Vanquishing Nutria: Where There's a Will, There's a Way

CAMBRIDGE, UNITED KINGDOM—In the 1920s, enterprising English farmers imported a large South American rodent whose glossy brown pelt was a hit with fur-loving flappers. But the farmers soon realized that the fur was the only appealing trait of the animal they called the coypu, which escaped their farms and ran rampant through the low-lying fields and wetlands of eastern England. The 7-kilogram rodents devoured crops and native reeds, and burrowed into river dikes. Early eradication efforts failed. But persistent British biologists zeroed in on the animal's weaknesses, and a campaign that killed nearly 35,000 animals in 6 years finally ended the invasion in 1989. Coypu, also called nutria, have never troubled the British Isles again.

Today, however, the rodents are wreaking havoc across the Atlantic. Worried biologists are watching them eat their way through sensitive coastal wetlands, where their digging allows salt water to invade and poison vegetation. Drawn by the unusual success of the British effort—the only eradication of widely dispersed vertebrates in recent decades—American researchers have adopted its strategies for their own efforts. "It could be a model of how to deal with invasive mammals," says Robert Colona, a biologist for the Maryland Department of Natural Resources (DNR).

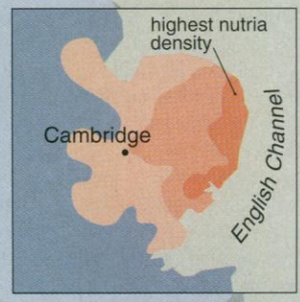
Conventional wisdom has it that once an alien species is well established in new territory, the prospect of eradicating it is rather dim (see main text). Most attempts—from whacking away Japanese seaweed clogging English harbors to poisoning fire ants in the southern United States—have failed, except on small islands. "When something builds up a strong population, getting rid of it is almost impossible," says Roger Mitchell, head of biodiversity for English Nature, a government advisory group.

But Britain's battle of the nutria belies that wisdom and suggests that, as in any territorial conflict, unanimous political support and overwhelming force can win the day. It was not a skirmish: By the 1950s, long after the market in pelts had faded, some 200,000 nutria had made their home in more than 12,500 square kilometers of English soil. In 1962 the Ministry of Agriculture, Fisheries and Food (MAFF) established the Coypu Research Laboratory (CRL) in Norwich, with a half-dozen scientists and 14 trappers. After 3 years—combined with a winter of record-breaking cold—researchers estimated that 90% of the nutria were dead.

But a spell of mild winters followed, and the population began to explode, says Morris Gosling, a zoologist at the University of Newcastle in the U.K., who headed the CRL. To create a more realistic battle plan, CRL scientists decided they needed to know more about the enemy. By catching and dissecting more than 30,000 nutria they learned, for example, that females abort litters in severe cold—implying that trappers would have their hands full after warm winters. To better estimate population size and therefore the number of trappers needed, the scientists tallied trapped animals' sexes and ages.

These data allowed researchers to predict the workforce needed, a firm price tag, and a completion date—all of which proved vital to winning the government's commitment to a second, $4 million assault, says Gosling. That second attack worked. From 1981 to 1986 trapping records and modeling indicated that the population had dropped to 40. No nutria were caught after 1987, although trappers searched for two more years. "The popular view was that it couldn't be done," says Gosling.

Can this success be repeated elsewhere? Officials in Maryland hope so. "It's like a cancer that's eating the marsh from the inside," says Colona. In the Blackwater National Wildlife Refuge alone, nutria ranks have swelled from 150 in 1968 to up to 50,000 today. With 21 partners, the DNR last year put the finishing touches on plans for a $3.8 million pilot project modeled heavily on the MAFF campaign. The plan—which is not yet fully funded—calls for research into how nutria behave and reproduce in Maryland, plus a trial eradication on a test site.



Entrenched. By 1981, nutria occupied much of eastern England.

Officials warn that eradication may be harder in the United States, where nutria seem to be much more prolific breeders. With the rodents gnawing on nearly half a million hectares of land in National Wildlife Refuges alone, the stakes are high. "Nothing like this has ever been tried in North America before," says Colona. "The other 15 states with nutria problems are waiting for us to give them the answer."

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keep species out of harbors, to parasites that attack exotic plants and insects (see p. 1841). On heavily invaded territory, such as parts of Hawaii, fenced "exclosures" claim at least some patches of territory for the natives (see sidebar on p. 1837). "There's more interest in invasives now than there has been in the last 25 years," says Jim Carlton, a marine biologist at Williams College–Mystic Seaport in Mystic, Connecticut.

Researchers agree that preventing an invasive species from getting in is far and away the best and cheapest approach. But they are having increased success at managing exotics that have already landed. Although conventional wisdom once held that removing an already established exotic is all but impossible, some scientists are becoming more optimistic that local invasions can sometimes be stopped—if they're caught in time. Invaders such as parasitic worms in California abalone and a South American rodent ravaging British estates (see sidebar above) have succumbed to aggressive counterattacks. "The practical approach is to have a diverse portfolio: Prevent as many things as you can and control the things you can control," says Liz Chornesky, a senior scientist with The Nature Conservancy.

Still, stopping ongoing invasions is a daunting task, and even preventing them is not easy. Because of the scope of the problem, and because exotic plants and animals are transported as part of international trade, control measures "potentially step on a lot of toes," says Daniel Simberloff, an ecologist at the University of Tennessee, Knoxville. Tackling invasives requires not only beefing up the budget—more than $500 million in the United States, with the bulk of the money going for customs inspections—but also politically sensitive steps such as cracking down on what timber companies can import and plant nurseries can sell. "It's very easy to get people aware of the problem. … But there are some parts of this that are really intractable," says Alan Holt, a senior scientist with The Nature Conservancy.

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