

Weekly Reports on the 2013 St. Croix Milltown fishway alewife count

Alewife Count 2013

This is the ninth and final US/Canada St. Croix sea-run fisheries report for 2013, providing a weekly update on fish passage at the head-of-tide Milltown fishway research trap during the May-July alewife run. The Milltown research trap intercepts all inbound fish that can't pass through its small mesh; all are hand-counted before being released upstream.

TRAPPING/COUNTING DISCONTINUED ON JULY 4

Due to clear indications that the 2013 alewife spawning run has ended (see below), the research trap was lifted for the year at 4:20pm ADT on July 4 and counting discontinued at that time. The fishway remains in operation and will continue to pass fish upstream, unrecorded, until fall.

FISH PASSAGE CONDITIONS

River flows this week remained close to the 3000 cubic feet per second (cfs) range, offering good fish passage conditions at Milltown.

ALEWIFE

Just 3 alewives were recorded at the Milltown fishway in the last seven days, none of them in last three days. These conditions in early July have, in past, signalled the end of the run and the annual count.

A comparison of alewife returns to this date for select periods:

<u>To June 27</u>	<u># alewife</u>	<u>Deemed portion of run</u>
2013	16,677	100.0%
2012	36,168	100.0%
2011	25,141	99.9% + (1 fish to come)
2010	58,764	99.9% + (12 fish to come)
2009	10,450	100.0%
2008	12,2661	100.0%

Last 10 year (2003-2012) average to this date: 17,673

Last 20 year (1993-2012) average to this date: 106,666

OTHER FISH AT MILLTOWN

One smallmouth bass was recorded at the trap this week, on the final day of operation, presumably returning to freshwater after falling below the dam on outgoing flows.

THANK YOU FOR YOUR INTEREST IN THE 2013 ALEWIFE RUN

These weekly reports will resume next May. You will receive the first one at that time, with a

request to let us know if you wish to stay on the 2014 email list.

A short final report on the 2013 St. Croix alewife run, with statistical details, will be issued later in July. If you would like to receive this report, please let me know.

This is the **eighth** US/Canada St. Croix sea-run fisheries report for 2013, with a weekly update on fish passage at the head-of-tide Milltown fishway research trap during the May-July alewife run, and other St. Croix fisheries information when available.

The Milltown research trap intercepts all inbound fish that can't pass through its small mesh and all are hand-counted before being released upstream.

FISH PASSAGE CONDITIONS

River flows this week were in the 3000 cubic feet per second (cfs) range that offered good fish passage conditions at Milltown.

ALEWIFE

While passage conditions were good, there were no fish to pass! Sixteen alewives were counted on June 21 and then only 7 fish moved upstream over the next 6 days, for a weekly total of 23.

Over Milltown's 32 years of trap operation, numbers of alewives been recorded after June 27 in only two years...

in 1985: 3270 (9%) of the year's 36,890 alewives were counted at Milltown in the week of June 28-July 4

in 2004: 161 (12%) of the year's 1299 alewives passed upstream between June 28 and July 11.

Monitoring will continue for the next week to see if 2013 might be a similar year.

A comparison of alewife returns to this date for select periods:

<u>To June 27</u>	<u># alewife</u>	<u>Portion of run</u>
2013	16,674	
2012	36,168	100.0%
2011	25,134	99.9%
2010	58,719	99.9%
2009	10,450	100.0%
2008	12,258	99.9%

Last 10 year (2003-2012) average to this date: 17,692 (99.9% of run)

Last 20 year (1993-2012) average to this date: 106,656 (99.9% of run)

OTHER FISH AT MILLTOWN

One smallmouth bass was recorded at the trap this week, returning to freshwater after falling below the dam on the heavy flows.

This is the **seventh** US/Canada St. Croix sea-run fisheries report for 2013, with a weekly update on fish passage at the head-of-tide Milltown fishway research trap during the May-July alewife run, with other St. Croix fisheries information when available.

The Milltown research trap intercepts all inbound fish that can't pass through its small mesh and all are hand-counted before being released upstream.

FISH PASSAGE CONDITIONS

New records were set for daily maximum flows on eight of the last ten days, this for the 53 years of flow records.

For the week, daily flows at Milltown were in the 6500-8600 cubic feet per second (cfs) range, compared to the 2000 cfs range that is typical for this period.

Late on June 18, for the first time since June 10, flows began to edge slightly below the 5000 cfs level that generally marks the upper limit of fish passage. The ideal river flow for Milltown fish passage has, in the past, been half that: in the 2000-2500cfs range.

ALEWIFE

Due to continuing poor passage conditions, just 83 alewives moved upstream at Milltown during the week -- 74 of these on the last day (June 20), on the falling river flows.

For Milltown's 32-year trap record, there have been no large numbers of alewives entering the river after June 20 but small numbers of inbound spawners have regularly been recorded until July 4 and the odd straggler into mid-July.

If river flows continue to moderate, the coming week will indicate whether the remainder of the 2013 alewife run will still enter the river or whether the spawning window for this year has largely closed. If the latter, the fish now in the estuary will return to marine waters and some will survive to re-enter the St. Croix as spawners in 2014.

A comparison of alewife returns to this date for select periods:

<u>To June 20</u>	<u># alewife</u>	<u>Portion of run</u>
2013	16,651	
2012	36,168	100.0%
2011	25,124	99.9%
2010	58,579	99.7%
2009	10,424	99.8%
2008	12,037	99.5%
Last 10 year (2003-2012) average to this date: 17,596 (99.5% of run)		

Last 20 year (1993-2012) average to this date: 106,627 (99.9% of run)

OTHER FISH AT MILLTOWN

A single 13-inch smallmouth bass passed upstream on June 20, returning to freshwater after falling below the dam on the heavy flows.

This is the **sixth** US/Canada St. Croix sea-run fisheries report for 2013, with a weekly update on fish passage at the head-of-tide Milltown fishway research trap during the May-July alewife run, with other St. Croix fisheries information when available.

The Milltown research trap intercepts all inbound fish that can't pass through its small mesh and these are hand counted before being released upstream.

FISH PASSAGE CONDITIONS

Heavy rainfalls have continued to set long-term records for daily precipitation and river flows in the last week, with no relief in sight.

River flows recorded at the US Geological Survey gage at Baring, just above the Milltown dam, have been consistently in the 7800+ cubic feet per second (cfs) range -- nearly four times the historic average for this period -- and have resulted in unavoidable Milltown gate and spillway releases that largely preclude upstream fish passage.

May-June flow conditions similar to these have not been recorded for over 30 years and raise the possibility that, if they persist, may prevent much of the 2013 alewife run from moving upstream before their spawning window closes.

ALEWIFE

Due to continuing poor passage conditions, only 37 alewives moved upstream through the Milltown fishway this week.

A comparison of alewife returns to this date for select periods:

<u>To June 13</u>	<u># alewife</u>	<u>Portion of run</u>
2013	16,568	
2012	36,158	99%
2011	25,074	99%
2010	57,453	98%
2009	3,797	36%
2008	12,014	98%

Last 10 year (2003-2012) average to this date: 16,557 (94% of run)

Last 20 year (1993-2012) average to this date: 104,802 (98% of run)

OTHER FISH AT MILLTOWN

No other fish were recorded in the research trap this week.

This is the **fifth** US/Canada St. Croix sea-run fisheries report for 2013, with a weekly update on fish passage at the head-of-tide Milltown fishway research trap during the May-July alewife run, with other St. Croix fisheries information when available.

The Milltown research trap intercepts all inbound fish that can't pass through its 1/2-inch mesh un-recorded; these are all hand counted before being released upstream.

FISH PASSAGE CONDITIONS

After a week of very high flows, water levels fell into the range that supports good fish passage this week. However water temperatures rose to over 20 C (68 F) late each day under hot, dry conditions.

ALEWIFE

With the drop in river flows, alewives again started entering the fishway, averaging 1600/day for the first three days of the reporting week and then dropping into the 10-20 fish/day range for the remaining days! At total of 5107 alewives were counted through the Milltown trap during the week. More have been seen below the fishway but have yet to move upstream. In four of the last ten years, the peak of the run has occurred after June 6.

A comparison of alewife returns to this date for select periods:

<u>To May 23</u>	<u># alewife</u>	<u>Portion of run</u>
2013	16,531	
2012	35,961	99%
2011	23,687	94%
2010	53,007	90%
2009	3,795	36%
2008	11,953	97%

Last 10 year (2003-2012) average to this date: 14,899 (84% of run)
Last 20 year (1993-2012) average to this date: 103,079 (96% of run)

OTHER FISH AT MILLTOWN

Three white suckers, two smallmouth bass and six brook trout were counted at the trap in the last week. These are believed to have dropped down into saltwater through open dam gates and were returning upstream to freshwater habitat.

OTHER NEWS

On June 5, the Passamaquoddy Tribe held a homecoming ceremony for the alewife at Grand Falls, where the fishway has just been reopened to the St. Croix alewife run. It was a moving celebration, with many dignitaries and guests in attendance.

The International Joint Commission and its International St. Croix River Watershed Board will hold their annual St. Croix public meeting and consultation on June 17, at 6pm Eastern/7pm Atlantic time, in St. Stephen, NB. Everyone with an interest in the St. Croix is encouraged to attend. Please contact the following for more details: barbara.r.blumeris@usace.army.mil or nadine.mackay@ec.gc.ca.

This is the **fourth** US/Canada St. Croix sea-run fisheries report for 2013, providing weekly updates on alewife (gaspereau) and other fish entering this international river system through the head-of-tide Milltown fishway research trap during the May-July alewife run, along with other St. Croix fisheries information when available.

The Milltown research trap intercepts all inbound fish that are unable to pass through its 1/2-inch mesh; all are hand counted before being released upstream.

FISH PASSAGE CONDITIONS

At the end of last week, a long stretch of rainy, drizzly weather changed...to HEAVY rain on Friday and Saturday. This caused river flows to rise dramatically from the seasonally typical 2000-3000 cubic feet per second (cfs) to 7000-8000cfs, until mid-day Wednesday the 29th. Fish passage is minimal at these high flows: a) open spillways cause a standing wave of heavy turbulence that extends across the river below the fishway, creating a virtual "brick wall" for fish migration and b) the lower end of the fishway is submerged, eliminating the flow attraction clues that fish need to find it. Conditions improved somewhat on the afternoon of May 29 -- the flow dropped sufficiently to allow limited fishway access --- and fish started moving upstream at that time. Effective fish passage (and larger numbers of fish) are anticipated in the next few days, as flows continue to drop and a final spill gate is closed.

ALEWIFE

Alewives entered the estuary in the last week but, due to high flows that affect fish passage (see above), only began ascending the fishway at the end of the reporting period. At total of 10,542 alewives were counted through the Milltown trap during the week, 9,760 of these between Wednesday evening and Thursday evening.

A comparison of alewife returns to this date for select periods:

<u>To May 23</u>	<u># alewife</u>	<u>Portion of run</u>
2013	11,424	
2012	34,786	96%
2011	15,937	63%

2010	44,487	76%
2009	3,753	36%
2008	158	1%

Last 10 year (2003-2012) average to this date: 10,873 (61% of run)

Last 20 year (1993-2012) average to this date: 76,270 (35% of run)

OTHER FISH AT MILLTOWN

One white sucker, one smallmouth bass and three brook trout were counted at the trap in the last week, all on May 30. These are believed to have dropped down into saltwater through open dam gates and were returning upstream to freshwater habitat.

OTHER NEWS

The Maine season for elver (juvenile eel) harvest ends on May 31; nets were already being removed from the St. Croix River section below the Milltown dam this week, on the high flows.

The International Joint Commission and its International St. Croix River Watershed Board will hold their annual St. Croix public meeting and consultation on June 17, at 6pm Eastern/7pm Atlantic time, in St. Stephen, NB. Everyone with an interest in the St. Croix is encouraged to attend. Please contact the following for more details: barbara.r.blumeris@usace.army.mil or nadine.mackay@ec.gc.ca.

This is the **third** US/Canada St. Croix sea-run fisheries report for 2013, providing weekly updates on alewife (gaspereau) and other fish entering this international river system through the head-of-tide Milltown fishway research trap during the May-July alewife run, along with other St. Croix fisheries information when available.

The Milltown research trap intercepts all inbound fish that can't pass undetected through its 1/2-inch mesh, and all are hand counted before release upstream.

ALEWIFE

The number of sea-run alewife *Alosa pseudoharengus* passing through the trap this week was low, at just 178. While large runs are being reported at rivers within a 25 mile radius of the St. Croix, visual observations of the tributaries and fish-eating bird movements below the Milltown trap suggest that the St. Croix alewife run has yet to move inshore. Weather may be a contributing factor: the St. Croix run usually begins in sunny weather (the fish seem to 'run in the sun') and the area has been locked in steady rain and overcast for over a week. Similar low returns have been reported to this date in 6 of the last 10 years but we anticipate that, as the sun emerges next week, this may change.

A comparison of alewife returns to this date for select periods:

To May 23 # alewife

2013	882
2012	23,596
2011	14,710
2010	27,479
2009	13
2008	37

Last 10 year (2003-2012) average to this date: 7,015 (40% of run)

Last 20 year (1993-2012) average to this date: 37,717 (35% of run)

OTHER FISH AT MILLTOWN

One white sucker (no other fish) was counted through the trap this week and released upstream. This fish was believed to have dropped into saltwater through the dam gates or downstream fish passage and was returning upstream through the fishway to freshwater habitat.

OTHER NEWS

An estimated 15 Maine trap nets and 1 New Brunswick trap net continue to fish for inbound **elvers** (juvenile eels) on a 1mi/1.6km river section below the Milltown dam. The elver fishery in Maine ends on May 31; details on the New Brunswick fishery were not available in time for this report.

The St. Croix's major lake association, the Chiputneticook Lakes International Conservancy (CLIC), held its annual fisheries dinner on May 18, with state fisheries biologist Nels Kramer giving a summary report on freshwater fisheries research and management on the upper St. Croix mainstem, including landlocked salmon and brook trout stocking plans for 2013 (contact him at Gordon.Kramer@maine.gov for details). CLIC also reported that it is continuing to stock juvenile landlocked smelt in East Grand Lake this year in an effort to rebuild this forage fish population.

The International Joint Commission and its International St. Croix River Watershed Board will be holding their annual St. Croix public meeting and consultation on June 17, at 6pm Eastern/7pm Atlantic time, in St. Stephen, NB. Everyone with an interest in the St. Croix is encouraged to attend. Please contact the following for more details: barbara.r.blumeris@usace.army.mil or nadine.mackay@ec.gc.ca.

This is the **second 2013 report**, providing weekly updates on alewife (gaspereau) and other fish counted through the St. Croix's Milltown (lowermost) fishway during the 8-10 week alewife run, plus other St. Croix sea-run fisheries information when available. The 2013 reports are prepared on a 7-day cycle that ends on Thursday evening and issued on Friday.

ALEWIFE

It seems that our alewives are still sightseeing and fine dining their way up the Maine coast, as only 362 passed up river at the Milltown fishway in the last week. The water flows (in the 3000 cfs range) and river temperatures (14-16 C, roughly 2 degrees higher than recent years) at Milltown are both excellent for alewife passage.

Low returns to this date are not unusual but we are preparing for a change: over the last 20 years, 90% of the alewife run has entered the St. Croix in the next three weeks.

A comparison of alewife returns to this date for select periods:

<u>To May 16</u>	<u># alewife</u>
2013	704
2012	1336
2011	1657
2010	9748
2009	1
2008	4
Last 10 year (2003-2012) average to this date: 1233 (7.5% of run)	
Last 20 year (1993-2012) average to this date: 5365 (5.4% of run)	

OTHER FISH AT MILLTOWN

Eight white suckers and the first two smallmouth bass of the year were counted through the trap this week and released upstream. These are believed to have dropped through the dam gates or downstream fish passage and were returning upstream to freshwater.

OTHER NEWS

An estimated 15 Maine trap nets and 1 New Brunswick trap net are currently fishing for inbound **elvers** (juvenile eels) on a 1mi/1.6km river section below the Milltown dam. The elver harvest in Maine ends on May 31; details on the New Brunswick harvest (by river quota and season) were not available in time for this report.

This is the **first** St. Croix River anadromous fisheries report for 2013. The report series provides weekly updates on alewife (gaspereau) and other fish that are passed through the St. Croix's Milltown (lowermost) fishway during the 8-10 week alewife run, along with other St. Croix sea-run fisheries information, when this is available.

For long-term consistency, the 2013 reports are prepared on a 7-day cycle that ends on Thursday evening and are issued on Friday. In addition, since 2001, all alewives entering the Milltown trap have been hand-counted to guarantee a complete record: we expect to continue this level of accuracy in 2013. We will also try to provide upstream information on alewife movements, as this will be the first year since 1990 that these fish have had access above the Grand Falls dam,

19 miles inland.

ALEWIFE

The Milltown fishway and research trap were activated together early on May 6. At that time, no alewives had yet been seen in the river but they had been spotted in the lower estuary by our most reliable information source: a flock of hungry cormorants!

The first alewife entered the Milltown fishway late on May 7 and by late on May 9 (for this reporting period), a total of 342 alewives had been passed upstream.

A comparison of alewife returns to this date in other recent years:

<u>To May 9</u>	<u># alewife</u>
2013	342
2012	993
2011	0
2010	0
2009	0

Last 10 year (2003-2012) average to this date: 101

Last 20 year (1993-2012) average to this date: 390

ATLANTIC SALMON

A large (76cm) Atlantic salmon of aquaculture origin was captured in the research trap on May 9: the first Atlantic salmon recorded in the fishway since 2007. (The St. Croix's native Atlantic salmon restoration program ended in 2006).

OTHER FISH

Twelve white suckers and two brook trout were recorded at the trap this week and were released upstream, These are believed to have dropped downstream of the dam via the gates or spillage in recent weeks and were returning upstream to freshwater.

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