

## Recommendations for Developing an Institutional Flight Restriction Policy Developed by the AZA Avian Scientific Advisory Group, December, 2013

### Recommendations:

Flight restriction is used by zoo/aquarium bird managers, primarily as a method to allow the display of birds in open spaces while precluding the birds from using flight to depart these spaces. Flight restriction can be accomplished using a variety of reversible or irreversible methods. It is important to note that each method may have benefits associated with it from both an animal welfare and institutional perspective. Therefore, the AZA Avian Scientific Advisory Committee (ASAG) recommends that:

- 1) Each AZA-accredited institution develops a written policy on if, when, and how flight restriction is employed. The AZA ASAG should be contacted if further information is needed.
- 2) Institutional flight restriction policies follow species-specific guidelines developed by the avian TAGs or SSPs.

The AZA ASAG encourages all AZA Avian TAGs and AZA institutions to collect data that could be relevant to the choice of flight restriction methodologies on individual animals. It recommends that appropriate scientific and veterinary reviews and investigations into the effects of flight restriction be conducted to best assess welfare considerations.

### General Information on Flight Restriction Methods:

#### Reversible

There are several methods of flight restriction that are reversible. These methods vary in how quickly birds can regain flight when the method is removed:

- **Netted Enclosure** – covered aviaries are a method of flight restriction and employed for a variety of avian species.
- **Tethering** – this is primarily used for raptors in educational shows and programs although other types of birds may also be affected. Tethering involves attaching a leash or tether to a bird's leg. The range of movement for the tethered bird depends on the design and size of the tethering device. This method should only be used for birds that have been conditioned to tolerate it.
- **Brailing** – a leather or plastic strap (brail) fitted around the primaries and patagium to bind the wing in a closed position. Generally used when temporary flight restriction is needed (such as during pairing introductions between adult birds). It is recommended that full flight ability be restored as soon as possible. Brailing should be done under the supervision of trained veterinary staff to ensure no permanent damage occurs to the brailed wing.
- **Vane Trimming** – vanes of some of the primary and secondary feathers are cut to reduce lift and prevent flight. May be used for young birds until they are old enough to be feather clipped in the more general way (see point below).
- **Wing (feather) Clipping** – cutting the distal portion of some or all of the primary and secondary feathers. Care should be taken to check for, and not to cut, developing feathers with a live blood supply. For some species feather clipping will need to be done only after the next full molt (annually or bi-annually). Species that molt sequentially may need to be clipped monthly or so and it may be more often in certain species.

#### Irreversible

There are several methods of flight restriction that are irreversible and will render birds flightless:

- **Pinioning** - the surgical removal of part of the metacarpal bone and the phalanges of one wing of a bird. This is commonly performed within the first days of life when the process is considered a minor veterinary medical procedure. Pinioning at this age may, or may not, be performed by trained veterinary staff. Pinioning after 7 days is a surgical procedure requiring anesthesia to be performed by a qualified veterinarian.
- **Tenotomy** – a surgical procedure requiring anesthesia to be performed by a qualified veterinarian involves severing the extensors of the wing. This procedure is generally performed on fully grown birds. Some tenotomized birds are still capable of limited flight. This procedure appears to be uncommon in AZA-accredited institutions at this time.
- **Tenectomy** – a surgical procedure requiring anesthesia to be performed by a qualified veterinarian which entails removal of a portion of the extensor tendons of the wing.

- **Patagiectomy** – a surgical procedure requiring anesthesia to be performed by a qualified veterinarian that entails removal of the patagial membrane and apposition of the radius and humerus. This is often done on fully grown birds as a less complicated method than pinioning. This procedure appears to be uncommon in AZA-accredited institutions.
- **Functional Ankylosis** – a surgical procedure requiring anesthesia to be performed by a qualified veterinarian that entails fixing the ulna, carpal and metacarpal bones with stainless steel wire. This procedure appears to be uncommon in AZA-accredited institutions.
- **Radical Amputation** – a surgical procedure requiring anesthesia to be performed by a qualified veterinarian that entails removal of the whole wing. This is generally an emergency procedure occurring as a result of significant wing trauma and not generally associated with flight restriction for other reasons.

### Potential Considerations When Developing an Institutional Flight Restriction Policy

When developing an Institutional Flight Restriction Policy, several considerations should be taken into account depending on the methods selected to restrict flight. These include the increased potential:

- To provide larger, more naturalistic environments.
- To reduce aggression to/from new or existing enclosure mates.
- To mitigate injury from flying into objects within the habitat.
- If legally required, to meet federal and/or state requirements to ensure that the birds are not accidentally introduced to the wild population.
- For stress and/or injury from implementing the flight restriction method, including during handling and/or the procedures.
- For stress from inability to fly.
- For injury from enclosure mates or wild predators related to reduced mobility.
- For the reduction and/or loss of reproductive capacity and ability to perform courtship displays.

The AZA ASAG has experts and expert resources available to any institution as it develops its policies and as it makes determinations regarding flight restrictions for species and individuals. Please e-mail inquiries to Sara Hallager (HallagerS@si.edu).