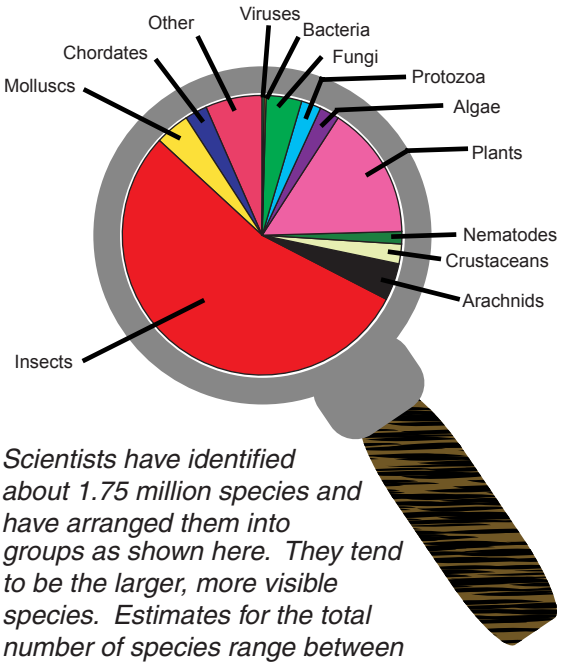
Explore Your World! **BIODIVERSITY MONTH**

Biodiversity Facts

What is biodiversity?

Biodiversity, or biological diversity, is the immense variety and richness of life on Earth. Biodiversity includes:

- the diversity of genes within all living organisms.
- the diversity of species. For example, morel, corn, rainbow trout, praying mantis and humans are different species.
- the diversity of ecosystems (coral reefs, prairies, forests, wetlands, etc.).



Scientists have identified about 1.75 million species and have arranged them into groups as shown here. They tend to be the larger, more visible species. Estimates for the total number of species range between 3 and 100 million, with a 'working figure' of 14 million.

Why is biodiversity important?

Species and ecosystems provide essential goods and services upon which human well-being depends. They support our health, our environment and our economies.

Ecosystem services include:

- Water purification - plants, animals and microorganisms in wetlands act as sponges to filter sediments and toxins from inflowing waters.
- Pollination - insects pollinate crops worth $6-12 billion a year in the USA.
- Disease control - natural enemies (predators and parasites) of disease carrying organisms, (for example, ticks and mosquitoes) control diseases such as malaria, Lyme disease, hantavirus and cholera.

Praying Mantis

Ecosystem goods include:

- Food -

  More than 7000 species of plants are cultivated or harvested from the wild.

  Fish and other marine animals provide 20% of animal protein consumed, at a value of $50-$100 billion annually.

- Medicines - 118 of the top 150 prescription drugs in America contain chemicals derived from plants, fungi and other species.

Salmon

Why are people concerned about the loss of biodiversity?

Our growing population and increasing consumption of natural resources places enormous stresses on natural ecosystems and species within them. Loss of and damage to habitats, over-harvesting, introduction of non-native species to new areas, and climate change are major causes of species extinction and endangerment.

Scientists estimate that species extinctions are occurring 100 to 1000 times faster than without human influence. Without a change in our actions half of the world's species may be lost by 2100.

In the USA alone, nearly 4,500 known species are threatened with extinction, including:

Bunched Cory Cactus

Whooping Crane

Dusky Seaside Sparrow

Black-footed Ferret

Karner Blue Butterfly

Manatee

How is science helping to conserve biodiversity?

Although the biodiversity crisis is real, devastation is not inevitable. By acting quickly and wisely we can stem the loss of biodiversity. Scientists, policy makers and the public are starting to work together to develop sustainable ways of living that can benefit from biodiversity and also conserve it for the future.

Scientists are:

- studying species, ecosystems and their interactions with humans to learn about biodiversity, how it is changing and how we can conserve it.
- making their findings available to policy makers to inform decisions about agriculture, fisheries, medicine, development and conservation.
- making their findings available to the public to help people make informed decisions. Initiatives such as Biodiversity Month are uniting scientists and the public to share information.

This Information Sheet is part of a series produced for the US Biodiversity Month by the International Biodiversity Observation Year (IBOY) 2001-2002. More information on IBOY is at http://www.nrel.colostate.edu/IBOY