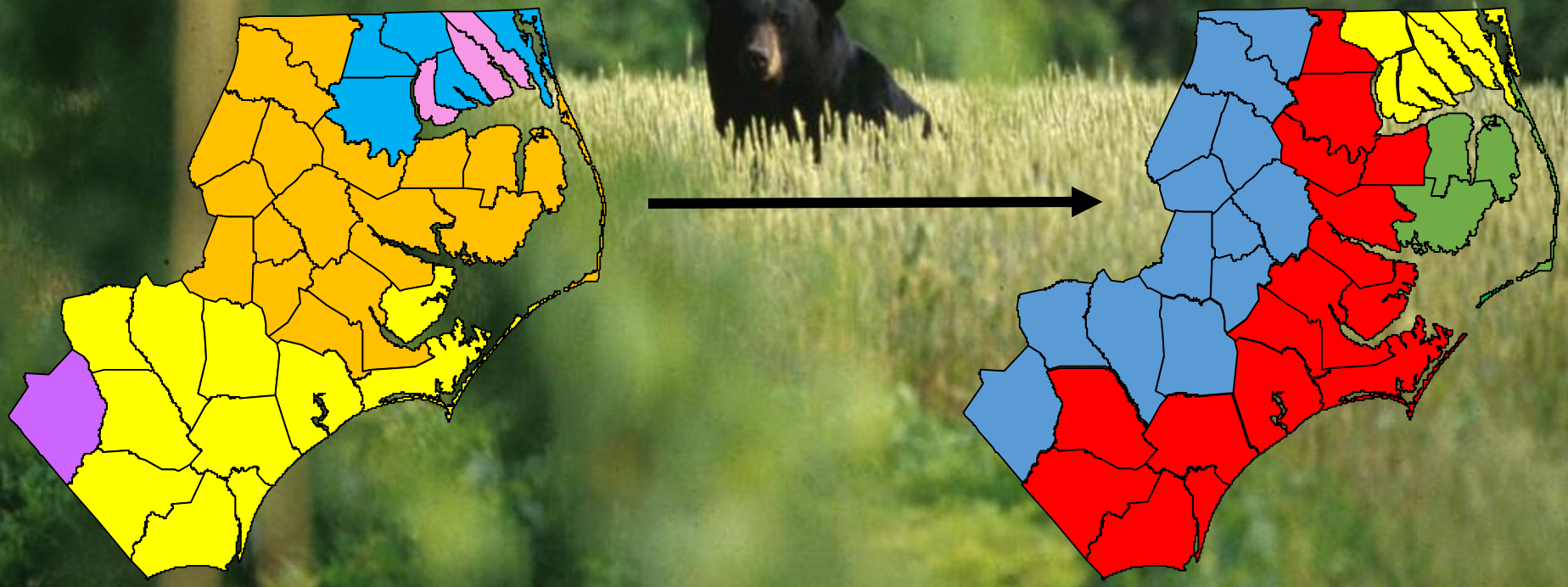
Aligning Coastal Bear Seasons to Biological Zones



We will be using the i-clickers!

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Are you a hunter? (for any species)

A. Yes

B. No

Which of these statements best describe you?

A. I do not hunt bears.

B. I only hunt bears.

C. I mostly hunt bears but I also hunt other game species.

D. I mostly hunt specifically for other game species but may take a bear if I see one.

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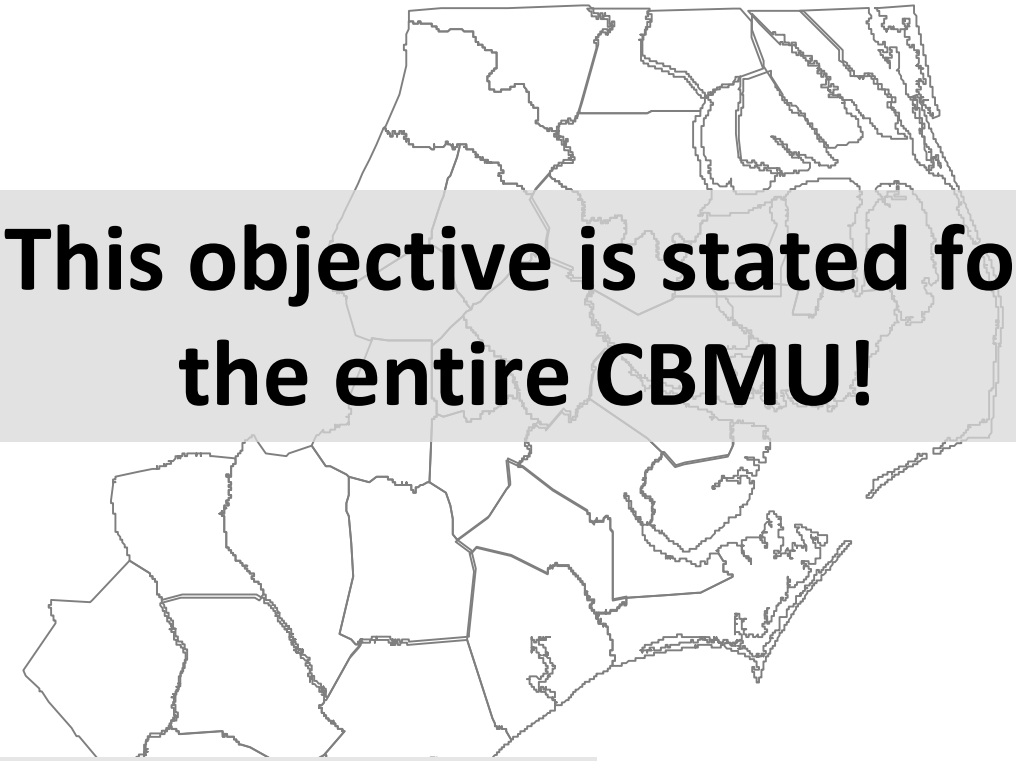
Some Bear Management Basics

2012 Bear Plan
Population Objective Statement

"Maintain the Coastal Bear Population at Current Levels."



This objective is stated for the entire CBMU!

www.ncwildlife.org/bear

(look under "Surveys & Reports" tab)

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So how do we estimate the bear population?

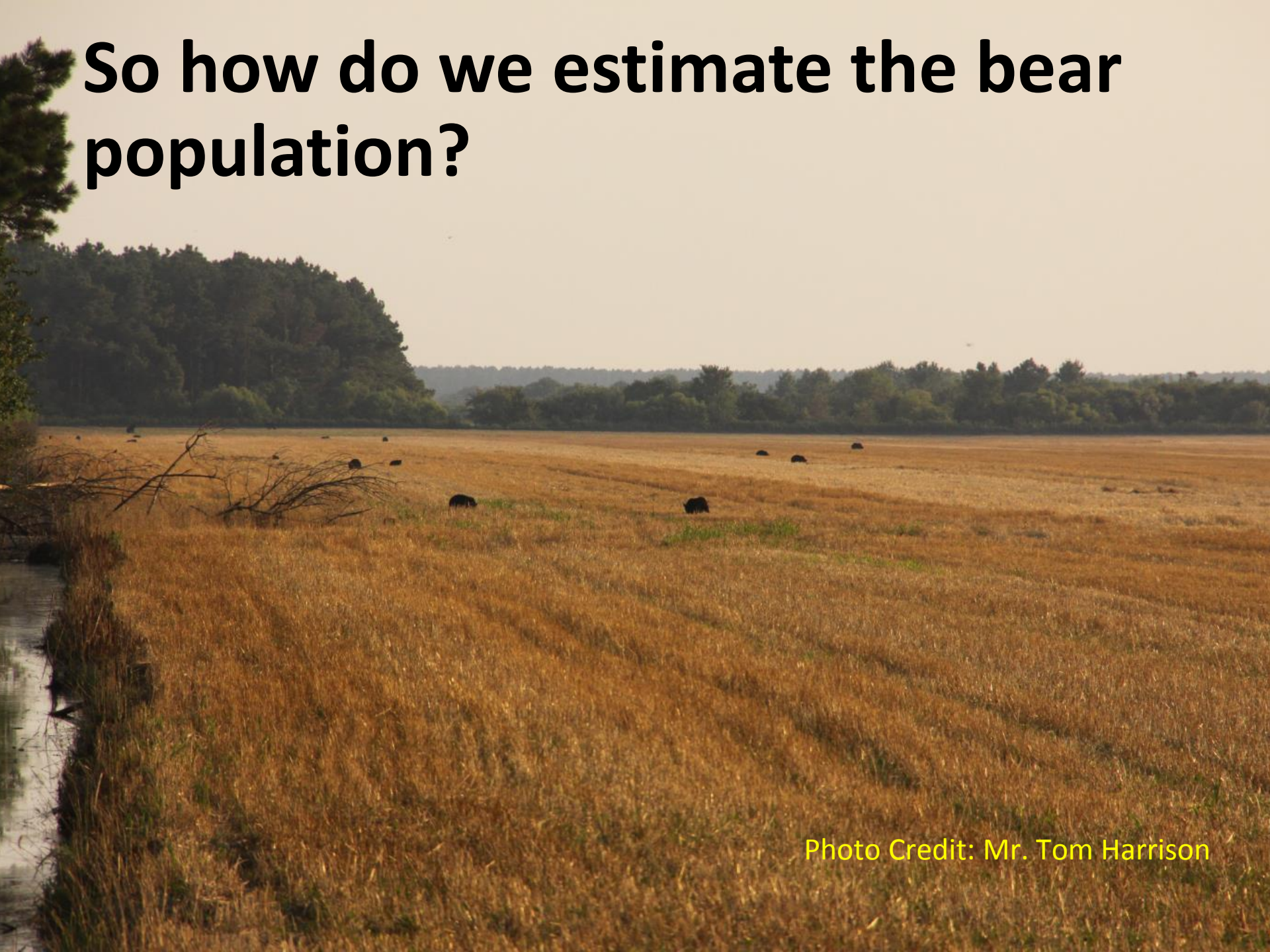

Photo Credit: Mr. Tom Harrison

Population Reconstruction Model

The Model Requires:

1. Harvest by Sex (number of males and females)
2. Ages of Harvested Bears (from the teeth)

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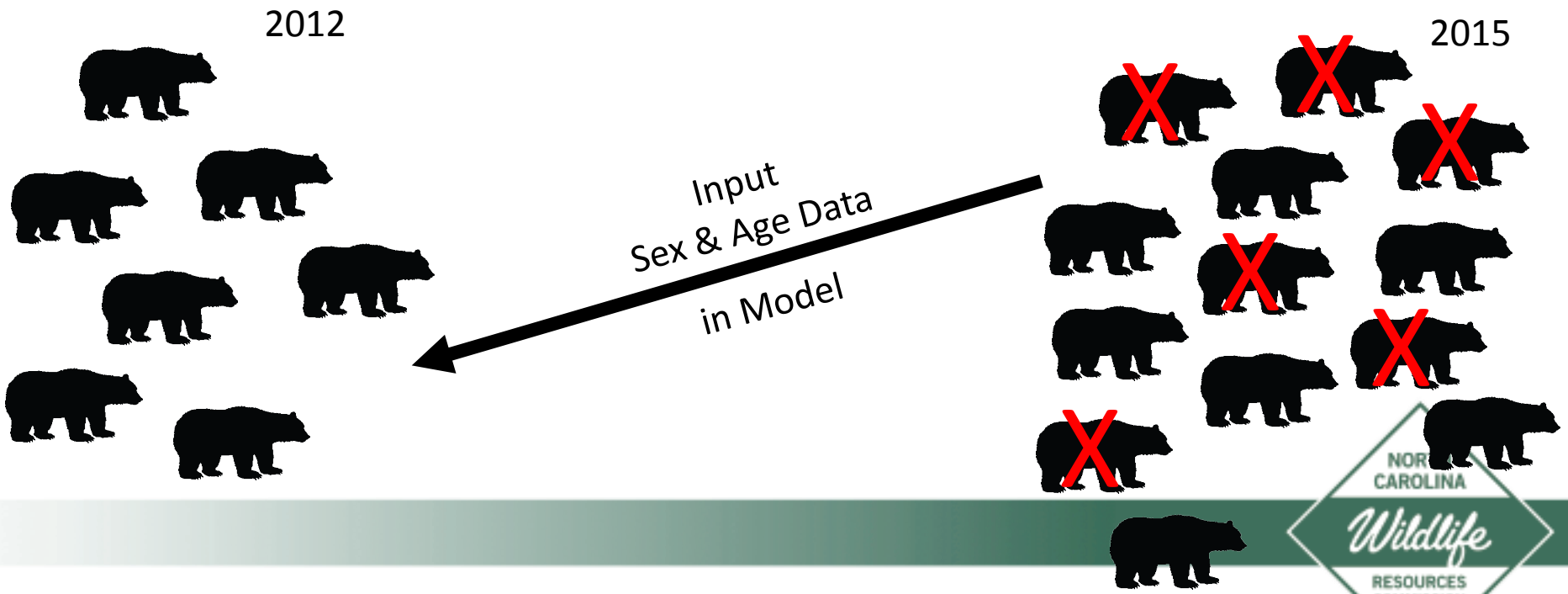
How does the model work?

1. Predicts what the population was 3 years back
   (it "reconstructs" the population)

2. Allows for the calculation of a historical growth rate



So how many bears can we harvest?

Depends on:

1. The % of the population that we take.
2. The number of females that we take.
3. And the relationship between 1. and 2.

Based on the current "best science" to maintain a stable population:

- We can harvest approximately **22-27%** of our minimum bear population estimate annually (huntable population).
- **40-44%** of the harvest level can be females (sows) before we expect to experience population declines.

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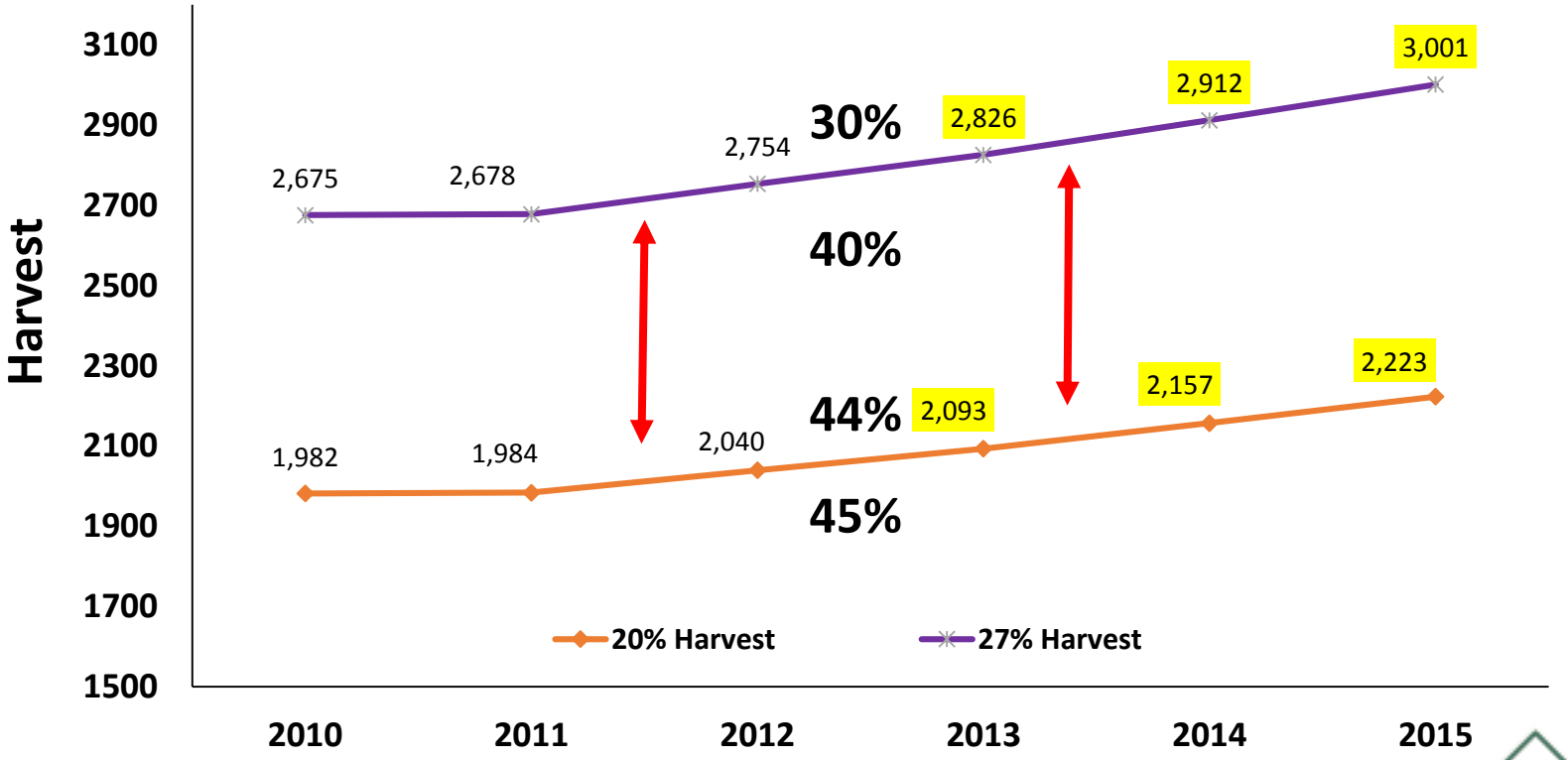
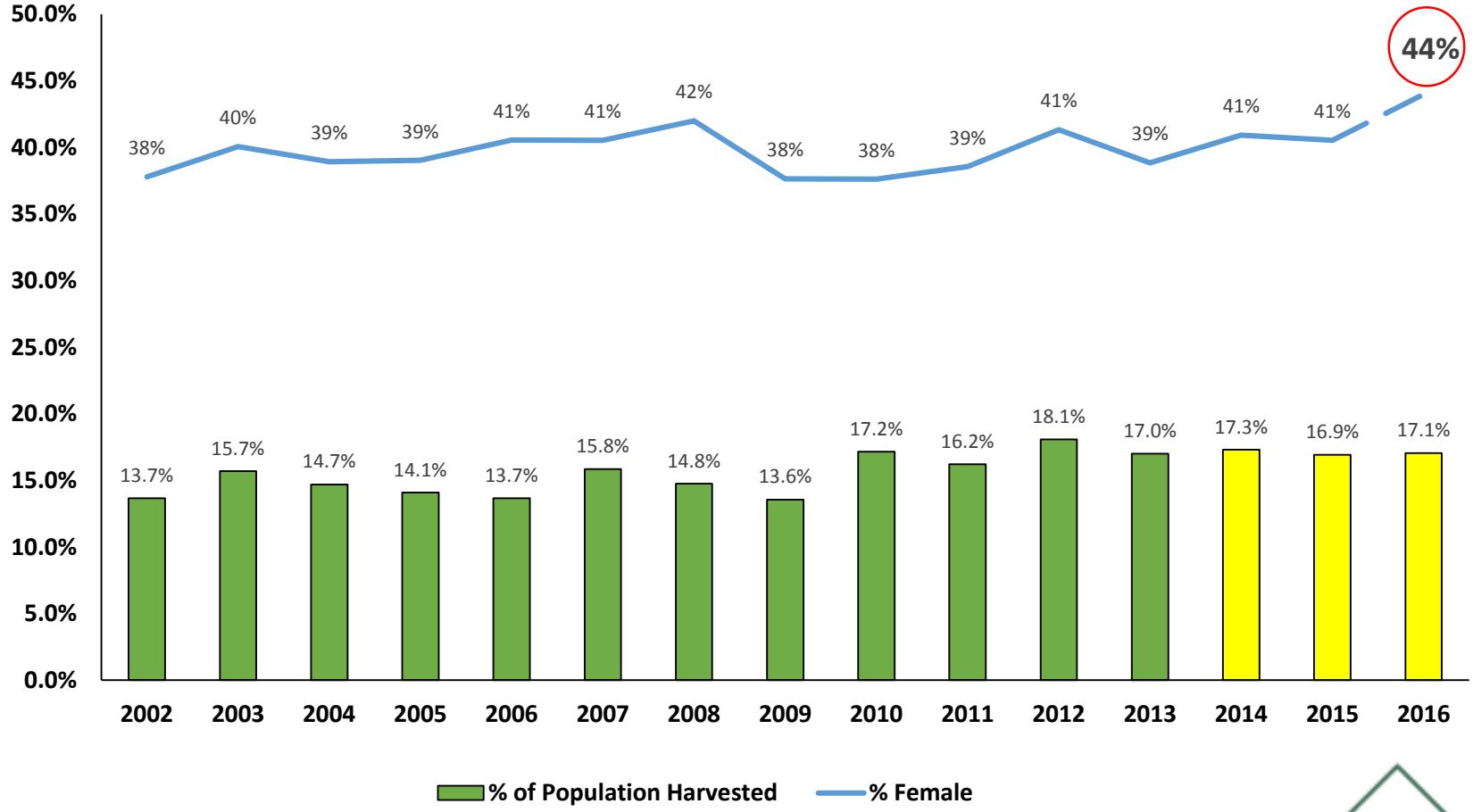
Relationship of
% of Population Harvested & % Female Harvested



% of Harvest & % Female in Harvest.



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2015 vs. 2016 Bear Harvest

		% Female	% Female
2015	No Dogs	51%	41%
2015	With Dogs	34%	

2016	No Dogs	51%	44%
2016	With Dogs	40%	

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Last season, did you participate in a bear hunt using dogs?

A. Yes

B. No

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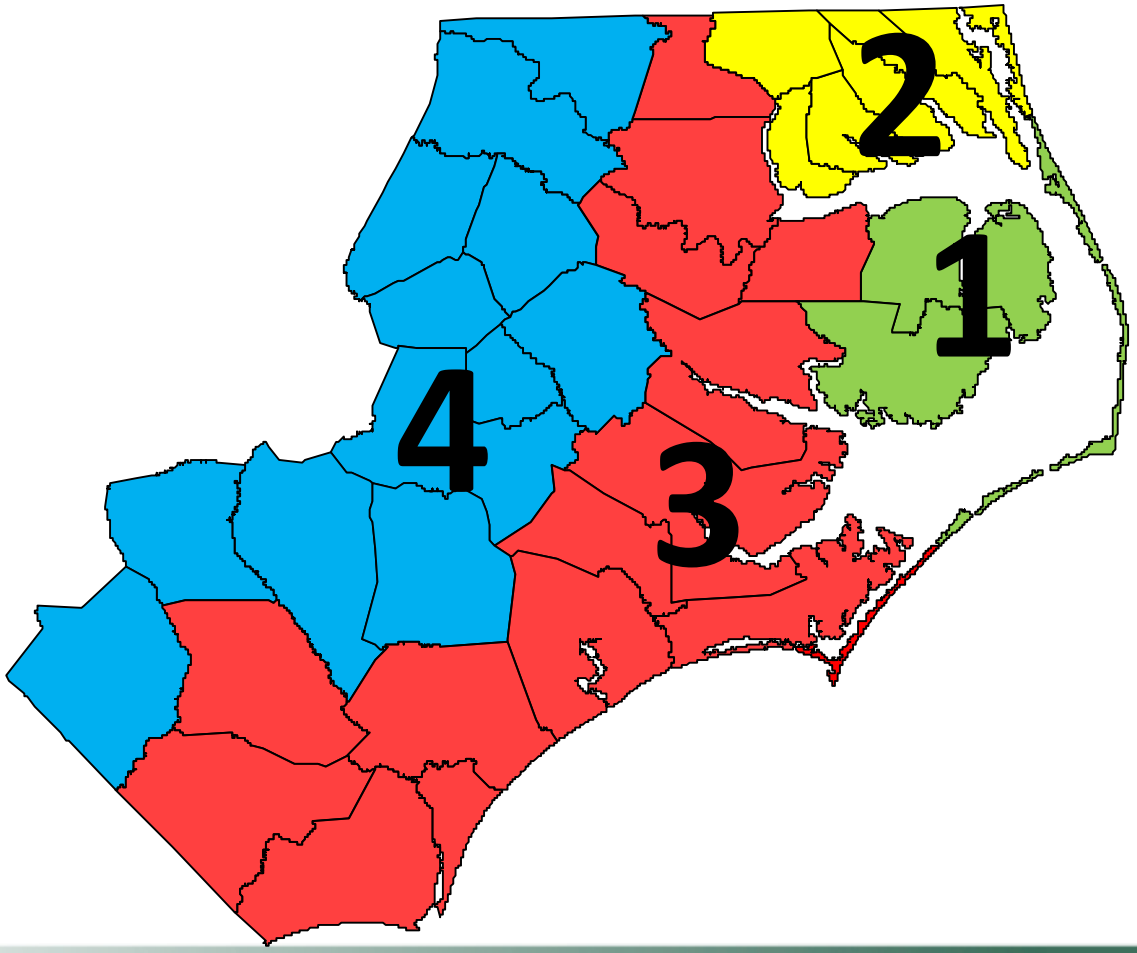
So let’s Focus back on the Zones.



Have you seen the presentation about the Development of Zones in the CBMU?

A. Yes, at the forums last year.

B. Yes, I reviewed the information on the internet.

C. No, I have not seen it but I know about it.

D. I didn’t know anything about it until tonight.

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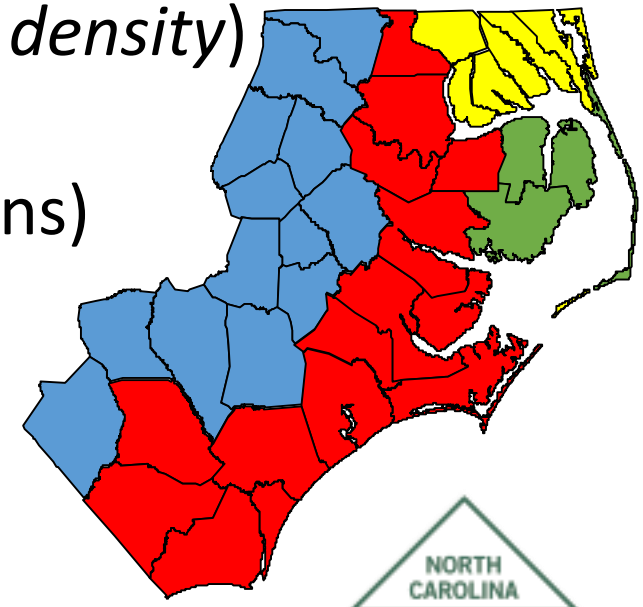
Biological Bear Management Zones

Zone Development Based on:

1. Bear Land Cover (*habitat*)

2. Harvest per Huntable Area (index to *density*)

3. Percent Sanctuary (source populations)



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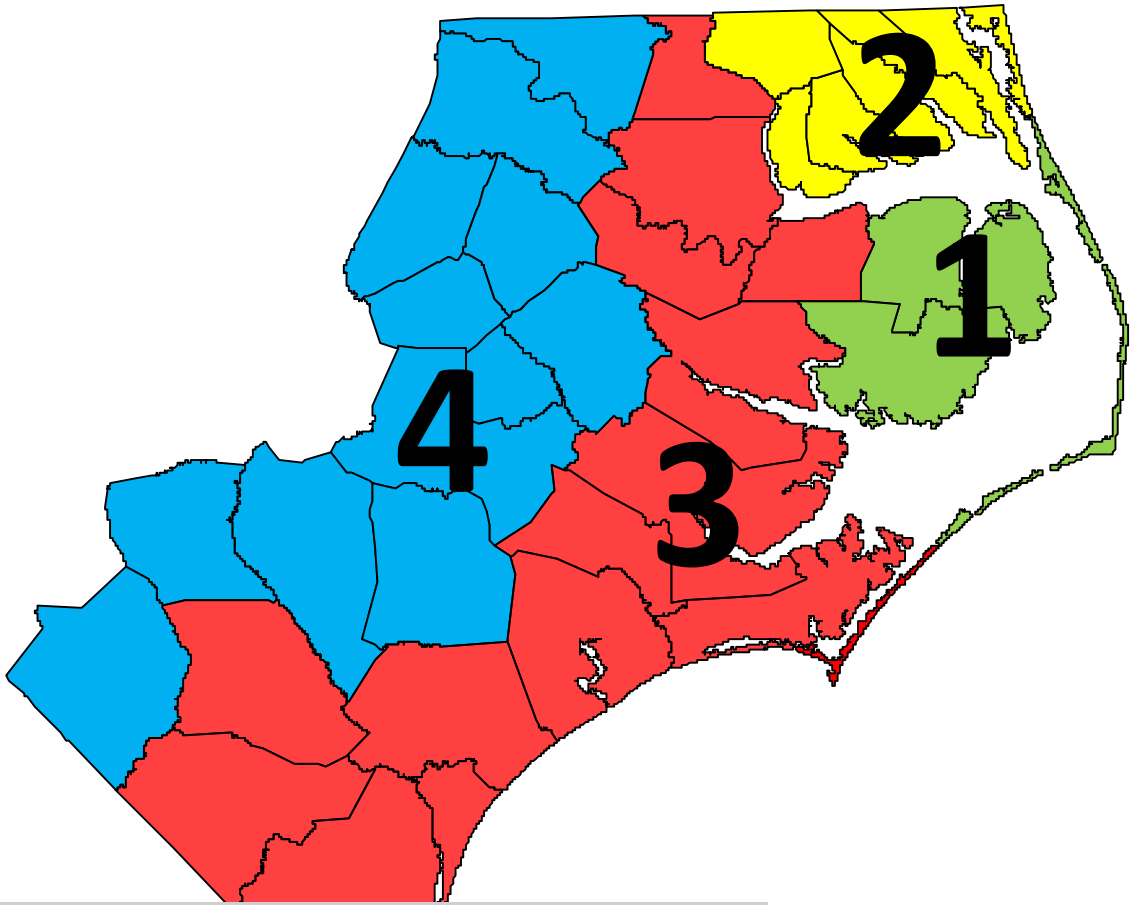
Coastal Bear Management Unit (CBMU) Biological Zones

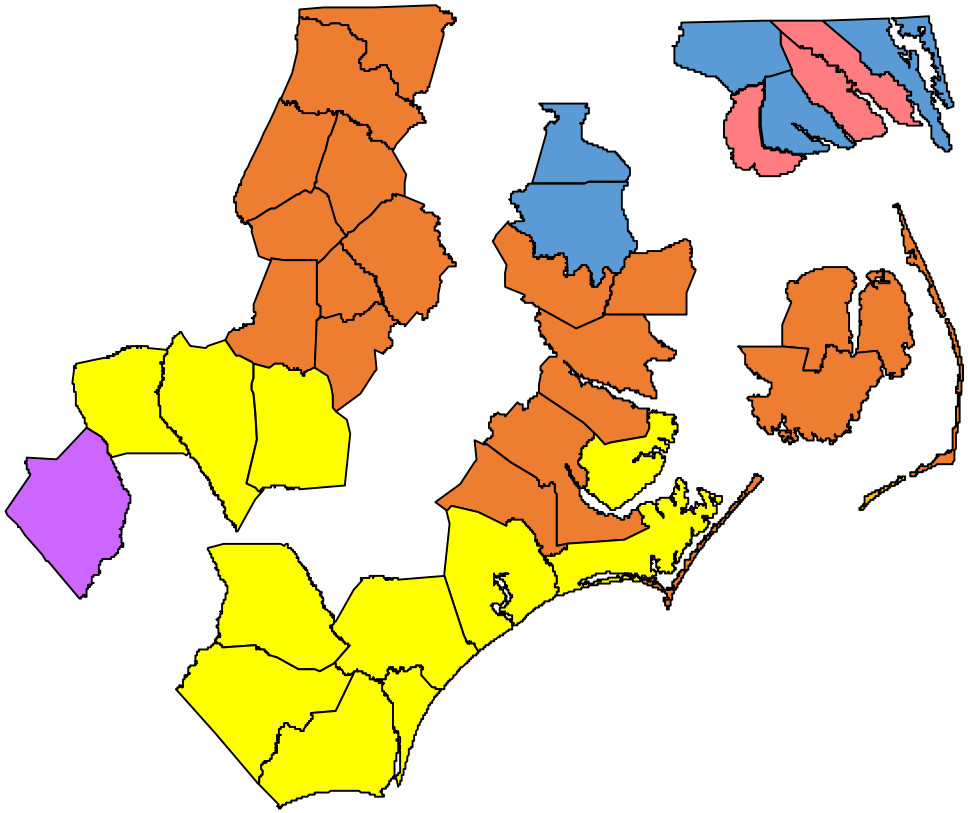


www.ncwildlife.org/bear

(look under “Surveys & Reports” tab)

original development.

How our current bear seasons overlay on the CBMU Zones!



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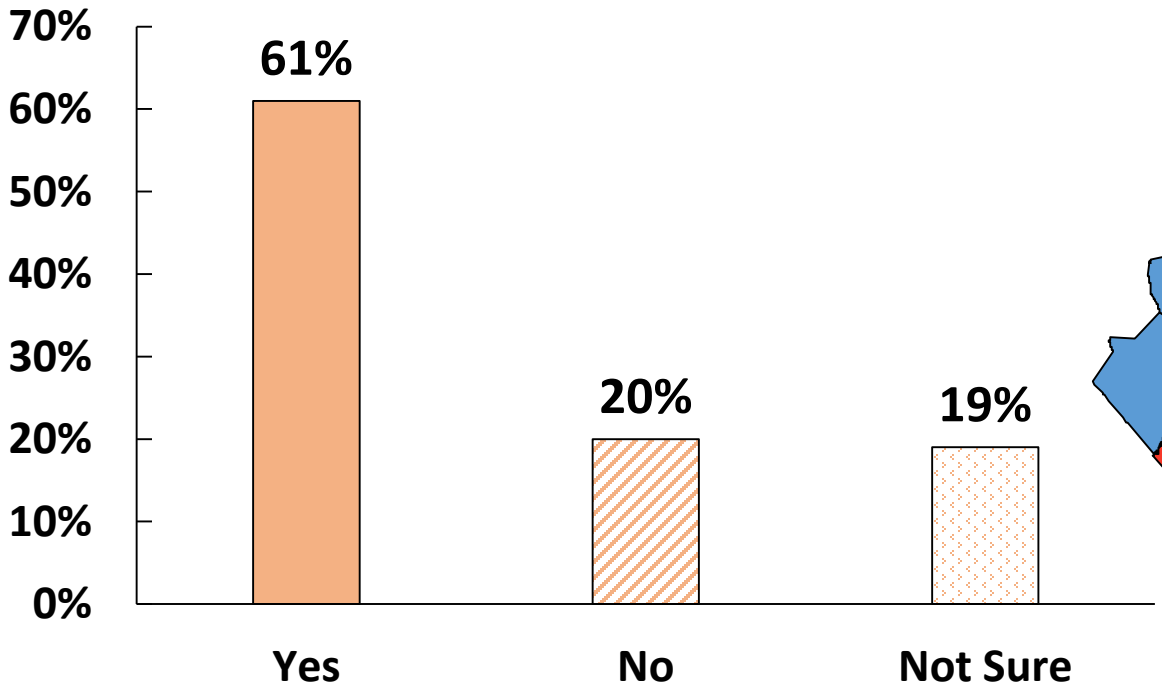
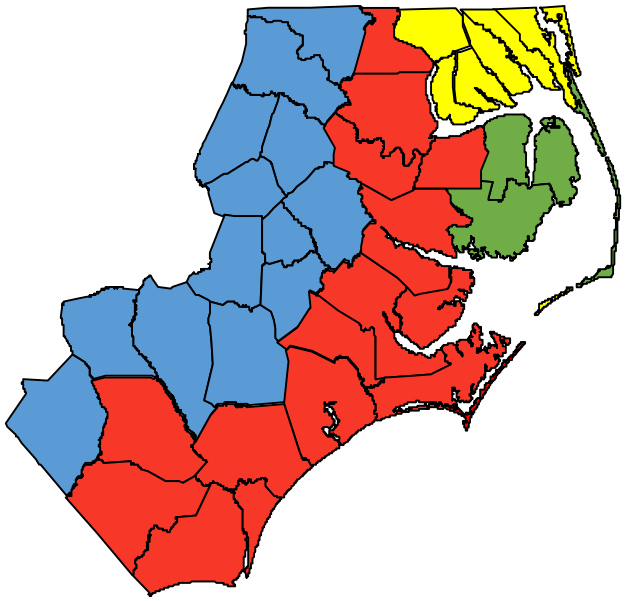
Should Coastal Bear Seasons be aligned with the new Zones?





Based on responses of 219 bear hunters at the 2016 Bear Forums

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Did you attend one of the Bear Forums last August?

A. Yes

B. No

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What measurements can we make at the Zone level?

- At present, we can't model bear populations for all 4 Zones and the County level is far out of reach!
- Our only consistent option to index "bear density" at this scale is the harvest. *(Total Harvest, Harvest/Sq. Mile, etc.)*
- We can measure % female at the zone level using reported harvest numbers.

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Two Things we know.

1. The bear density is not equally distributed across the landscape.

2. The harvest is not equally distributed across the landscape.

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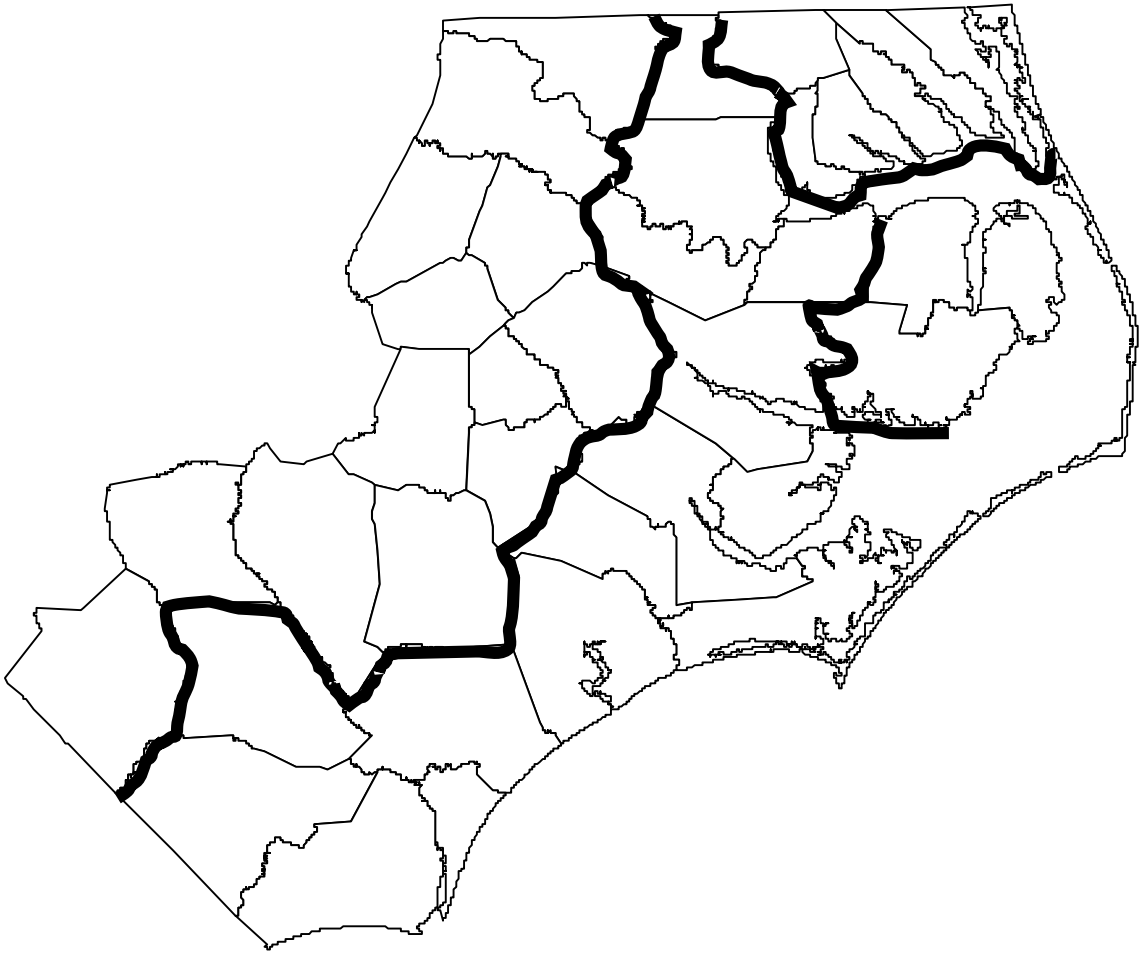
2016 Bear Harvest by County



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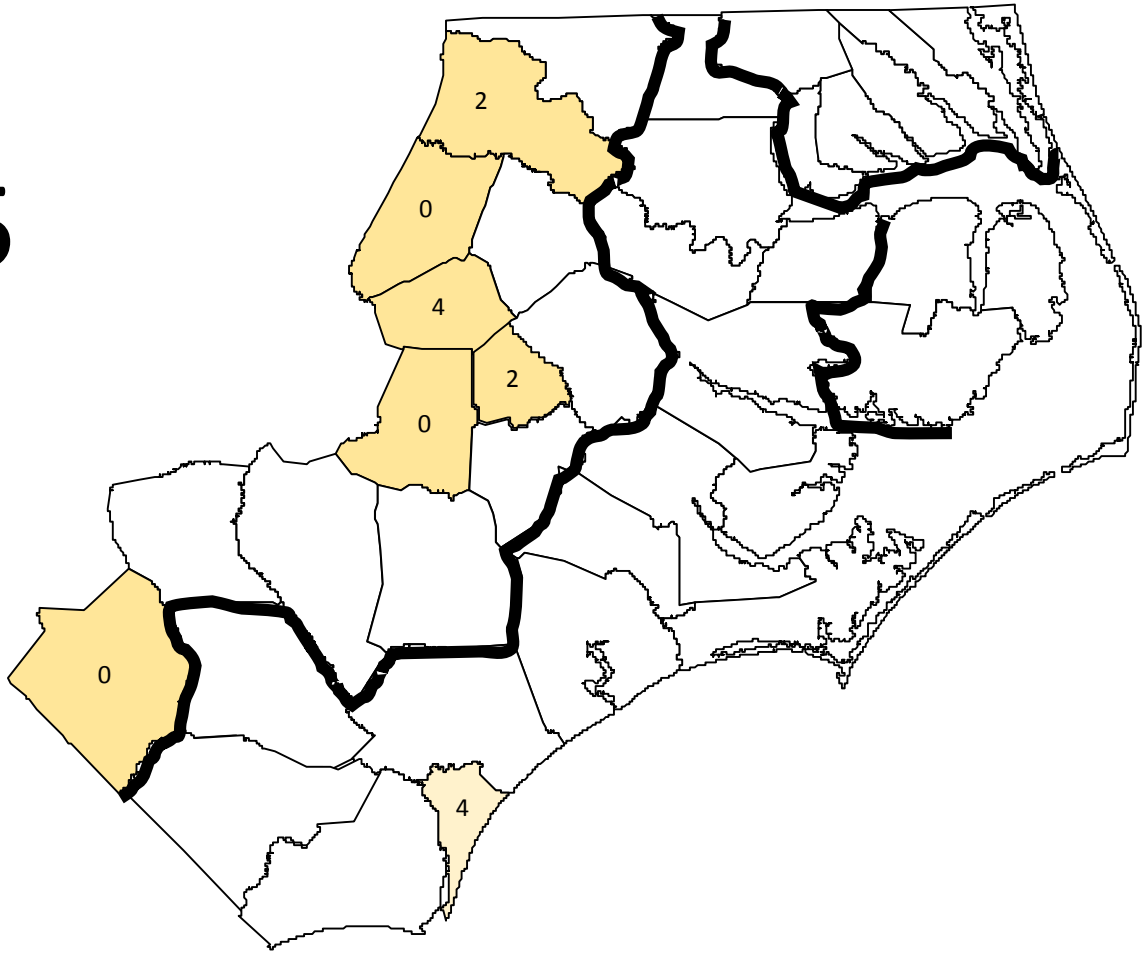
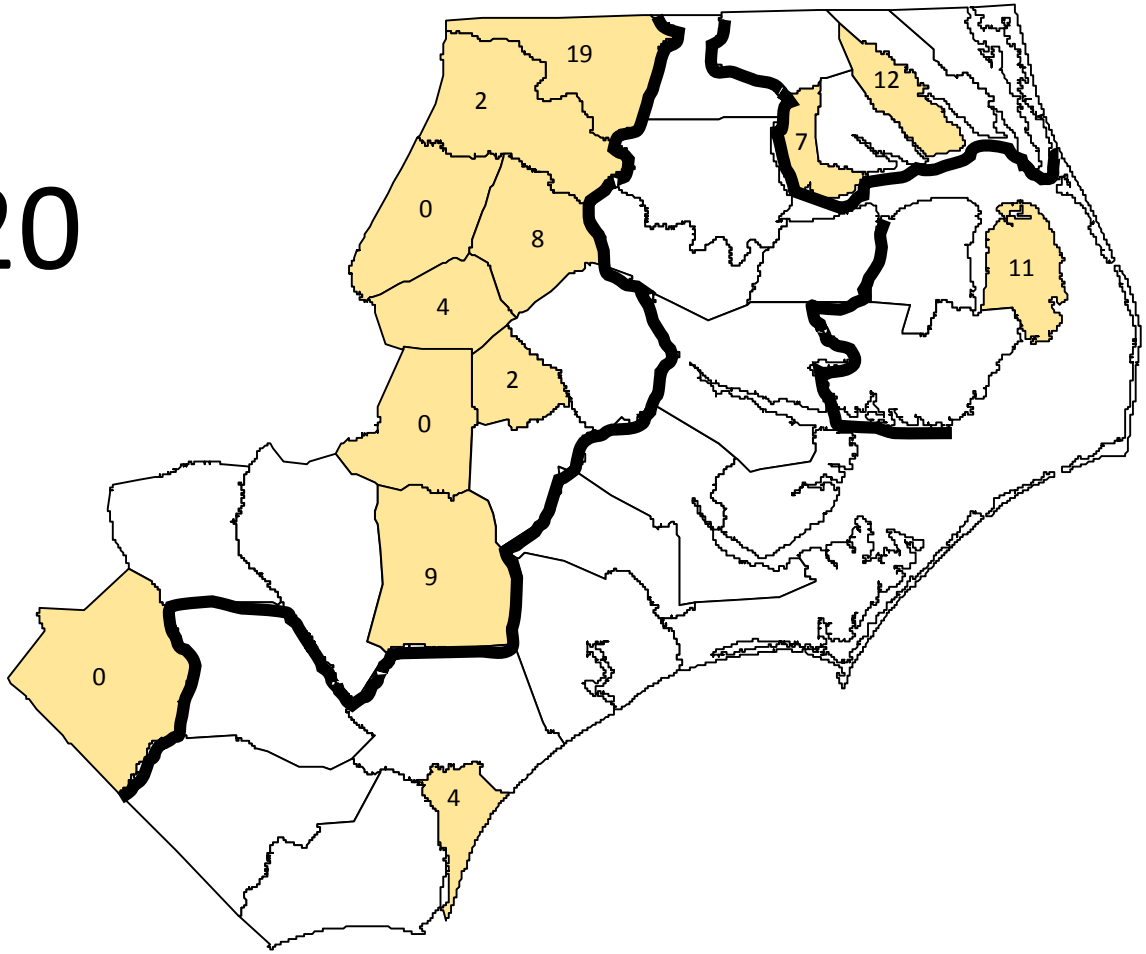
2016 Bear Harvest by County

≤ 5



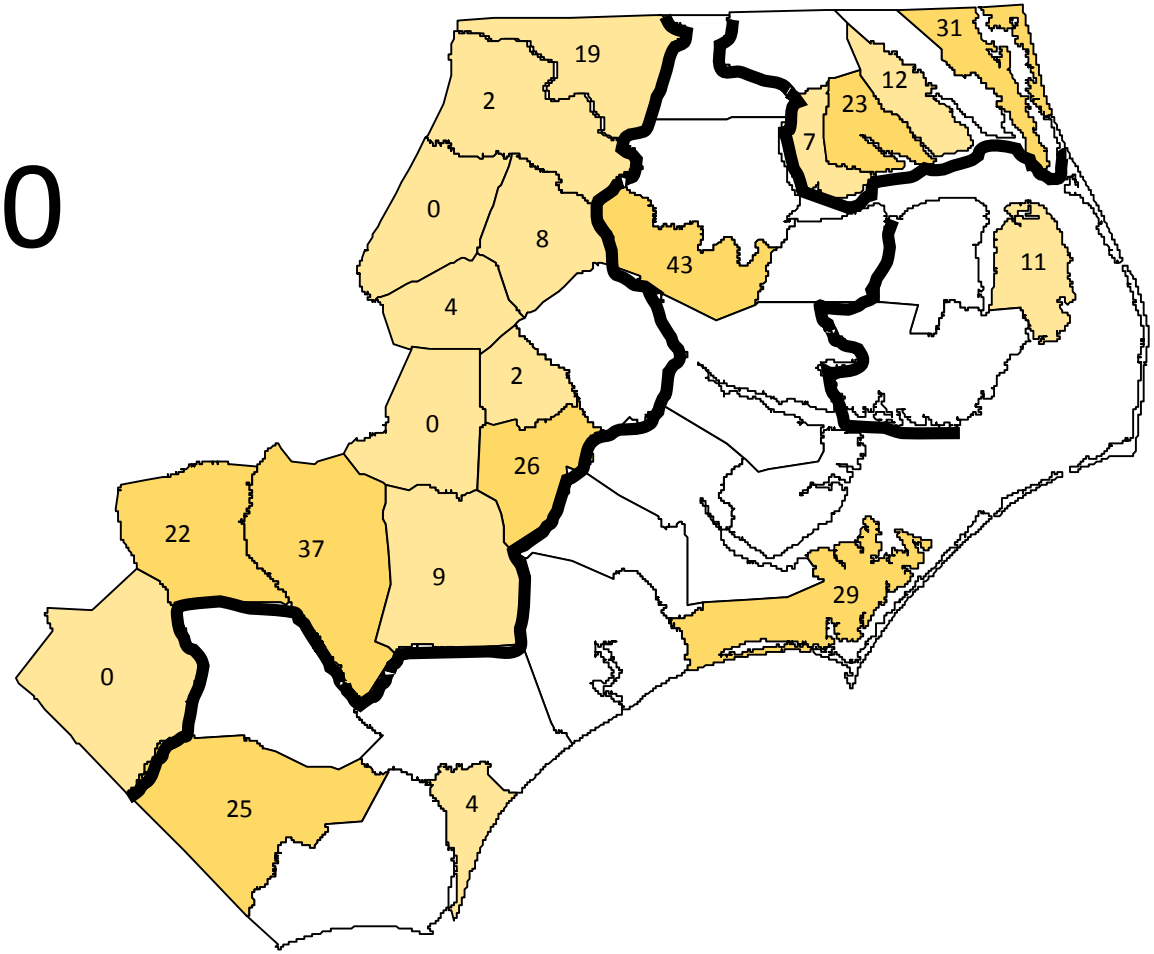
2016 Bear Harvest by County

≤ 20



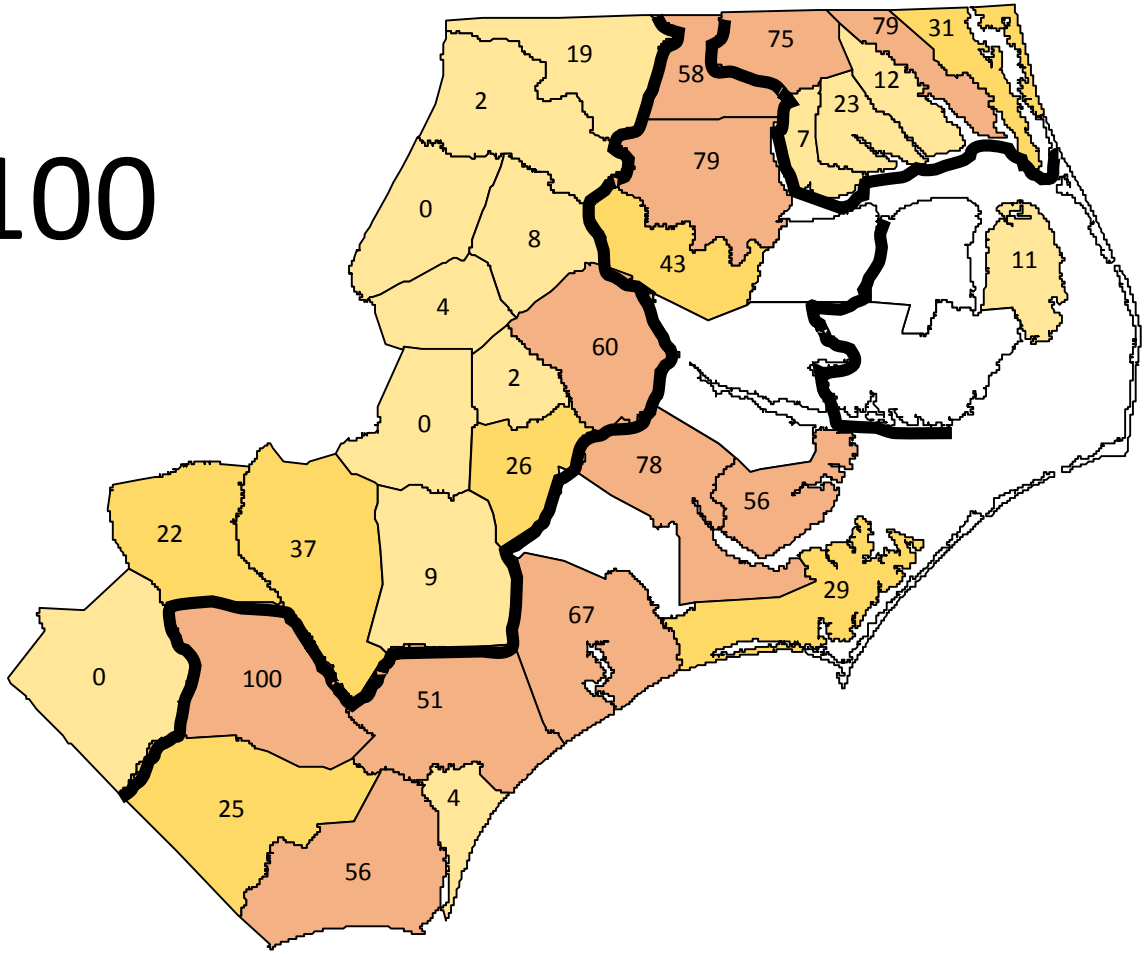
2016 Bear Harvest by County

≤ 50



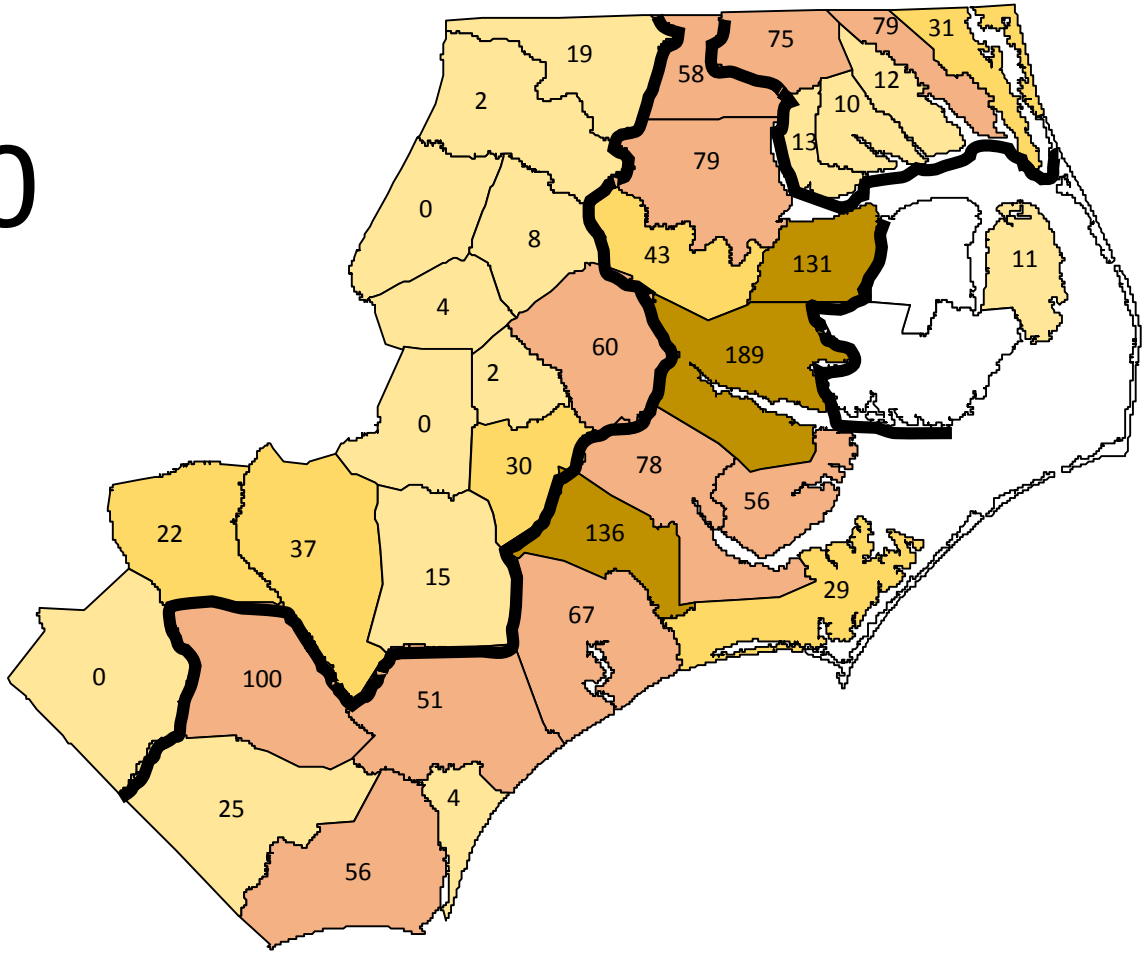
2016 Bear Harvest by County

≤ 100



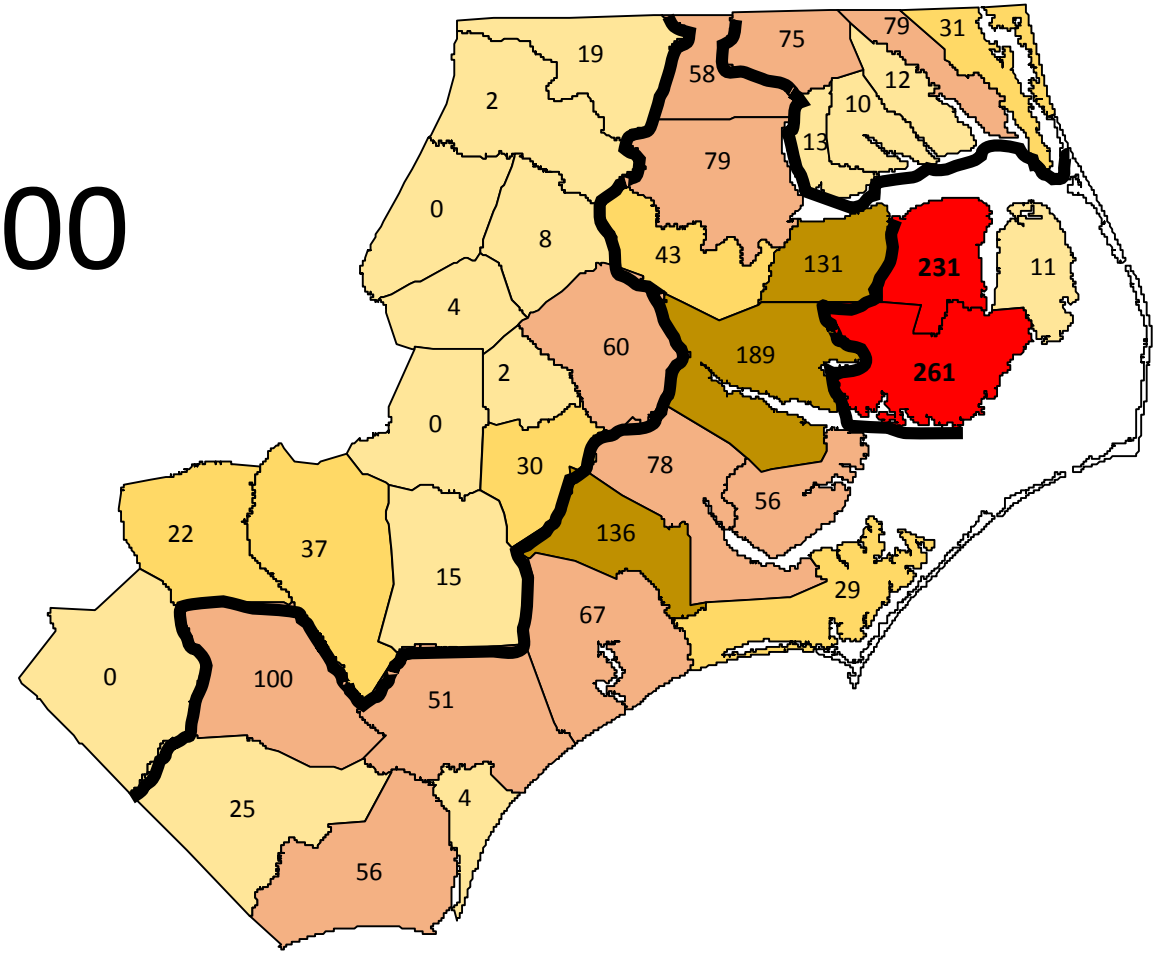
2016 Bear Harvest by County

≤ 200



2016 Bear Harvest by County

>200



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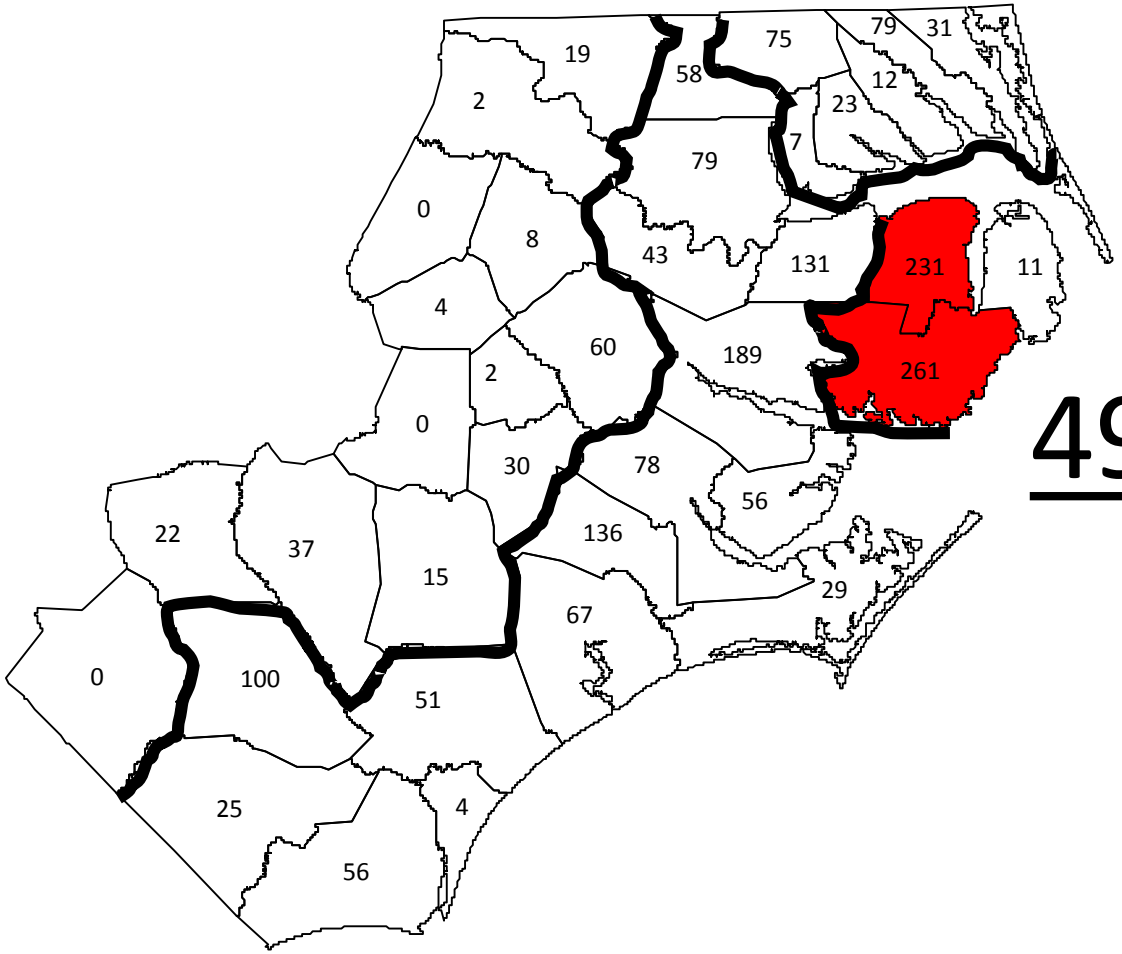
2016 Bear Harvest in Hyde & Tyrrell

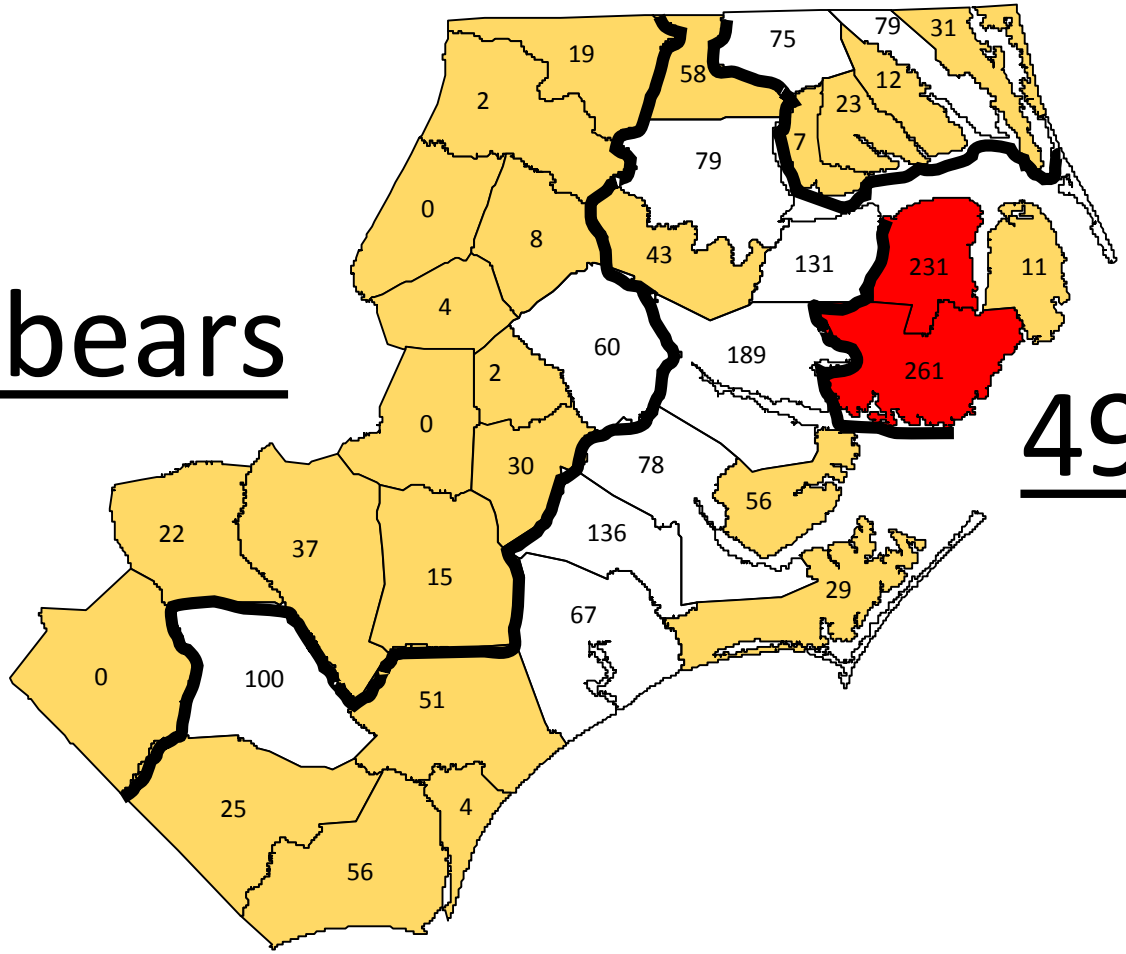


492 bears

25 Lowest Vs. 2 Highest*

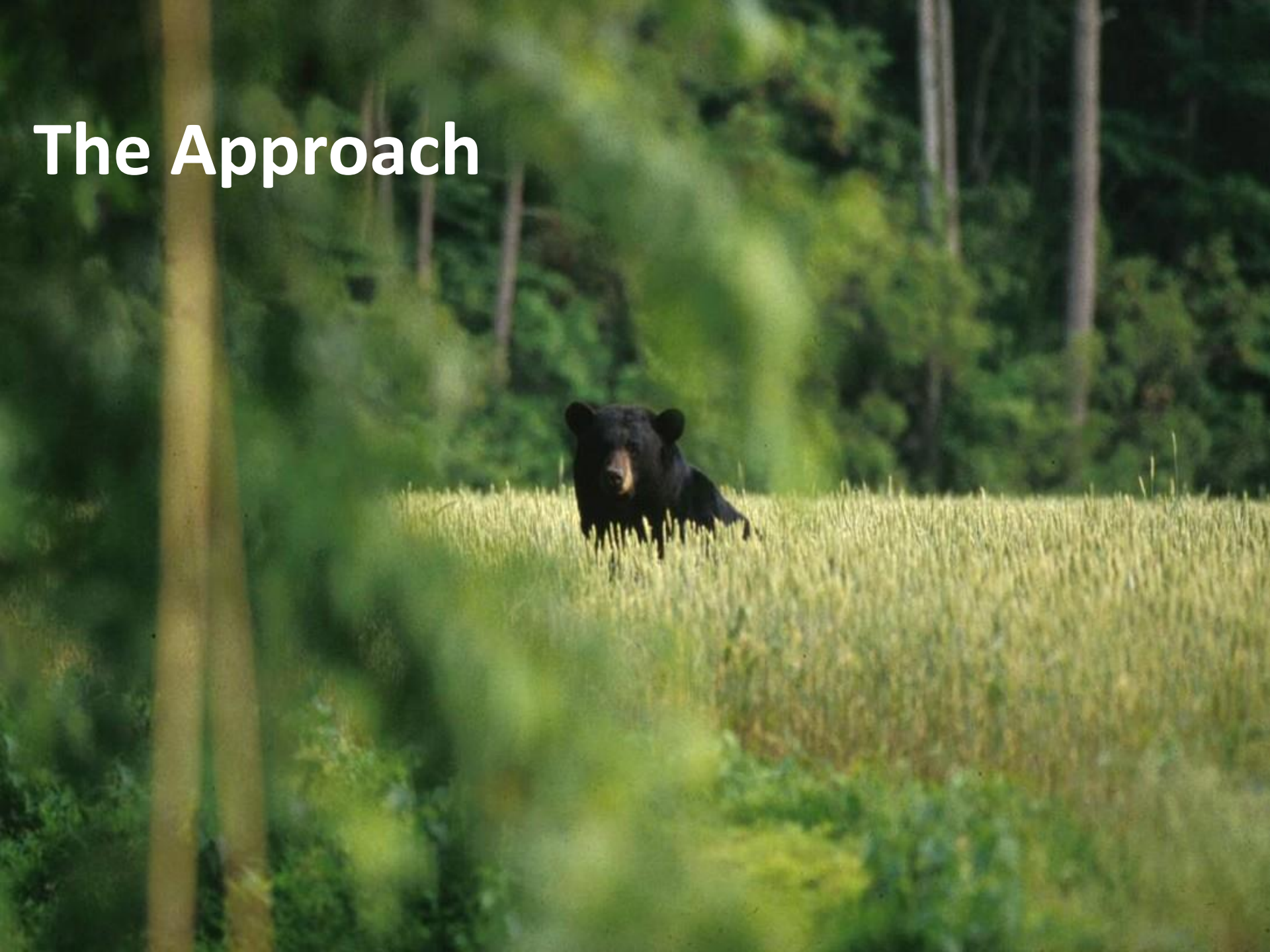
474 bears

492 bears

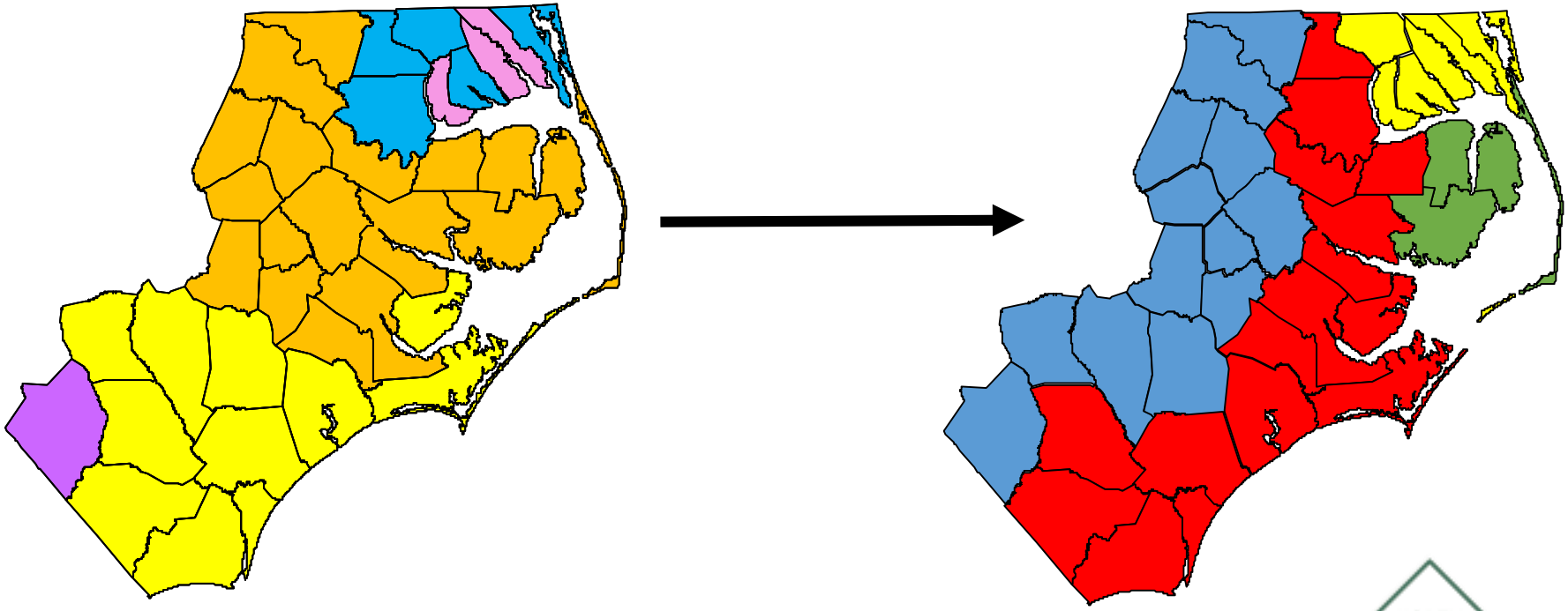


*2016 Preliminary Harvest Data

The Approach



Aligning Coastal Bear Seasons to Biological Zones



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2012 Population Objective Statement

"Maintain the Coastal Bear Population at Current Levels."

1. This objective is stated for the entire coastal bear management unit.
   - Zone development process articulated the difference in the bear populations, the bear habitat and the population potential.
2. "Current levels" does not equate to a <u>uniform</u> "objective" for each zone.

So, to meet the objective of maintenance of the CBMU population we will need a greater increase in harvest in some Zones more than others.

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Establishing Seasons for the Zones.

1. Maintain consistency with the Objective of Bear Plan.
2. Develop an Objective for each Zone.
3. Make sure we consider what we believe about hunter's desires.

- *All along recognizing that in the background there are individual landowners and other constituents with concerns that have to be addressed.*

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Establishing Zone Objectives

- What did we choose for our measures?

Three (3) basic attributes impact hunting experience and the bear population.

Numbers (Bear Population):

Sex Ratio (% females in harvest) & Harvest Density

Quality (Bear Weights):

Percent Weight & Age Structure

Opportunity (Number/Timing of Days):

Change in Available Hunting Days

Increase

Maintain

Decrease

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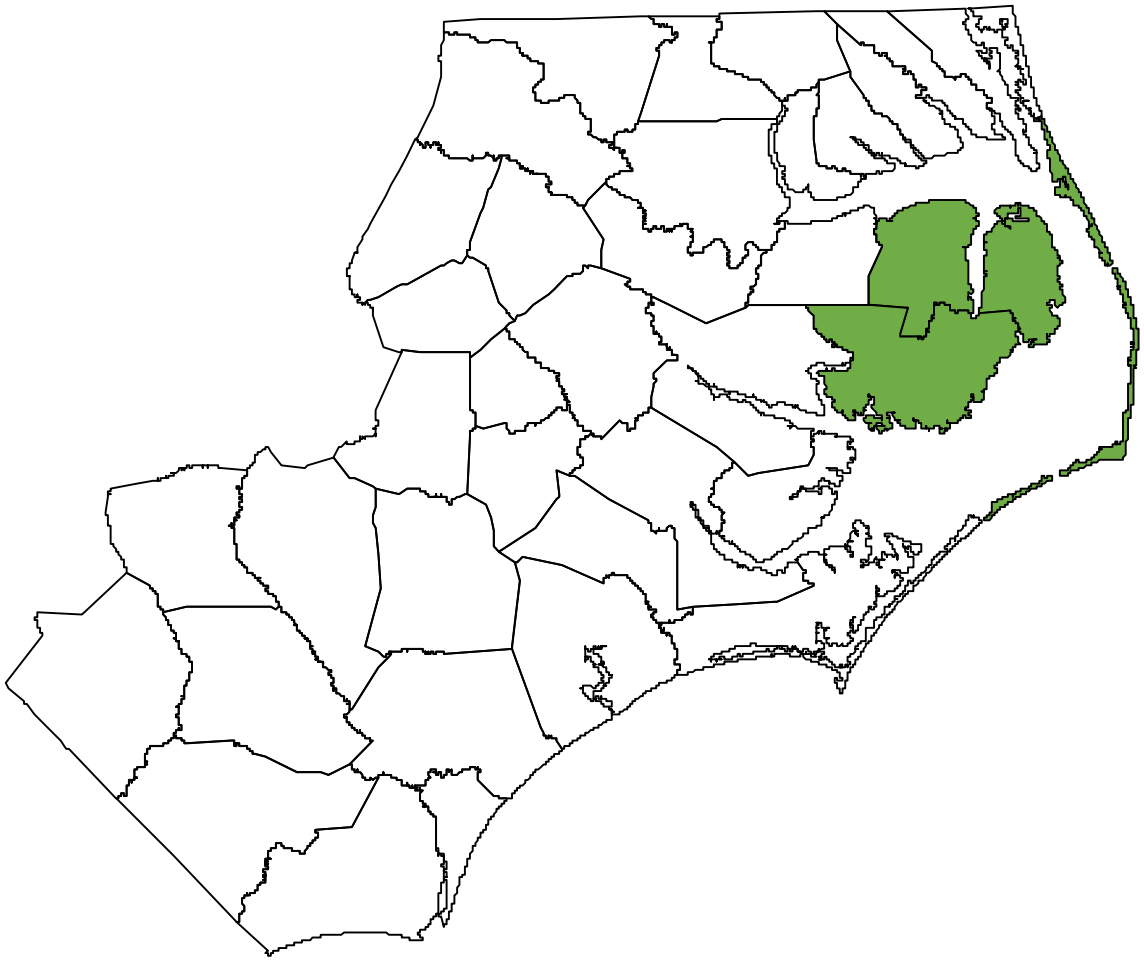
Objectives Matrix looks like this:

Zone Management Objectives			
	Numbers	Quality	Opportunity
Increase			X
Maintain		X	
Decrease	X		

Zone 1



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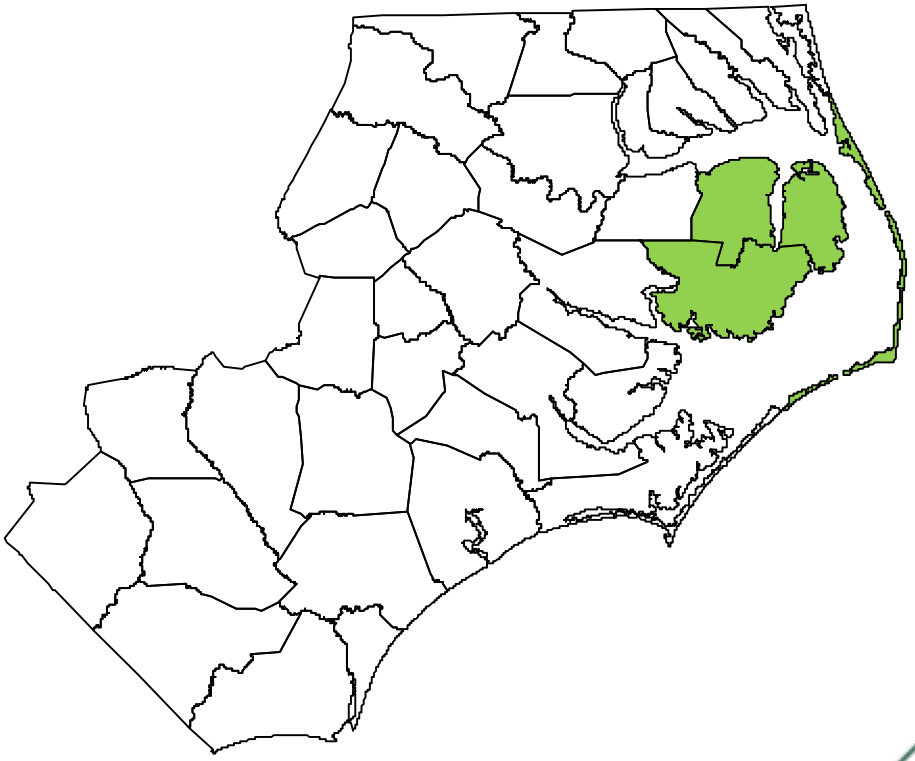
Do you typically hunt bears in Zone 1 at least once a year?

A. Yes

B. No



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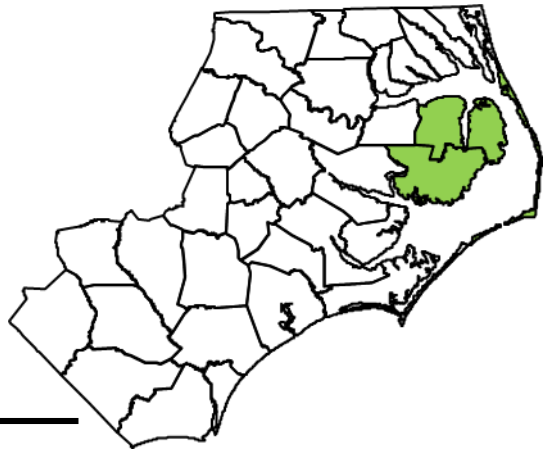
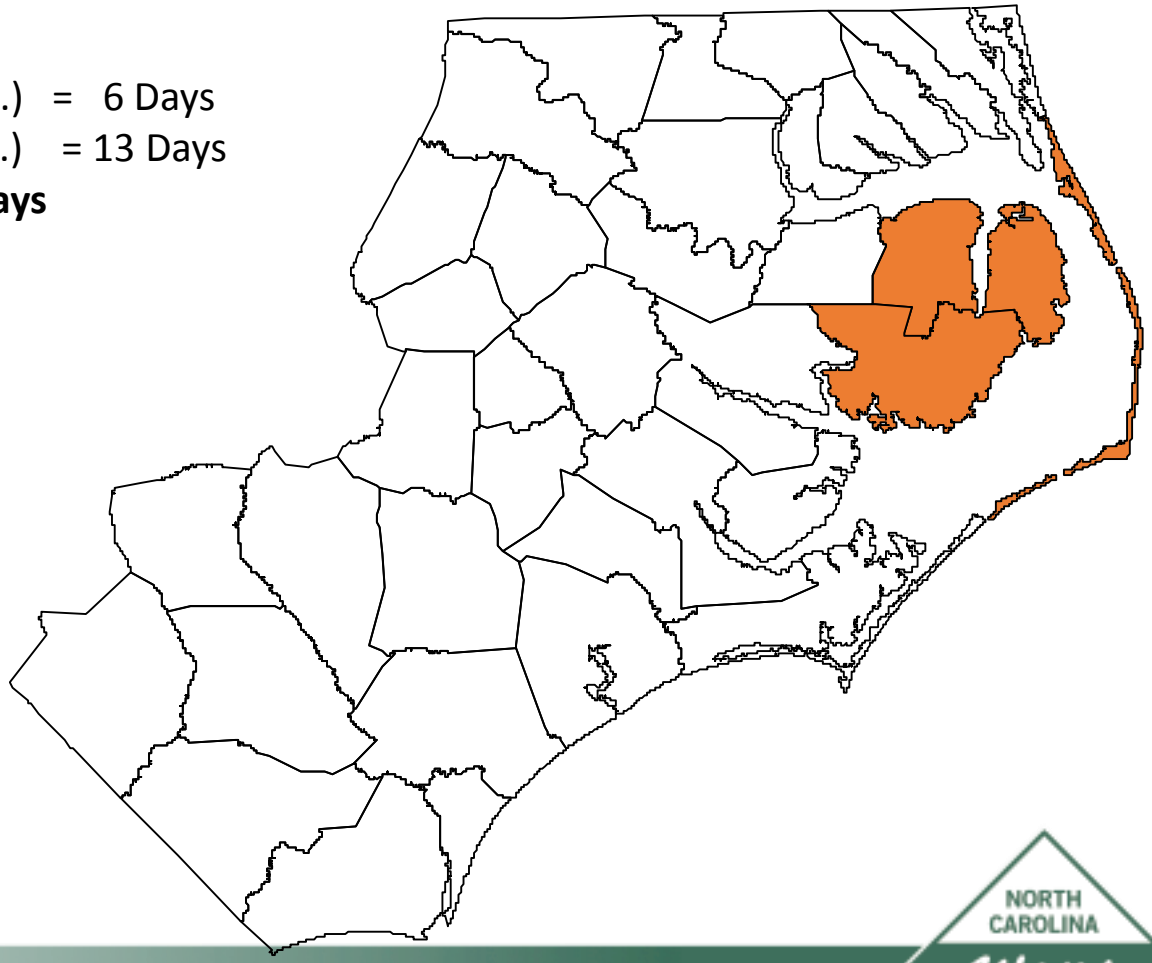
Zone 1
2016 Preliminary Harvest



Total Harvest:	503	(40% Female)
% Harvest using dogs:	57%	(32% Female)
% Harvest no dogs:	43%	(51% Female)

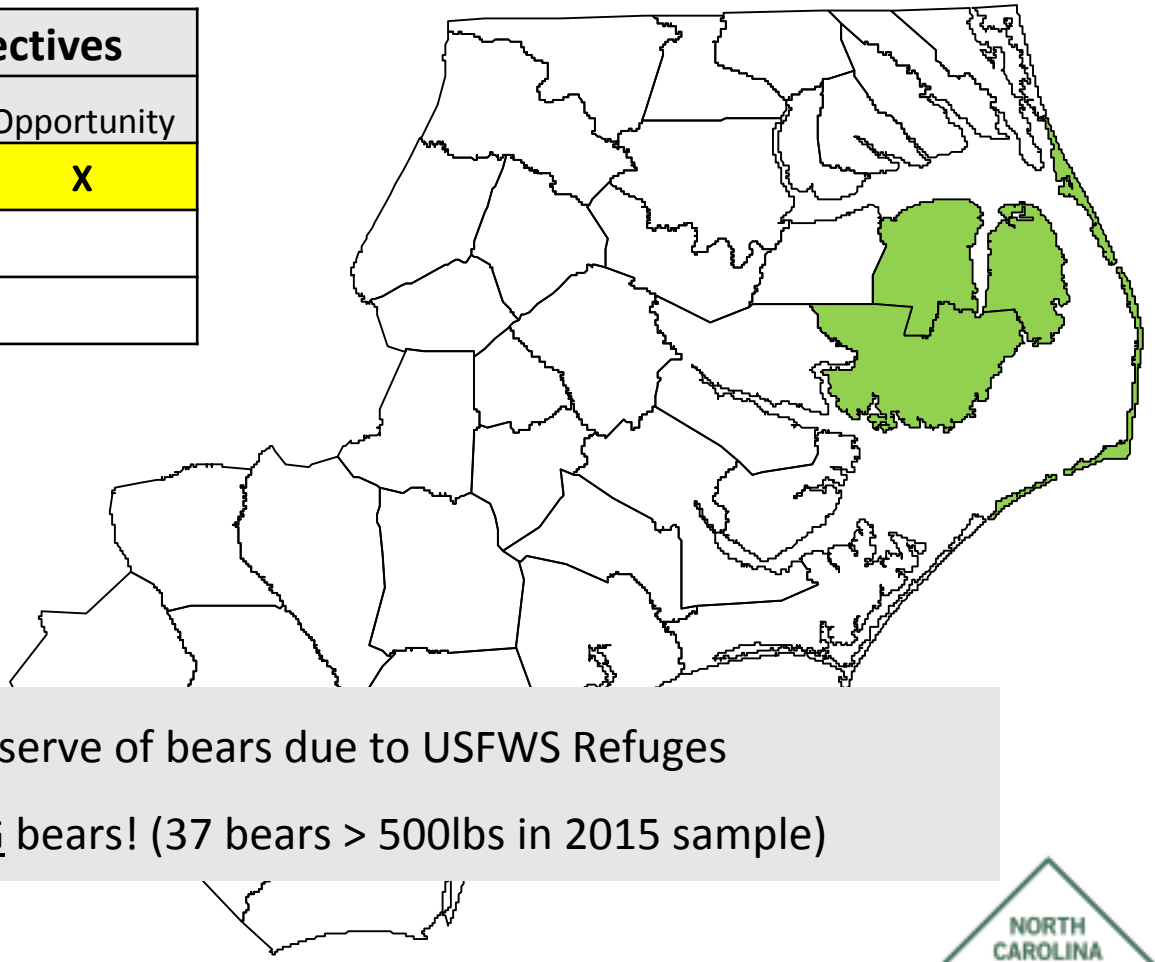
Zone 1 Current Seasons (2017)

Nov. 13 (Mon.) – Nov. 18 (Sat.) = 6 Days
Dec. 11 (Mon.) – Dec. 23 (Sat.) = 13 Days
Total = 19 Days



Potential Zone 1 Objectives

Zone Management Objectives			
	Numbers	Quality	Opportunity
Increase			X
Maintain		X	
Decrease	X		



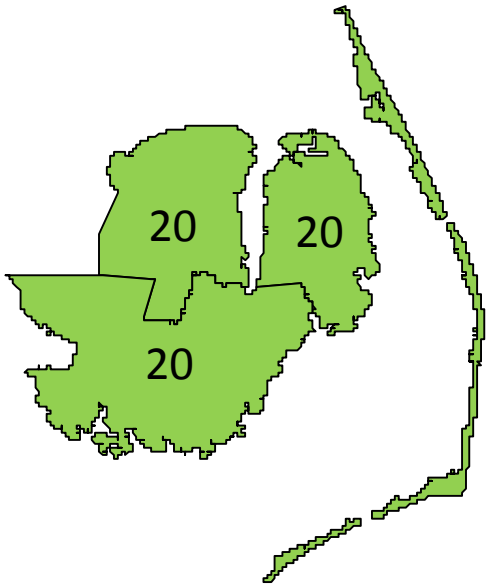
- Significant Source/Reserve of bears due to USFWS Refuges
- Area is known for BIG bears! (37 bears > 500lbs in 2015 sample)

Potential Zone 1 Season

Season Length: 39 Day Season

Splits: 1 split

- 2 weeks in November & 3 Weeks in December.
- Saturday Opening, both splits.



Change in Days: +20 days

- Includes 14 weekend days
- Current Season has 4 weekend days
- Includes Thanksgiving & Christmas

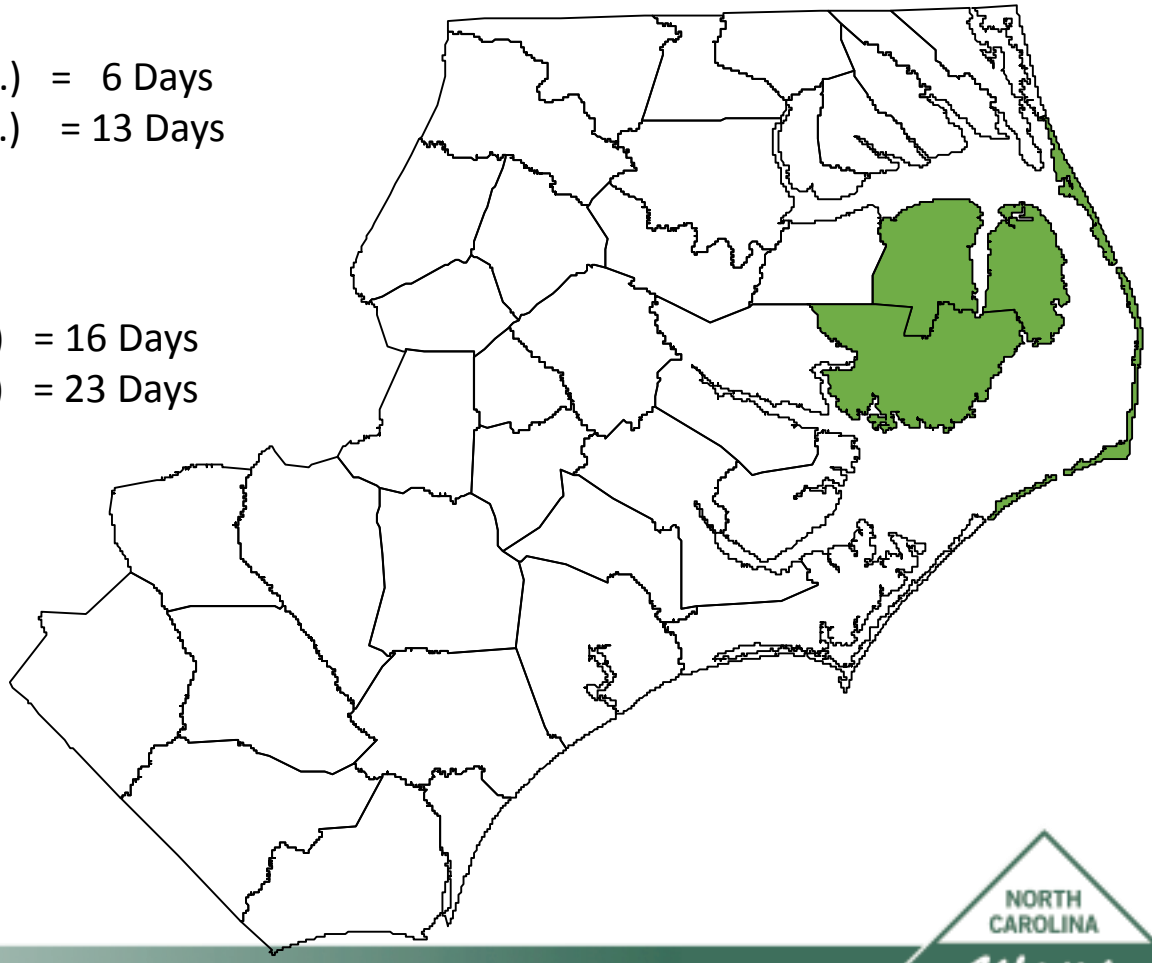
Zone 1 Potential Seasons (2017 example)

Current: 19 Days

Nov. 13 (Mon.) – Nov. 18 (Sat.) = 6 Days
Dec. 11 (Mon.) – Dec. 23 (Sat.) = 13 Days

Potential: 39 Days

Nov. 11 (Sat.) – Nov. 26 (Sun.) = 16 Days
Dec. 09 (Sat.) – Dec. 31 (Sun.) = 23 Days



How the Potential Season Options would look in a 2017 Example.

November 2017

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
W	TH	F	SA	SU	M	TU	W	TH	F	SA	SU	M	TU	W	TH	F	SA	SU	M	TU	W	TH	F	SA	SU	M	TU	W	TH

Eastern

Zone 1

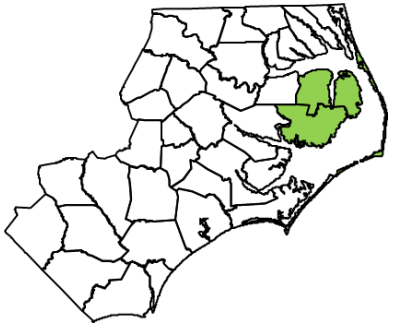
December 2017

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
F	SA	SU	M	TU	W	TH	F	SA	SU	M	TU	W	TH	F	SA	SU	M	TU	W	TH	F	SA	SU	M	TU	W	TH	F	SA	SU

Eastern

Zone 1

Eastern Area: Dare, Hyde, Tyrrell



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Do you think this Zone 1 option is an improvement over the current season?

A. Yes

B. No

C. I'm not sure

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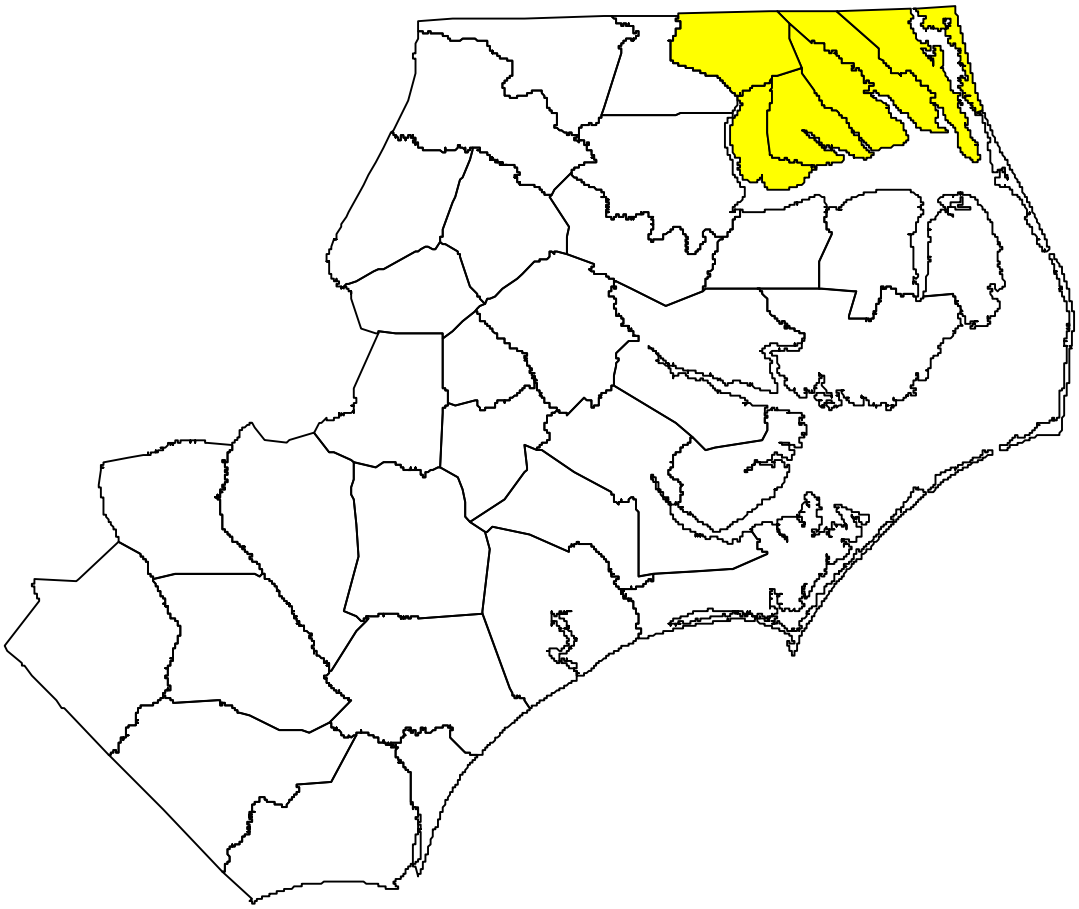
Zone 2



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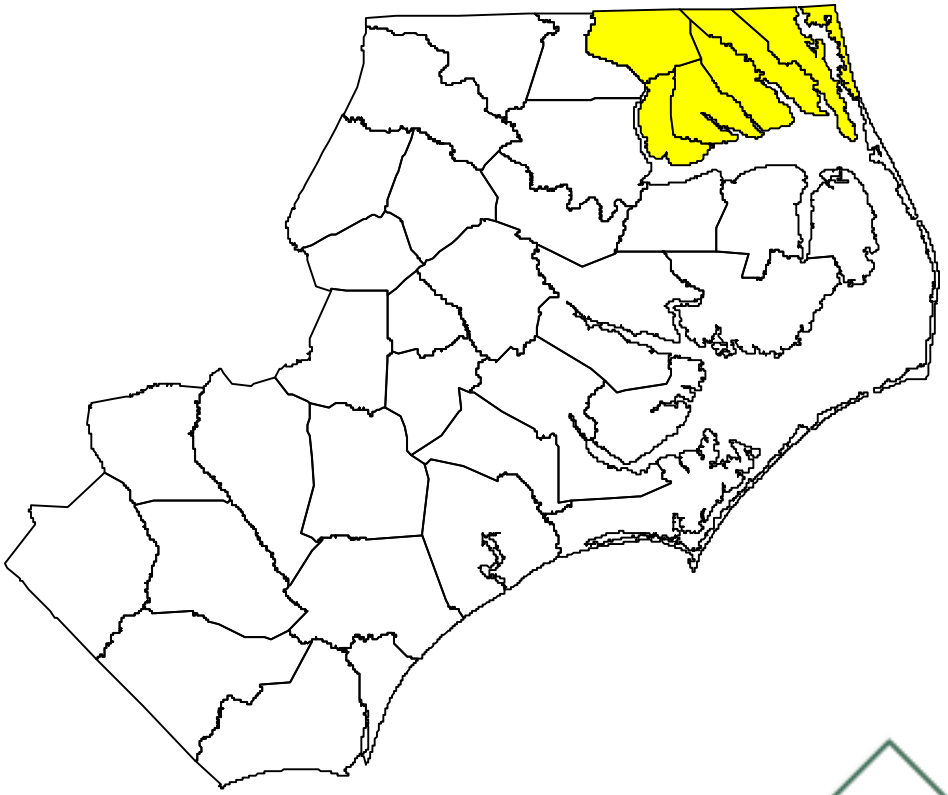
Do you typically hunt bear in Zone 2 at least once a year?

A. Yes

B. No



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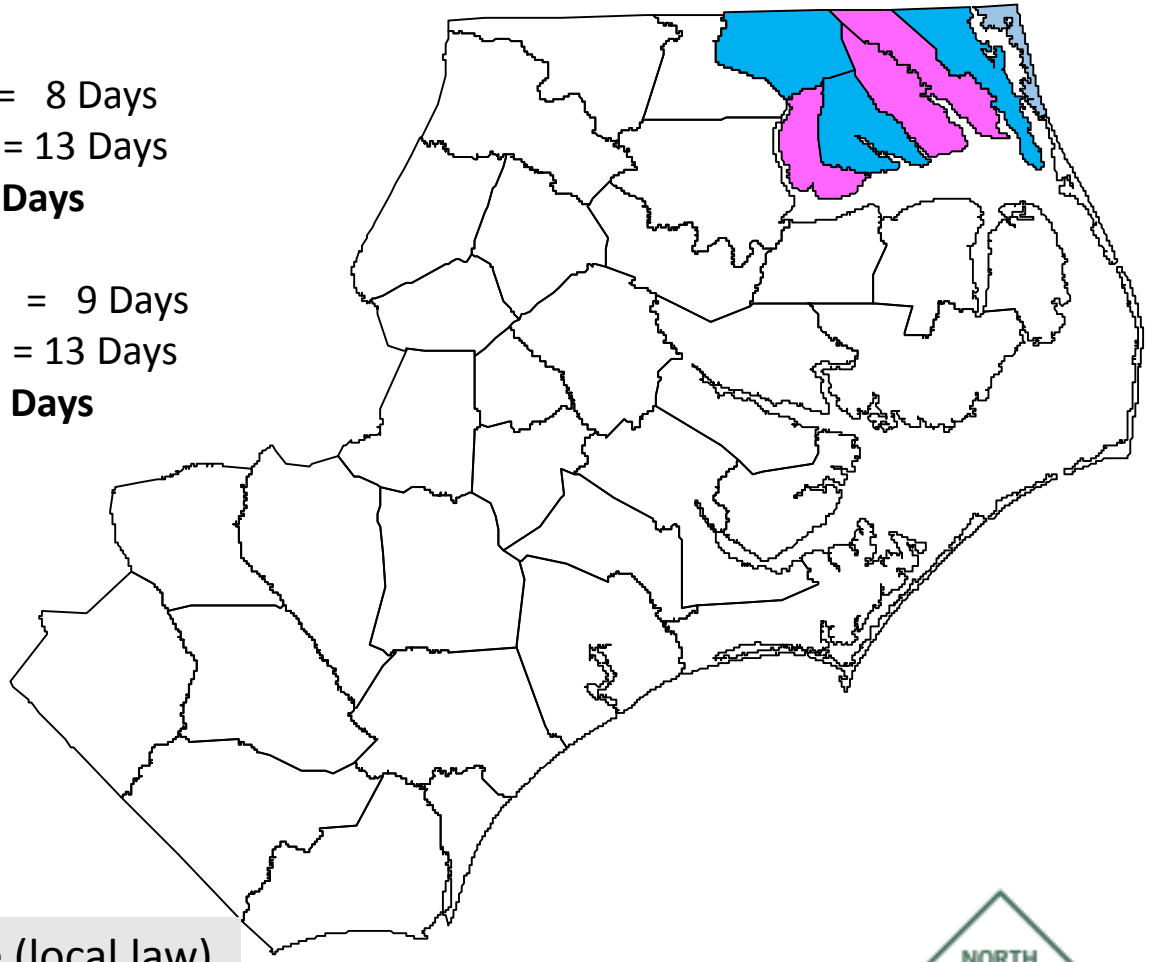
Zone 2 Current Seasons

Nov. 11 (Sat.) – Nov. 18 (Sat.) = 8 Days
Dec. 11 (Mon.) – Dec. 23 (Sat.) = 13 Days
Total = 21 Days

Nov. 10 (Fri.)* – Nov. 18 (Sat.) = 9 Days
Dec. 11 (Mon.) – Dec. 23 (Sat.) = 13 Days
Total = 22 Days



*Opening day on Friday by Statute (local law)

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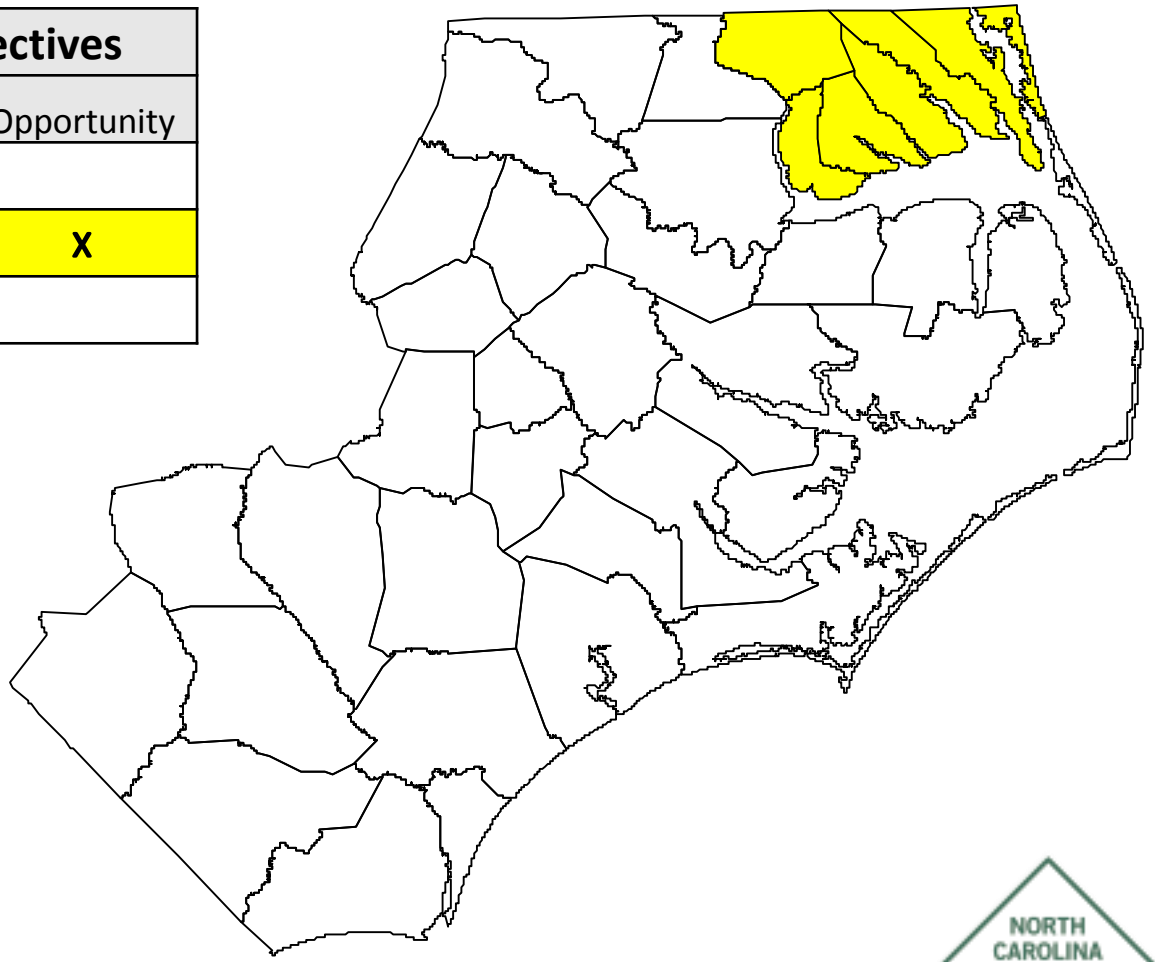
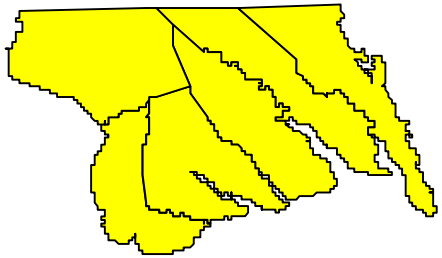
Potential Zone 2 Objectives

Zone Management Objectives			
	Numbers	Quality	Opportunity
Increase			
Maintain	X	X	X
Decrease			



Potential Zone 2 Season



Season Length: 25 Day Season

- Limited Changes to Season Structure

Splits: 1 split

- 1 week in November & 2 Weeks in December.
- Saturday Opening, both splits.

Change in Days: +2 or +3 depending on the County.

- Includes 10 weekend days
- Current Season has 6 weekend days

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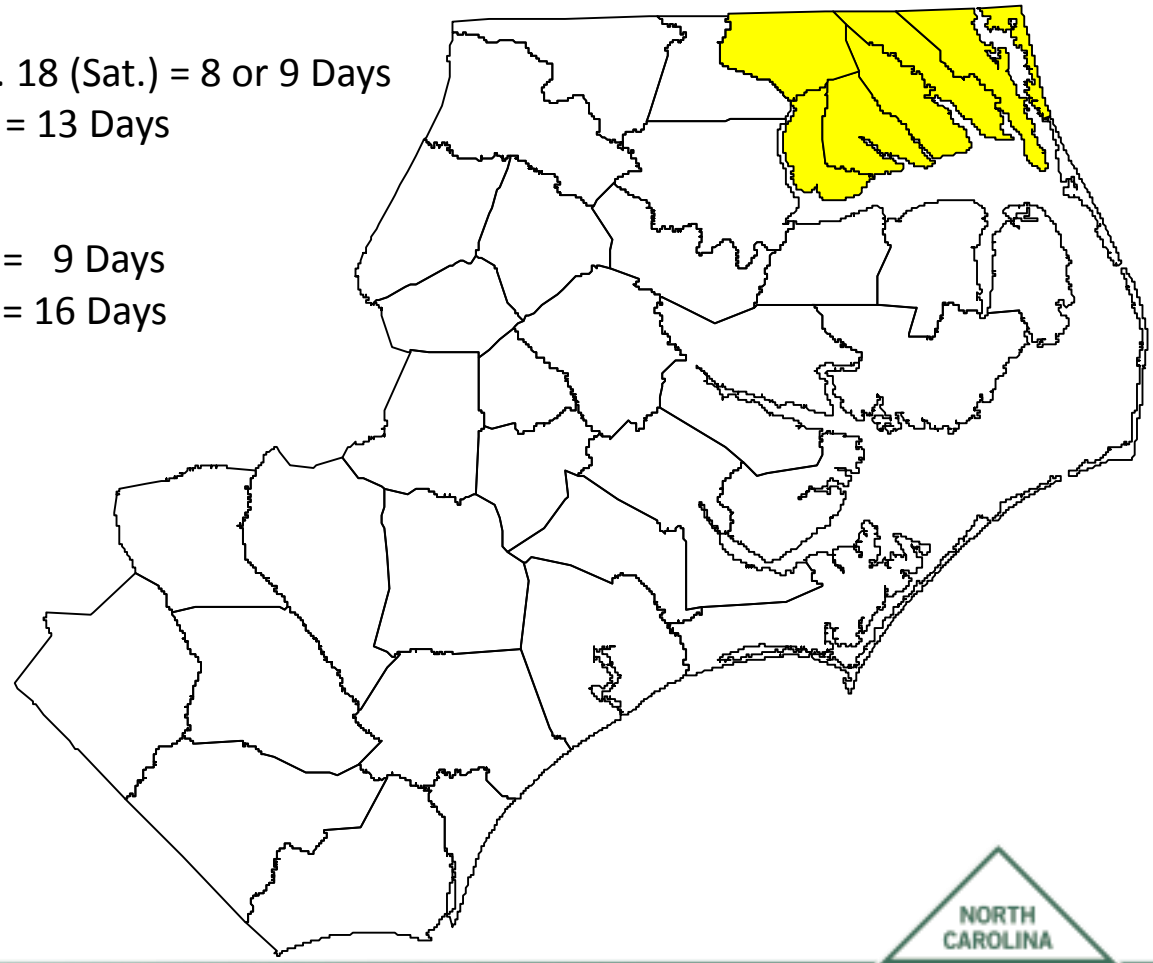
Zone 2 Potential Seasons (2017 example)

Current: **21 Days or 22 Days**
Nov. 10 (Fri.) or 11 (Sat.) – Nov. 18 (Sat.) = 8 or 9 Days
Dec. 11 (Mon.) – Dec. 23 (Sat.) = 13 Days

Potential: 25 Days
Nov. 11 (Sat.) – Nov. 19 (Sun.) = 9 Days
Dec. 09 (Sat.) – Dec. 24 (Sun.) = 16 Days



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How the Potential Season Options would look in a 2017 Example.

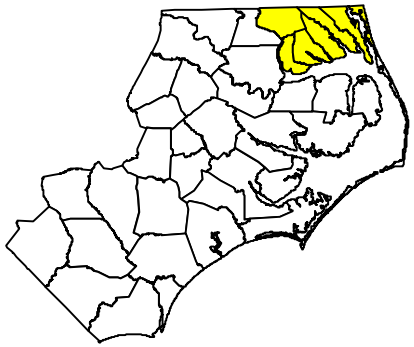
November 2017

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
W	TH	F	SA	SU	M	TU	W	TH	F	SA	SU	M	TU	W	TH	F	SA	SU	M	TU	W	TH	F	SA	SU	M	TU	W	TH

Northeast - Friday

Northeast

Zone 2



December 2017

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
F	SA	SU	M	TU	W	TH	F	SA	SU	M	TU	W	TH	F	SA	SU	M	TU	W	TH	F	SA	SU	M	TU	W	TH	F	SA	SU

Northeast - Friday

Northeast

Zone 2

Northeast - Friday Area: Camden, Chowan, Pasquotank

Northeast Area: Currituck, Gates, Perquimans

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Do you think this Zone 2 option is an improvement over the current season?

A. Yes

B. No

C. I'm not sure

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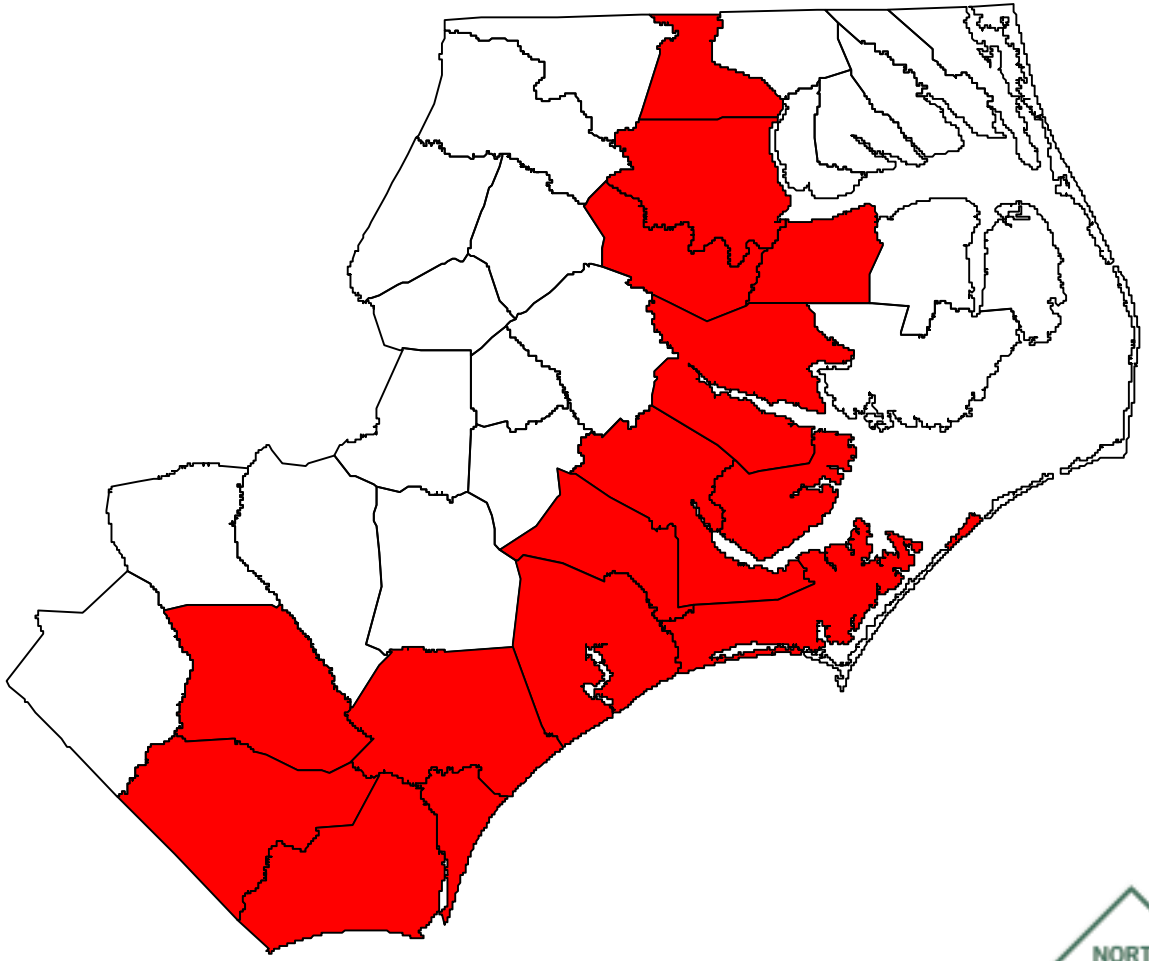
Zone 3

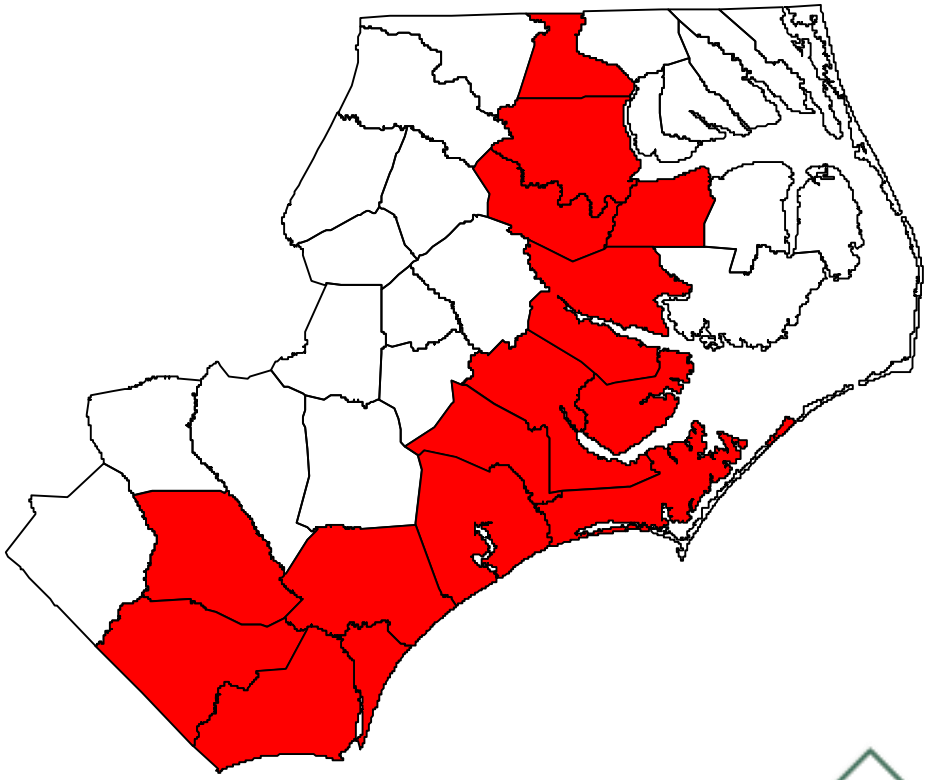


NORTH CAROLINA Wildlife RESOURCES COMMISSION

Do you typically hunt bears in Zone 3 at least once a year?

A. Yes

B. No



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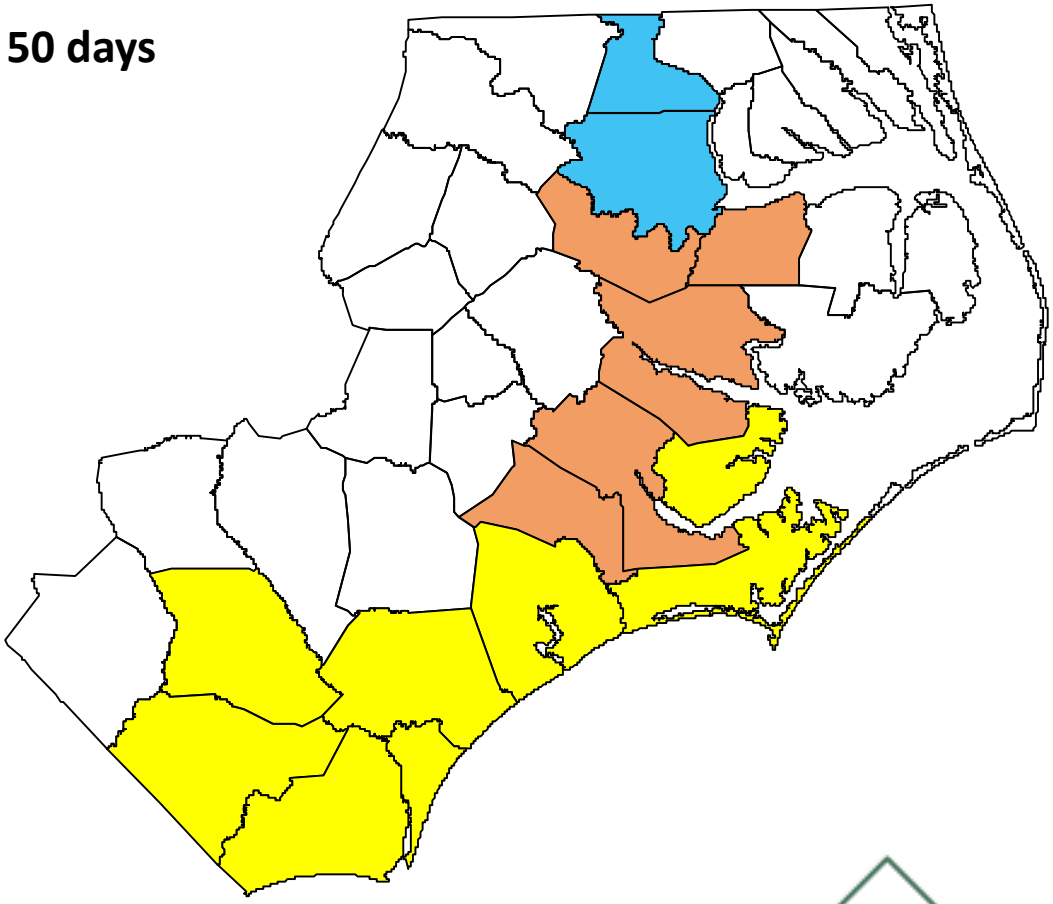
Zone 3 Current Seasons

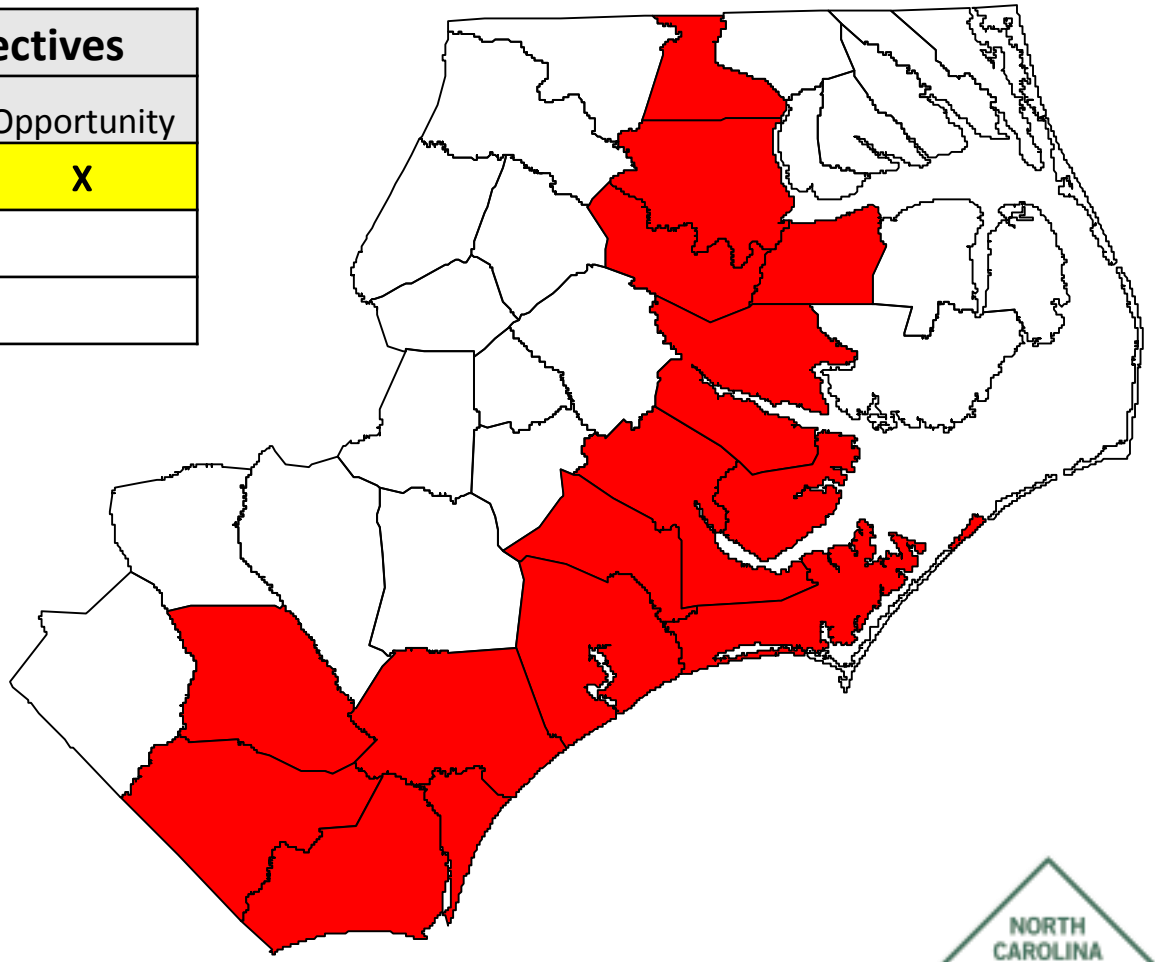
Current: 21 days, 19 days, and 50 days

- 1st Segment = 8 Days
  2nd Segment = 13 Days
- 1st Segment = 6 Days
  2nd Segment = 13 Days
- No Split, Consecutive = 50 Days

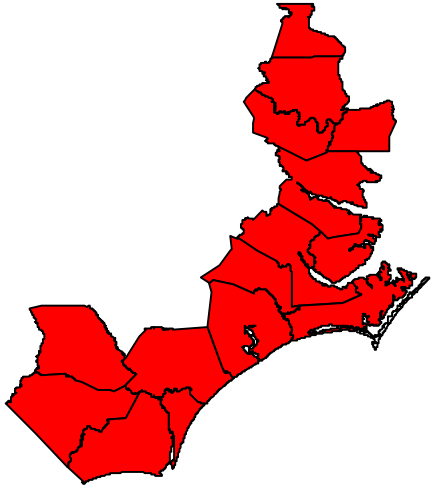


Potential Zone 3 Objectives

Zone Management Objectives			
	Numbers	Quality	Opportunity
Increase			X
Maintain	X	X	
Decrease			



Potential Zone 3 Season



Season Length: 32 Day Season

Splits: 1 split

- 2 weeks in November & 2 Weeks in December.

Change in Days: +13 to -18 depending on the County.

- Includes 12 Weekend Days
  - Gain 2 Saturdays in 12 counties
  - Lose 1 Saturday in 3 counties but shift to a full weekend in early November

NORTH CAROLINA Wildlife RESOURCES COMMISSION

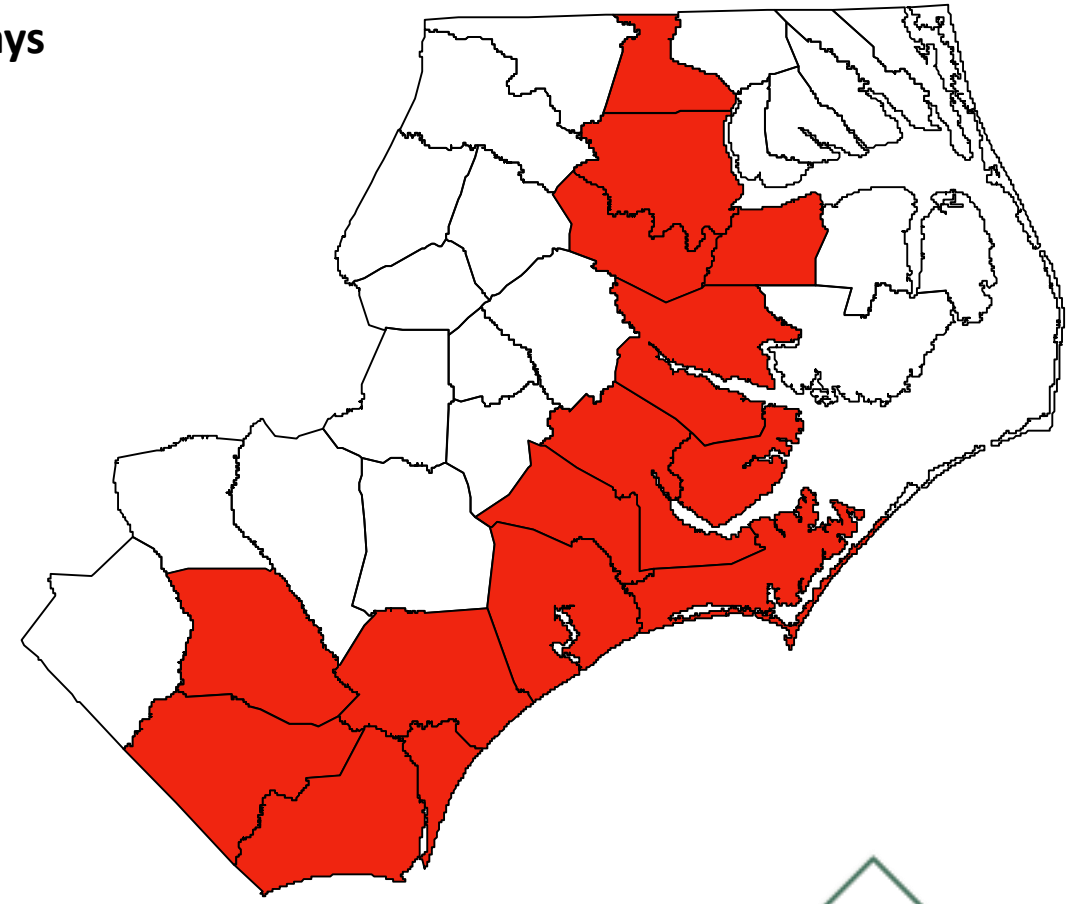
Zone 3 Current Seasons

Current: 21 days, 19 days, and 50 days

- 1st Segment = 8 Days
  2nd Segment = 13 Days
- 1st Segment = 6 Days
  2nd Segment = 13 Days
- No Split, Consecutive = 50 Days

Potential: 32 Days

- Nov. 11 (Sat.) – Nov. 26 (Sun.) = 16 Days
  Dec. 09 (Sat.) – Dec. 24 (Sun.) = 16 Days



How the Potential Season Options would look in a 2017 Example.

November 2017

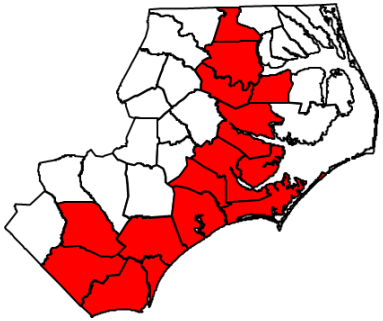
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
W	TH	F	SA	SU	M	TU	W	TH	F	SA	SU	M	TU	W	TH	F	SA	SU	M	TU	W	TH	F	SA	SU	M	TU	W	TH

Northeast

Eastern

Southeast

Zone 3



December 2017

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
F	SA	SU	M	TU	W	TH	F	SA	SU	M	TU	W	TH	F	SA	SU	M	TU	W	TH	F	SA	SU	M	TU	W	TH	F	SA	SU

Northeast

Eastern

Southeast

Zone 3

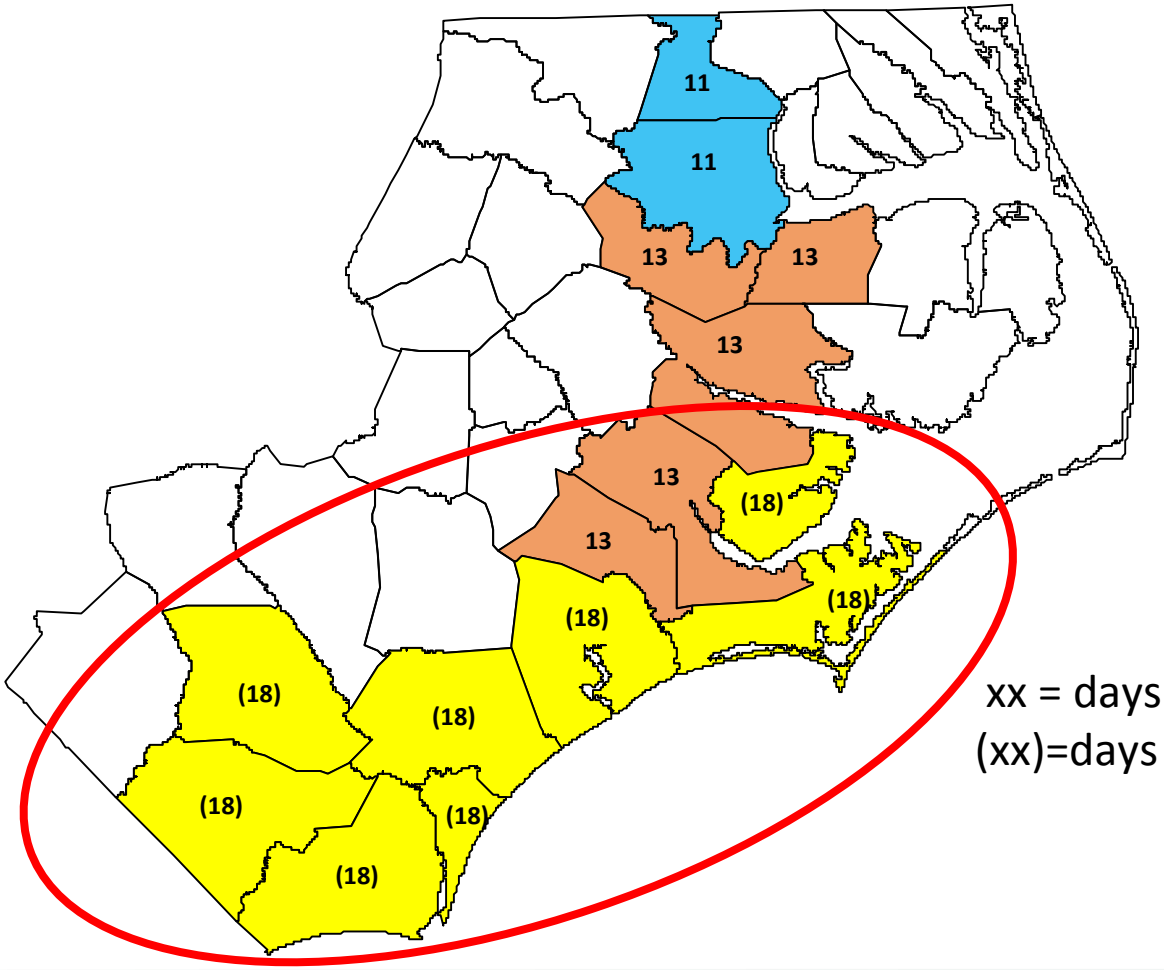
Northeast Area: Bertie, Hertford

Eastern Area: Beaufort, Craven, Jones, Martin, Washington.

Southeast: Bladen, Brunswick, Carteret, Columbus, New Hanover, Onslow, Pamlico, Pender

NORTH CAROLINA Wildlife RESOURCES COMMISSION

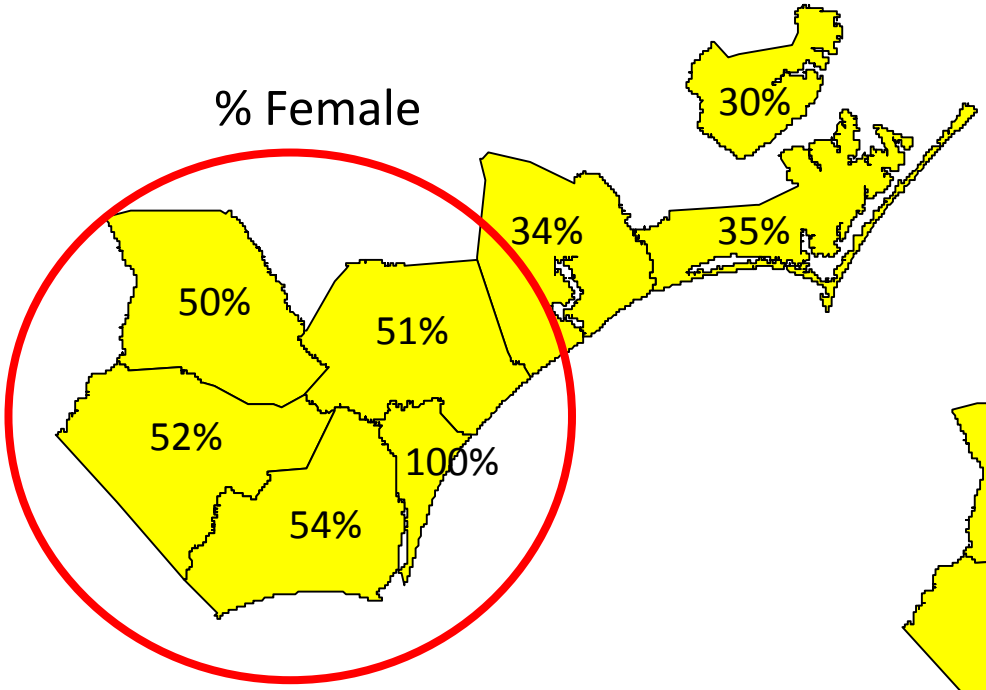
Current Seasons

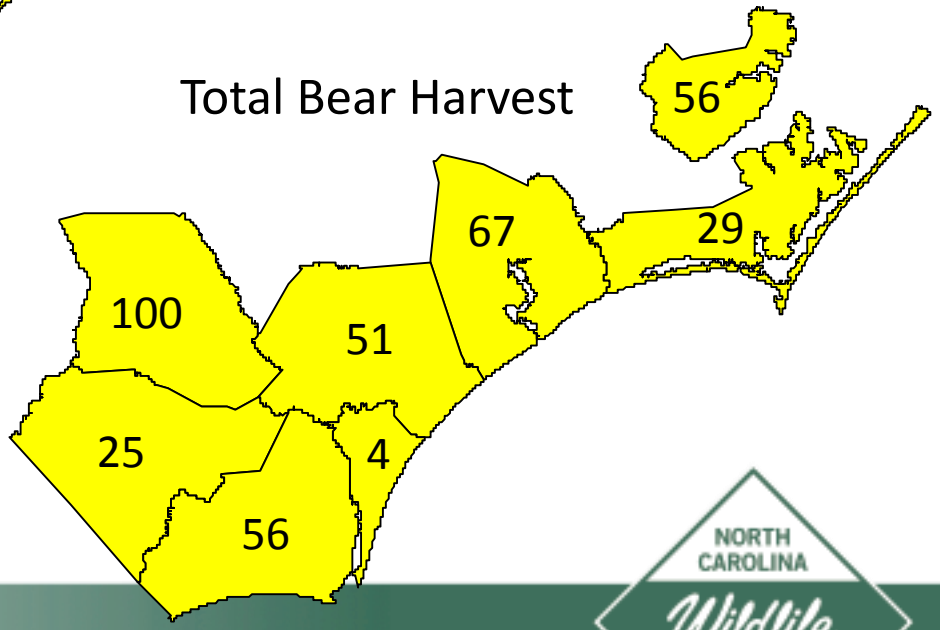


xx = days increased
(xx)=days reduced

2016 Bear Harvest

% Female = 40 – 44% vs. **% of Population = 20% – 27%** ?





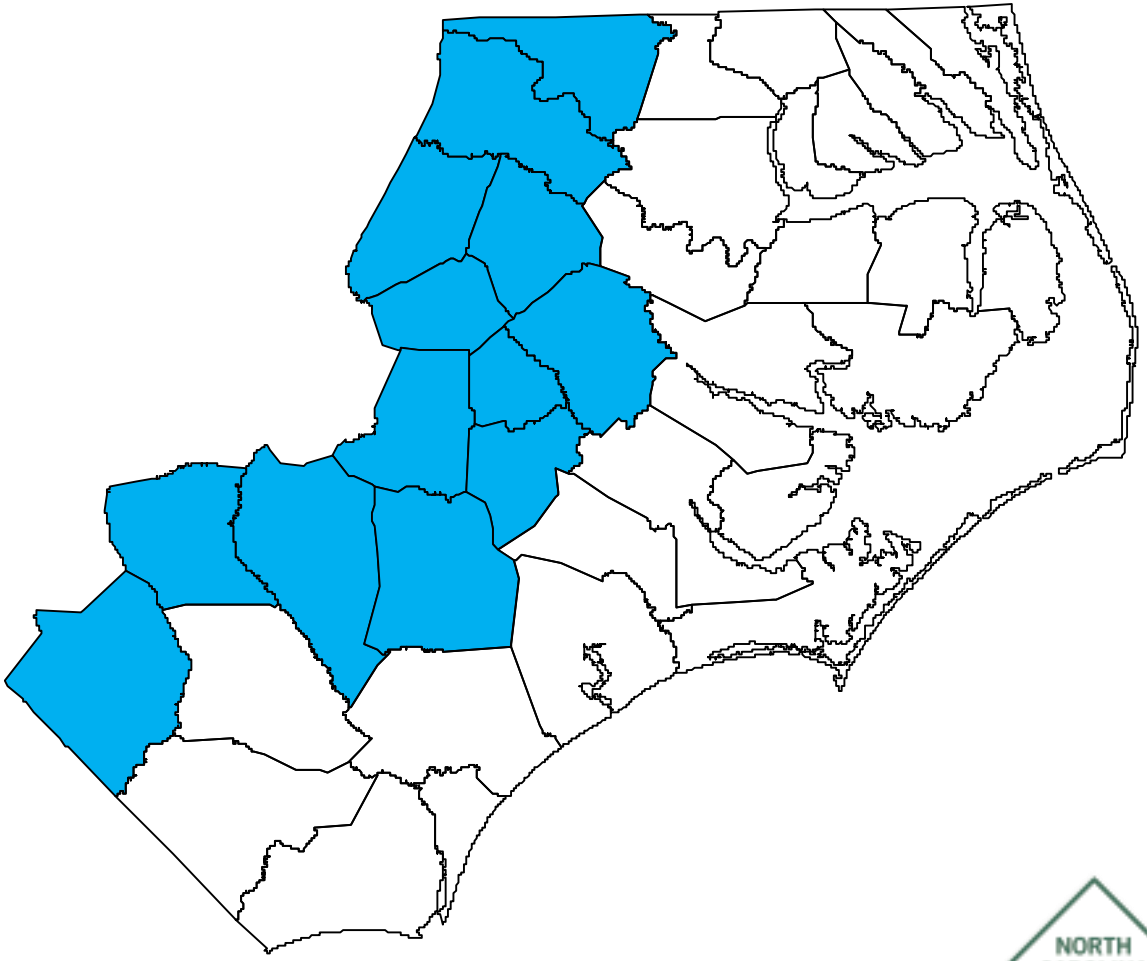
Do you think this Zone 3 option is an improvement over the current season?

A. Yes

B. No

C. I'm not sure

Zone 4



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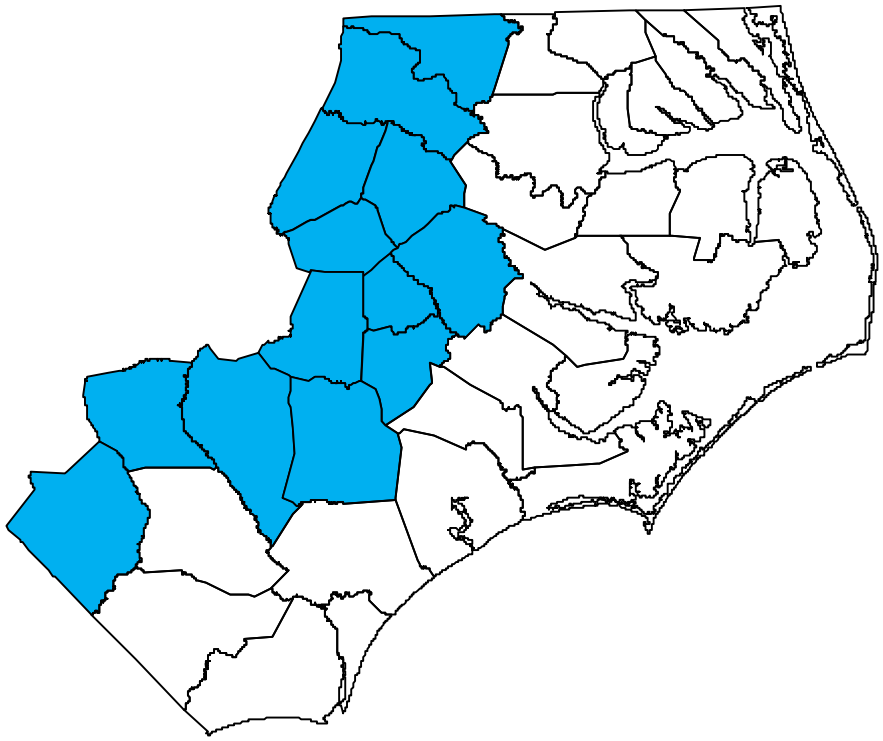
Do you typically hunt bears in Zone 4 at least once a year?

A. Yes

B. No



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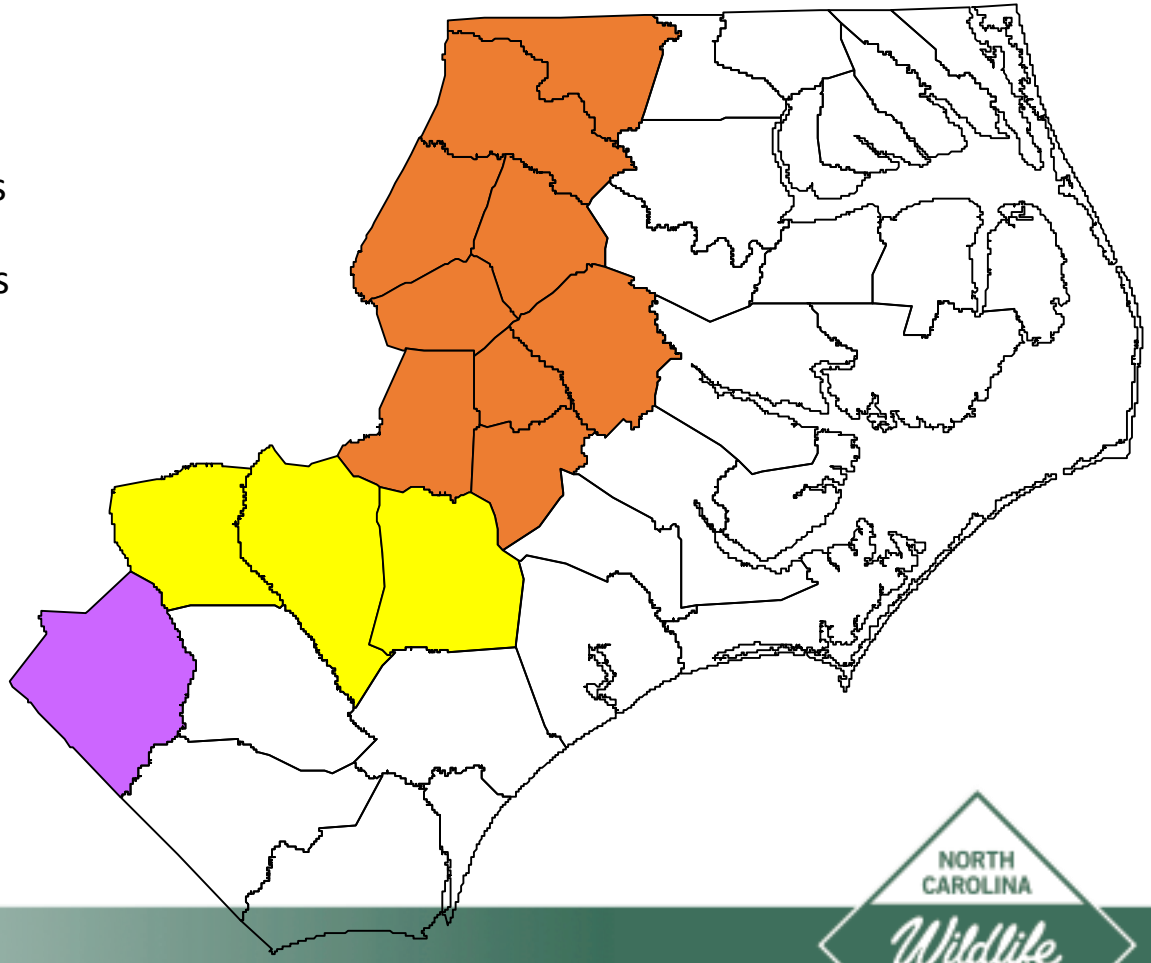
Zone 4 Current Seasons

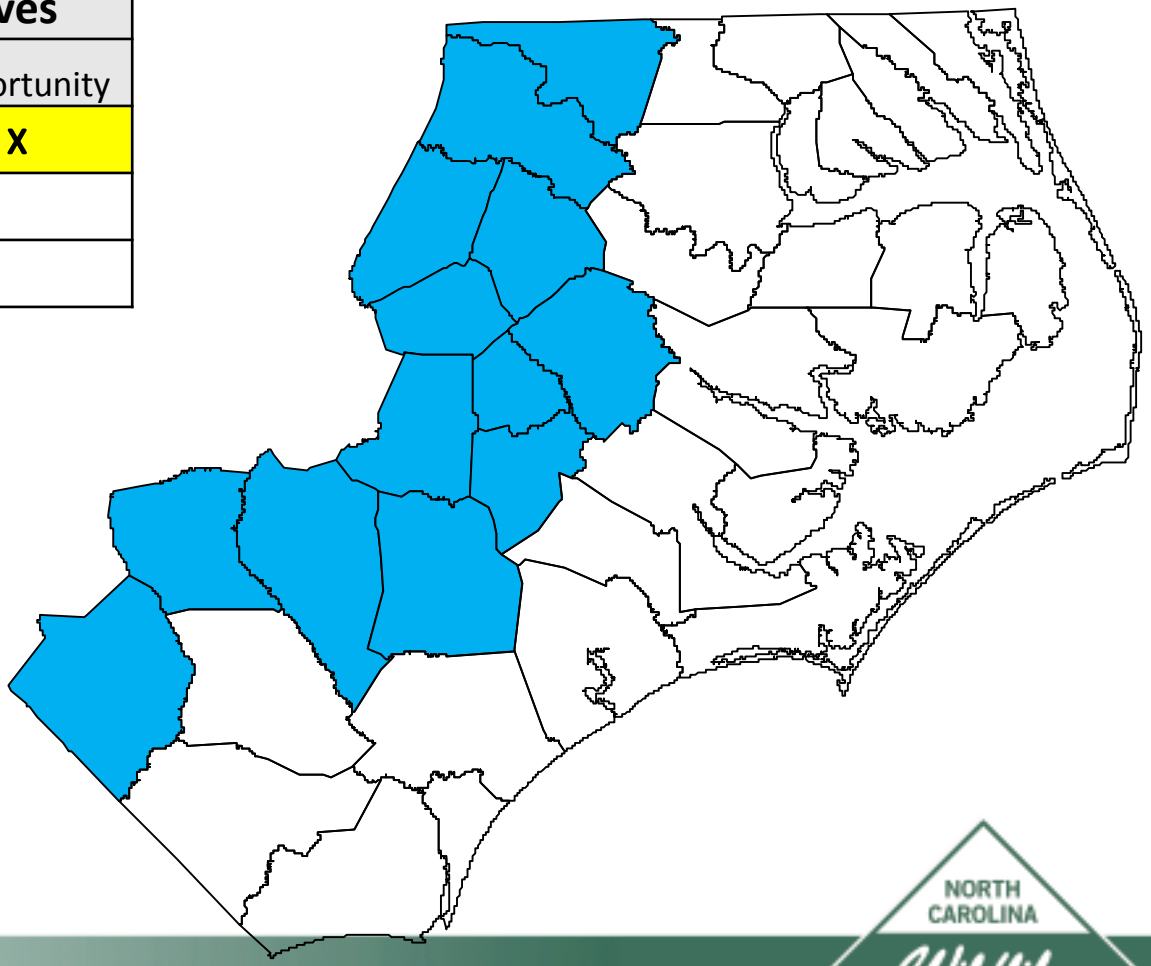
Current: 21 days, 20 days, and 50 days

- 1st Segment = 6 Days
  2nd Segment = 13 Days
- No Split, Consecutive = 50 Days
- No Split, Consecutive = 20 Days

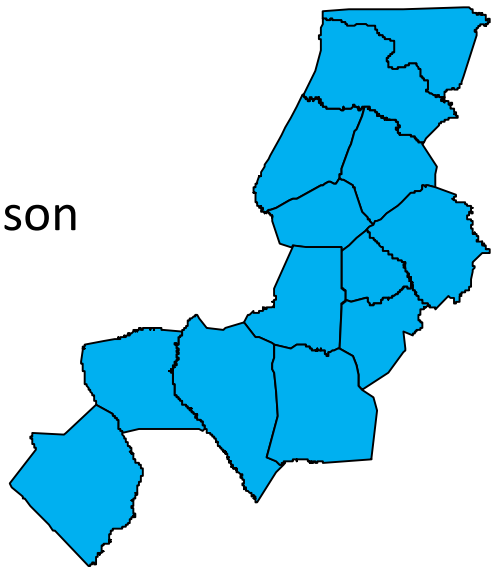


Potential Zone 4 Objectives

Zone Management Objectives			
	Numbers	Quality	Opportunity
Increase			X
Maintain	X	X	
Decrease			



Potential Zone 4 Season



Season Length: 30 Day Season

- 13 open days of bear hunting when no other bear season is open in the CBMU or MBMU

Splits: No split

- 4 weeks from 2nd Saturday in November through 3rd Sunday in December.

Change in Days: +11 to -20 depending on the County.

Weekend Days: 10

- 3 Counties Lose 1 Saturday/Sunday but gain a Saturday/Sunday in early November.

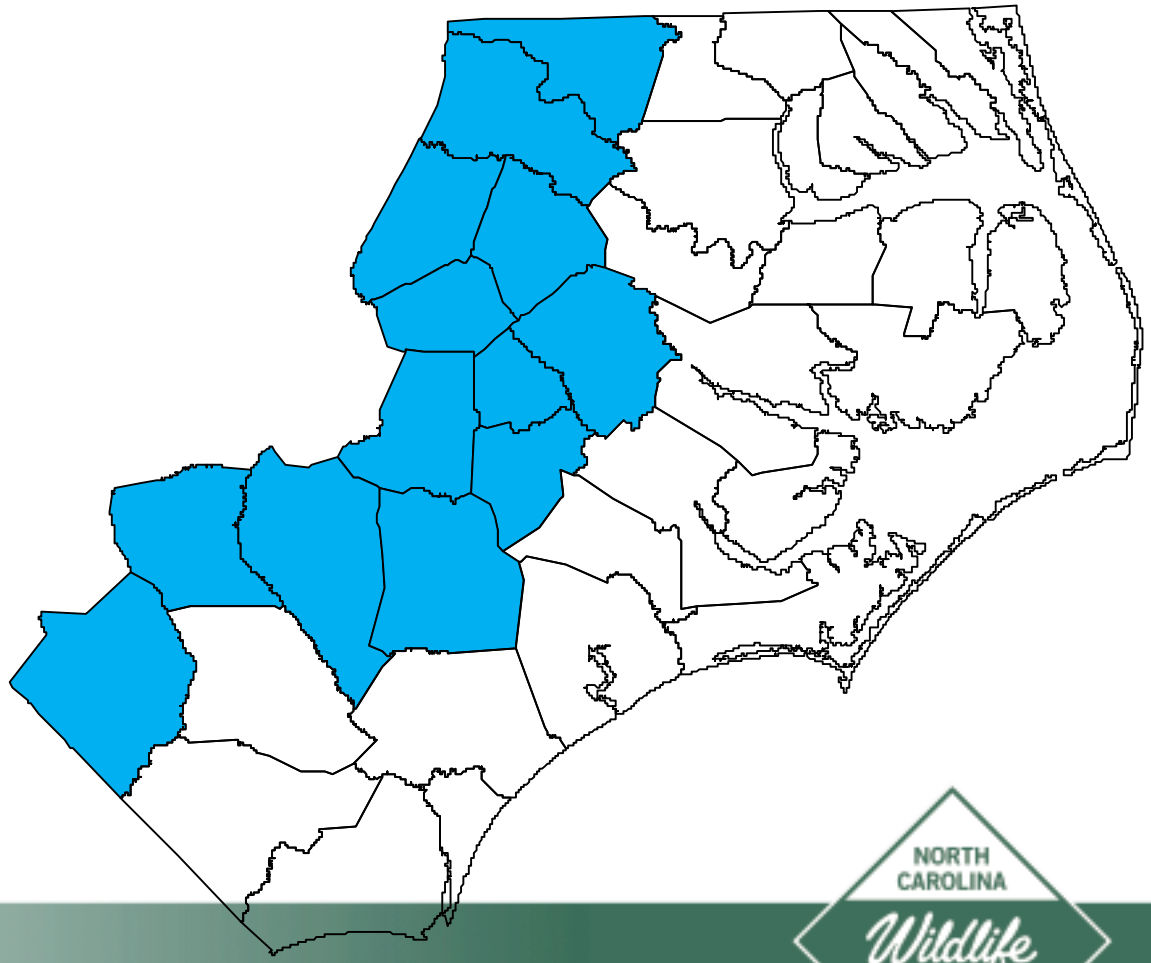
Zone 4 Current Seasons

Current: 21 days, 20 days, and 50 days

- 1st Segment = 6 Days
  2nd Segment = 13 Days
- No Split, Consecutive = 50 Days
- No Split, Consecutive = 20 Days

Potential: 30 Days

- Nov. 18 (Sat.) – Dec. 17 (Sun.)



NORTH CAROLINA Wildlife RESOURCES COMMISSION

How the Potential Season Options would look in a 2017 Example.

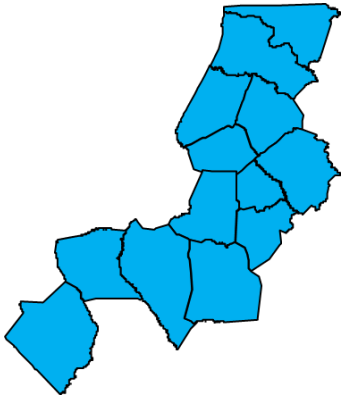
November 2017

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
W	TH	F	SA	SU	M	TU	W	TH	F	SA	SU	M	TU	W	TH	F	SA	SU	M	TU	W	TH	F	SA	SU	M	TU	W	TH

Eastern

Southeast

Zone 4



December 2017

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
F	SA	SU	M	TU	W	TH	F	SA	SU	M	TU	W	TH	F	SA	SU	M	TU	W	TH	F	SA	SU	M	TU	W	TH	F	SA	SU

Eastern

Southeast

Robeson County

Zone 4

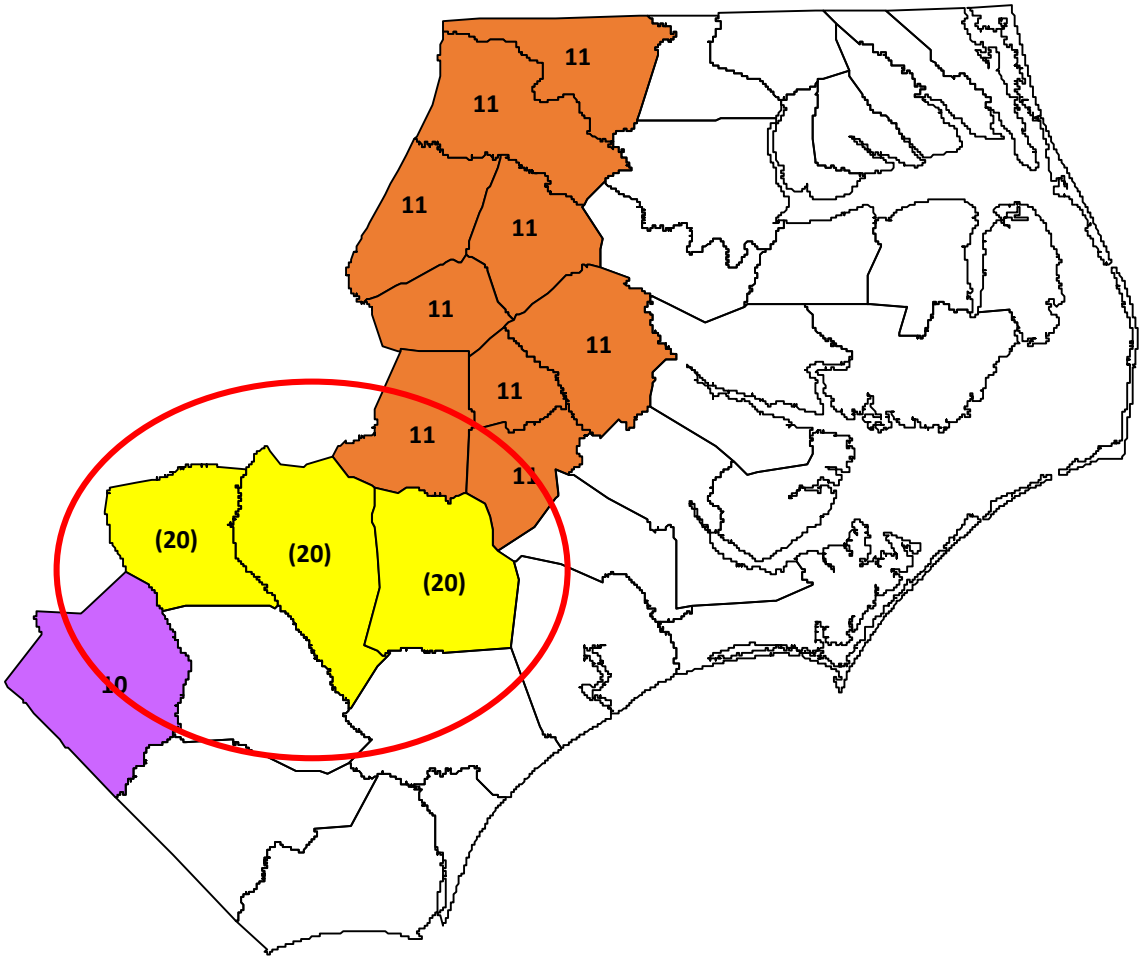
Eastern Area: Edgecombe, Greene, Halifax, Lenoir, Nash, Northampton, Pitt, Wayne, Wilson

Southeast: Cumberland, Duplin, Sampson

Robeson County

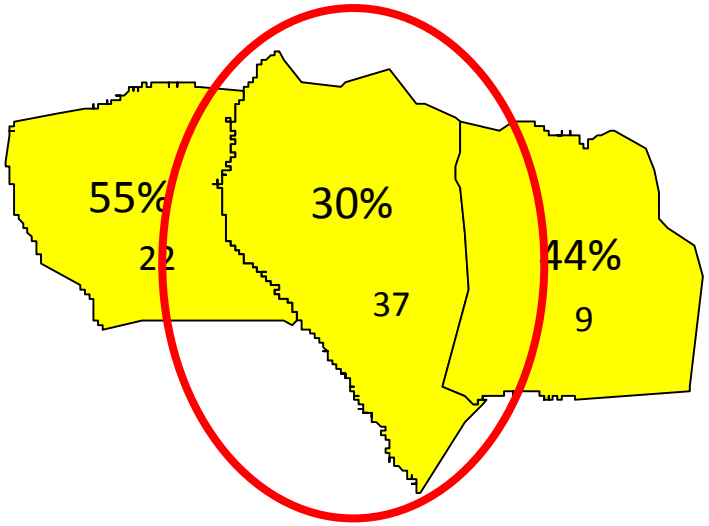
NORTH CAROLINA Wildlife RESOURCES COMMISSION

Current Seasons

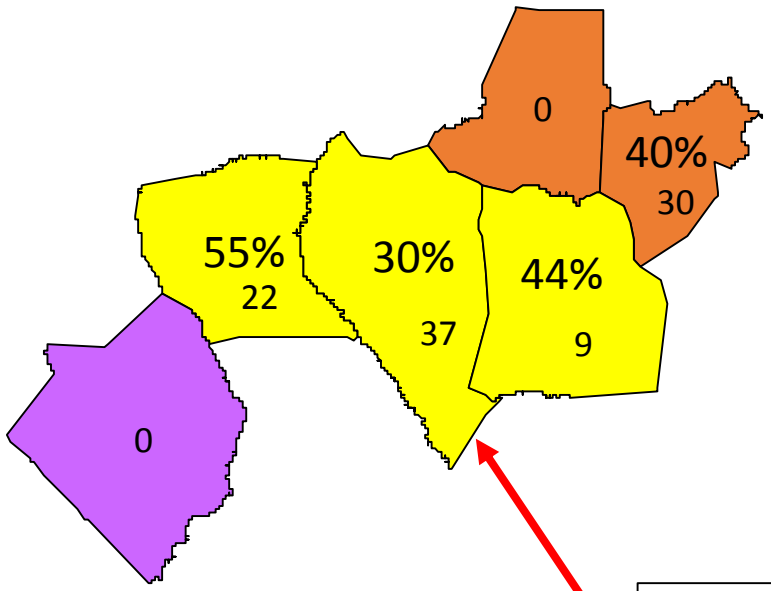


2016 Bear Harvest

% Female = 40 – 44% vs. **% of Population = 20% - 27%**



2016 Bear Harvest



Sampson County
With Dogs: 26 Bears, 23% Female
No Dogs: 11 Bears, 45% Female

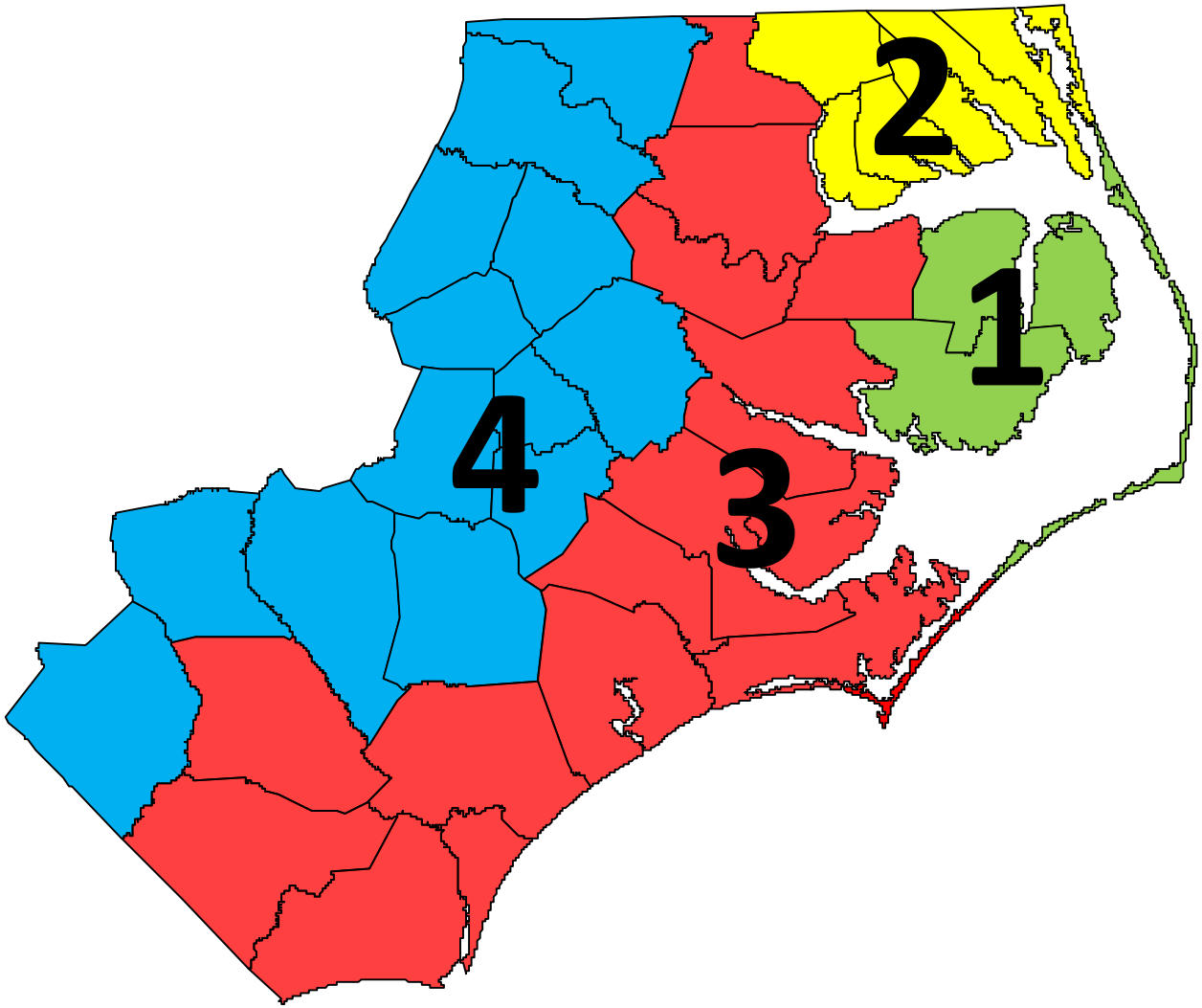
Do you think this Zone 4 option is an improvement over the current season?

A. Yes

B. No

C. I'm not sure

NORTH CAROLINA Wildlife RESOURCES COMMISSION



Handouts

In a normal year, how many different CBMU zones do you bear hunt in?

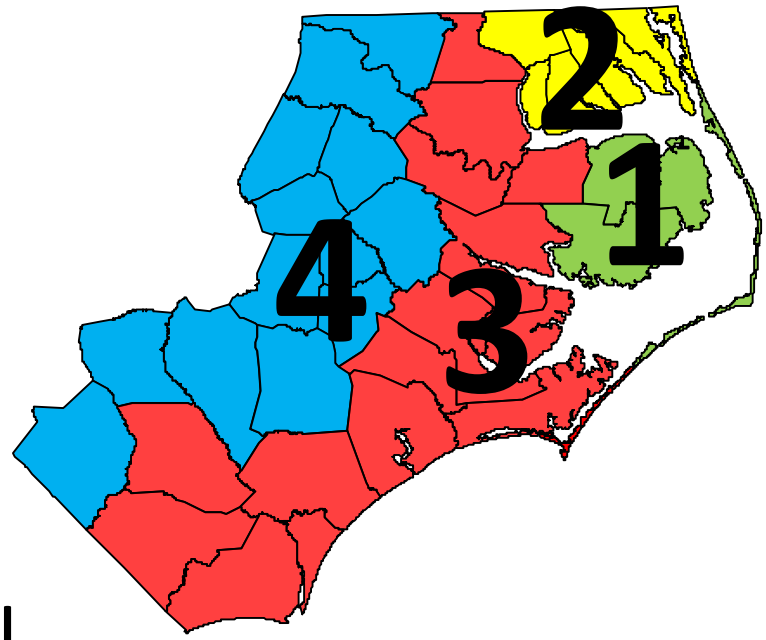
A. 1 Zone

B. 2 Zones

C. 3 Zones

D. 4 Zones

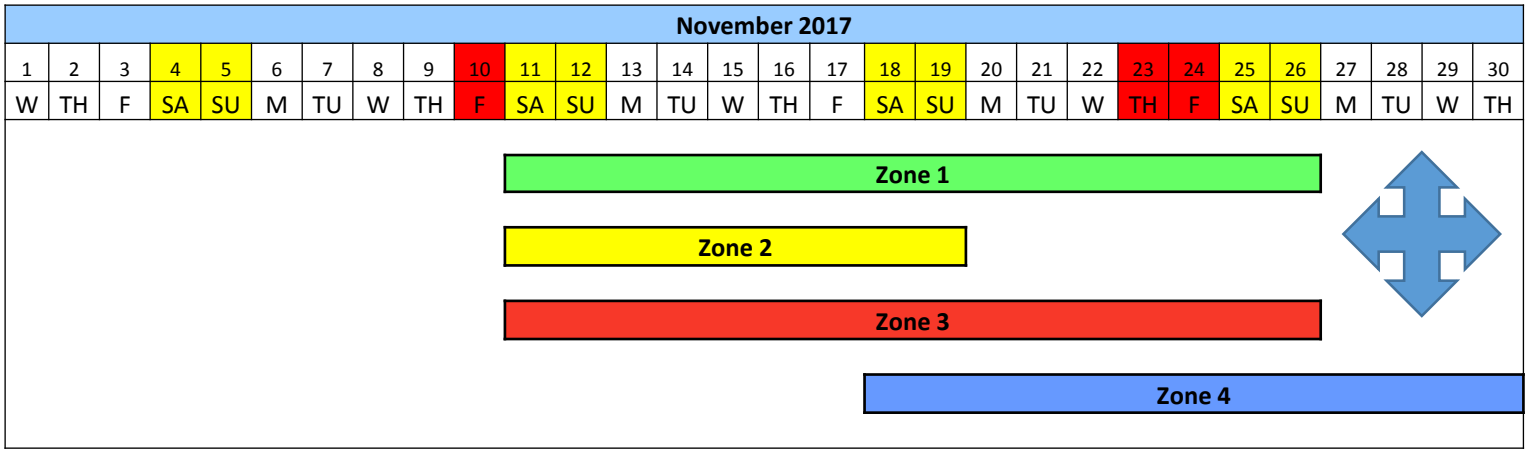
E. I don’t hunt in the CBMU

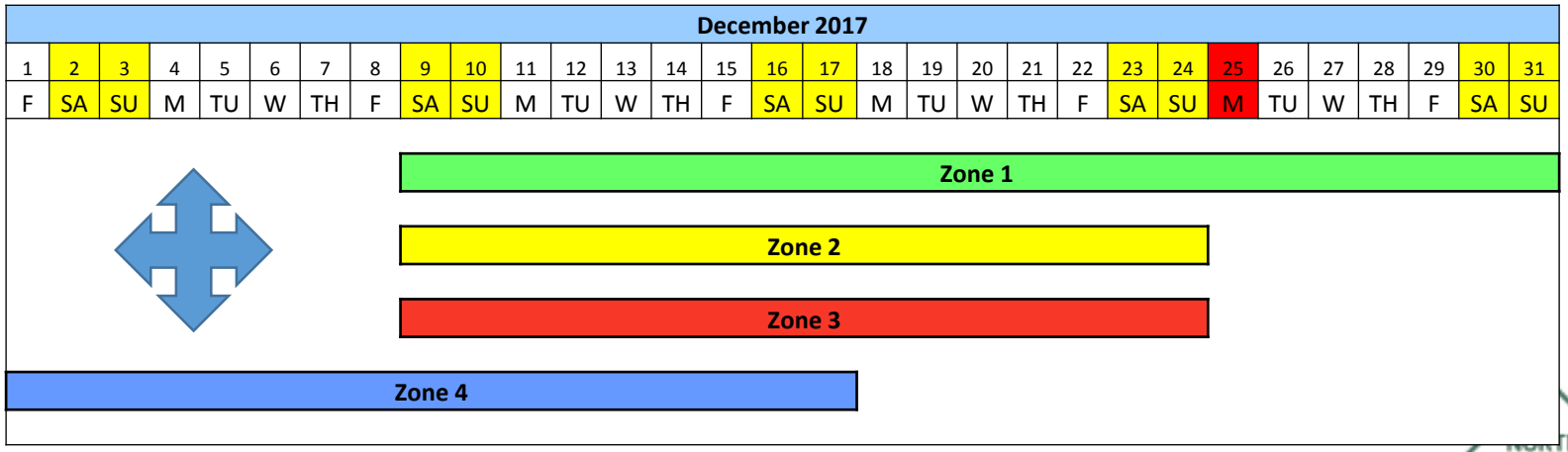


Note: Zones were renumbered since original development.

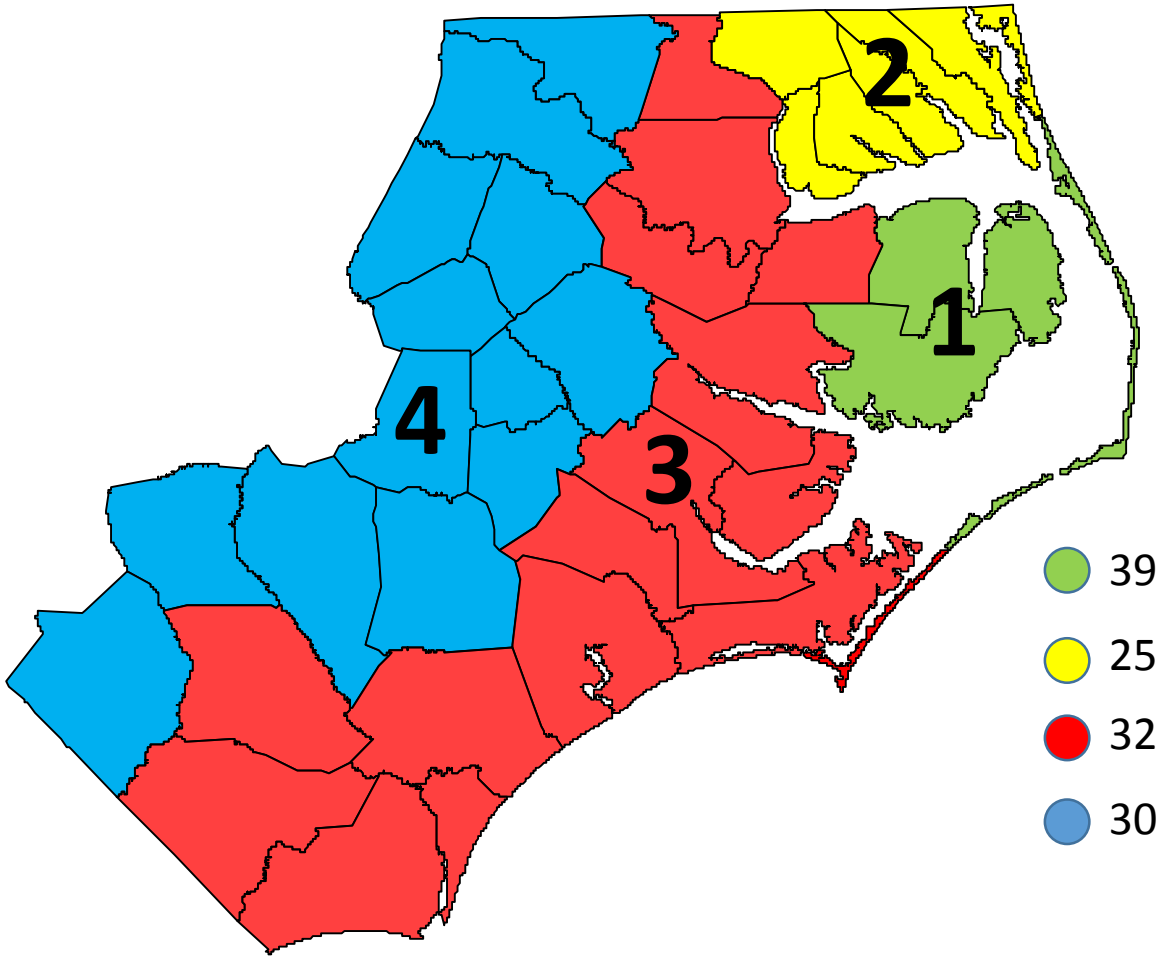
NORTH CAROLINA Wildlife RESOURCES COMMISSION

How the Potential Season Options would look in a 2017 Example





Potential New Seasons



- 39 Day Season – 1 Split
- 25 Day Season – 1 Split
- 32 Day Season – 1 Split
- 30 Day Season – No Split

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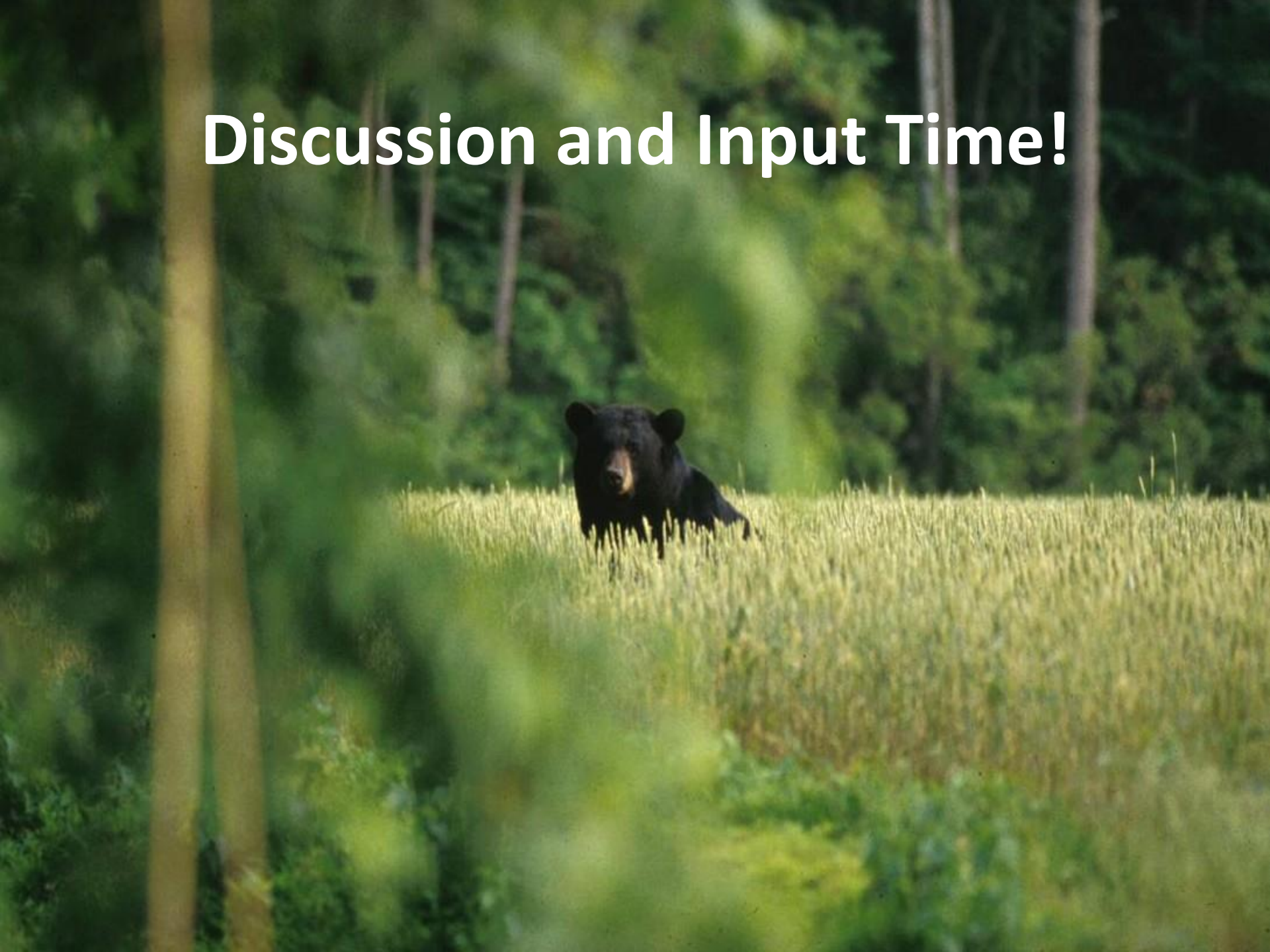
Discussion and Input Time!



RULES

1. Everybody's opinion matters, be respectful!
2. Raise your hand if you want to speak
3. Try not to monopolize the conversation!

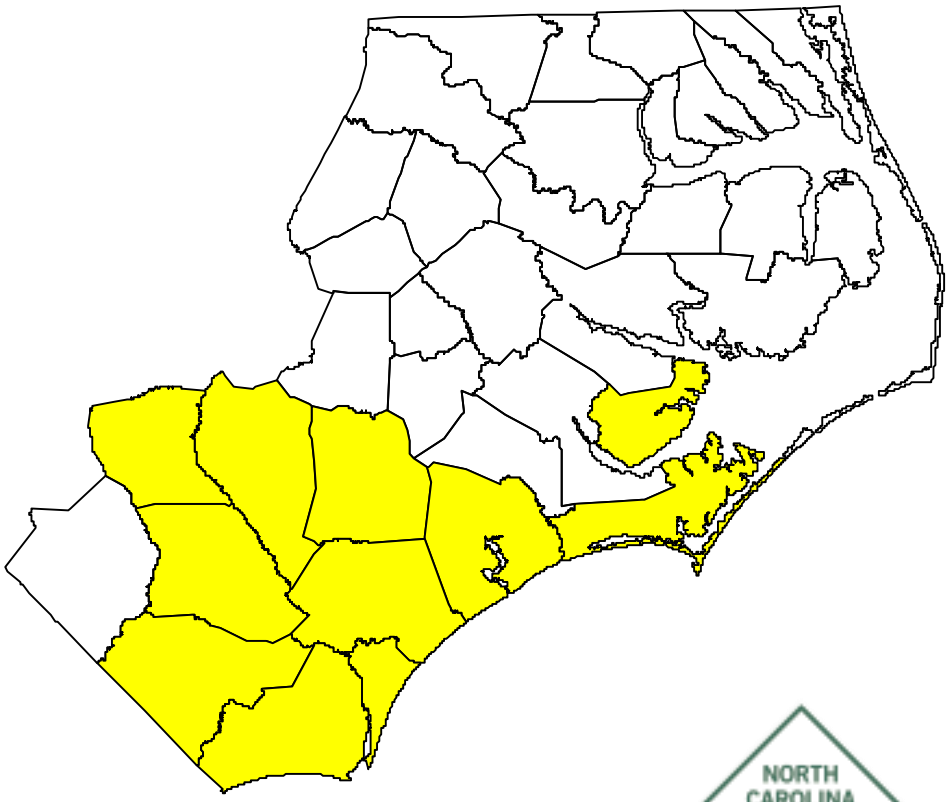
NORTH CAROLINA Wildlife RESOURCES COMMISSION

Thinking about the Current "Long Season"

Do you hunt in a county that currently has the "long season"?

A. Yes

B. No



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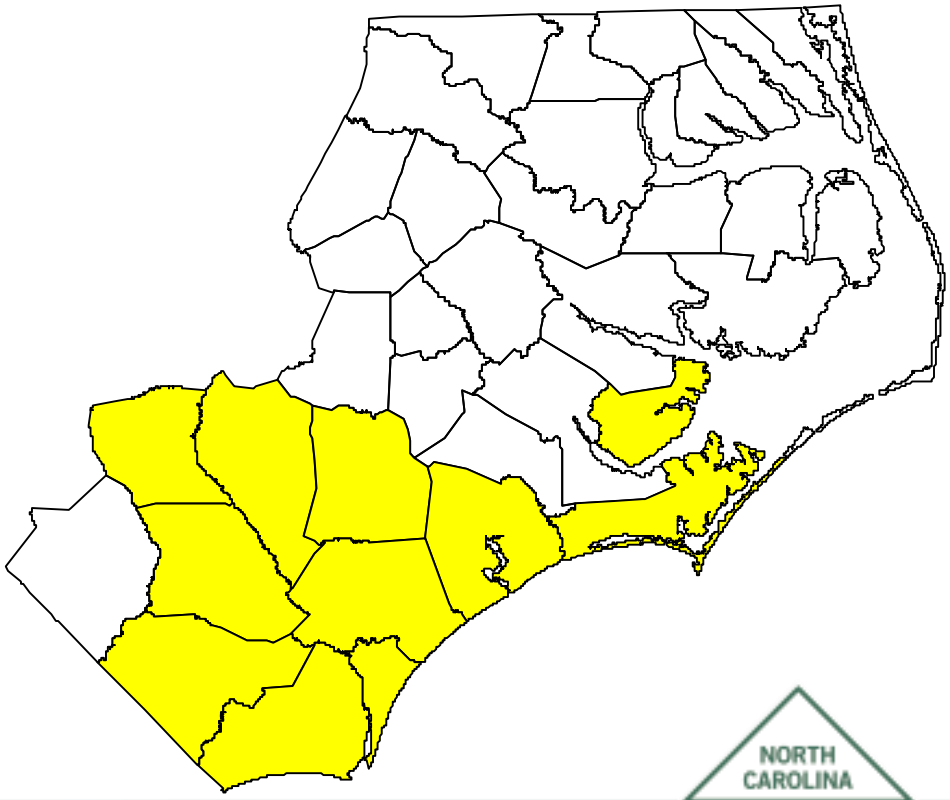
Thinking about the Current "Long Season"

Do you prefer the current season knowing there is a possibility that it may be negatively impacting bear population growth and quality of bears?

A. Yes

B. No

C. I'm not sure



NORTH CAROLINA Wildlife RESOURCES COMMISSION

Would You Support this Idea?

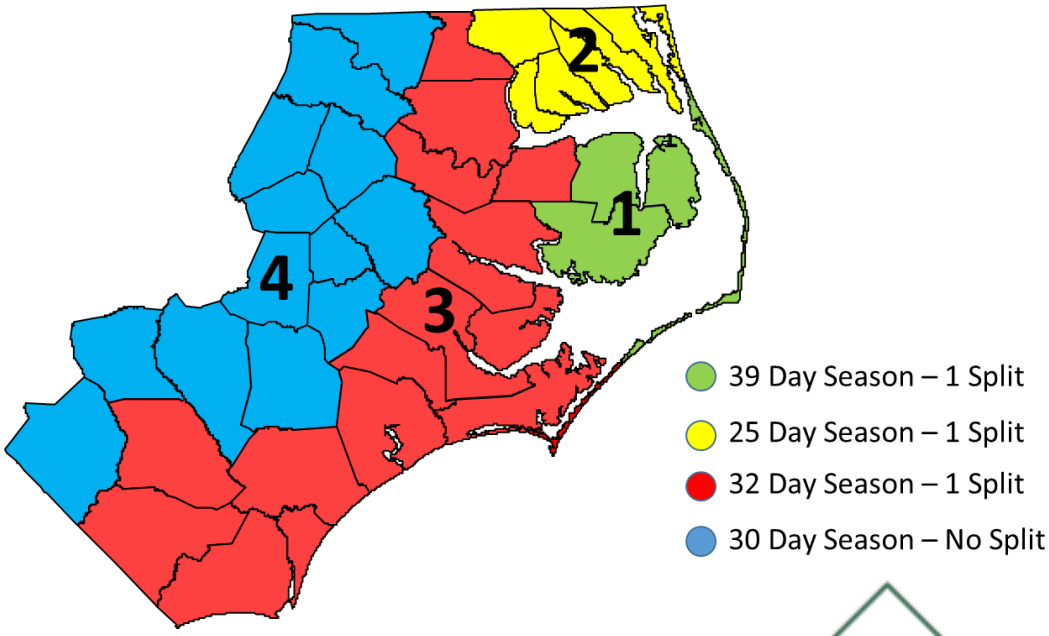
Allow any appropriately licensed hunter that is actively participating in a hunt to validate and report the harvest of a bear shot by any other appropriately licensed hunter participating in the same hunt (applies to both dog and still/stand hunts).

A. Yes
B. No
C. I don’t know

NORTH CAROLINA Wildlife RESOURCES COMMISSION

How do you think these season options would impact your bear hunting?

A. No impact, (I would hunt the same way)
B. Positive impact
C. Negative impact
D. I'm not sure



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For those that said negative or I'm not sure, what is your top concern?

A. I'm loosing too many hunting days.

B. There will be too many hunters in my area. (too much competition)

C. I'm worried that we may kill too many bears.

D. Some combination of A, B or C.

E. Some other reason not listed here

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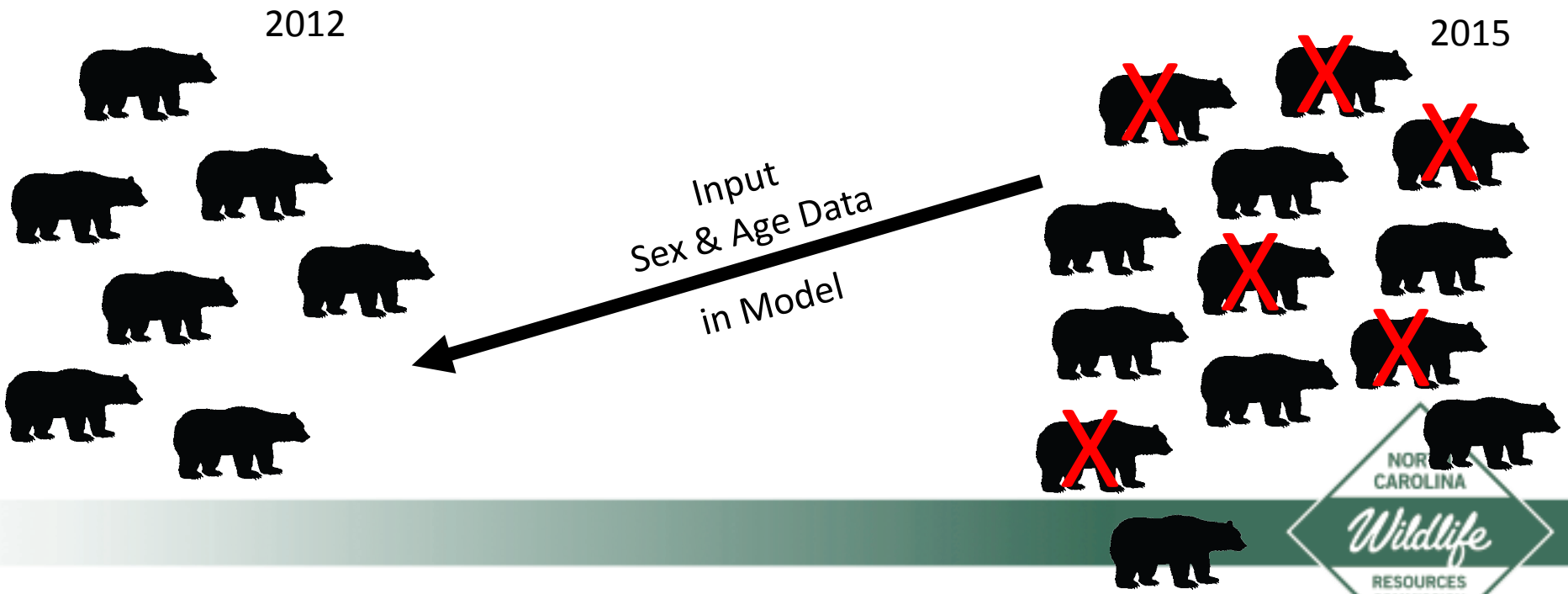
Population Reconstruction Model

1. Predicts what the population was 3 years back
   (it "reconstructs" the population)



Population Reconstruction Model

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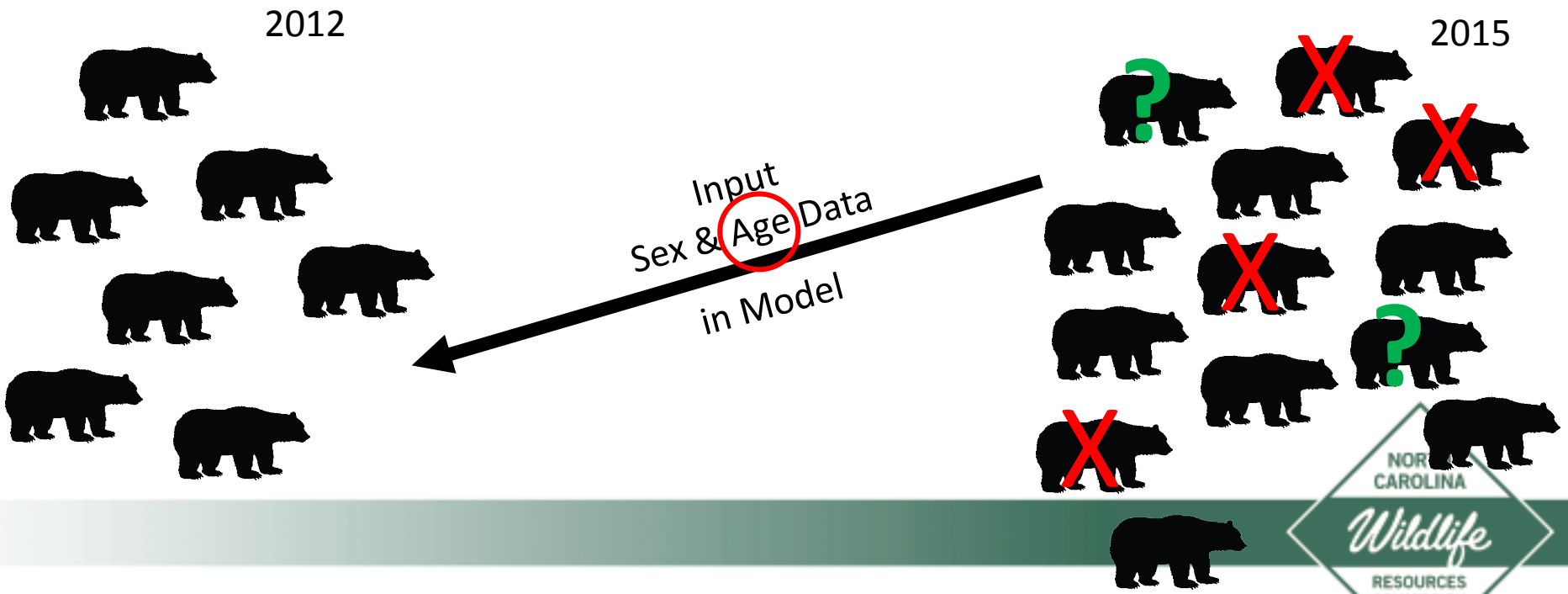


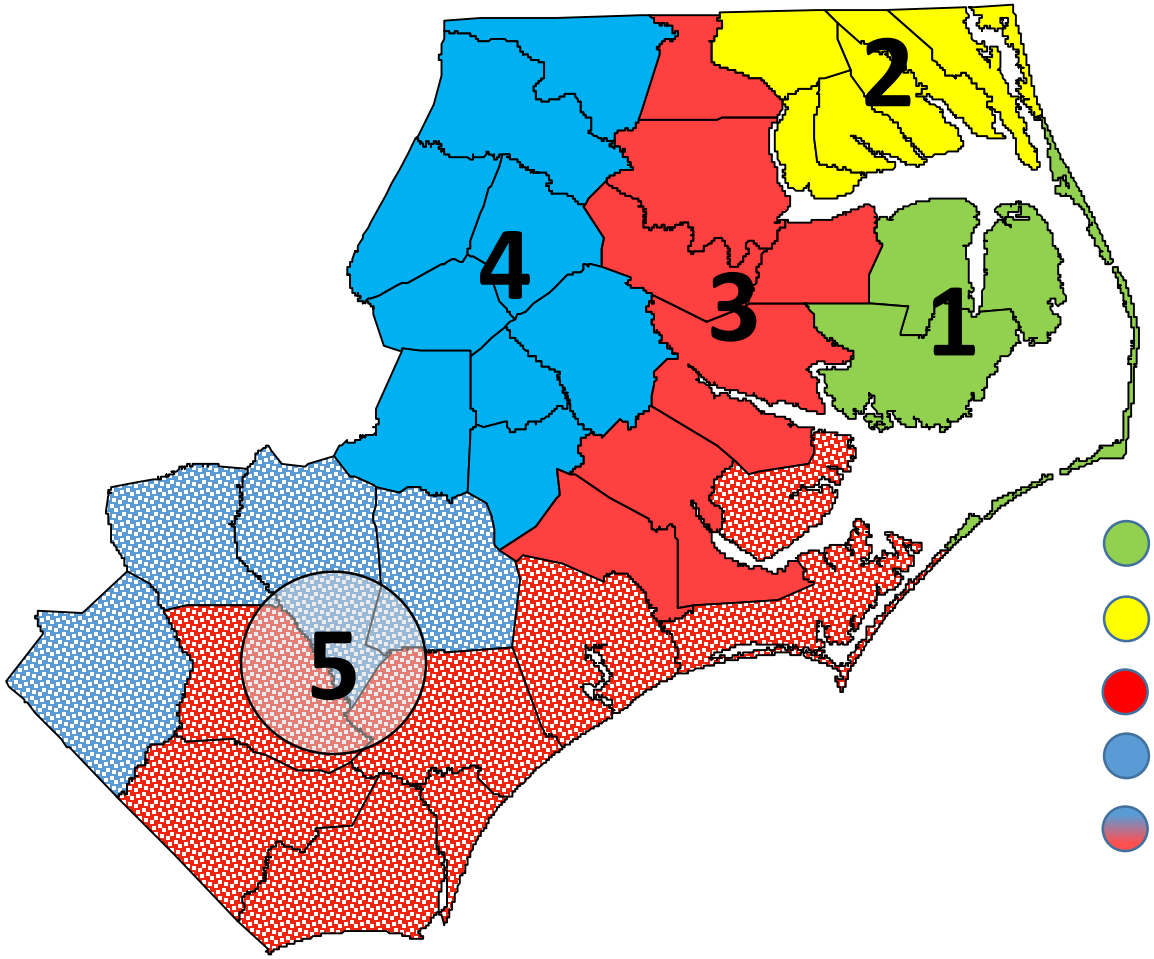
To model the bear population at a smaller scale we need higher tooth submission rates.

Would you support mandatory tooth submission by successful hunters?

A. Yes
B. No
C. I need to think about it

NORTH CAROLINA Wildlife RESOURCES COMMISSION

Potential New Seasons



- 39 Day Season – 1 Split
- 25 Day Season – 1 Split
- 32 Day Season – 1 Split
- 30 Day Season – No Split
- 50 Day Season – No Split

NORTH CAROLINA Wildlife RESOURCES COMMISSION

Do you prefer to leave the current 50-day season as is even if there are changes in other counties in Zone 3 or 4?

A. Yes
B. No
C. I need to think about it

NORTH CAROLINA Wildlife RESOURCES COMMISSION

Which is most important to you?

A. # days of hunting opportunity
B. # of bears
C. quality (weight) of bears

How many people would support an aggressive plan to reduce the coyote population.

A. Yes

B. No

NORTH CAROLINA Wildlife RESOURCES COMMISSION

Would you prefer the season options proposed tonight, leave the seasons as they are or only change to Saturday openings.

A. Use the proposed seasons
B. Leave them as they are
C. Only change to Saturday Openings.

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Would you prefer a shorter season with a season bag limit of 2 bears.

A. Yes

B. No

If you do not believe zone options discussed tonight are improvements over current seasons, what concerns you the most?

A. Increasing hunting opportunity (more days)
B. Reducing hunting opportunity in some areas (less days)
C. Losing access to land because of increased lease fees
D. Increases in harvest that would result from these changes
E. Something else

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One Last Thing…

Is this type of forum helpful?

A. Yes
B. No
C. Not sure