

# Waterfowl on the Lake- Beautiful but Sometimes Problematic

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# Waterfowl

Family of birds which included ducks, geese and swans

- 146 species worldwide
- Sexual dimorphism
- Webbed feet
- Monogamous during the breeding season





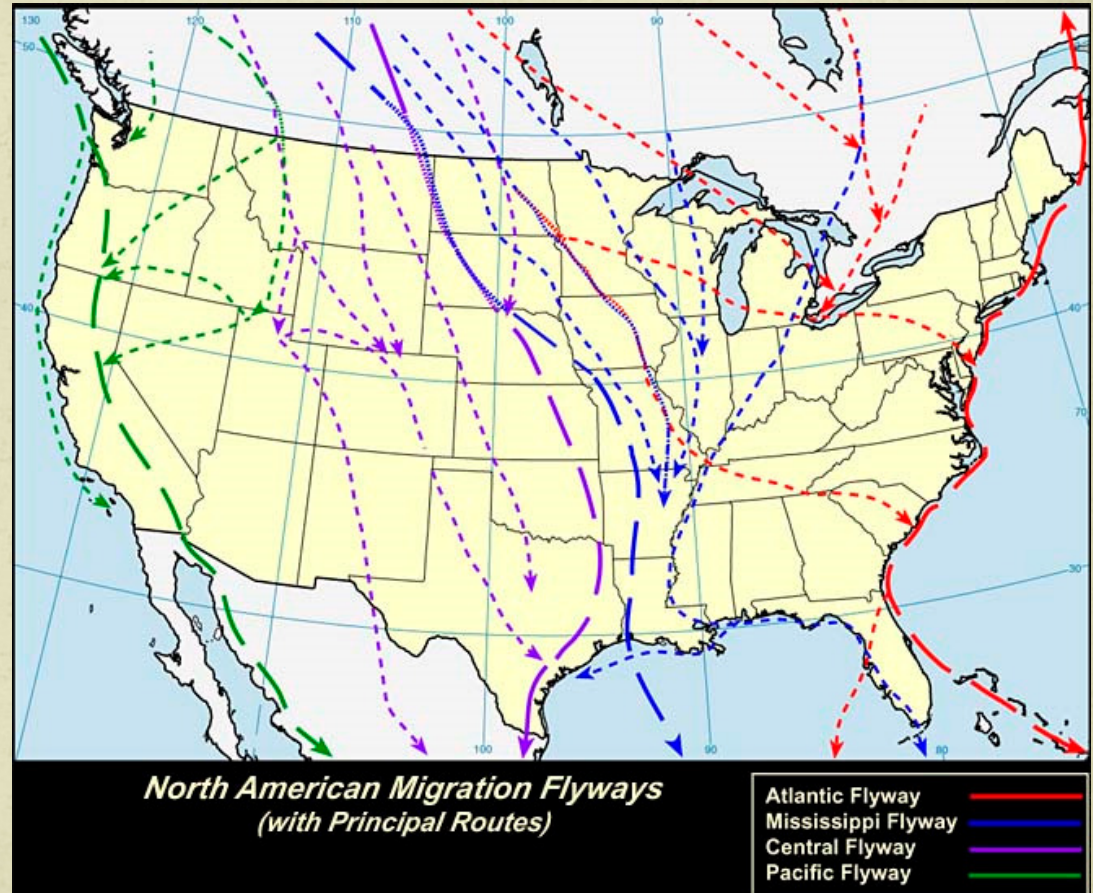
# Migration

## Navigation

- landmarks
- magnetic fields
- sun and stars
- prevailing winds

## Research

- banding
- radar
- Satellites
- GPS tags



# Migration

- High energetic cost
  - Stopover points
  - Staging areas
- Necessary to survive
  - Limited food
  - Cold and ice
  - Predation
  - Nesting areas in spring
- Timing
  - Photoperiod
    - Increase feeding rates, exercise flight muscles, more vocal





# Reproduction



- Monogamy occurs in ~45% (geese and swans)
  - 3-4 years old
  - Male assists female in protecting nest and raising young





# Reproduction



- Seasonal monogamy occurs in 49% of species
  - Most ducks
- New pair bonds are formed each year
  - Wintering grounds
  - Males only protect female through egg laying



# Reproduction



- Polygamy- 7% of species
  - Ruddy duck, and African and Australian ducks
- Weak to non existent pair bonds
- Males defend mating territory to attract several females



# Reproduction

- Hens typically lay 1 egg every 24 to 48 hours
- Clutch- full set of eggs
  - 3-12 eggs
- Nest attendance increases with clutch size
- Female forms nest with vegetation and down feathers
  - Insulates and conceals eggs
- Incubation starts near end of laying
  - Ensures ducklings develop at about the same rate
  - ~21-31 days



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# Reproduction

- Ducklings are precocial
  - Feed on their own
  - Swim and dive
  - Critical period in life
    - Mortality is highest during first 2 weeks
      - Exposure
      - Predation
        - Raptors, owls, small mammals





# Duckling survival



If they survive first 2 weeks, odds of surviving to fledging increases

After 3 weeks they begin developing feathers

Most of time spent feeding

- Invertebrates
- Low flying insects

Late August they can fly



# Molts and Plumages

- Swans and geese-  
once/year
  - flightless
- Ducks- twice/year
  - Basic or eclipse plumage- full molt after nesting
  - Nuptial or alternate plumage- molt only body feathers in fall/early winter
    - Drakes are in breeding plumage for winter pair bond formation





# Swans and geese



- Largest members of waterfowl family
- No sexual dimorphism
- Swans eat mostly aquatic vegetation
- Geese have shorter necks and longer legs than swans
  - Spend much more time on land
  - Diet consists of grasses and other plants



# Mute Swans



Non-native to North America

Extremely aggressive

Displace native waterfowl

Consume 4-8 pounds of  
vegetation/day

Use feed to expose plant shoots and  
roots which damages substrates and  
surrounding vegetation

Only consume less than 50% of what  
they remove

# Canada goose



Have resident and migrant population





# Dabbling ducks



Feed by tipping down to reach aquatic plants  
and invertebrates under the water  
Feet set farther forward than diving ducks  
Take flight by springing into the air

# Dabbling duck species

- Mallard
- American black duck
- Wood duck
- Green-winged teal
- Blue-winged teal
- Northern pintail
- American wigeon
- Gadwall
- Northern shoveler





# Mallard



## Drake

- Yellow bill
- Green head with white neck collar
- Blue speculum with black and white surrounding



## Hen

- Orange bill with black saddle
- Mottled brown body
- Blue speculum with black and white surrounding



# American black duck



## Drake

- Yellow bill
- Dark brown body
- Violet-dark blue speculum with black surrounding



## Hen

- Olive green bill





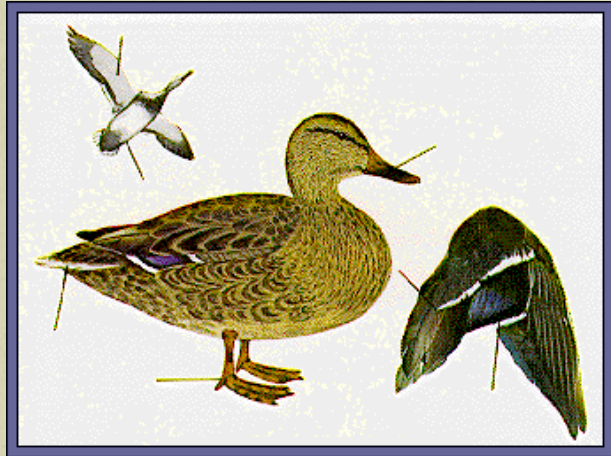
White underwing  
contrasts with dark  
brown body

Very similar to hen mallard

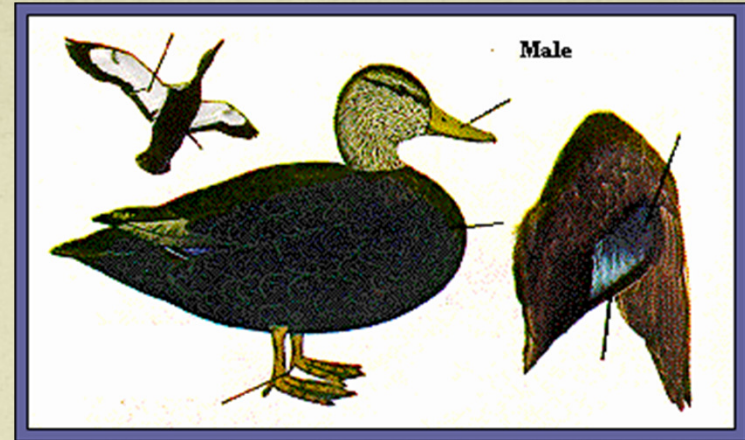




Mallard



American black duck







Wood duck







# Diving duck



- Dive and swim to prey underwater
  - Diet consists of mollusks, fish and aquatic plants
- Feet set far back on body. Hind toe has lobe
- Need a running start on the water to fly



# Diving duck species

- Canvasback
- Common merganser
- Greater and lesser scaup
- Hooded merganser
- Red-breasted merganser
- Redhead
- Ring-necked duck
- Ruddy duck





# Hooded merganser



Male

Female



# Common merganser

Female



Male





# Red-breasted merganser



Male

Female



# Ring-necked duck



Female

Male





# Sea Ducks

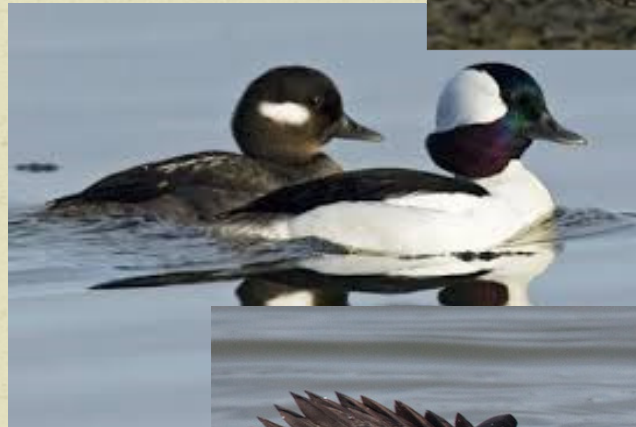


- Diving ducks that spend part of their life in marine habitat



# Sea duck species

- Common eider
- King eider
- Bufflehead
- Common goldeneye
- Surf Scoter
- White-winged scoter
- Black scoter
- Long-tailed duck
- Harlequin duck





# Waterfowl Management

- North American Waterfowl Management Plan
  - U.S. and Canada 1986
  - Mexico joined in 1994
  - Formed to protect and enhance low populations of waterfowl
  - Habitat protection, restoration and enhancement
  - Success depends on regional partnerships of Federal, state, Provincial, tribal and local government partners  
“Joint Ventures”





# Flyways

- Birds follow migratory corridors between breeding and wintering grounds
- Each flyway has a council with one Representative per state
- Regulations are set for each specific flyway





# Waterfowl Season Setting

- Federal Framework based on AHM each year

## DUCKS

<u>Season Length</u>	<u>Framework Dates</u>	<u>Daily Bag</u>	<u>Possession Limit</u>
60 Days	Sept. 23-Jan. 28	6	18

## GEESE

<u>Season Length</u>	<u>Framework Dates</u>	<u>Daily Bag</u>	<u>Possession Limit</u>
Snow Geese 107 days	Oct. 1 – March 10	25	no limit
Atlantic Brant 60 days	Sept. 23 – Jan. 31	2	6
Canada Geese 70 days (NAP Zone)	Oct. 1 – Jan. 31	3	9

## SEA DUCKS

<u>Season Length</u>	<u>Framework Dates</u>	<u>Daily Bag</u>	<u>Possession Limit</u>
60 Days	Sept. 15-Jan. 31	5	15

# Banding

- Provides information on population estimates, migration patterns, life span, survival, productivity, and disease prevalence
- If you shoot a bird with a band it is extremely important to report it at [reportband.gov](http://reportband.gov)





# Duck banding

- Begin baiting in August
- Start banding few weeks later
- Use different techniques to capture (rocket net, walk-in trap, bow net)





# Rocket Netting

- Video



# Goose banding

Band in late June when geese are molting and are flightless  
Requires lots of scouting around the state





- Video



# Unique Band Size for every species









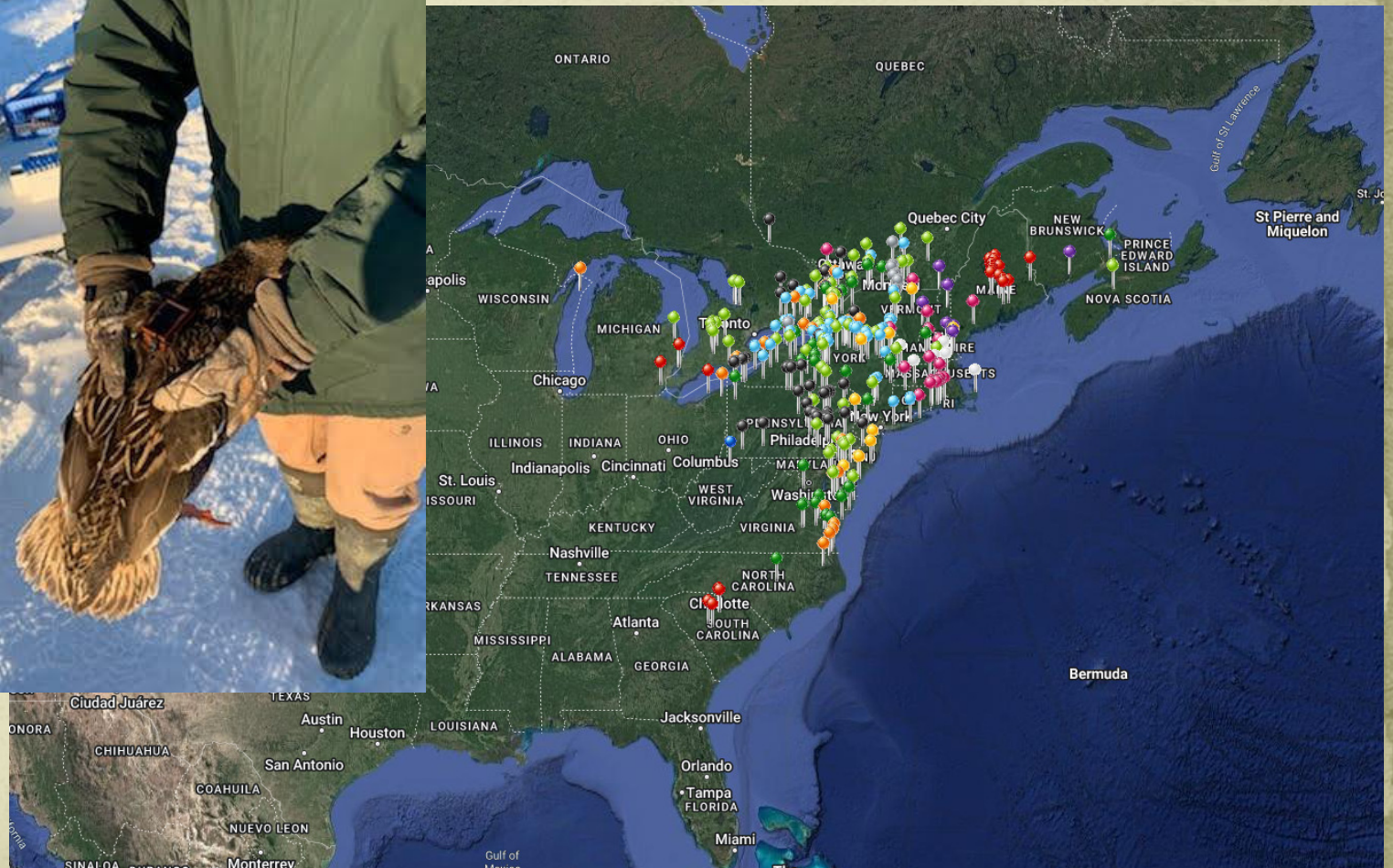
# Other work

- Manage 48 waterfowl management areas
- Implement various surveys
  - Breeding waterfowl plot survey
  - Woodcock survey
  - Winter nest box program
- Assist with acquiring new wetland tracts for consideration
- Research





# Mallard Research





# Nuisance Waterfowl

- Canada Geese

What goes in must go out....

- Produce 1-2 pounds of feces per day





# Nuisance Waterfowl

- NH F&G Contracts USDA-Wildlife Services to deal with goose problems
- [www.wildlifehelp.org](http://www.wildlifehelp.org)





# Nuisance Waterfowl

Ultimately, need to employ numerous tactics to be successful and diligence is key

- Habitat Modification
  - Shrubs in middle of expansive lawns
  - Tall grass/shrubs along shoreline
  - Prefer Kentucky bluegrass—plant fescue instead
  - Minimize or discontinue use of fertilizer
- Fencing
  - Around shoreline
  - Over entire ponds
- Visual Scaring Devices
- Noise Makers
- Repellants
- Dogs



# Questions

