Assessing Hunter Opinion and Economic Impact Associated with Sika Deer Hunting and Management on Maryland's Eastern Shore

Katie Delph, Intern
Kaitlynn Ritchie, Senior Research Associate
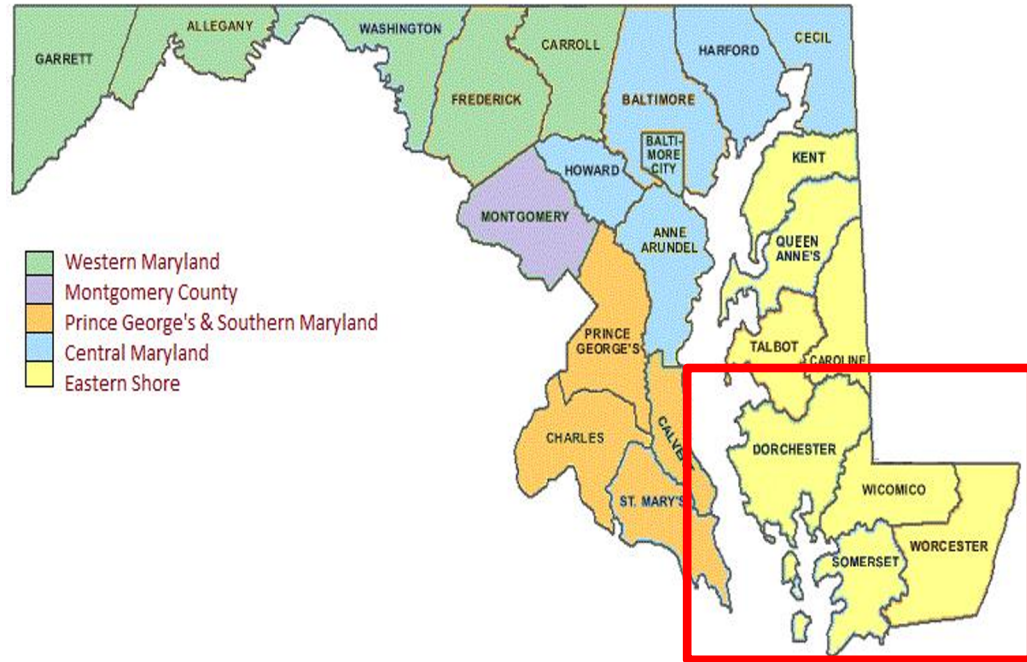Dr. Scott Knoche, Director

Sika Species Background

- What is a Sika deer?
  - Member of elk family
  - Native to Southern Japan
- Released on James Island in 1916
- Lower tides allowed travel to mainland
- Found in marshes and wetlands
- Not considered an invasive species:
  - Disrupted ecosystem with phragmites
  - Not known to cause ecological or economic harm
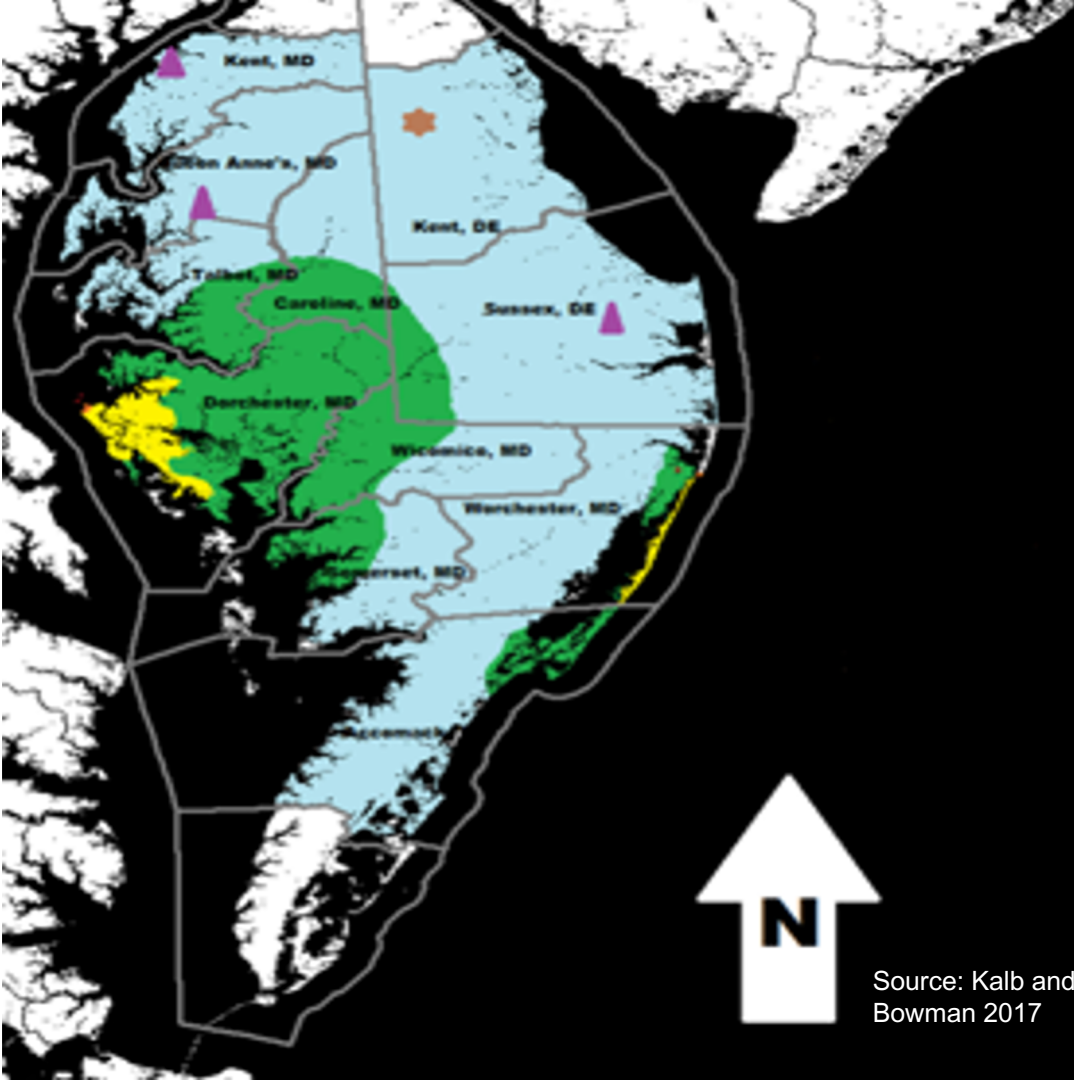- Management goal: Maintain "cultural carrying capacity"

Sika Species Background

- Found in Southern counties of Eastern Shore

- Very few natural predators

- Concerns for outcompeting native deer

- Population estimated to be at 15,000 individuals in 2018

Legend:
- Western Maryland
- Montgomery County
- Prince George's & Southern Maryland
- Central Maryland
- Eastern Shore

3

Sika Range Expansion

- 🟡 Range through 1964

- 🟢 Range as of 2014

- 🔵 Counties with harvests less than 5 years ago

Source: Kalb and Bowman 2017

4

Societal Costs and Benefits

Costs:
- Crop damage

- Vehicle collisions

- Species competition with native white tail deer

Benefits:
- Recreational hunting
  - Projected 5,000 hunters and 35,000 days spent annually

- Wildlife watching

- Regional economic impacts

Solution: Recreational hunting Sika management strategies

Project Objectives

- To provide an insight of the level of support for Sika Deer hunting and economic impacts our objective is to:

  - Design a survey that...

    - Determines Maryland deer management preferences

    - Estimates deer hunting expenditures

    - Utilizes social sciences and human dimensions

    - Considers scientific sustainable species populations

MARYLAND HUNTING

OR

SIKA DEER OR WHITETAIL

Survey Construction

- Online web-based survey
  - Increases contact across hunters
  - Emails of licensed hunters in Maryland from the last year

- Question categories:
  - Motivations
  - Attitudes and perceptions
  - Characteristics
  - Participation and effort
  - R3
    - Recruit, retain, and reactivate
  - Demographics

- Question types:
  - Multiple choice
  - Ranking style
    - Ex. Ranking importance of statements 1-5
  - Likert scale
    - Ex. Strongly disagree to strongly agree
  - Choice experiment and regional economic impacts

Regional Economic Impact

- According to Land Watch, the percentages of properties advertised for Sika hunting...

  - 19% of all 11-50 acreage properties

  - 43% of all 51-100 acreage properties

- What are regional economic impacts?

  - Spending and re-spending of dollars in a region
  - Creating jobs and supporting local businesses

8

Hunting Trip-Specific Expenditures

Transportation (Ex. Gas and Tolls) $ _____	Restaurant/Takeout $ _____	Guide Fees $ _____
Access Expenses (Ex. Area Entrance Fees) $ _____	Entertainment $ _____	Lodging $ _____
Groceries/Drinks $ _____	Hunting Supplies (Ex. Ammunition) $ _____	Other $ _____

Choice Experiment

- What is a choice experiment?
  - Forces people to make trades offs

- What does a choice experiment produce?
  - Willingness to pay for changes in an attribute

ATTRIBUTES		OPTION A	OPTION B
Season	Archery [Sept. – Jan.]	5 Months	5 Months
	Early Muzzleloader [Mid Oct.]	None	7 Days
	Firearms [Late Nov. – Early Dec.]	7 Days	21 Days
	Late Muzzleloader [Mid Dec. – Early Jan.]	21 Days	7 Days
Harvest	Typical # of days hunted for each harvested animal	1 in 4	1 in 8
Cost	Hunting License + Sika Permit	$50	$25

Which would you choose?
(Please check only one)

OPTION A ☐   OPTION B ☐

ATTRIBUTES		OPTION A	OPTION B
Season	*Archery [Sept. – Jan.]*	5 Months	5 Months
	Early Muzzleloader [Mid Oct.]	None	7 Days
	Firearms [Late Nov. – Early Dec.]	7 Days	21 Days
	Late Muzzleloader [Mid Dec. – Early Jan.]	21 Days	7 Days
Harvest	*Typical # of days hunted for each harvested animal*	1 in 4	1 in 8
Cost	*Hunting License + Sika Permit*	$50	$25

Which would you choose?
(Please check only one)

OPTION A
☐

OPTION B
☐

ATTRIBUTES		OPTION A	OPTION B
Season	*Archery [Sept. – Jan.]*	5 Months	5 Months
	Early Muzzleloader [Mid Oct.]	None	7 Days
	Firearms [Late Nov. – Early Dec.]	7 Days	21 Days
	Late Muzzleloader [Mid Dec. – Early Jan.]	21 Days	7 Days
Harvest	*Typical # of days hunted for each harvested animal*	1 in 4	1 in 8
Cost	*Hunting License + Sika Permit*	$50	$25

Which would you choose?
(Please check only one)

OPTION A ☐   OPTION B ☐

13

Next steps...

- Finalizing draft of survey instrument

- Administering pretests to hunting groups

- Revision as necessary

- Preparation for launching survey at the end of 2021-2022 hunting season

Thank you!

References

- https://dnr.maryland.gov/wildlife/Pages/hunt_trap/SikaDeer_About.aspx
- https://oceanservice.noaa.gov/facts/invasive.html
- https://link.springer.com/content/pdf/10.1007/s10530-017-1387-3.pdf
- https://dnr.maryland.gov/wildlife/Documents/2020-2034MarylandWTDeerPlan.pdf
- https://msa.maryland.gov/msa/mdmanual/01glance/economy/html/unemployrates.html
- https://www.sesync.org/sites/default/files/education/economics-4.pdf