

Housing Guidance from the [Guide to the Use of Wild Bird in Research](#)

Note: the chart below is only a summary; read the full text of the *Guidelines* before using any of the advice below

<i>Separation by species</i>	<p>Group housing is OK if the requirements or habits of the species are not in conflict and social factors such as interspecific dominance over food or nervous responses of one species to another's calls does not result in additional stress.</p>
<i>Food</i>	<p>Feed palatable, uncontaminated, nutritionally balanced food daily or according to particular requirements, unless the experimental protocol requires otherwise.</p> <p>Food should be food readily available in the morning, must be tailored to the species in question, and should be presented in ways that foster natural foraging behaviors.</p>
<i>Grit</i>	<p>Need for grit differs based on both diet and taxon</p> <p>Crushed oyster shell or sterilized crushed hen's egg shells may be mixed as a source of calcium and other minerals; some investigators may prefer incorporating calcium and minerals directly in the staple diet or offering in other forms.</p>
<i>Vitamins</i>	<p>Vitamins may be given in food or water.</p> <p>Consider the lack of control over the amount of vitamins taken when vitamins are added to a communal water dish.</p>
<i>Water</i>	<p>Give fresh water daily. For species that normally bathe in water, water should be provided in open, shallow containers to allow bathing. Some birds may be misted for feather maintenance.</p> <p>Containers should be made of non-porous materials such as heavy, tempered glass, glazed porcelain, or stainless steel.</p> <p>Drinking water may also be provided in commercial bird-drinking tubes or in drinking tubes for small mammals (if birds will adapt to use them).</p> <p>Open water containers should be washed daily with soap and water and at least twice weekly with diluted household bleach. Closed water bottles may not need daily cleaning.</p>
<i>Cleaning</i>	<p>Cages should be thoroughly cleaned at appropriate intervals.</p> <p>Species-appropriate cleaners should be used on cage trays and cage wires.</p> <p>Cage liner materials range from wood particles or pelletized paper to newspaper or commercially available cage liner paper.</p> <p>Wash seed dishes twice weekly.</p>

<p><i>Cages</i></p>	<p>Cage size and shape should provide sufficient room for normal maintenance behavior and wing-flapping, and possibly for breeding behavior. Zoo publications can provide information on specific species.</p> <p>Stainless steel, galvanized steel, fiberglass, or plastic cages permit easy steam-cleaning.</p> <p>New cages containing galvanized steel or galvanized mesh should be brushed with a wire brush and vinegar solution before first use to reduce the possibility of zinc poisoning. Soldered joints should have a protective coating to prevent lead poisoning or have lead-free solder.</p> <p>Painting metal surfaces with a durable, moisture-proof substance such as epoxy paint or spar-varnish can protect against rust.</p> <p>Wood cages be more difficult to clean and maintain. If used, check frequently for mites and consider use of Pyrethrin sprayed into cracks and corners.</p> <p>Paper, fine sand, wood-shavings, or newspaper are may be used on cage bottoms – consider the need for water absorbency and the ease of thorough cleaning. Avoid ground, dried corncobs, walnut shells, or any other substrate that may promote the growth of fungi.</p> <p>Wire bottom cages may be appropriate for some species (e.g., some galliforms), but effects on feet should be considered. They should be avoided for seed-eating birds as some individuals may knock their entire seed allotment through the wire.</p>
<p><i>Perches</i></p>	<p>Perch type should be appropriate to the species, provide good footing, be made of durable and sanitizable materials such as metal, plastic, or PVC, or of economically replaceable material such as wood.</p> <p>Wooden perches are preferred for small birds; ideally, natural branches of different sizes should be used. Concrete perches may be good for toenail and beak maintenance.</p> <p>Long-term use of metal or plastic perches may increase incidence of foot sores due to slippage; wrap the perch with a non-abrasive, non-slip surface if needed.</p> <p>Perches should not be covered with sandpaper.</p> <p>Inappropriately sized perches will lead to leg swelling.</p> <p>A variety of perch sizes provides more foot exercise and relieves repeated pressure on the areas of the feet and toes that come into contact with the perch.</p> <p>Perches should not be placed directly over open water containers.</p>

<p><i>Aviaries</i></p>	<p>It may be harder to catch individuals flying free in an aviary. Double entry doors are essential to prevent escape.</p> <p>Concrete can lead to foot ailments in ground- dwelling birds.</p> <p>The floors of indoor aviaries may be covered with newspaper, washed and sterilized sand (commercially available, often as playbox sand), or wood shavings. Sand and wood shavings should be replaced at regular intervals to reduce the build-up of enteric bacteria and fungus. Wood shavings may require the use of prefilters to prevent clogging of air filtration systems.</p> <p>Surfaces constructed from porous materials should be coated with a durable moisture-proof, seamless substance (e.g., epoxy paint, spar-varnish, etc.) to resist cleaning agents, disinfectants, and scrubbing.</p> <p>If outdoor aviaries, at least one side of the aviary and part of the roof should be covered to protect birds from wind and rain.</p> <p>Shrubs and trees in pots or planter boxes, or planted on the ground in the aviary, enables birds to hide when potential predators or unfamiliar human are sighted.</p> <p>Grass may be planted on the ground. Plantings may attract insects relished by many birds. However, vegetation may make it difficult to detect and exclude pests and predators and to clean the enclosure. A black-light trap may also be installed to attract live insect food.</p> <p>Extreme care must be taken with outside cages to prevent access by predators. Electrified fencing outside the enclosure fencing but out of reach of the birds' beaks can be effective in deterring some predators as well as enhancing security.</p>
<p><i>Nest Boxes</i></p>	<p>Metal boxes can be used for some species (e.g., large psittacines), but many species prefer (or require) wicker or wooden nest boxes into which they can carry grass, coconut fibers, excelsior, or feathers. Parrots also breed in wooden boxes into which a layer of wood shavings may be introduced.</p> <p>Nest boxes should be made of materials that don't allow buildup of heat and moisture.</p> <p>Some birds may build nests in bushy boughs tied together in a bunch to simulate a bush, or in a potted Boston fern or ornamental bunch grass.</p>

<i>Lighting</i>	Generally, use full spectrum light sources in indoor facilities A small night light placed near the food source is desirable in outdoor aviaries during cold weather, to allow late evening feeding.
<i>Temperature</i>	Maintain a temperature range appropriate to the species with a thermostat-controlled heating source. Room temperatures should be checked daily.
<i>Humidity, ventilation, and air exchange</i>	No established standards for birds other than poultry species. Keep humidity within the normal range of the natural environment of the species.