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NORTHWEST WILDLIFE PRESERVATION SOCIETY

Clark's Nutcracker

Nucifraga columbiana



Photo credit: US Fish & Wildlife

Clark's nutcracker (*Nucifraga columbiana*) belongs to the Corvidae family of crows, jays and magpies. This species was named after the explorer William Clark of Lewis and Clark fame.

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 Clark's 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 in length and often between 106-161 grams in weight. 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 eggs laid in March. The main nest is build 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, but won't become independent until that years seed crop starts 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. Whitebark and Limber pine are key species of this region and the Clark's are dependent on these trees for the seeds. So if you find stands of these pines the chances are you will find the Clark's nutcracker. 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 2,500 caches storing 30,000 seeds! It can keep up to 90 seeds in a pouch under it's beak and will fly as far as 14 km when creating caches. This bird has one of the most remarkable memories of any bird if not any species. 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 – 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.

In an example of interconnectedness, grizzly bear also rely on 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 don't have any really serious predators or diseases. The biggest threat is from the lost of it's habitat – mainly whitebark and limber pine forests. Both whitebark and limber pines suffer from a "rust" which in southern BC and Alberta has affected a large percentage of the population of trees – it could over time wipe them out. 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. It is interesting to note that the rust was introduced from Europe in 1910 and we are only now seeing the real impact.

What We Can Do To Help

- 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 and help clean up the environment.
- 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.
- Volunteer and support 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