RESEARCH HIGHLIGHTS

Selections from the scientific literature

CONSERVATION BIOLOGY

The bees are back in Europe

Declines in European pollinator diversity during the twentieth century seem to have slowed following the implementation of environmental policies.

Luísa Gigante Carvalheiro at the University of Leeds, UK, and her colleagues examined historical surveys of native plants and pollinators — bees, hoverflies and butterflies — in the United Kingdom, the Netherlands and Belgium. In general, the number of different native species at a given location, or species richness, declined before 1990. However, after 1990, the decline slowed for most taxa and regions; in the Netherlands and the United Kingdom, local bee richness actually increased.

Although other factors such as climate probably have some role, policies that came into effect after 1990 could be benefiting European species, the authors say.

Ecol. Lett. **http://dx.doi.org/10.1111/ele.12121 (2013)**

IMAGEBROKER/FLPA

FISHERIES

Divers soar after net ban

Breeding populations of diving birds rose after certain fisheries that relied on curtain-like gillnets closed in 1992.

Paul Regular at the Memorial University of Newfoundland in St John's, Canada, and his team analysed seabird census data collected before and after the collapse of fish populations prompted the closure of cod and salmon fisheries in eastern Canada. The team compared the numbers of diving birds such as auks and gannets, which can get entangled in gillnets, with those of surface feeders such as gulls, which thrive on fishery waste. The number of diving birds increased after the nets were removed, whereas scavenger numbers decreased. In particular, growth in the common murre (*Uria aalge*, pictured) population was much higher during the 2000s than the 1970s, whereas the herring gull (*Larus argentatus*) population, which grew in the 1970s, shrank from 2000 to 2010.

The work provides much-needed data to support the theory that fisheries by-catch seriously affects populations of large animals.

Biol. Lett. 9, **20130088 (2013)**

For a longer story on this research, see go.nature.com/9lqmsd

GENOMICS

Spruce shotgun sequencing

Multiple technologies have allowed researchers to piece together the highly repetitive genome of the white spruce (*Picea glauca*, **pictured**), one of the biggest assembled.

Like that of the Norway spruce (*Picea abies*), the draft genome, at more than 20 billion base pairs, is many times larger than the human genome. Inanc Birol at the Genome Sciences Centre in Vancouver, Canada, and his colleagues modified commercial platforms to read longer DNA fragments.

The researchers also used software that relies on parallel computation of overlaps between fragments to determine larger stretches of sequences.

The combined strategies allowed the team to stitch together a genome out of pieces averaging more than 20,000 base pairs. Assembling shotgun sequencing data from scratch can be cost-effective even for gigantic genomes, the authors say.

Bioinformatics **http://dx.doi.org/10.1093/bioinformatics/btt178 (2013)**

WAYNE LYNCH/ALL CANADA PHOTOS/CORBIS

PHYSICAL CHEMISTRY

Square-packed beads

Small beads scattered in liquids can pack into square arrays, an unusual arrangement for floating objects.

Particles at the boundary of a liquid — such as bubbles at the surface of a soft drink — usually clump together in space-saving hexagons to minimize disruption to the surface tension of a liquid. Jasper van der Gucht and his group at Wageningen University in the Netherlands created an experimental set up to explore what would happen if the boundary was curved. They deposited oil droplets on a glass slide, added a layer of water and placed micrometre-sized plastic beads on top. The spheres clustered at the