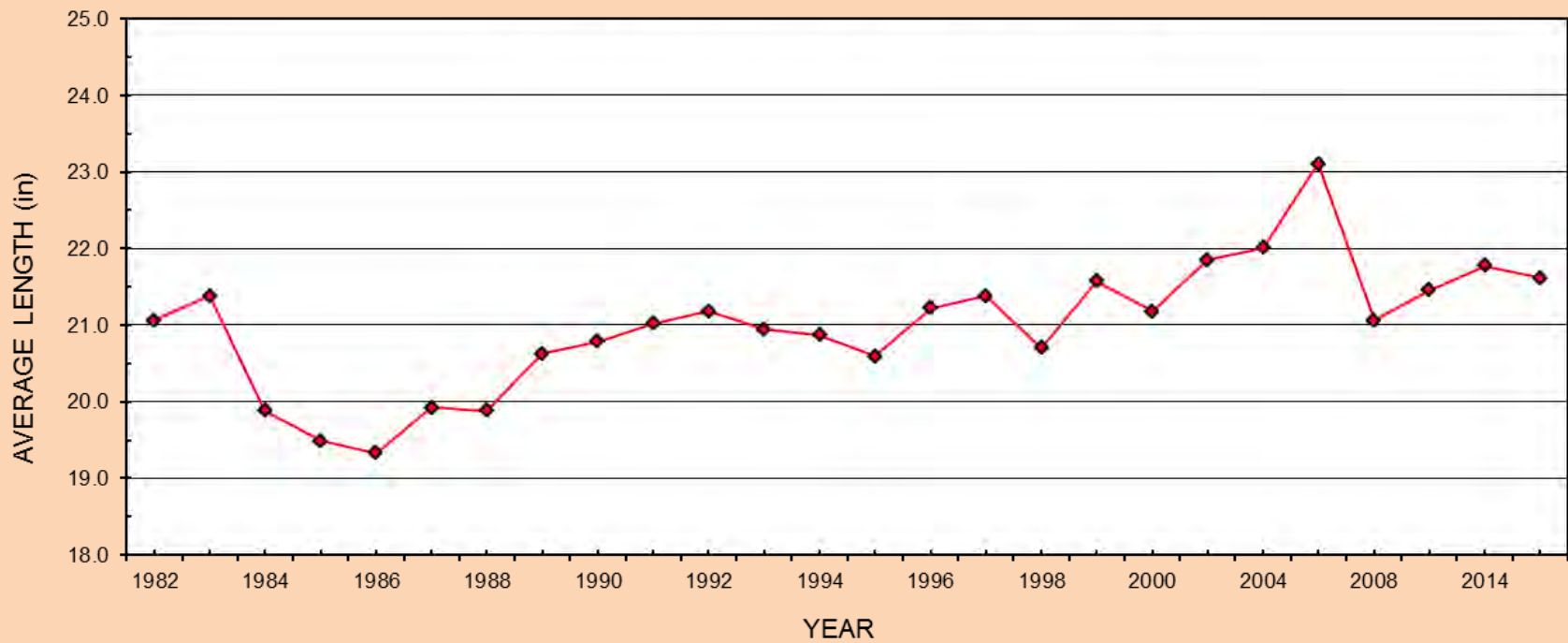


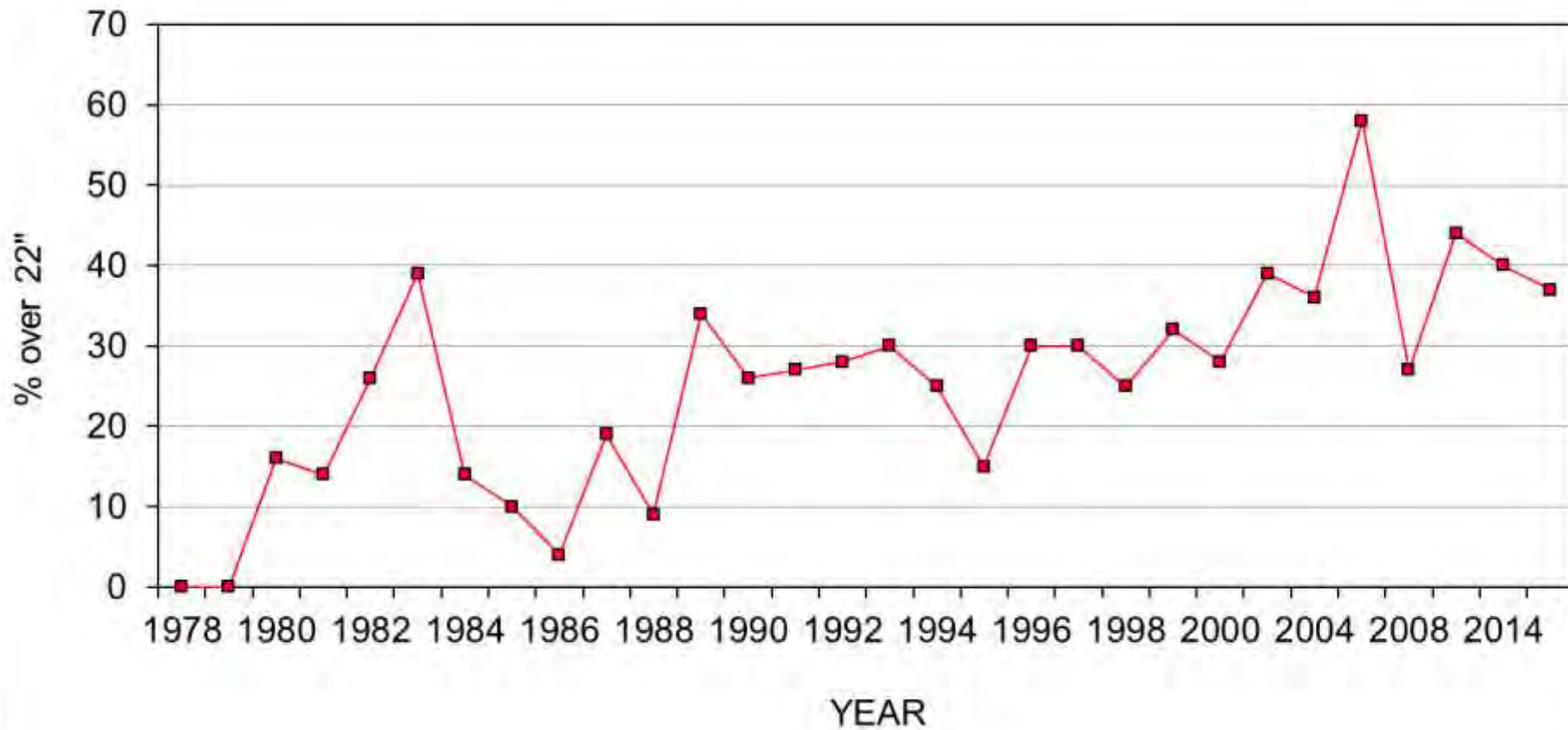
Sebec Lake Association Meeting - 7/11/15



SEBEC LAKE- WINTER LAKE TROUT MEAN LENGTH

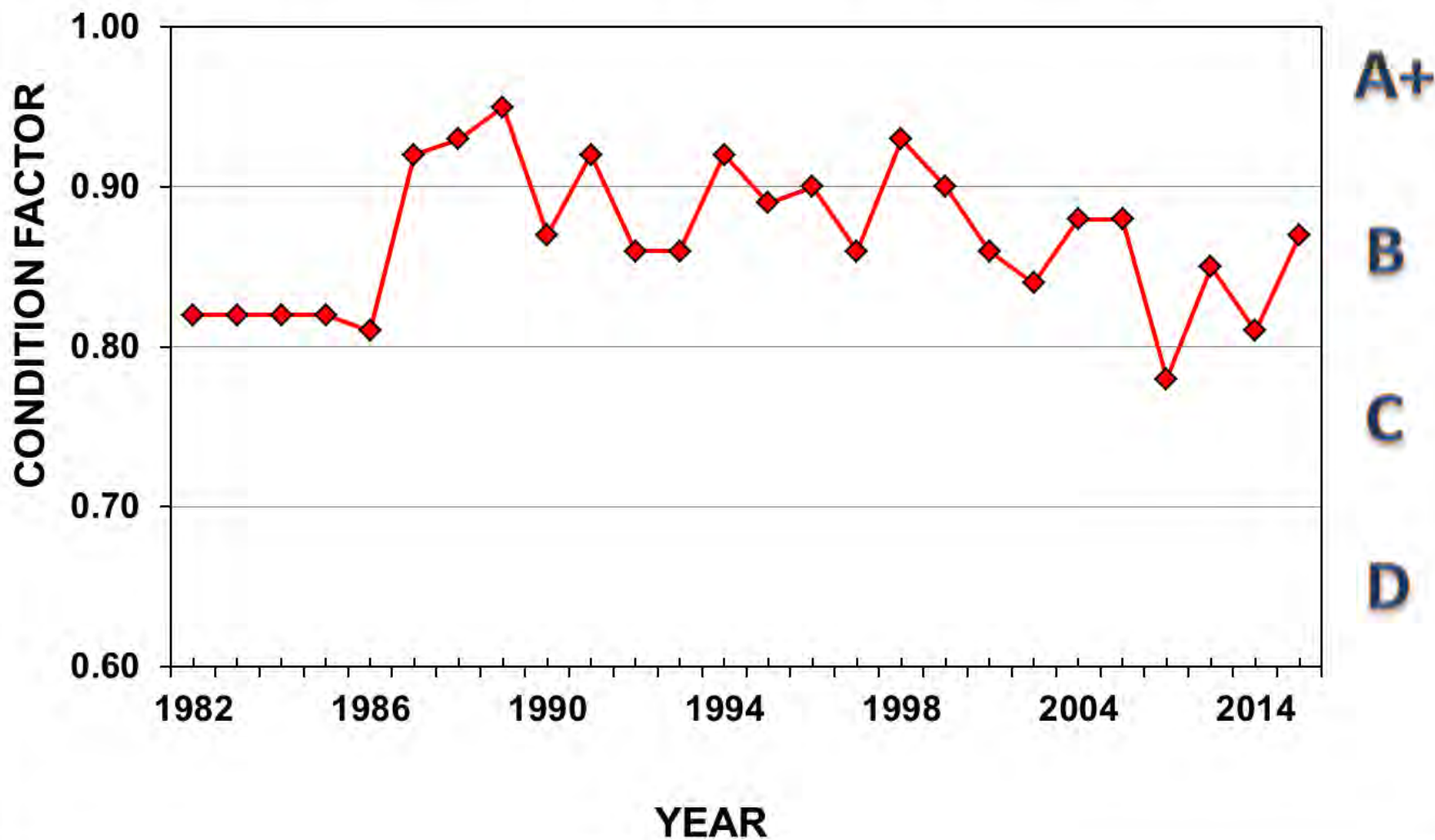


SEBEC LAKE - WINTER PERCENT OF LAKE TROUT OVER 22 INCHES

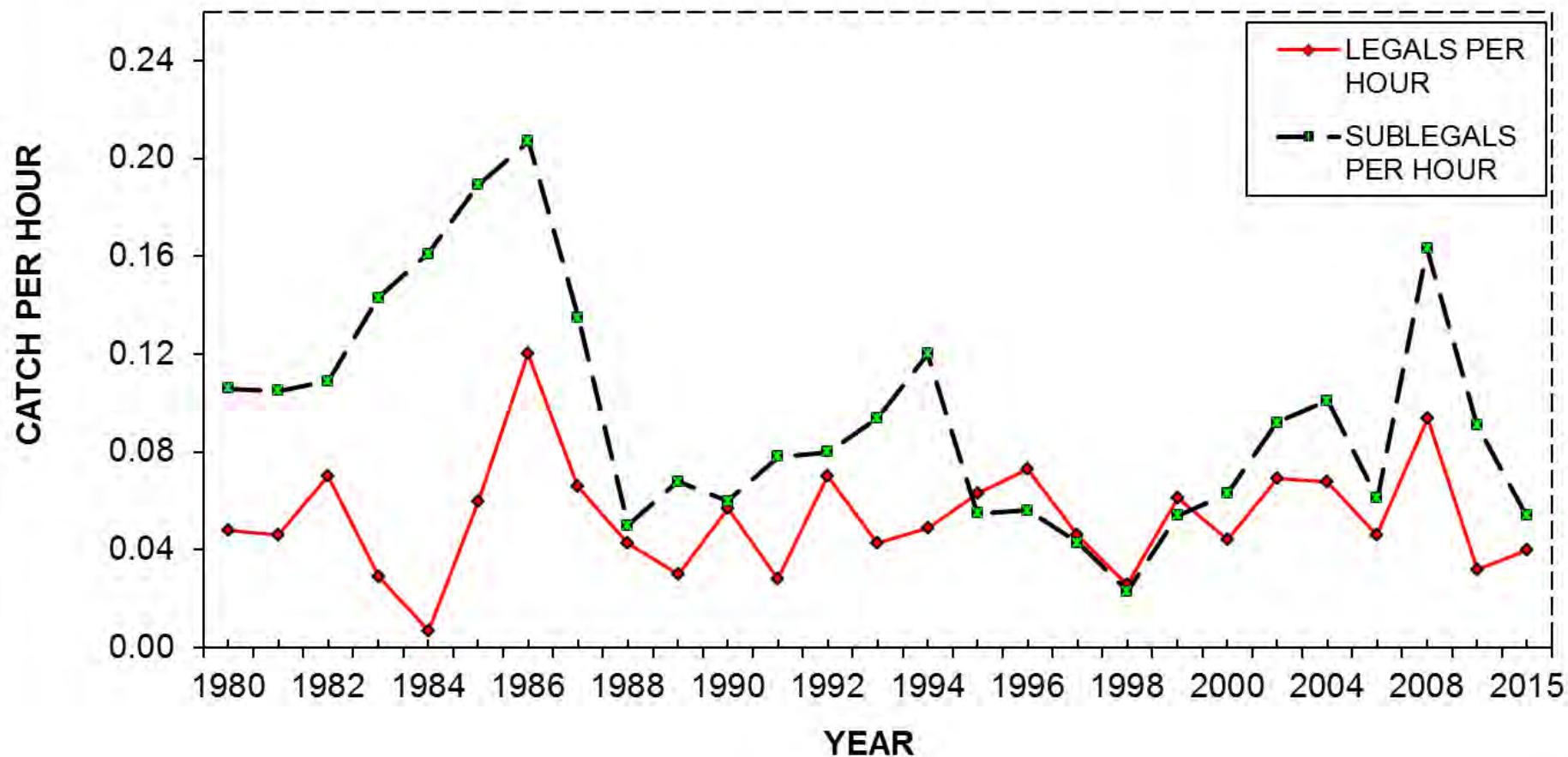


SEBEC LAKE - WINTER LKT

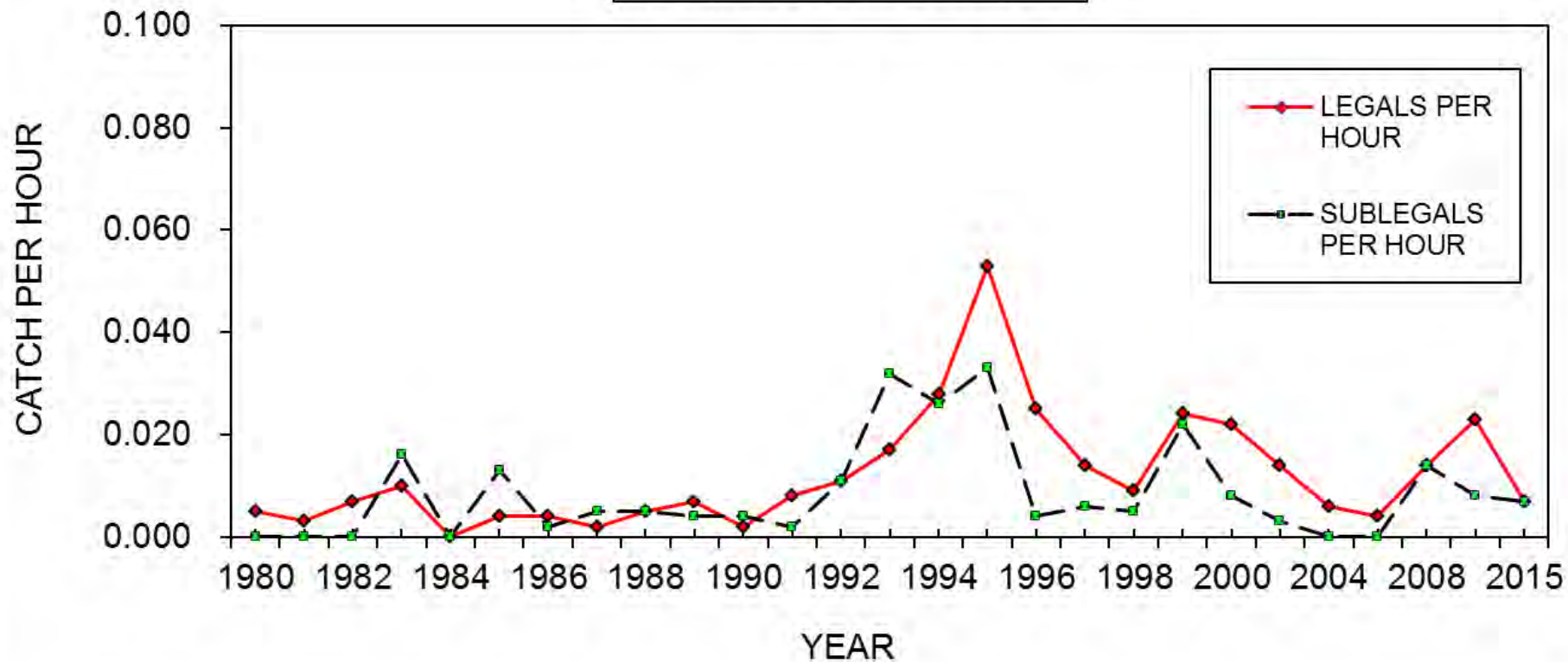
Condition Factor (Index of Fatness)



SEBEC LAKE- WINTER LAKE TROUT CATCH RATES



SEBEC LAKE- WINTER SALMON CATCH RATES





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Coming Soon (2016) New IFW Boat Launch



Sebec Lake Salmon Spawning

“Running the Gauntlet”



Willimantic

Stubb Island

Stork Island

Jordan Island

Sebec

8111 ft

© 2014 Google

Google

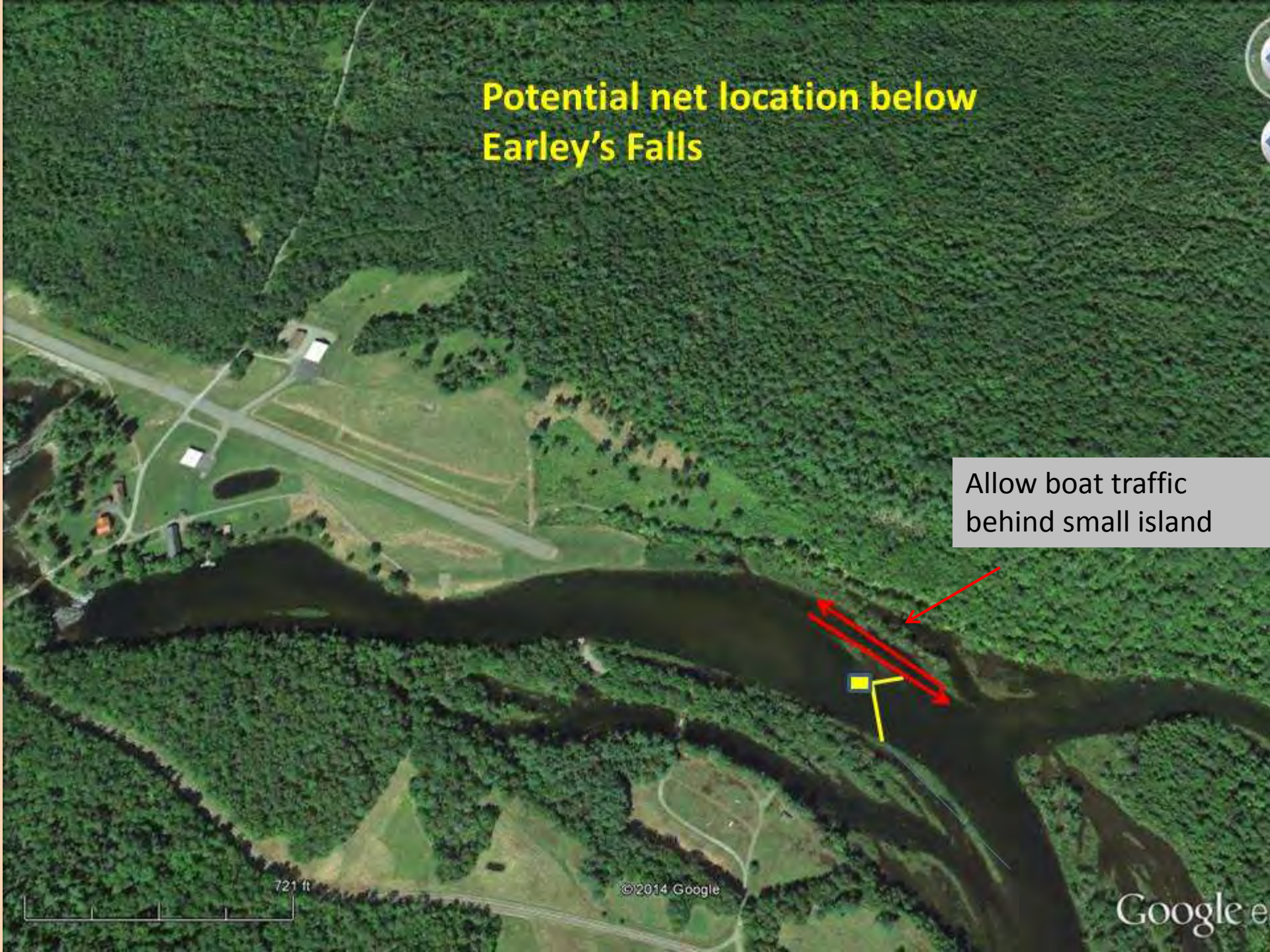
Potential net location below Earley's Falls

Allow boat traffic
behind small island

721 ft

©2014 Google

Google e







The only suitable site for a weir in the lower reaches of the stream at an old bridge crossing.



© 2014 Google

Google earth

393 ft
1997

Imagery Date: 8/24/2013 19 T 472479.84 m E 5017114.11 m N elev 361 ft eye alt 2032 ft



















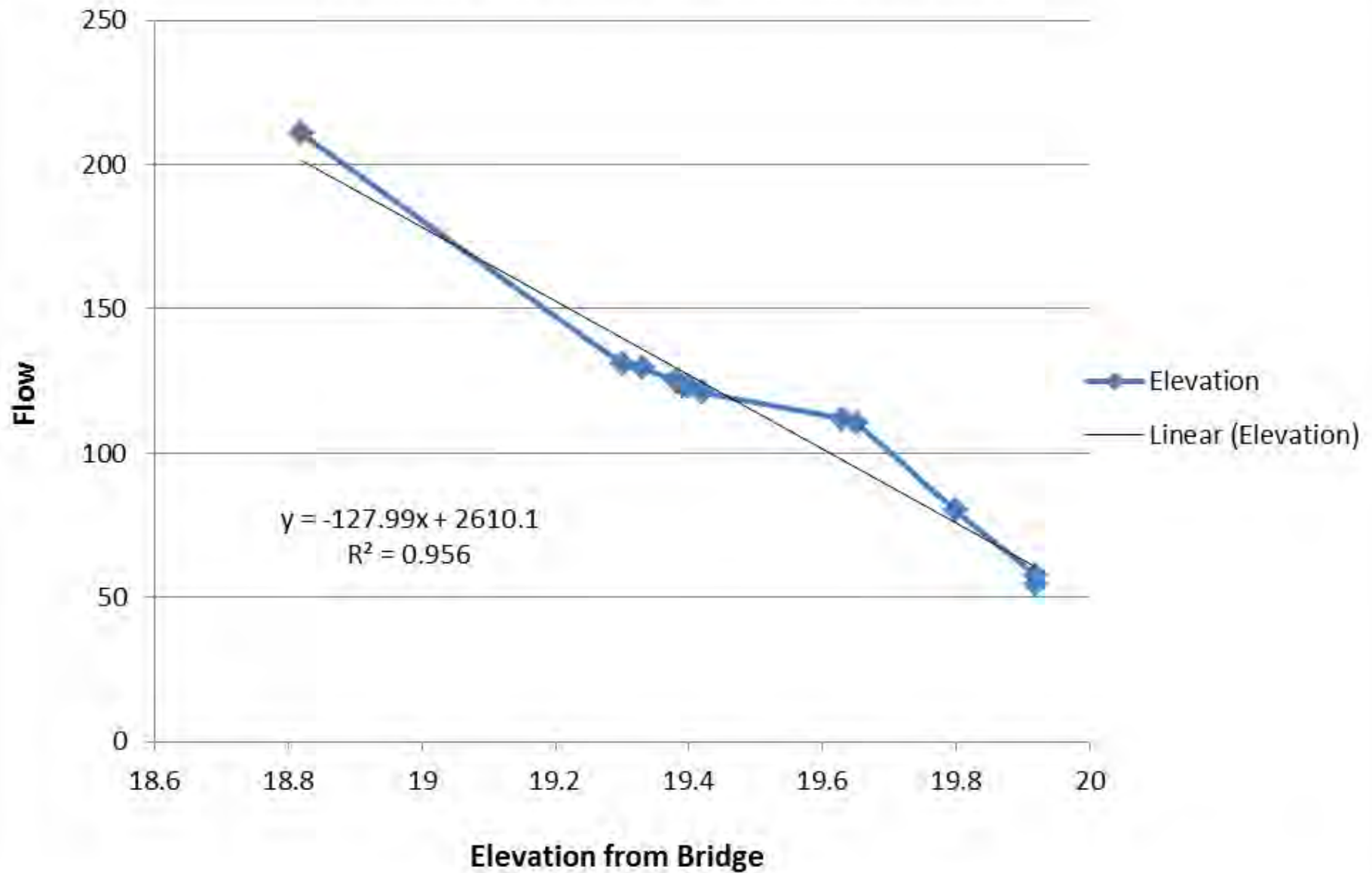




Trapnet catch below Earley's Falls

- 67 salmon
 - Mean Length - 14.9 in
 - Ages 3 to 6
 - 43% were age 4
- 23 smallmouth bass
 - Mean Length – 15.5 in

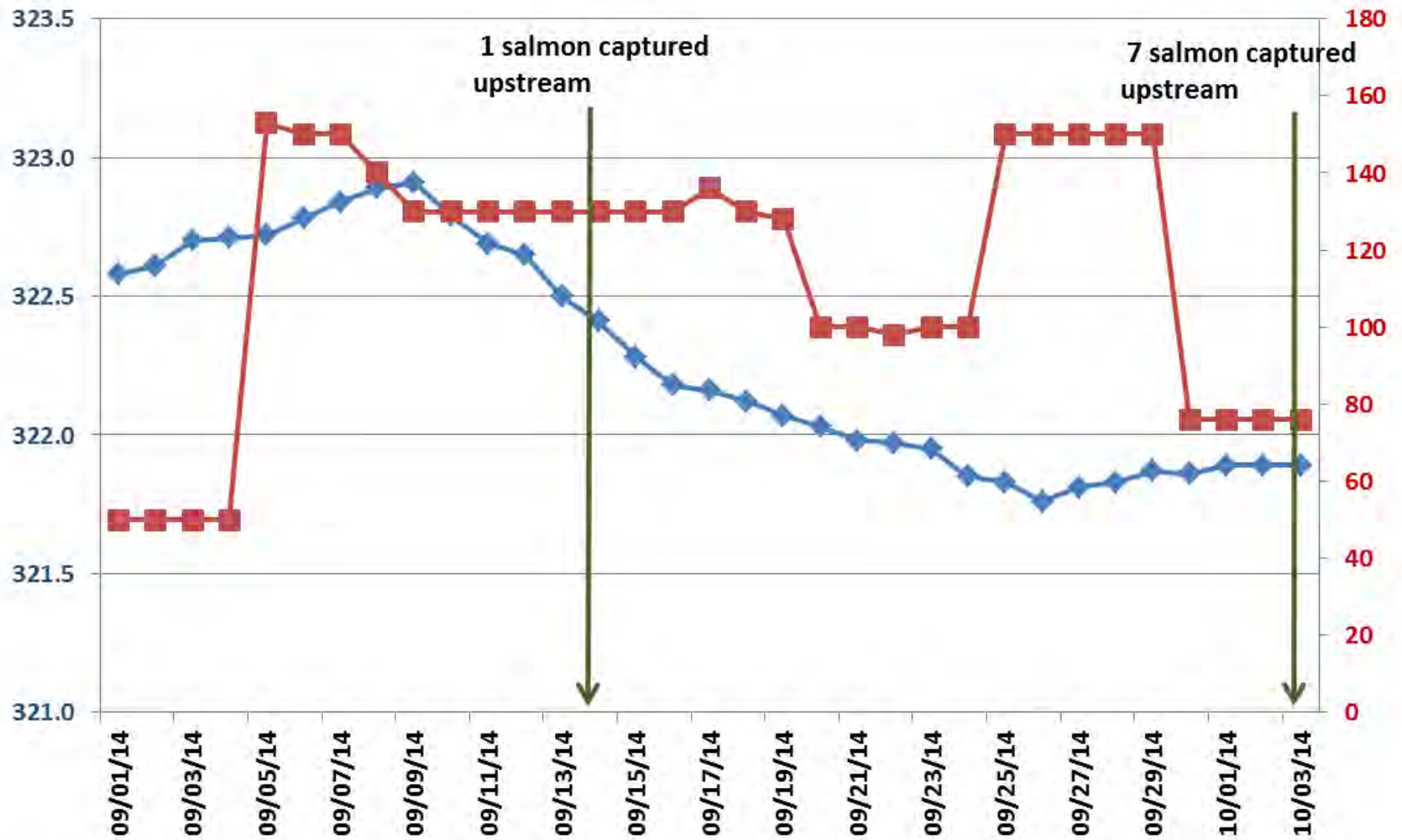
Wilson Stream Elevations - 2014



Weir catch above Earley's Falls

- 9/15/14 – 1 salmon– Unmarked
- 10/3/13 – 7 salmon
 - 5 Unmarked
 - 2 Marked
 - 1 tagged downstream week of 9/12 - 9/15
 - 1 tagged downstream week of 9/19 - 9/26

Sebec Lake Elevations and Flows Fall 2014



Summary

- Only 3% of the marked fish were taken upstream while the weir was operating.
- A percentage of salmon were avoiding and successfully getting past our lower net. They were out-smarting us!
- We did catch some unmarked fish upstream of the weir that probably came upstream in August on a rain event around the 13th.
- We really can't draw too many conclusions because most of the fish showed up on the last day which indicates more would have passed (depending on weather), but the rate of success at passing the falls was very small during the study period.
- We need to try again!

Smelt research



Smelt research

- New study at Sebec L and Moosehead L by the Regional IFW Staff.
- Objective: Develop catch indices for rainbow smelt at various life stages to monitor long term trends in abundance and identify factors that may impact survival.
- Why?
 - Because smelt are **THE** most important forage item for salmon and lake trout.
 - We have documented declines in abundance that may not be related to predator abundance.
 - We have no long term direct indices to measure smelt abundance except salmonid growth, which is “after the fact”.

Smelt research

- It is difficult to measure abundance of mature smelt in a spring spawning run. It just isn't quantitative enough.
- So, we are developing a method to estimate number of fry hatched in a stream.

Smelt research – Step 1







Newly hatched smelt fry





Detached smelt egg ready to hatch

Smelt research – Step 1

- We know smelt eggs begin to hatch ~10 -14 days after deposition.
- We can return to this site and set our net for a standard period of time over the duration of hatching and directly measure the number of fish hatching over the period.
- This is a number we can compare every time we repeat the work for years to come.

Smelt research –Step 2

- Literature suggests there is a critical period (up to 15mm in length) where the correct species and size of food must be available for smelt fry or there will be heavy mortality.
- So, now that we can estimate the number hatching, we want to estimate survival throughout the summer.

Smelt research – Step 2



Smelt research – Step 2



Smelt research – Step 2



Smelt research – Step 2



Smelt research – Step 2

- We are trawling ~every 2 weeks to determine if we can catch enough smelt fry throughout the summer with our gear to develop catch indices.
- We were very successful through early June.
- We may have to trawl at night later in the summer as the smelt begin to exhibit diurnal movements.

Smelt research – Step 3

- As noted the literature suggests certain food items must be present for young smelt to feed on after yoke sac absorption.
- We want to understand the food habits of smelt fry and the available plankton.

Smelt research – Step 3

- As noted the literature suggests certain food items must be present for young smelt to feed on after yoke sac absorption.
- We want to understand the food habits of smelt fry and the available plankton.

Smelt research – Step 3

- We are conducting plankton sampling along with each trawl to identify species composition and abundance.
- We are also attempting to determine the lake-specific food habits of smelt fry at each sampling.

Smelt research – Step 3



Smelt

Chow!



Fisheries Enhancement/Internship Program

A Cooperative Effort

www.NRECmoosehead.org

