SCIENCESCOPE

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Hot property. Researchers collect microbe samples from Yellowstone springs.

Yellowstone Opens the Gates to Biotech

Prospectors are lining up to exploit the famous hot springs of Yellowstone National Park—not for minerals, but for the rugged microbes they contain, called thermophiles. U.S. National Park Service officials signed a pioneering contract that formally opened the hot springs to bioentrepreneurs on 17 August, as military bands, rangers on horseback, and Vice President Al Gore celebrated Yellowstone's 125th anniversary.

This initial agreement gives San Diego-based Diversa Corp. the right to commercialize thermophiles collected in the park in exchange for $175,000 over 5 years, plus a share of any profits. Park superintendent Michael Finley says deals like this will bring financial dividends and increase knowledge of the park's tiniest inhabitants. "One good way to protect something," adds Diversa molecular biologist Eric Mathur, "is to show it has value."

But others are trying to block such deals. Two groups opposed to the commercialization of living things have threatened to sue the Park Service for selling off public resources. "These are business deals they're making, and the product is something that belongs to the people of this nation," said Beth Burrows of The Edmonds Institute in Washington state, which along with another group petitioned Interior Secretary Bruce Babbitt to halt collection of microorganisms and conduct a public review. Says Burrows: "We didn't preserve Yellowstone for corporate purposes."

Thermophiles were unknown at Yellowstone's birth in 1872 but today mean big money to biotech firms such as Diversa, which hopes to find new enzymes to supplant chemical catalysts. (*Thermus aquaticus*, discovered at Yellowstone prior to bioprospecting rules, produces a heat-stable enzyme used widely in DNA studies.) Other companies hope to soon get similar access to Yellowstone's hot springs and geysers.

Japan May Triple Genetics Research

Japan's genetics-related research budgets could triple to $130 million next year if the government approves proposals set to be unveiled this week.

Big increases are being considered at several ministries, following a recommendation last month by the Prime Minister's Council for Science and Technology to spend more on life sciences. But the plans must be approved this fall by the Ministry of Finance, which has been charged with cutting Japan's ballooning deficit. Then they must be voted on by the Diet next spring.

The proposed increases apply across the board, expanding commercially oriented genetics programs as well as human genome science. One big winner appears to be the agriculture ministry, which plans to expand its rice genome project. The Science and Technology Agency (STA), which would get nearly half the total genetics-related funds ($61 million), hopes to steer $35 million into a new Genetic Frontier Research Center under the Institute of Physical and Chemical Research (RIKEN). The center would fund human genome research, studies of protein structure, and a mouse genome project.

While an injection of funds is welcome, some would prefer to see the money go to Japan's established human genome project. Yusuke Nakamura, who heads University of Tokyo's Human Genome Center, says he is "quite disappointed" that the government wants to fund a new institute. Tokyo's center is filled with brand-new sequencers, he says, but "we don't have enough money to run" them all. He blames the duplication on a lack of cooperation among Japan's ministries. University-based research is largely funded by the Ministry of Education, Science, Sports, and Culture (Monbusho).

Yasuhiro Itakura, deputy director of STA's life sciences division, defends the initiative, noting that results from other countries show the benefits of taking multiple approaches. And he pledges "effective cooperation" with Monbusho.

Green Light for Fusion Project

Department of Energy (DOE) officials are claiming victory after a court decision that paves the way for completion of a set of powerful lasers at Lawrence Livermore National Laboratory in California.

The $1.2 billion National Ignition Facility (NIF) is a key element in the U.S. program to maintain the nuclear weapons stockpile without testing underground. But the National Resources Defense Council (NRDC)—which opposes NIF as unnecessary—argued in June before the U.S. District Court in Washington, D.C., that DOE failed to comply with environmental standards in planning new facilities like NIF, and asked Judge Stanley Sporkin to suspend construction. The court case forced DOE temporarily to halt heavy work at the NIF site.

Sporkin, however, denied the NRDC request in an 8 August opinion, citing government assurances that DOE would make annual site reports on each facility and conduct an environmental evaluation every 5 years. "We intended to do that anyway, and this is a clear victory," a DOE official said. But Sporkin did order DOE to provide fuller disclosure within 60 days about the environmental, health, and safety risks associated with NIF and other facilities; and to describe alternatives to their construction.

Increase Seen in Monkeypox Cases

The largest outbreak of monkeypox ever seen in humans appears to be continuing in Africa. According to the World Health Organization (WHO), local health workers report 170 new cases of suspected monkeypox, a close relative of smallpox that causes a nearly indistinguishable disease, occurring in the Democratic Republic of Congo (formerly Zaire) from March through May. "I think it's pretty worrisome," says David Heymann, chief of the WHO's new branch devoted to emerging diseases. But he cautions that some of these cases may be chicken pox, which causes similar symptoms.

These cases all were in the same Katako-Kombe region that a WHO-organized team visited in February (*Science*, 18 July, p. 312). The team documented 92 cases of suspected monkeypox at the time, a figure that alarmed many experts, especially since 73% of the cases appeared to be transmitted from human to human. An earlier study in the region had only seen 37 cases in 5 years, with 70% of the transmission being from animal to human, which led researchers to conclude—perhaps erroneously—that the disease would die out before becoming epidemic.

It's possible that cases are increasing, researchers say, because the smallpox vaccine (which protected against monkeypox) has not been used in the nearly 2 decades since scientists declared smallpox eradicated. But more studies will be needed to determine why human-to-human transmission appears to be on the rise. Heymann says WHO in the next few weeks hopes to send another team into the region to look for answers.