

Estimating Population Size of Blue Catfish in the James River, VA



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Coded Wire Tag Retention Experiment

- VIMS Seawater Research Lab
 - 2,500-L tanks (N=8)
 - 93 fish total
 - 74-98 days
 - Right dorsal musculature
- Higher tag retention rates related to tagger experience
 - Experienced: 82 – 100%
 - Novice: 33 – 80%
- Mortalities (0-5/tank) occurred due to handling stress and water quality issues



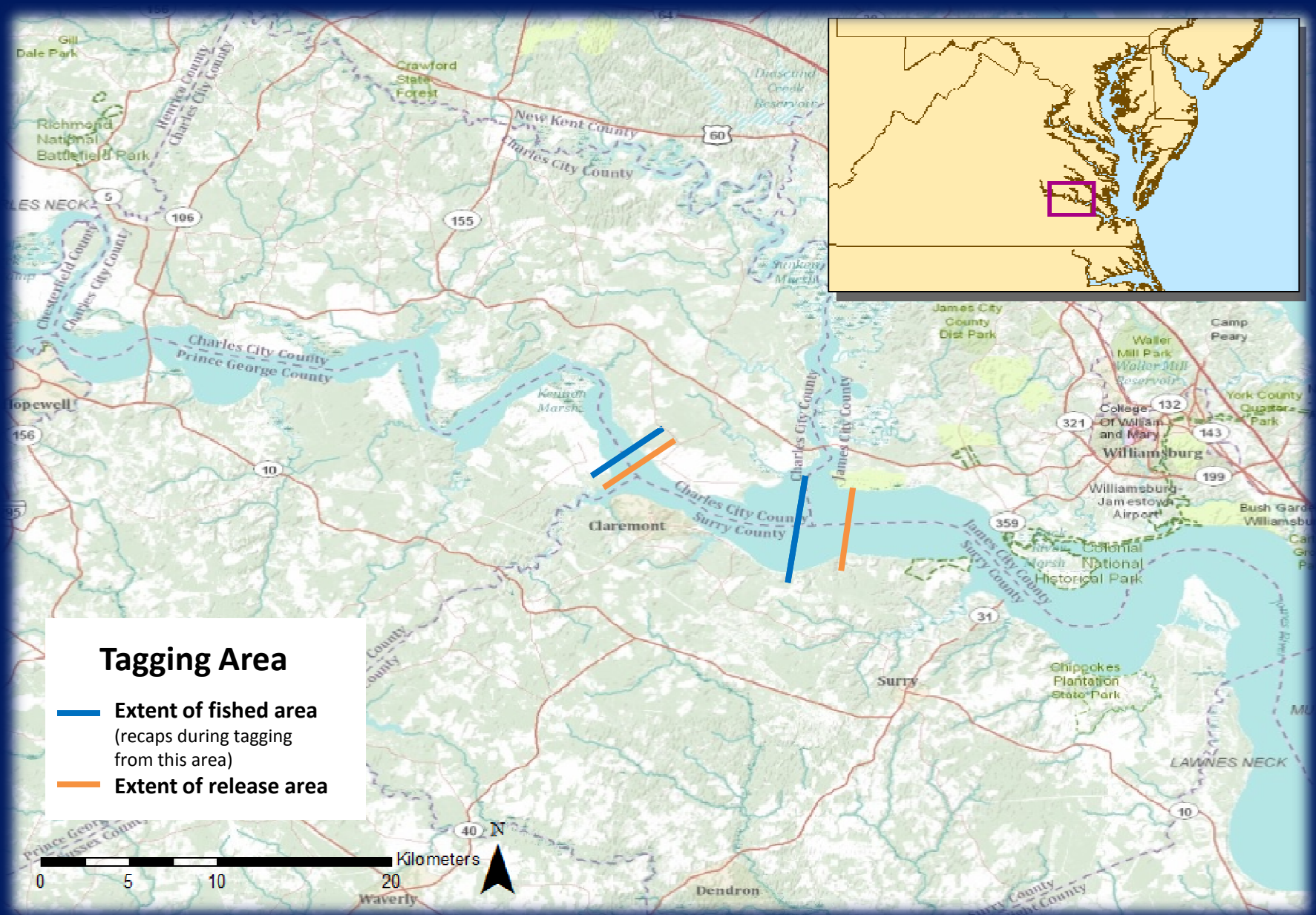
Mark-recapture Sampling

- Waterman fished 18-20 traps
- 9 Jul – 3 Aug 2012
- Upriver & downriver sites
 - Downriver catches greater than upriver
- 15,721 tagged
- 930 recaptured (5.9%)
 - More recaps upriver

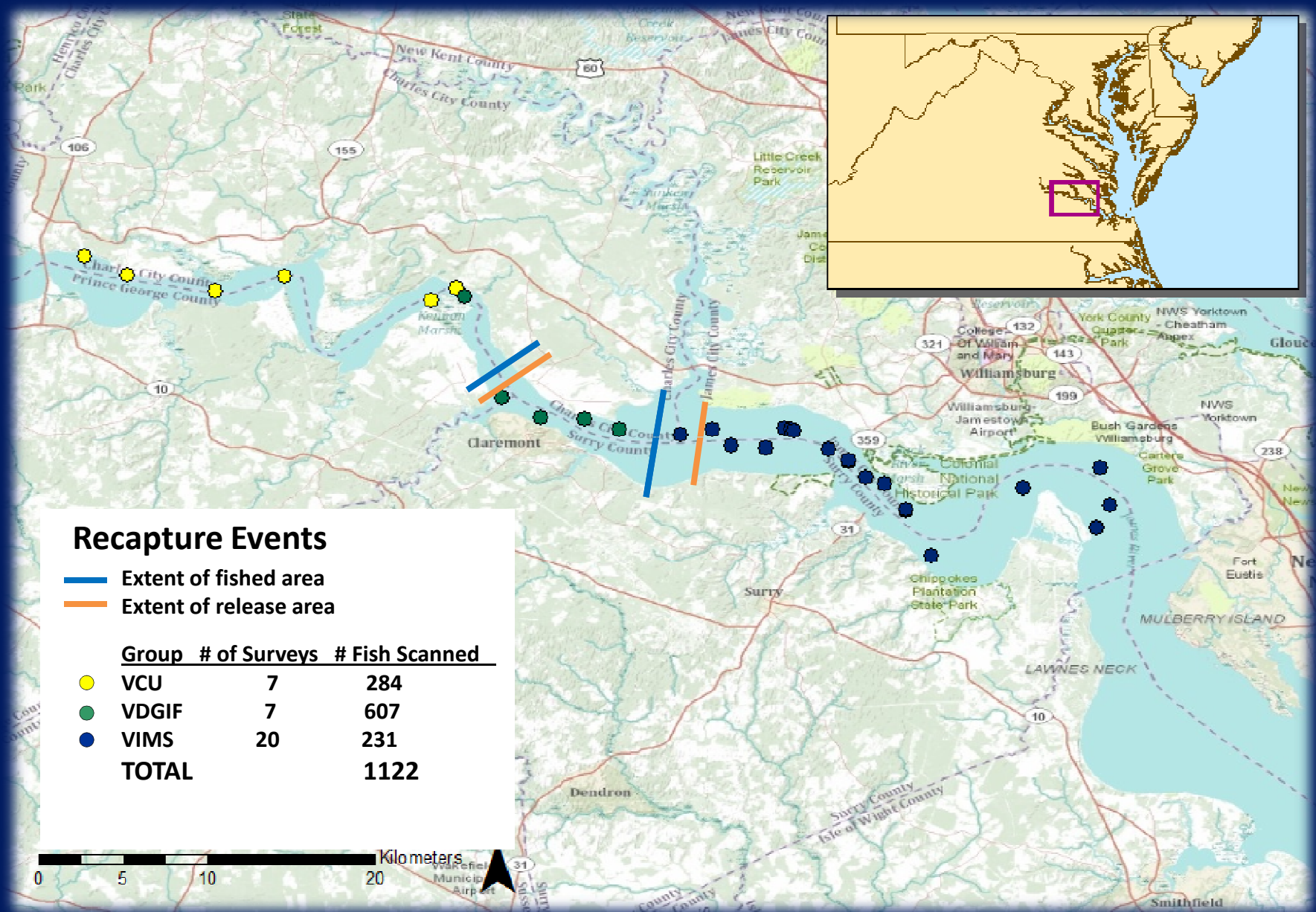




Mark-recapture Sampling Locations



Post-tagging Recapture Events



Year 1 Observations

- Although most recaps were from upriver sites (63%), we rarely released tagged fish at upriver sites
 - Possible localized movement
- Fish released in week 1 were still strongly represented at the end of the 4-week tagging period

Release week	% Recaptured by Week			
	1	2	3	4
1	100	90	45	37
2		10	50	38
3			5	18
4				7

Year 1 Observations

- Zero recaptures with other gears during post-tagging period
 - Large population size
 - Lack of movement
 - Differences in gear selectivity or availability of fish to the gear
 - All of the above

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