
Urban Deer Management: Biology, Process, and Options

Chad M. Stewart

Deer Management Specialist

Michigan Department of Natural Resources



Characteristics of Urban Deer

- Survival

- Higher rates

- Reported as high as 87%

- Reproduction

- Increased in Urban Areas

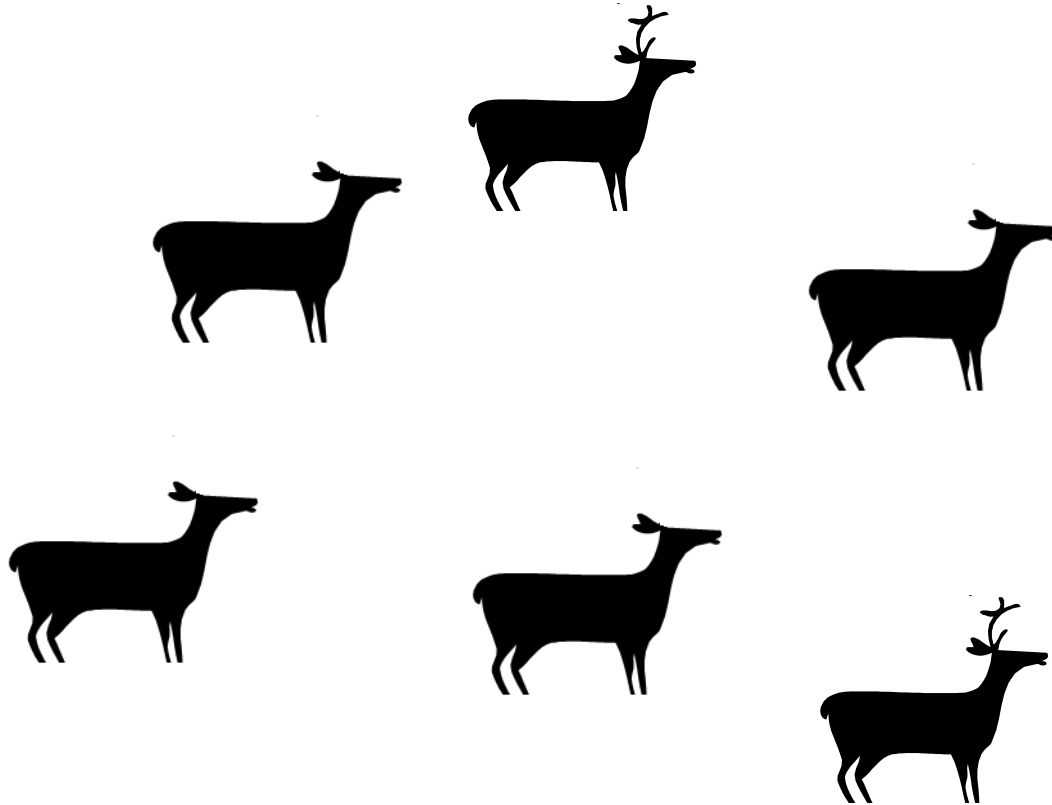
- Reported as high as 1.8 fawns/adult doe
 - No reproductive senescence

- Home Range Size

- Typically smaller



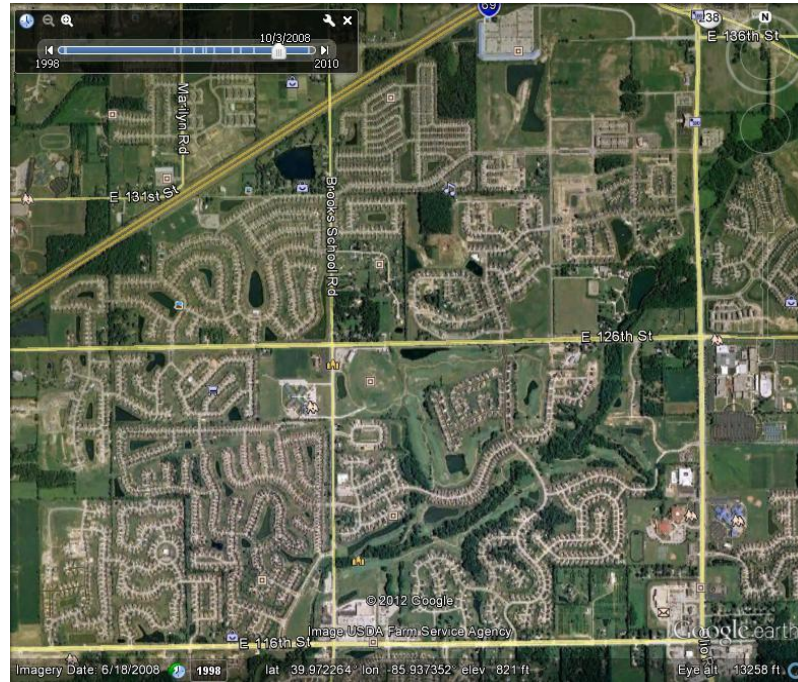
The George Reserve, Michigan: Year 1



The George Reserve, Michigan: Year 7



Changes on the landscape



1999

2008



Carrying Capacity

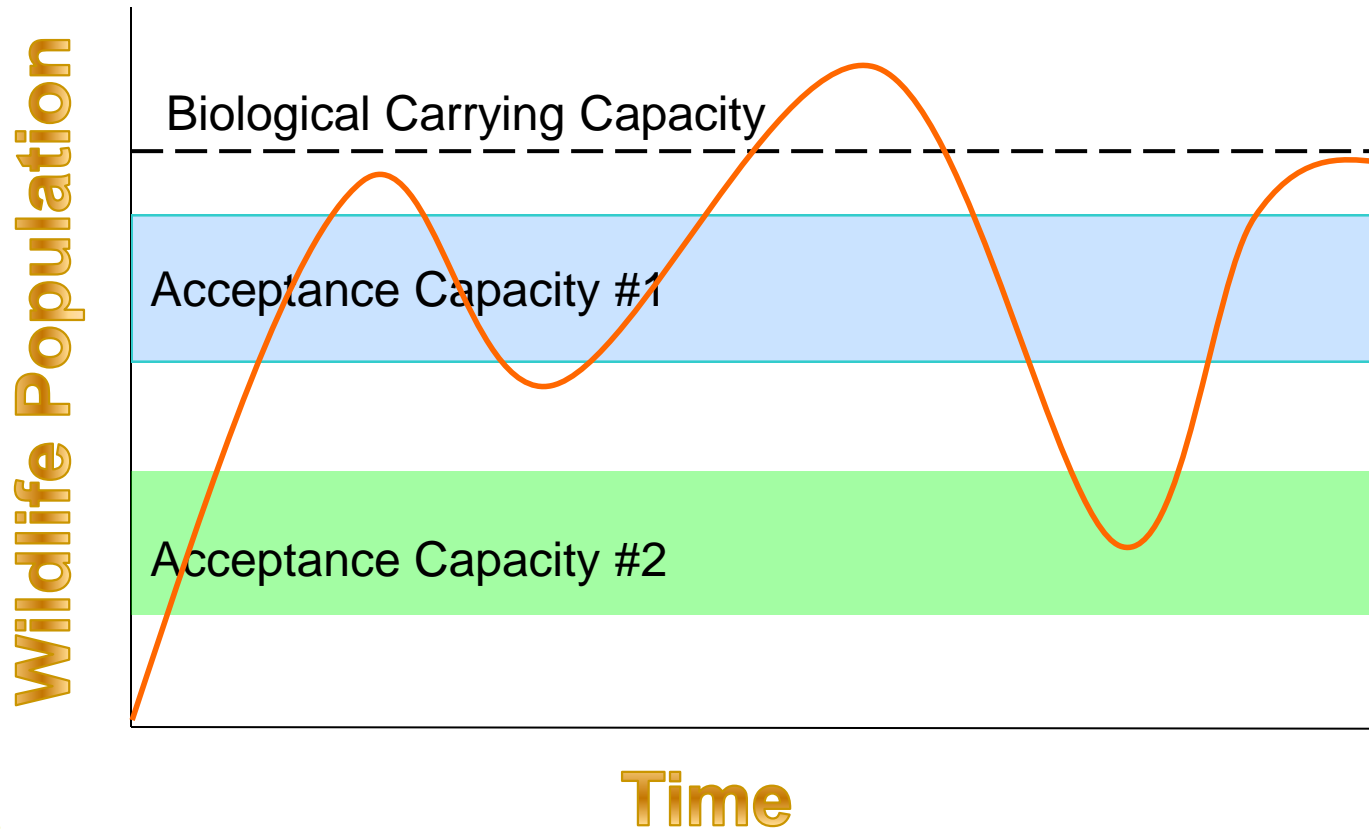
■ Biological



■ Social



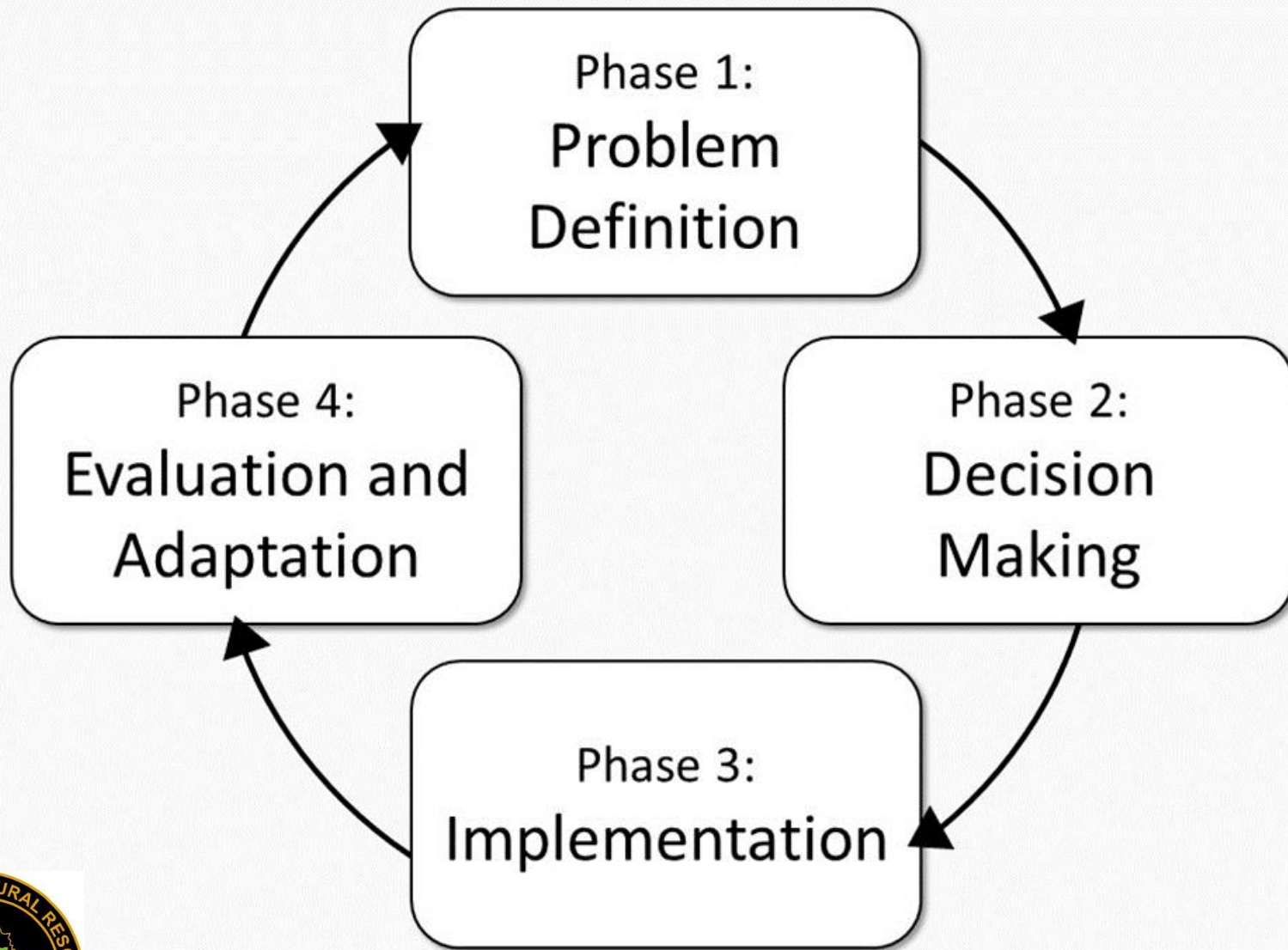
Measures of Capacity for Wildlife Populations





The Process of Community-Based Deer Management & Decision Making

Adapted From:
Emily Pomeranz
Human Dimensions Research Specialist, Michigan DNR



Do we have a problem?

Gather information, assess, define the problem

What problems are occurring? Where, when, who, severity?

How are you going to gather the data you need?

- Questionnaire of residents
- Tracking of tick-borne illnesses
- DVC (deer-vehicle crashes, struck deer calls)
- Agricultural and horticultural losses
- Monitoring deer browse to assess forest health (sentinel seedlings)



Management Options



Management Options

■ No Action or Response

□ Pros

- A compromise?
- Inexpensive

□ Cons

- Some will view as “inaction”
- Continued degradation of habitat and conflicts



Management Options

■ Hunting

□ Pros

- Inexpensive to communities
- Can provide economic stimulus
- Supported by many

□ Cons

- Some types of hunting (i.e. trophy) not appealing to many
- Local concerns regarding hunting in a community
- Access issues



Management Options

■ Sharpshooting

□ Pros

- Reduces deer population quickly
- Safe

□ Cons

- Expensive
- Controversial



Management Options

■ Trap and Relocate/Remove

□ Pros

- No projectile
- Removes deer from difficult areas

□ Cons

- High stress to deer
- Expensive
- Relocation not allowed in Michigan



Management Options

■ Contraception

□ Pros

- Doesn't fire lethal projectile
- Prevents future fawns from being born

□ Cons

- Expensive
- Doesn't remove deer which may be the problem
- Difficult (impossible?) to achieve results in free-ranging deer herds



Management Options-GonaCon

- ❑ Hand injection required
- ❑ Multi-year efficacy requires a booster administered within one year
- ❑ Not registered for use in Michigan (MDARD)

United States
Environmental Protection Agency
Office of Prevention, Pesticides and Toxic Substances
(7505P)

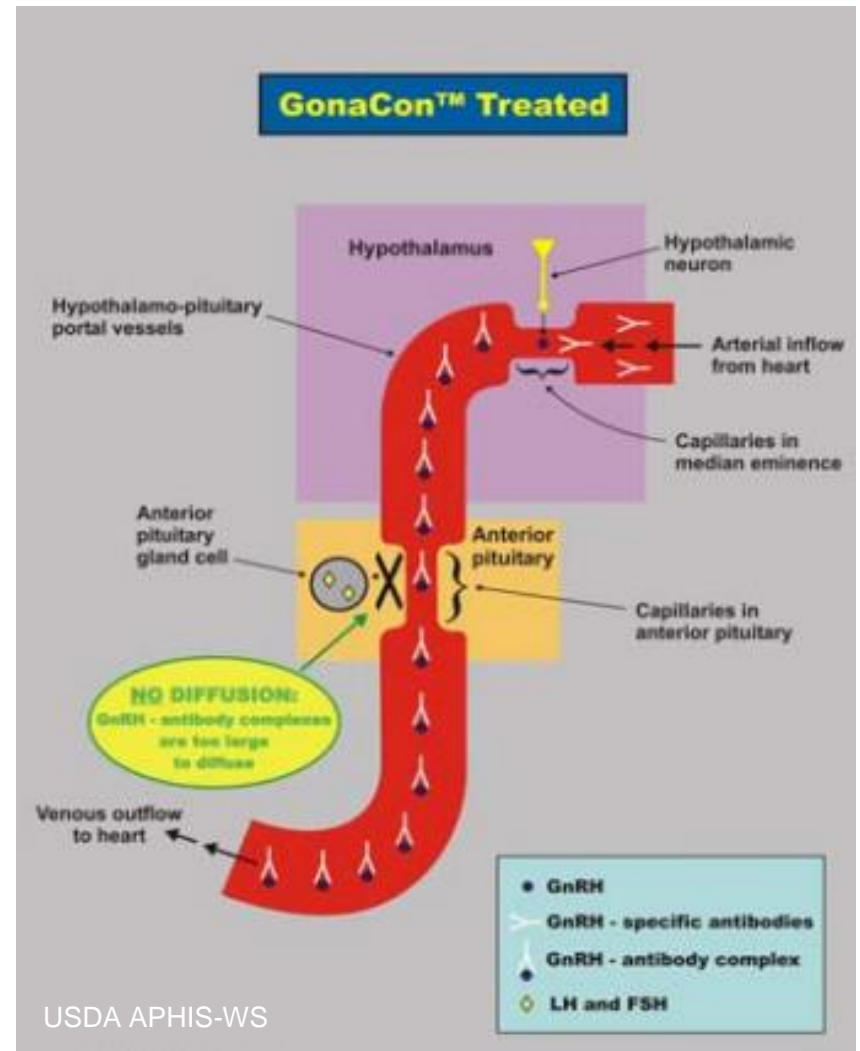


Pesticide Fact Sheet

Name of Chemical: Mammalian Gonadotropin Releasing Hormone (GnRH)
Reason for Issuance: New Chemical
Nonfood Use
Date Issued: September 2009

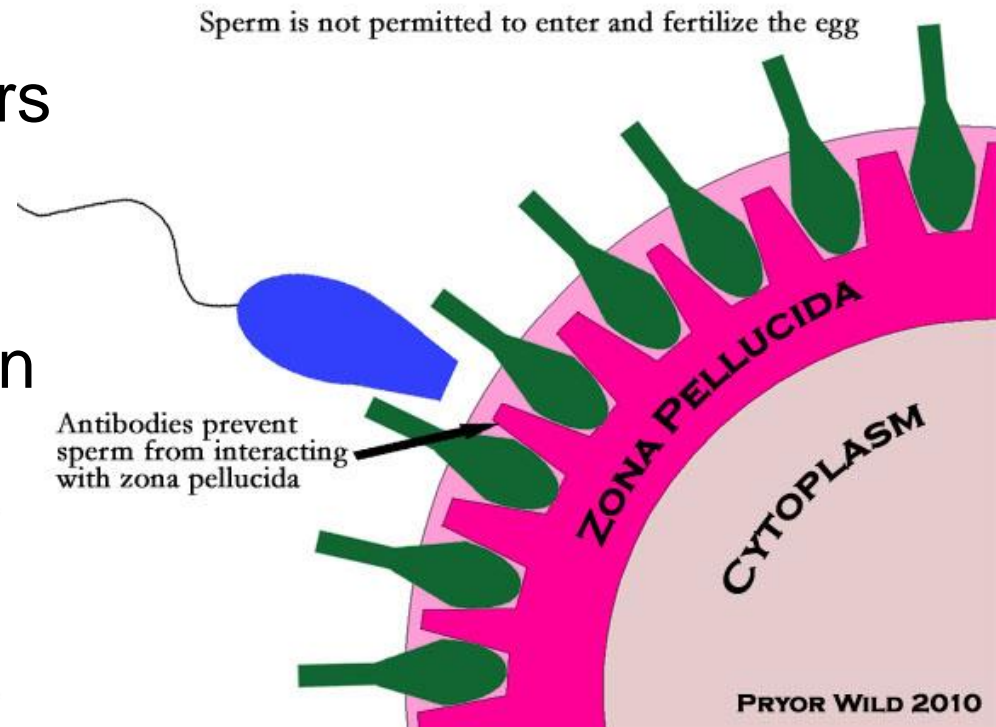
1. Description of Chemical

Peptide Chain: pyroGlu1-His2-Trp3-Ser4-Tyr5-Gly6-Lu7-Arg8-Pro9-Gly10NH2 [GnRH]
Common Name: Mammalian Gonadotropin Releasing Hormone (GnRH)
EPA PC Code: 116800
Chemical Abstracts Service (CAS) Number: 9034-40-6
Chemical Class: Sterilant/Hormone
Registration Status: New Chemical, nonfood use
Pesticide Type: Mammalian Contraceptive
U.S. Producer: U.S. Department of Agriculture, APHIS, Pocatello Supply Depot
238 East Dillon Street
Pocatello, ID 83201



Management Options-Zonastat

- ❑ Hand, jab-stick, or remote dart delivery
- ❑ Recommended boosters at 2-weeks and each year
- ❑ Not registered for use in Michigan (MDARD)



RESTRICTED USE PESTICIDE

For retail sale to and use only by Certified Applicators or persons under their direct supervision of the following organizations and their designated wildlife management personnel and only for those uses covered by the Certified Applicator's certification:

- Department of Interior and all its designated agents
- National Park Service, US Fish & Wildlife Service, Bureau of Land Management
- USDA and all its designated agents (i.e., U.S. Forest Service, Animal and Plant Health Inspection Service)
- State Agencies for agriculture/livestock & wildlife
- Federally recognized Indian Tribes
- Department of Defense
- Humane Society of the United States

Each Responsible Authority for deer intended to be treated with Zonastat-D must sign a certification of use prior to the administration of the vaccine to any animals. The certification statement is attached to this label.

Sublabel B

ZONASTAT-D

Zonastat-D is a porcine zona pellucida immunosuppressive vaccine indicated for use in limiting the populations of white tailed deer (*Odocoileus virginianus*) and other members of the family Cervidae.

Active Ingredients:

Porcine zona pellucida (ZP)(0.1%)	0.071%
Porcine zona pellucida (ZP1, ZP2, ZP4)(0.1%)	0.029%
Other Ingredients	99.900%
Total	100.000%

This product contains 100 µg of PZP per 0.04 oz (0.5 mL)

EPA Reg. No. 86833-x
EPA Est. No. 090192-MT-001

Net Contents: 0.5 mL

Humane Society of the United States
700 Professional Drive
Gaithersburg, MD 20879

Expiration date: XX/XX/XXXX

DEU 1140820A.2



Management Options

■ Sterilization

□ Pros

- Doesn't fire a lethal projectile
- Prevents fawns from being born permanently

□ Cons

- Expensive
- Doesn't remove deer which may be problem
- Difficult to achieve results



Ann Arbor Sterilization Program



YEAR FOUR SUMMARY REPORT

2019-20 Deer Research Program

Ann Arbor, Michigan

26 May 2020

Submitted by

Dr. Anthony J. DeNicola
White Buffalo Inc.

- ❑ Sterilization of game was prohibited under PA 390 (2018) until April 1, 2022



Melanie Maxwell, The Ann Arbor News



Management Options

■ Reintroduce Predators

□ Pros

- Opportunity to return historical species

□ Cons

- Socially unacceptable
- Expensive
- Complicated interactions requires study



Management Options

■ Fencing and Repellants

□ Pros

- Can exclude deer from problem areas
- Relatively inexpensive

□ Cons

- Requires maintenance
- No guarantees
- Does not solve community wide problem



Chad M. Stewart
Deer, Elk, and Moose Management Specialist
4166 Legacy Parkway
Lansing, Michigan 48911

stewartc6@Michigan.gov

Ph:517-282-4810



@chad_m_stewart



Chad Stewart

