

NEW JERSEY DIVISION OF FISH AND WILDLIFE

HUNTER EDUCATION STUDY GUIDE AND WORKBOOK



TO COMPLETE THE HUNTER EDUCATION
HOME STUDY SECTION OF THE COURSE YOU
MUST WATCH THE **DVD**, READ THIS STUDY
GUIDE AND COMPLETE THIS WORKBOOK.
WWW.NJFISHANDWILDLIFE.COM



NEW JERSEY DIVISION OF
Fish and Wildlife

Introduction



Paul Ritter and daughter Jessica with her first turkey.

Dear Hunter Education Student:

Congratulations on taking the first step in becoming a licensed New Jersey hunter. By completing this course, you will join over 750,000 other hunter education graduates who have also completed these requirements. Hunter education in New Jersey dates back over 50 years. In 1955, New Jersey was the second state in the country to mandate hunter education for all new hunters. Since that time, a dedicated corps of volunteer hunter education instructors have donated over 500,000 hours of their time and expertise. Because of this extraordinary effort, hunting in New Jersey remains a safe outdoor activity for all to enjoy.

The award winning hunter education program you are now taking has become a model for other states across the country. New Jersey was the first state to utilize an alternate delivery system (home study) in 2002. Since that time we have seen a steady increase in graduates from what had been a steady decline since the early 1990's. This new hunter education program has brought the fun and excitement back into learning about hunting and our wildlife resources while involving the entire family in the process.

We should not forget, that for this tradition to continue we need to foster the love we have for the outdoors in the next generation of hunters. Remember to include your family and friends in your outings and explain to them why you have such a strong desire to be outdoors and to be hunting. It will only be through this effort that hunting and hunter education will continue to be a rich New Jersey tradition.

Sincerely,

Paul Ritter
Supervising Biologist
NJ Division of Fish and Wildlife



Funding for the New Jersey Division of Fish and Wildlife Hunter Education Program is through the Pittman-Robertson Act.

- The Federal Aid in Wildlife Restoration Act, popularly known as the Pittman-Robertson Act, was approved by Congress in 1937. The Act provides funding for the selection, restoration, and improvement of wildlife habitat, and for wildlife management research. The Act was amended in 1970 to include funding for hunter education programs and for the development and operation of public target ranges.
- Funds for the Act come from an 11% federal excise tax on sporting arms, ammunition, and archery equipment, and a 10% tax on handguns. One-half of the excise tax on handguns and archery equipment is used for hunter education and target ranges. These funds are collected from the manufacturers and are distributed each year to the states and territorial areas by the Department of the Interior.
- Each state's proportion of the federal funds is based on the area of the state and the number of licensed hunters in the state. The state covers the full amount of an approved project and then applies for reimbursement through federal aid for up to 75% of the project's expenses; the state is responsible for the other 25% of the project's cost.

Acknowledgements:

Manual Development.

**Paul Ritter Supervising Biologist
NJ Division of Fish and Wildlife
26 Route 173 West Hampton NJ 08827
(908) 735-6826**

**Keith Griglak Senior Biologist
Northern Region Hunter Education Administrator
NJ Division of Fish and Wildlife
26 Route 173 West Hampton NJ 08827
(908) 735-6826**

**Nathan Figley Senior Biologist
Southern Region Hunter Education Administrator
NJ Division of Fish and Wildlife
220 Blue Anchor Rd. Sicklerville NJ 08080
(856) 629-0552**

<p>Credits: Information concerning treestand safety was contributed by Michigan DNR and the Treestand Manufacturers Association.</p>

TABLE OF CONTENTS

Study Guide

<i>Chapter One: Responsibility</i>	<i>1-5</i>
<i>Chapter Two: Wildlife Conservation</i>	<i>6 –9</i>
<i>Chapter Three: Wildlife Identification</i>	<i>10-14</i>
<i>Chapter Four: Game Care – Before and After the Shot</i>	<i>15-18</i>
<i>Chapter Five: Survival and First Aid</i>	<i>19-22</i>
<i>Chapter Six: Rules and Regulations</i>	<i>23-26</i>
<i>Chapter Seven: Shotguns and Shooting Techniques</i>	<i>27-34</i>
<i>Chapter Eight: Modern Rifles and Shooting Techniques ...</i>	<i>35-38</i>
<i>Chapter Nine: Muzzleloaders</i>	<i>39-43</i>
<i>Chapter Ten: Bow and Arrow Training</i>	<i>44-52</i>
<i>Chapter Eleven: Treestand Safety</i>	<i>53-57</i>

Workbook

Appropriate sections must be completed by all students1-18
Your completed workbook will be your ticket into your hunter education class. To register for a hunter education class near you go to www.wildlifelicense.com/nj

Guidelines for a Responsible hunter

- **Be a good neighbor.** Ask permission whenever you hunt on private property.
- **Be a safe hunter.** Know all basic safety rules and follow them all the time.
- **Understand and obey all rules and regulations** found in the *NJ Fish and Wildlife Digest*.
- **Work with the landowner to meet his wishes.** Offer to share a portion of your harvest with him.
- **Be responsible.** Practice shooting year round on a safe range, such as those provided on the Division of Fish and Wildlife's Wildlife Management Areas.
- **Join a conservation group.** Work to ensure that there is wildlife and habitat for the future.
- **Be a responsible hunter. The future of hunting in NJ depends upon your actions in the field.**

CHAPTER 1:

RESPONSIBILITY

Did you know?

Growing up as a citizen of the United States you have a unique opportunity that few people in other countries have. In many countries hunting is only done by the upper class who owns the animals. Here in the US, wildlife belongs to all of the people. This means that no matter what your race, religion or social status is you have the equal opportunity to hunt wild game by legal means. However, there are several steps you must take to become a legal hunter. The first step you are fulfilling right now, by completing this Hunter Education Course.

Six Responsibilities for All Hunters

(1) RESPONSIBILITY TO YOURSELF

Are you physically prepared for the hunt? Get in shape before the hunting season and stay within your physical limits.

Are you mentally ready for the hunt? Are you ready to make the split second decisions needed before every shot taken? Are you prepared to take an animal's life? If you are not, understand that it is okay to pass on a shot and still have a successful hunt.

Have you scouted the area you will be hunting? Is there any new development that may affect your ability to make a safe shot? Has this changed the 450 feet safety zone?

Do you have a map and compass or GPS? Learn how to use them and learn where your hunting properties' boundaries are.

Is all your hunting equipment in working order? Have you checked your firearm, bow, tree stand, and safety harness for loose or worn parts?

Are you wearing the proper amount of hunter orange clothing? There are times when you may not need to wear 200 square inches of hunter orange. Know the exceptions.

Avoid wearing colors that may confuse you with game. Wearing colors such as red, white or blue found on turkeys or brown and white found on deer may lead the irresponsible hunter to mistake you for game.

(2) RESPONSIBILITY TO YOUR FAMILY

Many people care about you. If possible, always try to hunt with someone responsible. For your safety, have you told people exactly where you will be hunting (leave a map) and when you will be returning in case you do not return on time? Do you have a cell phone or two-way radio? Be sure to contact family members if your plans change from what you have told them.

(3) **RESPONSIBILITY TO THE LANDOWNER**

Wildlife is a product of the land. About 80 percent of New Jersey's land is privately owned, while the rest is owned by federal, state or local government. Remember to ask permission to hunt on private land. Not doing so is against the law and can lead to poor hunter / landowner relationships.

Whether you hunt on public or private property, respect the land as if it were your own. Do not litter. Remember, to hunt on this property is a privilege. Do not abuse it. Do not trespass. It is against the law to enter private property without permission, even if the property is not posted or fenced in. All land in New Jersey is owned by someone. If you do not know whom, go to the local town hall and ask for a tax map of the area. Always secure permission before hunting on private land.



If you are hunting on private property, take time to talk to landowners. Be sure to ask the landowner about any special rules you should observe. Leave fences and gates the way you found them, unless the landowner gives you different instructions. Do you have permission to hunt the entire property, or are some sections off limits? Does the landowner want you to stop by before leaving his property? They will appreciate your interest and respect you more as a hunter.

(4) **RESPONSIBILITY TO THE WILDLIFE RESOURCE**

Know the game species you are hunting. Become familiar with the animals habits, food sources, cover, sounds and identifying markings. Just remember, this varies from species to species. Prior to the start of the season, you must learn as much as you can about the animal. Remember, you are entering into their world now.

The goal of all hunters **must** be a clean, one shot kill. Know your bow or firearm and your effective shooting range. Practice often until you are capable of hitting your target accurately with every shot. Keep within your personal limits.

Look closely to see if the animal was hit. Be sure to do everything possible to recover wounded game but do not break the law and trespass on property you do not have permission to hunt on. Make sure you can properly field dress the game animal you are hunting. **Do not** allow an animal to spoil because you did not know how to field dress or skin it properly.

(5) **RESPONSIBILITY TO KNOW THE LAWS**

Wildlife laws are designed to protect wildlife, promote firearms safety and provide equal hunting opportunities for all New Jersey hunters. A summary of the general



regulations is found in the *NJ Fish and Wildlife Digest*. These rules may change from year to year. Check the current hunting digest before you hunt to be sure that you know the current regulations. It is

your responsibility to know and obey all rules and regulations. If you have any

questions you may contact your regional law enforcement office to have them answered. You can find the number for all offices, including law enforcement, on the inside cover of the digest. Remember, ignorance is **no excuse** for breaking the law.

Your license is not a license to trespass. All hunters must obtain permission to hunt on private property and written permission to hunt within the 450 foot safety zone. The NJ Division of Fish and Wildlife has provided a **Hunter Landowner Courtesy Card** (in this manual and in the digest) for you to use when obtaining permission to hunt.

(6) RESPONSIBILITY TO OTHER USERS OF THE OUTDOORS

Just about everybody enjoys the great outdoors, but not everybody who goes outdoors is a hunter. Less than two percent of the population of NJ hunts. This does not mean the remaining 98 percent are anti-hunting, most people do not have much of a pre-formed opinion on hunting. What you do in the field, both positive and negative, effect the general public's opinion. Your actions may represent that of all hunters' so,



be considerate of non-hunters and their personal feelings. Some non-hunters are unfamiliar with hunting traditions and wildlife laws.

Remember that the tradition of hunting in New Jersey will continue only if you hunt responsibly and demand the same from your hunting partners!

FAIR CHASE

Fair chase hunting involves a hunter who understands and respects the animal hunted, follows the law, and agrees to hunt using no methods that would give him / her an unfair advantage over the animal. The fair chase hunter understands that a successful hunt does not need to end with a full bag limit. Ultimately it is your decision. Hunting should be a positive experience that you should feel good about.

The concepts of fair chase may vary depending upon where you live. Some areas of the country it is not acceptable to bait deer while other areas it is. There are some techniques that no matter where you are in the world are not considered fair chase, such as shooting game from the air or from a moving vehicle. It is a balance that you must set between yourself and the animal hunted in a manner that does not provide you with an unfair advantage.

Competition between yourself and other hunting companions can cloud your mind and lead to irresponsible hunting and poor choices. Competition can lead you to rush shots without being sure of your target and beyond or lead you to take far and difficult shots which are not in your effective range. Do not allow this competition to lead to an experience that you would not feel good about.

Peer pressure can have both positive and negative affects.

Choose your hunting partners wisely. Be a positive role model.

Do things such as:

- Picking up spent shells or litter in the field.
- Taking only sporting shots. (No birds on the ground or roosted in trees)

Negative peer pressure can lead to irresponsible or illegal hunting behavior.

A few examples are:

- Allowing someone else to shoot your bag limit.
- Hunting within a safety zone

Do not feel pressured by your hunting partner to take part in activities such as these. It is your responsibility to try to correct these actions. Illegal hunting activities should be reported to your regional law enforcement office.

Poaching is a type of illegal hunting behavior that involves the taking of game outside the legal season. A responsible hunter will not tolerate this type of behavior because it goes against everything fair chase stands for.

Remember: The future of hunting in NJ will be decided by the majority of NJ residents that do not hunt and how they view the actions of you and your fellow hunters.

THE FIVE STAGES OF A HUNTER

Studies have shown that hunters pass through different stages depending upon their levels of development and skills. Some of these stages may lead the irresponsible hunter to poor decision making. Remember that just because there are five stages doesn't mean that you will go through all five stages or go through them in order. The stage that we are all striving for is the sportsman stage. This stage helps to ensure that we will have hunting for future generations.

Stage 1: Shooter Stage

The hunter is most concerned with having success to demonstrate his skill to himself and others. This may mean that many shots are fired to achieve this feat. The eagerness to shoot can lead to poor decision making. Hunters who take time to target practice often will move out of this stage quickly.

Stage 2: Limiting Out

Success is determined by filling your daily bag limit every time you go out which may cause you to take poor shots. The sooner the hunter realizes that limiting out is not the only measure of success, the quicker he may move out of this stage.

Stage 3: Trophy Stage

Quality is more important than quantity. Hunters in this stage are hunting a

specific animal for a challenge and are willing to pass up shots they know they can make on other animals. However, the challenge of harvesting this animal should be getting it within your effective range. Hunters must be careful that their desire to harvest a particular animal doesn't drive them to become irresponsible.

Stage 4: Method Stage

Hunters in this stage focus more on how they hunt and their equipment chosen. Some hunters may choose to hunt with the most primitive equipment while others choose to use the most hi-tech. Hunters in this stage must always be aware of their own limitations while using either primitive or high tech equipment. The goal remains a quick clean kill.

HUNT SMART Courtesy Card

Visitor's Copy - Not Transferable

I request permission to enter your property for the following purpose:

Dates from: ____/____/____ to ____/____/____

Limitations:

Hunter can hunt within 450 feet of buildings: q Yes q No

Landowner's Name:

Address:

Stage 5: Sportsman Stage

Success is measured by the total experience of the hunt including things such as appreciation of nature, understanding the habits of the animal hunted, the process of the hunt and hunting with others to share these experiences. Hunters in this stage become involved with conserving our natural resources by becoming involved with conservation groups and introducing new comers to the outdoors. Success in this stage is not based on the harvesting of an animal.

LANDOWNER COPY

Permission given to:

Address: _____

Vehicle Make _____ Yr. ____ Color ____

Vehicle Lic. No. _____

No. in Party _____

Dates from ____/____/____ to ____/____/____

Limitations: _____

Other licenses, tag no.: _____

Hunter can hunt within 450 feet of buildings:

___Yes ___No

CHAPTER 2: WILDLIFE CONSERVATION

Objectives:

- Identify the major sources of funding for managing New Jersey's wildlife resources.
- Explain the difference between conservation and preservation.
- Explain the five basic elements of habitat.
- Explain the basic concept of carrying capacity as it relates to wildlife.
- Explain the role of game laws, seasons, and bag limits as wildlife management tools.
- Identify the role of the hunter as a tool of wildlife management.
- Explain the meaning of wildlife management.
- Identify the role of the **NJ Fish and Game Council**.

What is Wildlife?

Wildlife is a word we use to describe any animal that does not depend on man for survival, or that man does not intentionally take care of. Wildlife can include all animals such as mammals, birds, reptiles, fish, and insects.

Population is the term used to describe the number of animals of a particular species in a given location at one time. The population of deer on your farm may be 45 while the population of deer for New Jersey may be 180,000. Populations are always changing.

Game animals are animals that can be hunted. The **NJ Fish and Game Council** decides which game species can be hunted from an approved list of game species. Not all game species have open seasons. Animals such as bobcat and tundra swans are considered game species, but have no current open season in New Jersey.

Non-game animals are animals that cannot be hunted. Eagles, hawks, songbirds, and owls are examples of non-game species.

Role of the New Jersey Fish and Game Council

The **NJ Fish and Game Council** is assigned the task of setting the seasons and bag limits for all game species, along with the way they may be hunted. The council consists of 11 volunteers appointed by the governor. Here is the breakdown:

6 sportsmen representatives
3 farmer representatives
1 representative of the general public
The Endangered and Non-Game Species advisory committee's chairperson

New Jersey is very lucky to have such a council. This ensures that our wildlife is being managed by sound

management techniques. New Jersey has some of the most progressive wildlife management programs in the nation. The end results are healthy wildlife populations that everyone from New Jersey can benefit from.

Why is Wildlife Important?

Animals are a product of the land that they live on. Therefore, healthy animal populations are a sign that our environment is also healthy. This environment that the animals depend on is the same environment that we live in. The high quality of life in New Jersey is directly related to the sound management of our natural resources.



There is an important value, known as **intrinsic value**, that wildlife has, that you can not attach to a dollar sign. All people in New Jersey can benefit from knowing that we have streams full of native brook trout, skies with eagles and falcons, and woods with bear and bobcat. The vast majority of New Jersey residents will probably never see a bobcat or catch a native brook trout. However, if you take any one of these species away, New Jersey wouldn't be nearly as nice of a place to live.

Wildlife brings millions of dollars into New Jersey's economy. Think of all the money you spend on a typical hunting trip. Money you spent on equipment, gas, breakfast, lease fees, licenses, butchering etc. Many shops close to public hunting lands depend on your business during the

hunting season. For many small businesses, opening day of small game and deer season are the two busiest days of the year.

Wildlife Management

There are several different ways of managing our wildlife. One is through **conservation**. This is the wise use of our natural resources without wasting them. Another is **preservation**. This is the saving of natural resources with no consumptive use.

Managing wildlife may sound like an easy task, but it is not. Modern wildlife management is both a science and an art of working with habitats, animal populations, and people to achieve specific human goals. The purpose of wildlife management is to maintain populations of wild animals at levels which are consistent, with the best interests of wildlife and people. Wildlife needs to be managed as an asset and not as a liability.

Wildlife Management = Managing People + Wildlife + Habitat

What is Habitat?

Habitat is the place where wildlife lives. Food, water, cover (shelter), and living space are the major components of habitat. For a piece of habitat to be high quality, all the components must be arranged close enough to each other to be utilized easily by a particular species. Therefore, arrangement is the fifth component of habitat.

Habitat = Food + Water + Cover + Living Space + Arrangement

Good habitat provides for healthy wildlife populations. Poor habitat means little or no wildlife. Each species of wildlife

has its own habitat requirements. The wildlife habitat in your area that is good for turkey may not be good for grouse. However, most of the time different animals share habitats. Many non-game animals share habitats that hunters preserve for game animals. Some of the best woodcock breeding habitats that hunters work with are also home to the endangered bog turtle and several species of rare salamanders.

Many times animals converge where two different components of habitat meet, like where the forest (cover) meets a corn field (food). This place where two different types of vegetation meet is called **edge effect**. Many times this edge effect causes a wider variety and a higher amount of game than just the forest or corn field could support alone.



Working to protect and improve a particular habitat is the primary way of increasing a wildlife population.

Does Habitat Ever Change?

Succession changes habitat over time. Succession is the natural progression of vegetation and wildlife populations of an area. The open farm field near your house today will not look the same in the future if it isn't farmed. An open field that isn't touched will soon be full of natural grasses and forbs, utilized by small rodents and some songbirds. If left untouched, the grass field will be replaced by a shrub layer,

which will be the home of the cottontail rabbit. As the old field gets older, more woody vegetation such as cedars will grow in. This becomes good escape cover as well as browse for deer. The mature hardwood forest will eventually take over giving habitat for turkeys and black bears. Succession can be set back naturally when the forest is destroyed by a natural fire or a wind shear or by man when he clears the land for farming. Managing specific wildlife species involves managing the habitat to remain in a particular stage of succession.



How Many Animals Can the Land Hold?

The number of animals that the habitat can support throughout the year is called the **carrying capacity**. The better the quality of the habitat, the greater the carrying capacity. When animals exceed their carrying capacity, the excess die from starvation and other natural causes. Animal populations that exceed their carrying capacity may degrade the habitat in which they live. This means that wildlife can not be stockpiled. By not shooting rabbits this year, doesn't mean that we will have more next year. The surplus rabbits will die from diseases, accidents, predation, old age and other factors.

The changes that occur to a population over time are considered

population dynamics. The two biggest factors are birth rate and death rate. When the birth rate is greater than the death rate, populations are increasing. When the death rate is greater than the birth rate, populations are decreasing.

How Does Hunting Affect the Animal Populations?

Populations are always fluctuating. Most hunting that takes place across the country harvests the surplus animals, animals that are going to die anyway. This helps keep animal populations healthy and within their carrying capacity. Many studies have been done on game species proving this fact.

What about populations that are growing past their accepted carrying capacity and are now viewed by some as a liability? Can these numbers be reduced? Hunters may affect these rates through aggressive and liberal seasons such as those with deer and snow geese. These liberal bag limits and long seasons are aimed at harvesting the surplus animals, along with part of the breeding population. Hunters as wildlife managers are beginning to reduce deer herds to more acceptable levels, which we all can benefit from. It is important to remember that regulated sport hunting has never led to the extinction of any wildlife species.

Who Pays for Wildlife Management?

You and your fellow hunters pay for most wildlife management activities in our state. The New Jersey Division of Fish and Wildlife receives funding from the sale of hunting licenses and permits. In addition, the NJ Division of Fish and Wildlife receives money each year from the Pittman-Robertson Act also called the Federal Aid In

Wildlife Restoration Program. This money is generated by the sportsmen in the form of an excise tax. Firearms, ammunition, and certain archery products are subject to this 11 percent tax, which is collected and shared each year among the 50 states for use in wildlife management activities. This federal money is used to pay for this book you are reading!

What is the Biggest Threat to Wildlife Today?



Habitat loss is the biggest threat to wildlife today. Market hunting and significant habitat loss in the 1800's were generally responsible for the demise of several species. Did you know that by 1850, nearly all the forests between the Atlantic Ocean and the Mississippi River were cut down for charcoal? Can you believe that 100 years ago there were virtually no deer or turkey left in New Jersey? Sportsmen at that time were the first people to try to protect valuable habitat through taxes they brought upon themselves. As a result of these caring sportsmen there have been thriving animal populations. Sportsmen were the first conservationists and are still the best. Join a local conservation organization in your area to secure a healthy environment for the future. **The future of wildlife depends upon you!**



CHAPTER 3: WILDLIFE IDENTIFICATION

Objectives:

- List five groups of wildlife.
- Learn identifying field marks of species in each group.



Groups of Wildlife

As a hunter, you should know the game animals and associated species in the area you hunt. Responsible hunters not only take time to learn field marks, but also to learn about the animal's sign, habits and environment. The best way to learn this is to spend time in the field year round with a good field guide and a pair of binoculars.

Wildlife is usually broken down into five groups:

1. Big game
2. Small game
3. Upland game
4. Migratory Waterfowl
5. Non-game including rare, threatened, and endangered animals

The following is a list of animals that you are likely to see while hunting in New Jersey:

Big Game

Black bear – *Ursus americanus*



- Largest game animal in New Jersey. Can grow to over 700 lbs.
- Confirmed reports from all 21 counties.
- Highest densities in northwest corner of the state.
- Hunting seasons conducted in 2003 and 2005.
- Can run 35 miles per hour and climb trees.
- Not a true hibernator.

White-tailed deer –
Odocoileus virginia

- Most popular big game species in North America.

- New Jersey has more opportunities to hunt than any other state in the nation.

- Annual harvest averages about 50,000.

- Antlered males must have at least one antler three inches long.

- Bucks harvested from Quality Deer Management zones, must have at least three points on one side. A point must be at least one inch long.



Small Game

Gray Squirrel – *Sciurus carolinensis*

- Seasons open for shotgun, bow, and muzzleloader.

- No modern rifle season

- Must wear at least 200 square inches of blaze orange or a complete orange hat while firearm hunting.



Eastern Cottontail Rabbit

Sylvilagus floridanus

- Can be hunted with shotgun or bow.

- Frequently hunted with hounds.

- Prefers early succession habitat.



Woodchuck – *Marmota monax*

- Can be hunted with muzzleloader shotgun, or bow.

- Modern rifle hunting only on



private property.

- If shooting greater than .25 caliber, bullet weight cannot exceed 100 grains.

- Orange is not required, but recommended to and from hunting location.

Raccoon – *Procyon lotor*

- Night time season allowed with hounds.

- Can use .22 shorts.

- Can be live trapped with trapping license, using snares or box traps.



Red Fox – *Vulpes vulpes*

- Has a white tip on the tail.

- Native to Europe.

- Is an edge species that thrives in New Jersey.



Gray Fox – *Urocyon cinereoargenteus*

- Native to New Jersey

- Can climb trees.

- Prefers large tracks of unbroken woods.

- Cannot interbreed with red fox.



Coyote – *Canis latrans*

- Our eastern coyotes are much larger than western coyotes. Many coyotes in New Jersey are over 50 pounds.

- Coyotes can come in any color from blonde to black.

- Has black a spot, 1/3 of the way down, on top of tail.



Coyotes and Foxes have separate seasons during small game. You can also harvest them during many of our deer seasons. A nighttime permit season is also gaining popularity. The nighttime season allows the use of electronic calls and external light

sources. Any coyote shot must be reported to the NJ Division of Fish and Wildlife within 24 hours. See **The Fish and Wildlife Digest** for the most current regulations, as they may change from year to year. Remember it is illegal and unethical to shoot any wild or stray dogs.

Upland Game

Ruffed Grouse

- Requires early succession habitat.
- Populations are down because most of their former habitat has matured.
- In spring, males can be heard drumming (beating their wings) to attract a mate.



Woodcock

- Uses long bill to probe in mud for worms.
- Relies on early success habitat and wetlands.
- Need a HIP (Harvest Information Program) certification to hunt this migratory species.



Pheasant

- Not native to North America.
- Wild populations occur across the US.
- Most of New Jersey's wild populations are down. The major cause of this is thought to be a change in farming practices.
- A pheasant stamp is required to hunt on stocked Wildlife Management Areas.
- Can hunt Sundays on commercial and semi-wild preserves.



Bob-white Quail

- Wild populations found in the southern half of the state.
- Stocked on two WMA's and numerous semi-wild and commercial preserves.
- Often times flies low. Be sure the bird gets high enough off the ground to provide a safe shot.



Turkey

- Hunters brought this native bird back into New Jersey in 1977. The population now is over 20,000 birds.
- Turkeys can fly 55 miles per hour and roost in trees.
- It is illegal to stalk turkeys. You must be set up and calling.
- You should not wear a red, white or blue tee shirt underneath your camouflage because you can be mistaken for a male turkey's head.



Waterfowl

Migratory waterfowl season dates and bag limits are set according to federal guidelines. Waterfowl hunters are required to purchase federal and state waterfowl stamps. The moneys raised are used to protect wetlands and help manage waterfowl. Remember that while hunting waterfowl, you must use non-toxic shot.

Not all species of ducks have open seasons or are hutable at the same time. It is crucial that you can identify ducks, not just in your hand, but at a distance using different field characteristics. Certain species have distinct flight patterns or calls. A complete list of waterfowl and their

identifying characteristics can be found at Ducks Unlimited web site.

www.ducks.org Practice year round to learn these field marks.

Ducks are broken into several groups.

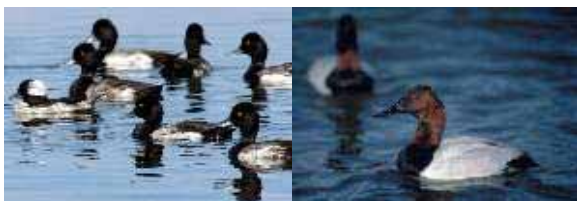
Dabbling Ducks

- Also known as puddle ducks. Includes mallards, wood ducks, black ducks, widgeon, pintail, gadwall, shoveler, and teal.
- Prefers shallow water.
- It feeds only as deep as it can reach from the surface.
- High food quality.



Diving Ducks

- Also called pochards or bay ducks
- Diving ducks include ring-necked, scaup, canvasback, and redhead.
- Prefers deeper water.
- Dives completely underwater to feed.
- Have shorter bills, rounder heads, plumper bodies, and simpler color patterns.



Sea Ducks

- Includes scoters, eiders, longtails bufflehead, goldeneye, and mergansers.
- Mostly associated with coastal waters.
- Excellent diving skills.
- Preference for animal foods.

- Food quality not as high as puddle ducks.



Geese

Snow Geese

- Breeds on the arctic tundra.
- Population at an all time high causing significant damage to the breeding grounds.
- Extremely liberal seasons are designed to help reduce populations.



Brant

- Our smallest goose in New Jersey.
- Winters in shallow saltwater bays and marshes
- Breeds in the arctic tundra.



Canada Geese

- Largest goose in New Jersey.
- Non-migratory or resident populations are at high levels. Extremely liberal seasons and bag limits are designed to reduce populations.
- Migratory geese seasons are much more restrictive than the resident goose season.



Non-game

Endangered species are those whose prospects for survival in New Jersey are in immediate danger because of a loss or change in habitat, over-exploitation,

predation, competition, disease, disturbance or contamination. Assistance is needed to prevent future extinction in New Jersey. Regulated sport hunting has never caused any animal to become endangered or extinct. Some species are on the state endangered species, meaning they are rare in New Jersey, while others are on the federal endangered species list. Federally endangered species are rare across the country.



Both the bobcat and the timber rattler are state endangered species in New Jersey. They are rare because of their specific habitat requirements. Other states that have large quantities of their key habitats may have seasons on these species.

Threatened species are those who may become endangered if conditions surrounding them begin or continue to deteriorate. The wood turtle and the red headed woodpeckers are both New Jersey state threatened species.

New Jersey is home to more than 500 species of vertebrates. Many of these species benefit from the work hunters do. Numerous woodland songbird populations suffer when deer populations grow too high. Only after the deer herd is reduced do these song bird populations come back. Several species of endangered and threatened salamanders use the same seasonal wetlands that woodcock hunters work to protect. Certain species of ground nesting birds are impacted when predator populations grow too high. Hunters and trappers are used to help keep these predator populations in check. All species, including the citizens of New Jersey, benefit from ethical hunting.



CHAPTER 4: GAME CARE – BEFORE AND AFTER THE SHOT

Objectives:

- Know the vital areas of various game species.
- Know best shot placements for firearm and bow.
- Know how to approach downed game.
- Know how to take care of game in the field.
- Know how to transport game out of field.



Game care starts long before you squeeze the trigger or release the arrow. You must be responsible to take care of your game in order to assure that the food you are taking is going to be of the highest quality. Do not risk the quality of your meat by hunting on an 85 degree day in September, if you have no way to keep game cool.

When to Shoot, Where to Aim?

The goal of every responsible hunter is to make the quickest and cleanest kill possible. In order to do this, you must first know where the vital area on your game is located.

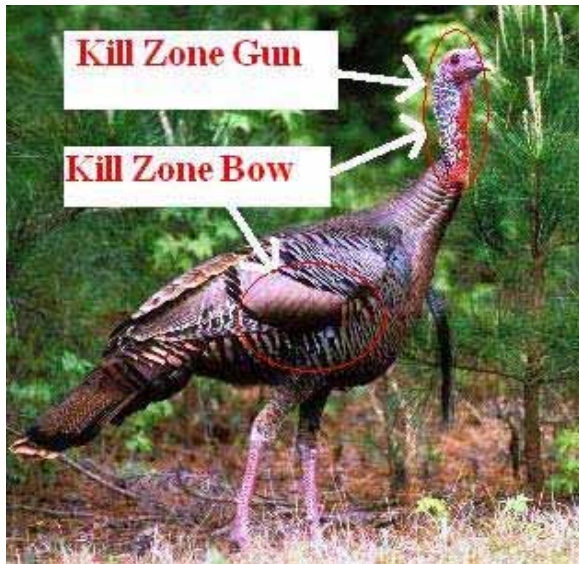
Small Game

For small game and bird hunting you will want to aim for the head. Although body shots are many times effective, much meat may get destroyed. Take extra care to lead out in front to ensure a good head shot. Be aware of your effective range, which is about 40 yards depending on the choke and shot size being used. Do not skybust (shoot at birds on the edge of your effective range) in the hopes of getting a lucky pellet to harvest a bird. Be aware while hunting waterfowl that non-toxic shot must be used. Remember, since steel is lighter than lead you may have to use a larger size shot. Not all old guns can use steel shot.

Turkey

When turkey hunting with a firearm, the only acceptable shot is the head and neck. A body shot with the shotgun, even at close range will

NOT kill the bird. You need at least 13 pellets in the head and neck region to ensure a clean kill.



Practice at the range long before the season to know the limitations of you and your gun. A 20 gauge with a modified choke may only be effective at 20 yards while a 12 gauge with an extra full turkey choke may be effective at 40 yards. Never shoot at a bird in full strut. Wait for him to get out of display with his head and neck fully extended. Make sure the shot is clear and there are no other birds behind your intended target. There are many new types of turkey loads on the market which are heavier than lead and are very effective. However, do not depend on these to make irresponsible far or difficult shots.

Big Game

For big game the vital organs are the heart, lungs or liver with the best shot being a double lung. Although, the head is a vital area on big game it is a low percentage shot and



should never be attempted. The shot selected should be an animal within your personal effective range, that is standing still in the clear, unaware of your presence. Even a small branch can deflect your arrow or projectile from hitting the intended target.



An alert deer at close range will have time to react to your shot, effecting where you hit. Difficult shots should not be taken.

The two best shots with the bow or the gun are broadside and quartering away. Remember to pick a spot on the deer. You are not aiming at the whole deer but at a spot smaller than the size of pie plate. On a broadside shot, you will want to aim several inches behind the shoulder on the lower half of the body. When aiming at the same deer quartering away, you need to aim at the opposite front shoulder in order to hit both lungs. Not all mechanical broadheads are capable of making quartering away shots. Know the limitations of your equipment. Remember to pick a specific spot and not



aim at the whole. When hunting out of a tree stand, the deer can also be too close. You NEVER want to shoot at a deer straight down. The back bone covers much of the vital area and it is near impossible to hit both lungs from this angle. A deer can live with one lung. If the deer is directly underneath you, wait until he gets

out at least 10 yards and presents a broadside or quartering away shot.

Most poor shots that lead to missed or wounded game are not because the hunter is a bad shot, but because the hunter has made a bad choice. Bad judgement may cause a hunter to shoot too far or at an animal at a bad angle. The hunter may feel he has to rush the shot or shoot at an animal moving too fast. Don't be tempted to make a bad decision because the trophy is unusually large or the season is almost over. You must not let the excitement of the hunt cloud your mind into making one of these bad choices that may lead to missed or wounded game.

After the Shot

After the shot, watch where the deer runs. Listen carefully, did you here the deer collapse? Mentally mark the spot where the deer was standing when you shot and the last place you saw the deer. Look at your watch. Note what time you shot and wait at least 20 minutes before you get out of the stand. Even though a well placed shot will kill the animal within five to ten seconds you will still want to wait just in case the animal hasn't expired yet.

Look at where the animal was standing when you shot. Are there scuff marks, broken vegetation, blood or hair. Is my arrow on the ground? What does the blood look like? Pink frothy blood indicates a lung hit. Bright red a heart hit. Dark slimy blood indicates a liver hit. An animal shot in the liver may live longer. Wait several hours before trailing. Slimy brown and green digested plant matter is a gut shot. A gut shot deer shouldn't be trailed for at least six to eight hours. When hunting with the



gun, you kill the animal through shock power. With archery, you kill the animal through loss of blood. A gut shot deer dies from a fever. This means that the deer will go into water to try to cool down. Look in swamps, creeks and ponds.

When tracking a deer, stay on the side of the trail. Don't disturb the blood, you may need to come back. Look for blood on vegetation off the ground as well. Flag the trail as you go along. If you lose the blood, go back to the last flag and search in ever increasing circles until you pick the blood up again. An extra set of eyes can help in tracking, however keep group size to a maximum of three so the blood trail doesn't get too disturbed.



Approach a downed deer with caution. The antlers and hooves can be extremely dangerous. Watch from a distance to see if the animal is breathing. If the animal doesn't appear to be breathing, approach from behind the head. Are the eyes open? Use a long stick to touch the eye. If the eye closes the animal is still alive. A dispatch shot should be used.



After determining that the deer has expired, the first thing you must do is fill out your transportation tag in ink.

2008 Transportation Tag - Deer	
6-Day Firearm Only	000008362
GIDF: 000-D19-406	FREDDY C KRUEGER
Signatures X	

If you are an adult, this is found on your license or permit. Farmers and youth need to make a home made transportation tag that

includes name, address, date, county, township, sex of deer, number of antler points per side, and zone where deer was harvested,

Field Dressing the Game

Once you have successfully tagged the deer you may field dress the deer. Make sure you have latex gloves on before you start. You do not need a large knife to do the job. A sharp knife with a three inch blade is plenty big enough. Watch chapter nine in the Hunter Education Video for step-by-step instructions. Remember the three basic rules for keeping your game the highest quality.

- Keep the animal **clean**. Do not allow hair, dirt, flies, leaves or other debris to get into the animal's carcass.
- Keep the animal **cool**. Remove the animal's organs as quick as possible after tagging the animal. To maximize the quality of the meat, allow the animal to hang for at least 7-10 days or until rigamortous is gone, if conditions allow. The best temperatures to hang meat are 32-40 degrees.
- Keep the animal **dry**. Do not allow the carcass to become or remain wet. This creates a bed for bacteria to grow on. Wipe off blood with a dry cloth or paper towel. Place carcass in a dry area.

Transporting Game

Don't be confused for game. Flag the game with hunter orange (big game) or conceal it (small game) while



transporting it out of the field. Don't injure yourself by trying to drag something that is too heavy for you. Go get help. Try to avoid dragging your game through water or dirt.

Remember, deer and turkey must be brought to a check station the same day as soon as possible. A list of check stations is found in the **NJ Fish and Wildlife Hunting Digest**. If you get to the check station and it is already closed, you must call your NJ Fish and Wildlife Regional Law Enforcement Office and leave a message on the machine, including which check station you plan on taking the animal to the next morning. The phone numbers, for all the Division offices, are found on the inside cover of the **Digest**.

Preparing Game

Many people agree that wild game is healthier and tastier than domestic raised meat. It is extremely low in fat and cholesterol.



As a result, it has a lower moisture content and can dry out when it is not cooked properly. Cook at high temperatures for shorter periods of time or low temperatures for longer periods of time. Meat that has been properly taken care of should not be gamey or tough, but a fine delicacy.



CHAPTER 5: SURVIVAL AND FIRST AID

Objectives

- Identify the basic requirements for survival
- Explain basic rules to observe in the event a hunter becomes lost
- Explain the causes of hypothermia
- Explain the basic rules for treating bleeding



Introduction

All hunters should know the basic rules of survival. If you do, you can handle any situation that you are faced with. The two most important things to remember are **be prepared** and **don't panic**. You need to be ready for survival situations the minute you leave home, your camp or vehicle. If you wait until you are wet, alone or in thick fog before you think about survival, it may already be too late. Think ahead.

Basic Survival Rules

You will be able to deal with most any situation if you remember these simple rules.

- Remain calm in an emergency. Avoid panic. Stay put.
- Never travel or hunt alone.
- Tell someone where you will be hunting and when you plan on returning.
- Know the weather conditions where you will be hunting.
- Dress for the weather and be prepared for worst.
- Carry a survival kit with you at all times.
- Know how to build a fire even when everything is wet. Carry the materials you will need.
- Carry a map and compass or GPS and know how to use them.
- Be prepared to deal with the enemies of survival.
- Carry a cell phone whenever possible.
- Know the signs of hypothermia.
- Know how to stop bleeding.

Remaining Calm in Survival Situations

To survive you need only four things: A calm head, food, water, and shelter. Do not panic. All of the food, water, and shelter in the world cannot help you if you panic in a survival situation. Keep calm and use your head. Your brain is

your best survival tool.



In a survival situation, remember a “stop” sign for these important steps:



S.....Stop, when you realize you have a problem. The first thing you need to do is to admit that you are in trouble.

T.....Think, about what you need to do to survive.

O.....Observe, the area and look for shelter, fuel, and other objects that may help you survive.

P.....Plan, how you are going to use your survival kit and other resources available to you. Do not wait until dark to plan.

Remain calm. Think clearly. Use the tools you have available to you.

Stay in one place if you are lost. Do not wander around and get yourself into deeper trouble. If you let somebody know where you are going to hunt, they will be looking for you in that area. Aimless wandering will only make the search more difficult. Rescue teams are trained to find you, so stay put.

Plan ways to signal for help. A signal mirror or smoke from a fire can be used. The universal signal for help is three shots evenly spaced. Remember that shots are common during daylight hours in the hunting season. Wait until nightfall to shoot. Three of anything such as toots on a whistle or car horn may also be used to signal a need for help.

Hypothermia

Hypothermia is the number one cause of outdoor fatalities.

Hypothermia occurs when your body loses heat faster than it can produce it, causing your core body temperature to fall.

Hypothermia is often induced by cold, wet conditions, such as rain, snow, sleet, or immersion in water.

Moisture from perspiration, humidity, and dew or rain on bushes and trees can also soak your clothing over time, putting you at risk in cold weather. Wet or damp clothes will draw heat out of your body more rapidly than cold air. Wind lowers your body temperature as it evaporates moisture from your body.

Symptoms of Hypothermia

- Uncontrolled shivering
- Slow, slurred speech
- Memory loss
- Irrational behavior, such as removing clothing
- Lack of body movement
- Sleepiness
- Unconsciousness, which could lead to death

Treatment of Hypothermia

- Find shelter for the victim.
- Remove wet clothing, and replace with dry clothing and other protective covering. If there is no dry clothing, use a fire to dry one layer at a time.
- Give warm liquids to rehydrate and warm, but never give the victim alcohol to drink. Quick-energy foods also produce inner body heat.
- For mild cases, use fire, blankets, or another person's body heat to warm the victim.
- In more advanced stages, warm the victim slowly by placing one or more persons in body contact with the victim. Place canteens of hot water

insulated with socks or towels on the groin, armpits, and sides of the neck of the victim.

- A victim at or near unconsciousness must be handled gently, and not immersed in a warm bath or exposed to a large fire, which can lead to traumatic shock or death. Immediately contact emergency medical personnel to evacuate the victim to a hospital for treatment.

Basic First Aid

Every hunter should take a first-aid course to learn what to do in case of injuries.

Bleeding

Bleeding can be a life threatening situation, shock and loss of consciousness can occur rapidly if the bleeding is not stopped properly and quickly.

To stop bleeding:

- Apply direct pressure on the wound with a sterile gauze pad or the cleanest cloth material you may have. Do not lift the pad to check the wound, it will only cause bleeding to start again.

Direct pressure and elevation are usually all that is needed to stop most bleeding. A tourniquet should be used **ONLY** as a last resort to stop severe bleeding that does not stop using direct pressure.

Water Safety

Since all animals need water for survival it is no surprise that you will sometime hunt around water. Be sure to know how to be safe around water so you

can prepare against some of these common accidents. Here are some helpful tips to keep you safe.

Wading

- Be sure that you wear a belt with your waders so if you slip they don't fill up with water.
- Check the depth of the water with stick or wading staff before going.
- Don't wade to the top edge of your waders.
- Have appropriate soles on your boots to match the bottom you are walking on.



Walking on Ice



- Check the thickness of the ice before walking on.
- 4 inches of clear black ice can safely hold you and your gear.
- White ice is not as strong as black ice.
- Moving water doesn't freeze as quickly as still water. Take this into consideration when crossing streams or rivers.
- When traveling on ice always carry ice spikes. In the event you should fall through the ice they are used to assist you with climbing back onto the ice.

Boating

- Do not overload the boat. Make sure the weight is evenly distributed.
- Do not stand in the boat.
- Make sure your equipment is in good condition and you know how to use it.
- Make sure there are PFD's (Personal Flotation Devices) for everyone on board. Children 12 years of age and



- under must always wear a PFD.
- Check weather forecasts frequently. Do not go out if weather is questionable.



CHAPTER 6: RULES AND REGULATIONS

Introduction

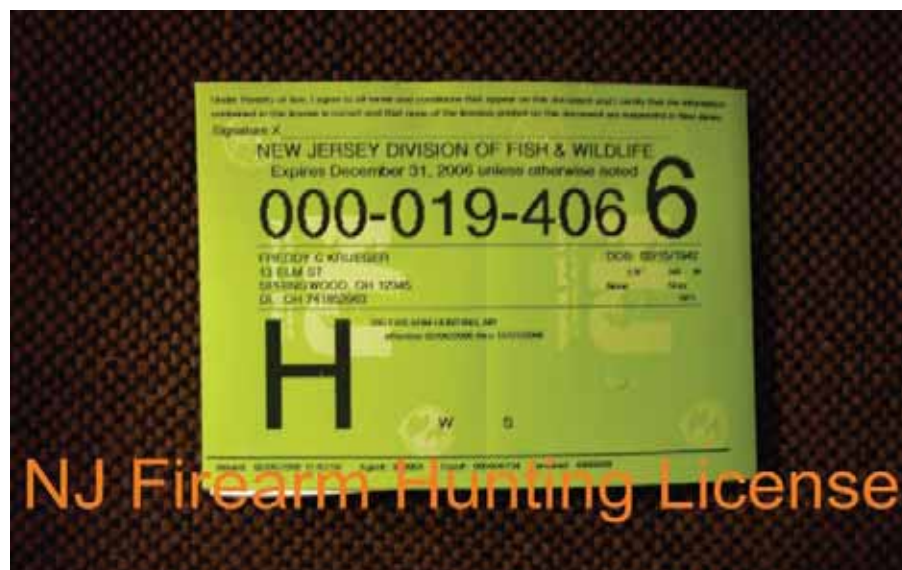
It is your responsibility to know and obey all rules and regulations. Ignorance is no excuse for breaking the law. A general listing of the current rules and regulations is found in the New Jersey Division of Fish and Wildlife's Hunting Digest. These rules may change from year to year. Check the current digest before you go hunting to make sure that you know the current regulations.

What Do I Need to Hunt in New Jersey?

Anyone can hunt in New Jersey if they have a valid hunting license. Special permits or stamps may be required to hunt certain species or seasons. Permits are needed to hunt turkey, deer, and coyotes during various seasons. State and federal duck stamps are required to hunt migratory waterfowl. Remember when hunting waterfowl and woodcock you must also have to have a valid HIP (Harvest Information Program) number.

Objectives

- Explain three types of wildlife management laws.
- Define the role of a Conservation Officer.
- Explain three ways in which a hunter can have his license privileges taken away.
- Explain the proper procedures for reporting a game violation.
- Explain two types of public safety laws.
- Explain the meaning of poaching.
- Demonstrate knowledge of the law pertaining to carrying and transporting of firearms in motor vehicles.



Juvenile Hunters



Regardless of age, everyone must have a valid license. Those who pass their Hunter Education course before their sixteenth birthday will receive a free juvenile license. This license is valid until December 31 of the year they turn 16. Both the archery and the shotgun licenses come with a pheasant stamp printed on them. Juveniles under 16 do not need state or federal migratory waterfowl stamps. All other permits must be obtained, but at a reduced price. Juveniles under 14 can not hunt unless they have adult supervision from a licensed hunter who is at least 21 years of age, who is willing to take responsibility for them.

Wildlife Laws in New Jersey

Wildlife laws are designed to protect wildlife, promote firearms safety, and provide equal hunting opportunity for all interested individuals. The state legislature has given authority to the New Jersey Fish

and Game Council to set the seasons and bag limits.

The annual **New Jersey Fish and Wildlife Digest** is an excellent source of information. It contains a current summary of wildlife laws, as well as telephone numbers and addresses of Division of Fish and Wildlife offices. You can find the Digest at Division Field Offices and any place where you buy your license.



There are three basic types of wildlife laws.

1. Wildlife conservation laws
2. Public safety laws
3. Equal opportunity laws

Wildlife conservation laws are designed to protect and manage the resource. Season dates are set to protect the game species during vulnerable times of year. Non-toxic shot regulations are in effect for waterfowl hunters to ensure a healthier environment for both the waterfowl and us. Bag limits are designed to meet various management objectives.

Public safety laws are designed to protect people and property. Our number of hunting incidents dramatically decreased when it became mandatory to wear hunter orange.



Safety zones have been enacted to help prevent houses from being shot by irresponsible hunters. To ensure that both you and your hunting companions are safe, it is illegal to have a loaded firearm in a vehicle or shoot from or across a road.



Equal opportunity laws were enacted to ensure that everyone has an equal chance at harvesting game. This is why you can't start small game hunting until sunrise and why there is a lottery for turkey permits.

Hunting Violations

Here is a basic list of hunting violations. It is against the law to:

- Hunt game with a shotgun that can hold more than three shells.
- Hunt game birds or game animals using anything other than a firearm, bow and arrow or by falconry.
- Hunt game animals or game birds with a shotgun larger than 10 gauge.
- Hunt wildlife with a fully automatic firearm.
- Hunt big game with a spotlight or other artificial light.

- Hunt, possess or control protected wildlife or endangered species.
- Hunt wildlife from a vehicle or from a boat under motor power.
- Waste game animals or game birds.
- Destroy or possess the nests or eggs of game birds or protected wildlife.
- Allow somebody else to tag a big game animal you have killed.
- Carry, transport, or possess a loaded firearm in any motor vehicle.
- Shoot a firearm from or across a road.
- Hunt on Sundays unless for stocked game on semi-wild land or commercial preserves.

Role of the Conservation Officer

Years ago, people called the Conservation Officer a Game Warden. This has changed today because the conservation officer does much more than just protect game. Although enforcing wildlife laws is their primary job, they also have the authority to enforce all other state laws. But more importantly, the conservation officer acts as a spokesperson for the Division of Fish and Wildlife.



You may see your local Conservation Officer at sport club meetings, fishing

derbies and other community activities. Look upon them as your friend, ask them questions. They are protecting the wildlife that we all enjoy.

To contact the Conservation Officer in your area, you can call your regional law enforcement office. Leave your name, telephone number and the reason why you called.

Northern Region 908-735-8240
Covers Bergen, Essex, Hudson, Hunterdon, Morris, Passaic, Somerset, Sussex, Union and Warren counties

Central Region 609-259-2120
Covers Burlington, Mercer, Middlesex, Monmouth and Ocean counties

Southern Region 856-629 -0555
Covers Atlantic, Camden, Cape May, Cumberland, Gloucester, and Salem Counties

Do not confront a poacher. Helpful information to provide includes: date, time, location, description of suspect and vehicle, plate number, and type of violation. Reports can be kept confidential and rewards are paid on some types of violations.

Poachers will be fined and sometimes sent to jail. They may also have their firearm and vehicle seized and forfeited to the state, depending upon their violation. Certain types of violations may also result in the loss of your hunting and fishing privileges for two to five years. Repeat offenders can lose their privileges for life.

By always following the rules and regulations pertaining to hunting, you are helping to preserve the future of hunting in New Jersey. Always take the time to report fish and wildlife violations.

Reporting Wildlife Violations

Poaching is the illegal harvest of any wildlife. Each year conservation officers find illegal people shooting animals out of season or in excess of the legal bag limit. A poacher is a wildlife thief and gives honest sportsmen like you a bad name.

If you see a poaching violation, please take time to report it to the Division of Fish and Wildlife's Operation Game Thief Program at 1-800-222-0456.



CHAPTER 7: SHOTGUNS AND SHOOTING TECHNIQUES



Objectives

- Identify the three major parts of a shotgun
- Identify the four types of actions found on shotguns
- Explain gauge and choke
- Explain the functions and limitations of safeties
- Identify the components of a shotshell
- Know how a shell fires



Parts of a Shotgun



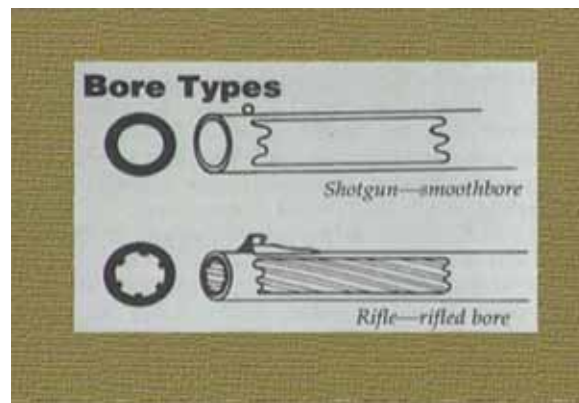
Stock- the part of the gun you hold, it helps point and fire the gun

Action- loads, fires, and ejects the shells

Barrel- sends shot pellets towards the target

Why are Shotguns Called Smoothbores?

Shotguns generally have barrels that are smooth on the inside, much like a stove pipe. This is why they are called smoothbores. This style barrel is designed to shoot loose pellets called shot.



Some shotguns have barrels that are rifled. This means there are grooves that form a twist in the barrel which add a spin to the projectile. This style barrel is used for slugs or sabots only.

Action Types

There are four different types of action types. They are pump-action, semi-automatic, bolt action, hinge/break action. The types of action you use will be dictated by your personal preference.

Pump-action



These shotguns are sometimes called slide actions. You must pump, or slide, the forend back and forth to work this type of action. A pump action shotgun usually has a tubular magazine.

To open the action, pull the forend back toward the trigger guard. To close the action, push the forend away from the trigger guard. If the gun is cocked (ready to fire), you must press the action lock button or lever before the action will open. Usually the action lock button is located just in front of or just behind the trigger guard.

Semi-automatic



These shotguns are sometimes called self-loading or autoloading. Many people often mistakenly call these shotguns “automatic shotguns”. Automatic firearms continue to fire as long as the trigger is depressed. Automatic firearms are illegal to possess in New Jersey.

The semi-automatic shotgun fires and loads fresh shells into the magazine each time the trigger is pulled. The trigger must be pulled for every shot. Each time the

trigger is pulled the gun will fire, eject the empty and load a fresh shell. The action usually remains open after the last round of ammunition is fired and there is no more ammunition in the magazine.

To open the semi-automatic shotgun, you pull back on the operating handle on the bolt. Usually the action will remain open if the operating handle is pulled all the way back. To close the action all you have to do is press the release button. Semi-automatics require some skill and strength to work the action. Make sure you can safely work the action before attempting to load the firearm.

Bolt action



These shotguns are simple to operate. Lift the bolt handle up and pull it back to open the action. To close the action, push the bolt forward and then down. When the bolt is open, the shotgun cannot fire.

After the shotgun is fired, manually working the bolt ejects the empty and loads a fresh shell from the magazine.

Hinge or break action



These shotguns are easy to open, close and inspect. Push the release lever and the action will open. It is easy to tell if a break action shotgun is loaded or if there are any obstructions by looking down the barrel through the chamber. To close the action,

simply lift the stock upward to lock the barrel.

Hinge-action shotguns can have more than one barrel. Double-barrel shotguns can be over-and-under or side by side. Hinge-action firearms have no magazines.

Some hinge-actions shotguns are hammer guns.

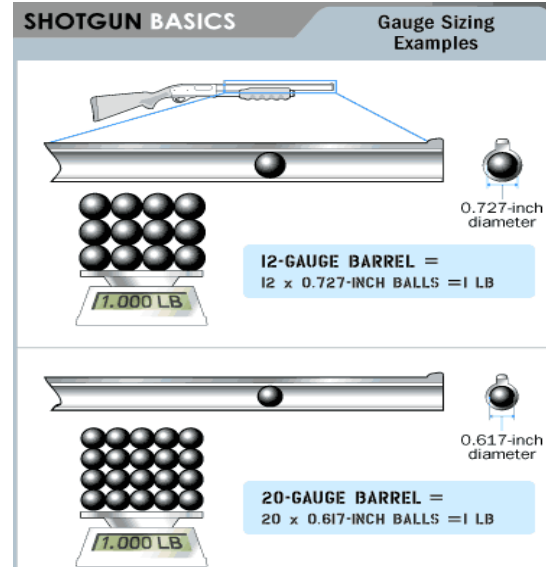


Hammer guns have an external hammer to cock the firing pin. This external hammer is the only safety on the gun. Hammer guns require some extra skill and strength. One must learn to cock the hammer only when the target is acquired. Once the hammer is cocked, the only way to release the hammer is to pull the trigger. To prevent the gun from firing, you must have enough strength in your thumb to control the hammer while squeezing the trigger without letting it slip from your thumb. If the hammer slips from your thumb some guns will fire. This type of firearm action may not be the best for those who do not have large enough hands or strength to safely operate this action.

Gauge

The term gauge refers to the size of the shotgun. The gauge of a shotgun was originally determined by the number of lead balls, that are the same diameter of the gun's bore, it takes to equal one pound. Therefore, if you had lead balls the same diameter as a 12-gauge shotgun bore, it would take 12 of

those balls to equal a pound. Smaller bores would take more balls to equal a pound. This is why a 28 gauge is smaller than a 10 gauge. It takes more balls of a smaller size to equal a pound. Twelve and 20 gauge shotguns are the most popular gauges you will see in the field.



The .410 is the only shotgun that is not measured this way. Notice how the size is written. It is actually a caliber because it has a (.) in front of the number. This is the same way a rifle's bore would be measured. If the .410 were to be measured in terms of gauge, it would be equal to about a 67 gauge.

How Do I Know What Gauge My Shotgun Is?

Look on the side of the barrel.

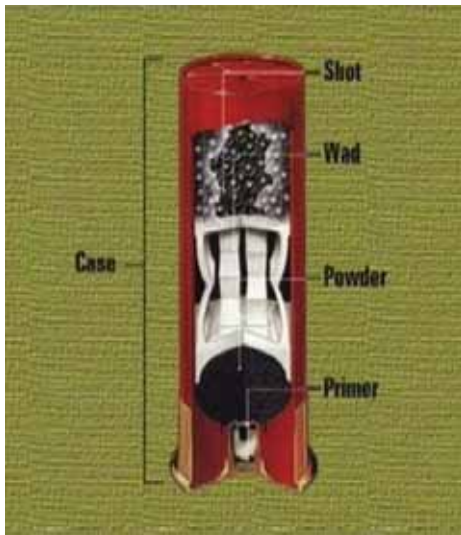


Generally you will find the gauge and chamber length stamped on the barrel.

This is called the **barrel stamp**. Some older or custom firearms may not have this stamp. Make sure you know what the gauge of your firearm is before you attempt to shoot the gun. If you are unsure of the gauge or chamber length, take it to a reputable gun smith to find out the correct shotgun shells to use.

Shotgun Shells

Shotguns are the most versatile, hunting firearm because of the shells they fire. A shell consists of a case, primer,



powder, wad, and shot.

The case is the container for all the shells components. The primer creates a spark, when struck by the firing pin, and ignites the powder. The gas pressure created by the ignited powder forces the wad and shot out of the barrel. The wad separates the shot from the powder and keeps a tight seal on the barrel so the pressure created by the burning powder does not escape past the shot. The wad also protects the shot from being deformed while traveling out of the barrel.

Shotgun shells come in various colors.



Never assume the gauge of the gun a shell can be fired in based upon color.



The only way to be sure of the size of a shotgun shell is to look at the head stamp. The head stamp is on the metal end of the shell and the stamp is found on the top of it.

Shotgun shells come in different lengths also. Shotguns can only safely fire specific length shells, depending upon the guns chamber length (chamber length can be found on the barrel stamp). If a gun has a 3-inch chamber, it can fire 3-inch or smaller shells. A 3 ½-inch shell could be placed into the action and fired but it may cause the barrel to explode.

Take care to remove all shells from your pockets when you are done hunting or shooting and put them back into their proper box.



By taking this precaution, mistakenly loading the wrong ammunition into the gun will be avoided.

Shot

Shot comes in many different sizes. The hunting or shooting activity will determine the type and size of shot being used.

A deer hunter may use buck shot or a single projectile (when shooting a single projectile, the gun must have front and rear or telescopic sights).

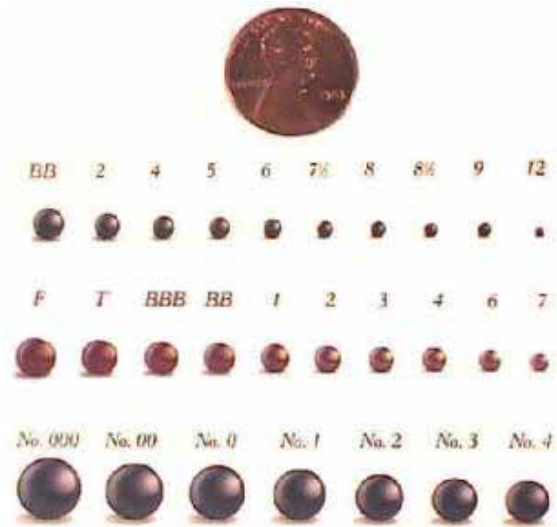


The small game hunter may use fine shot in size #4 or smaller and will determine the size with the game being sought. Turkey hunters may use shot ranging from #4 to #7 1/2 fine shot.

Waterfowlers must use nontoxic shot and it can not be larger than size T fine shot. The reason that you must use non-toxic loads when hunting ducks, rails, or geese is that the birds ingest spent shot. Birds do so naturally, as they store small pebbles in their gizzards to help them digest their food. When they ingested spent lead pellets, they were dying of lead poisoning.

The only type of nontoxic shot that used to be available to waterfowlers was steel shot. Steel shot is lighter than lead and therefore loses its downrange energy more quickly. Thus, cutting down on waterfowlers' effective ranges. However, with today's technologies alternatives to

steel have been found. They are bismuth, hevi-shot, and tungsten.



Chokes



The muzzle end of a shotgun barrel has a choke, which is used to control the spread of shot downrange. The choke is much like the nozzle on a garden hose. A full choke constricts the water into a tight stream. A cylinder choke opens the spray up to shoot a wider cone.

Newer shotguns will generally have screw-in choke tubes, giving hunters the ability to change the choke size. A grouse hunter will most likely use an improved

cylinder choke, whereas a turkey hunter will use a full or extra-full choke.

Safeties

Safeties are placed on guns to protect against an accidental discharge. However, safeties are a mechanical device and can fail. The only true safety on any gun is the person holding the firearm. Become familiar with the gun by reading the manufacturer's instructions. Any time you pick up a firearm, the first thing you should do is check to see if it is loaded.

When handling a firearm, the three primary safety rules should be obeyed.

- 1. Treat every firearm as if it were loaded.**
- 2. Always keep the muzzle pointed in a safe direction.**
- 3. Be sure of your target and beyond.**

If these safety rules are followed each and every time you use your firearm, you will never have an accident.

Depending on the make and model of your shotgun, the safety may be located in different areas. Take note of where the safety is when reading the manufacturer's instruction. Two very common safeties are the tang and crossbolt.

Tang safeties are located on the top of the gun just to the rear of the receiver. To use this safety, simply push it forward with your thumb. To put the safety back on, push it in the opposite direction.

Usually, there will be a red dot indicating the safety is off RED=READY. Only take



the safety off when you have identified your target and know it is safe beyond it.

Crossbolt safeties are found on the front or backside of the trigger guard. To operate them, push the bolt from one side toward the other.



A right-handed gun's crossbolt safety will be pushed from the right to the left. For a left-handed gun it would be pushed to the right to the left. When the safety is off, there should be a band of red around the bolt—signifying that the gun is ready to fire. ****Remember that safeties are mechanical devices and can fail. Never trust a safety, the only true safety on a firearm is you.****

Loading A Shotgun

Now that you are familiar with the parts of a shotgun and the required ammunition you will need to know how to safely load and unload the firearm. The following steps are a basic guide for you to follow. Always check the manufacturer's directions for a guide on loading and unloading each firearm.

Loading

- Check to be sure that the firearm is unloaded.
- Always keep the muzzle pointed in a safe direction.
- Open the action.
- Choose the proper shotgun shell for the firearm
- Place the shotgun shell into the action.
- Load the magazine with the proper size ammunition if applicable.
- Close the action.

- The firearm is now loaded and ready to fire.

Unloading

- Be sure the safety is on.
- Keep the muzzle pointed in a safe direction
- Open the action.
- Remove the shotgun shell.
- Empty the magazine if loaded.
- Check the firearm again to be sure it is completely unloaded.

Shotgun Shooting

Before handling firearms, always be sure to check that they are unloaded. Never accept a firearm from anyone if the action is closed or you do not know how to operate it



safely. Be sure to always check that no shotgun shells are in the action or magazine.

The first step in becoming a good shotgun shooter is determining your dominant eye. Just because you are right handed does not mean you are right eye dominant. To determine your dominant eye, you will need a partner. Have someone stand about 10 feet away from you. Put your hand together forming a small triangle with thumbs and index fingers. Holding your arms straight out in front of you, look through the hole you formed at your partners

nose. They can then tell you which eye (of yours) they see—this is your dominant eye.



Now that you have determined your dominant eye, you need to learn your proper stance.



Stand with your feet shoulder width apart. For a right eye dominant shooter, you will have your left foot slightly in front of your right, with the toes of your left foot pointing in the direction of your target.

Bend your left knee slightly, this will cause you to lean forward a bit—helping to absorb the recoil from the shot. (Left-eye dominant shooters will use the opposite leg in previous instructions.) Now raise the gun to your cheek under your dominant eye. Be sure to place the butt of the gun firmly in the crook of your shoulder. When looking down the barrel, all you should see is the front bead.



If you see any part of the gun barrel, you will be shooting high or low.

Transporting and Storing Firearms

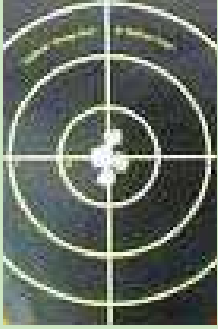
By law in NJ, when transporting a firearm in a vehicle, it must be unloaded and cased. The case can either be hard or soft. Hard cases offer more protection to the gun from being dented or having the sights being jostled. Make sure that the case is in proper working order (i.e. the latches all work, the drawstring is intact, or the zipper still closes the case completely).

Firearms should always be stored under lock and key.



Ammunition should also be stored under lock and key and in a separate area from firearms. Another consideration is to make sure that the area where the firearms are stored stays dry. If any moisture is present, the guns will rust.

Another safety precaution is to put a trigger lock on each gun. They are simple to use and can quickly be taken on and off of a gun.



CHAPTER 8: MODERN RIFLES AND SHOOTING TECHNIQUES

Objectives:

- Identify the major parts of a rifle
- Identify the five different rifle action types
- Learn the difference between center and rimfire cartridges
- Learn the make up of a cartridge
- Learn different shooting positions



The use of rifles when hunting in New Jersey, is very limited. Trappers may use .22's when working their lines to dispatch animals they have caught. Woodchuck hunters are allowed to use rifles, but only on private property. Consult the current Fish and Wildlife Digest for current rules and regulations on hunting with rifles.

Why then is it important to learn about rifles? There are many reasons, most importantly you will become familiar with all types of firearms and how to use them. Some students, completing their Hunter Education in New Jersey, will go on to hunt out of state or out of the country, where the use of a rifle is commonplace.

The rifle's excellent accuracy makes it an extremely effective hunting tool. However, with the ability for bullets to carry over a mile, it is important that you use great caution when firing a rifle. Always be sure of your target and beyond. When hunting with a rifle in NJ, you must possess a shotgun license, rifle permit, and the gun can only hold three rounds (1 in the chamber and 2 in the magazine) regardless of the magazine's capacity.

Major Parts and Action Types



Pictured above is a **bolt-action** rifle. The action is worked manually, by lifting up on the bolt handle and pulling it back. This will open the action or eject a round. To close the action, it is pushed forward then down.



Break-action rifles can either be single or double barrels. Typically, double barrel rifles are used for hunting dangerous game (lion, bear, water buffalo etc.) and come in large calibers. Dangerous game hunters choose double guns because they want a quick follow up shot, with no chances of the action jamming while loading another round.



Lever-actions are commonly seen in western movies, being used by cowboys. The lever is worked by moving it down and forward, then back to its original position.



Pump-action rifles work by sliding the forearm forward to close the action and back to open it.



Semi-automatic rifles will reload a round each time it is fired. The trigger must be pulled each time, to fire the gun. Automatic firearms, which are not legal to use for hunting in NJ, fire multiple shots while the trigger is squeezed.

Center and Rimfire Cartridges

A rifle cartridge can be broken into four parts. They are the bullet, case, powder, and primer.



There are two different types of cartridges, they are centerfire and rimfire. Center and rimfire cartridges look similar. The big difference between the two is the location of the primer.

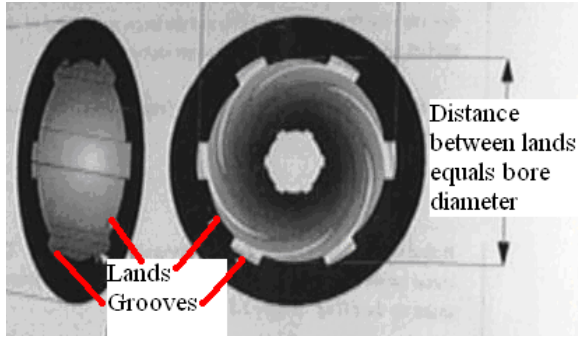
A centerfire cartridge primer is located in the center.



A rimfire cartridge primer is located along the entire rim of the cartridge

Accuracy

Rifles are extremely accurate. There are many factors that come into play when accuracy is concerned. The speed of the bullet, bullet weight, rifle's caliber, but the most important thing is hidden inside the rifle's barrel.



The barrel is rifled. A rifled barrel has lands and grooves that corkscrew when moving up the barrel.

Rifling causes the bullet to spin, just like the spiral put on a football when it is thrown. Without this spin the bullet would tumble end over end through the air.

Sighting in and Shooting Positions

No matter what little gadgets and gizmos a rifle has, the gun is only as accurate as the person shooting it. To become proficient at shooting a rifle, it takes practice and learning the limits of you and your rifle. A shot should only be taken if you are 100% certain you can make it.

Depending on the game being hunted, the hunter will have to determine what caliber rifle and grain bullet fits the overall, shooting situation. A deer hunter in Maine may prefer a heavy grained bullet in .30-.30, this would not suit the midwest varmint hunter.

Whether shooting iron sights, a peep sight, or using a scope, the rifle must be sighted in at a certain distance. The range that you choose to sight the rifle in is dependent upon the distance you plan to shoot. If a rifle is zeroed at 100 yards, that means it will hit the center of the target at that distance. What will it do at 50 yards or

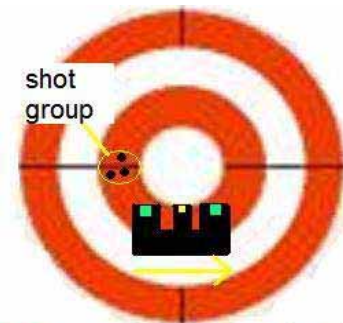
125 yards? This can only be determined by shooting at different ranges. A bullet may still be rising at 100 yards, therefore, at 125 it is high and at 50 it is low. Game will not always present itself at a rifle's zeroed distance. Practice will ensure that the proper aim is taken at varying ranges.

Iron Sights

When sighting in, make sure of a consistent and solid rest

(shooting vises work great when sighting in).

Just because a rifle was bore sighted does not mean it is on target. Shoot several



Move rear sight to the right to center shot group.

shots at the same distance and spot on the target. If the shots are in a group, you can adjust the sights. Adjust the rear sight in the direction you want the shot or group to move. This means that if the shots are off to the right of the target, you must move the rear sight to the right.

Peep or Aperture Sights

To use these sights, the shooter looks through the small hole in the rear sight. Then line up the front post, so it is centered in the peep. Follow the same rules as when sighting in iron sights.



Scopes

Scopes have dials for alignment of the shot. One controls horizontal movement and the other vertical. Read the manufacturer's instructions on the distance each click will move your shot at 100 yards.



If it is 1/4" at 100 yards, this means it will be 1/8" at 50 yards and 1/2" at 200 yards. This can be confusing, but practice will make perfect.

Shooting Positions

Once the rifle has been sighted in, you will want to practice shooting from different positions. There are four basic stances: standing, kneeling, sitting, and prone. Standing is least steady and prone



the most steady. However, when hunting you can take advantage of your surroundings or use shooting sticks to help steady for a shot. Trees, mounds of dirt, and stumps are all excellent for steadying a shot, as are backpacks.

If nothing is available to get a quick rest, the sling on the gun can be used to help steady a shot. This is done, by taking your

non-shooting arm and putting it through the sling, so that it rests just behind the elbow. Now, wrap the sling around your forearm, only having your hand pass through a second time. Rest the forearm on your hand, flex your bicep to tighten up the sling, making a tight and stable shooting position.

When preparing to take a shot, control your breathing (if you have



been hiking take a couple seconds to catch your breathe and relax). It is necessary to hold your breathe on the shot. Take a deep breathe and exhale a bit of air then hold for the shot. **Squeeze** the trigger slow and steady, it should almost be a surprise when the rifle fires (slapping the trigger like a shotgun will throw the shot off). After the shot is fired continue to squeeze the trigger and keep your eyes on the target you intend to hit. This is known as follow through. These techniques can also be used when shooting a slug gun or muzzleloader.

When using a scope, many shooters will tend to just get the target in the scope picture and not concentrate on the exact spot they want to hit. Put the crosshairs on an exact spot, pick out a hair, muscle feature, or dot on the target and keep your eyes on that spot even after the shot. A great saying is, "aim small, miss small." This means if you miss the spot you were aiming at, it misses by a fraction of an inch.

Remember, when in the field or at the range always wear eye and ear protection. Hearing protection can be purchased that allows you to hear soft noises, but will block loud ones (like a gun being fired). **Remember, hearing and vision loss is usually permanent, never use your firearm without eye and ear protection.**

CHAPTER 9:

MUZZLELOADERS



Objectives:

- Identify the major parts of a muzzleloader
- Learn the different powder granulations and their specific uses
- Learn the steps of loading a muzzleloader
- Learn the difference between a hangfire and misfire
- Learn how to remove a stuck projectile

Muzzleloaders are defined as firearms that are loaded through the muzzle. There are three basic components used when loading a muzzleloading rifle. In loading order they are powder, patch, and ball. If you are shooting a muzzleloading shotgun the components are powder, cardboard over powder patch, lubed fiber compression wad, shot, and cardboard wad to retain shot.

Muzzleloader hunting has been gaining popularity over the past few years for many reasons. For the traditionalist, it offers the opportunity to go a field with a primitive firearm. Others like the challenge of only having a single shot. The old adage, one shot one kill, comes into play here. Most importantly it gives the hunter more time to hone their skills and extend their season allowing more time in the field. Many hunters like using in-lines, as they have excellent downrange accuracy, even better than most slug-guns. The excellent accuracy is due to the rifling in the barrel. Rifling causes the bullet to spin increasing accuracy

Major Parts and Accessories



Muzzleloader Accessories



Powder Types and Granulations

There are many different types of powder available to the hunter these days, the most popular being black powder. Alternatives to black powder are Pyrodex®



and triple-7. These two alternatives burn cleaner and make cleaning the gun easier. Black powder is made up of a combination of sulfur, saltpeter, and charcoal. Powder of any kind should be stored in a cool dry area in a safe or lock box.

Black powder can be found in granular form or in pellets. Granular black

powder must be measured, using a powder measurer prior to pouring it into the muzzleloader. **Never load directly from a can or powder horn into the firearm!** A powder measurer insures that the load will be consistent each and every time.

Black powder comes in different grain sizes. The size of the grains dictates the caliber and type of gun it can be safely fired from. The different sizes are Fg, FFg, FFFg, and FFFFg. The more F's the smaller the grains.

Fg- used in cannons

FFg- used in .45 caliber or larger

FFFg- used in .45 caliber or smaller

FFFFg- only used to prime flintlocks

Never use FFFFg in a rifle, it may cause the gun to explode

Pyrodex® is a propellant designed for use in muzzleloading and black powder firearms and is sized differently than black powder.

Pyrodex P - Pistol Powder –used in all pistols and in smaller bore rifles, 45 caliber and down

Pyrodex RS - Rifle/Shotgun Powder - used in all calibers of percussion muzzleloading rifles and shotguns

Pyrodex Select - Select Rifle/Shotgun Powder - select is an enhancement of RS grade of Pyrodex

Both black powder and Pyrodex® come in pellet form. These pellets come in pre-measured in 30 or 50 grain increments. They make loading much easier for the shooter but limits the shooter who would like to fine tune their powder charge.

Smokeless powder used in shotgun shells and rifle cartridges should never be used in a muzzleloader not made to shoot such powders. Using smokeless powders, in firearms not designed for them, can cause the barrel to explode.

Loading

For a complete video display of how to load a muzzleloader please view chapter 13 of the DVD.

The first thing that should be determined before handling any firearm is whether or not it is loaded and that the safety is on. Unlike a shotgun or rifle you can't just open an action on a muzzleloader. To see if your muzzleloader is loaded, you must spring-a-rod or check the unloaded mark on your ramrod.

To **spring-a-rod**, simply drop the ramrod down the barrel, watch and listen. If the ramrod bounces and makes a metal on metal pinging noise the firearm is unloaded. However, if the ramrod doesn't bounce and makes a dull thud there is a projectile or obstruction in the firearm.

To check the loaded mark on your ramrod, you must first place one on the ramrod. The first time you check to see if your



muzzleloader is loaded is the best time to make this mark. Once the ramrod is in the barrel, using a piece of tape or file, put your mark on the ramrod right where the ramrod sticks out of the top of the barrel.

Most ramrods, that come with the gun, do not stick out of the barrel when the firearm is unloaded. There are a few solutions to this problem. You can either use a range rod or put an extended jag at the end of your ramrod. Realize that in hunting situations, range rods and jags can not be used. They will get in the way of the muzzle when the ramrod is put back into the thimbles.

The next step, is **snapping caps**. The reason for snapping caps is to dry out any residual moisture or oil left over from previous cleanings.

It is also used to determine if there are any obstructions in the barrel or nipple.

This is important because if the powder gets wet or the nipple is obstructed the primer can not ignite the powder.



Always snap the first cap down-range. This is a safety precaution just in case the firearm is loaded. The second cap should be snapped while holding the barrel a few inches (4-6) away from a blade of grass. Watch for the grass to move. If it moves



you know the nipple is clear.

It is important to have both hands free when loading a muzzleloader. An easy way to do this is by placing the butt of the gun between your heels, with the trigger guard pointing in the direction you are facing. Now, move your heels together until they lock onto either side of the butt of the gun. By slightly bending at the knees and placing the forearm between them, you now have both hands free for loading your firearm.

The next step is to measure powder. It is best to read your owners manual to determine the size of the charge you can use in your firearm. The



general rule of thumb is one grain of powder per caliber. Meaning, if you have a 50 caliber gun it is safe



to shoot 50 grains of powder. Never load directly from a powder flask or can. Only load your muzzleloader from

a powder measurer or from a pre-measured speed loader. By using your hand, as an improvised funnel, you can avoid spilling powder when loading. Always replace the lid on a powder flask or can after the desired amount is measured out. This will keep any sparks given off by the primer from falling into an open container. Another way to protect against this is to load the muzzleloader away from the firing line. Pyrodex pellets can be used in place of loose powder. Pellets come pre-measured, typically in loads of 30 and 50 grains. To load pellets, drop them down the muzzle with the dark black side down.

Now that the charge is in place, the next step is to load a projectile. If you will be using a round ball you must first center a lubed shooting patch over the muzzle. Make sure that it is a single patch. They are very thin and if more than one is used the ball will get stuck halfway down the barrel. Place a round ball on top of this patch.



Round ball and patch

If you are shooting a conical bullet with a



plastic jacket (sabot) there is no need to use a patch as the sabot around the projectile is used in place of the lubed patch.

Next you will need to start the projectile down the barrel. To do this you must use a ball starter. First, you must use the short end of the ball starter to start either projectile into the barrel. Next use the longer end to push the projectile further down the barrel.



Next, you will use a range or ram rod to finish seating the projectile on the charge.



This is done by using short strokes, one hand over the other until the round is seated firmly. It is important to make sure that the round is seated properly or it will act like an obstruction in the barrel causing damage to it and maybe harming you. At this point you can put a loaded mark (where the rod leaves the end of the muzzle) on your ram rod or range rod, keep in mind that this mark

will change with the type of projectile and amount of powder you use.

Finally, you are ready to fire. Walk up to the firing line (always keeping the firearm pointed in a safe direction), place a primer on the nipple,



cock the hammer, take aim, and squeeze the trigger. Be aware that a hang-fire or misfire may occur. A hang-fire is when the primer fires, but there is a short delay before the main charge ignites.

A misfire on the other hand is when the primer fires, but the main charge does not. For this reason, when a muzzleloader charge does not ignite keep the muzzle pointed downrange for two minutes. After the two minutes, reseal the projectile as the misfire may have caused it to move up the barrel (creating an obstruction), re-prime and fire again (repeat this process 3-4 times).

If the charge will not go off you must now remove the projectile. This is a potentially dangerous situation, but there are three methods that will keep everyone safe.

- A CO2 or silent ball discharger
- Using a nipple wrench, remove the nipple and work a few grains of powder in behind the main charge. Clear the threads of any powder and replace the nipple. Reseat projectile, prime firearm, and fire.
- Remove the nipple with a nipple wrench. Remove the barrel from the stock and submerge the breech end of the barrel in water to saturate the charge for 1-2 hours. While

submerged, pour water down the barrel. Once the charge is saturated a ball puller can be used to remove the projectile and the powder can be washed out.

These steps can be confusing for a first time shooter. Become familiar with your firearm by reading the manufacturers' instructions. Go to the range with someone who is responsible and experienced with muzzleloaders. Use the knowledge of your hunter education instructor, ask them any questions you may have.

Cleaning

Always be sure that your muzzleloader is unloaded before attempting to clean it. For a complete video demonstration on muzzleloader cleaning please watch chapter thirteen of the DVD.

Gun manufacturers come up with new innovations each year, to make their guns more user friendly. However, they have yet to produce a muzzleloader that cleans itself. Many hunters choose not to use muzzleloaders because they do not want to take the time to clean the gun. It is actually quite easy to do and only takes about ½ an hour.

Depending on the make and model of the muzzleloader, there will be different ways to clean the gun. Always refer to the manufacturer's instructions on how to properly care for your muzzleloader. Make sure the gun is well lubed when storing for long periods of time, this will prolong the life of the muzzleloader. Store the muzzleloader in a cool dry place that is under lock and key. Check your muzzleloader periodically for rust that may be developing and thoroughly clean it before this rust has the opportunity to ruin your muzzleloader.



CHAPTER 10: BOW AND ARROW TRAINING

Objectives:

- List the four types of bows
- List the parts of a bow
- List the parts of an arrow
- List the 11 steps to shooting success
- Know the proper shooting form when shooting from a tree stand
- Know what the limitations of your bow is in the field



Introduction:

Bow hunting is a sport that has been around for thousands of years. Much has changed since those original bows, which were crafted out of bone or wood with strings made of animal sinew. Modern bow technology has grown tremendously in the last several decades. However, technology has not replaced the need for practice and proper technique. New Jersey has some of the longest and most productive archery seasons in the nation. About a 1/3 of the Garden State's annual deer harvest is shot with the bow.

Types of Bows:

Bows are broken down into four main types:

Long bow or stick bow – A long straight one-piece bow with a single bowstring. When you draw the bow energy is stored in upper and lower limbs. This bow is shot instinctively with no sights. At full draw you are holding the full draw weight. This is the oldest style of bow, usually made of wood.



Recurve bow – A bow made with curving limbs and a single bowstring. Because of the curve in the limbs, more energy is stored when drawn making it more efficient than the long bow. This bow could be one piece or the limbs can be detachable from the riser in a take down style. Most of the time this bow is shot instinctively, but sights can be attached. Like the long bow, while at full draw you are holding the full draw weight.



Compound bow – The most common bow in use today uses a system of cables and eccentrics to store energy while shooting. Depending upon the style of the eccentrics there is a 40 – 80 percent let off from the peak draw weight. This allows the archer to be steadier at half the poundage while holding the bow at full draw without tiring. This style bow is designed to be shot with sights. Most modern compounds are also designed to be shot with a release aid.



Crossbow – The crossbow has its limbs mounted horizontally on a stock. The string is cocked and mechanically held in place while at full draw. A squeeze of the trigger shoots the arrow. Because of how short the limbs are, they shoot extremely high draw weights, usually 100 – 200 pounds. They are often equipped with scopes. The ballistics of the arrow is about equal to that of a modern compound.



Parts of a Bow

Here is a full list of parts you may find on your bow. Don't be alarmed if you don't have all of them on your bow. Not all the parts on the list are required for your bow to shoot properly.

Arrow Rest – Where the arrow is placed while shooting. Styles included are flipper, launcher, biscuit, and drop away.

Cable – Connects the two eccentrics together turning them over simultaneously when drawing

Cable guard and slide – Keeps the cables from wearing against each other and away from the flight of the arrow.

Eccentric wheels – Found on the end of each limb. Stores most of the energy in a compound bow. Styles of eccentrics include wheel, cam, single cam, and cam and a half.

Grip – The portion of the bow that you hold with your bow hand.

Kisser button – Located on the string to be lined up with the corner of your mouth while at full draw. Helps to give you a consistent anchor point.

Riser – The center part of the bow which the limbs and all the accessories are attached.

Nock locator – Used to position the arrow on the serving square to the arrow rest.

Lower limb – The limb on the bottom half of the bow.

Limb bolts – Holds the limbs in place on the riser. Used to adjust the draw weight of the bow.

Peep sight – Located on the string to be lined up with your dominant eye when bow is at full draw. Acts as a rear sight.

Quiver – Holds the extra arrows. Should completely cover your broadheads.

Sight – Used for aiming the bow. Attached to the riser.

Stabilizer – Acts a counter balance.

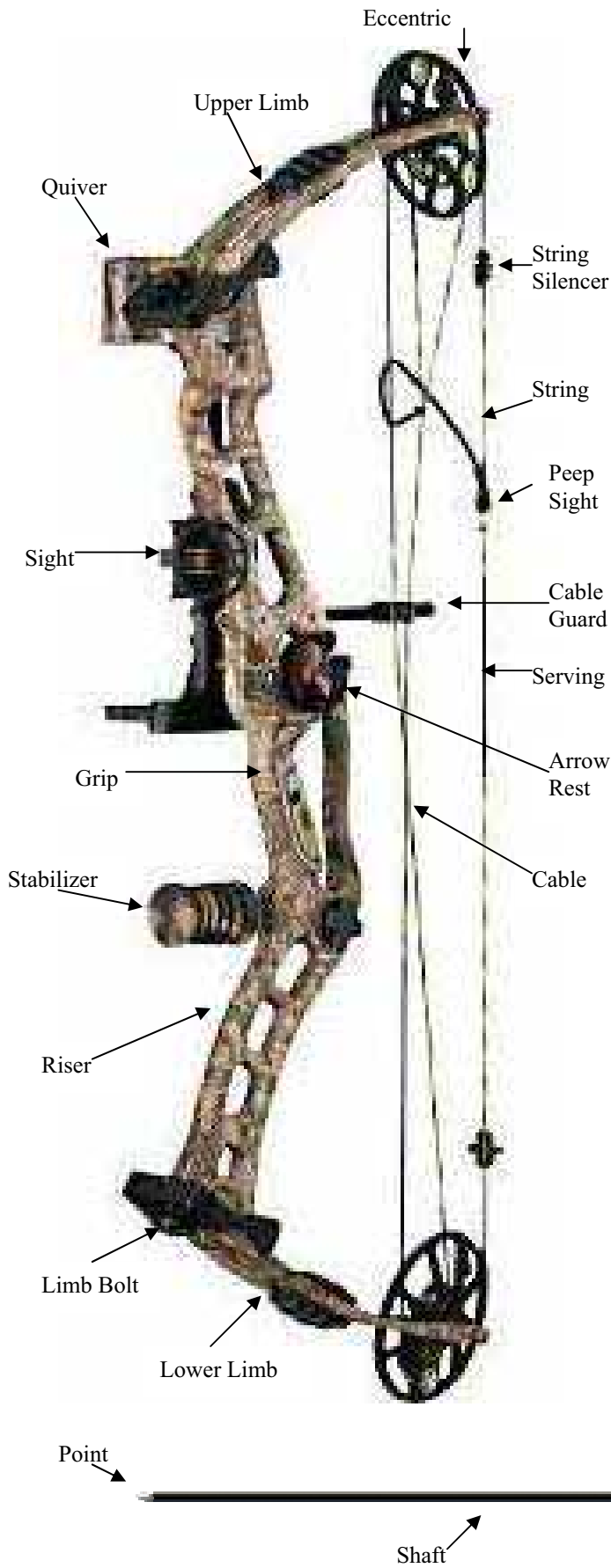
String – The string you pull back while drawing.

String Silencers – Located on the string to quiet the bow by dampening the vibration.

Serving – The portion of the string in which the arrow is nocked.

Upper limb – The limb on the top half of the bow.

Window – The portion of the riser that you look through while shooting.

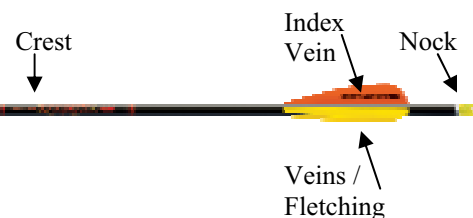


Arrows

Arrows can be made out of wood, fiberglass, aluminum or carbon. The vast majority of arrows used for hunting are made out of either aluminum or carbon. Carbon arrows, which are lighter, may fly flatter and quicker, will have less kinetic energy or penetration than a heavier aluminum arrow. Personal preference, budget and type of bow will dictate what type of arrow you will buy. Regardless of what type of arrow you choose, you need to make sure it matches your bow. To determine what size of arrow will work best, one should go to your local archery pro shop to have your draw length and draw weight measured. With this information the pro-staff can look at an arrow sizing chart to determine what spine, or stiffness, your arrow should have. Aluminum arrows are measured with a four digit numbering system. The first two numbers give you the arrow's diameter measured in 64ths of an inch. The second two numbers give you the arrow's wall thickness measured in 1000ths of an inch. Carbon arrows have a numbering system unique to each individual manufacturer. It's important that your arrow matches your bow. An under-spined arrow could be dangerous to shoot, while an over-spined arrow may not shoot precisely.

Parts of an arrow

Shaft – The long slender part of the arrow usually made out of aluminum, carbon or carbon composite for compound shooters. Traditional archers usually prefer to shoot wooden shafts while those bowfishing may use fiberglass shafts



Crest – The portion of the shaft where the arrow's information is written

Nock – The notch into which the bow string is placed. Usually made out of plastic.

Veins / fletching – Used to stabilize the arrow in flight. Usually made out of feathers or plastic. Can be oriented straight or with a twist (also called helical)

Index vein – Vein of a different color that is used to help determine the proper orientation of the arrow while nocking.

Point – The end of the arrow that has an arrow head that matches the type of shooting you will be doing.

Types of points

Field – Used mostly for target practice and some small game.



Fish – Used for bowfishing usually with a fiberglass arrow. A fishing license is required. See the **NJ Division of Fish and Wildlife Fishing Digest** for more information on what species can be shot.



Blunt – Used for small game. Dispatches the animal by impact.



Judo – Used for small game and target practice.



Fixed broadhead – Uses razor sharp blades that are permanently fixed in place to dispatch an animal by causing massive hemorrhage. Has greater penetration than most mechanical broadheads.



Mechanical broadhead – Shoots with blades closed and opens on impact. Most styles have less penetration than fixed blades. There is no guarantee that they will shoot the same as a field point. You still need to practice with them before the season.



Mechanical releases: Mechanical releases help give you a more consistent release when used properly. Most modern compound bows are designed to be shot with a release. Be sure to keep your finger behind the trigger while drawing the bow.



Before you shoot

It's important that before you start shooting that you check your equipment to make sure it is safe to shoot. The bow should be checked for cracks or splinters on the limbs, worn strings and cables, c-clips on the axles for the eccentric wheels, and any other loose parts. Listen for any rattle when tapping the bow with your hand. Your release should be checked for any worn or loose parts with strap and mechanical part of the release. Arrows should be checked for straightness, cracks, splinters or dents. The points should be screwed on tight. Nocks should also be checked for hairline cracks.

NASP



New Jersey is part of the National Archery in the Schools Program (NASP) which teaches Junior Olympic Archery Development (JOAD) skills to all kids in physical education classes at the participating schools. This style of teaching has been proven to work across the country fostering an interest in the life long skills of archery. Part of the curriculum teaches the proper way of shooting a bow with the "11 steps to archery success". To get more information on NASP visit www.NASParchery.org To get your school involved with NASP in New Jersey go to www.njfishandwildlife.com

1. Stance



Feet should be shoulder width apart with toes in line at a right angle to the target. This is considered a neutral stance. To allow more string clearance from your chest and arm, you can open your stance by moving your lead foot back.

2. Nock Arrow



The arrow should be taken out of the quiver with the point aimed in a safe direction down range. The nock of the arrow should be placed on the serving below the nock locator. An audible click should be heard when the nock clicks in place.

3. Drawing Hand Set



Your release should be clipped in place on a string loop or on the string directly. If shooting fingers, your pointer, middle and ring fingers, should be hooked on the bow string along the first groove of your fingers. This groove is called the archer's groove. To prevent pinching the arrow, keep all three fingers below the arrow.

4. Bow Hand Set



Center the bow's grip under the lifeline of the relaxed bow hand.

5. Pre-Draw



Raise the bow arm and drawing arm up to eye level.

6. Draw



Pull the string back to the side of your face. Keep your elbow up to use your back muscles.

7. Anchor



Draw the bow string back to same reference point on your face every time. This archer is using four reference points to guarantee a consistent anchor point.

8. Aim



While keeping the bow level, align the sight pin with the target. Your eyes should be focusing on the sight pin. If you are shooting instinctually (without sites), concentrate on the center of the target with both eyes open while aligning the string, riser, arrow rest, and arrow point with the target.

9. Shot Set-Up



Begin a slight rearward movement of the drawing shoulder, arm, and elbow. Initiate the release anytime during this movement.

10. Release



The release is initiated with the rearward movement of your drawing arm. Paint the side of your face with your drawing hand, while releasing your fingers or squeezing the trigger.

11. Follow Through



The drawing thumb should be touching your shoulder while your elbow should hinge downward. The bow arm moves slightly forward. Reflect on your shot.

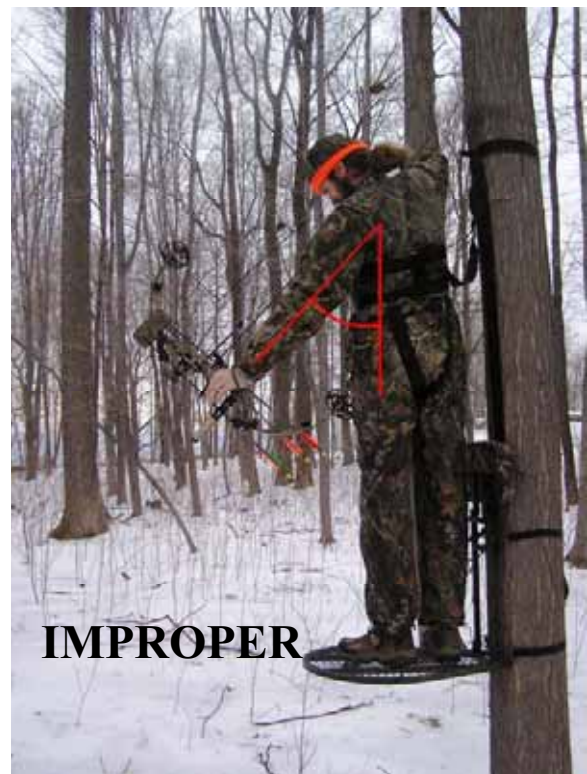
Shooting from a tree stand

The majority of bow hunters in New Jersey prefer to shoot from a tree stand. If you plan on hunting from a tree stand, you need to practice from an elevated stand. In order to insure that you are successful, you need to pay attention to your form. When shooting at a level target, your bow arm is at a right angle to your upper body.



This form gives you your set draw length. Now when you are shooting at a downward angle from a tree stand, you need to maintain this right angle. This is done by bending at the waist after coming to full draw. If you remain perfectly upright, and only move your bow arm downward, you have changed the angle between your arm and upper body, in turn shortening your draw length. This will definitely affect your shot. By bending at the waist, you can use the same pin you would normally use while on the ground. The steeper the angle the

more important it is to have proper shooting form.



Crossbows

As a new crossbow hunter your first job will be to read and understand the instructions supplied by the manufacturer with your crossbow. These instructions are specific to the type of crossbow you will be shooting. Failure to read and understand these instructions can result in personal injury to yourself or others and also damage to your equipment.

Before loading your crossbow always be sure to check your equipment for damage to the string, bow limbs and stock. Never attempt to load your crossbow if any type of defect is found before a certified service dealer corrects the problem.

Crossbows can be cocked either manually using your hands or with the aid of a cocking device supplied by the manufacturer.



An arrow should not be nocked onto the string until you are into your stand and ready to shoot.

You should never attempt to still hunt with a crossbow that has an arrow nocked. Doing so could result in serious injury to yourself if you should happen to fall onto your equipment.

While hunting from a treestand with a crossbow remember to always cock the crossbow while on the ground. Once you are safely into your treestand you must use a

haul line to bring your crossbow into the tree. Never attempt to cock your crossbow from your treestand and never attempt to carry your crossbow with you as you climb the tree. Once you and your crossbow are safely into the tree check your equipment for damage and be sure that the safety is on before you nock an arrow. To return safely to the ground uncock the arrow and again use a haul line to lower the cocked crossbow to the ground.

While shooting your crossbow always remember to keep all of your fingers below the rail and the path of the string.



Failing to do this will result in serious injury to your hand.

Before shooting always check your surroundings for anything that may come in contact with the limbs of your crossbow. Anything coming in contact with the limbs while shooting will cause an errant shot while also possibly causing damage to the limbs of the crossbow or yourself.

At the end of the day to safely unload your crossbow it must be shot. In New Jersey you can carry one arrow with a point different than a broadhead used to unload your crossbow. You should shoot this arrow into the ground or a soft tree stump. Be sure that whenever you shoot your crossbow there is always an arrow nocked. Shooting a crossbow without an

arrow is called a dry fire and could cause damage to your equipment or yourself. Do not attempt to use the manual cocking device or your hands to uncock the crossbow. Remember to always transport your crossbow uncocked while in a vehicle!

Archery limitations

Modern compound bows and crossbows casting arrows at over 315 feet per second are tremendously more efficient than bows of the past. However, don't be fooled into thinking technology has replaced the need to practice or the need to limit your shots. Modern archery is still a close range sport that requires plenty of practice. Regardless on how quick your bow is, your bow is still no where near quick enough to be able to shoot quicker than a deer's reaction time. A deer's reaction time is over 600 feet per second. Therefore, the deer must be relaxed, feeding or looking the other way. If the deer is looking at you, even if you are at full draw, you will never be able to successfully make the shot. Even a relaxed deer will want to react to the sound of your bow. In order for your arrow to hit the deer before the deer has time to move, the deer needs to be close. Anything past 16 to 18 yards, allows the relaxed deer will have time to react. Knowing this, you must keep all your shots within that range. It is much more important to have a quiet bow than a quick bow. Since most modern bows shoot on the top sight pin out to 20 yards or more, this is the only pin you need while in the woods.

Field requirements for the test

On the day of your exam, you must show up on time with your completed workbook and your own equipment.(either a conventional bow or crossbow) The

equipment you take the shooting test with must meet the minimum hunting draw weight requirements in NJ. This information can be found in your Fish and Wildlife Digest. You must also bring 5 matched arrows with field points (**NO** broadheads). You will be required to shoot at least three out of five arrows into the vital zone of a 3-D deer target at a distance of between 15 and 20 yards.

Personal requirements to hunt

Before you step foot into the woods, your personal shooting requirement should be five out of five arrows in the vital zone of a deer at 20 yards. If you are hunting from a treestand, you need to be able to complete this requirement by practicing from an elevated stand. Be sure to practice while wearing your hunting clothes and safety harness. Before hunting, you also need to be sure that your broadheads shoot the same as your field points. If your bow is perfectly tuned, the broadheads should shoot the same. You don't know this until you practice. You may need to try a few different broadheads before you find one that shoots properly with your equipment. Be sure that before you go in the field that you have replaced or re-sharpened the blades on your broadheads after practicing with them. Once you can hit the vital area of the target 100 percent of the time with your broadheads while wearing your hunting gear and from an elevated stand (if you will be hunting from an elevated stand) you are ready to start hunting. In many areas of New Jersey, archery season lasts more than five months. **It is just as important to practice during the season as it is to practice before the season.**



CHAPTER 11: TREESTAND SAFETY

Objectives:

- List 4 advantages and disadvantages of treestands.
- List 4 types of treestands and how they work.
- Understand the fall-arrest system and its benefits.
- Thoroughly understand and agree to use the **Treestand Manufacturers Association** treestand guidelines.

Don't become a statistic!

A 1993 survey conducted by Deer and Deer Hunting magazine found that more than a third [37%] of tree stand hunters have fallen from a stand, and that about 3 % of these hunters suffered crippling injuries.

Of all the tree stand accidents, 75-80% occurs while climbing up or down.

Most hunters injured were not wearing a safety harness/vest.

Hunting from Elevated Stands

Elevated stands are permanent or temporary stands that place the hunter above ground level. They can be treestands placed in or against trees, or free-standing structures. They have become increasingly popular in recent years with both firearm and bow hunters. While they offer certain advantages, they also have some drawbacks, including safety issues.

Advantages

- Wider field of vision—game is spotted sooner than at ground level
- Earlier detection of game allows time to plan for best shot
- Elevation makes hunter's scent harder to detect and movement less noticeable
- Good backstop is available because usually shooting at a downward angle

Disadvantages

- Risk of injury from falling, particularly in wet or icy weather
- Difficult to carry large, portable stands
- No protection from cold or wind
- Little room for movement

Portable Tree Stands

Portable tree stands are safe and environmentally friendly. Commercially made stands certified by the Treestand Manufacturer's Association (TMA) are best. Homemade stands should NEVER be used. You should practice installing an elevated platform or tree stand while you are on the ground. Portable tree stands come in three basic types.

Non-Climbing, Fixed-Position Stands

These simple platforms provide about four square feet of space. They must be hauled into place and secured with belts or chains. This type of stand requires separate climbing aids such as segmented ladders or screw-in steps (where they can be used legally).



Ladder Stands

Ladder stands usually provide a platform 10 to 15 feet above ground. The stands are leaned against a tree and chained or strapped into place. They can be used with a wider range of trees than other portable platforms and provide easier, safer access due to their built-in ladder. Three people are needed to erect a ladder stand safely.



Climbing Stands

Self-climbing platforms allow a hunter to “walk” a stand up a tree using climbing devices for the hands and feet. This type of stand is not suited for trees with shaggy bark, such as some pines or hickories, or for trees with branches between the ground and the desired elevation. Never use climbing stands on trees covered with ice or snow.



Tower Stands

An alternative to a tree stand is a tower stand. These stands are similar to a ladder tree stand but are free-standing and can be placed anywhere that has a firm base.



Fall-Arrest Systems (FAS)

You should use a fall-arrest system (safety harness) that has been approved by the Treestand Manufacturer's Association (TMA). Carefully read the manufacturer's instructions for proper use of your fall-arrest system and follow all safety guidelines.

Always use a properly fitting, lineman's-style, full-body harness (FAS) while installing an elevated platform or a tree stand. Five-point or full-body harnesses, which are commonly used in construction, are recommended because they provide security and comfort in a fall, and they distribute a hunter's weight evenly. The vest harness is a very effective style of the full-body harness.



Hauling Hunting Equipment into a Stand

Before hauling a firearm into a stand, make sure it is unloaded. Also, you can avoid getting debris in the barrel by placing a cover over the muzzle. Once you are securely in the stand, check for obstructions and that your safety is on before you load.

- Never carry your hunting equipment up or down the tree with you as you climb. Always use a haul line.
- Before attaching the haul line to your hunting equipment:
 - If using a firearm, unload it and open the action.
 - If using a bow, put the arrows in a covered quiver and secure the quiver to your bow.
- Use a haul line of heavy cord attached to your stand to bring up your hunting equipment or to lower it prior to climbing down from your stand.
 - If using a firearm, attach the haul line to the firearm's sling so that the firearm hangs with the muzzle pointed down.
 - If using a bow, attach the haul line between the bow's limb and the bowstring so that the arrows point up.
- Slip the end of the haul line through your belt—leave it untied so that it can pull free if you fall. Put on your fall-arrest system, secure yourself to the tree, and climb to your stand.
- After you are in the stand and secure, haul up your hunting equipment and untie the haul line.

The following treestand safety guidelines were developed by the Treestand Manufacturers Association and reprinted with their permission.

Post Office Box 15214 • Hattiesburg, MS 39404-5214 • Phone: 601-584-7983 • Fax: 601-584-9220

<http://www.tmastands.com>

ALWAYS wear a Fall-Arrest System (FAS)/Full Body Harness meeting TMA Standards even during ascent and descent. Be aware that single strap belts and chest harnesses are no longer the preferred Fall-Arrest devices and should not be used. Failure to use a FAS could result in serious injury or death.

ALWAYS read and understand the manufacturer's **WARNINGS & INSTRUCTIONS** before using the treestand each season. Practice with the treestand at ground level prior to using at elevated positions. Maintain the **WARNINGS & INSTRUCTIONS** for later review as needed, for instructions on usage to anyone borrowing your stand, or to pass on when selling the treestand. Use all safety devices provided with your treestand. Never exceed the weight limit specified by the manufacturer. If you have any questions after reviewing the **WARNINGS & INSTRUCTIONS**, please contact the manufacturer.

ALWAYS inspect the treestand and the Fall-Arrest System for signs of wear or damage before each use. Contact the manufacturer for replacement parts. Destroy all products that cannot be repaired by the manufacturer and/or exceed recommended expiration date, or if the manufacturer no longer exists. The FAS should be discarded and replaced after a fall has occurred.

ALWAYS practice in your Full Body Harness in the presence of a responsible adult, learning what it feels like to hang suspended in it at ground level.

ALWAYS attach your Full Body Harness in the manner and method described by the manufacturer. Failure to do so may result in suspension without the ability to recover into your treestand. Be aware of the hazards

associated with Full Body Harnesses and the fact that prolonged suspension in a harness may be fatal. Have in place a plan for rescue, including the use of cell phones or signal devices that may be easily reached and used while suspended. If rescue personnel cannot be notified, you must have a plan for recover/escape. If you have to hang suspended for a period of time before help arrives, exercise your legs by pushing against the tree or doing any other form of continuous motion. Failure to recover in a timely manner could result in serious injury or death. If you do not have the ability to recover/escape, hunt from the ground.

ALWAYS hunt with a plan and if possible a buddy. Before you leave home, let others know your exact hunting location, when you plan to return and who is with you.

ALWAYS carry emergency signal devices such as a cell phone, walkie-talkie, whistle, signal flare, PLD (personal locator device) and flashlight on your person at all times and within reach even while you are suspended in your FAS. Watch for changing weather conditions. In the event of an accident, remain calm and seek help immediately.

ALWAYS select the proper tree for use with your treestand. Select a live straight tree that fits within the size limits recommended in your treestand's instructions. Do not climb or place a treestand against a leaning tree. Never leave a treestand installed for more than two weeks since damage could result from changing weather conditions and/or from other factors not obvious with a visual inspection.

ALWAYS use a haul line to pull up your gear and unloaded firearm or bow to your

treestand once you have reached your desired hunting height. Never climb with anything in your hands or on your back. Prior to descending, lower your equipment on the opposite side of the tree.

ALWAYS know your physical limitations. Don't take chances. If you start thinking about how high you are, don't go any higher.

NEVER use homemade or permanently elevated stands or make modifications to a purchased treestand without the manufacturer's written permission. Only purchase and use treestands and Fall-Arrest Systems meeting or exceeding TMA standards. For a detailed list of certified products, contact the TMA office or refer to the TMA web site at: <http://www.tmastands.com>

NEVER hurry!! While climbing with a treestand, make slow, even movements of no more than ten to twelve inches at a time. Make sure you have proper contact with the tree and/or treestand every time you move. On ladder-type treestands, maintain three points of contact with each step.

PRINT NAME: _____

CHECK # OF DISCIPLINES TAKING:

SHOTGUN: _____

ARCHERY: _____

RIFLE/MUZZLELOADER: _____



NEW JERSEY DIVISION OF

Fish and Wildlife
Hunter Education

Home Study Workbook

All students must complete and hand in the required sections of this workbook for the courses they want to take.

Students who attempt to attend a course without this workbook or without the appropriate sections 100% completed, will not be allowed into the testing facility.

Students must be at least **10** years of age before enrolling into a shotgun, rifle/muzzleloader or bow and arrow course.

Students with special needs, due to disabilities (learning or physical), must notify the office **AFTER** registering so that proper attention can be given to each student. The hunter education phone number can be found in the NJ Fish and Wildlife Digest

Students must enroll to take this course. A schedule and online application can be found

at:

WWW.WILDLIFELICENSE.COM/NJ

There is no fee for this class or material.

CONSENT FORM

Required for all Minors (under age 18)

I, _____ am
the parent/legal guardian of

As his/her parent/legal guardian I hereby
give my consent to attend the New Jersey
Division of Fish and Wildlife Hunter
Education course for the purpose of
obtaining a hunting license from the New
Jersey Division of Fish and Wildlife.

I understand that I may be held legally
responsible for providing knowingly false
information in this state of New Jersey form.

Parent/Legal Guardian

Date

**** This form must be signed and presented to
the facility coordinator at the time of class.**

Instructions for completing this workbook, preparing and registering for the field session.

Students can now complete the courses of their choice in one day after completing the required sections for each discipline listed below.

Shotgun requirements:

Students must watch all of the following video/DVD chapters: Hunter Responsibility, Wildlife Management, Hunting Laws, Survival and First Aid, Hunting Incidents, Treestand Safety, Shot Placement, After The Shot, Game Care and Field Dressing, Firearm Safety in the Home, Scenarios – (Shoot/Don't Shoot, Safe/Unsafe, Ethics and Law), Shotgun Training.

Students must then complete all of the questions within the video/DVD section of this workbook marked “shotgun students” after each chapter heading.

Students must read all of the following manual chapters: Responsibility, Wildlife Conservation, Wildlife Identification, Game Care – Before and After the Shot, Survival and First Aid, Rules and Regulations, Shotguns and Shooting Techniques, Treestand Safety

Students must then complete all of the questions within the manual section of this workbook marked “shotgun students” after each chapter heading.

Rifle/Muzzleloader requirements:

Students must watch all of the following video/DVD chapters: Responsibility, Wildlife Conservation, Game Care – Before and After the Shot, Rules and Regulations, Survival and First Aid, Treestand Safety, Shot Placement, After The Shot, Game Care and Field Dressing, Firearm Safety in the Home, Scenarios – (Shoot/Don't Shoot, Safe/Unsafe, Ethics and Law), Modern Rifle/Muzzleloader Training.

Students must then complete all of the questions within the video/DVD section of this workbook marked “rifle/muzzleloader” after each chapter heading.

Students must read all of the following manual chapters: Responsibility, Wildlife Conservation, Wildlife Identification, Game Care – Before and After the Shot, Survival and First Aid, Rules and Regulations, Modern Rifles and Shooting Techniques, Muzzleloaders, Treestand Safety

Students must then complete all of the questions within the manual section of this workbook marked “rifle/muzzleloader students” after each chapter heading.

Bow and Arrow requirements:

Students must watch all of the following video/DVD chapters: Hunter Responsibility, Wildlife Management, Hunting Laws, Survival and First Aid, Hunting Incidents, Treestand Safety, Shot Placement, After The Shot, Game Care and Field Dressing, Scenarios – (Shoot/Don't Shoot, Safe/Unsafe, Ethics and Law), Bow and Arrow Training.

Students must then complete all of the questions within the video/DVD section of this workbook marked “bow and arrow students” after each chapter heading.

Students must read all of the following manual chapters: Responsibility, Wildlife Conservation, Wildlife Identification, Game Care – Before and After the Shot, Survival and First Aid, Rules and Regulations, Bow and Arrow Training, Treestand Safety

Students must then complete all of the questions within the manual section of workbook marked “bow and arrow students” after each chapter heading.

After completing this workbook, students must practice with their firearm or bow and be familiar with its use before attending a field session. When ready, students must enroll online at WWW.WILDLIFELICENSE.COM/NJ

All students must arrive at the testing facility at **8:00 am** with a completed workbook for the disciplines you wish to complete. ***Students who arrive after this time or with an incomplete workbook will not be permitted into the course.***

Students must be prepared to be at the facility for at least a ***4-hour*** period depending on the number of disciplines they choose to complete.

Materials needed for the field session:

Shotgun students:

Bring no ammunition! Bring a cased shotgun. Bring eye protection. Bring ear protection. Bring a pencil. Dress to be outdoors for at least 2 hours rain or shine. If you do not have a firearm one will be provided for you.

Rifle/Muzzleloader students:

If you utilize granular black powder we will provide powder for you. If you use pellets, you must bring your own. Bring a cased muzzleloader. Bring eye protection. Bring ear protection. Bring a pencil. Dress to be outdoors for at least 2 hours rain or shine. If you do not have a firearm one will be provided for you.

Bow and Arrow students:

On June 16, 2009 the Fish and Game Council approved a Game Code amendment, which expands the definition of "bow" by removing the prohibition on all draw locking and draw holding devices and by including crossbows in the definition. This allows the use of crossbows in any bow and arrow hunting season and other hunting seasons for all species where the use of bow and arrow is allowed.

Archery students can now qualify with a crossbow. Crossbows must have a minimum draw weight of 75 pounds and a minimum stock length of 25 inches.

If needed, students are encouraged to bring a rest with them to the range for shooting the crossbow. Any shooting position can be used that provides the most stability for the archer.

Students must be able to consistently place at least 3 out of 5 arrows into the vital area of a deer target placed at a distance between 10 and 20 yards.

Practice!!!!!! Practice!!!!!! Practice!!!!!!

Bring a bow set at least with a minimum draw weight of 35 lbs.

Bring 5 matched arrows with field points (no broadheads)

Bring a pencil

Dress to be outdoors for at least 2 hours rain or shine

You must have your own equipment!

The following questions must be answered after viewing the Home Study Video/DVD.

Chapter: Introduction (shotgun, rifle/muzzleloader, bow and arrow students)

- 1) List the make up of the 11 people on the Fish & Game Council:
 - 2) Six _____ representatives.
 - 3) Three _____ representatives.
 - 4) One _____ representative.
 - 5) One Representative from the _____ program.
- 2) List the eight Bureaus that make up the division:
 - 1) _____ 2) _____
 - 3) _____ 4) _____
 - 5) _____ 6) _____
 - 7) _____ 8) _____

Chapter: Hunter Responsibility (shotgun, rifle/muzzleloader, bow and arrow students)

- 1) List two examples of proper hunting behavior:
 - 1) _____
 - 2) _____
- 2) List three guidelines you should follow while hunting on private property:
 - 1) _____
 - 2) _____
 - 3) _____
- 3) List the three primary safety rules:
 - 1) _____
 - 2) _____
 - 3) _____
- 4) Approximately what percentage of NJ residents hunt?
 - 1) _____

Chapter: Wildlife Management (shotgun, rifle/muzzleloader, bow and arrow students)

- 1) What is the definition of wildlife management?
 - 1) _____

2) List the four parts of habitat that all species need to survive:

1) _____ 2) _____

3) _____ 4) _____

3) What is the definition of carrying capacity?

1) _____

4) What is the name of the 11 percent federal excise tax put on sporting arms, ammunition and hunting equipment?

1) _____

Chapter: Hunting Laws (shotgun, rifle/muzzleloader, bow and arrow students)

1) Where do you find a general listing of the NJ hunting regulations?

1) _____

2) Who is responsible for setting the seasons and hunting laws?

1) _____

3) List three mandatory hunting laws that everyone must obey:

1) _____

2) _____

3) _____

4) What should you do if you see a game violation in progress?

1) _____

5) Is it legal for someone to harass you while legally hunting?

_____ Yes _____ No

Chapter: Survival & First Aid (shotgun, rifle/muzzleloader, bow and arrow students)

1) List three symptoms of hypothermia:

1) _____

2) _____

3) _____

2) List three ways to treat hypothermia:

1) _____

2) _____

3) _____

3) What should you do if you become lost? _____

4) List three steps should you take to help prevent contracting Lyme disease:

- 1) _____
- 2) _____
- 3) _____

Chapter: Hunting Incidents (shotgun, rifle/muzzleloader, bow and arrow students)

1) List the three main causes of hunting incidents:

- 1) _____
- 2) _____
- 3) _____

2) List the three primary firearm safety rules:

- 1) _____
- 2) _____
- 3) _____

3) List three incident prevention techniques:

- 1) _____
- 2) _____
- 3) _____

Chapter: Treestand Safety (shotgun, rifle/muzzleloader, bow and arrow students)

1) List four benefits of hunting from an elevated stand:

- 1) _____
- 2) _____
- 3) _____
- 4) _____

2) How should you best learn how to use your new treestand?

- 1) _____

3) What piece of safety gear must you always wear when in a treestand?

- 1) _____

4) What should you use to get your bow / firearm and other equipment into a treestand?

- 1) _____

5) List the three most common types of treestands used:

- 1) _____
- 2) _____
- 3) _____

6) Why shouldn't you use a permanent treestand found in the woods?

- 1) _____

Chapter: Shot Placement (shotgun, rifle/muzzleloader, bow and arrow students)

1) List the vital organs that you must aim at while big game hunting:

- 1) _____
- 2) _____
- 3) _____

2) Why shouldn't you aim for the head or neck while deer hunting?

- 1) _____

3) What is the vital area to aim at while turkey hunting with a firearm?

- 1) _____

4) What is the vital area to aim at while turkey hunting with a bow?

- 1) _____

5) Where should you aim at an animal that is quartering away?

- 1) _____

Chapter: After the Shot (shotgun, rifle/muzzleloader, bow and arrow students)

1) After shooting a deer, list three steps you should you take after the shot:

- 1) _____
- 2) _____
- 3) _____

2) When trailing a deer, what direction does the blood splash?

- 1) _____

3) What does bright red blood, from a deer, tell you about your hit?

- 1) _____

4) What does dark red blood, from a deer, tell you about your hit?

- 1) _____

5) What does frothy bubbly blood, from a deer, tell you about your hit?

1) _____

6) What should you do if you lose the blood trail from a deer?

1) _____

7) How can you tell that a deer is dead?

1) _____

Chapter: Game and Field Dressing (shotgun, rifle/muzzleloader, bow and arrow students)

1) List three rules that will help keep your game fresh:

1) _____

2) _____

3) _____

2) List two reasons why you must cover your game:

1) _____

2) _____

Chapter: Firearm Safety in the Home (shotgun, rifle/muzzleloader students)

1) List two home safety and storage guidelines for firearms:

1) _____

2) _____

2) Where should you store your firearms and ammunition?

1) _____

Chapter: Shotgun Training (shotgun students)

1) List the three major parts of a shotgun:

1) _____ 2) _____ 3) _____

2) List the four most common action types for shotguns:

1) _____ 2) _____

3) _____ 4) _____

3) What is the purpose of the safety on your shotgun?

1) _____

4) Why should you **not** trust the safety on a firearm?

1) _____

5) What does the choke of the shotgun do to the shot?

1) _____

6) What choke gives you the tightest pattern of shot?

1) _____

7) What choke gives you the widest pattern of shot?

1) _____

8) What type of shot must waterfowl hunters use?

1) _____

9) Where do you look on the shotgun to find its gauge and chamber size?

1) _____

10) Where is the gauge marked on a shotgun shell?

1) _____

11) List the six carry positions:

1) _____ 2) _____ 3) _____

4) _____ 5) _____ 6) _____

12) What safety gear must you wear while shooting a firearm?

1) _____

13) How do you determine your dominant eye?

1) _____

14) Should you close an eye when shooting a shotgun? _____ Yes _____ No
If you answered no, why not?

1) _____

15) List three methods of leading while shooting shotguns:

1) _____

2) _____

3) _____

Chapter: Modern Rifle / Muzzleloader Training (rifle/muzzleloader students)

1) What is the purpose of the rifling in a barrel?

1) _____

2) What are rifles that can hold and shoot more than one shot called?

1) _____

Rifle Ammunition

1) List one difference between centerfire and rimfire cartridges:

1) _____

2) Where do you look on the rifle to find the caliber?

1) _____

Rifle Loading

1) List the steps of loading a rifle:

1) _____

2) _____

3) _____

4) _____

Rifle Shooting Position

1) List the four rifle shooting positions:

1) _____ 2) _____

3) _____ 4) _____

2) Which shooting position is the least steady?

1) _____

3) Which shooting position is the steadiest?

1) _____

Muzzleloaders

1) List the three components of black powder:

1) _____

2) _____

3) _____

2) List the type of firearm you would use for following size powder:

Fg _____ FFg _____

FFFg _____ FFFFg _____

3) List the five different muzzleloader action types:

1) _____ 2) _____

3) _____ 4) _____

5) _____

4) Why should special care be given when using a double set trigger for hunting?

1) _____

Muzzleloader Ammunition

1) What is the purpose of the patch in the patch and round ball load?

1) _____

Muzzleloader Loading

1) How do you check if a muzzleloader is loaded?

1) _____

2) Why do you fire several percussion caps through a percussion muzzleloader before loading?

1) _____

3) Why do you run a dry patch down the barrel before loading?

1) _____

4) Why should you put a mark on the ramrod at the muzzle?

1) _____

5) What is a misfire?

1) _____

6) What should you do if you have a misfire?

1) _____

7) What is the safest way to remove a stuck projectile?

1) _____

Chapter: Bow & Arrow Training (bow and arrow students)

1) List the four basic designs of bows:

1) _____ 2) _____

3) _____ 4) _____

2) How can you be sure a bow fits you properly?

1) _____

Arrow Parts and Points

1) How do you determine what size arrow best fits you and your bow?

1) _____

2) What would you use the following tips for?

Field/Target _____ Blunt _____

Bowfishing _____ Judo _____

Broadheads _____

Bow and Arrow Shooting

1) How do you become proficient with your bow equipment?

1) _____

2) When shooting what direction should you be facing if you're right eye dominant?

1) _____

3) When shooting why should you use the same anchor point every time?

1) _____

All students taking the shotgun, rifle/muzzleloader or bow and arrow courses must complete the appropriate questions after first reading the student manual.

Responsibility: (shotgun, rifle/muzzleloader, bow and arrow students)

1) List three reasons why you want to hunt:

1) _____

2) _____

3) _____

2) List two reasons why think that some people may be opposed to hunting:

1) _____

2) _____

- 3) As a hunter list five things you are responsible for:
 - 1) _____
 - 2) _____
 - 3) _____
 - 4) _____
 - 5) _____
- 4) Can competition between you and your hunting companions lead to irresponsible hunting? _____ Yes _____ No? If yes, list two types of irresponsible/unsafe hunting.
 - 1) _____
 - 2) _____
- 5) List one example how peer pressure can lead to unsafe hunting:
 - 1) _____
- 6) What is poaching and how is it dangerous?
 - 1) _____
- 7) What stage of the five stages of a hunter best describes you now and why?
 - 1) _____

Wildlife Conservation: (shotgun, rifle/muzzleloader, bow and arrow students)

- 1) How can the presence of wildlife show the health of our environment?
 - 1) _____
- 2) Does wildlife provide any economic benefits to our society? _____ Yes _____ No
If yes, then list one example.
 - 1) _____
- 3) Explain how increasing habitat benefits wildlife:
 - 1) _____
- 4) List one way hunters support non-game species:
 - 1) _____
- 5) List two things you can do as a landowner to improve wildlife habitat:
 - 1) _____
 - 2) _____
- 6) How does the Pittman – Robertson Act provide support to wildlife?
 - 1) _____

7) What does the future of wildlife depend on?

1) _____

Wildlife Identification: (shotgun, rifle/muzzleloader, bow and arrow students)

1) List one large mammal found in NJ and three of its characteristics. _____

1) _____

2) _____

3) _____

2) List one upland bird that is legally hunted in NJ:

1) _____

Game Care Before and After the Shot: (shotgun, rifle/muzzleloader, bow and arrow students)

1) List the three factors that will spoil your game:

1) _____

2) _____

3) _____

Survival and First Aid: (shotgun, rifle/muzzleloader, bow and arrow students)

1) List four basic survival rules:

1) _____

2) _____

3) _____

4) _____

2) In a survival situation what do the letters in S.T.O.P stand for::

S _____

T _____

O _____

P _____

3) What is hypothermia and list one symptom: _____

Rules and Regulations: (shotgun, rifle/muzzleloader, bow and arrow students)

1) Give two examples of laws that protect the resource.

1) _____

2) _____

2) Give two examples of laws to protect people.

1) _____

2) _____

3) What should you do if you see a violation?

1) _____

Shotgun students only: Answers found in the Shotguns and Shooting Techniques chapter of manual

1) What does the action of a firearm do?

1) _____

2) Label the gauges largest to smallest, 1 being the smallest and 4, the largest.

___ 12 gauge ___ 16 gauge ___ 10 gauge ___ 20 gauge

3) List the four steps how a firearm fires:

1) _____

2) _____

3) _____

4) _____

4) When shooting what two pieces of safety equipment must be worn?

1) _____

2) _____

5) Describe how to safely transport a firearm.

1) _____

6) Why should you never assume your firearm is safe even when you have the safety on?

1) _____

7) List in the order from smallest to largest the following shot sizes, 1 being the smallest and six the largest:

___6 ___7.5 ___9 ___1 ___BB ___T

8) List the 7 steps followed to load a shotgun:

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____
- 6) _____
- 7) _____

9) List the 6 steps to unload a shotgun:

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____
- 6) _____

Rifle/muzzleloader students only: Answers found in the Muzzleloaders chapter of the manual

1) Why should you **not** use smokeless powder in a muzzleloader **not** designed to use it?

- 1) _____

2) What should you do if a misfire occurs?

- 1) _____

3) What should you do if a hangfire occurs?

- 1) _____

4) Can you use a ramrod to determine if a muzzleloader is loaded? ____ Yes ____ No
If you answered yes, how?

- 1) _____

5) List the three of the four approved methods for removal of a projectile from the barrel:

- 1) _____
- 2) _____
- 3) _____

Bow and arrow students only: Answers found in the Bow and Arrow Training chapter of the manual

1) List the six parts of an arrow:

- 1) _____ 2) _____
- 3) _____ 4) _____
- 5) _____ 6) _____

2) List three common types of bows:

- 1) _____
- 2) _____
- 3) _____

3) List the eleven steps of archery success:

- 1) _____ 2) _____
- 3) _____ 4) _____
- 5) _____ 6) _____
- 7) _____ 8) _____
- 9) _____ 10) _____
- 11) _____

4) As a bowhunter what is your number one responsibility to all wildlife hunted?

- 1) _____

5) List the ten basic parts of a compound bow:

- 1) _____ 2) _____
- 3) _____ 4) _____
- 5) _____ 6) _____
- 7) _____ 8) _____
- 9) _____ 10) _____

6) Before nocking an arrow list the three parts of your crossbow you should check for defects.

1) _____

2) _____

3) _____

7) When hunting from a treestand, what should you use to bring your crossbow up into your stand?

1) _____

8) When hunting from a treestand, when should you cock your crossbow?

1) _____

9) While shooting your crossbow why should you be sure to hold the forearm with your fingers below the rail and string?

1) _____

10) Explain the proper method to uncock your crossbow?

1) _____

11) While in a vehicle how must your crossbow be transported?

1) _____

Contact Us

Northern Region Office (within Clinton WMA)

26 Rt. 173 West
Hampton, NJ 08827

- Exotic Species - 908-735-5450
- Law Enforcement - 908-735-8240 (Bergen, Essex, Hudson, Hunterdon, Morris, Passaic, Somerset, Sussex, Union, Warren)
- New Jersey Outdoors Program - 908-735-6826
- Wildlife Management - 908-735-7040
- Wildlife Management Area Information - 973-383-0918

Central Region Office (Assunpink WMA)

One Eldridge Rd.
Robbinsville, NJ 08691

- Conservation Center - 609-259-8934
- Endangered and Nongame Species Program - 609-259-6962
- Law Enforcement - 609-259-2120 (Burlington, Mercer, Middlesex, Monmouth, Ocean)
- Wildlife Control Unit - 609-259-7955
- Wildlife Management - 609-259-7954
- Wildlife Management Area Information - 609-259-2132

Southern Region Office (Winslow WMA)

220 Blue Anchor Rd.
Sicklerville, NJ 08081

- Information - 856-629-0090
- Endangered and Nongame Species - 856-629-0261
- Freshwater Fisheries - 856-629-4950
- Hunter Education - 856-629-0552 or 877-2-HUNT-NJ (toll free)
- Law Enforcement - 856-629-0555 (Atlantic, Camden, Cape May, Cumberland, Gloucester, Salem)
- Wildlife Control Unit - 856-629-7224
- Wildlife Management Area Information - 856-629-0090

Pequest Trout Hatchery & Natural Resource Education Center

605 Pequest Rd.
Oxford, NJ 07863

Main Entrance - Rt. 46 nine miles west of Hackettstown

- Freshwater Fisheries - 908-637-4173
- Information & Education/Public Programs - 908-637-4125

Below are copies of the youth/farmer deer transportation tag. This tag must be completed in ink and attached to the deer immediately upon harvest. This tag is then surrendered at a deer check station (locations provided in the Fish and Wildlife Digest) and a metal possession seal is provided in its place.

These copies are provided to you to use each deer season as deer transportation tags are not included with these licenses. This information can be copied and also be transferred to an index card.

YOUTH / FARMER DEER TRANSPORTATION TAG
 For use as 1st tag in Fall Bow Six-day Firearm, and Winter Bow or Youth Hunt Days seasons ONLY

Name _____ Please check **only** one box: **Male** Button Buck

Address _____ **Female** Shed

Youth License # _____ Antlered

OR

Conservation # _____ Total Antler Points _____

Date Deer Killed _____ Deer Mgmt. Zone _____

Signature _____ County _____

Township _____

YOUTH / FARMER DEER TRANSPORTATION TAG
 For use as 1st tag in Fall Bow Six-day Firearm, and Winter Bow or Youth Hunt Days seasons ONLY

Name _____ Please check **only** one box: **Male** Button Buck

Address _____ **Female** Shed

Youth License # _____ Antlered

OR

Conservation # _____ Total Antler Points _____

Date Deer Killed _____ Deer Mgmt. Zone _____

Signature _____ County _____

Township _____

YOUTH / FARMER DEER TRANSPORTATION TAG
 For use as 1st tag in Fall Bow Six-day Firearm, and Winter Bow or Youth Hunt Days seasons ONLY

Name _____ Please check **only** one box: **Male** Button Buck

Address _____ **Female** Shed

Youth License # _____ Antlered

OR

Conservation # _____ Total Antler Points _____

Date Deer Killed _____ Deer Mgmt. Zone _____

Signature _____ County _____

Township _____

