mole, Metong, Lucerne and Pickerel Lakes-Forest County, Lower Eau Claire and Owen Lakes-Bayfield County.

Sec. 205 b) Lake Closure: Muskellunge are vulnerable to gill nets set for walleyes. In the event that any lake's muskellunge yield is exceeded by spearing the lake should be closed to gill netting to prevent a continued incidental harvest of muskellunge. Since all dead fish taken in gill nets must be kept (204 e)) muskellunge killed in the nets, regardless of size, will be harvested. The allowable yield limits set for muskellunge fail to acknowledge any incidental harvest of fish in gill nets.

Sec. 206 c) Bag Limits and Size Limits (hook and line): Stream trout bag limits are needed to prevent severe depletion of trout by hook and line in spring ponds and during spawning periods when they are easily taken by snagging, permissible under section 206 d).

Sec. 211 Special Restrictions: The list of on-going research project waters should be expanded to include the Namekagon River-Sawyer (evaluation of trout slot-size limits). Provision should be made to permit additions to the list for research work being conducted by University of Wisconsin fisheries researchers as well, i.e., Trout Lake-Vilas County.

Magnuson and others (1982, 83) have indicated that Trout Lake and nearby waters have been designated as the focus for North Temperate Lake Studies and are part of the long-term ecological research network under the sponsorship of the Division of Biotic Systems and Resources, National Science Foundation. These studies are of such significance that only minimal disturbances to the fish community structures in these waters can be tolerated.

Sec. 214 Fish Refuges: Refuges have been designated to provide haven or sanctuary for fish during spawning at areas of unusual congregation and at other times in site-specific situations where fish are otherwise unusually congregated and unusually vulnerable to capture, e.g., below dams. In such incidental harvest of muskellunge. Since all dead fish taken in gill nets must be kept (204 e)) muskellunge killed in the nets, regardless of size, will be harvested. The allowable yield limits set for muskellunge fail to acknowledge any incidental harvest of fish in gill nets.

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Further affiant sayeth not.

Ronald J. Poff — Date: 3rd May, 1984

STATE OF WISCONSIN)
) ss
County of Dane)

Subscribed and sworn to this 3 day of May, 1984.

Notary Public

My commission ~~expires~~ is permanent

24610

IN THE UNITED STATES DISTRICT COURT

FOR THE WESTERN DISTRICT OF WISCONSIN

LAC COURTE OREILLES BAND OF
LAKE SUPERIOR CHIPPEWA INDIANS,
et al.,

Plaintiffs,

v.

Case No. 74-C-313

STATE OF WISCONSIN, et al.,

Defendants.

AFFIDAVIT IN OPPOSITION TO MOTION FOR PRELIMINARY INJUNCTION

The affiant, David A. Hanson, being first duly sworn, deposes and states as follows:

1) His name is David A. Hanson, and his address is Route 2, Box 2030, Trego, Wisconsin 54888.

2) He is a fisheries research biologist employed by the Wisconsin Department of Natural Resources--Bureau of Research--Fisheries research section and has been so employed since November, 1979. Prior to this employment he was a fish manager for the same agency.

3) Primary job responsibilities in his present employment have been conducting six research studies on muskellunge. These study topics include: determination of genetic variability of muskellunge populations, population characteristics and angler use of muskellunge, survival of muskellunge eggs and fry to fall fingerlings, evaluation of a new strain (to Wisconsin) of muskellunge, and two studies on factors affecting survival of stocked fingerling muskellunge. He was a co-convenor of the technical session "Trends of Muskellunge Management

in a Changing Environment" at the 113th annual meeting of the American Fisheries Society, Milwaukee, Wisconsin, August 16-20, 1983, as well as a technical steering committee member of the International Symposium on Muskellunge, LaCrosse, Wisconsin, April 4-6, 1984. He has presented many oral presentations to fisheries professionals on various aspects of muskellunge life history and management and recently was the chairman of a panel discussion on "Future Research Needs for Muskellunge" at the International Symposium on Muskellunge. He is frequently contacted by professional biologists from many states and provinces for recommendations and comments on various issues regarding muskellunge management.

4) Further background by the affiant is summarized in the attached curriculum vitae (attachment A).

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4) Further background by the affiant is summarized in the attached curriculum vitae (attachment A).

5) The following statements have been made based on my personal experience as a professional fisheries biologist, scientific publications and unpublished DNR files.

6) In order to fully appreciate the potential effects of increased harvest of muskellunge by nontraditional methods (in the present day sense), it is necessary to provide a background of information regarding the muskellunge.

A) Family--The muskellunge belongs to the Family Esocidae which has only five species found in North America one of which includes the northern pike (Crossman 1978). The muskellunge attains the largest size of the five species with the current largest angler-caught muskellunge being 69 pounds, 15 ounces. Because of its potential to reach large size, the muskellunge is managed as a trophy fish (as compared to a "meat" fish) in nearly all states and provinces in which it occurs. The muskellunge has the fewest biological adaptations for successful natural reproduction of all the species of the Esocidae family (Dombeck et al. 1984).

B) Distribution--The muskellunge's past and present (as of 1978) distribution is shown in Attachment B which was taken from Crossman (1978). Within the muskellunge's historic range there has been a decrease in natural self-sustaining populations believed to be caused by: deterioration of habitat as a result of changing land-use and industrial practices by man; over-exploitation from by commercial fishing in the 1800's (Crossman, in press) as well as spearing and angling; and increased competition by the spread of northern pike into muskellunge waters which formerly did not contain them.

Presently the distribution of muskellunge geographically has been increased due to the stocking of muskellunge into new waters which is largely funded by anglers, through license fees. These waters must be routinely stocked to maintain their populations as natural reproduction rarely occurs in non-native waters.

C) Abundance in Wisconsin--The native range of muskellunge consists largely of the headwater lakes of both the Chippewa River drainage basic (in northwestern Wisconsin) and the Wisconsin River drainage basin (north central Wisconsin). This area falls within the ceded area. Populations outside these areas are there is a result of introductory and routine maintenance stocking of fingerlings. Within its native range, present recruitment of muskellunge from natural reproduction is believed to be much less than that which historically occurred. Current populations in most native range waters are substantially supported by stocking large fingerlings.

The muskellunge naturally occurs at very low densities. Little historical data exists on muskellunge densities because of the difficulty in monitoring muskellunge populations. Traditional fish management survey methods generally capture too few muskellunge to estimate population abundance. Unbiased data on abundance from age I fishing in the 1800's (Crossman, in press) as well as spearing and angling; and increased competition by the spread of northern pike into muskellunge waters which formerly did not contain them.

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The muskellunge naturally occurs at very low densities. Little historical data exists on muskellunge densities because of the difficulty in monitoring muskellunge populations. Traditional fish management survey methods generally capture too few muskellunge to estimate population abundance. Unbiased data on abundance from age I (approximated 12 inches) to the age when most individuals from a year class becomes sexually mature (generally age V or VI for males and age VI or VII for females) is virtually nonexistent because of limitations of sampling techniques. Knowledge of adult populations was generally limited historically because of the large amount of effort required to make population estimates. Unbiased adult population estimates are generally made by sampling intensively during the spawning run for two consecutive years in order to estimate the abundance which occurred in the first year of sampling. Hanson (in press, Attachment C) estimated population abundance levels in nine class A muskellunge waters. The average abundance in those nine lakes was one muskellunge 30 inches in length or longer per 3.7 surface acres. However, the amount of variation from the average was very large with the minimum density being one fish per 33.3 acres and the maximum being one fish per 1.6 acres. Population levels in most class B and C muskellunge waters are believed to be lower than class A waters (WDNR 1982).

D) Growth and Mortality--Muskellunge growth is quite slow in Wisconsin compared to other geographic areas where muskellunge occur (Hanson, in press). In spite of this slow growth, Wisconsin has produced more world record size muskellunge than any other geographic area. Muskellunge reach large sizes in spite of slow growth by living long lives. Some individual muskellunge in Wisconsin have been documented to live at least 30 years (Johnson 1971). Female muskellunge grow faster and have a greater longevity than males (Hanson, in press).

As a result of this, nearly all muskellunge over 40 inches in length are females. Wisconsin produces fewer large size muskellunge presently than it historically did. A very small percent of Wisconsin muskellunge live longer than 9 years for males and 11 years for females. The age structure of Wisconsin muskellunge is comprised of much younger fish than that of the waters in Canada (Casselman and Crossman, in press). The suppression in the number of older fish in Wisconsin is believed to be due to excessive amounts of harvest which primarily occurred from angling.

E) Natural Reproduction--Muskellunge spawning in Wisconsin waters normally occurs in shallow water (less than 3 feet) over muck and detritus substrate following spring ice out when water temperatures are 48-60°F. Spawning is likely to continue to occur after May 15 (proposed netting opening date) in the deeper lakes. The largest females (which contain the most eggs and are the sought after trophies by anglers) spawn the latest and would be highly vulnerable in mid-May. No harvest is recommended by any method until the end of May (angler opening season begins the Saturday nearest Memorial Day). Other types of spawning activities have been documented in the literature but these populations are believed to be genetically distinct from Wisconsin populations (Fillback et al., in press; Koppleman and Philipp, in press).

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Muskellunge reproduce most successfully in drainage systems which have spring water level fluctuations and do not contain northern pike (Dombeck et al., in press). Northern pike did not occur naturally in most of Wisconsin's native muskellunge waters but currently have established populations in many of these waters through stocking of some waters in the 1930's and 40's, and movement upstream in drainage basins. They continue to expand their populations into other native muskellunge waters. Muskellunge reproduction decreases as the eutrophication (natural aging) process of the lake increases. Muskellunge lack the biological adaptations necessary to successfully reproduce in degrading environmental conditions that other members of the Esocidae Family possess (Dombeck et al. 1984). The eutrophication rate of native muskellunge waters has been increased as a by-product of the civilization process of the past two hundred years.

The decrease in the amount of natural reproduction and consequent recruitment of native muskellunge populations as well as increased harvest has been compensated by stocking fingerling muskellunge. Wisconsin anglers support an expensive muskellunge propagation program (Klingbiel 1981) supported mainly by stocking large fingerling (Hanson et al. in press). Generally, the stocking of fry or small fingerlings is of little biological value since few survive. Most successful recruitment comes from stocking large fingerlings (Hanson et al., in press). One goal of Wisconsin's muskellunge management program is to increase the amount of recruitment from natural reproduction so that many waters can become self-sustaining once again.

7) Implications of Increased Harvest of Muskellunge by Quota Fisheries

The level of acceptable exploitation (which is the percentage of the total number of fish which were legal size at the beginning of a year which are harvested in that year) for muskellunge depends in part on the management philosophy being used.

A) In a maximum sustained yield harvest strategy, fish of an optimum size are harvested such that the maximum amount in pounds is removed annually so that no depletion of the population occurs. Maximum sustained yield harvest strategies pay little attention to the size or quality of individual fish in the population. Muskellunge in Wisconsin as well as nearly every state and province in which they occur are harvested under a trophy management philosophy designed to produce large fish. The goals here are for a high quality (average size) of the individuals within a population even though total pounds harvested may be less than that from a maximum sustained yield fishery due to a lower number of individuals being harvested.

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B) Acceptable Exploitation Levels--As stated above, the philosophy of Wisconsin's muskellunge management program is that of a trophy fishery. The acceptable level of exploitation was estimated to be 36% (WDNR 1979). However, this estimate was made when very limited knowledge of muskellunge population characteristics existed as well as limited knowledge of current harvest levels. Hanson (in press) reported minimum exploitation rates of 9 lakes averaged 27.5% and ranged from 13.8% to 42.0%. Based on this study as well as other recent data, it is my opinion that an exploitation rate of 36% is unacceptable in Wisconsin for muskellunge for either a maximum sustained yield or trophy fishery harvest strategy. Populations which are harvested at 36% or higher, characteristically are dominated by very few year classes of adults. In lieu of the program goal of re-establishment of self-sustaining populations in as many waters as possible and the sensitivity of low density muskellunge populations to changing environments, a fishery which consists of only a few year classes cannot be considered either biologically desirable or healthy. Maximum acceptable exploitation rates for muskellunge should be set at 27% for maximum sustained yield fisheries and 17% for trophy harvest strategy fisheries until further knowledge is gained on limiting factors affecting recruitment from natural reproduction. These levels will likely prevent depletion. These exploitation rates may not be appropriate maximum sustained yield fisheries where there is little interest in self-sustaining populations and annual stocking of large fingerlings is an acceptable management cost (i.e. a put and take fishery). Acceptable exploitation should be set between 17% and 27% for stocked populations without hope of natural reproduction but harvested under the trophy philosophy, depending on the sociological definition of a "trophy muskellunge".

C) Current Exploitation Rates--As mentioned in 2(B) above, the minimum average level of exploitation from 9 lakes as reported by Hanson (in press) was 27.5%. This rate would have been higher except for the practice of catch and release fishing by many muskellunge anglers. Nearly 30% of all legal size muskellunge caught by anglers were voluntarily released. Two significant angling regulation changes have been made since that study was conducted: the minimum legal length limit was increased form 30 to 32 inches beginning with the 1983 season and the opening of the season was delayed from the first Saturday in May to the Saturday nearest Memorial Day beginning with the 1984 season. These changes reflect significant changes since Hanson (in press) found 42% of the legal-sized muskellunge caught by anglers to be between 30.0 and 31.9 inches and approximately 13% of the annual legal-sized catch occurred during May. The effects of a 34 inch minimum size limit is currently being evaluated in 4 lakes. While the new regulations and the increasing practice of voluntary catch and release fishing will reduce exploitation rates or at least have them occur at a later age in the fishes life, it is unknown what current levels are.

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D) The establishment of quotas for harvesting surplus muskellunge in Wisconsin is inappropriate since there is no present unharvested surplus.

8) Methods of Muskellunge Harvest

A) Angling--Muskellunge angling in Wisconsin is practiced as a trophy fishery. Hanson (in press) found that muskellunge anglers averaged 83 hours per 30 inch or longer muskellunge caught from 9 lakes. In one lake, Mud/Callahan, the catch rate average one 30 inch or longer fish per 500 hours of angling. In spite of the long hours spent per fish caught, the average rate of voluntary release was 30%. Muskellunge anglers are very important to the economy of northern Wisconsin. An average of 43% of all anglers fishing the 9 lakes during the open water season were fishing specifically for muskellunge. Angling is a much less efficient method of harvesting muskellunge than is gill netting or spearing during spawning. Angling has already been shown that it was over-harvesting the fishery.

B) Spearing--Muskellunge are most susceptible to spearing (by hand-thrown device) either during spawning or through the ice. A substantial number of muskellunge can be speared through the ice by a relatively few individuals as can be shown by Siler and Beyerle (in press) as well as 1984 Lac Courte Oreilles creel census data. Muskellunge spawning in shallow bays in lakes are highly vulnerable to spearing because muskellunge show little defensive behavior at this time of year. The concept of spearing in a muskellunge fishery managed for trophy qualities is not commonly accepted as evidenced by the general ban of its use throughout the muskellunge range.

C) Gill netting--Gill netting was a common method of harvest for muskellunge taken from commercial use throughout the muskellunge range (North America) in the 1800's and early 1900's. The relative high efficiency of gill nets on harvesting muskellunge and subsequent over-exploitation is believed to be partly responsible for the decimation of certain stocks (Crossman, in press).

Recent studies of movement and behavior of muskellunge using radio-telemetry have shown that muskellunge use habitats which also frequently contain walleyes. If gill nets are used to harvest a quota of muskellunge or walleye, it is likely that the quota for one species will be exceeded if gill netting is allowed to continue for the other species after the first quota is filled. For example, if a lake's quota for muskellunge is reached and subsequent harvest is closed but gill netting for walleyes remains open, the incidental catch of muskellunge in nets set for walleyes will likely cause the muskellunge quota to be exceeded.

D) Motor trolling--Motor trolling is not allowed in most class A muskellunge waters in Wisconsin for three reasons:

to spearing because muskellunge show little defensive behavior at this time of year. The concept of spearing in a muskellunge fishery managed for trophy qualities is not commonly accepted as evidenced by the general ban of its use throughout the muskellunge range.

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D) Motor trolling--Motor trolling is not allowed in most class A muskellunge waters in Wisconsin for three reasons:

(1) Concern that increased efficiency to capture muskellunge will only add to potential over-harvest problems,

(2) Conflict in lake use on Wisconsin's small lakes when trollers "vie for position" in small areas, and

(3) Concern over the possible destruction of beds of aquatic vegetation by motor trollers.

9) The Concept of Quota Harvest for Muskellunge

The muskellunge can be considered to be a "highly sensitive" fish from all biological perspectives in that it possesses few adaptations which allow it to sustain itself in conditions of high harvest or declining habitat. The history of muskellunge populations throughout much of its range is that of depletion of a self-sustaining resource to a fishery heavily dependent on stocking. Wisconsin's management goal is to return the species to greater self-sufficiency in a healthy environment. The setting of quotas to be harvested by spearing and gill netting would be a step backwards in the attempt to recover from a history of resource depletion of this species.

The setting of quotas for harvest of a fishery is biologically sound only when adequate biological information exists on the resource being harvested as well as existence of a satisfactory method of monitoring harvest. Data on population abundance of muskellunge in Wisconsin is more available today than existed five years ago. This data shows the muskellunge to be a low density animal that has a wide variability in density. Applying a mean density estimate from one study to project stock abundance in other waters from which harvest quotas are set is biologically unsound for muskellunge. If the variation in abundance among lakes from the mean had been low, the method might have been reasonable. But since the variation is great, the proposed quotas will surely lead to depletion in some waters even if quotas are not exceeded (this is acknowledged in Neil Kmiecik's affidavit to this court dated April 11, 1984). The setting of harvest quotas for muskellunge should be done only if population abundance and characteristics known are monitored. The acceptable method of monitoring would include, but not be limited to, two successive years of trap netting during the spawning run for each lake harvested. It is important to note that no harvest of the fish could be allowed during monitoring if the data gained is to be biologically useful. From that effort, a one year quota could be set for total harvest of the resource. Since immature muskellunge are not easily monitored, the above method would have to be repeated each year for which there would be a quota.

Establishment of a quota fishery is also dependent on the existence of accurate methods of monitoring harvest. The creel census methods for monitoring spearing and motor trolling harvest as mentioned in the tribal codes are biologically inadequate for a low density animal such as the muskellunge. Acceptable methods of creel census for muskellunge would require the assigning of one census clerk to survey each lake on a available today than existed five years ago. This data shows the muskellunge to be a low density animal that has a wide variability in density. Applying a mean density estimate from one study to project stock abundance in other waters from which harvest quotas are set is biologically unsound for muskellunge. If the variation in abundance among lakes from the mean had been low, the method might have been reasonable. But since the variation is great, the proposed quotas will surely lead to depletion in some waters even if quotas are not exceeded (this is acknowledged in Neil Kmiecik's affidavit to this court dated April 11, 1984). The setting of harvest quotas for muskellunge should be done only if population abundance and characteristics known are monitored. The acceptable method of monitoring would include, but not be limited to, two successive years of trap netting during the spawning run for <u>each</u> lake harvested. It is important to note that no harvest of the fish could be allowed during monitoring if the data gained is to be biologically useful. From that effort, a one year quota could be set for total harvest of the resource. Since immature muskellunge are not easily monitored, the above method would have to be repeated each year for which there would be a quota.

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Further affiant sayeth not.

David A. Hanson — 5/2/84

David A. Hanson — Date

STATE OF WISCONSIN)

) ss

County of Dane)

Subscribed and sworn to this 2 day of May, 1984.

Michael A Lutz — Attorney at Law

Notary Public

My commission ~~expires~~ is permanent

Hanson, D. A., R. Strand, D. D. Post, W. H. LeGrande and S. Fillback. 1983. Muskellunge Electrophoresis Study. Muskie 17:9-13.

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2346M

IN THE UNITED STATES DISTRICT COURT

FOR THE WESTERN DISTRICT OF WISCONSIN

LAC COURTE OREILLES BAND OF LAKE SUPERIOR CHIPPEWA INDIANS, et al.,

Plaintiffs,

v.

Case No. 74-C-313

STATE OF WISCONSIN, et al.,

Defendants.

AFFIDAVIT IN OPPOSITION TO MOTION FOR PRELIMINARY INJUNCTION

The affiant, Steven L. Serns, being duly sworn, disposes and states as follows:

1) His name is Steven L. Serns and his address is Box 137, Woodruff, Wisconsin 54568.

2) He is a fisheries research biologist with the Wisconsin Department of Natural Resources (DNR), Woodruff, Wisconsin, and has held that position since May, 1979. Prior to that he worked for 2 1/2 years (1972-1975) as a fishery biologist with DNR in Madison and as a fish management biologist (1975-1979) with the DNR in Woodruff.

3) He received Bachelor's and Master's of Science degrees in fisheries from Texas A&M University in 1970 and 1972, respectively.

4) He has published thirty-three scientific papers pertaining to aquatic biology/fisheries investigations and has orally presented ten scientific papers at major fisheries meetings (he received best paper awards for two of these presentations).

5) He was presented with the Wisconsin DNR Research Award of Excellence for 1983.

6) He has served as a member of three sessional and one standing committee (s) of the American Fisheries Society and was certified as a Fisheries Scientist by that organization in 1975.

7) Since 1982, he has served as an associate editor for the technical fisheries journal, The North American Journal of Fisheries Management.

8) He is a member of the American Fisheries Society and the American Institute of Fishery Research Biologists.

9) A resume' is attached to the end of this affidavit.

10) The information in this affidavit is drawn from personal experience with the fishery in the ceded area, DNR records, and recognized scientific literature.

11) Walleyes are Wisconsin's most sought-after game fish. Management of walleyes in Wisconsin has focused primarily on stocking and regulations. One of the major management concerns is the cyclical nature of walleye angling success, a pheonomenon tied to the level of reproductive success in a given year and/or the supply of food fish (WDNR 1979).

12) An estimated 663,000 Wisconsin anglers, 40% of the state's total anglers, fish for walleyes. It is projected that the overall walleye population will decline about 7% by 1990 due primarily to habitat loss. By the same date, it is estimated that angler numbers will increase about 15% (Anonymous 1979).

13) Walleyes were originally confined to only the larger lakes and river systems of Wisconsin. The extensive stocking of walleye fry and fingerlings (by the Wisconsin Conservation Department in the early 1900's) greatly

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13) Walleyes were originally confined to only the larger lakes and river systems of Wisconsin. The extensive stocking of walleye fry and fingerlings (by the Wisconsin Conservation Department in the early 1900's) greatly

expanded the distribution of walleye in Wisconsin's waters (Becker 1983). Therefore, many of the lakes of Wisconsin which historically did not contain walleyes have them now as a result of Wisconsin's fish management program.

14) As previously mentioned, walleyes are a very important sport fish in Wisconsin waters, particularly those in the northern part of the state. Walleyes have firm, white bone-free flesh which makes them highly prized by anglers as food fish.

15) Lakes vary widely in their physical, chemical and biological features and specifically the structure of their fish communities. These factors affect the density and size structure of walleye populations in these individual water bodies. Because the biomass and harvest of adult walleyes varies widely between lakes and within the same lake from year to year, assessment of these differences between individual lake walleye populations (which is necessary for their wise management) is difficult considering the large number of walleye lakes in the ceded area.

16) An angling sport fishery tends to select small to medium sized walleyes, while harvest by means of gill netting, spearing and snagging (especially when employed against spawning aggregations) is selective toward larger fish (Serns and Kempinger 1981; Colby and Nepszy 1981). Angling during the peak spawning period is generally ineffective while the other methods listed above tend to be most effective during the period of peak spawning activity. By selecting the larger walleyes, gill netting, spearing and snagging would result in a depletion of the larger walleyes in the bodies of water in which these methods of capture were employed.

17) A selective harvest directed at medium to large sized walleyes would target those fish which produce the greatest number of eggs (Wolfert 1969; Serns 1982a). It has also been demonstrated that the middle age groups of many fish species, including walleyes, produce eggs having the highest viability (Nikolskii 1969; Serns 1981 and 1982b).

18) While several researchers have demonstrated the lack of a positive relationship between the number of spawners and the number of young produced for walleyes (Koonce et al. 1978; Serns 1982c), this analysis is confounded by the possible masking of any positive relationship between these factors by the overriding impact of environmental and biological variables impacting year-class strength (Beddington and May 1977; Serns 1982c). It has, however, been well demonstrated that at some threshold level of spawner density, despite the influence of other factors, there is a direct relationship between spawners and year-class strength (Beddington and May 1977; Skud 1982).

19) Another confounding factor involved with the adequate assessment of the spawner-recruit relationship for walleyes is the lack of state-of-the-art models which are flexible and realistic enough to adequately account for all of the possible factors which may impact walleye year-class strength and mask the direct effects of spawner density.

20) The selective harvest of larger walleyes could, over time, result in a genetic shift in a population to a more slowly-growing individual. This would eventually result in a depletion of the larger walleyes in that population. Since the age to maturity for walleyes is influenced by their rate of growth (Colby et al. 1979), any decrease in growth would prolong the time required for walleyes to become sexually mature and, therefore, without a decrease in the annual rate of total mortality to accompany the increase in

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age to maturity, there would be a depletion in the size of the spawning stock. This problem would be more severe with harvest methods such as gill netting, spearing, and snagging (as opposed to angling) because they tend to select the larger walleyes.

21) Research has shown that the angler harvest of walleyes is largely governed by the natural food supply in a body of water and is not well correlated with fishing pressure and walleye population density (Forney 1967; Kempinger et al. 1975). In large part, an angling fishery for walleyes is self-regulating: 1) when prey density is low a high percentage of walleyes may be harvested which, in turn, reduces predator density and allows the prey community to rebound, 2) the higher prey density then increases the natural food supply which reduces subsequent angling harvest. The situation would be quite different with a gill net, spearing or snagging harvest (especially of spawning aggregations of adults) which would not be self-regulating until there was depletion.

22) We currently have data for lakes in northern Wisconsin that shows that the angler exploitation of walleyes in some years equals or exceeds the 35% allowable harvest of adults outlined in the Wisconsin Department of Natural Resources Fish Management Strategic Plan (Kempinger et al. 1975; Bever and Lealos 1977; Anonymous 1979). Because the angling harvest, as mentioned earlier, is governed primarily by fish community structure and not by angling pressure or walleye density, it is difficult to accurately set an allowable harvest (by methods other than angling) that would ensure against depletion of the walleye resource in a given water body.

23) If a walleye population is overharvested there may be a shift in community structure which is irreversible without costly rehabilitative techniques and the loss of a viable adult population for a period of some 5-10 years.

24) Because of the impact of weather during the spring spawning and incubation period (which cannot be controlled or accurately predicted beforehand) on walleye year-class strength which could occur in several successive years, coupled with our knowledge that angler exploitation of walleyes in some waters currently meets or exceeds the harvestable surplus of 35%, additional harvest by other methods without adequate recruitment would result in the depletion of the walleye fishery in certain waters.

25) Because of the desirability of walleyes by anglers fishing for both sport and food in waters in the ceded area, where a large part of the economy is dependent upon the tourist industry (which to a large degree is supported by anglers who fish walleyes), the possibility of a decrease in the walleye fishery in this region could cause these anglers to travel to areas other than northern Wisconsin for their fishing vacations which would adversely impact the tourist industry.

26) Many lakes in the ceded area have been identified in which walleyes are slow growing and where there are few large individuals in the population (Bever and Lealos 1974, 1977; Klingbiel and Ananthanarayanan 1984). Because gill netting, spearing and snagging would be selective to larger individuals, these methods could take a high percentage of the few large fish present in these waters thereby resulting in a depletion of the larger walleyes in the population and exacerbating the problems of slow growth, increased age to maturity, and decreased number of potential spawners.

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27) Several waters in the ceded area have been identified where walleye natural reproduction is limited or lacking and adult density is low (Wisconsin Department of Natural Resources Woodruff and Hayward Area Headquarters Files). Gill netting, spearing or snagging of walleyes in these waters would seriously deplete these walleye populations.

28) The following is a list of references which were used to support statements made in the above affidavit:

Further affiant sayeth not.

Steven L. Serns

Steven L. Serns

May 2, 1984

Date

STATE OF WISCONSIN)

) ss

County of Dane)

Subscribed and sworn to this 2 day of May, 1984.

Jimmy J. [illegible]

Notary Public

My commission ~~expires~~ is permanent

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IN THE UNITED STATES DISTRICT COURT

FOR THE WESTERN DISTRICT OF WISCONSIN

LAC COURTE OREILLES BAND OF
LAKE SUPERIOR CHIPPEWA INDIANS,
et al.,

Plaintiffs,

v. Case No. 74-C-313

STATE OF WISCONSIN, et al.,

Defendants

AFFIDAVIT IN OPPOSITION TO MOTION FOR PRELIMINARY INJUNCTION

The affiant, Gerry G. Bever, being first duly sworn, deposes and states as follows:

1. His name is Gerry G. Bever and his address is P. O. Box 220, Park Falls, Wisconsin, 54552.

2. He is a fisheries biologist employed as Area Fish Manager for the Park Falls Area, by the Wisconsin Department of Natural Resources, and has held that position since September of 1969. Prior to September, 1969, he held the position of fish manager with the Wisconsin Department of Natural Resources at Sooner, Wisconsin, starting in April, 1968.

13. He received a Bachelor of Science Degree in Fish Management and Biology from Michigan State University, East Lansing, Michigan in 1968.

4. He is co-author of the following fish management reports: Walleye Fishery in Pike and Round Lakes-Price County, October, 1974 (Fish management report number 73). The Walleye in Butternut Lake-Price County, Wisconsin,

July, 1977 (Fish management report 96). The Flambeau Flowage Fishery, March, 1982 (Fish management report 110).

In addition he has authored numerous fishery investigational reports regarding surveys of lake and stream fisheries of northern Wisconsin. He was also a member of the Lake Sturgeon, Upper Wisconsin Northern Pike and Muskellunge Fish Management Species Workshops. The purpose of which was to develop a comprehensive management strategy for those species.

LAKE STURGEON

1. The lake sturgeon, *Acipenser fulverscens* Rafinesque, is the giant of Wisconsin's fresh water inland fishes. "In the past, the lake sturgeon has been recklessly and wastefully exploited. Throughout most of its range, the lake sturgeon population has shown drastic declines and has had little opportunity to replenish itself. Over-exploitation, pollution, dam construction, destruction of spawning areas and deliberate destruction of fish to protect commercial fishing gear all have had a major part in reducing the range and population of the lake sturgeon" (Priegel and Wirth, 1974).

2. The lake sturgeon is listed as a rare species in the United States. Over most of its range in the United States it appears to be threatened. In some states it is depleted (possibly extirpated), endangered or rare. In Wisconsin this species has been given watch status even though it is common in some waters (Becker, 1983).

With the continuing improvement in water quality, the improbability of any more dams on larger streams to block movement, and continued close monitoring of the annual harvest, it is possible that the lake sturgeon may escape being classified as endangered or threatened in Wisconsin.

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With the continuing improvement in water quality, the improbability of any more dams on larger streams to block movement, and continued close monitoring of the annual harvest, it is possible that the lake sturgeon may escape being classified as endangered or threatened in Wisconsin.

In addition, huge sums in terms of manpower and expenditure are being used to prevent the illegal exploitation of the lake sturgeon. For example, the "sturgeon watch" project on the Wolf River system.

3. Lake sturgeon are a slow growing, late maturing and long lived fish species. At first lake sturgeon grow more rapidly in length than in weight, but this trend reverses as fish reach sexual maturity. They obtain the present legal size limit of 45 inches on the average in the Flambeau River system sometime in their 16th/17th year of growth. Few individuals over 40 years of age are normally present in Wisconsin sturgeon populations, however, a 152 year old lake sturgeon which weighed 215 pounds and measured 81 inches long was caught in Lake of the Woods, Ontario in 1953.

The current state and world hook and line record lake sturgeon was caught in Yellow Lake, Burnett County (1979) and weighed 170 pounds 10 ounces.

Female lake sturgeon reach sexual maturity when they are 24-26 years old at approximately 55 inches in length. Unlike most fish species, sexual mature female lake sturgeon only spawn once every 4-6 years. Few males mature until they are 45 inches in length and 14-16 years of age. Once they reach sexual maturity, most spawn every other year, while some do so every year (G. Priegel and T. Wirth 1974).

Spawning migrations in northern Wisconsin occur in May and early June. The act usually occurs in rivers. Males migrate to the spawning sites before females. These sites tend to be found on the outside bends of the river banks where the current is upwelling and where rocks and boulders are prevalent.

These large fish can be observed in the shallows along the shoreline with their tails, backs, or snouts out of the water. They frequently are so close to the bank or in such shallow water that they can be readily captured.

Several males may attend one female. The spawning act lasts but a few seconds, however, the spawning group will temporarily leave the site only to return and spawn again. The spawning activity for one female usually lasts from 5 to 8 or more hours but may extend over a period of a day or more. There is a considerable variation in the number of eggs produced by females of the same weight, anywhere from 50,000 - 700,000 eggs.

4. Lake sturgeon provide a unique fishery and a relatively limited resource outside the Lake Winnebago system. Wisconsin's present management has provided for one of the few viable fisheries for this species in the United States.

5. The lake sturgeon is highly prized both for its flesh and its eggs (caviar). For this reason coupled with the biology of this fish a very low rate of exploitation is required to maintain its present population status and to provide a sustained yield. An average catch rate of legal fish (45" and over) of about 0.004 per hour was obtained from creel census date on the Flambeau River.

6. From the best supply-demand information available, it is recommended that the exploitation rate for lake sturgeon not exceed 5% of the harvestable population. This low exploitation rate is due to the low rate of recruitment, of about 5% per year, typical for this slow-growing, late-maturing fish (Wisconsin Department of Natural Resources Fish and Wildlife Comprehensive Plan).

7. Over the years the season bag limit on inland waters, excluding boundary waters, has been reduced from 5 fish to one help curb over-exploitation. The minimum size limit also has been increased from 30 to 45 inches. Except for Lake Winnebago and several upstream lakes (Butte des

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7. Over the years the season bag limit on inland waters, excluding boundary waters, has been reduced from 5 fish to one help curb over-exploitation. The minimum size limit also has been increased from 30 to 45 inches. Except for Lake Winnebago and several upstream lakes (Butte des

Morts, Poygan, and Winneconne), where short spearing seasons through the ice are allowed, only hook and line fishing is permitted on inland waters. These short seasons, when compared to those for most other fisheries, are in place to constrain harvest opportunity with the objective of minimizing the threat of over-exploitation. The Lake Winnebago lake sturgeon season is from the second Saturday in February through March 1, with a bag limit of one per license with a minimum size of 45 inches. The 3 upstream lakes have a 2 day season once every 5 years. Other inland waters, exclusive of boundary waters, have a season from the first Saturday in September through October 15.

As evidenced by past changes in the regulatory framework it is probable that future changes will occur to adapt to the needs of this fishery. The most recent being in 1983 when hook and line anglers were required to obtain both a free license (tag) and register their catch. This was implemented because very little was known about the lake sturgeon hook and line fishery and the one fish per season bag limit was very difficult to enforce.

Lake sturgeon are highly vulnerable to spearing, netting and snagging during the spawning season (during May and early June in most northern Wisconsin waters) and other times of high concentrations. For example, approximately 56 lake sturgeon were snagged in about 12 hours by 2 to 4 snaggers as part of a D.N.R. rescue operation. These fish were stranded below the Arpin Dam in a hole approximately 75 x 50 feet, as a result of low water levels following the spawning run (Personal Observation, G. Bever 1983).

9. The fragility of this fishery is cause for concern. Once over-exploited the population due to the fishes late maturation and long life, may fail to recover even if the fishery is closed for many years. Once the

population is over-exploited, it is almost a safe assumption that the population will never recover to former abundance, as has already been shown throughout the natural geographical range of the lake sturgeon (Priegel and Wirth, 1975).

10. The introduction of more efficient methods of capture at times of the year when they are extremely vulnerable will only serve to place the fishery in a more precarious circumstance. Therefore, it is essential that the regulatory framework permit only those gear types and seasons that give this fish every advantage to avoid capture.

11. The affiant concludes in his professional opinion, and based on his review of biological information, D.N.R. records and personal experience that the ability to sustain even a limited fishery requires an ultra conservative regulatory framework and harvest. Other than this will place the fishery in jeopardy.

Further affiant sayeth not.

Gerry G. Bever — 5/2/84

Gerry G. Bever — Date

STATE OF WISCONSIN)
) ss
County of Dane)

Subscribed and sworn to this 2nd day of May, 1984.

Richard L Prosise

Notary Public

My commission ~~expires~~ is permanent

2688N

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IN THE UNITED STATES DISTRICT COURT

FOR THE WESTERN DISTRICT OF WISCONSIN

LAC COURTE OREILLES BAND OF
LAKE SUPERIOR CHIPPEWA INDIANS,
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v.

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STATE OF WISCONSIN, et al.,

Defendants.

AFFIDAVIT IN OPPOSITION TO MOTION FOR PRELIMINARY INJUNCTION

The affidavit, Lloyd M. Andrews, being first duly sworn, deposes and states as follows:

1. His name is Lloyd M. Andrews and his home address is 8764 Brunswick Road, Minocqua, Wisconsin 54548.

2. He is a Natural Resources Supervisor 2 (Fish) employed as a fish manager by the Wisconsin Department of Natural Resources, Woodruff, Wisconsin, and has held such or a similar position since May, 1962. Prior to May, 1962, he held the position of Fish Conservation Aid (Technician) starting in April, 1959.

3. He received a Bachelor of Science degree in Biology from St. Norbert College, West DePere, Wisconsin in January, 1957.

4. His professional work involves supervision of a fish Management Work Unit in the Woodruff Area (Forest, Vilas and Oneida Counties) comprised of 3 fisheries biologists, 1 fisheries technician and a variable number (approximately 6-12) of seasoned personnel. Major areas of responsibility include: (1) comprehensive lake and stream surveys, (2) fish management project evaluation surveys, (3) fish management stock assessment surveys, (4) county waters inventory and update, (5) county waters access site inventory, (6) lake mapping, (7) sport fishery harvest, (8) habitat development, and (9) public relations.

5 His activities include direction and/or coordination of work plans (projects), budget preparation and control, personnel management, liaison with fish managers, review and/or editing of subordinates management or technical reports, equipment procurement, literature review, preparation of investigational reports and conducting of investigational surveys.

6. His responsibilities require that he is acquainted with the life history and habitat of the fishes, particularly sport fish, in the Woodruff Area.

7. The following statements have been made based on my personal experience as a fish manager, literatúre review and investigational data in WDNR files.

8. In Wisconsin the northern pike occurs in the Mississippi River, Lake Michigan and Lake Superior drainage basins. It is widely distributed throughout the state except in the southwestern unglaciated area. In this region it is sparsely dispersed except in large river systems and impounded areas.

4. His professional work involves supervision of a fish Management Work Unit in the Woodruff Area (Forest, Vilas and Oneida Counties) comprised of 3 fisheries biologists, 1 fisheries technician and a variable number (approximately 6-12) of seasoned personnel. Major areas of responsibility include: (1) comprehensive lake and stream surveys, (2) fish management project evaluation surveys, (3) fish management stock assessment surveys, (4) county waters inventory and update, (5) county waters access site inventory, (6) lake mapping, (7) sport fishery harvest, (8) habitat development, and (9) public relations.

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6. His responsibilities require that he is acquainted with the life history and habitat of the fishes, particularly sport fish, in the Woodruff Area.

7. The following statements have been made based on my personal experience as a fish manager, literatúre review and investigational data in WDNR files.

8. In Wisconsin the northern pike occurs in the Mississippi River, Lake Michigan and Lake Superior drainage basins. It is widely distributed throughout the state except in the southwestern unglaciated area. In this region it is sparsely dispersed except in large river systems and impounded areas.

13. Depth distribution of this species in lakes, after the spawning season, is variable. In one Wisconsin observation (Lake Geneva) distribution was related to size: small northern pike were found at 10-20 feet, medium sized fish at 20-40 feet and large fish at greater depths.

14. The species is not known to be a wary fish. Consequently, it is popular with anglers because it bites readily and is an excellent food fish. These characteristics contribute to its high vulnerability by hook and line fishing. Exploitation rates in Escanaba Lake (Vilas County) ranged from 27%-64% and averaged 46% from 1957-1969. The pounds per acre of northern pike ranged from less than 1-9 during the study period (Kempinger et al, 1975). In Murphy Flowage (Rusk County) exploitation rates ranged from 3%-50% and averaged 26% from 1955-1970. The pounds per acre of northern pike in this study ranged between 2.4-16.4 (Snow, 1978).

15. Presently an acceptable exploitation rate is 50% of the adult population. In 1975 an estimated 626,000 hook and line anglers, 38% of all anglers, achieved an exploitation rate of 48% on 18 inch and larger fish. By 1985 it is estimated that 689,000 anglers will pursue northern pike and the exploitation rate will reach 54% on fish 18 inches and larger (WDNR Fish Management Strategic Plan).

16. The aforementioned studies and projections of the strategic plan find that hook and line fishing can exceed the acceptable exploitation rate for northern pike. Therefore, the introduction of additional harvest methods such as gill netting, spearing and snagging, which can be most efficient in capturing these fish, will on many lakes exceed acceptable exploitation rates. Furthermore, this type of gear can be highly effective in removing

the larger and/or older fish from the population in numbers disproportionate to their abundance. Selective removal of the larger fish will likely occur. The consequences are a decline in quality and the potential for genetic drift in growth rate factors whereby slower-growing individuals become prominent in the population, thereby reducing the average size of the fishery.

17. The expanding range of northern pike into muskellunge waters (reference no. 1) is a threat to the stability of the muskellunge fishery. Where northern pike conflict with muskellunge management strategies their removal could benefit muskellunge populations. Therefore, where management goals seek to maintain or enhance the muskellunge fishery, the intensive harvest by trap nets of northern pike from these particular waters by Indian fishing could be encouraged.

Further affiant sayeth not.

Lloyd M. Andrews — May 2, 1984

Lloyd M. Andrews — Date

STATE OF WISCONSIN)

) ss

County of Dane)

Subscribed and sworn to this 2nd day of May, 1984.

Richard L. Prosise

Notary Public

My commission ~~expires~~ is permanent

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References

Becker, George C. 1983. Fishes of Wisconsin, The University of Wisconsin Press, pp. 398-404.

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Wisconsin Department of Natural Resources. 1979. Fish and Wildlife Comprehensive plan. Fish Management Strategic Plan. 8-1 to 8-7.

1046D

IN THE UNITED STATES DISTRICT COURT

FOR THE WESTERN DISTRICT OF WISCONSIN

LAC COURTE OREILLES BAND OF
LAKE SUPERIOR CHIPPEWA INDIANS,
et al.,

Plaintiffs,

v. Case No. 74-C-313

STATE OF WISCONSIN, et al.,

Defendents

AFFIDAVIT IN OPPOSITION TO MOTION FOR PRELIMINARY INJUNCTION

The affiant, Thomas D. Beard, being first duly sworn, disposes and states as follows:

1. His name is Thomas D. Beard and his address is P.O. Box 182, Cumberland, Wisconsin 54829.

2. He is an Area Fish Manager employed by the Wisconsin Department of Natural Resources at Cumberland, Wisconsin, and has held such position since June of 1979. Prior to June 1979, he held the position of Warmwater Fishery Research Biologist for the Wisconsin Department of Natural Resources at Spooner, Wisconsin from June 1967 until June 1979.

3. He received the Bachelor of Science Degree from Purdue University in Agriculture with major in Wildlife Management in August 1965.

4. He received the Masters of Arts Degree from Indiana University in Zoology with major in Fisheries in 1967, having written his thesis on "Evaluation of the Effects of a 12-inch Minimum Size Limit on Largemouth Bass".

5. He is a member of the American Fisheries Society and served as State Chapter President during 1980.

6. He is the author of the following selected papers:

Beard

1969. Impact of an overwinter drawdown on the aquatic vegetation in Murphy Flowage. WI Dept. Nat. Resources, Research Report No. 43.

Beard

1971. Panfish Literature Review. WI Dept. Nat. Resources, Research Report No. 71.

Snow and Beard

1972. A ten-year study of native northern pike in Bucks Lake, Wisconsin. WI. Dept. Nat. Resources, Research Tech. Report No. 56.

Beard

1973. Overwinter drawdown: Impact on the aquatic vegetation in Murphy Flowage, Wisconsin. WI Dept. Nat. Resources, Research Tech. Report No. 61.

Beard

1974. Impact of repeated antimycin treatments on the zooplankton and benthic organisms in Camp, Lamenau and Nancy Lakes, Bayfield County, Wisconsin. WI Dept. Nat. Resources, Research Report No. 78.

Beard and Priegel

1974. Construction of a one-foot fyke net. Progressive Fish Culturist.

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Beard and Priegel

1974. Construction of a one-foot fyke net. Progressive Fish Culturist.

Beard

1982. Population dynamics of young-of-the-year bluegill. WI Dept. Nat. Resources, Research Fish Report No. 127.

7. He has given oral presentations of his research at the following scientific gatherings: Midwest Fish and Wildlife Conference, Wisconsin Chapter of the American Fisheries Society, and Wisconsin Department of Natural Resources Fish Management Training sessions.

8. He has participated as a instructor on reservoir management at the request of the United States Fish and Wildlife Service.

9. He is responsible as an Area Fish Manager for the management of the fisheries in all the waters of Barron, Polk, Burnett and Washburn Counties. These management responsibilities include some of the following: Conducting surveys on area waters to determine fish abundance, growth and reproductive success; determine waters to be stocked with fish; and determining budget for fish program in the area.

10. He is responsible for the management of the following waters listed in the "Off Reservation Open Water Fishing Code": Big Sand, Upper Clam, Lower Clam, Gaslyn and Bashow Lakes, Burnett County; Round Lake, Polk County; and Sand Lake, Barron County.

LARGEMOUTH BASS

11. The largemouth bass attains its greatest abundance in shallow, weedy lakes and river backwaters, the same type of habitat that produces bluegills.

12. Densities of largemouth bass in northern Wisconsin are relatively low when compared to populations in southern Wisconsin and such states as Missouris and Indiana because they are at the extreme northern range of their distribution (Becker 1983).

13. From information collected by Snow (1970-1979) on 12 lakes within the ceded territory where largemouth bass are found, their populations average 8.6 fish per acre and 5.8 pounds per acre in these waters.

14. Surveys conducted on lakes within the ceded territory by fish managers have demonstrated a negative relationship between largemouth bass and walleye populations. Where walleye dominate the fishery, the largemouth bass population is depressed. This relationship exists in most of the lakes that are listed in the Chippewa Open Water fishing code.

15. Largemouth bass are very vulnerable to hook and line fishing. Angler induced depressed size distributions have been documented in northern Wisconsin Lakes (Cornelius attached).

16. Lakes where walleyes are the target species for netting, there will be an incidental catch of largemouth bass in the nets because of the movement patterns of the largemouth bass.

17. Snow's surveys (1970-1979) of largemouth bass populations in 12 lakes within the ceded territory shows that the number and pounds per acre of 12 inch and larger largemouth bass average 2.5 and 3.9, respectively. With the proposed use of 3-4 1/2 inch stretched mesh gill nets, the harvest will be primarily of 12 inch and greater largemouth bass. These figures on abundance are less in lakes dominated by walleyes.

18. At the current harvest rate of 0.57 largemouth bass per trip and at an exploitation rate not exceeding 40%, there will be enough 8 inch and larger

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18. At the current harvest rate of 0.57 largemouth bass per trip and at an exploitation rate not exceeding 40%, there will be enough 8 inch and larger

largemouth bass to support the demand through 1990. At the same harvest and exploitation levels in a fishery restricted to 10 inch and larger largemouth bass, the existing angler demand would exceed the supply by 1985. Based on survey information collected by Snow in lakes within the ceded territory, the current estimated total population of largemouth bass 12 inches and larger cannot meet present angler demand at a harvest level of 0.57 fish per trip (Wisconsin Department of Natural Resources, Fish Management Strategic Plan).

19. Because they are a nest building species, they are extremely vulnerable to harvest by spearing and hooked line during June and July while they are spawning within the ceded territory. The male guards the nest, thus are vulnerable to harvest while on the nest. The females are vulnerable to gill netting during their pre- and post-spawning movements. This vulnerability, when combined with unrestricted harvest (no bag limit) can result in severely curtailed spawning and the loss of largemouth bass stocks.

20. The Department is testing more restrictive regulations because of the trends of largemouth bass overharvest in the state. Fish managers are presently experimenting with maximum, minimum and slot size limits as tools to improve the largemouth bass stocks. Within the ceded territory, Blake Lake, Polk County and Wabasso Lake, Vilas County will be set aside in 1985 to to determine the impact of a slot size limit on the largemouth bass fishery.

21. Because largemouth bass within the ceded territory are at the northern edge of their distribution, low and fluctuating water temperature during spawning in June and July causes sporadic spawning attempts and fluctuating year classes. This year class fluctuation is often accentuated when largemouth bass occur in fisheries dominated by walleyes because of predation by the walleyes on the largemouth bass.

22. As with other fish stocks, any size selective method of harvest such as spearing or gill netting is likely to select against fast growth and for slow growing traits.

23. It has been my observation that if a largemouth bass population is overharvested, there may be a shift in the fish community structure in that lake which is irreversible without costly rehabilitative techniques and the loss of a viable fishable adult population for a period of some 5-10 years.

24. In most lakes with dominant populations of largemouth bass, the community structure is one with the largemouth bass serving as the primary predator and panfish (bluegill, yellow perch, and crappie) as the primary forage species. Overharvest of largemouth bass will cause the shift to a community of very few predators and an overabundance of small slow-growing panfish. Fisheries with balanced predator-prey populations have a more desirable community structure than those which are not in balance.

25. Gill netting for any species without a system for limiting effort through either a quota or limited entry has no safeguards to prevent overexploitation.

Further affiant sayeth not.

Thomas D. Beard
Thomas D. Beard

5-2-84
Date

STATE OF WISCONSIN)
) ss
County of Dane)

Subscribed and sworn to this 2nd day of May, 1984.

[illegible]
Notary Public

My commission ~~expires~~ is permanent

2784L

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STATE OF WISCONSIN)
) ss
County of Dane)

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[signature]

Notary Public

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2784L

IN THE UNITED STATES DISTRICT COURT

FOR THE WESTERN DISTRICT OF WISCONSIN

LAC COURTE OREILLES BAND OF
LAKE SUPERIOR CHIPPEWA INDIANS,
et al.,

Plaintiffs,

v. Case No. 74-C-313

STATE OF WISCONSIN, et al.,

Defendants

AFFIDAVIT IN OPPOSITION TO MOTION FOR PRELIMINARY INJUNCTION

The affiant, Frank B. Pratt, being first duly sworn, disposes and states as follows:

1. His name is Frank B. Pratt, Jr. and he resides at Route 3, Box 3310, Hayward, Wisconsin, 54843.

2. He is employed by the Wisconsin D.N.R. as a fisheries biologist in the position of Assistant Area Fish Manager at Hayward. He has been so employed since June, 1974.

3. His responsibilities include investigation and management of public waters in Sawyer and Rusk Counties. That area of jurisdiction includes ten of the waters listed by the Off Reservation Open Water Fishing Code. Included amongst those waters are Chetac Lake, Chippewa Flowage, Grindstone Lake, Lac Courte Oreilles, Moose Lake, Nelson Lake, Round Lake, Sand Lake, Sissabagama Lake, and Whitefish Lake. He has personal knowledge of their fish populations based on eight years of on-site investigations, and has reviewed the literature on other waters in Wisconsin, in this instances as it relates to smallmouth bass.

4. He has produced written reports specifically dealing with these waters, including:

Comprehensive* Fishery Survey Reports:

Sand Lake, Sawyer Co., Aug. 1983, 72 pp.

Grindstone Lake, Sawyer Co., Feb. 1978, 38 pp.

Lac Courte Oreilles, Sawyer Co., Feb. 1977, 34 pp.

Whitefish Lake, Sawyer Co., July 1976, 60 pp.

Round Lake, Sawyer Co., May 1976, 39 pp.

*A comprehensive survey is an intensive and extensive survey effort using several gear types to make population estimates of the major gamefish species. A creel census to monitor fishing pressure and sports catch is often also included.

Management Evaluation Surveys:*

Perch Stocking, Moose Lake, Sawyer Co. (F845), Nov., 1983, 4 pp.

Walleye Stocking, 1977-80, Lac Courte Oreilles Chain, October 1980, 39 pp.

Walleye Stocking and Natural Reproduction, Chetac Lake, Sawyer Co., March 1978, 12 pp.

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Running Inventory Surveys:*

Moose Lake, Sawyer Co., Feb. 1977, 17 pp.

Nelson Lake, Sawyer Co., April 1976, 29 pp.

Interim Progress Reports for On-Going Studies:**

Chippewa Flowage Index Stations, Jan. 1984, 3 pp.

Nelson Lake Comprehensive Survey, Jan. 1984, 3 pp.

*A Running Inventory is a less intensive survey (than comprehensive), without population estimates or creel census, used to update a considerable data base from past surveys.

**These studies are in progress and field effort will not be completed until 1984-85. Reports summarize findings to date.

5. He received his Master of Science in Fisheries from the University of Massachusetts, Amherst, Mass., in Feb., 1976. He received a Bachelor of Arts degree, with a major in biology at Holy Cross College, Worcester, Mass., in June, 1971.

6. He is a past president of the Wisconsin Chapter of the American Fisheries Society, has as been an active member of that professional organization since 1972.

7. Smallmouth bass are a native, Centrarchid game and food fish in many lakes of the ceded area.

8. They are a significant predator component of the fish community of many large, mesotrophic lakes in northern Wisconsin. They often co-occur with walleye and have similar habitat preferences. Any fishery that specifically targets walleye is likely to incidentally harvest smallmouth, as well.

9. With the exception of a few waters, there is a general lack of detailed population dynamics data for this species. This has been recognized by the Wisconsin Strategic Plan. Without more information on abundance, growth, exploitation, and mortality, there is no mechanism to allocate additional harvest and harvest methods, and to set safe limits for such harvest.

10. Even in some of the best waters, this species is not abundant. Population densities commonly are less than 2 lb/acre for 10"+ smallmouth bass.

11. For those few waters where information relative to abundance, growth and mortality is available, smallmouth bass populations, under the current hook and line fishery and existing regulations scheme (5 bag, May-Feb open season) are already at or close to overharvest levels. In Lac Courte Oreilles, with a population density of only 0.5 harvestable (10"+) smallmouth/acre, and light, non-specific, fishing pressure, anglers still harvested 35% of the available stock. In Nebish Lake, DNR research shows that angler exploitation averages 45-50% and total annual mortality, 78%.

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12. On the Sylvania Tract in Upper Michigan, the size structure of 'virgin' smallmouth bass populations declined drastically - after only 6-7 years of light, and highly restricted angling effort (Hook and line fishing only with a high size limit and restructured bag limit). This suggests that any amount of harvest is liable to depress the abundance of larger, older smallmouth.

13. In recent years, Wisconsin has seriously considered, but has yet to enact more restrictive angling regulations to preserve the quality of the existing fishery. In my professional opinion some type of further sports fishing restrictions will be necessary in the near future. More information is needed to determine what the best regulatory scheme will be (season, size limit, etc.).

14. A majority of the fish managers, including the affiant and much of the angling public are genuinely concerned about depressed age and size structures, variable recruitment, and the genetic selection for slower growth that commonly occurs when a smallmouth bass stock is impacted in a highly size selective manner.

15. The gill net mesh sizes to be fished, under the Off Reservation Open Water Code, are expected to be highly size selective for bass, and will target 12-13+" fish. This will increase exploitation on larger, older bass, and accentuate trends for depressed size and age structure.

16. Spawning in northern Wisconsin commonly occurs in June and early July. Because this species nests and has parental care, it is particularly vulnerable to any method of capture during the spawning and immediate pre- and post-spawn periods. Males commonly aggressively guard the nest sites and can be easily harvested by angling, snagging, or spearing at that time. Such vulnerability would be increased in clear water, or where fish are concentrated due to limited spawning areas.

17. Female bass commonly stage just offshore of spawning sites, move into the littoral zone to spawn, and then return offshore. Multiple spawning is common, especially in a fluctuating water temperature regime. Female bass would thus be extremely vulnerable to gill netting.

18. Weather, climatic conditions, and available nursery habitat are commonly acknowledged as limiting factors for recruitment. Although there is no demonstrated stock recruitment relationship for this species, they have evolved a system of parental care to maximize egg and fry survival. The males chase away potential predators and fan the nest to keep the eggs oxygenated. If a male is harvested off the nest, the eggs are likely to be eaten or suffocate. When the (otherwise) primary physical controlling factors are ideal for maximum spawning success, overharvest of males guarding the nesting sites will significantly reduce egg/fry survival and depress year class strength.

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19. In summary, it is my professional conclusion that:

- Current harvest levels, by hook and line, under existing state regulations, are already at or close to levels that will depress size and age structure of northern Wisconsin smallmouth bass populations, even with restricted hook and line fishing.

- A gill net, snagging, and spear fishery during the June-July spawning period is inappropriate, given the species extreme vulnerability at that time and is likely to further contribute to declines in age/size structure, and abundance for that species.

- In the future, harvest by non-angling methods may be accommodated with appropriate season restrictions on all methods, and further restrictions of the existing sport fishery. However, there is currently insufficient data to set such regulations and determine safe limits for an expanded smallmouth bass fishery.

Further affiant sayeth not.

Frank B. Pratt Jr.
Frank B. Pratt, Jr.

5/02/84
Date

STATE OF WISCONSIN)
) ss
County of Dane)

Subscribed and sworn to this 2 day of May, 1984.

Michael A. Lutz
Notary Public

My commission ~~expires~~ is permanent

2769L

IN THE UNITED STATES DISTRICT COURT

FOR THE WESTERN DISTRICT OF WISCONSIN

LAC COURTE OREILLES BAND OF
LAKE SUPERIOR CHIPPEWA INDIANS,
et al.,

Plaintiffs,

v. Case No. 74-C-313

STATE OF WISCONSIN, et al.,

Defendents

AFFIDAVIT IN OPPOSITION TO MOTION FOR PRELIMINARY INJUNCTION

The affiant, Lloyd M. Andrews, being first duly sworn, deposes and states as follows:

1. His name is Lloyd M. Andrews and his home address is 8764 Brunswick Road, Minocqua, Wisconsin 54548.

2. He is a Natural Resources Supervisor 2 (Fish) employed as a fish manager by the Wisconsin Department of Natural Resources, Woodruff, Wisconsin, and has held such or similar position since May, 1962. Prior to May, 1962, he held the position of Fish Conservation Aid (Technician) starting in April, 1959.

3. He received a Bachelor of Science degree in Biology from St. Norbert College, West DePere, Wisconsin in January, 1957.

4. His professional work involves supervision of a fish management work unit in the Woodruff Area (Forest, Vilas and Oneida Counties) comprised of 3 fisheries biologists, 1 fisheries technician, and a variable number

(approximately 6-12) of seasonal personnel. Major areas of responsibility include: (1) comprehensive lake and stream surveys, (2) fish management project evaluation surveys, (3) fish management stock assessment surveys, (4) county waters inventory and update, (5) county waters access site inventory, (6) lake mapping, (7) sport fishery harvest, (8) habitat development, and (9) public relations.

5. His activities include direction and/or coordination of work plans (projects), budget preparation and control, personnel management, liaison with fish managers, review and/or editing of subordinate's management or technical reports, equipment procurement, literature review, preparation of investigational reports, and conducting of investigational surveys.

6. His responsibilities require that he is acquainted with the life history and habitat of the fishes, particularly sport fish, in the Woodruff Area.

The following statements have been made based on my personal experience as a fish manager, literature review, and investigational data in WDNR files.

Lake Trout

1. In Wisconsin inland lake trout populations are scarce, being found in only 7 lakes and in 2 of these their status is questionable. Only 4 lakes exhibit some natural reproduction. Three lakes (Trout, Black Oak and Crystal) are in northern Wisconsin (Vilas County). Trout and Black Oak lakes have some natural reproduction, whereas the Crystal Lake population is solely dependent on stocked fish. Native lake trout stocks appear to be decreasing, and this

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Lake Trout

1. In Wisconsin inland lake trout populations are scarce, being found in only 7 lakes and in 2 of these their status is questionable. Only 4 lakes exhibit some natural reproduction. Three lakes (Trout, Black Oak and Crystal) are in northern Wisconsin (Vilas County). Trout and Black Oak lakes have some natural reproduction, whereas the Crystal Lake population is solely dependent on stocked fish. Native lake trout stocks appear to be decreasing, and this

fishery is becoming largely dependent on hatchery fish for population maintenance.

2. Spawning occurs in the fall, from mid October into November in the northern lakes. Lake trout usually spawn on rocky bars at depths of several feet to 30 feet or more. In Trout and Black Oak lakes their respective spawning sites appear to be restricted to one particular area in each lake. The number of eggs produced is a function of size. The average for Trout Lake was about 4,800 eggs per female. These fish ranged in size from 24-31 inches and averaged 27 inches (Helm, 1961). Males mature when they are about 7 years old (approximately 22 inches) and females at around 8 years old (approximately 24 inches). Lake trout are relatively long lived and attain a large size. The Wisconsin state record fish is from Green Lake and measured 44 inches and weighed nearly 36 pounds. In Trout Lake fish in excess of 30 inches and 10 years of age occur. The oldest fish documented by fin clips exceed 20 years of age.

3. Although a popular food fish and prized by anglers, the hook and line fishery on northern lakes is not as intensive as that for other members of the trout family. This can be attributed to their low catch rate. Based on Trout Lake creel census data, anglers averaged 50 hours (range 21-103) of fishing to catch a legal lake trout (McKnight, 1977). On nearby Crystal Lake when a high catch rate, at least for lake trout, developed on a sub-legal (less than 17 inches) stocked population that averaged 15-16 inches long, significant angler interest developed. Therefore, if the catch rate can be improved, there most likely will be a corresponding increase in angling pressure. Most of the sport fishing activity occurs in the winter through the ice.

4. Recognizing that natural reproduction is limited, we are monitoring the Trout Lake population each fall using gill nets. The reason for poor natural reproduction is not fully understood. One hypothesis is that egg predation by an abundant crayfish population in Trout Lake may be a contributing, if not major, factor in poor natural recruitment. McKnight's work (1963-1971) revealed an average of 45% (range 38%-80%) of the angler catch of legal size lake trout were stocked fish. Recent investigations (Carlson, 1981-1983) found that 75% of the lake trout captured in our 1981 monitoring were stocked fish and 87% of these fish were of Trout Lake origin (inland strain). We have demonstrated that the Lake Superior strain of fish stocked in Trout Lake contributes poorly to the fishery. The variables associated with different strains has also been documented in other states (Plosila, 1977). Because of this circumstance, we are taking eggs from the Trout Lake strain each fall for hatching and re-stocking as yearlings in Trout Lake. The goal is to preserve this unique strain as well as enhance the fishery. However, we are experiencing difficulty in obtaining enough eggs (100,000+) to meet this goal or to expand the range of this strain into other inland waters that may be suitable for introduction.

The 1982 and 1983 catch per effort (CPE) data suggests that the 3 year classes of the Trout Lake strain stocked in 1970, 1971 and 1972 are declining. There has been little recruitment from natural reproduction or Lake Superior strain fish. There are indications that the lake trout population in Trout Lake is declining. This is based on an average CPE of 2.64 for the years 1959-1981 to that of .90 and .99 for 1982 and 1983 respectively. Although it is premature to draw conclusions, these indicators bear continued monitoring.

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Our present sampling uses 2 1/2 inch stretch multifilament gill net during the fall spawning season. The use of 3 and 4 1/2 inch mesh was tried in 1957 and 1958, although effective, it was abandoned because of high mortality despite a 4-5 hour lifting schedule. The return to 2 1/2 inch mesh reduced the sampling mortality (McKnight, 1977).

The vulnerability of lake trout to capture in gill nets is well documented. In addition to the capture of lake trout, walleye and whitefish are readily caught in depths ranging from 15-70 feet using 2 1/2 inch mesh. This gear can, therefore, impact other species in the fishery as well. The effect of a gill net fishery upon lake trout populations, and in particular the larger fish, would serve to cause further declines in what are already minimal populations. Lake trout might be described as a remnant fishery. Spearing and snagging, however, would probably not impact these populations any greater than that encountered by hook and line fishing. Lake trout populations are not large, and the fishery is fragile. Therefore, the need to regulate this fishery is warranted, and the exclusion of gear such as gill nets that is highly efficient and selective in the capture of these fish is imperative.

5. The regulatory scenario on lake trout prior to 1953 found the season opening on April 1 and closing on September 30. The first winter fishing season opened on January 1, 1953. In 1967 the opening date was changed to the first Saturday of January. The September 30 closing remained constant. This precluded angling for these fish during their spawning aggregations. Prior to 1957, the daily bag limit was 5 with a minimum size of 17 inches. Since 1957, the bag limit has been 2 fish with the size limit remaining the same.

6. Continued close monitoring of this fishery is required. The mortality of lake trout in our 1981-1983 investigations ranged from 23-40 fish per year having a size range of about 12 to 16 inches with occasional larger fish. This represents 16-31% of the total catch. Higher mortalities are usually experienced when there are greater numbers of smaller fish in the catch, such as occurred in 1983. A summary of the 1981-1983 catch data is provided in Table 1.

Further affiant sayeth not.

Lloyd M. Andrews
Lloyd M. Andrews

Date May 2, 1984

STATE OF WISCONSIN)
) ss
County of Dane)

Subscribed and sworn to this 2nd day of May, 1984.

Richard L Prosise
Notary Public

My commission ~~expires~~ is permanent

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Table 1. Catch of lake trout in 2 1/2 inch mesh gill net from Trout Lake from 1981-1983.

	Year		
	1981	1982	1983
Total catch	228	143	128
Percent legal (17"+)	94	92	77
No. less 25"	147	95	82
No. 25-29"	59	38	37
No. 30"+	22	10	9

REFERENCES

Carlson, Harland.

1981. Monitoring of lake trout population and egg taking results in Trout Lake, Vilas County. File Memorandum. Wis. Dep. Nat. Resour.

1982. Monitoring of lake trout population and egg taking results in Trout Lake, Vilas County. File Memorandum. Wis. Dep. Nat. Resour.

1984. Lake trout assessment and egg collection in Trout Lake, Vilas County. File Memorandum. Wis. Dep. Nat. Resour.

Helm, James M.

1961. Netting, artificial spawning and marking of lake trout on Trout Lake, Vilas County October 20 through November 15, 1960. Northeast Area Investigational Memorandum No. 5, Wis. Conserv. Dep. Fish Mgmt. Div. 8 pp.

McKnight, Terrence C.

1977. Investigations of lake trout and whitefish management in Trout Lake, Vilas County, Wisconsin. Wis. Dep. Nat. Resour. Bur. Fish Mgmt. Rep. No. 98. 18 pp.

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IN THE UNITED STATES DISTRICT COURT

FOR THE WESTERN DISTRICT OF WISCONSIN

LAC COURTE OREILLES BAND OF
LAKE SUPERIOR CHIPPEWA INDIANS,
et al.,

Plaintiffs,

v. Case No. 74-C-313

STATE OF WISCONSIN, et al.,

Defendents

AFFIDAVIT IN OPPOSITION TO MOTION FOR PRELIMINARY INJUNCTION

The affiant, Robert L. Hunt, being first duly sworn, deposes and states as follows:

1. His name is Robert L. Hunt. He resides at Route 6, Box 690, Waupaca, Wisconsin, 54981.

2. He is employed by the Wisconsin DNR as a fisheries research biologist in the position of a Natural Resource Supervisor III, Cold Water Group Leader. He has been employed by the DNR since July 1, 1959.

3. His responsibilities include supervision of the statewide inland trout research program within the DNR, including performance of research as the primary investigator. Additional details on his professional background and a list of the 28 technical papers he has authored or coauthored are provided in Appendix A.

4. Based on the affiant's professional experience gained through 25 years of field research concerning the life history, ecology and management of trout, plus his knowledge of findings reported by peer professional biologists

in the DNR and elsewhere, it is his scientific judgment that the following statements and conclusions apply to perpetuating rational management of the stream trout resource of Wisconsin and the sport fisheries that resource sustains:

5. Under the measure of protection presently supplied by DNR regulations on the hook and line fishery of stream trout in the inland waters of Wisconsin, populations of these trout (brook, brown and rainbow) can be overharvested at levels of public fishing intensity that already exist in Wisconsin. Positive correlations have been demonstrated that the abundance of spawning stream trout in a population (or "stock") influences subsequent year class strength of the progeny produced by the spawning stock. Overfishing of adults can reduce subsequent fishing quality dependent on future year classes (Carline, 1973; Cooper, 1953; Hunt, 1970; McFadden, 1961).

6. In the predator-prey relationship that exists between anglers and trout, there appear to be no natural controls to circumvent excessive harvest if enough angling effort is applied. Anglers will continue to fish and do so effectively long after the point of overharvest has been passed (McFadden, 1961).

7. Catch rate does not decline in precise proportion to the decline in abundance of trout. Catch statistics alone, therefore, are not accurate enough to detect when more trout have been removed than the surviving spawning stock can replace through natural reproduction and recruitment (Gard and Seegrist, 1972; McFadden, 1961).

8. Hook and line angling for trout constitutes an inverse density-dependent form of mortality on a trout population. Therefore, depletion of a sparse trout population requires proportionately less fishing

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8. Hook and line angling for trout constitutes an inverse density-dependent form of mortality on a trout population. Therefore, depletion of a sparse trout population requires proportionately less fishing

effort to remove a fixed percentage of the stock than does comparable depletion of a dense population. Surviving trout do not necessarily become more difficult to catch, and any increase in fishing effort or fishing efficiency will increase the harvest rate (Hunt, Brynildson and McFadden, 1962; McFadden, 1961).

9. Therefore, because of the principles stated in items 5 through 8 above, it is essential that laws, in the form of season length, minimum, maximum or slot size limits, daily bag limits, and fishing methods continue to be imposed that do not allow greater harvest than that occurring under present DNR regulations, if present populations of stream trout in Wisconsin are to be maintained.

10. Additional DNR restrictions on hook and line harvest are also applied to stream trout fisheries in Wisconsin to enhance the quality of the angling experience and perpetuate or encourage certain cultural qualities traditionally associated with the experience of trout fishing. For a substantial and growing proportion of trout fishers, these cultural restraints, which also have direct or indirect biological benefits too, are of more significance to enjoyment of their fishing experience than are the number or pounds of trout harvested. Perpetuation of trout populations as unaltered as possible is one of the goals most desired by this growing user group of trout fishers (Behnke, 1980; Hunt, 1981).

11. More restrictive regulations for stream trout are anticipated on a statewide basis in the near future. Several meetings of DNR biologists have been held during the past 2 years to formulate these proposed changes. Although the specifics have yet to be finalized, it is pertinent to the adjudication process for which this affidavit applies to highlight the character of these proposals:

a) species-specific size and/or bag limits

b) region-specific regulations

c) increased minimum size limits

d) reduced daily bag limits

e) no extension of the present season length

All of these changes are meant to have cumulative impacts designed to reduce the present statewide harvest and increase the average size of trout creeled, thereby improving angling quality (DNR Comprehensive Fish and Wildlife Management Plan, 1979; DNR records).

12. Based on the present status of the public fishery for stream trout in Wisconsin and future management goals as outlined in items 5-11 above, it is not biologically or socially desirable for the DNR, acting on behalf of all user groups of these trout fisheries, to approve of any regulations that would inevitably increase exploitation of trout populations over broad regions of the state. Techniques such as snagging, gill netting and spearing, if legally practiced by any user group are of major biological concern. All 3 techniques of harvest could be employed with high efficiency when trout are seasonally concentrated in shallow water or in migration during certain life history phases through habitats where they would be highly vulnerable to capture with such gear. Specific examples of such periods and sites of unusual vulnerability include:

a) In the fall when adult brook and brown trout concentrate in shallow water spawning habitats.

b) In the spring when adult rainbow trout do the same. Upstream migrations of anadromous brown trout and rainbow trout (steelheads) would be particularly vulnerable when concentrations occur below natural or artificial barriers.

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c) In the fall and early winter when trout move from stream habitats to connecting spring ponds.

d) In the spring when trout in spring ponds move out to stream habitats.

e) During downstream massive migrations of smolting trout migrating to lakes.

f) Nets placed in spring ponds would catch trout in the evening when they routinely move from deep water to feed in shallow water regions.

13. Rational modern-day management of stream trout populations must be based on factors other than that of simply calculating the allowable maximum harvest that can be cumulatively removed by all user groups. Factors such as the following must also be considered and integrated into a rational regulatory framework:

a) Presence of several age groups of spawning size fish is preferable for several biological reasons to dependence on only a single youngest-age cohort, even if this cohort is normally capable of replacing losses from the population. Several age groups, for example, enhance long-term population stability and optimum year class strength. Population resiliency is also enhanced -- its ability to recover from environmental stress and respond quickly to improved living conditions.

b) Fishing quality is dependent not only on the rate of catch but the size of trout being caught. The larger the average size the better the quality. Therefore, harvest techniques which tend to severely exploit larger and older segments of the population are antithetical to maintenance of healthy, well-balanced size and age structures. Gill nets, snagging and spearing will produce imbalance more quickly and more severely than does traditional hook and line harvest.

c) Within the biological constraints of preventing overharvest and maintaining healthy size and age structure, diversity of angling experiences should be maximized. For example, the majority of trout fishers in Wisconsin continue to utilize the legal-sized trout they catch as food. Desires of this user group needs to be recognized as valid while at the same time managing other trout fisheries for anglers who place secondary emphasis ~~to~~ on catching trout to eat.

In summary, the management goal of the DNR to maintain, or enhance where possible, the present quality of public fisheries for stream trout in Wisconsin will not be attained if present hook and line regulations are replaced with significantly more liberal ones. It is even more imperative that the stream trout resource not be subjected to harvest techniques more effective than hook and line harvest.

Further affiant sayeth not.

Robert L. Hunt
Robert L. Hunt

May 2, 1984
Date

STATE OF WISCONSIN)
) ss
County of Dane)

Subscribed and sworn to this 2nd day of May, 1984.

Richard L. Prosise
Notary Public

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LAC COURTE OREILLES BAND OF
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et al.,

Plaintiffs,

v. Case No. 74-C-313

STATE OF WISCONSIN, et al.,

Defendants

AFFIDAVIT IN OPPOSITION TO MOTION FOR PRELIMINARY INJUNCTION

The affiant, Bruce L. Swanson, being first duly sworn, deposes and states as follows:

1. His name is Bruce L. Swanson and his business address is P. O. Box 589, Bayfield, Wisconsin 54814.

2. He has been employed as the Wisconsin Department of Natural Resources Biologist on Lake Superior since 1972 and became the Lake Superior Work Unit Supervisor in 182.

3. He received his Bachelor of Science Degree, University of Miami, Florida, in 1968. He received his Master of Science Degree, University of Massachusetts, 1972.

4. He is author or coauthor of the following publications in professional journals:

Swanson, Bruce L. 1982. Artificial turf as a substrate for incubating lake trout eggs on reefs in Lake Superior. Progressive Fish Culturist. Vol. 44 (2); p. 109-111.

Swanson, Bruce L. and Donald V. Swedberg. 1980. Decline and recovery of the Lake Superior Gull Island Reef lake trout (Salvelinus namaycush) population and the role of sea lamprey (Petromyzon marinus) predation. Canadian Journal of Fisheries and Aquatic Sciences. Vol. 37, No. 11; p. 2074-2080.

Swanson, Bruce L. and Dennis M. Pratt. 1977. The meristics and parasites of Lake Superior herring. Wisconsin Department of Natural Resources Management Report No. 95.

Swanson, Bruce L. 1973. Lake trout homing, migration, and mortality studies, Lake Superior. Wisconsin Department of Natural Resources Management Report No. 65.

Johnson, James E. and Bruce L. Swanson. 1974. Length and weight changes of preserved Black Crappie and Yellow Perch. Progressive Fish Culturist. Vol. 36(4); p. 201-206.

5. His responsibilities include investigations and management of the fishery resources of Wisconsin waters of Lake Superior and its tributary streams.

6. This affidavit is in reference to the Lake Superior Chippewa proposal to spear and snag on designated tributaries to Lake Superior; in particular, the White River (in both Ashland and Bayfield Counties), the Potato River, Tyler Forks (in both Ashland and Iron Counties), Fish Creek, Sioux, and Little Sioux Rivers (in Bayfield County).

7. The White River, above the Lake Superior District Power Company dam, is a resident brown, rainbow, and brook trout community. This is also true of Tyler Forks. The lower White River, Potato River, Fish Creek, Sioux and

Swanson, Bruce L. and Donald V. Swedberg. 1980. Decline and recovery of the Lake Superior Gull Island Reef lake trout (*Salvelinus namaycush*) population and the role of sea lamprey (*Petromyzon marinus*) predation. Canadian Journal of Fisheries and Aquatic Sciences. Vol. 37, No. 11; p. 2074-2080.

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7. The White River, above the Lake Superior District Power Company dam, is a resident brown, rainbow, and brook trout community. This is also true of Tyler Forks. The lower White River, Potato River, Fish Creek, Sioux and

Little Sioux Rivers have anadromous trout and salmon runs out of Lake Superior. (Anadromous fish live in Lake Superior, but return to their natural streams to spawn.)

The lower White River has walleye spawning in the spring. Fish Creek, Sioux, and Little Sioux Rivers have spawning anadromous rainbow (steelhead) trout in them during the spring (April-early June), and spawning anadromous brown trout and Pacific salmon in them in the fall (late August-December). None of these streams are presently stocked.

ANADROMOUS TROUT RUNS

8. Spring anadromous trout are available for short periods of time (30-45 days) and are extremely vulnerable to efficient gear. The Chippewas have adopted the same seasons and daily bag limits as the Wisconsin sport fishing regulations, but propose to use spears as the methods of harvest. They imply similar catch statistics for these methods as for the present sport fishery! This is not true. The percentage of sport fishermen that reach the daily bag limit is less than 10% for anadromous trout, while the odds of catching one's limit with spears are greatly enhanced. The gear efficiencies of the proposed tribal fishery codes greatly exceed those of the sport fishery, and do not reflect the purpose of the state's regulations.

9. According to area wardens, who are familiar with the spearing of anadromous trout, the general size of a speared fish is greater than that of a hook-and-line caught fish. A spearer has a much greater opportunity to select the size of a fish to spear than a hook-and-line fisherman. Spearing would

direct exploitation towards larger repeat or maiden females, reducing the overall size distribution of the fishery. It may (if effort is substantial) seriously impinge on recruitment, thus placing the future spawning population in a depletion mode. This could easily occur on small streams such as Fish Creek, Little Sioux, and Sioux River. As illustrated on Table 1 an increase in female annual mortality rate from the present 23% to 40% will decrease annual egg deposition by 47%. This information is from the Pikes Creek anadromous rainbow population (unpublished W.D.N.R. Report).

10. With the use of highly efficient gear on fish spawning stocks, an accurate estimate of effort and harvest is necessary to formulate proper regulations to insure adequate escapement of spawning stocks. Pressure or catch limitations should be established for these streams. Permits to spear fish should be limited in number.

11. The state's philosophy of fishery management of anadromous salmonids is centered on the maintenance of a trophy fishery. A sportsman knows when he fishes, he has the opportunity of catching a trophy size (large) fish. The state management of a sport fishery, such as the steelhead, is directed toward insuring an adequate sized spawning population for acceptable catch rates. To illustrate the impact of excessive fishing effort on a spawning steelhead population over several fish generations, Table 1 is introduced.

Attention should be focused on the females, for they are where most trophy size steelhead (25 inches and greater) come from. For example, when the annual fishing mortality rate is increased from 23% to 40%, the number of trophy females drops nearly 40%. Obviously as the fishing mortality increases, the number of trophy steelhead drops. Over 60% of all trophy direct exploitation towards larger repeat or maiden females, reducing the overall size distribution of the fishery. It may (if effort is substantial) seriously impinge on recruitment, thus placing the future spawning population in a depletion mode. This could easily occur on small streams such as Fish Creek, Little Sioux, and Sioux River. As illustrated on Table 1 an increase in female annual mortality rate from the present 23% to 40% will decrease annual egg deposition by 47%. This information is from the Pikes Creek anadromous rainbow population (unpublished W.D.N.R. Report).

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12. In the proposed Fishery code, there is complete disregard of the already existing tribal fishery on the anadromous fish while they are in Lake Superior. The management of anadromous fish is a result of not only comprehensive stream regulations, but proper lake management also. The harvest of steelhead by sport fishermen in the lake is 5% of the stream harvest, while that of the tribal fishery in Lake Superior is unknown. The proposed anadromous stream fishery with spears should be placed on a back burner until we know what the Lake Superior gill net harvest is of Rainbow, Brown Trout, and Pacific Salmon.

13. He questions the promotion of a hook-and-line fishery in refuges. Refuges are areas where fish are protected from man induced mortality. Most refuges are implemented because fish are highly concentrated and extremely vulnerable to poaching.

14. The most disturbing aspect of the proposal is enforcement of the regulations. Monitoring of the harvest by voluntary reports phoned in by permittees will not be accurate. He believes it will be an enforcement nightmare.

15. In his capacity as the Lake Superior Biologist, he is in direct knowledge of the agreements between the Red Cliff tribe and the Wisconsin Department of Natural Resources. The agreement was made in 1981 that Red Cliff would submit a quarterly report on their home-use fishing catch to the Bayfield Office of the Department. It was agreed that the Department would not develop the report form but a form formate was agreed to. The Department has received but one report of the Red Cliff home-use commercial catch.

The following is a paragraph of that report (in letter form) dated May 5, 1983, to George King from Tom Busiham:

The total reported home-use catch in 1983 was 205 fish, of which 103 were lake trout, from a reported effort of 8,600 ft. of gill net. Obviously these are low figures. In 1982, 2,350 home-use tags were distributed to home-use licensees and 3,150 to commercial licensees. Commercial licensees are suppose to report all fish killed on their monthly reports so their catch is presumed to be included in the commercial figures (most as undersized fish). An unknown number of tags distributed in 1982 were not used in that year; never the less, it appears that perhaps only 10% of the catch of home-use licensees was reported.

Based on the tags distributed and the ratio of lake trout in the reported catch, I would hazard to guess the maximum of 2,000 fish were taken in the home-use fishery in 1982, perhaps half of them lake trout.

NON-ANADROMOUS TROUT (Tyler forks - Upper White R.)

16. Concerns for these residents trout populations, principly the upper White River and Tyler Forks stocks, are centered on a) what type of harvest is proposed, b) will effort be concentrated on the larger fish, c) will enforcement be adequate. I feel these questions must be addressed in detail before a tribal spear fishery begins.

17. White River walleye harvest, particularly immediately below the Lake Superior District Powers Companies Dam during spawning, may be extremely vulnerable to a spear fishery. Department biologist do not have sufficient field data on this particular stock to evaluate what impact a spear fishery will have.

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18. I have known Richard Pycha, Director of the U.S. Fish and Wildlife Service Ashland Office Biological Station, for twelve years. Our association is centered around his research and our Department management programs on Lake Superior. Many of the Wisconsin Department of Natural Resources and the U. S. Fish and Wildlife Service programs are coordinated between his station and the Departments Bayfield facility.

His advice and knowledge are ofted sought by Mr. Swanson and his colleagues and his numerous publications and have played a substantial role in many of our Department programs. He has been selected and appointed to innumerable national and international conferences and committees.

Further affiant sayeth not.

Bruce L. Swanson
Bruce L. Swanson

5/2/84
Date

STATE OF WISCONSIN)
) ss
County of Dane)

Subscribed and sworn to this 2 day of May, 1984.

Notary Public

My commission expires is permanent

2689N

Table I. Effects of different fishing mortality rates on steelhead spawning population, Pikes Creek, in the interim period.

u	v	Fishing	No. Trophies	Population Estimate	Ave. Size (Inches)	Repeat Spawners	Maiden Spawners	Egg Deposition
				MALES				
.0	360.8	--	16.7	551.7	18.6	190.5	360.8	
.1	308.4	52.4	12.2	523.1	18.5	162.3	360.8	
.2	261.3	99.5	8.7	497.6	18.3	136.8	360.8	
.3	218.4	142.4	6.0	474.4	18.1	113.6	360.8	
.4	179.5	181.3	4.0	453.2	17.9	92.4	360.8	
.5	143.7	217.1	2.5	434.0	17.7	73.2	360.8	
.6	110.8	250.0	1.5	416.7	17.6	55.9	360.8	
				FEMALES				
.0	257.6	0.0	282.3	703.2	24.1	445.6	257.6	2,654,711
.1	200.2	57.4	198.7	572.3	23.8	314.7	257.6	1,914,450
.2	154.5	103.1	158.3	515.6	23.6	258.0	257.6	1,535,885
.23	142.7	114.9	147.7	500.0	23.6	242.4	257.6	1,433,704
.3	117.9	139.7	124.9	466.0	23.4	208.4	257.6	1,224,958
.4	88.6	169.0	97.2	422.8	23.2	165.2	257.6	969,607
.5	65.0	192.6	74.4	384.8	23.1	117.2	257.6	759,439
.6	46.2	211.4	56.3	352.4	22.9	94.8	257.6	588,475

Table I. (cont'd) Effects of different fishing mortality rates on steelhead spawning population, Pikes Creek, second generation.

u	v	Fishing	No. Trophies	Population Estimate	Ave. Size (Inches)	Repeat Spawners	Maiden Spawners	Egg Deposition
				MALES				
.0	663.7	0	30.8	1,013.9	18.6	350.2	663.6	
.1	409.4	69.4	16.2	694.1	18.5	215.5	478.6	
.2	261.3	99.5	8.7	497.6	18.3	136.8	360.8	
.3	185.3	120.9	5.0	402.5	18.1	96.3	306.2	
.4	120.5	121.9	2.7	305.5	17.9	62.2	242.4	
.5	75.8	114.2	1.3	228.3	17.7	38.5	189.9	
.6	45.2	101.9	0.6	169.7	17.6	22.6	147.1	
				FEMALES				
.0	477.8	0	457.7	1,182.5	24.1	704.7	477.8	4,405,450
.1	267.9	76.6	265.5	765.4	23.8	420.8	344.6	2,572,399
.2	165.7	110.6	169.8	553.1	23.6	276.7	276.4	1,667,046
.23	142.7	114.9	147.7	500.0	23.5	242.4	257.6	1,433,704
.3	100.8	119.7	106.8	398.8	23.4	178.3	220.5	1,067,171
.4	59.8	114.7	65.7	286.3	23.2	111.8	174.5	675,348
.5	34.6	102.2	39.6	204.4	23.0	67.7	136.7	419,134
.6	19.0	86.9	23.2	144.8	22.9	38.9	105.9	254,712

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Reference Material

1) Motion for preliminary injunction, Case No. 74-C-313, filed April 17, 1984.

2) Off-Reservation Open Water Fishing Code - 1984.

3) Preliminary injunction, redraft filed April 23, 1984.

4) Affidavit in support of motion..., Thomas R. Busiahn.

5) Affidavit in support of motion..., Neil E. Kmiecik.

6) Opinion and Order, 74-C-313, entered June 1, 1984.

The following affidavits were prepared and are appended. References are not normally included, due to their considerable volume.

7) James Addis, Director Bureau of Fish Management	Department Policy, Strategies, Community Theory
8) Ronald Poff, Section Chief Bureau of Fish Management	Gill Netting, Assessment, Fishing Code Analysis
9) David A. Hanson, Biologist Bureau of Research	Muskellunge Population Dynamics
10) Steven L. Serns, Biologist Bureau of Research	Walleye Population Dynamics
11) Gerry Bever, Area Manager Northwest District	Lake Sturgeon Population Dynamics
12) Lloyd M. Andrews, Manager North Central District	Northern Pike Population Dynamics
13) Thomas D. Beard, Area Manager Dynamics Northwest District	Largemouth Bass Population
14) Frank B. Pratt, Assistant Area Manager Northwest District	Smallmouth Bass Population Dynamics
15) Lloyd M. Andrews, Manager North Central District	Lake Trout Population Dynamics
16) Robert L. Hunt, Coldwater Group Leader Bureau of Research	Stream Trout Population Dynamics
17) Bruce L. Swanson, Lake Superior Work Unit Supervisor Northwest District	Fishing Code Analysis, Trout

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