

Status of Rappahannock River Fisheries

Falmouth Flats
Fly Fishers
Club

April 15th, 2021



Background/History

- River name comes from Algonquian word meaning “river of quick, rising water”
- 195 miles long from headwaters to the bay
- Drainage area of over 2,800 square miles
- Played an integral part in the Colonial Era and Civil War, rich with history along the entire river
- Longest free-flowing river in the Chesapeake Bay watershed after breach of Embrey Dam in 2004



Annual Standard Sampling

- Boat EF tidal section (City Docks to Port Royal)
 - 6 sites
 - One hour effort per site
 - Target species: LMB, BOW, NSH
 - Late September
- Boat EF non-tidal section (Wayside to Kelly's Ford)
 - 4 sites
 - One hour effort per site
 - Full community sample - SMB
 - Late October

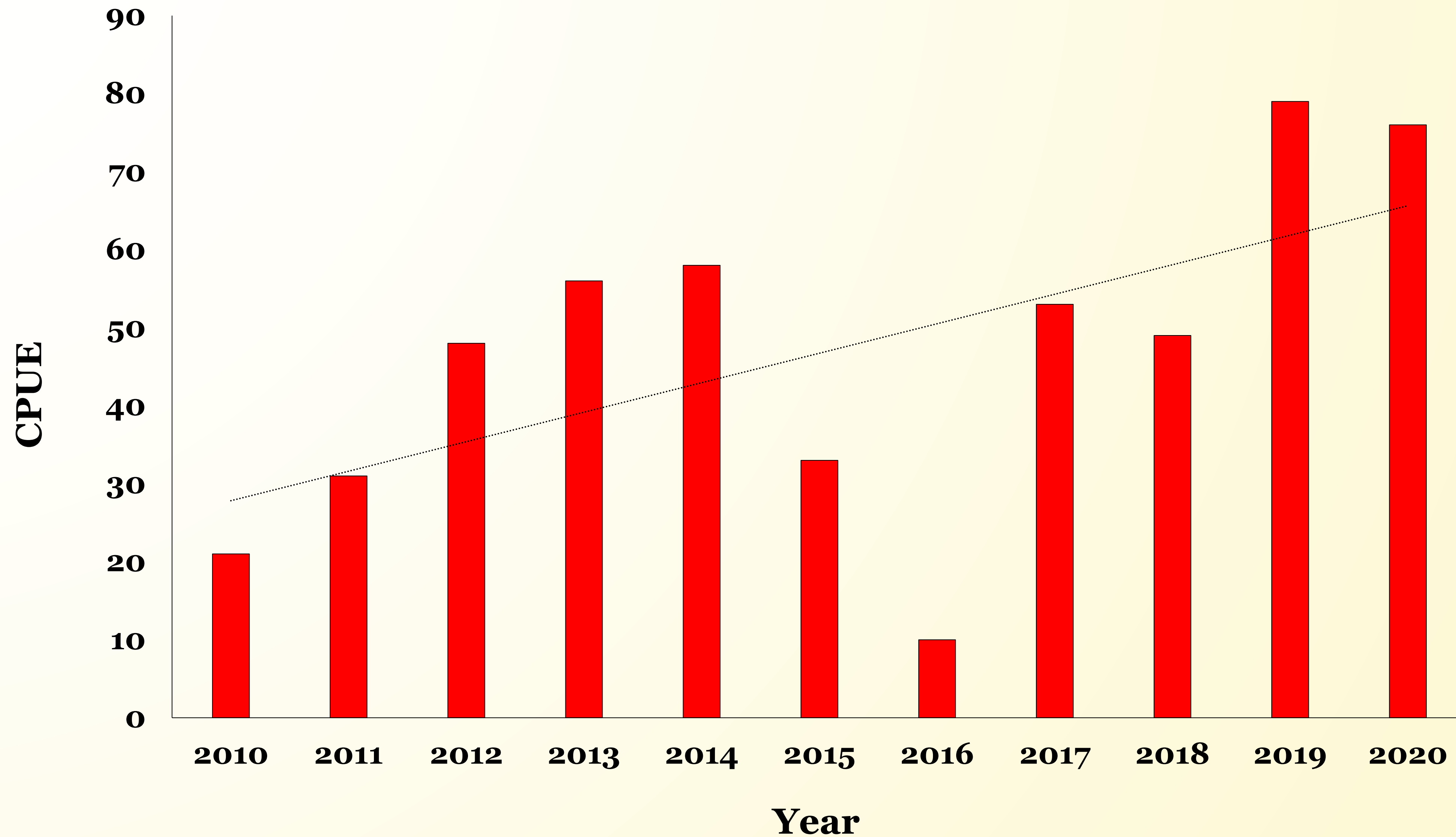


Tidal Section CPUE

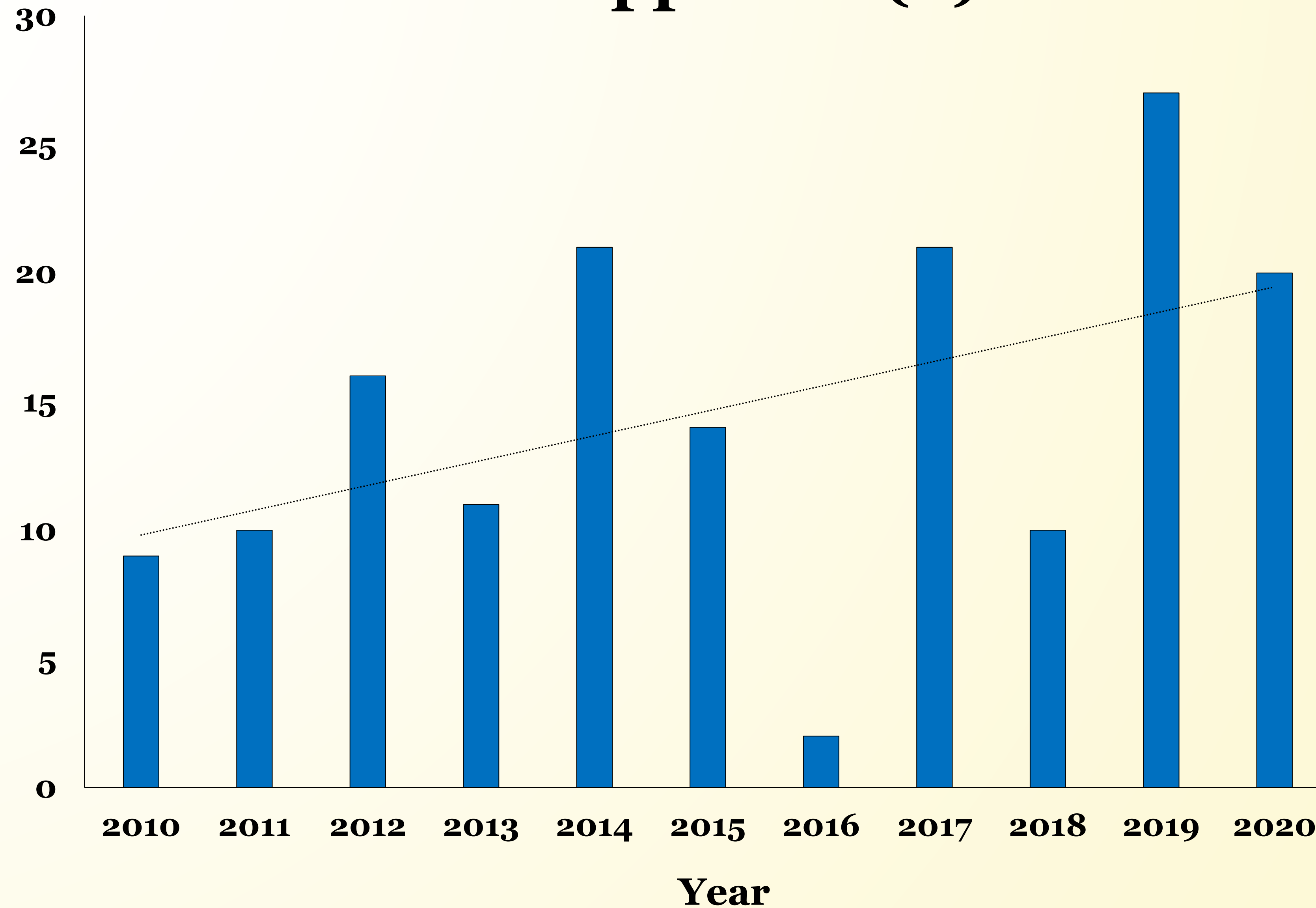
Year	LMB (T)	LMB (F)	NSH
2010	21	7	0
2011	31	10	0
2012	48	16	0.2
2013	56	11	0.2
2014	58	21	0.3
2015	33	14	0
2016	10*	2*	0.2
2017	53	21	1.2
2018	49	10	2.8
2019	79	27	5.0
2020	76	20	6.5



Rapp LMB (T)

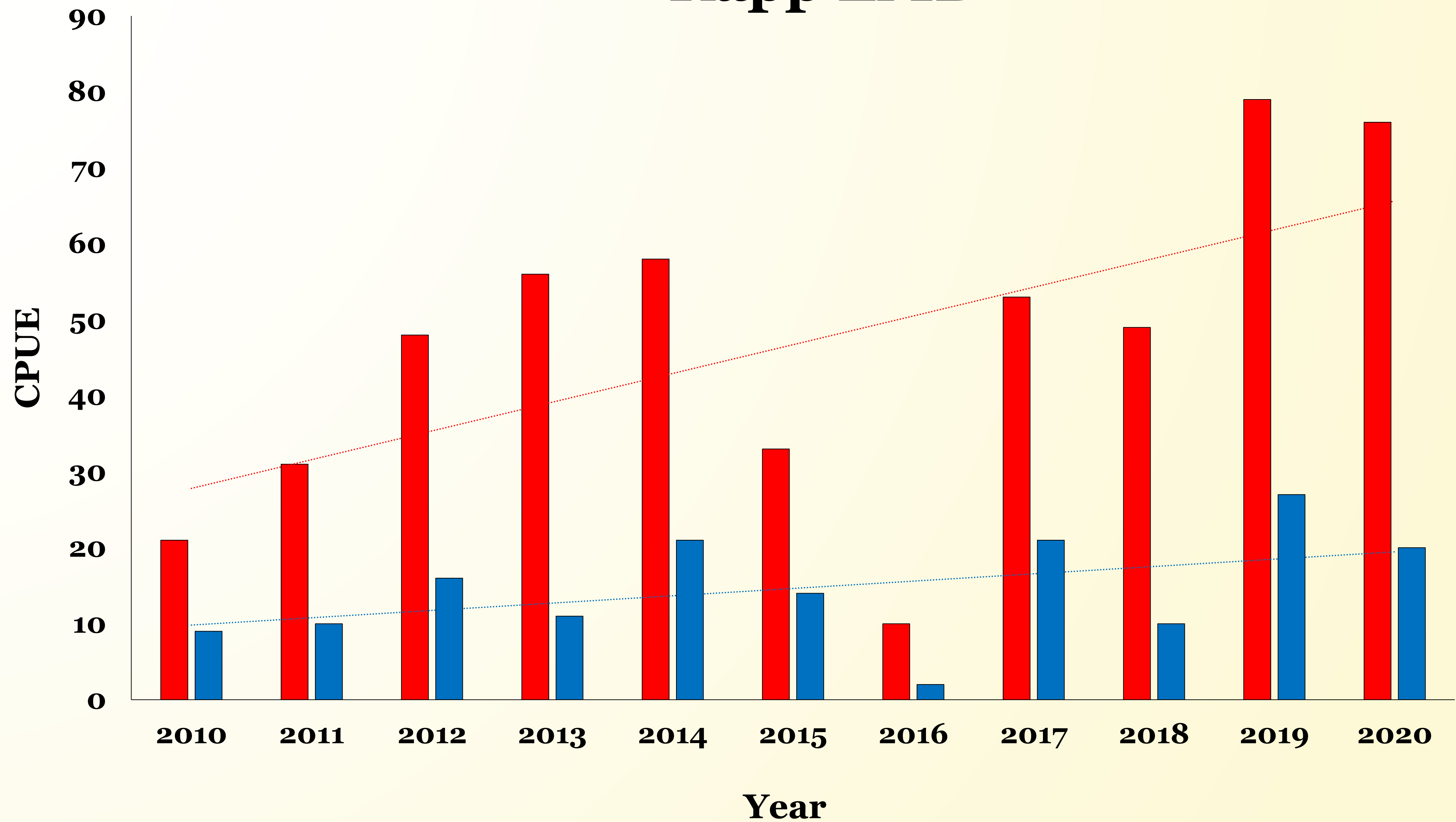


Rapp LMB (F)





Rapp LMB



Tidal Rapp LMB trends

LMB catch rates (T + F) both increasing linear trends

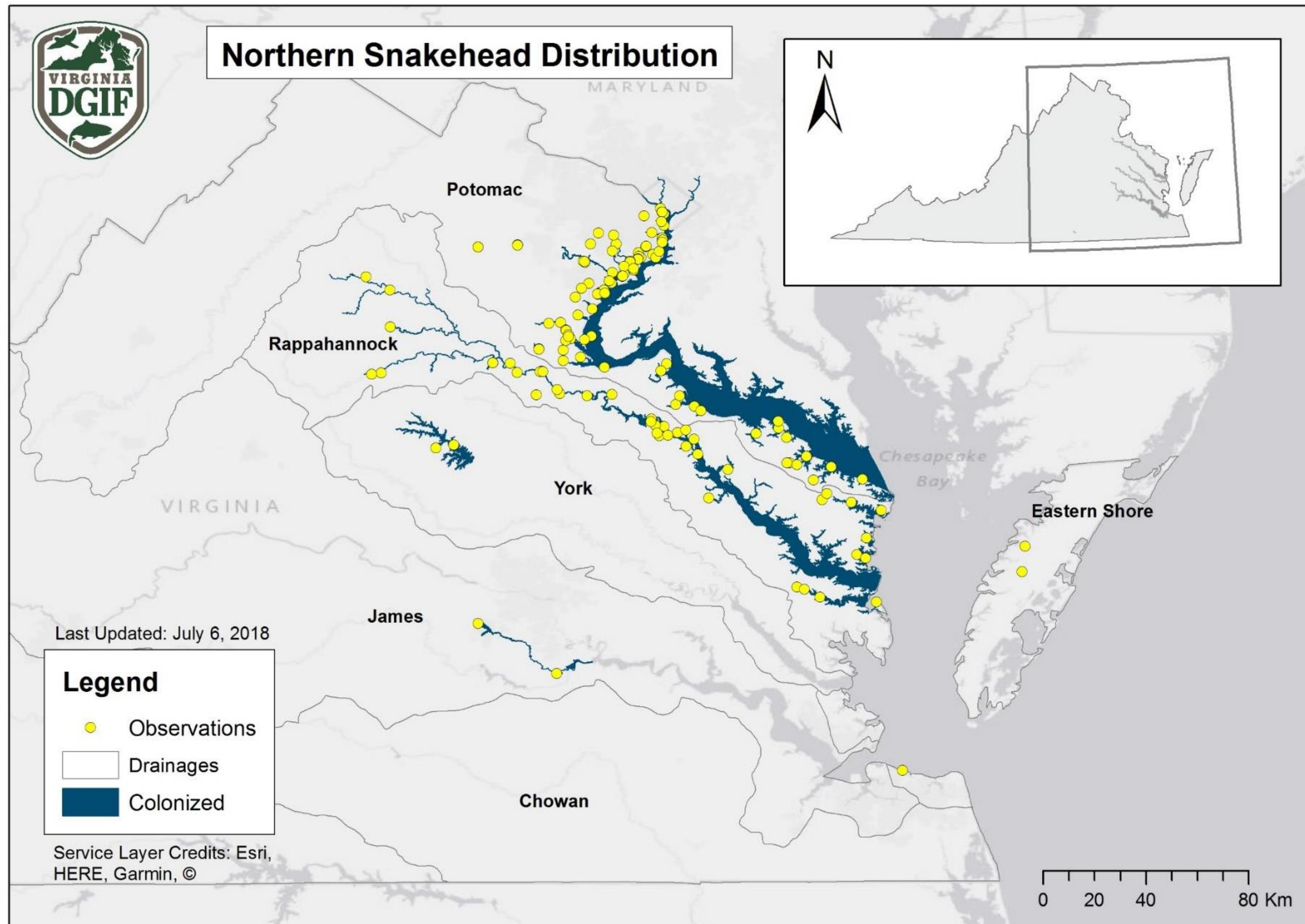
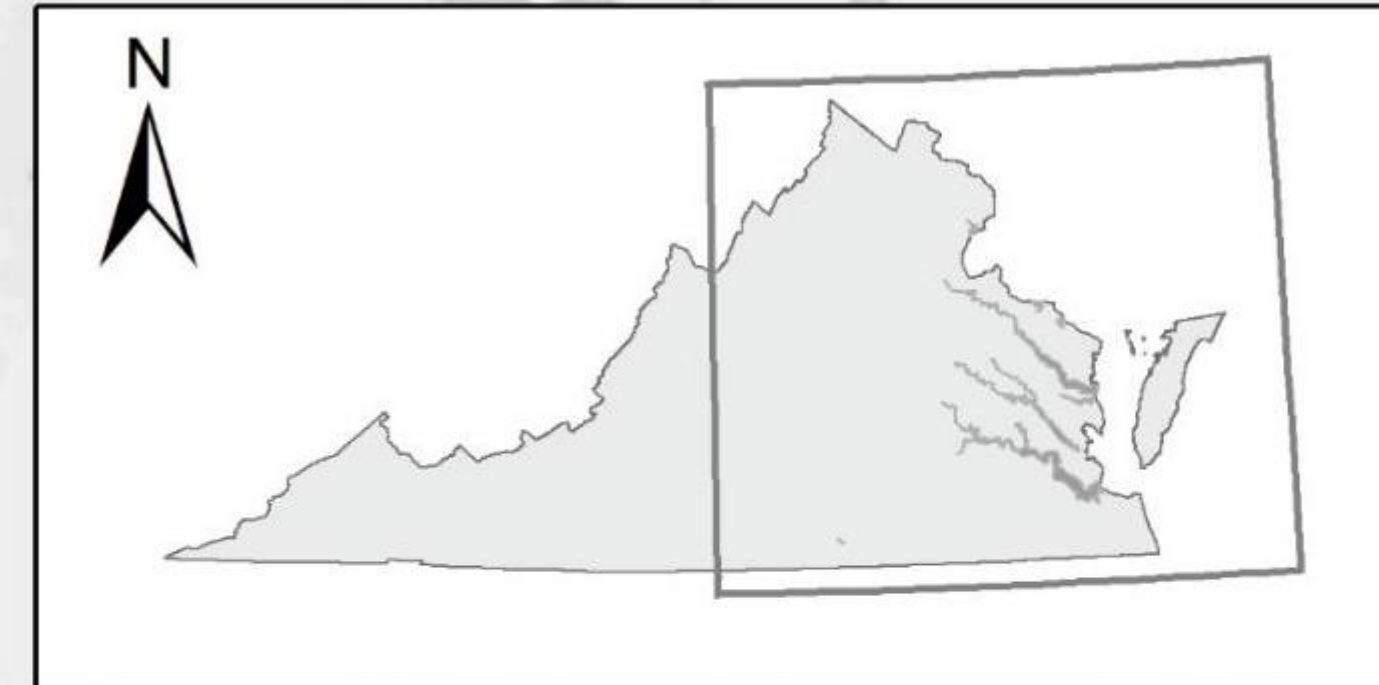
- 2016 – anomaly due to possible equipment issues and sampling conditions
- All-time records recorded in 2019 (T + F) and nearly again in 2020
 - SAV (Hydrilla) abundance
 - 99+% catch and release



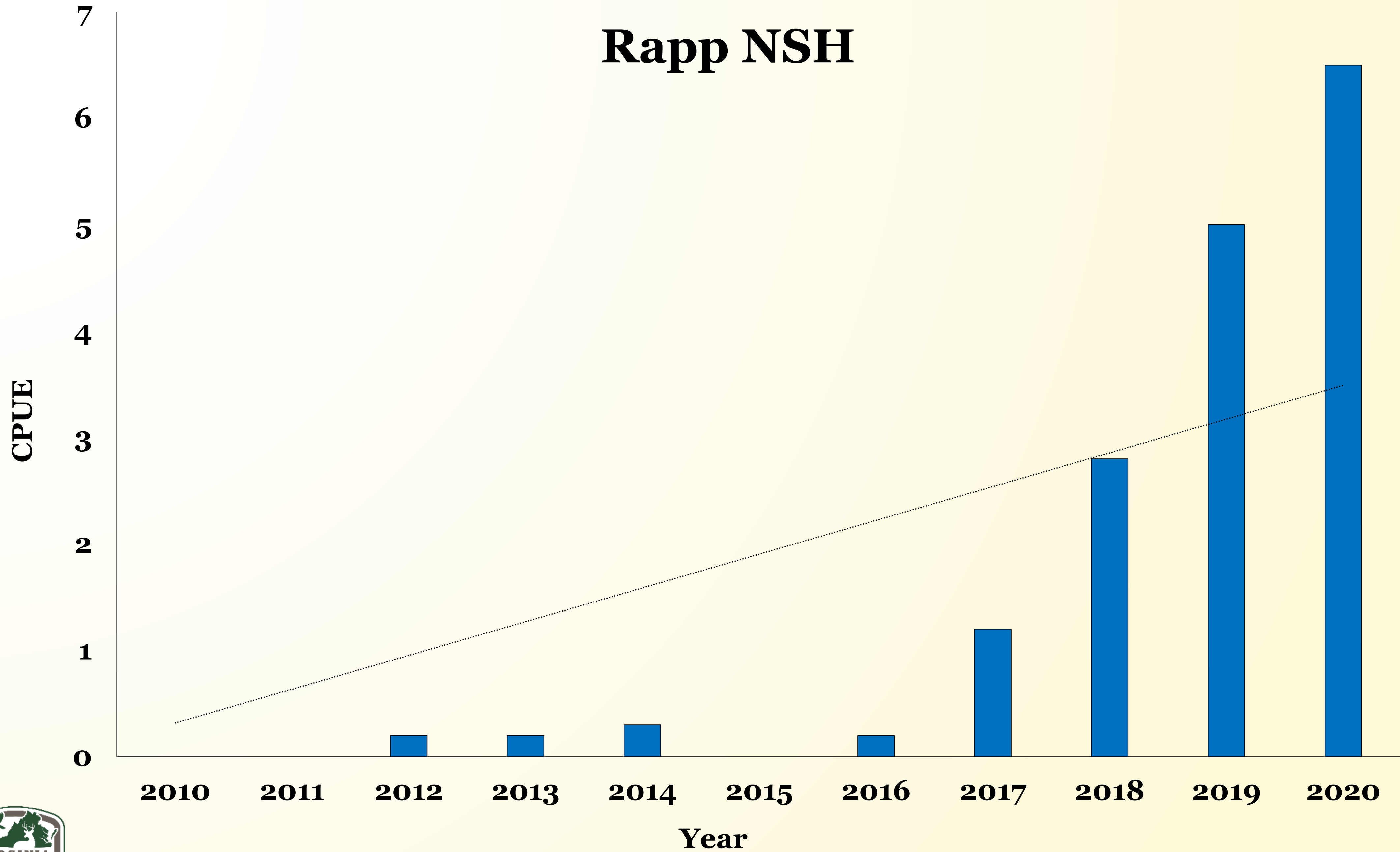




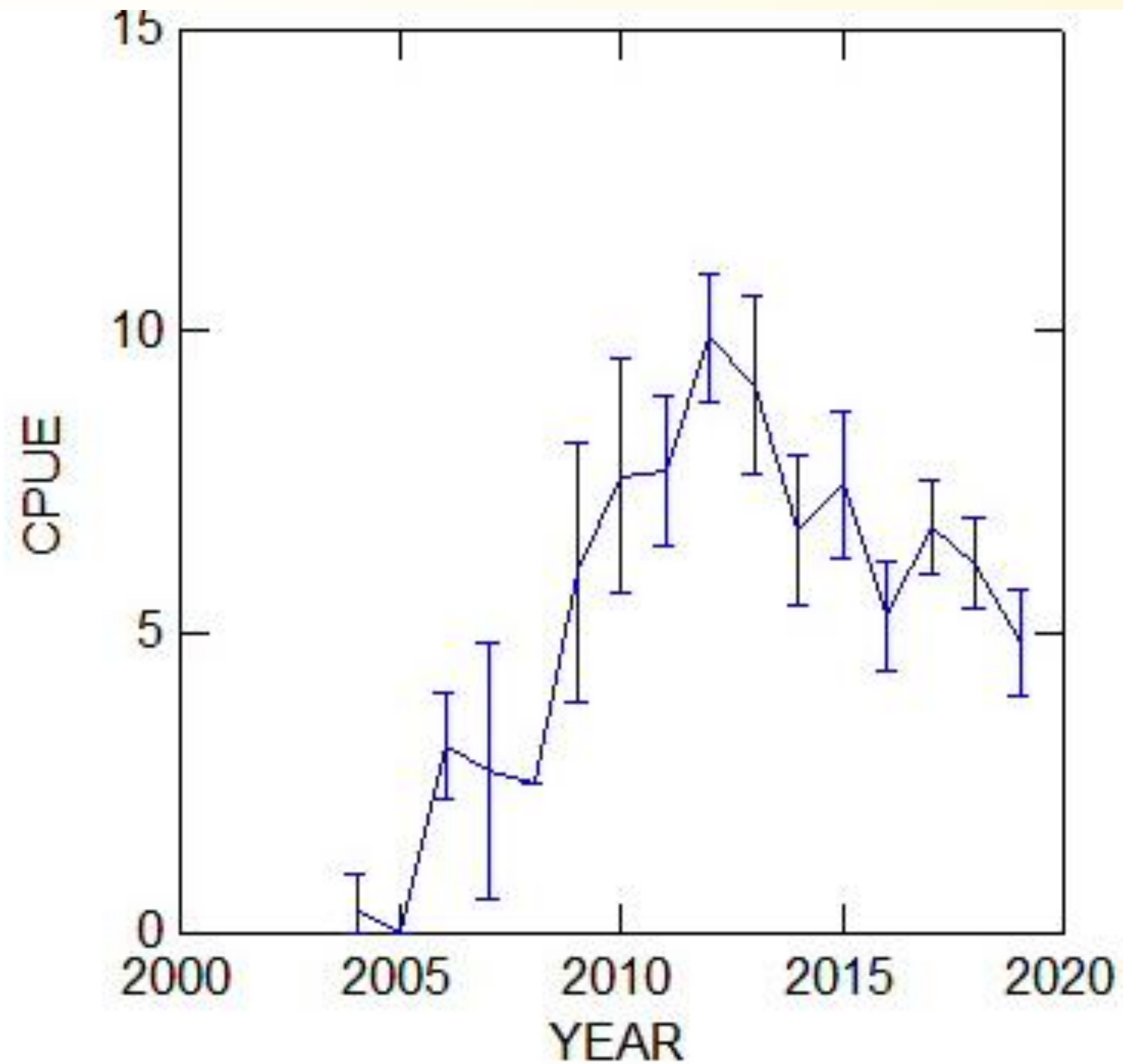
Northern Snakehead Distribution



Rapp NSH



NSH - Potomac



NSH vs. LMB Concerns

- Predation
 - LMB found in only 14 of 2,260 NSH stomachs evaluated for diet contents
 - NSH eat each other and LMB eat NSH too!
- Competition
 - Some dietary overlap (BLG) but LMB condition excellent
- Displacement
 - LMB catch rates have increased since NSH introduction
 - Both species often found sharing the same habitat





Tidal Rapp NSH Summary

- First documented in Rapp around 2011-12
 - Found in Ruffin's Millpond (Massaponax Creek) and near mouth of river
 - First caught in standard sampling in 2012 – Hick's Landing
 - Abundance continues to increase but not at LMB expense
 - Removed all NSH caught in sampling (98 to date) and continue to monitor
 - NSH now found in almost all major tidal rivers and several lakes



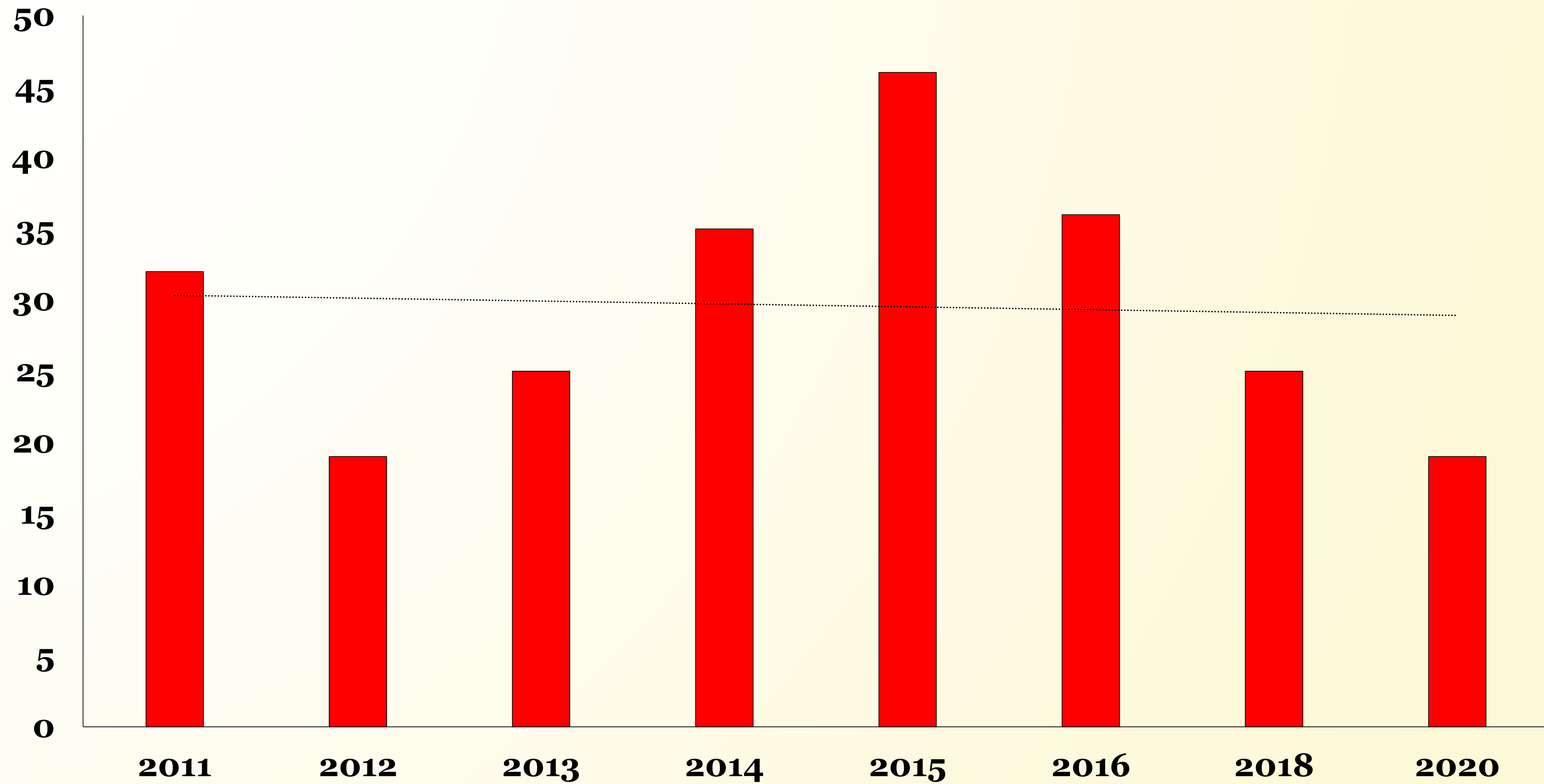


Upper Rapp SMB

- 4 sites – Wayside, Clore's, Ely's and Kelly's Ford
- SMB abundance highly variable
 - Spawning success and recruitment strongly correlated with mean June flows
 - Strongest year classes produced when flows are moderate



Upper Rapp SMB



Summary

- Overall health of the river and it's fisheries is very good – will continue to monitor annually
- Largemouth Bass fishery is at or near record levels and continues to improve
 - Attributed to increase in vegetation and high C + R
- Smallmouth Bass population is cyclical and currently in a downtrend
 - Spawning success driven by June flows – moderate = GOOD, too wet or dry = BAD
- Northern Snakehead catch rates continue to rise – should level off and start a decline in the next few years
 - Impact yet to be determined



Questions?

