



SCIENCE BRIEF

VERMONT RIVER OTTERS

Background

Otters are native to Vermont and valued for their role as predators in wetland and riparian ecosystems, their intrinsic and biological values and for their fur. They were extirpated in many regions in the U.S. in the late 1800s and early 1900s due to habitat loss (forest clearing and decline in beaver populations), pollution, and unregulated harvest. Fish and wildlife departments across the United States along with partners began reintroduction efforts in 1976. Since then, over 4,000 river otters have been captured in foothold traps, relocated, and released in 21 different states. (NEFRTC 2015).



In Vermont, river otters never disappeared completely and historical sighting and trapping data indicate their numbers grew as the beaver population was restored by the Vermont Fish & Wildlife Department (VFWD) in the first half of the 20th century. Today our otter population is widely distributed and found in all watershed management units across Vermont. All data indicate the population is thriving.

The 2021 petition is proposing to: “Return the end of the trapping season for river otters to February 28.”

The otter season was expanded to the end of March in 2017 to coincide with the beaver season and allow for the utilization of otter taken in beaver sets, eliminate the previously required off-set trigger, and minimize the late spring/early summer harvest related to human/beaver conflicts. At that time, the department carefully evaluated the available data and estimated that approximately 10 additional otters would likely be taken in March and the impacts to the overall population would be minimal. Below are our most recent analyses and findings:

- We currently have an average of 42 successful otter trappers annually in the entire state (Fig. 1)
- The average number of otter taken/successful trapper is 2.1 (Fig. 1)
- An average of 1 otter is taken/94 mi² (~3 towns) annually (Fig. 2)

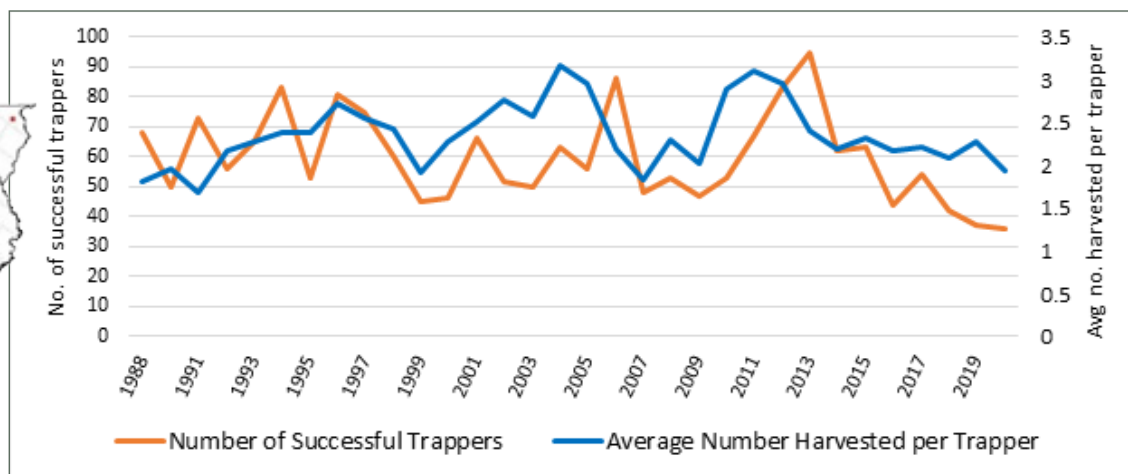


Figure 1: Number of Successful Otter Trappers (in orange) versus the average number of otters harvested per successful trapper (in blue).

Otter Harvest and Season Adjustments

Since 1980, the harvest of river otter in Vermont has ranged from 51 in 1980 to 246 in 2012. Although highly variable from year to year, the overall trend in otter harvest is relatively stable over the last 30 years. Interestingly, the season expansion did not result in an increase in the statewide harvest, which has been lower in the last two years than at any other point since 1988, likely as a result of decreasing license sales, low pelt prices and the Covid pandemic (Fig. 3).

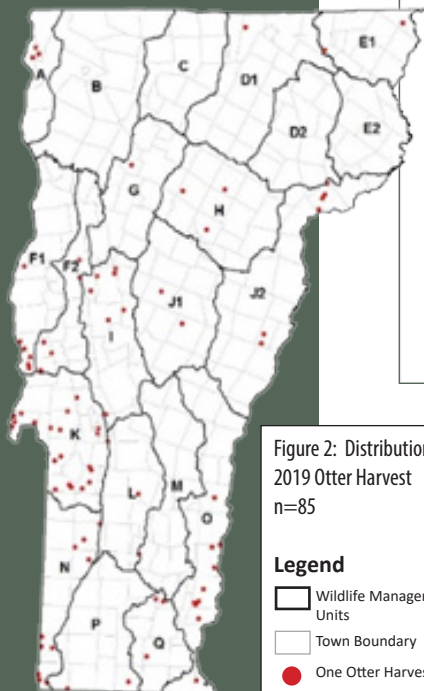


Figure 2: Distribution of 2019 Otter Harvest n=85

- Legend**
- Wildlife Management Units
 - Town Boundary
 - One Otter Harvested

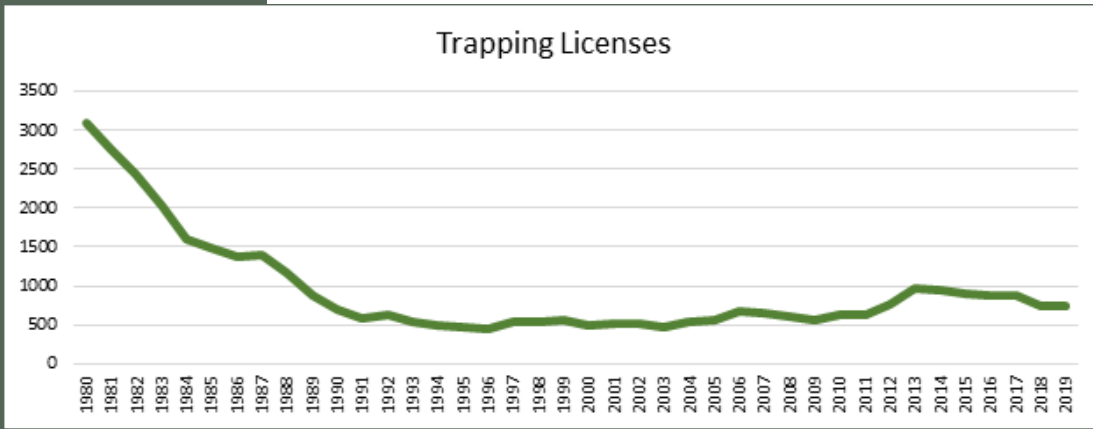


Figure 3: Number of regular trapping licenses sold (excludes permanent trappers) 1980-2019

are confident these indices reflect a healthy and lightly trapped otter population, if not even one that is increasing, we continue to proceed with caution as it may also be influenced by an increase in the overall efficiency of Vermont trappers. However, at this time, there is no indication that trapping is negatively influencing the overall population.

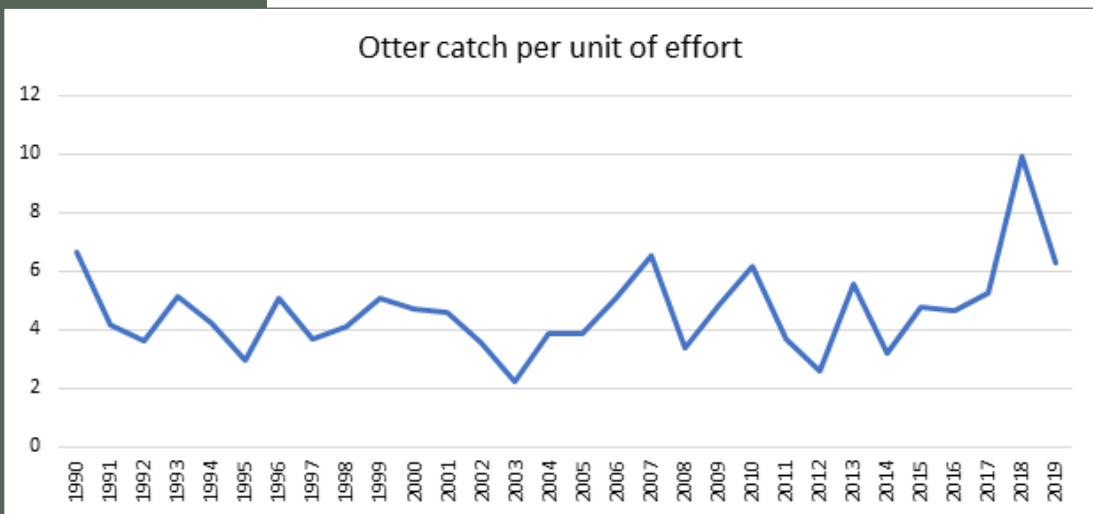


Figure 4: Catch per unit of effort per 100 trap nights (i.e. 24 hr.) 1990-2019

in 2017-18 again to coincide with the beaver season. It is important to keep in mind that the otter harvest is often connected to, and influenced by, trappers targeting beaver. Therefore, we manage beaver with an eye toward otter as well. Expansions to the beaver season attempt to minimize beaver/human

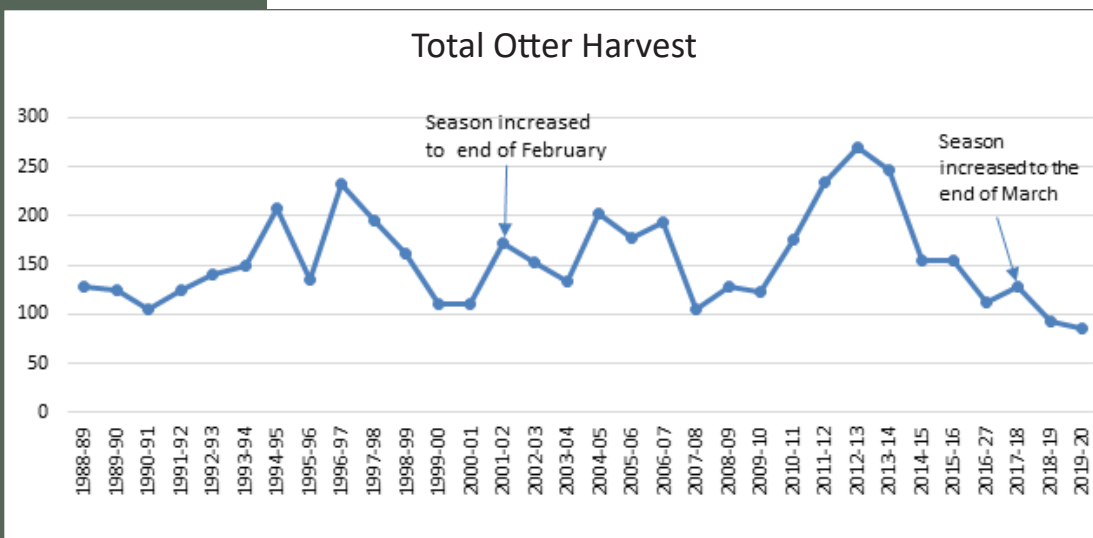


Figure 5: Otter harvest 1988-2019

The number of trappers who successfully harvested at least one otter per season has declined slightly since 1988 (average 60, range 36-93), coinciding with the decline in trapping licenses (Fig. 3). However, the trend related to the average number of otters taken per successful trapper has increased slightly over the same time period as has the catch per unit of effort (Figs. 1 and 4). While we

The otter season has been modified three times in the last 23 years. In 1988 the season was reduced from the 4th Saturday in October through the middle of March to the 4th Saturday in October to the first Saturday in February (Fig. 5). As the otter harvest trend and distribution across the state remained on a stable trajectory, the season was increased along with the beaver season to the end of February in 2001-02, and then to the end of March

conflicts and the necessity of harvesting beaver outside of the season when they are often wasted rather than utilized for fiber or food.

Otters are well distributed throughout the state with increased trapper effort resulting in somewhat heavier harvests in the southern Lake Champlain Valley and the northern Connecticut River Valley.

Harvest Distribution During the Season

Historically, the otter harvest has not been uniformly spread throughout the trapping season with the highest proportion of the harvest occurring earlier in the season and waning as the season progressed.

Between 2000 and 2016, approximately 46% of the otter harvest occurred by the end of November and 93% by the end of January (Fig. 6) resulting in an average of only 11 otters harvested annually statewide in the month of February. This led the department to project a correspondingly low harvest in March going forward. Interestingly however, although the increase in season length did not result in a rise in the overall otter

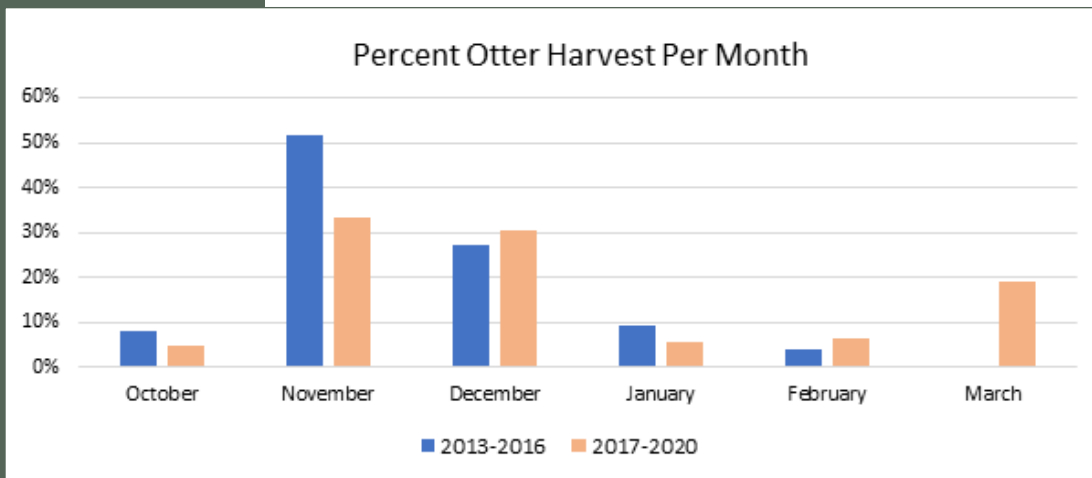


Figure 6. Percent otter harvest per month

harvest, it appears that it shifted the trapper effort from November and January to December, February and March (Fig. 6).

The VFWD has always addressed season length based on our concern for the sustainability of the otter population and the potential harvest of females with pups. To date, the data suggest this concern is not warranted for several reasons: (1) The total number of animals harvested has declined since the season change, suggesting that the expansion has had little if any effect on the sustainability of the population. (2) the number of breeding aged females taken in March is exceedingly low and (3) the extension to the season appears to have shifted the overall take to later in the season resulting in an increased proportion of males in the harvest (Figs. 6 and 7).

Harvest Distribution and Sex Ratio

Based on preliminary data, it appears that since the expansion of the season, the proportion of males taken per female is increasing. This is not surprising as we know the male to female ratio consistently changes as the season progresses. Historically, at the outset of the trapping season, the number of male

and female otters harvested is nearly equal, but in February over 62% of the harvest consisted of males. In New York where the otter trapping season extends into April, this skew towards more males is even more pronounced, resulting in as much as a 70% male harvest in the month of March (Scott Smith, New York DEC, personal

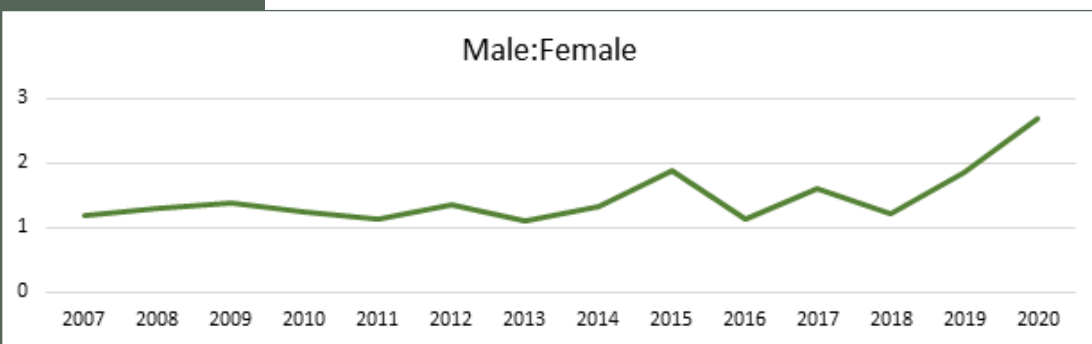


Figure 7: Male to female ratio 2007 to 2020

communication). It is believed that the dispersal and mating activities of male otters exposes them to higher capture rates compared to females whose movements become increasingly more restricted as parturition approaches and, as the season progresses into April when pup rearing begins.

Although the average March harvest of 16.6 otter, is somewhat higher than we predicted, the proportion of that harvest composed of females of breeding age is low (between 1 to 2 annually) (Fig. 8). Our goal going forward is to continue to limit the number of females of breeding age (i.e. greater than or equal to 2 years of age) in the March portion of the harvest.

Although highly variable from year to year, the overall trend in otter harvest is relatively stable over the last 30 years.



Available data indicates that the harvest of otter in Vermont over the past few decades has not resulted in any concerning changes in sex ratios, age distribution of the harvest, or harvest numbers.

Furthermore, we expanded the otter season primarily to increase utilization of otter that were taken incidental to the harvest of beaver in March. Figure 8 suggests that an average of 56% of the otter taken in March were incidental to the harvest of beaver. We do know some of these animals would likely have been taken even if the otter season had ended in February, further minimizing the potential negative impacts from the expanded season.

Age	2017/18		2018/19		2019/20	
	Female	Male	Female	Male	Female	Male
0	4	0	0	0	1	0
1	2	2	2	3	1	3
2	1	4	0	1	0	0
3	1	1	0	0	0	0
4	0	1	0	1	0	1
5+	0	2	1	3	1	0
Unknown	0	1	0	0	4	9
Total	8	11	3	8	7	13
targeting beaver	53% (10)		27% (3)		75% (15)	

Figure 8: Otter harvest in March

In Summary

Analysis of all available data indicates that the harvest of otter in Vermont over the past few decades has not resulted in any concerning changes in sex ratios, age distribution of the harvest or harvest numbers. Under the current regulated harvest regime, Vermont’s river otter population appears to be healthy, stable and widespread. To date, we believe the March extension has not had a detrimental effect on the population for the following reasons:

- The number of successful otter trappers is low (42) and harvest per successful trapper averages around 2.1 otter each. The current harvest poses no threat to the population and, in fact, provides us with critical data to help protect otter from other threats such as disease and contaminants, as well as habitat loss and degradation.
- Many miles of Vermont’s 7,100 miles of waterways are not accessed by trappers in any one year providing refugia for otter.
- Since the otter season expansion in 2017, total harvest is lower than average (average of 192 between 2010/11 and 2016/17 versus average of 109 between 2017/18 and 2019/20) and it has shifted from earlier to later in the season.
- The shift in effort to later in the season appears to have increased the trend in the proportion of males harvested.
- The number of females of breeding age taken in March in the last three years is very low (1-2 per year).

Should these indices change in ways that suggest a decline in the population and/or a significant increase in females of breeding age towards the end of March, we will re-evaluate the extension, and if appropriate, suggest that the Fish and Wildlife Board make modifications to the season.

Literature Cited

The Northeast Furbearer Resources Technical Committee. 2015. *Trapping and Furbearer Management in North American Wildlife Conservation*. 55pgs.