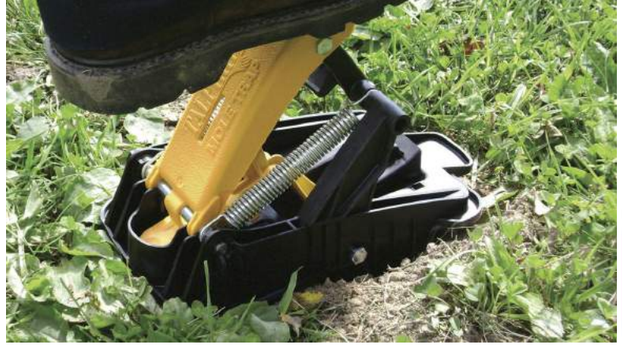
Mole Season *Continued from page 3*

- **Deep Tunnels -** Often found up to 3 feet underground and can also comprise a mole's living areas, food storage and latrine area

Once you have identified whether your issue lies with moles or voles and your tunnel type, your next step is site treatment. Bell Laboratories offers two products to help mitigate mole issues:

- **Talpirid Mole Trap:** Features dual springs to maximize power and curved jaws that scoop moles for improved capture. To use, PMPs place the trap jaws in an active mole tunnel and step on the trap's yellow foot pedal to set the trigger below the surface
- **Talpirid Mole Bait:** A revolutionary mole bait that mimics the mole's natural food source – the earthworm. It contains special enhancers that attract moles and they can consume a lethal dose in a single feeding



These two products are the result of years of groundbreaking research, which will deliver you, as the PMP, a scientifically-proven solution to kill moles. For more information, contact your local distributor or visit www.belllabs.com.■

Bell LABORATORIES, INC.

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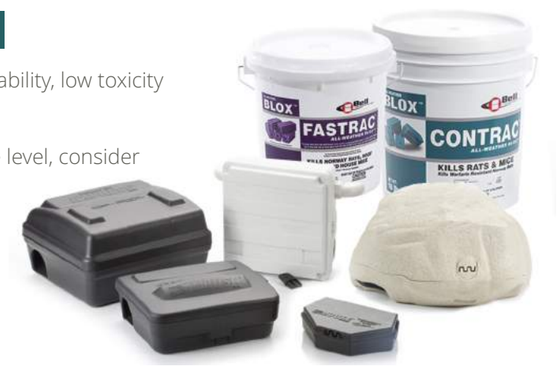
Species Spotlight *Continued from page 3*

POSSIBLE CONTROL METHODS

- Contrac Blox for all-around control, palatability, weatherability, low toxicity and low risk of secondary poisoning with K_1 antidote
- To knockdown a Norway rat infestation to a manageable level, consider using Fastrac—rats will cease feeding after consuming a toxic dose
- If there is any possibility that dogs, other pets or children can get to the bait, tamper-resistant bait stations must be used



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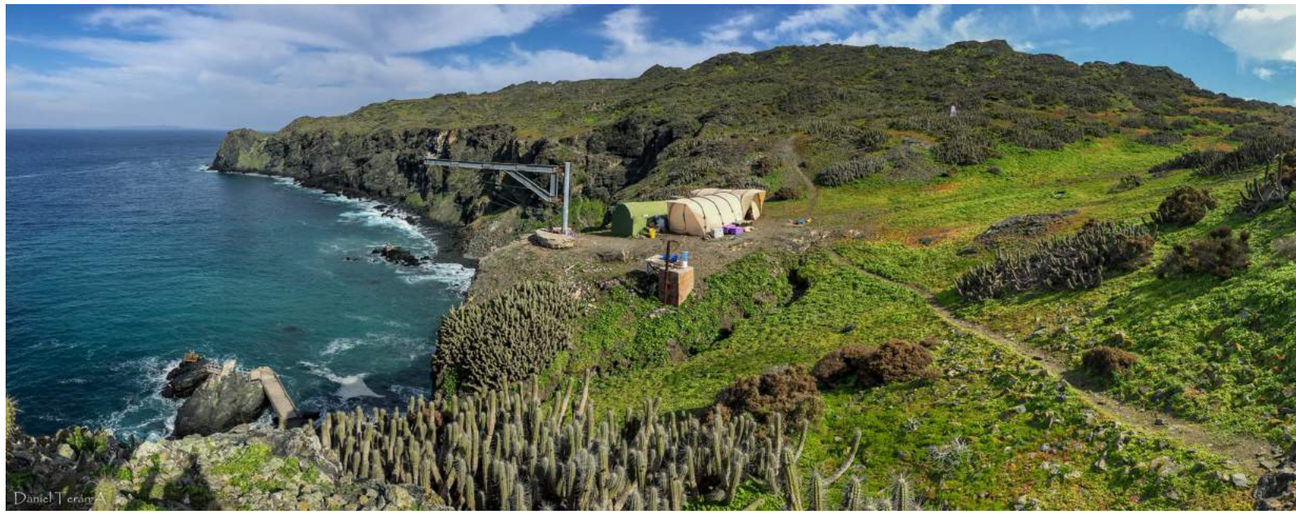


Camp set-up on Chañaral Island for research and observation. Photo credit: Island Conservation

ISLAND CONSERVATION

Chañaral and Choros

Working towards a better Humboldt Penguin National Reserve

Off the coast of Chile lies the islands of Chañaral and Choros, both of which belong to the Humboldt Penguin National Reserve. The islands are home to not only Humboldt penguins, but Peruvian diving-petrel, Atacama tree iguanas and native plants, to name a few.

Unfortunately, invasive, burrowing European rabbits on both islands were slowly destroying the ecosystem and overtaking the nesting burrows of Humboldt penguins and diving-petrels. Various actionable measures were taken to rid the islands of the invasive rabbits, but limited success was realized.

In 2013, Island Conservation called on Bell Laboratories to assist in eradicating the rabbits on the islands of Chañaral and Choros. Given that these are both desert islands, Bell developed a dry form of brodifacoum bait. This active ingredient would

Continued on page 2

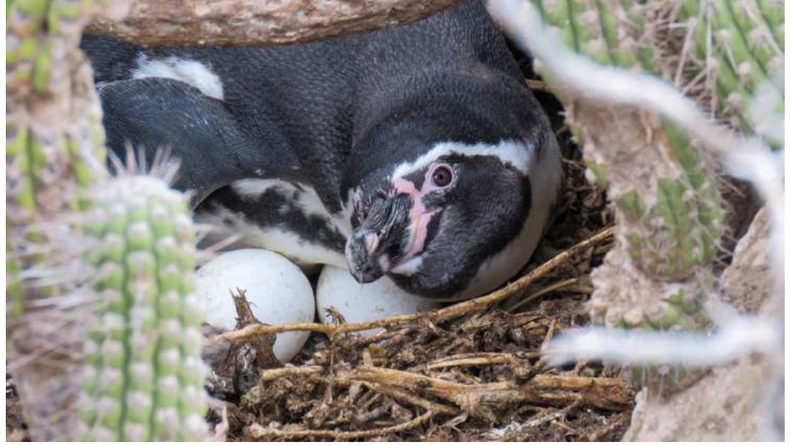
Chañaral and Choros

Continued from front page

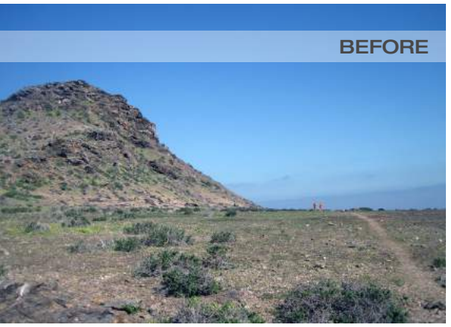
knock down rabbits quickly before they learned to avoid the bait and would last a week or two in its pelleted form and then breakdown. After the formulation was developed, 2,600 pounds of brodifacoum pellets were produced and donated to these two island conservation projects. The pellets were distributed by hand instead of a helicopter bait drop on each island as it was found that rabbits move more than rodents do.

Rabbits were eradicated from Choros Island in 2014 and the island of Chañaral was declared rabbit-free in 2017. The eradication of rabbits on the islands with an anticoagulant bait was initially met with some resistance and concern for non-target wildlife, but before and after photos and tours of the islands after eradication drastically changed public attitudes. Island Conservation's Director of Conservation, Dr. Erin Hagan, shared, "There was amazing plant recovery. Barren fields and rocks now teem with herbaceous plants. Diving petrels are expanding; we're seeing more and more burrows and more occupied nests."

Today, the Humboldt Penguin National Reserve sustains 80% of the planet's remaining Humboldt penguins. ■



Humboldt Penguin in nest protecting eggs. Photo credit: Island Conservation



Before and after photos of Choros Island, showing tremendous plant recovery.
Photo credit: Island Conservation

YEAR in REVIEW 2017

Number of Projects **12**

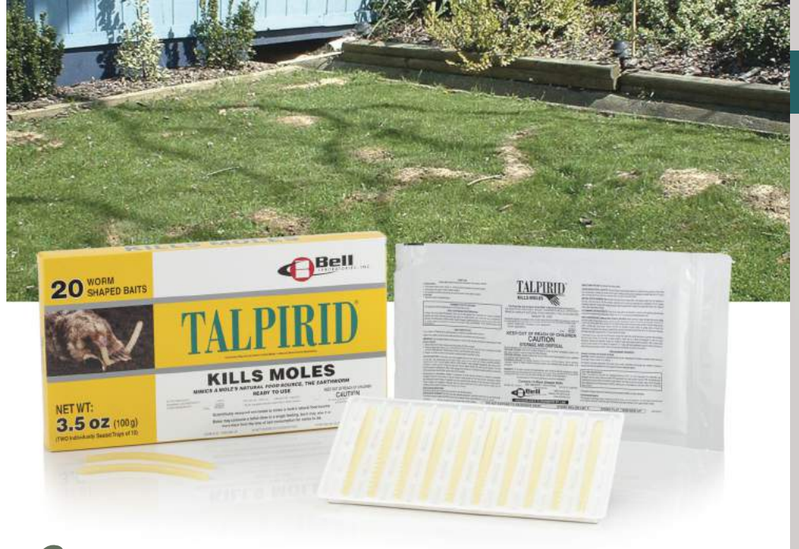
Lehua, HI Highest Profile Project
24,000 lbs. Ditrac D-50

Locations
British Bahamas, French Polynesia, Wake Island, Lehua, Hawaii, Midway Island, Chile, Micronesia

Pounds of BAIT SUPPLIED **53,729**

Biggest Event
Major Sponsor at Island Invasives Conference 2017 in Dundee, Scotland

Declared RAT FREE IN 2017 **DESECHEO ISLAND**

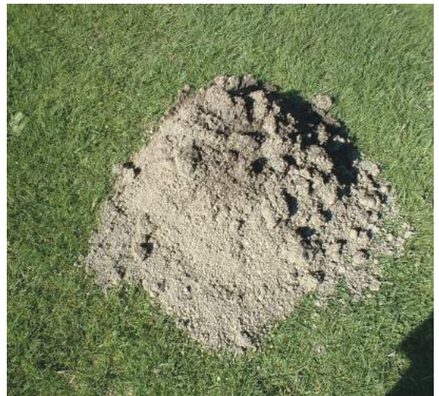


Spring into MOLE SEASON

Spring is upon us, which means the inevitable is happening — more calls from customers letting you know that extensive damage has been done to their lawns, turf, golf courses or landscaped areas by way of moles or voles.

To start, you'll have to identify whether the problem lies with a mole or a vole. Quite often, voles are mistaken for moles (or gophers, or Norway rats) and vice versa. These animals spend most of their lives underground, making identification even trickier. Voles spend an average of 10 minutes/day above ground and moles rarely venture to the surface.

What clues we do have are the burrows, runways and mounds they create to access their underground networks. But, how can you tell the difference between rodent burrows and runways? Properly identifying the pest (mole or vole, in this case) can be the difference in a pest management program that works and one that is a continued source of frustration for PMPs.



Here are a couple of tips and tricks to keep in mind:

VOLES

- Create well-defined surface runways, about two inches wide
- Burrows have clearly visible entry and exit holes
- Runways form as voles constantly scurry back and forth between burrows and food sources
- Sometimes voles will take advantage of abandoned mole tunnels, so look for the entry and exit holes to determine if it's a vole infestation

MOLES

- Cone/volcano shaped hills (or mounds) that contain loose soil and large dirt clods
- The mounds are created as moles push dirt upwards while tunneling for food
- Underground runways are slightly raised – caused by tunneling of moles under soil
- Runways are much wider than those created by voles

If you have a mole issue, it is important to clearly identify the type of tunnel system involved at your evaluation site as the service plan is tailored to the specific nuances of each tunnel type.

- **Primary Run** - generally long and relatively straight tunnels. Can be frequented by a moles as many as 3 times a day
- **Exploratory Run** - generally spider web-like in shape and are often abandoned after digging. These are used to identify new feeding areas

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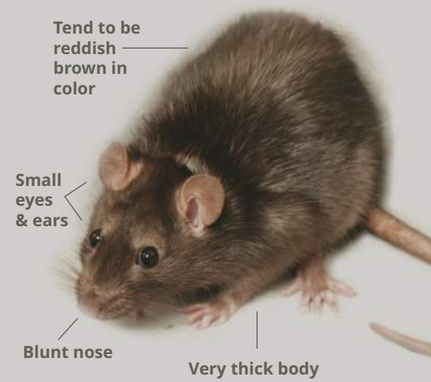
SPECIES SPOTLIGHT

NORWAY RAT

(Rattus Norvegicus)
Brown Rat or Sewer Rat



CHARACTERISTICS

Weight: 10-17 oz.

Length: 12-18 inches (including tail)

Lifespan: 9-18 months (based on environment)

DIETARY REQUIREMENTS

Average Rat: 1 oz.

Alpha Male: 2 oz.

Pregnant Female: 3-4 oz.

Daily Water Consumption: 1 oz.

BEHAVIOR

- Tend to be active mostly at night
- Distinct hierarchy
- Tend to travel along lines
- Feed in corners
- Fearful of new objects
- Excellent jumpers
- Great climbing abilities

Continued on back page