

Most Common Game Animals in the US and Information on Intakes, Habitation, Hunt Frequency, and Human Consumption

MAIA SOWERS

VIRTUAL STUDENT FEDERAL SERVICE INTERN FOR THE EPA

Overview

- Compiles information on the most common game animals, their respective migration patterns and habitats, fodder, water, and soil intakes, human consumption rates, and amount of time people spend hunting and fishing them per year
- Intended to help the EPA improve how it assesses risks for recreational hunters at Superfund sites and was written as a supplement to 'Biota Modeling in EPA's Preliminary Remediation Goal and Dose Compliance Concentration Calculators for Use in EPA Superfund Risk Assessment: Explanation of Intake Rate Derivation, Transfer Factor Compilation, and Mass Loading Factor Sources', covering farmer intake rates of home-grown produce and farm animals which supports EPA's models for risk and dose assessment at radioactively contaminated Superfund sites

Big Game

- People spend an average of 14 days hunting Big Game per year (USFW 2016 National Recreation Survey)
- Big Game animals get water from lakes, streams, other sources such as the vegetation they feed on
- Typical habitats of these specific Big Game animals include forests and open plains

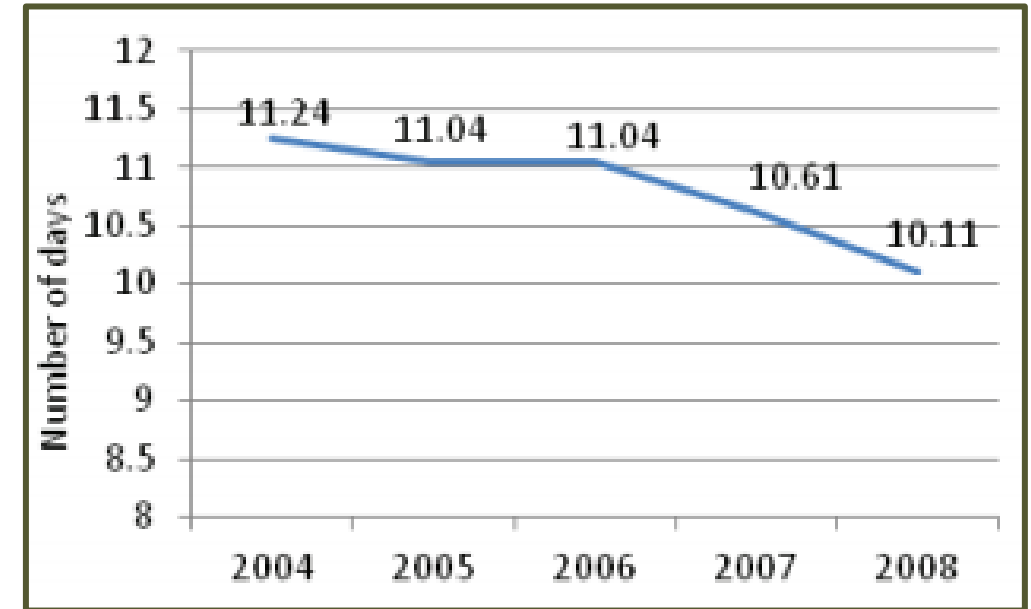


Fig 1: Trends in hunters' average number of days spent hunting Deer, Elk, and Bear between 2004 and 2008

Whitetail Deer

- Foragers that consume herbaceous plants, fruits, trees, grasses, and crops like corn and soy
- Male: 68-136 kg, Female: 41-91 kg
- 1-6 L of water a day



Whitetail Deer Range

Nature Works, New Hampshire PBS. 2020. *White-tailed Deer (Odocoileus virginianus)*, New Hampshire

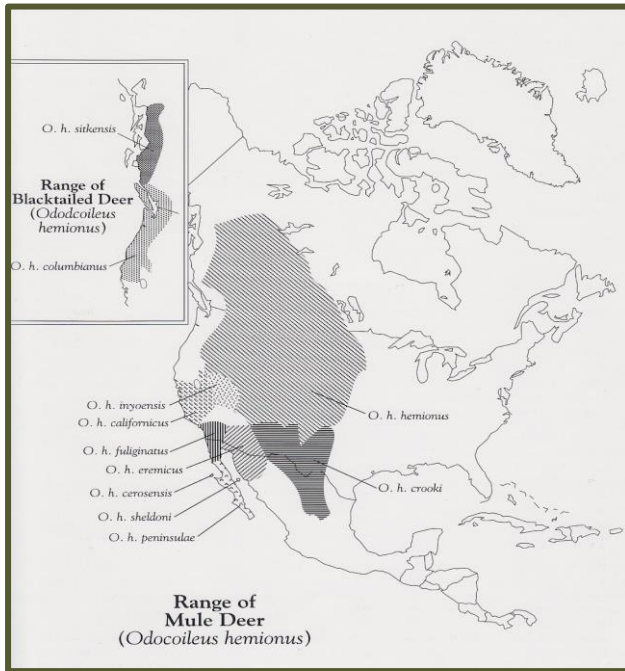
<https://nhpbs.org/natureworks/whitetaileddeer.htm>

Wilson, Carrie. 2008. *Outdoors Q&A: How Do Deer Quench Their Thirst?*

https://www.noozhawk.com/article/091808_outdoors_qa_how_do_deer_quench_their_thirst



Mule Deer



Mule Deer Range

- Eat grasses, shrubs, and tree leaves
- Inhabit forests, shrublands, and mountains
- Male: 113-125 kg, Female: 73-82 kg
- Consume about 22 g of dry plant matter per kg of body mass

U.S Fish & Wildlife Service, Department of the Interior. 2013. *Mule Deer (Odocoileus hemionus)*

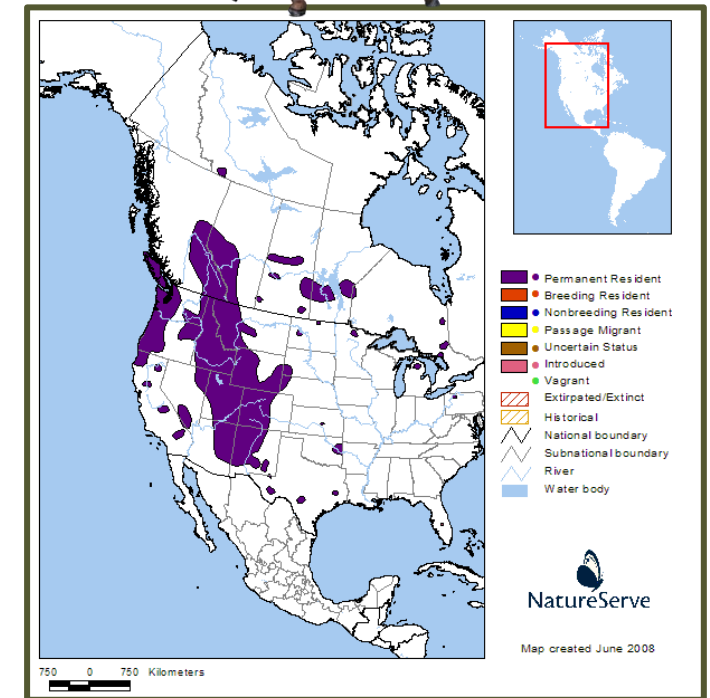
https://www.fws.gov/refuge/National_Bison_Range/Wildlife_and_Habitat/mule_deer.html

Bouley, N, Meyer, D, University of Wisconsin Stevens Point College of Natural Resources. 2020. *Mule Deer*, Wisconsin

<https://www.uwsp.edu/wildlife/Ungulates/Pages/Mule%20Deer/Mule-Deer-Home.aspx>

Elk

- Opportunistic herbivores that consume grasses, shrubs and other vegetation
- Live in mountainous regions and migrate to lower elevations during the winter
- 204 to 500 kg



Elk Distribution

Tennessee Wildlife Resources Agency, Tennessee's Watchable Wildlife. 2020. *Elk (Red Deer)*

Extirpated; Re-Introduced; Hunted, TN

<http://www.tnwatchablewildlife.org/details2.cfm?sort=aounumber&uid=11081615340793393&commonname=Red%20Deer%20%28Elk%29%20%28Extirpated,%20Re-Introduced%29%20%28Hunted%29&DISPLAYHABITAT=&typename=Mammal&Taxonomicgroup=Mammal%20-%20Large>

Black Bear



Bear Distribution Map

- Omnivores that eat grasses, shrubs, fruits, etc.
- Live in forests near streams and rocky areas
- Male: 68-204 kg, Female: 50-113 kg
- Ingest 4,000- 6,000 kcal per day

Geology.com. 2020. *Where Do Bears Live in North America?*

<https://geology.com/stories/13/bear-areas/>

Connecticut Department of Energy and Environmental Protection. 2020. *Black Bear (Ursus americanus)*, CT

<https://portal.ct.gov/DEEP/Wildlife/Fact-Sheets/Black-Bear>

Holland, Mary, The National Audubon Society. 2010. *Black Bear Diet*

<http://www.audubonguides.com/article.html?id=124>



Brown Bear

- Omnivores that consume at shrubs, fruits, fish, and other small animals
- Live in forested areas, fields, and prairies near rivers
- Male: 771 kg, Female: 363 kg



Bear Distribution Map

Geology.com. 2020. *Where Do Bears Live in North America?*

<https://geology.com/stories/13/bear-areas/>

National Park Service. 2020. *Brown Bears*, U.S Department of the Interior

<https://www.nps.gov/subjects/bears/brown-bears.htm>

National Wildlife Federation. 2020. *Grizzly Bear*, Merrifield, VA

<https://www.nwf.org/Educational-Resources/Wildlife-Guide/Mammals/Grizzly-Bear>

Pronghorn Antelope



Pronghorn Antelope Range

- Ingest shrubs, grasses, and desert plants
- Dwell in desert regions with shrubland and grassy plains
- 41 to 54 kg
- Drink average of 3.6 L water per day

Nature Works, New Hampshire PBS. 2020. *Pronghorn (Antilocapra americana)*, New Hampshire

<http://www.nhptv.org/natureworks/pronghorn.htm>

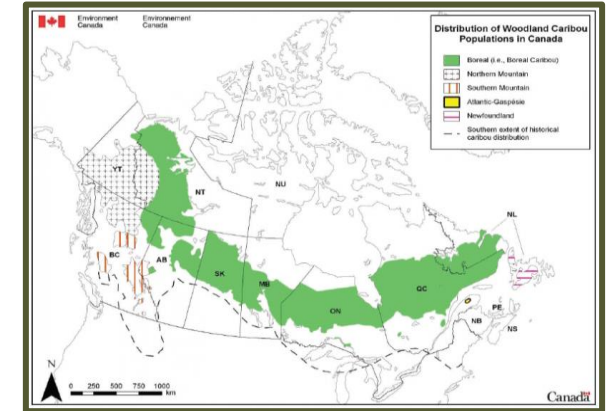
Tluczek, Melanie. 2012. Diet, Nutrients, and Free Water Requirements of Pronghorn Antelope on Perry Mesa, Arizona, Arizona State University

https://repository.asu.edu/attachments/94114/content/tmp/package-m7Od_i/Tluczek_asu_0010N_12176.pdf

Caribou



- Opportunistic herbivores that consume shrubs, fruit, fungi, lichens, and grasses
- Migrate as a herd during winter and prefer forests, mountains, and tundras
- Male: 160-181 kg, Female: 80-102 kg
- Eat 34- 61g dry matter per day per kg of Body Mass^{0.75} during Winter



Caribou Range in Alaska and Mainland U.S

Alaska Department of Fish and Game. 2020. *Caribou (Rangifer tarandus granti)*, State of Alaska

<http://www.adfg.alaska.gov/index.cfm?adfg=caribou.main>

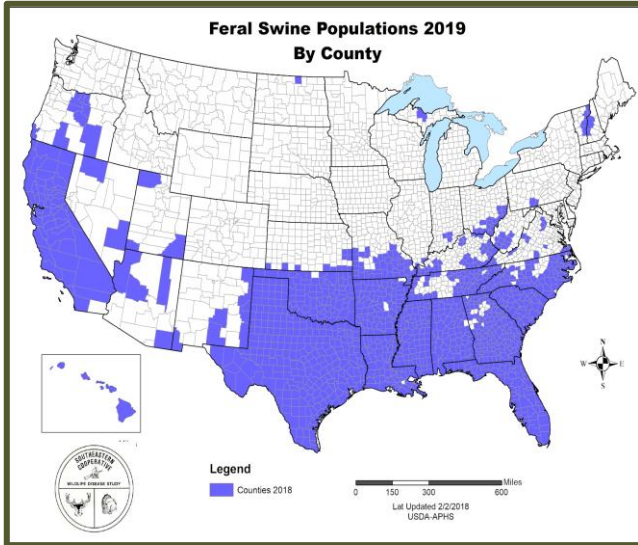
Alberta Wilderness Association. 2020. *Caribou*, Calgary, Alberta

<https://albertawilderness.ca/issues/wildlife/caribou/#parentHorizontalTab2>

Storeheier, Pål, et al. 2003. *Food intake of reindeer in winter*, The Journal of Agricultural Science, 141, DOI: 10.1017/S002185960300337X.

https://www.researchgate.net/publication/259361013_Food_intake_of_reindeer_in_winter

Wild Pig (AKA. Wild Hog, Boar, or Feral Swine)



Feral Swine Distribution

- Omnivores that will eat anything, including plants, small mammals, eggs, and invertebrates
- Prefer warm areas close to water, including forests and agricultural land
- Weigh about 91 kg
- Eat 3-5% of their body mass per day and drink 11-27 L per day

United States Department of Agriculture: Animal and Plant Health Inspection Service,
Whitehouse.gov. 2020. *History of Feral Swine in the Americas*
<https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/operational-activities/feral-swine/sa-fs-history>

Mississippi State University Extension Department of Wildlife and Fisheries. 2019. *Wild Pig Info*, MS
<https://www.wildpiginfo.msstate.edu/behavior-feral-pigs.html>

Guthrie, Tom. 2011. *Water needs of pigs*, Michigan State University Extension
https://www.canr.msu.edu/news/water_needs_of_pigs

Mayer, John J, Brisbin, I. Lehr, Jr. 2009. *Wild Pigs Biology, Damage, Control Techniques And Management*, Savannah River National Laboratory, SRNL-RP-2009-00869
<http://wp.auburn.edu/deerlab/wp-content/uploads/2014/05/25Food-Habits-Chapter-Wild-Pig-Book.pdf>

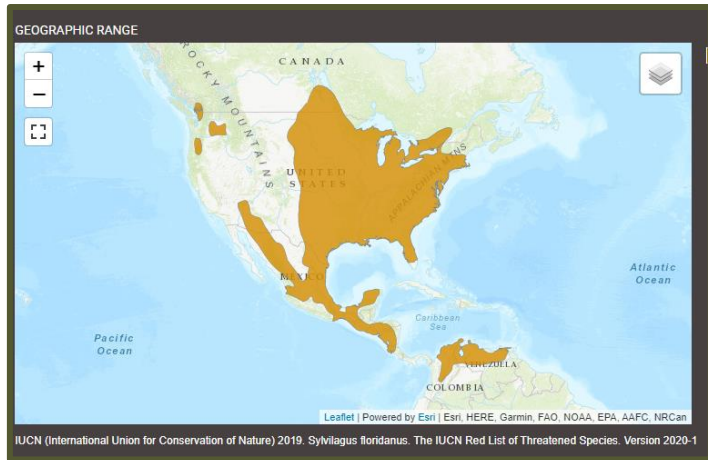
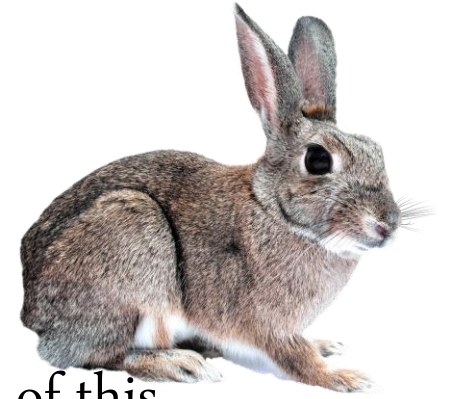


Small Game Mammals

- An average of 11 days per year were spent hunting Small Game (USFW 2016 National Recreation Survey)



Rabbits and Hares



Eastern Cottontail Distribution

- 15 subspecies, the most commonly hunted species of this category being Eastern Cottontails, Snowshoe Rabbits, and Jackrabbits
- Eat grains, nuts, and grasses
- Inhabit meadows and shrublands year-round
- Weigh 0.4 kg to about 2 kg
- Ingest about 0.097 ml of water per day

Nielsen, C. & Lanier, H.C. 2019. *Sylvilagus floridanus*. *The IUCN Red List of Threatened Species* 2019: e.T41299A45191626.

<https://www.iucnredlist.org/species/41299/45191626>

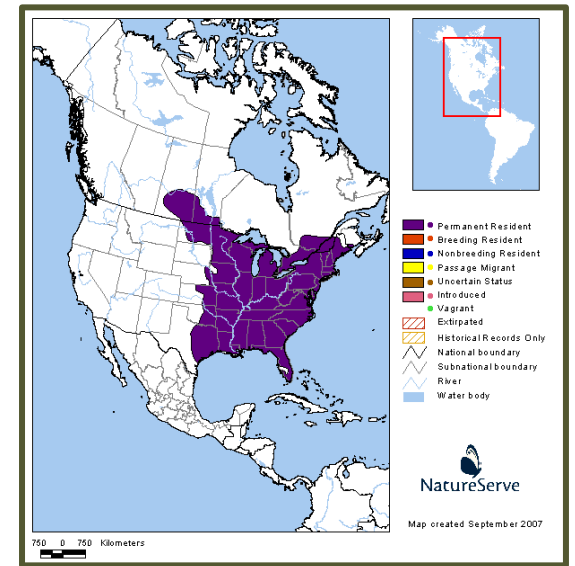
Animal Corner. 2020. *Wild Rabbits*, UK

<https://animalcorner.org/animals/wild-rabbits/>

Squirrel



- Ingest nuts, seeds, fruits, and some grains
- Dwell in forests with oak trees
- Weigh about 0.5 kg



Grey Squirrel Range

Tennessee Wildlife Resources Agency, Tennessee's Watchable Wildlife. 2020. *Eastern Gray Squirrel (Hunted)*, TN

<http://www.tnwatchablewildlife.org/details2.cfm?sort=aounumber&uid=10121315565066299&commonname=Eastern%20Gray%20Squirrel%20%20%28Hunted%29&DISPLAYHABITAT=&typename=Mammal&Taxonomicgroup=Mammal%20-%20Medium>

Massachusetts Division of Fisheries and Wildlife. 2020. *Learn about squirrels*, Commonwealth of Massachusetts, MA

<https://www.mass.gov/service-details/learn-about-squirrels>

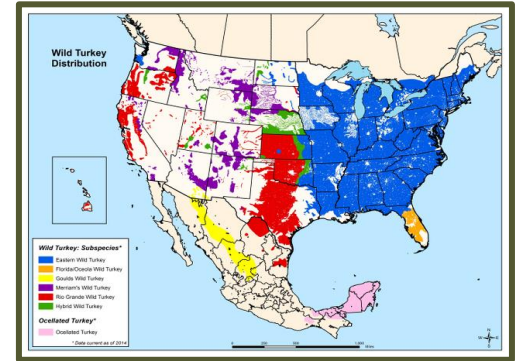
Non-Migratory Game Birds

- Foraging omnivores that dwell in semi-open areas, preferring fields and pastureland with access to forests and dense tree cover
- Hunters will also spend an average of 11 days per year hunting these birds (USFW 2016 National Recreation Survey)



Wild Turkey

- Wild Turkey subspecies include Eastern, Merriam, Osceola, Gould's, Ocellated, and Rio Grande Turkeys
- Eat insects, fruit, seeds, nuts, grasses, and grain
- Weigh from 3.6 to 9 kg
- Consume an average of 0.68 kg of fodder, 1.36 kg of water, and 0.068 kg of soil per day (Table F-1, Biota Modeling). Proposed intake rates in Table A-9 of Biota Modeling by Farmers of Wild Turkey after cooking loss is 23.2 g/day for children and 53.1 g/day for adults



Wild Turkey Range



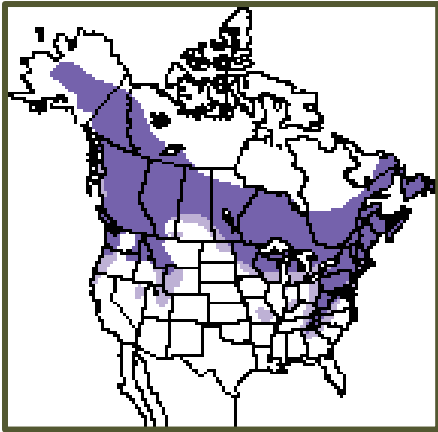
National Wild Turkey Confederation. 2020. *Wild Turkey Habitat*, Edgefield, SC

<https://www.nwtf.org/hunt/wild-turkey-basics/habitat>

Maine Department of Inland Fisheries & Wildlife. 2020. *Wild Turkey*. Augusta, ME

<https://www.maine.gov/ifw/fish-wildlife/wildlife/species-information/birds/wild-turkey.html>

Grouse



Grouse Distribution

- Ruffed Grouse subspecies include Ruffed, Red, Sage, Prairie, Ptarmigan, and Forest Grouse
- Ingest fruits, leaves, insects, and seeds from shrubs and the ground.
- Weigh from about 0.5 to 1 kg



BirdWeb. *Ruffed Grouse*, Seattle Audubon Society

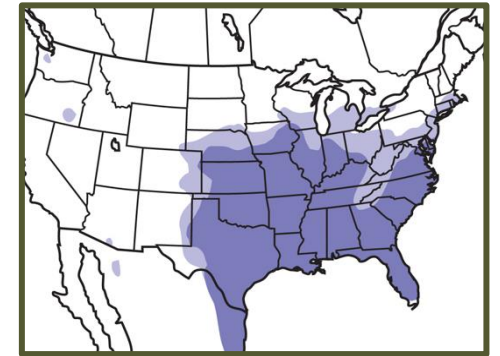
https://www.seattleaudubon.org/birdweb/bird/ruffed_grouse

Connecticut Department of Energy and Environmental Protection. 2020. *Ruffed Grouse*,

<https://portal.ct.gov/DEEP/Wildlife/Fact-Sheets/Ruffed-Grouse>

Quail

- The Bobwhite Quail is the most commonly hunted Quail, but subspecies include Gambel's, Mountain, Coturnix, California, and Blue Scale Quail
- Consume seeds, leaves, berries, insects, and roots
- Weigh about 0.2 kg
- Eat an average of 587.7 kcal/kg per day of food and 0.105 g/g per day of water



Bobwhite Quail Range

Kaufman, K. 2020. *Northern Bobwhite (Colinus virginianus)*, National Audubon Society

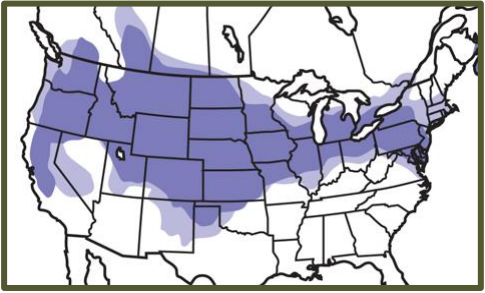
<https://www.audubon.org/field-guide/bird/northern-bobwhite>

Wooding, J, North Carolina Wildlife Resources Commission. 2020 *Northern Bobwhite*, NC

<https://www.ncwildlife.org/Portals/0/Learning/documents/Profiles/bobwhitequail.pdf>



Ring-Necked Pheasant



Ring-Necked Pheasant Range

- Feed on grain, seeds, and insects
- Weigh an average of 1 kg



Montana Field Guide. Montana Natural Heritage Program and Montana Fish, Wildlife and Parks. *Ring-necked Pheasant (Phasianus colchicus)*, 2020

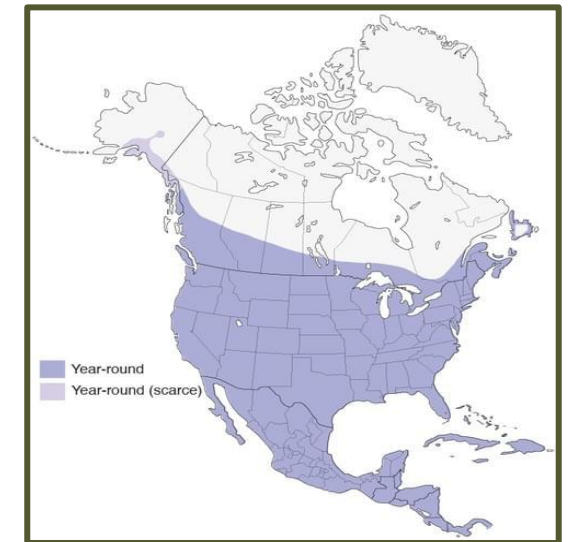
<http://FieldGuide.mt.gov/speciesDetail.aspx?elcode=ABNLC07010>

Kaufman, K. 2020. *Ring-necked Pheasant (Phasianus colchicus)*, National Audubon Society

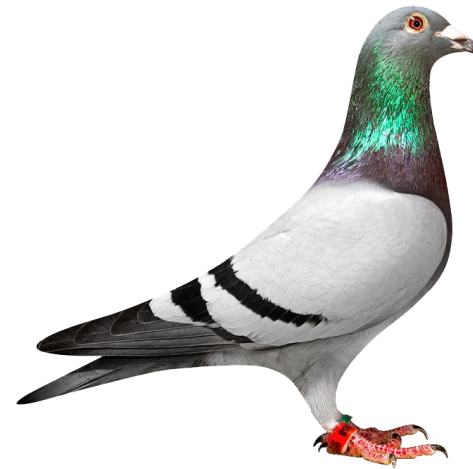
<https://www.audubon.org/field-guide/bird/ring-necked-pheasant>

Rock Dove (Pigeon)

- Scavenge for food but typically eat seeds and grain
- Dwell in open areas, urban environments, and rocky ledges
- Weigh 265-380 g



Rock Dove Distribution



All About Birds, Cornell Lab of Ornithology. 2019. *Rock Pigeon*, Ithaca, NY

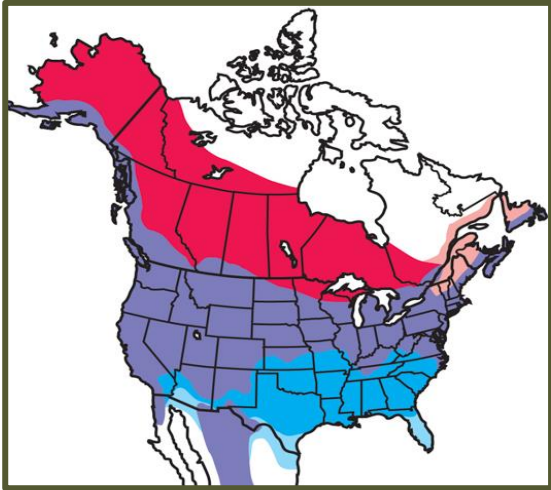
https://www.allaboutbirds.org/guide/Rock_Pigeon/overview

Migratory Game Birds

- Live in freshwater bodies of water in forested or shady areas, including marshes, swamps, ponds, rivers, and lakes
- Tend to fly South during the Winter and breed in Northern areas
- People spend about 7 days hunting Migratory Game Birds (USFW 2016 National Recreation Survey)
- Includes Dabbling and Perching ducks
- Ducks intake about 0.24 kg of fodder, 0.48 kg of water, and 0.024 kg of soil per day. The proposed intake rates in Table A-9 of Biota Modeling by Farmers of Duck after cooking loss is 23.2 g/day for children and 53.1 g/day for adults, being an average used for game birds including Wild Turkey
- Other Game Duck species include Canvasback, Goldeneye, Gadwall, and Scaup Ducks.



Mallard



- Dabbling Ducks that forage for seeds, dig for roots, and can also consume small fish and insects
- Weigh about 1-3 kg

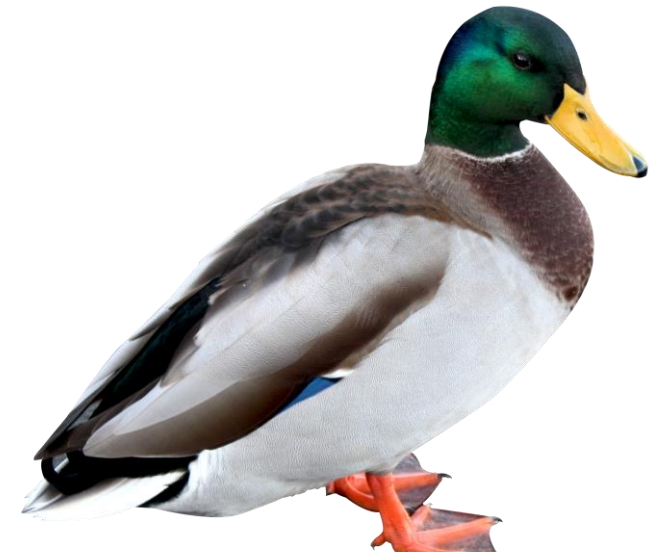
Mallard Range Map (Purple: All Seasons,
Pink: Breeding, Blue: Winter, Grey: Migration)

Kaufman, K. 2020. *Mallard (Anas platyrhynchos)*, National Audubon Society

<https://www.audubon.org/field-guide/bird/mallard>

All About Birds, Cornell Lab of Ornithology. 2019. *Mallard Identification*, Ithaca, NY

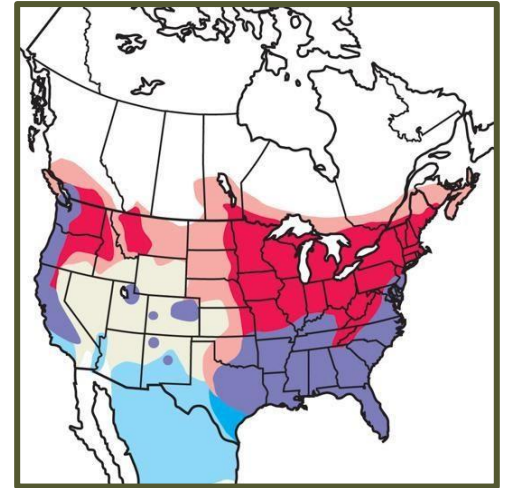
<https://www.allaboutbirds.org/guide/Mallard/id>



Wood Duck



- Perching ducks that forage for plants, seeds, insects, and crustaceans
- Weigh around 0.5-0.7 kg



Wood Duck Distribution Map (Purple: All Seasons, Pink: Breeding, Blue: Winter, Grey: Migration)

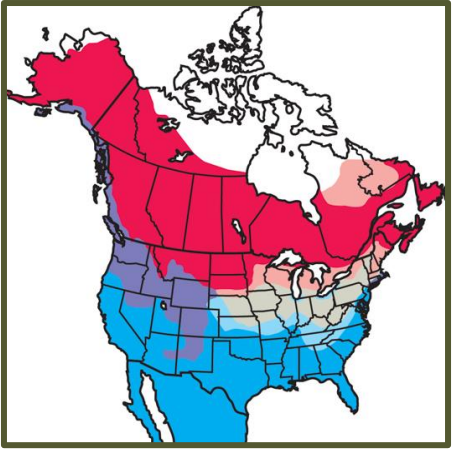
Kaufman, K. 2020. *Wood Duck (Aix sponsa)*, National Audubon Society

<https://www.audubon.org/field-guide/bird/wood-duck>

Tennessee Wildlife Resources Agency. 2020. *Wood Duck (Aix sponsa)*, TN

<https://www.tn.gov/twra/wildlife/birds/wood-duck.html>

Green-Winged Teal



- Dabbling ducks that forage for insects, invertebrates, and seeds in water and mud flats
- Weigh from 2-4.5 kg

Green-Winged Teal Range Map (Purple:
All Seasons, Pink: Breeding, Blue: Winter,
Grey: Migration)

Kaufman, K. 2020. *Green-winged Teal* (*Anas crecca*), National Audubon Society

<https://www.audubon.org/field-guide/bird/green-winged-teal>

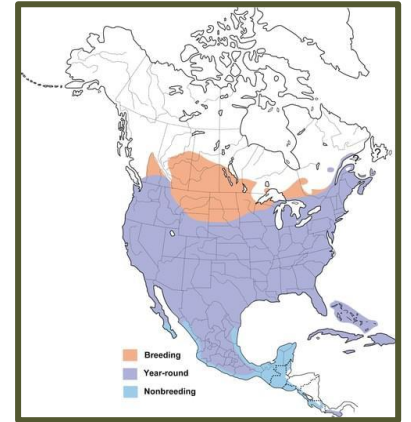
Johnson, K., C. Carboneras, D. A. Christie, and G. M. Kirwan (2020). Green-winged Teal (*Anas crecca*), version 1.0. In *Birds of the World* (S. M. Billerman, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA.

<https://birdsna.org/Species-Account/bna/species/gnwtea/introduction/>



Mourning Dove

- Subspecies include Eurasian Collared and Whitewinged dove, but the most popular are the Rock Dove (or Pigeon) and Mourning Dove
- Dwell in fields, semi-open areas, and forest edges but can live in many places
- Feed on seeds, grasses, and grains
- Weigh 96-170 g
- Consume 12 to 20% of their weight per day



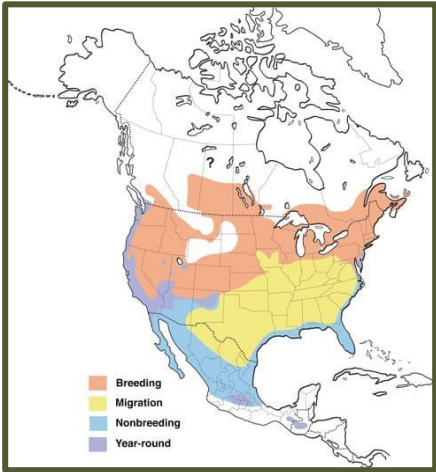
Mourning Dove Distribution



All About Birds, Cornell Lab of Ornithology. 2019. *Mourning Dove*, Ithaca, NY

https://www.allaboutbirds.org/guide/Mourning_Dove/id

Rails



Virginia Rail Range

- Rail subspecies include Clappers, Kings, Soras, and Virginia Rails
- Eat invertebrates and insects
- Live in wetlands and marshes
- Weigh 65-95 g

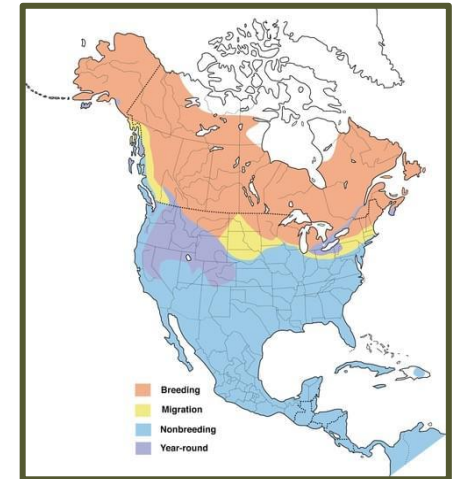


All About Birds, Cornell Lab of Ornithology. 2019. *Virginia Rail*, Ithaca, NY

https://www.allaboutbirds.org/guide/Virginia_Rail/overview

Snipe

- Subspecies include Common and Wilson's Snipes
- Ingest insects and invertebrates
- They live in marshes and wetlands.
- Weigh 79-146 g



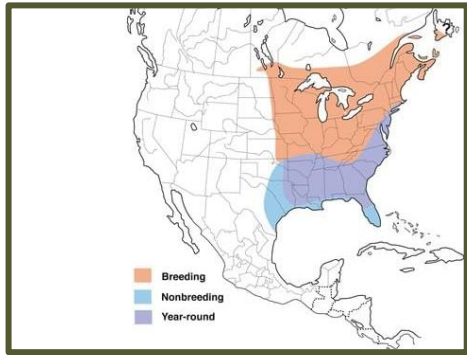
Wilson's Snipe Distribution



All About Birds, Cornell Lab of Ornithology. 2019. *Wilson's Snipe*, Ithaca, NY

https://www.allaboutbirds.org/guide/Wilsons_Snipe/overview#

Woodcock



American Woodcock Range

- Eat insects
- Dwell in forests and overgrown fields
- Weigh 116-279 g

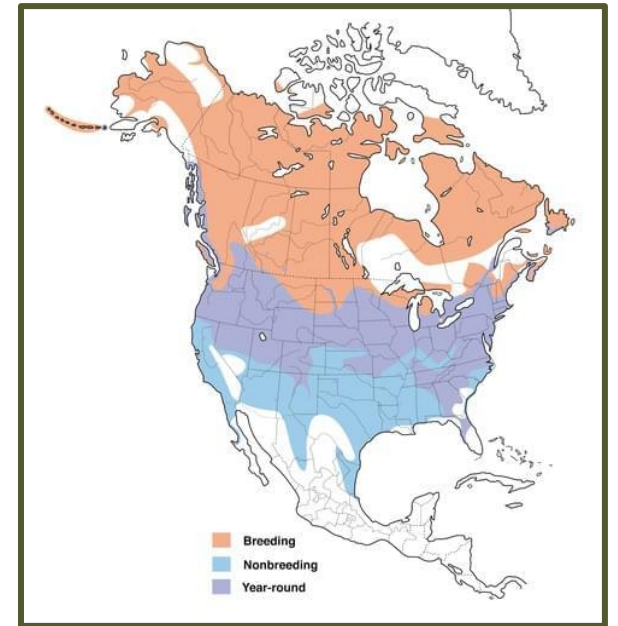
All About Birds, Cornell Lab of Ornithology. 2019. *American Woodcock*, Ithaca, NY

https://www.allaboutbirds.org/guide/American_Woodcock/overview

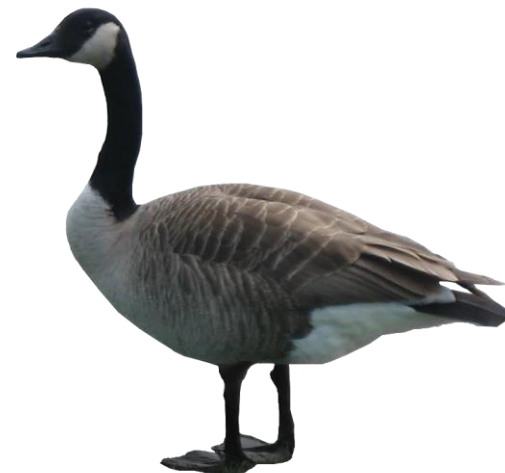


Goose

- The most popular species is the Canada Goose, but subspecies include Snow, Ross's, Greater White-Fronted, and Emperor Goose
- Dabblers that feed on grasses, seeds, berries, and grain
- Dwell in grasslands, fields, yards and marshes, and near bodies of water
- Weigh 3000-9000 g



Canada Goose Range



All About Birds, Cornell Lab of Ornithology. 2019. *Canada Goose*, Ithaca, NY

https://www.allaboutbirds.org/guide/Canada_Goose/id

Game Fish

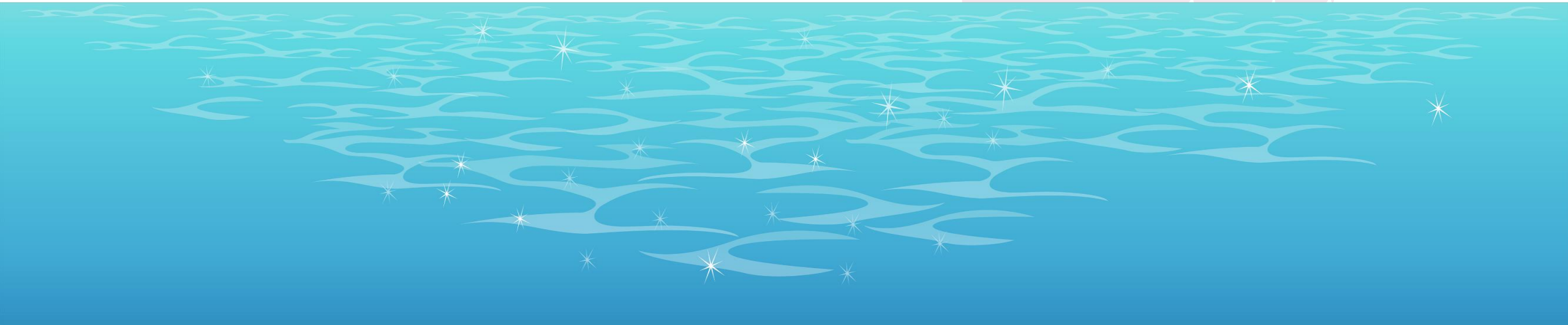
- Dwell in freshwater lakes, rivers, and streams and may migrate to larger bodies of water
- Omnivores that feed differently depending on availability and variety of fodder and have been introduced to bodies of water throughout the US
- Default proposed intake rates of fish is 57.4 g/day for a Farmer Child raw, 831.8 g/day for a Farmer Adult raw, 35.2 g/day for a Farmer Child after cooking loss, and 509.9 g/day for a Farmer Adult after cooking loss
- People spend about 13 days fishing per year (USFW 2016 National Recreation Survey)



Freshwater Fish

Freshwater Fish are the game fish that are most commonly eaten by fishermen.

Other Freshwater Fish include Pike, Walleye, Sturgeon, Musky, and Paddlefish



Salmon



- The most commonly eaten subspecies of Salmon include Atlantic, Pacific, Sockeye, Chinook, Coho, Pink, and King Salmon
- Ingest invertebrates, small fish, and plankton
- Weigh 1-7 kg

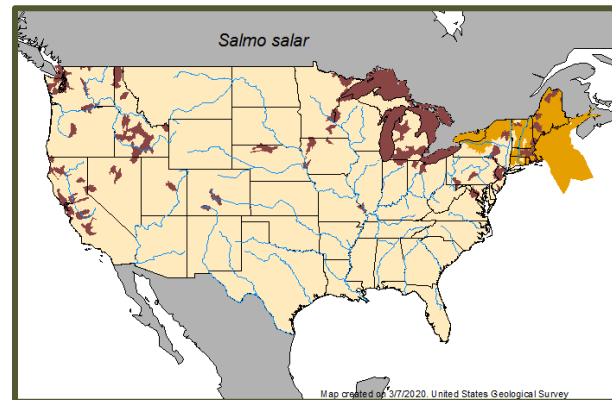


Fig 13: Atlantic Salmon Range



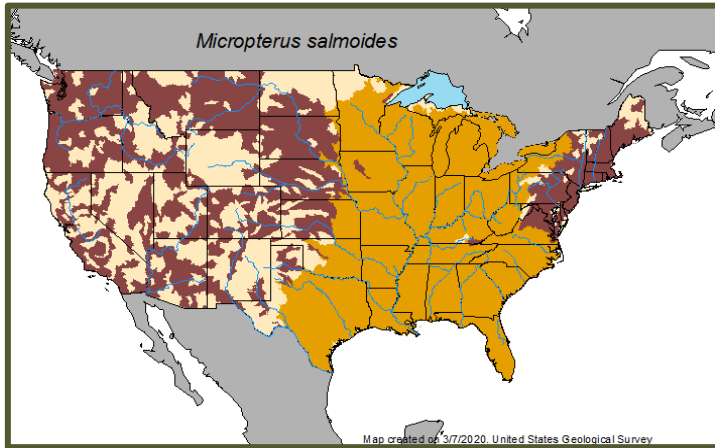
Fig 14: Pacific Salmon Range

American Expedition. 2015. *Salmon Information, Photos, and Facts*, Union, MO
<https://forum.americanexpedition.us/salmon-information-facts-and-photos>

Fuller, P. et al. 2015. *Salmo salar* (Atlantic Salmon), US Department of the Interior, United States Geological Survey
<https://nas.er.usgs.gov/queries/FactSheet.aspx?speciesID=910>

The Royal Canadian Geographical Society. 2010. *Pacific Salmon*
<http://www.canadiangeographic.com/wildlife-nature/?path=english/species/pacific-salmon>

Bass



Largemouth Bass Range

- Largemouth Bass are the most common type of Bass, but smallmouth, spotted, striped, white, etc are included as species of Bass
- Eat small fish, insects, and macroinvertebrates
- Live in warm, slow-moving water
- Weigh on average 0.2-2 kg

Missouri Department of Conservation. 2020. *Largemouth Bass (Micropterus salmoides)*, MO

<https://nature.mdc.mo.gov/discover-nature/field-guide/largemouth-bass>

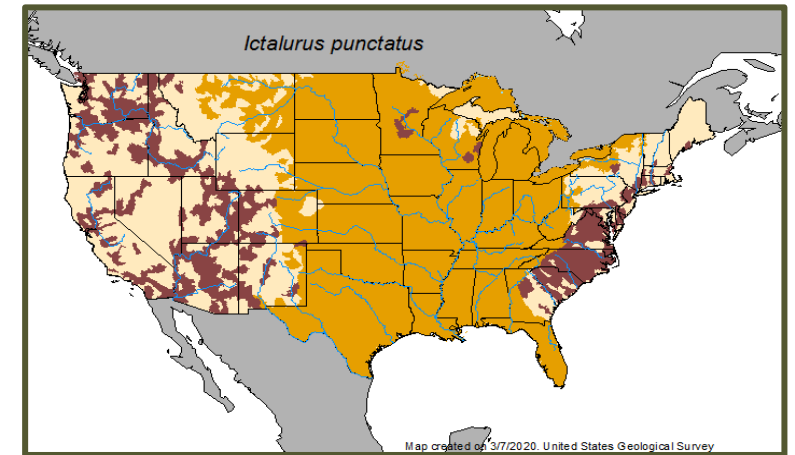
49 Fuller, P. et al. 2015. *Micropterus salmoides (Largemouth Bass)*, US Department of the Interior, United States Geological Survey

<https://nas.er.usgs.gov/queries/FactSheet.aspx?SpeciesID=401>



Channel Catfish

- Consume invertebrates, insects, small fish, and aquatic plants
- Weigh on average 1-2 kg



Channel Catfish Range

Fuller, P. et al. 2015. *Ictalurus punctatus* (Channel Catfish), US Department of the Interior, United States Geological Survey

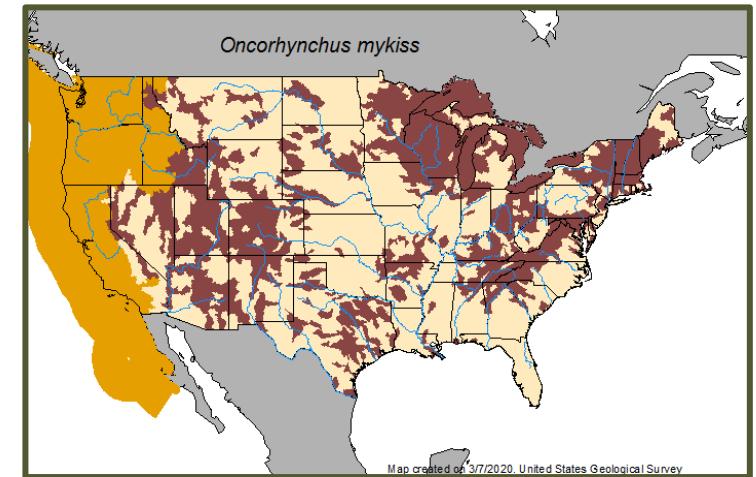
<https://nas.er.usgs.gov/queries/FactSheet.aspx?SpeciesID=2341>

Government of Ontario. 2014. Channel Catfish, Canada

<https://www.ontario.ca/page/channel-catfish>

Trout

- The most common Trout species to eat include Rainbow, Brown, and Brook Trout
- Opportunistic feeders and will eat whatever can be caught or scavenged such as small fish and their eggs, insects, and invertebrates
- Weigh 0.7 kg on average



Rainbow Trout Distribution



Fuller, P. et al. 2015. *Oncorhynchus mykiss* (Rainbow Trout), US Department of the Interior, United States Geological Survey

<https://nas.er.usgs.gov/queries/FactSheet.aspx?speciesID=910>

Missouri Department of Conservation. 2020. *Rainbow Trout (Oncorhynchus mykiss)*, MO

<https://nature.mdc.mo.gov/discover-nature/field-guide/largemouth-bass>

Pan Fish

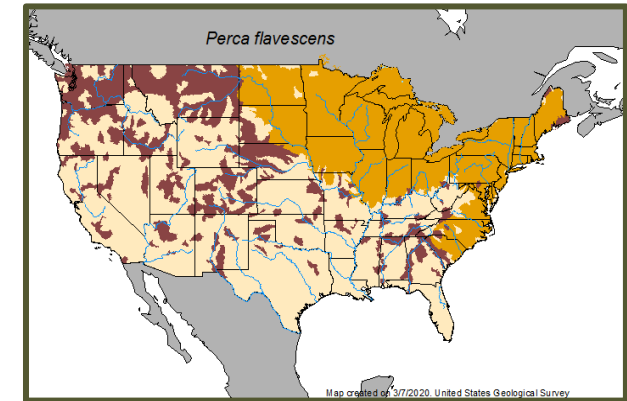
Pan Fish are commonly eaten game fish that typically do not grow to a size bigger than that of a frying pan. Other species in this category include Bluegill and Sunfish



Perch



- Eat zooplankton, small fish, and aquatic insects
- Dwell in cold, glacial lakes
- Weigh an average of 161.03 g



Yellow Perch Distribution

Fuller, P. et al. 2015. *Perca flavescens* (Yellow Perch), US Department of the Interior,
United States Geological Survey

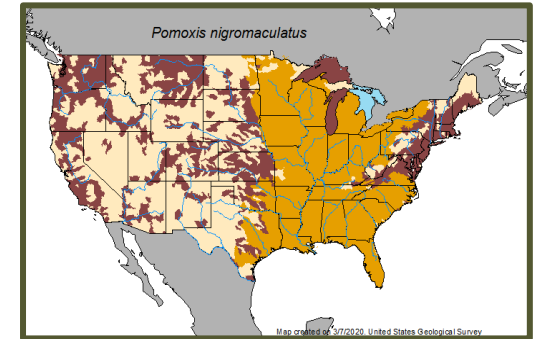
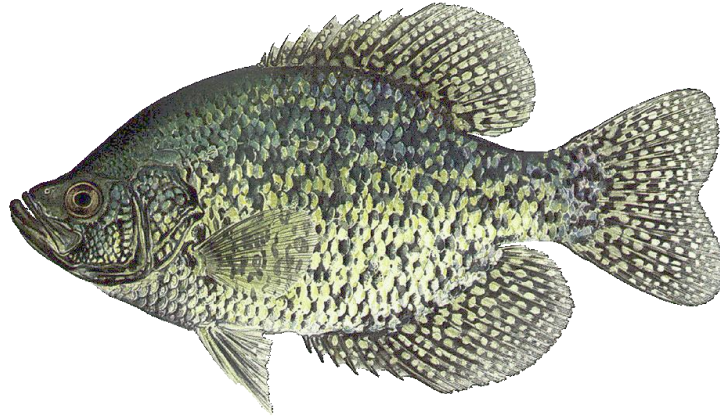
<https://nas.er.usgs.gov/queries/FactSheet.aspx?speciesID=820>

Wisconsin Department of Natural Resources Bureau of Fisheries Management. 2008. *Yellow Perch*, WI,
PUBL-FM-710 08

<https://dnr.wi.gov/topic/fishing/documents/species/yellowperch.pdf>

Crappie

- Ingest zooplankton, insects, small fish, and crustaceans
- Inhabit cool, deep bodies of water like lakes and slow-moving rivers
- Weigh from 28-800 g



Black Crappie Range

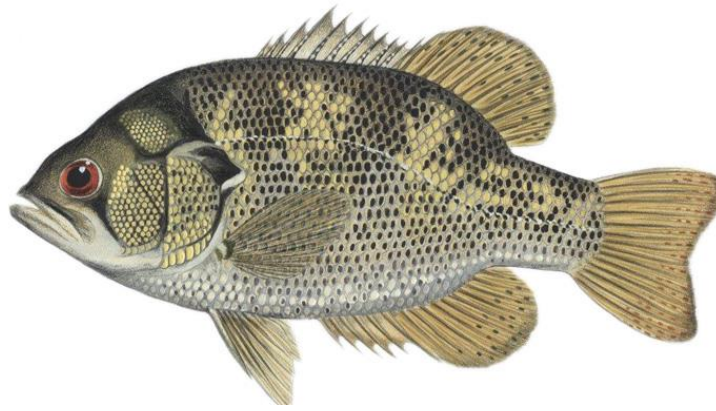
Fuller, P. et al. 2015. *Pomoxis nigromaculatus* (Black Crappie), US Department of the Interior, United States Geological Survey

<https://nas.er.usgs.gov/queries/FactSheet.aspx?speciesID=409>

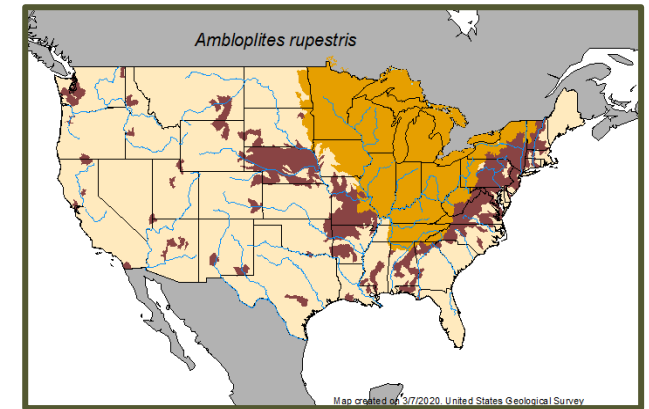
Currier, Mary, Animal Diversity Web, University of Michigan Museum of Zoology. 2020. *Pomoxis nigromaculatus* (Calico bass), MI

https://animaldiversity.org/accounts/Pomoxis_nigromaculatus/#geographic_range

Rock Bass



- Consume smaller fish, insects, crustaceans
- They live in calm waters near shorelines
- Weigh no more than 0.5 kg



Rock Bass Range

Fuller, P. et al. 2015. *Ambloplites rupestris* (Rock Bass),

US Department of the Interior, United States Geological Survey

<https://nas.er.usgs.gov/queries/FactSheet.aspx?SpeciesID=373>

Washington Department of Fish & Wildlife. 2020. *Rock Bass*, WA

<https://wdfw.wa.gov/species-habitats/species/ambloplites-rupestris#howto>

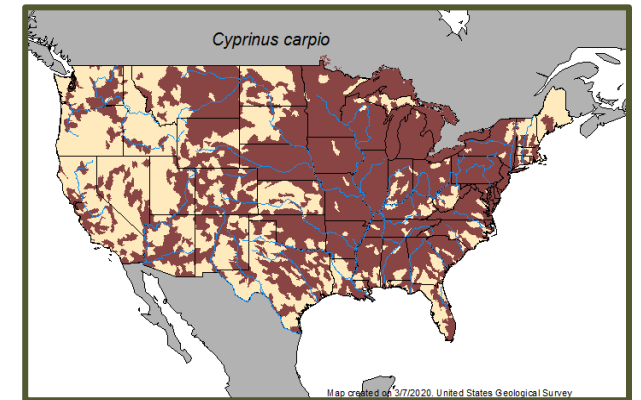
Rough fish are named for their undesirability with mainstream fisherman, although a few rough fish are considered a delicacy by some people. Other species include Drum, Sucker, Redhorse, Bullhead, and Eel

Rough Fish



Carp

- Feed on crustaceans, small fish, and water plants
- Dwell in large rivers and lakes
- Weigh from 0.25 kg to about 3 kg



Common Carp Distribution

Fuller, P. et al. 2015. *Cyprinus carpio* (Common Carp),
US Department of the Interior, United States Geological Survey
<https://nas.er.usgs.gov/queries/FactSheet.aspx?speciesID=4>

Food and Agriculture Organizations of the United Nations. 2020. *Common carp - Natural food and feeding habits*
<http://www.fao.org/fishery/affris/species-profiles/common-carp/natural-food-and-feeding-habits/en/>

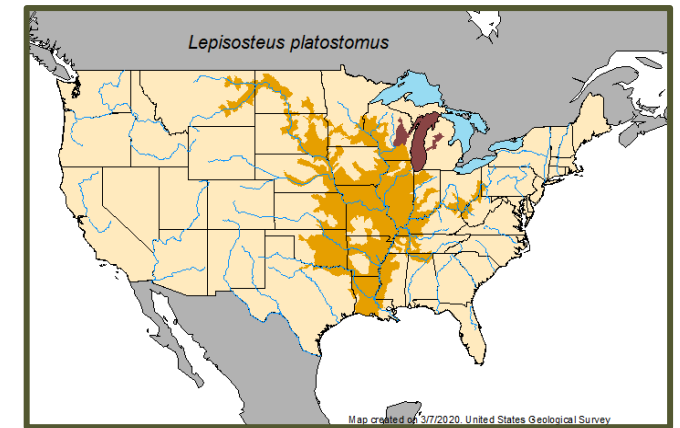
Food and Agriculture Organizations of the United Nations. 2020. *Common carp - Growth*
<http://www.fao.org/fishery/affris/species-profiles/common-carp/growth/en/>



Gar



- The Shortnose Gar is the most widely distributed gar in the U.S, but other species including Alligator, Longnose, and Spotted Gar
- Eat small fish and macroinvertebrates
- Live in large rivers and lakes
- Weigh up to 1.6 kg, although this varies by species



Shortnose Gar

Fuller, P. et al. 2015. *Lepisosteus platostomus* (Shortnose Gar).

US Department of the Interior, United States Geological Survey

<https://nas.er.usgs.gov/queries/FactSheet.aspx?speciesID=757>

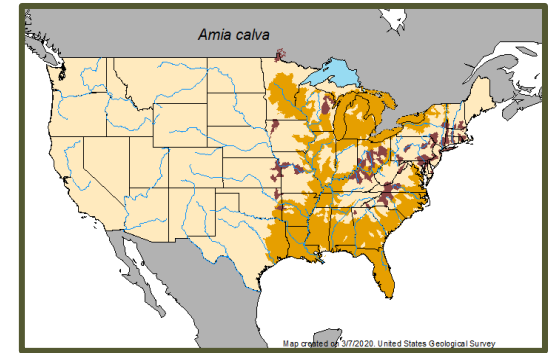
McClure, Wally, American Fisheries Society: Montana Chapter. 2003. *Shortnose Gar*, Bozeman, MT

<https://units.fisheries.org/montana/science/species-of-concern/species-status/shortnose-gar/>

Bowfin



- Consume mostly fish
- Live in the deep waters of biodiverse lakes and some streams
- May reach about 3.9 kg



Bowfin Distribution

Fuller, P. et al. 2015. *Amia calva* (Bowfin), US Department of the Interior, United States Geological Survey

<https://nas.er.usgs.gov/queries/FactSheet.aspx?speciesID=305>

University of Florida Museum. 2020. *Bowfin* (*Amia Calva*), FL

<https://www.floridamuseum.ufl.edu/discover-fish/species-profiles/amia-calva/>

Questions and Suggestions

- One problem I ran into was a lack of information on water, food, and soil intake rates, but mostly a lack of information on human consumption rates. I want to ask if anyone has any knowledge about information on these topics that may be missing in the summary table?
- To add to the information available to everyone about human consumption rates and food, water, and soil ingestion rates of animals, a field research project to gather data may be a valuable project to enact in the future.

References

- Flather, Curtis H.; Knowles, Michael S.; Brady, Stephen J. 2009. Population and harvest trends of big game and small game species: A technical document supporting the USDA Forest Service Interim Update of the 2000 RPA Assessment. Gen. Tech. Rep. RMRS-GTR-219. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 34 p. https://www.fs.fed.us/rm/pubs/rmrs_gtr219.pdf
- Flather, Curtis H.; Knowles, Michael S.; Jones, Martin F.; Schilli, Carol. 2013. Wildlife population and harvest trends in the United States: A technical document supporting the Forest Service 2010 RPA Assessment. Gen. Tech. Rep. RMRS-GTR-296. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 94 p. https://www.fs.fed.us/rm/pubs/rmrs_gtr296.pdf
- Lu, Jiaying. 2009. *Longitudinal Analysis of Fishing Behavior among Texas Anglers (1990-2006)*. 2009 Northeastern Recreation Research Symposium, GTR-NRS-P-66 <https://www.nrs.fs.fed.us/pubs/gtr/gtr-nrs-p-66papers/19-lu-p-66.pdf>
- Mockrin, Miranda H.; Aiken, Richard A.; Flather, Curtis H. 2012. Wildlife-associated recreation trends in the United States: A technical document supporting the Forest Service 2010 RPA Assessment. Gen. Tech. Rep. RMRS-GTR-293. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 34 p. https://www.fs.fed.us/rm/pubs/rmrs_gtr293.pdf
- Sample, B. E. et al. 1997. *Methods and Tools for Estimation of the Exposure of Terrestrial Wildlife to Contaminants*. Oak Ridge, TN, ORNL/TM-13391 <https://rais.ornl.gov/documents/tm13391.pdf>
- U.S. Department of the Interior, U.S. Fish and Wildlife Service, and U.S. Department of Commerce, U.S. Census Bureau. 2016 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation. <https://www.census.gov/content/dam/Census/library/publications/2018/demo/fhw16-nat.pdf>
- U.S. EPA. Wildlife Exposure Factors Handbook. U.S. Environmental Protection Agency, Washington, D.C., EPA/600/R-93/187. <https://cfpub.epa.gov/ncea/risk/recorddisplay.cfm?deid=2799>