



New Jersey Audubon Garden for Wildlife

Feeders and Water Sources

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In This Webinar

- Food
 - Types of Seeds
 - Different Feeders
- Ways to Offer Water
- Preventing Bird Strikes
- Community Science Opportunities



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Food for Wildlife

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Food

- Native Plants
 - Leaves
 - Seeds
 - Berries
 - Nuts
 - Fruits
 - Nectar
 - Sap







Food, cont.

- Supplemental Feeders:
 - Bird Feeders
 - Hummingbird Feeder
 - Butterfly Feeder





Sunflower Seed

Black Oil	Striped
Thin shell, smaller kernel	Thick shell, larger kernel
Easy to crack Great for songbirds like chickadees	Tougher to crack Great for larger beaks like cardinals & jays
High fat – great for winter	Lower fat but still nutritious



Niger (nyger) Seed

- Seed of the Niger plant (*Guizotica abyssinica*)
 - Annual herb
 - Requires bees for cross pollination
- Relative of sunflowers
- Native to Ethiopia
- Grown commercially in Africa, India, and SE Asia
- Seed is heat treated to sterilize and prevent germination
- Contains proteins and soluble sugars
- Attracts finches
 - Some sparrows



Safflower

- Seed of the Safflower (*Carthamus tinctorius*)
 - Yellow, orange, or red flower
 - Herbaceous, thistle-like annual
- From Western Asia
- Can be used to make dyes
 - Red and yellow
- Self-pollinating
- Drought tolerant with an extremely long taproot
- Attracts cardinals and grosbeaks



Millet

- Common from millet foxtail (*Setaria italica*)
 - Native of China
- Small, shiny, round seed
- High in protein
- Favorite of ground feeding birds
 - Sparrows, doves, towhees, juncos, cardinals, finches, and quail
 - Can attract “pest” birds such as House sparrows, and European starlings



Cracked Corn

- Corn kernels that have been dried and cracked into pieces
- High in protein and fiber
 - Not high in oil
- Attracts a wide variety of birds
 - Quail, bobwhite, turkeys, pheasants
 - Waterfowl
 - Doves, blackbirds, pigeons, sparrows
- Also attracts “pest” birds as well as deer, squirrels, chipmunks, raccoons and bear
- Never offer dyed-red corn



Peanuts

- Native to South America
- High in protein and fat
- Roasted with no salt or sugar
- Important to keep dry
- Popular to jays, crows, chickadees, titmice, woodpeckers, and many other species
- Also attracts squirrels, chipmunks, bears, and raccoons
- Peanut butter bird food



Mealworms

- Larva of the mealworm beetle (*Tenebrio molitor*)
 - Type of darkling beetle
- Excellent source of protein and fat
- Great for nesting birds to feed their young
- Live or dried





Seed Storage



- Cool, dry location
- Airtight
- Sealed lid
- Rodent and insect proof
- Don't mix old seed with new seed





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Platform or Tray Feeder

Attracts	The widest variety of seed-eating birds such as finches, woodpeckers, doves, grosbeaks, cardinals, sparrows, and catbirds
Mount	Suspended from a pole or mounted on deck railings
Weather Protection	Need to add a roof. If seed gets wet, will sprout or lead to fungal or bacterial growth.
How to Clean and Fill	Bottom needs holes or a screen for drainage. Every day or every other day, remove old seed and fill with just enough that will be eaten.



Hopper Feeder

Attracts	Finches, jays, grosbeaks, cardinals, sparrows, chickadees, titmice
Mount	Mounted on a pole or suspended from a pole or tree
Weather Protection	Has a roof so does a good job of protecting seeds
How to Clean and Fill	Can be difficult to clean. Good for busy people as can fill with a few days worth of food.



Tube Feeders

Attracts	Sparrows, grosbeaks, chickadees, titmice, finches, woodpeckers
Mount	Suspend from a pole
Weather Protection	Relatively weatherproof. Add roof if needed.
How to Clean and Fill	Clean with hot water and soap or on top shelf of dishwasher. Always empty out feeder as seed can get stuck on bottom and go rancid.



Suet Feeders

Attracts	Woodpeckers, nuthatches, chickadees, titmice, jays, and starlings
Mount	Suspended from a pole or nailed to a tree
Weather Protection	Heat could cause the suet to melt. If suet isn't eaten quickly in the summer, then best to only put out in colder weather.
How to Clean and Fill	Use hot to boiling water with a degreasing soap to cut through suet film and stickiness. Fill when empty.

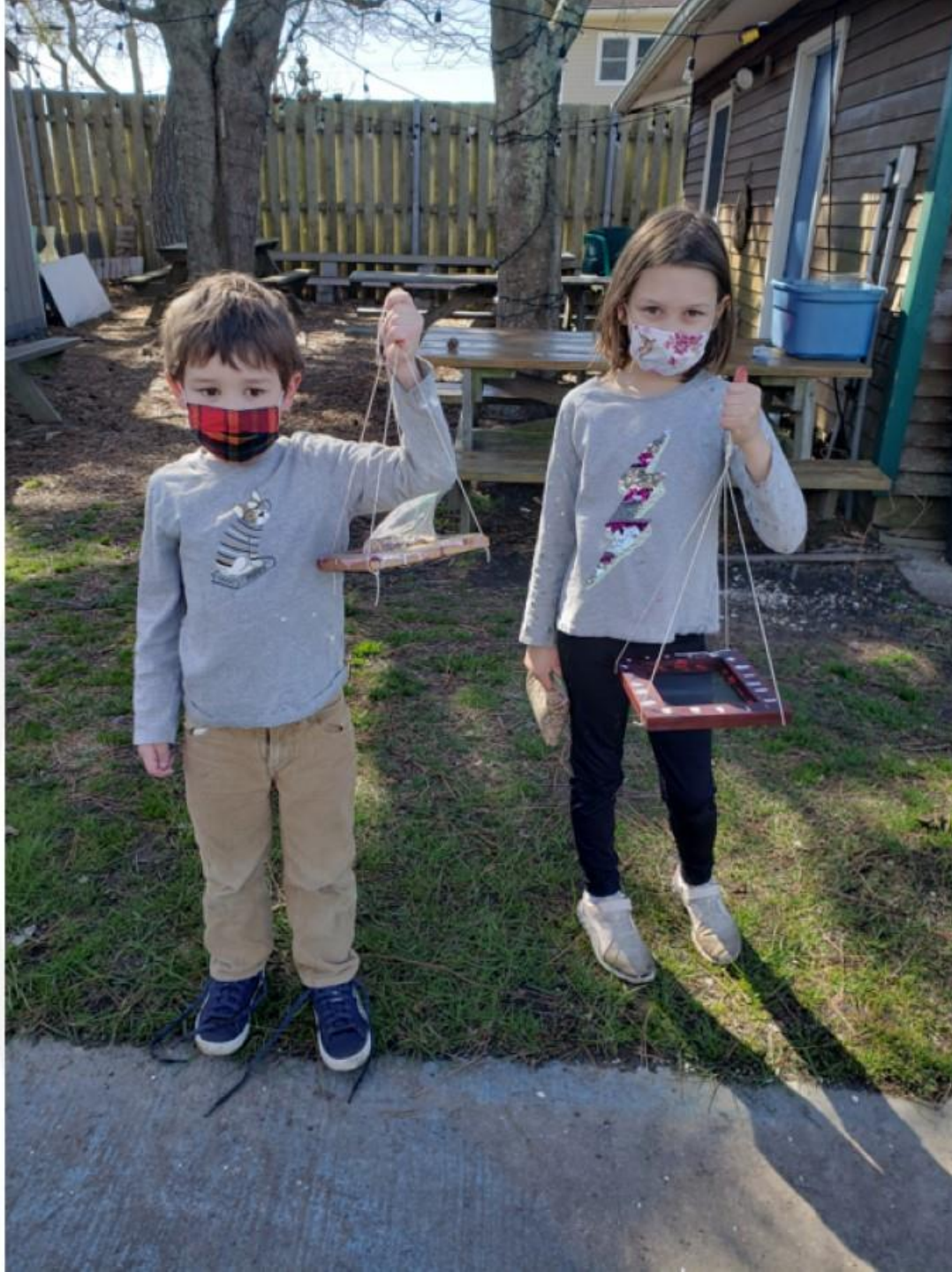


Window Feeder

Attracts	Finches, chickadees, titmice, and some sparrows
Mount	Affix to windows using suction cups. Prevents window strikes.
Weather Protection	Usually has a roof over for weather protection
How to Fill and Clean	Easy to clean and fill. Should be done daily.







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Squirrel Proof?!

- All feeders should have some sort of squirrel protection
 - Squirrel baffle
 - Below on a pole
 - Above if hanging
 - Slinky
 - Plastic water bottles
- Ten feet from a structure or bush
 - They can jump high and far
- Can set up a separate feeding station for them
- Or you can just come to terms that some squirrels are smarter than us!



Squirrel Baffle



Nectar Feeder

Attracts	Hummingbirds and Orioles
Mount	Suspend from a pole
Weather Protection	Put in a shady spot if possible. Sun can cause sugar water to ferment.
How to Clean and Fill	Scrub and refill every other day to prevent fermentation.
Sugar Solution	$\frac{1}{4}$ c. sugar to 1 c. water. Boil, cool, fill feeder and store leftovers for a week.





Jelly Feeder

Attracts	Orioles, catbirds, robins, mockingbirds, waxwings, some warblers and woodpeckers
Mount	On a pole. Can also add jelly to a window feeder.
Weather Protection	Need to add a roof and/or put in shaded location.
How to Clean and Fill	Depends on feeder. Glass dishes can be cleaned in dishwasher.



Oriole Feeder

- Reservoir for sugar water
 - 1 water : 6 sugar
 - Less sugary than hummingbird nectar
- Have perches for orioles to land
- Bowls on top to add jelly and/or cut up fruit
- Similar care as hummingbird feeders





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Water

- Birdbath
- Pond/Lake
- Stream/River
- Seasonal Pool
- Water Garden/Pond
- Butterfly Puddling Area
- Rain Garden
- Spring



All animals need water to drink or bathe



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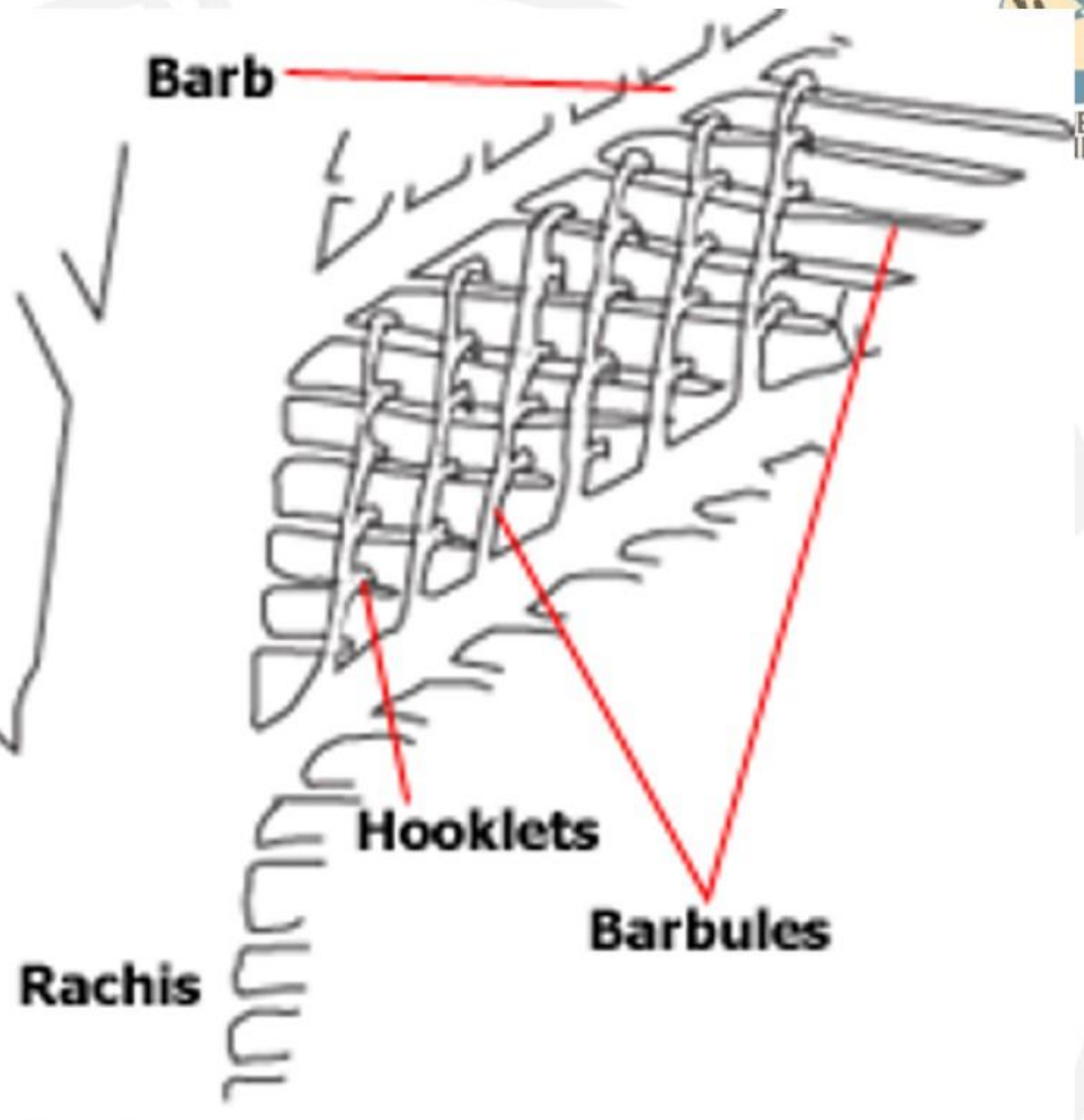


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Preening

- Clean Feathers = A Healthy Bird
- Removes dirt and parasites
- Realigns feathers
- Uropygial (oil) gland
 - Feather health
 - Waterproofing
 - Pheromones
 - Antiparasitic
- Absent in most flightless species
 - Kiwi, emu, ostrich, rhea, cassowary
- Absent in species that produce powder down for maintenance
 - Pigeon & dove









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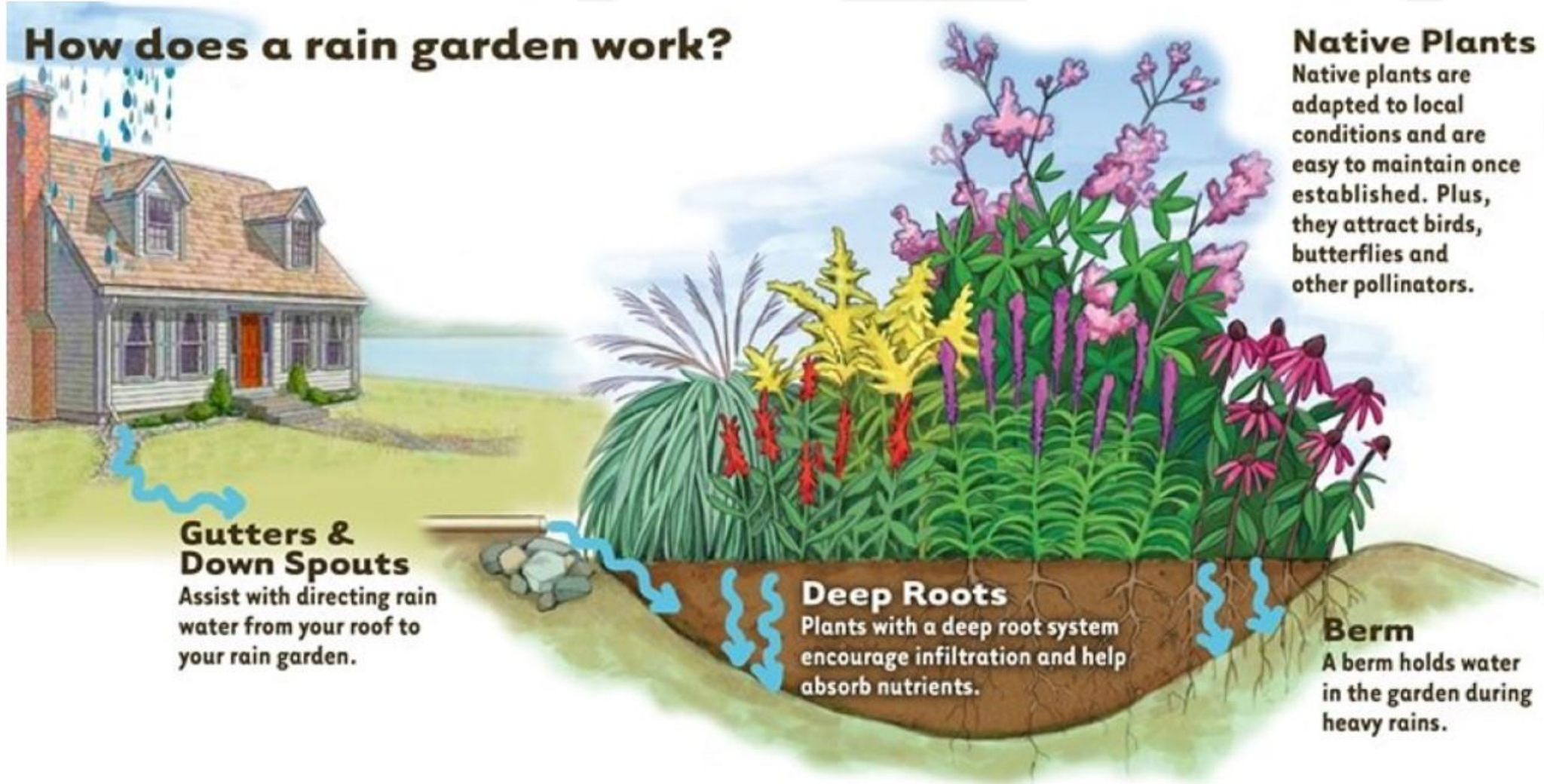
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Rain Garden – Natural Land Institute

How does a rain garden work?



Butterfly Puddling Area

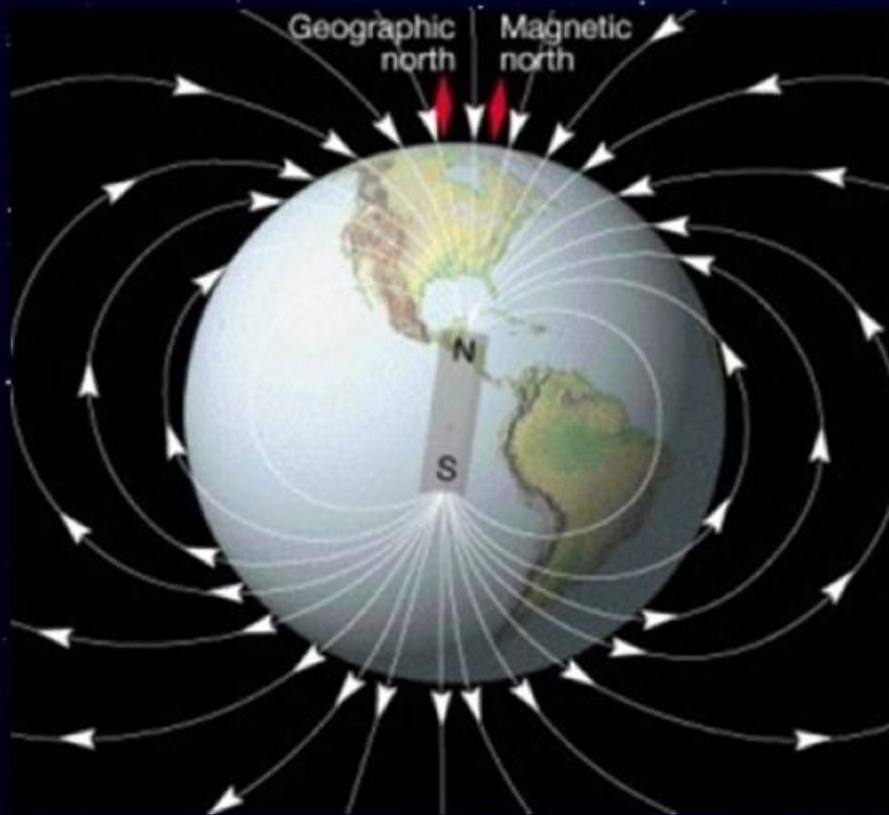




Location, location, location!



Orientation





Problems after dark

- Bright night lights attract and disorient nocturnal migrants
 - Prolonged circling of light source
 - Exhaustion = grounding = depredation



Birds and Structures

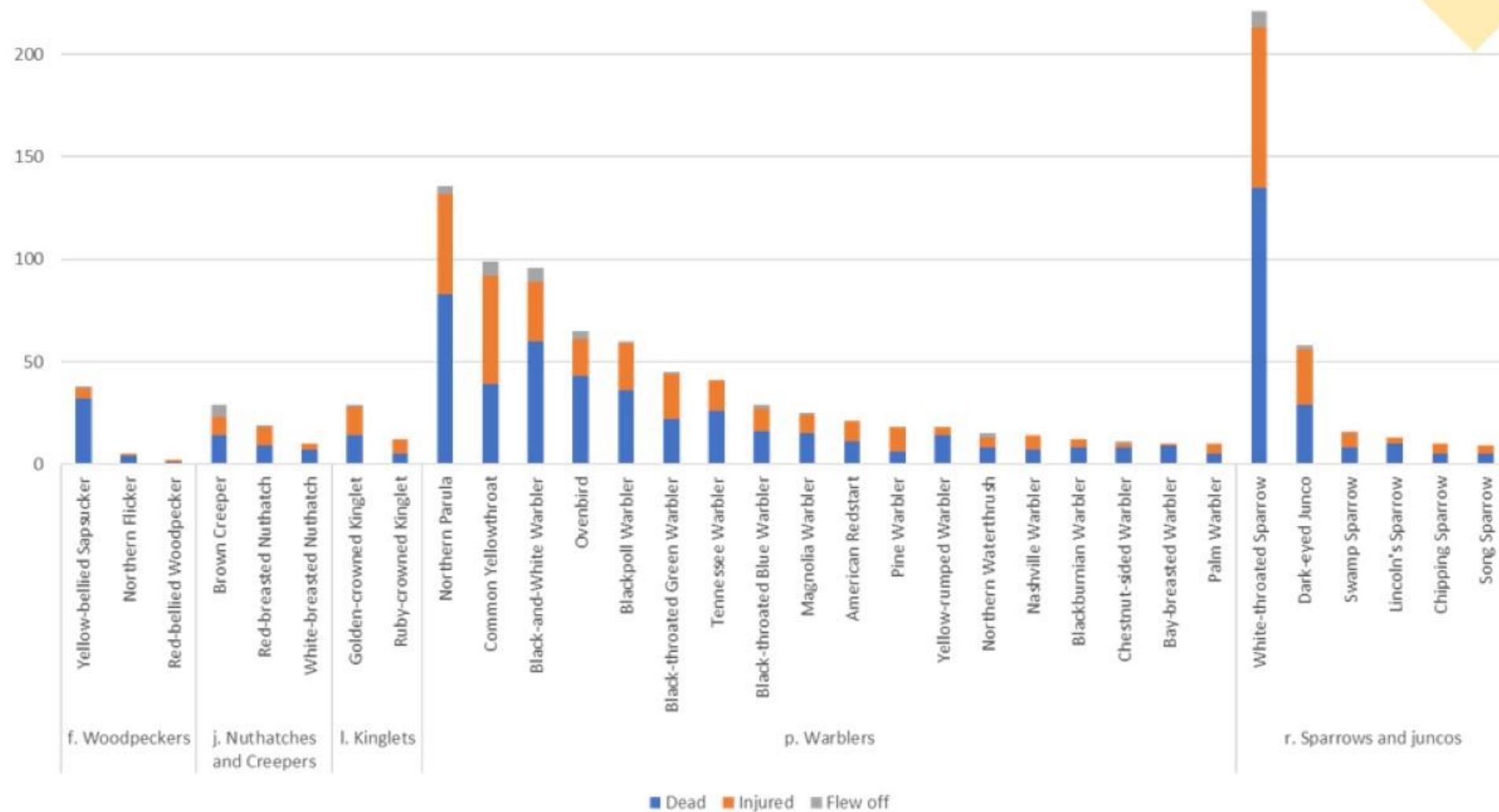




This looks like
a nice short cut!

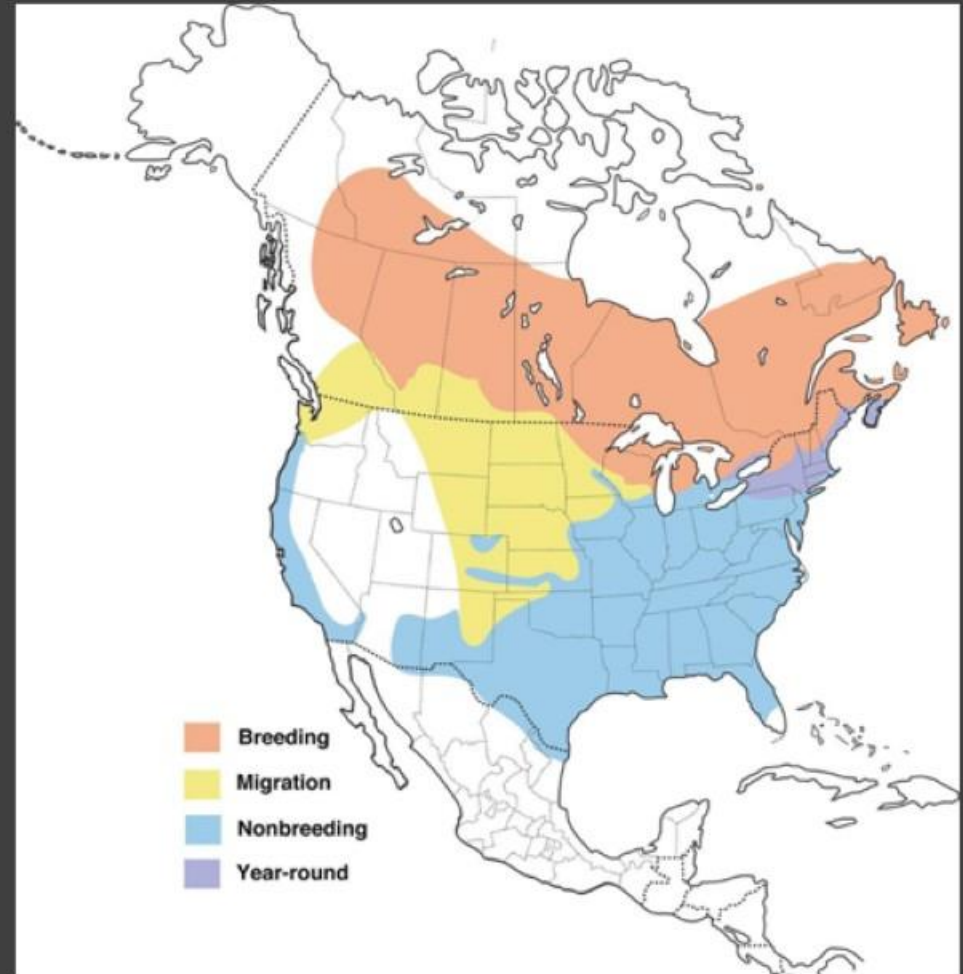


Most common species - fall migration 2020

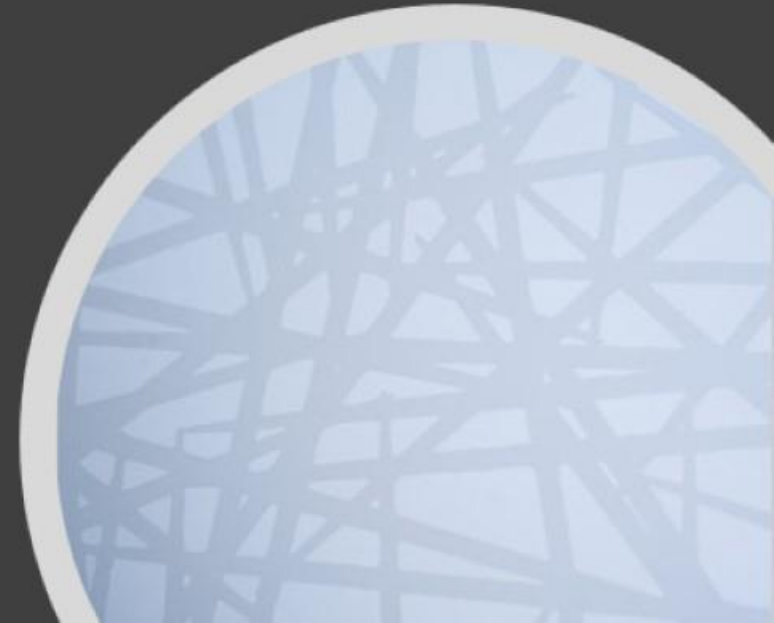




White-throated Sparrow



- Bird-safe glass
- Window tape, paint or film
- Blinds or curtains
- Lights-out campaigns
- Responsible development of structures



There's a scientist
in all of us!

The Value of Community Science: Collaboration!

Researchers: Cost effective, large data sets

Volunteers: Contribute to science, learn/practice skills, spend time outdoors

Educators/Students: Participate in "real world" science

Variety

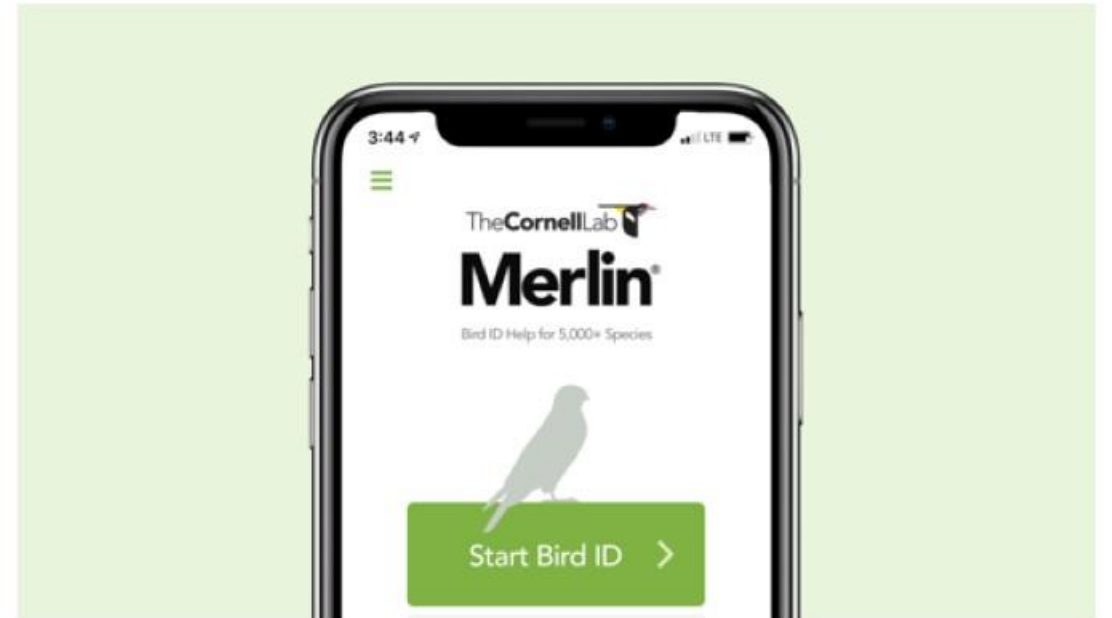
- Local → Worldwide
- One day → Many years
- A few volunteers → Thousands of volunteers
- Low level skill/training → High level skill/training
- No cost for volunteer → Some cost for volunteer
- Many topics!

Project Feederwatch

- North America (yard counts)
- Seasonal (November-April)
- Count birds once a week or less
- No training required
- \$18 dollar participation fee
 - Receive research kit, instructions, bird poster, calendar and more

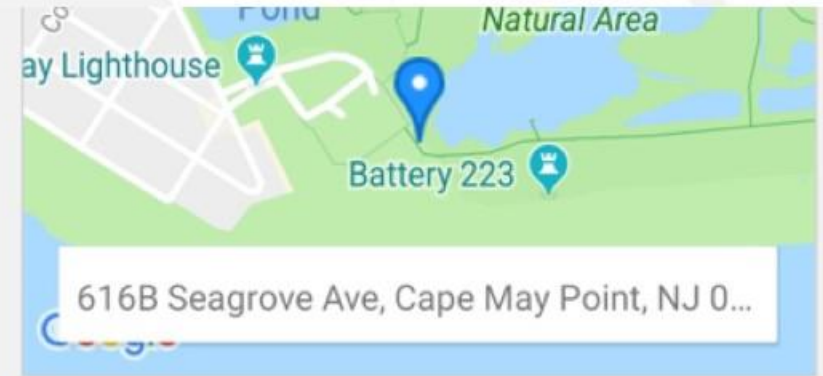
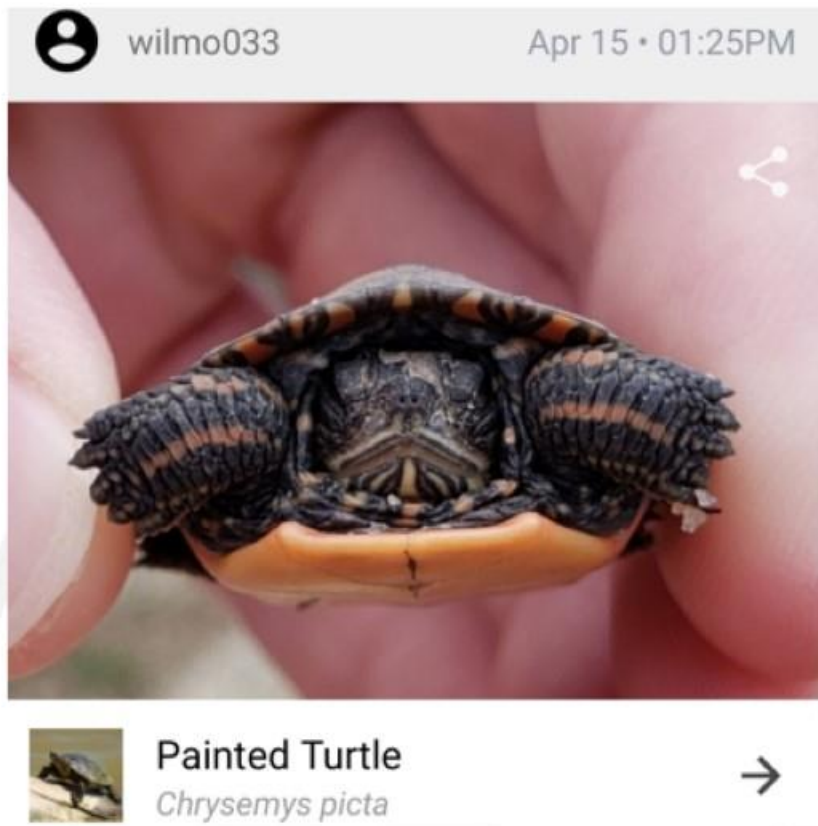


eBird

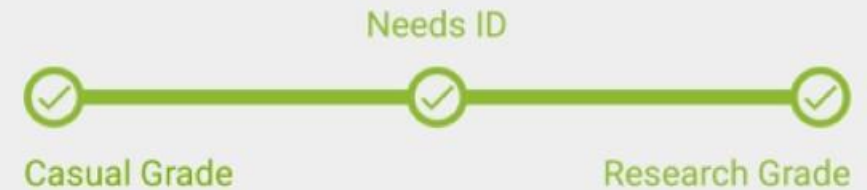


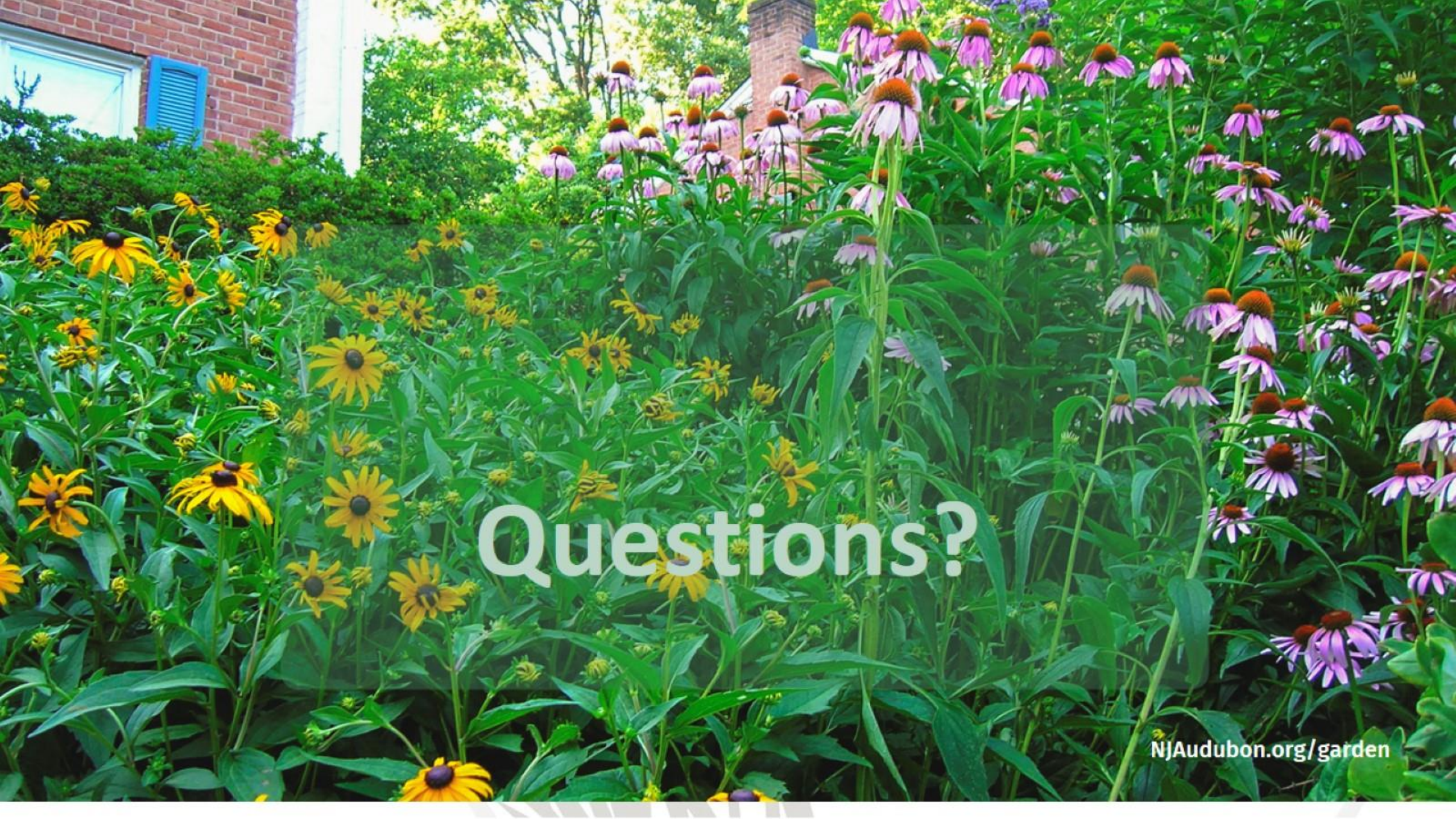
iNaturalist

- Worldwide
- Year-round
- All wildlife
- No training required
- Data vetting built in
- Free!



Data Quality





Questions?

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