

## **FISH STOCKING PROPOSAL**

### **Region G**

**PROPOSAL:** Stock unscheduled BKT and LLS in the St. John River, Van Buren.

**LOCATION:** Towns of Hamlin and Van Buren, Aroostook County.

**CHARACTERISTICS:** A 10 mile reach of shared boundary water from the International Bridge in Van Buren to Hamlin. At the easternmost point of Hamlin the river is no longer the boundary and is entirely in New Brunswick. From this point the River flows a few miles to Grand Falls, an impassable barrier to upstream fish movement.

Average River width in this 10 mile reach is 0.18 mi. No complete physical survey has been completed but water depths of up to 32 ft have been located. This stretch is mostly impounded water from a hydroelectric generating station at Grand Falls, New Brunswick. Water level fluctuations do occur. Habitat is marginal for invasive SMB and MUS as little structure exists along the shoreline.

**NATURAL REPRODUCTION:** A few small tributaries exist on the U.S. side and there are two larger tributaries, Hammond Brook and Violette Stream that provide habitat for wild brook trout. Recruitment to the St. John River however is nullified by the presence of invasive muskellunge (MUS) and small mouth bass (SMB). There is a sport fishery for both species developing here and have replaced a wild trout and salmon fishery that was once present. The presence of MUS and SMB precludes any natural recruitment from the main St. John River.

**EXISTING/HISTORICAL SPORT FISHERIES:** The St. John River once supported a seasonal fishery for wild brook trout and a summer long fishery for trout that congregated off cool tributaries. During spring high flows and cool temperatures trout were dispersed and caught by shore and boat anglers. As flows receded and water temperatures warmed, the areas of refuge off brooks and springs were popular spots for angling. The salmon fishery was reportedly very good but the quality of angling varied with location in the watershed. Parts of the river farther upstream (St. Francis to Allagash) were reportedly much better than the lower reaches (Madawaska to Van Buren).

The historic fisheries for salmonids in the main stem are essentially gone replaced by fishing for SMB and/or MUS. The upper reaches (upstream of Fort Kent) have not been invaded by bass to the extent such that a sport fishery has developed. Muskie fishing is popular throughout. The Van Buren reach of about 10 miles has been open to ice fishing for several years but a fishery has yet to develop there. Another 63 miles of river will be opened to ice fishing for the first time in 2016; this will result in an 73 mile stretch from St. Francis to Hamlin that is open to ice fishing. We expect winter use over this long stretch of river to be very low.

**COMPETITION FROM OTHER SPECIES:** The St. John River has a diverse fish assemblage for northern Maine (Table 1). Survey work done by Midwest Biodiversity

Institute during summer 2005 – 2009 found 23 species in 25 sections sampled by electrofishing. In these surveys 28.8 km of river was sampled, representing 1,423 min of shocking time, and 6,389 individual fish were collected. These surveys confirmed and documented three invasive species that are relatively recent invaders: MUS, SMB, and central mudminnow (*Umbra lima*). The latter species has a mid-western U.S. distribution but also extends into the upper St. Lawrence River watershed. It is unknown how it colonized the St. John River.

**USE OF SPORT FISHERY:** A summer use estimate was obtained for the first time during the 2015 open water season. Flights were made 2-3 times weekly over the 85.4 miles from the Canada boundary in Hamlin upstream to the town of Allagash. Total use was 1,009 anglers which was not uniform across areas of the river (Table 2). Highest angler use was in the Frenchville to Van Buren reach (33.3 mi) that had 697 angler days. The highest single reach (Grand Isle to Van Buren, 15.3 mi) had 392 angler days (25.6 angler days/river mile/season).

To date, winter use has been extremely light based on angler reports and district game warden observations. A season long flight survey during winter 2015 on the 10 mile Van Buren stretch counted no anglers in 27 counts over three months.

**ACCESS:** Public access is currently very good on the lower reaches but lacking in some towns upstream. Modern IF&W or town owned facilities currently exist in Fort Kent, Frenchville, Madawaska, Grand Isle, and Van Buren. All of these facilities have concrete ramps and most have paved parking and access roads. Upstream of Fort Kent, guaranteed public access is less available. There is a mix of public/private ownership of historic access points in Allagash (town owned), and St. Francis. These facilities are mostly car-top, unimproved, have limited parking, and at some flows limited or no access at all. Private access points, mostly in the form of farm field roads and public road turnouts, abound in these upper reaches. Winter access is available at all of these sites and additional snowmobile trails in the form of spur trails off groomed ITS routes.

**OTHER SPECIES PRESENT:** Muskellunge and small mouth bass are considered the principal sport fish sought by anglers today. Occasional salmon and brook trout are still caught. In addition to these sport fish there are 19 other species present (Table 1).

**BACKGROUND DATA:** The St. John River is a large watershed located in the U.S. and Canada and represents the Maine-New Brunswick boundary for approximately 73 miles from St. Francis to Hamlin. About half of the 21,230 mi<sup>2</sup> drainage lies within the province of New Brunswick with the remainder of the upper watershed split between Maine (36%) and the province of Quebec (13%). The River flows 410 miles from Fourth St. John Pond to the Bay of Fundy in New Brunswick. All of the major watersheds of Region G are subwatersheds of the St. John River: Allagash, St. Francis, Fish, Aroostook, and Meduxnekeag.

Obstructions to upstream fish passage are noteworthy. There are four hydroelectric projects, all located in New Brunswick, Canada. Three of these have fishways or lifts in

various stages of operation and entirely for Atlantic salmon management. Grand Falls is a major obstacle to fish movement located just downstream of Hamlin where the river enters New Brunswick entirely. The falls, a natural gorge, and a diversion dam on top of the falls (associated with hydroelectric operation) has a total vertical drop of 131 ft and is impassable to all fish species.

**STOCKING HISTORY:** There is one U.S. direct stocking of the St. John River (10,000 BKT fry, T6R19 WELS) in 1989. There are no other documented U.S. stocking events. There are extensive, long-time stocking programs for various salmonid species (BKT, LKT, LLS) on all of the subwatersheds in Maine. The Aroostook River enters the St. John River downstream of Grand Falls so hatchery fish stocked here in the Aroostook would not have access to the watershed upstream of the falls.

**REGULATIONS:** General law regulations have applied to the mainstem St. John River which align with the boundary water section (S-31). Exceptions include: S-13 (no size or bag limit on bass). There is a special season (October 1-November 3) with S-6 and S-13 when bass and muskellunge may be harvested that applies to Maine water and the boundary water. Ice fishing is now allowed on that section of boundary water from the confluence with the St. Francis River in St. Francis downstream to Hamlin, a reach that comprises 73 miles; boundary water rules apply during this ice fishing season.

**POSSIBLE EFFECTS:** Little to no negative effects are expected on wild populations of brook trout with occasional stockings of unscheduled BKT or LLS. The main stem St. John River populations of salmonids have been decimated by invasive fishes. It is possible that hatchery fish could ascend some tributaries that have no natural or man-made barriers and interact with remnant wild populations there. However, invasive SMB and MUS would also have similar access in these cases and have likely impacted wild populations already. It is expected that most stockings will occur in Van Buren at the head of the impoundment created by Grand Falls to encourage open water and ice fishing of this underutilized resource.

**EVALUATION:** We'll rely heavily on volunteer reports from anglers, district wardens, and experimental angling to determine whether these unscheduled stockings are a success. The intermittent nature of the stockings will make planning formal creel surveys very difficult. We have successfully electrofished sections of the river with various boat setups in the past.

Table 1. Fish species sampled from the St. John River by electrofishing raft, Van Buren to Allagash, 2005, 2008, and 2009 (Midwest Biodiversity Institute).

<b>Species</b>	<b>Number</b>	<b>Percent</b>
rainbow smelt	1	0.020
central mudminnow	1	0.020
salmon	1	0.020
brook trout	3	0.050
round whitefish	5	0.080
muskellunge	48	0.75
white sucker	818	12.8
longnose sucker	41	0.64
western blacknose dace	71	1.1
creek chub	262	4.1
common shiner	2,157	33.8
pearl dace	40	0.63
eastern blacknose dace	1,123	17.6
fallfish	836	13.1
small mouth bass	50	0.78
lake chub	479	7.5
brown bullhead	4	0.060
eastern banded killifish	19	0.30
burbot	74	1.2
yellow perch	148	2.3
slimy sculpin	187	2.9
three spine stickleback	13	0.20
nine spine stickleback	8	0.13

Table 2. Angler use estimates for St. John River over the 85.4 miles from Allagash to Hamlin, 2015 open water season.

<b>Area #</b>	<b>River Reach</b>	<b>Distance (mi)</b>	<b>Use (angler days)</b>	<b>Precision (+/-)</b>	<b>Use/River Mile</b>
1	Van Buren-Hamlin	10.0	53	82%	5.3
2	Grand Isle-Van Buren	15.3	392	34%	25.6
3	Frenchville-Grand Isle	18.0	305	36%	16.9
4	Fort Kent-Frenchville	13.7	105	58%	7.7
5	Allagash-Fort Kent	28.4	154	52%	5.4
Total		85.4	1,009		11.8



Figure 1. The St. John River in Maine and Canada showing the shared boundary from Hamlin upstream to the St. Francis River.