



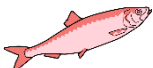









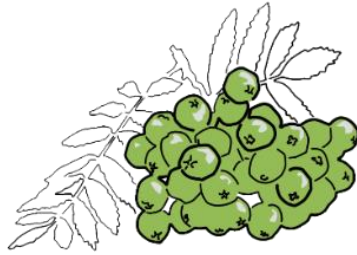
MENU

The bill, please!



To eat, birds must choose, capture, and handle their food. Access to a food resource and competition to exploit the resource will act as a selection force, where birds with the best behavioural and physical characteristics can pass on their genes. If a bird species eats almost exclusively a stable type of food, we call them specialists. Most bird species eat several types of food. If the diet is highly varied, we call the species a generalist. Birds can be categorized based on the food they eat; for example, birds that eat fruit are called frugivores. Often, the beak will give us an indication of which food source the birds exploit. In the exhibition "Bill, please", we have placed stuffed birds from Norwegian nature in the following "food groups":

Herbivores		Carnivores		Carnivores	
Berries and fruits		Insects		Fish	
Seeds		Invertebrates		Birds	
Nuts		Various food		Mammals	
Grass					



Berries and fruit are irresistible to many birds. The birds eat and digest the nutrient-rich fruit, while the seeds are expelled with bird feces at a new location, giving a new plant the chance to sprout. This mutualistic interaction benefits both plants and birds. The plant produces berries and fruit after pollination and is available to birds in the summer and fall.



Bohemian Waxwing *Bombycilla garrulus*

Rowan berries and other fruits and berries in autumn/winter. Insects during breeding season.



Pine Grosbeak *Pinicola enucleator*

Rowan berries and other fruit and berries, as well as seeds in autumn/winter. Insects in addition to seeds and berries at nesting sites.



Redwing *Turdus iliacus*

Blueberries and crowberries in autumn. Snails and slugs, earthworms and insects represent an important part of the diet.



Fieldfare *Turdus pilaris*

Berries and fruit in autumn and winter. Earthworms is the main food source, but also likes insects and spiders.





Birds that eat seeds have powerful beaks that they use to crush the hard seed shell to access the nutritious seed contents. The size of the beak often corresponds to the size of the seeds they eat. When seeds are consumed by birds, they will not be able to sprout into new plants. Seeds are available when plants have finished flowering.



European Goldfinch *Carduelis carduelis*

Adults live off seeds, particularly seeds of dandelion and thistles. Chicks are fed insects.



Red Crossbill *Loxia curvirostra*

Specialist feeder on spruce cones. Also breeds in February/March when cone availability is highest.



Great spotted Woodpecker *Dendrocopos major*

Seeds from cones during autumn and winter. Omnivorous, eating everything from fruit to bird chicks.



Hawfinch *Coccothraustes coccothraustes*

Hard-shelled seeds. Strong bill that can crack cherry stones but does not eat the fruit flesh. Also consumes buds and insects.





Birds that eat nuts often have a strong and pointed beak that they use to peck holes in the hard nutshell. Nuts are available in the summer and fall, and birds often gather and cache nuts for winter. To retrieve their nut caches, they have developed a good memory. Still, they can not locate all caches, which is a way to disperse the plant.



Eurasian Jay *Garrulus glandarius*

Acorns. Habitat largely overlaps with the distribution of oak trees. However, it can exploit a variety of food sources, from grains to bird chicks.



Eurasian Nutcracker *Nucifraga caryocatactes*

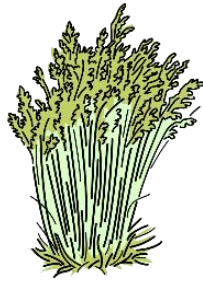
The nutcracker in Rogaland has specialized in hazelnuts. Can also exploit a variety of food sources, from grains to bird chicks.



Eurasian Nuthatch *Sitta europaea*

Nuts during autumn and winter. The length of its beak is shorter during the winter due to wear from cracking hard nuts. Otherwise, its diet is varied, including insects, small creatures, and seeds.





Grass represents a plant-based diet in the form of leaves and shoots. Beaks are used to tear off plants or pick shoots. Plant material that is consumed must be torn apart for the birds to utilize it. Grass is available year-round but is abundant from late spring to autumn.



Black Grouse *Lyrurus tetrix*

Eats buds from both deciduous and coniferous trees. Chicks feed on insects.



Eurasian Wigeon *Mareca penelope*

Eats plant-based food, including leaves, stems, roots, and seeds. Forages both in water and on land.



Eurasian Bullfinch *Pyrrhula pyrrhula*

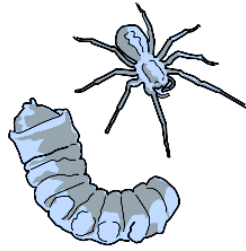
Eats buds and shoots in summer. More generally, it consumes a lot of seeds and also supplements with insects.



Common Pochard *Aythya ferina*

Eats aquatic plants that it finds by diving. It can also consume insects, small fish, and mussels.





Insects are a highly abundant and diverse animal taxon that many birds exploit. Insect-eaters must capture insects and often have a pointed beak that they use to catch/pick insects. Insects have a high nutritional content and represents an important part of the diet for many birds normally eating a different source of food.

Honey Buzzard *Pernis apivorus*



Eats larvae of wasps and bumblebees. Can also consume frogs and other small animals. It has scales instead of bristles at the base of the beak to protect against insect stings.



Eurasian Green Woodpecker *Picus viridis*



Specialist in eating mound-building ants. Otherwise consumes wood-boring insects and other invertebrates.



Common Cuckoo *Cuculus canorus*



Butterfly larvae are favourite prey, but it also eats dragonflies, grasshoppers, and beetles. It also consumes bird eggs.



Bluethroat *Luscinia svecica*



Eats insects and arachnids that it typically finds on the ground but can also catch insects in the air. It also consumes other invertebrates, as well as fruits and berries.

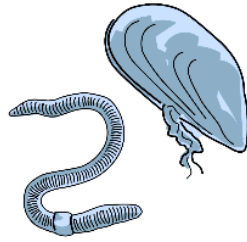


Red-backed Shrike *Lanius collurio*



Eats insects, small rodents, amphibians, and small birds, which they often impale on thorns and barbed wire.





Invertebrates lack a backbone, a feature in phyla such as mollusks, arthropods, and annelids. This includes earthworms and mussels, which are a sought-after food source for many birds. The animal group is highly diverse, as are the bird beaks, which can either find animals living in the soil, filter out animals in water, or dive down and grab shells.



Northern Shoveler *Spatula clypeata*

The spoon-shaped bill has lamellae on each side that filter out planktonic crustaceans, snails, mussels, and aquatic insects from the water.



White-throated Dipper *Cinclus cinclus*

Eats small freshwater animals that it dives for. These can range from crustaceans, insects, to small fish.



Black-tailed Godwit *Limosa limosa*

Eats insects, mussels, crustaceans, and polychaetes. It also consumes seeds, berries, bird chicks, frog eggs, and tadpoles.



Northern Lapwing *Vanellus vanellus*

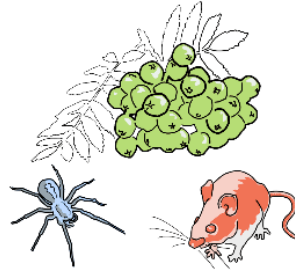
Eats earthworms and insects. Also consumes invertebrates and mollusks.



Eurasian Woodcock *Scolopax rusticola*

Eats earthworms and insect larvae. It has sensory cells on the tip of its so that it can feel prey when it probes the soil.





We see that birds often find food from multiple categories, which makes sense as the availability of resources varies throughout the year. It also makes sense that the appearance of the bill alone cannot explain what the bird eats, as birds use their bills for various tasks, including grooming feathers, building nests, and communication. However, some species possess a bill shape and behaviour that allows them to exploit highly varied food sources, ranging from plant-based to animal-based. These species are characterized as omnivores.



Herring Gull *Larus argentatus*

As an omnivore, it consumes everything from plant-based food to waste. However, its main source of nutrition comes from fish that caught at the water surface.



Great Tit *Parus major*

Insects and seeds, but also meat and fat from carrion.



Eurasian magpie *Pica pica*

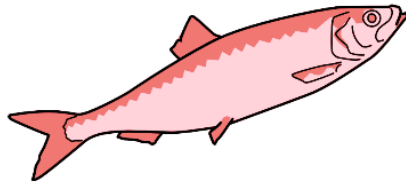
Insects, invertebrates, carrion, small rodents, small birds, bird chicks, eggs, berries, grains, and food scraps like bread



Pomarine Skua *Stercorarius pomarinus*

Small rodents and bird chicks and eggs at nesting sites, otherwise marine resources that it steals from other birds (kleptoparasitism).





Birds that eat fish must catch the nutritious food source. They use different techniques involving plunging, diving, and swimming to catch their prey. Their beaks vary in appearance, often with adaptations for catching and handling fish.

Atlantic Puffin *Fratercula arctica*



Herring is preferred during the breeding season, but also eat other small fish. They swim by using their wings and can dive down to 70 meters. Several fishes are caught on the same dive, often kept in the bill.



Red-breasted Merganser *Mergus serrator*



Swims to catch small fish, such as herring or trout, in shallow waters. Lives both in marine and freshwater environments. Bill with "teeth" to grip fish.



Common Kingfisher *Alcedo atthis*



Eats small fish, but also aquatic insects. Observes from a branch near the water's edge, often rivers, and plunge-dives for prey.

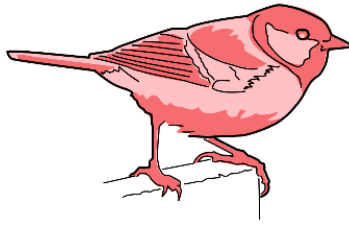


Great Crested Grebe *Podiceps cristatus*



Eats fish up to 22 cm in size. Additionally, it consumes invertebrates and tadpoles.





Birds are distinguished from other animals by their feathers, and most species can fly. Catching birds requires well-developed senses, athletic manoeuvrability, and strong claws to kill the prey. The sharpened and curved bill is used to pluck and carve the prey.



Merlin *Falco columbaris*

Thrushes and other small birds but can also prey on insects. Scouts for prey from vantage points with good visibility. Can hunt together in small groups.



Eurasian Sparrowhawk *Accipiter nisus*

Small birds. Females are larger than males and can capture prey the size of pigeons.



Great Grey Shrike *Lanius excubitor*

Eats small birds, insects, lizards, and mice that it catches in open landscapes.





Birds that eat mammals often forage on small rodents, that can be found in large numbers. The size of the birds indicates the size of prey they prefer. To catch mammals, birds have developed very sharp senses, often both sight and hearing. Prey is primarily killed by the claws, and the sharp bill tip is used to tear the meat apart.



Short-eared Owl *Asio flammeus*

Specialist on catching small rodents, preferring field voles. In years with few voles, the owl supplements its diet with small birds.



Eurasian Kestrel *Falco tinnunculus*

Preferably small rodents, but can also catch insects, reptiles, and frogs. Hover in the air while hunting for prey.



Northern Hawk Owl *Surnia ulula*

Specialist on catching small rodents but can also catch shrews. Owl feathers have serrated edges that allow them to fly silently.



Rough-legged Buzzard *Buteo lagopus*

Small rodents. Can also catch Galliformes, such as ptarmigans, and hares.

