

Silent Flight

by Alexandra Forsythe, MidwestBirdWatching.com

Owls rely on silent flight to sneak up on their prey.

But how do they fly silently?

Owls have uniquely designed feathers and wings!



Soft, dense
plumage absorbs
other sounds.

Broad wings allow
for more soaring
and less flapping.

Fringed edges on
primary feathers
break up turbulence.

Wings
Feathers

The owl's wings are very broad with a large surface area and high curvature ("camber"). This allows them to glide and fly slowly for long periods of time with less flapping.

The leading edges of an owl's primary flight feathers are very unique. When most birds fly, turbulence is created when air rushes over the surface of the wings and this causes a whooshing noise. However, when an owl flies, that turbulence and sound are reduced because the edges of their primary feathers are fringed like a comb. Those edges, called "fimbriae" or "flutings", break the turbulence down into micro-turbulences. This causes the sound to be muffled.



Fimbriae



Swallow
Feather

Owl
Feather

Magnified 96x