

The background of the slide is a close-up photograph of green wheat stalks, slightly out of focus, creating a textured, natural look. The color is a muted, earthy green.

CURRENT ISSUE

Envirothon 2022

A close-up photograph of a person's hand reaching into a wooden compost bin. The bin is filled with green vegetable scraps, including lettuce and leafy greens, and dark soil. The hand is positioned near a small green plant growing from the compost.

COMPOSTING

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- **Composting:** A natural process in which decaying organisms such as food scraps, animal droppings, yard waste, ext. are recycled into soil enriching fertilizer.
- Composting improves soil conditions and can even help keep soil healthy during droughts.
- **Moisture Ratios:** Maintaining a proper moisture ratio helps accelerate and sustain the composting process.
- **Dry Compost:** To remediate dry compost, add water to the compost pile as needed. Do not over water.
- **Wet Compost:** Add heavy-carbon rich organic materials such as sticks, grass clippings, coffee grounds, or shredded brown paper.



COMPOSTING



FOOD SCRAPS

- Food takes the majority of our landfills.
- Anything organic, sometimes even the packaging is compostable.

WHERE WASTE OCCURS

43%	Homes
40%	Restaurants, grocery stores, food service.
16%	Farms
2%	Manufacturing

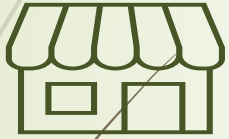
FOOD WASTE IN AMERICA

- The largest food group wasted in America is Seafood.
- Americans waste 1lb/person/day.

REASONS FOR WASTE

- EXAGGERATED FOOD SAFETY REGULATIONS.
- MISLABELING OF PRODUCTS OFTEN RESULTS IN WASTE.
- MISUNDERSTANDING OF EDIBLE TIME FRAMES.
- ACCESSIBILITY TO ALTERNATIVES.
- LACK OF RECYCLING AND COMPOSTING INFRASTRUCTURE.

ZERO WASTE



WHAT IS IT?

Conserving all resources with responsible production, consumption, reuse, and recovery of materials used.



PROBLEMS

Packaging and consumption.

- Packaging is necessary for many products.
- Packaging can be easily recyclable and waste free.
- Many companies have potential for zero waste and try to make it easy.
- **Problem:** Its ultimately up to the consumer to implement zero waste.



EXAMPLES

- Composting
- Repurposing worn out items.
- Avoid frequently buying products with excessive packaging.
- Re-usable bottles, table wear, ext.



RECYCLING



- Differs from Zero Waste
 - Less emphasis on no waste at all,
 - Greater emphasis on remanufacturing.
 - Collecting, re-using, and sorting waste products so that they can be re-purposed through manufacturing into new raw material.

Problems:

- US currently lacks efficient recycling infrastructure.
- Lack of interest in recycling programs.
- Cost/benefit of uses.

RECYCLING USES

- Plastic bottles are great for insulation in winter clothing.
- Paper/ cardboard can be used for packaging of foods and other fragile products.
- Heavier metal scraps can be remanufactured into car parts.
- Glass Bottles can be made into fiberglass, other class products, and fine sand for road maintenance.
- Aluminum can be repurposed into cans, toolboxes, bicycles, and other lightweight metal products.





METHANE MANAGEMENT

WHAT'S UP THERE

Along with gasses like CO₂, Methane has been identified as one of the primary greenhouse gasses.

WHERE DOES METHANE COME FROM?

Methane can come from

- Sewage
- Agriculture
- Landfills (Anerobic Digestion)

AGRICULTURE

Animal waste is a producer of methane.

- Manure is most used to spread on crop and pasture lands.
- This helps prevent concentrations from manure piles.
- Enables other nutrients to fertilize the land.
- Phosphorus, Potassium and Nitrogen are the ideal manure nutrients.
- A full-grown dairy cow can produce 80lb of manure a day.

LANDFILLS

Landfills generate massive amounts of methane.

What are they doing to make this a useable resource?

A landscape photograph showing a field with a path leading towards a horizon under a dramatic, cloudy sky. The text 'WASTE DISPOSAL' is overlaid in the center.

WASTE DISPOSAL



WASTE DISPOSAL

RE-CAP

- The US most commonly puts waste into landfills.
- Landfills are broken up into categories to avoid the mixture of hazardous waste products.
- Many Landfills practice methane collection techniques to create energy.

TYPES OF LANDFILLS

- Municipal
- Industrial
- Hazardous waste

GOVERNMENT REGULATIONS

- RCRA – Resource Conservation and Recovery Act
 - Gives EPA total say in processes involved in waste management.
- TSCA Toxic Substance Control Act.
 - EPA has said in introduction of new or existing chemicals.



PA Wildlife Recap

HUNTING WILDLIFE

► Hunting Regulations

- 150-yard safety zone from occupied structures.
- Bag Limits on many species.
- Certain seasons Orange is required.
- Mentored hunting programs are open to unlicensed hunters of Any age.
- Private property permissions.
- Season Dates and management practices.
- Hunting has transformed from “ Market Hunting” to sustainable resources hunting.
- Rather than hunting for profit, we hunt for sustainable food source (Public Trust)
- Public shooting ranges may be used by those who obtain shooting range permits.
- No drinking on state game lands.
- No using public lands for commercial use.
- No releasing domestic animals.

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Small Game: Typically, any wildlife weighing under 40lbs.

Though smaller in size, small game species are bountiful food resources.

Small game is also value as a teachable entry to hunting. In hopes that hunters will gain proper etiquette and become more efficient and humane when hunting large Game.

Squirrels
Rabbits
Doves
Crows
Quail
Pheasants

Small Game seasons



Big Game in PA

- ▶ Typically, wildlife resources over 40lbs.
- ▶ Terrific source of food for families in PA.
- ▶ Proper wildlife bag limits and land management have made PA big game a sustainable resource.
- ▶ Examples
 - ▶ White Tail Deer
 - ▶ Turkeys
 - ▶ Bears
 - ▶ Elk

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Diseases in Wildlife

West Nile Virus

- Commonly transmitted to birds by mosquitos.
- Affects the central nervous system of many bird species.
- Often affects Birds. More Viral particles in their blood than mammals.
- Infects over 250 bird species. Flu like symptoms in humans.

Hemorrhagic Disease

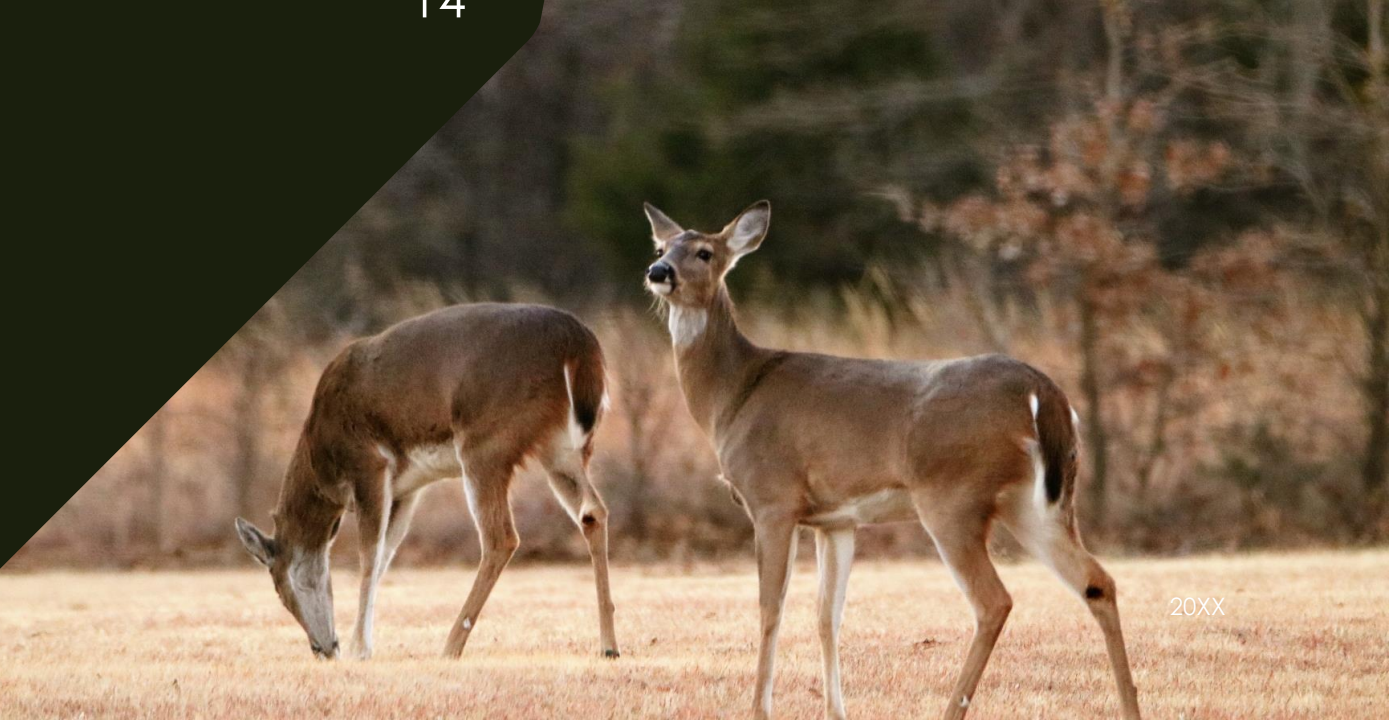
- Often transmitted by midges.
- Most often affects white tail deer.
- Causes massive swelling of the tongue, head, and neck area.

CWD- Chronic Wasting Disease

- Common in deer in PA.
- The disease is easily spreadable.
- Only safe areas would be hair, or teeth.
- Organs are huge carries of the disease.



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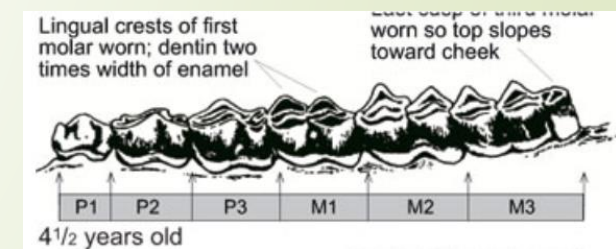
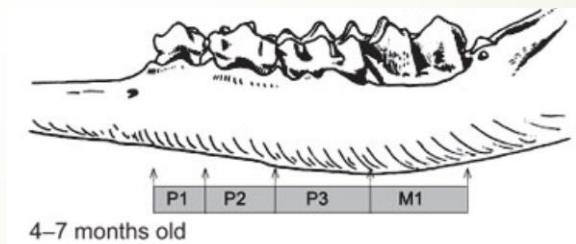
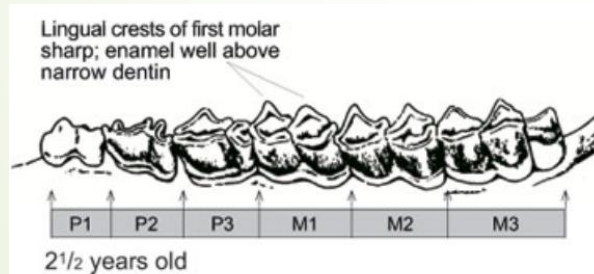
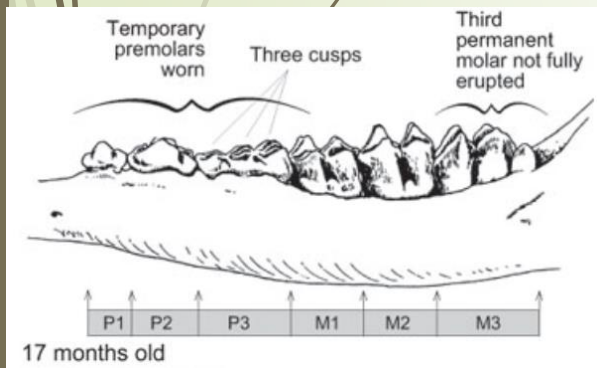
7 Tenants of North America Game

1. **Wildlife resources are a public trust.** Government manages wildlife, states enforce the regulations. Open to all as a sustainable Resource.
2. **Elimination of the Game Market.** Put regulations on the selling of fur and meat products. No selling in unregulated underground markets.
3. **Allocation of Wildlife by law.** How many, what species, when and where you can hunt wildlife.
4. **Wildlife killed only for legitimate purpose.** Food, Fur, self defense.
5. **Wildlife is an international resource.** Due to migratory species, federal agencies began to cooperate on their wildlife taking rules and regulations. U.S. and Canada.
6. **Science-based Decision Making.** Science informs the decisions made on wildlife policy. Modern day we Tag wildlife to track and observe.
7. **Democracy of Hunting.** Laws offer the opportunity for all people to hunt and fish. Not just the privileged .

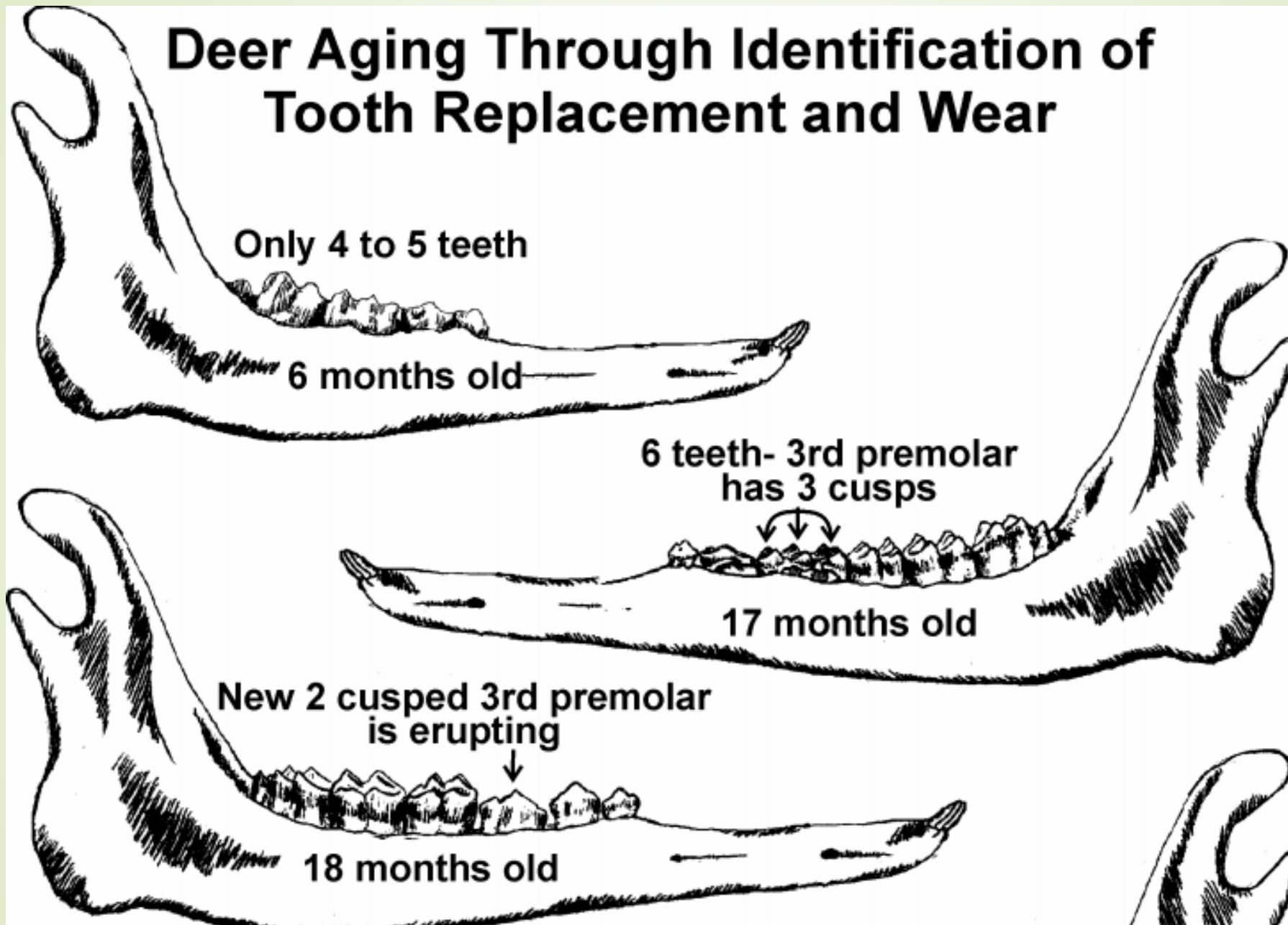


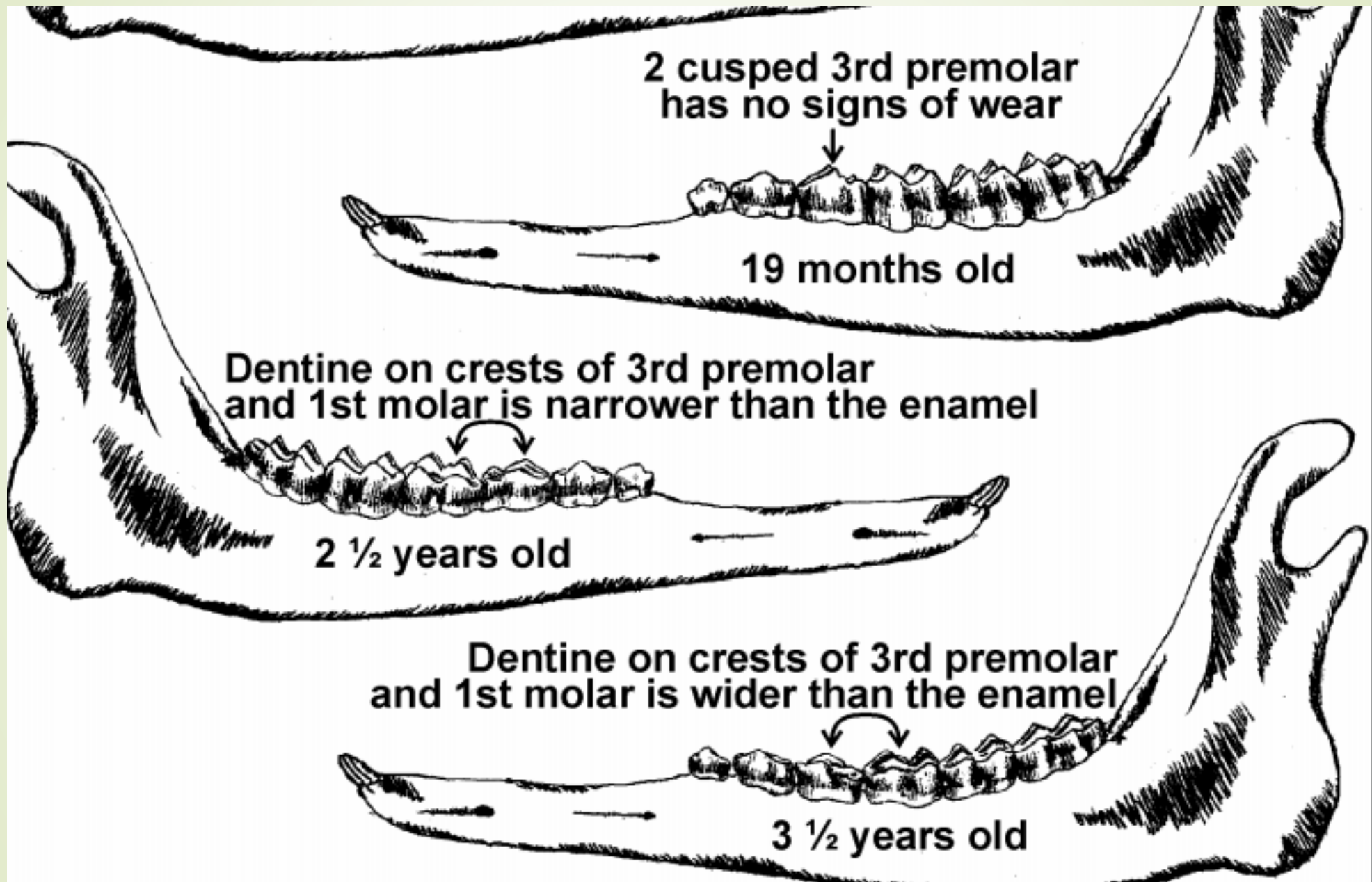
Aging Deer Based on Jaw

- The Dentine is the dark line running across the top of the tooth line. The amount of dentine visible can help estimate age. Thicker more visible dentine, older deer.

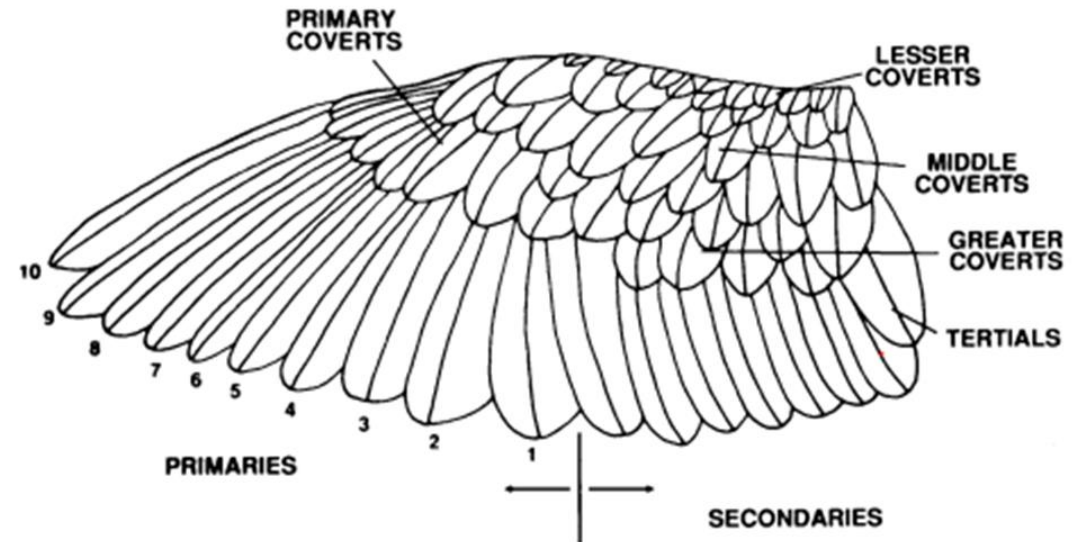


Deer Aging Through Identification of Tooth Replacement and Wear





Mourning Dove



Owl Species

Long Eared - Barn - Barred



Screech



Small owl with Ear Tufts

More Owls Short Eared



Snowy



Loves Lemmings and migrates to find them.

More Owls

Great Horned

Saw-Whet



Heron Species

Green Heron



Crowned Night Heron



Great Blue Heron

Black-Crowned Night Heron

Largest of the "Night Herons"



Species of Special Concern in PA



Least Weasel

Vs

Long Tailed Weasel



Ermine also known as "short tailed weasel"

The Ermine sports a white fur coat in the winter months and molts its colors into warmer months. Ermine have a much darker summer coat than the least weasel.

