

# Clark's Nutcracker

This could be titled "A Bird, a Pine and Bear". Who would have thought that the survival of the giant grizzly bear could be linked to that of a pine tree and a bird. Such is the fascinating ecology of the Clarke's Nutcracker. It's another beautiful example of the complexity and inter dependency of this wonderful planet.

Clark's Nutcracker scientific name is *Nucifraga columbiana* and is from the Corvidae family of crows, jays and magpies. It is also known as Clark's Crow, Woodpecker Crow. It was named after the explorer William Clark of Lewis and Clark fame.

Pioneer ornithologist Alexander Wilson (1766-1813), a contemporary of Lewis and Clark, later sketch the bird and named it *Nucifraga columbiana* (new-SIF-rah-gah co-lum-bih-ANE-ah), or "Columbia (River) nut-breaker." He also bestowed its common name, Clark's nutcracker.

## Characteristics

This bird is like a crow – but it has a grey body and a long pointed black beak. The wings and tail are black with white on the trailing edges. It is similar at first to the grey jay which is smaller and has a black "hood" while the nutcracker has no hood. Look for a greyish body and head, big beak and black wings with a bit of white.

They are 27-30 cm (11-12 inches) in length and often between 106-161grams (3.7 – 5.7 ounces). The males are only slightly larger than females.

## Life Cycle

Not a lot is known about the breeding and courtship behaviour of Clark's Nutcracker. Pairs bond for at least one season and both sexes participate in incubating and feeding the young. Courtship behaviour includes a succession of rapid flights away from and then returning to the same or nearby tree.

Nests are built on fork of a branch, with 150 – 200 "twigs" used to create the outer nest platform. The main nest is built with softer more insulating material like rotted wood and the dry grasses. The nests are often built on the south facing slope and leeward side of the tree – allowing for greater warmth.

The 2-6 light grey-green, spotted eggs that are laid will incubate for 18 days. The young will leave the nest by 20 days, however will not become independent until that year's seed crop starts again in August or September. So the young are dependent on their parents for 3 -4 months. The oldest known Clark's Nutcracker reached 17 years and they reach breeding maturity by 2 years. It is believed that the young need to stay with the parents for 3 – 4 months in order to both survive given that the food sources are largely seed caches created by the parents.

## Habitat

Clark's Nutcracker live in the Montane Cordillera ecosystem that runs across mountainous central region of British Columbia. Pine trees are key species of this region and the Clark's are dependent on these trees for the seeds. It will nest in the various firs and pines in these forests.

## Behaviour

The most interesting thing about this bird is that it caches seeds to be used for food year round – up to 2500 caches storing 30,000 seeds! It can keep up to 90 seeds in a pouch under its beak and will fly as far as 14 km when creating caches. This bird has one of the most remarkable memories of any bird. It is believed to work from “spatial memory” which means, relies on the memory of where a cache is relative to multiple landmarks. They have a larger than normal hippocampus – the part of the brain that deals with spatial memory. The seeds are stored on south facing slopes that will be more exposed so that the birds can more easily find the seeds. The term “mutualism” is used to describe the dependant relationship between these birds and several species of pine, especially whitebark and limber. The trees rely on the birds to disperse the seeds and the birds rely on the trees as a source of food.

It just so happens that the grizzly bear also uses the fat rich seeds as a very important source of food early in the spring. In fact grizzly bear survival and reproduction has been positively linked to whitebark pine seed crops in the Greater Yellowstone Ecosystem.

## Threats

The Clark's Nutcracker have few natural predators or diseases. The biggest threat is from the loss of its habitat, mainly whitebark and limber pine forests. Both whitebark and limber pines suffer from a condition, introduced from Europe in 1910, which in southern British Columbia and Alberta has affected a large percentage of the population of trees. In addition regular natural fires would burn off competing species of trees from time to time. So one thing that individuals can do is support the programs for protecting whitebark pine stands across Canada.

Parks Canada states that;

*“This tree species plays a vital role in sub-alpine ecosystems as it helps stabilize steep slopes, influences the rate of snow melt, and provides food, cover and shelter for many species of wildlife. It is a keystone species: its loss would radically change the Rocky Mountain sub-alpine ecosystem as we know it today.”*

So from the whitebark pine to the grizzly bear to our rocky mountain ecosystems, the Clark's Nutcracker is another example of the interdependency we all have on the world around us. We cannot go back to the days before Clark sited this important bird, but we can change how we act going forward to help insure its and thus our continued success as a species.

## What We Can Do To Help

It is important to encourage positive actions which can help preserve wildlife. Some examples of what we can do to help include

- Leave fallen trees in wooded areas where they fall – a dead tree has more living organisms and wildlife in it than a live tree, and the ground needs the decaying material back to help nurture new trees.

- Do not litter on land or in the water. Help clean up the environment - see <http://www.northwestwildlife.com/gcsc2004.php> for an article on the NWPS involvement in the “Great Canadian Shoreline Cleanup” campaign.
- Dispose of toxic substances such as antifreeze, batteries, and paint responsibly. Municipalities usually provide special disposal facilities for these types of things, as putting them down drains can be extremely toxic.
- Reuse and recycle whenever possible.
- Buy organic food – this supports farmers who are trying to preserve the environment by not using chemical pesticides and herbicides.
- Plant native plant species in your garden. Visit <http://www.stanleyparkecology.ca/programs/public/ivyBusters.php> for background on the introduced species English Ivy killing trees in Stanley Park.
- Do not leave food or garbage outside in your backyard because it attracts bears and other wildlife. Realize that berries, fruits and vegetables growing in your backyard will attract animals.
- Volunteer to help organizations like the Northwest Wildlife Preservation Society.
- Take the time to learn about wildlife. Take a walk and observe the wildlife around where you live.

## Bibliography

### Book Resources:

Baron, Nancy and John Acorn 1997 Birds of Coastal British Columbia ISBN: 1551050986

### Web Resources:

Hinterland Who's Who website:

<http://www.hww.ca/hww2.asp?pid=1&id=43&cid=7>

Environment Canada Species At Risk website:

[http://www.speciesatrisk.gc.ca/search/speciesDetails\\_e.cfm?SpeciesID=136](http://www.speciesatrisk.gc.ca/search/speciesDetails_e.cfm?SpeciesID=136)