

# Biosecurity on Montserrat

Impacts, risks and  
priorities for biosecurity



DEPARTMENT OF ENVIRONMENT  
MONTSERRAT





# Montserrat's Recent Volcanic History

- ▶ Volcanic activity started on the Soufrière Hills in 1995
- ▶ Two thirds of the population migrated and the south of the island is inaccessible (2/3 also)
- ▶ Large areas of land are abandoned and many covered in volcanic ash
- ▶ Many invasive/pioneer species have benefitted



# Montserrat Volcanic Eruptions and the Consequences for Invasive Species

- ▶ The impact of the volcano benefitted some invasive species
- ▶ Non native vegetation has colonised many areas covered with volcanic ash (Casurina, Acacia)
- ▶ Feral livestock populations grew from animals released or escaped after evacuations
- ▶ Traditional livestock farmers are now land-less so allow animals to roam freely during the day.
- ▶ Basic port facilities have made implementing biosecurity difficult



## Recent Impacts from NNS include

- Spread of non native species that out-compete native species and possibly upset the ecological equilibrium of ecosystems e.g. Lionfish, *Cryptostegia madagascariensis* - Purple allamanda, Red Imported Fire Ant



photo (c) Alex Wild

- Loss of native species e.g. The *Leptodactylus fallax* (Mountain Chicken -frog)



- Introduction of pathogens and diseases - Increasing health costs as a result of surveillance and treatment programmes
- Restrictions to imports and exports affecting food security and trade



*Brachyplatys subaeneus* (Westwood)  
Black bean bug

Black bean bugs suck nutrients from plants. Females produce 300-400 eggs, laid over a period of several months on the plants. Nymphs and adults tend to aggregate on stems or on petioles under leaves. Black bean bugs show a clear preference for Fabaceae (legumes)

#### POTENTIAL ECONOMIC IMPACT

Black bean bugs can be damaging to crops and ornamental plants, especially legumes -Pigeon Pea spp.



Recent increase of this pest recorded

# Extinction in the Wild of the Mountain chicken

- ▶ A large Frog endemic to Dominica and Montserrat
- ▶ Susceptible to the non-native pathogen Chytridiomycosis which was introduced to Montserrat
- ▶ The population collapsed in 2009
- ▶ Now believed to be extinct in the wild
- ▶ Chytridiomycosis is believed to be introduced on tree frogs
- ▶ non native cane toads act as a reservoir



# Need for Better Biosecurity

- ▶ Biosecurity is the management of risks to the economy, the environment, and the community, of pests, diseases and non native species entering, emerging, establishing or spreading throughout the island.





GRAPEFRUITS/PAMPLEMOUSSE
ORANGES/ORANGE
TANNIAS/MALANGA
DASHEEN/MADERE

# Potential Future Risks Arising From New Invasive Non Native Species

- ▶ Risks to Agricultural Production - Fruit flies, African land snails
- ▶ Risks to human health - Mosquitoes and disease vectors and reservoirs, stinging insects such as ants
- ▶ Risks to biodiversity - introduction of invasive plants e.g. vines and creepers and predators such as Mongooses
- ▶ Risks to property - Termites and some ants species

Horizon Species only 27 miles away !



### **Distribution**

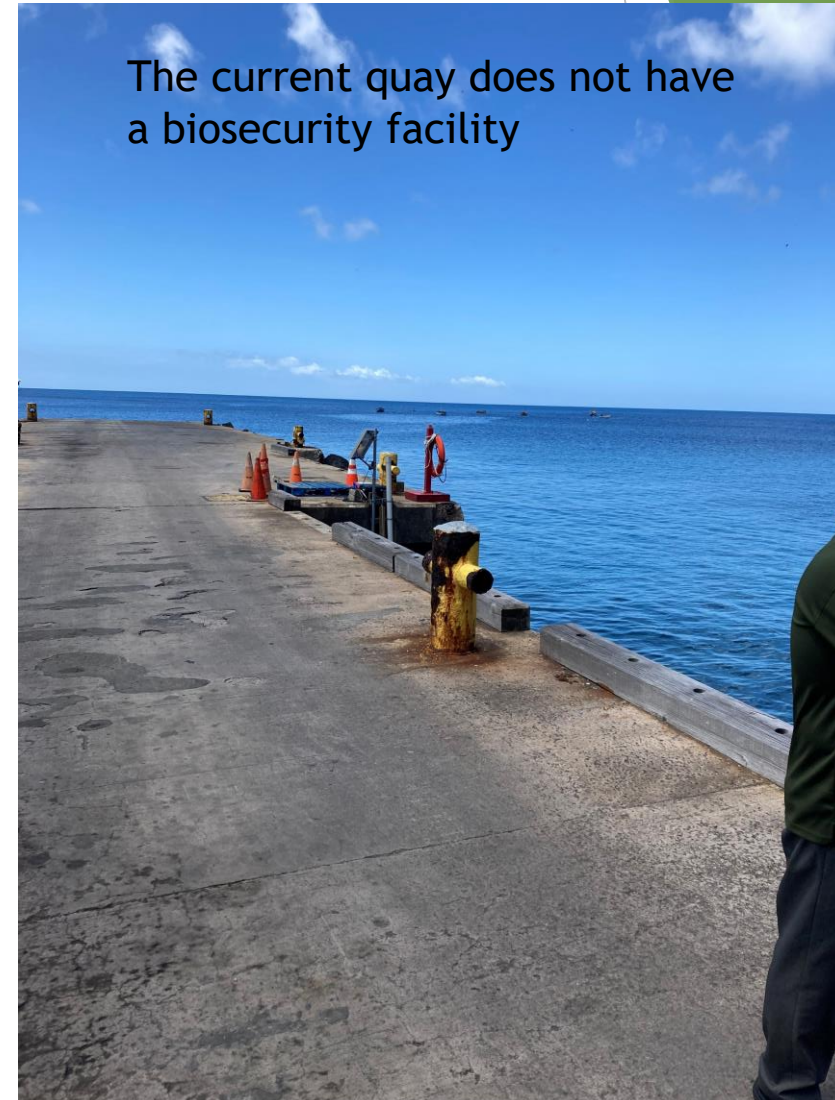
Like other invasive pests and diseases, giant African snails can hitchhike on imported cargo. People are also known to bring snails into the country illegally to keep as pets or to use as food.

### **Damage**

Giant African snails cause extensive damage to crops and plants in tropical and subtropical areas. These snails are also known to carry organisms that can cause diseases in humans and livestock. People can get sick from ingesting improperly cooked snail meat or by handling live snails and then touching their eyes, nose, or mouth.

# Current Biosecurity Capacity

- ▶ Basic Horizon Scanning for high risk species was undertaken
- ▶ An invasive species strategy has been written for Montserrat
- ▶ Biosecurity legislation- combination of plant health, animal health and human health legislation (out dated for the most part)
- ▶ Poor containment/inspection facilities at ports of entry
- ▶ Lack of trained or insufficient staff at ports of entry
- ▶ Responsibilities lie in different agencies, need for biosecurity unit / focal point to be established.



# Biosecurity Priorities

- ▶ Improve awareness and out reach
- ▶ Modernise legislation
- ▶ Training and capacity building and recruitment of staff for inspection, testing, surveillance and containment
- ▶ Improve inspection and quarantine facilities at ports of entry
- ▶ Improved horizon scanning based on current pathways



*Tuta absoluta* -a horizon scanning species

# Opportunities for Better Biosecurity

- ▶ Development of the New Wharf creates an opportunity to develop biosecurity facilities at the main point of entry
- ▶ Opportunity exist to improve awareness at the Airport
- ▶ Support for the development of Biosecurity legislation available through HMG funding
- ▶ Biosecurity should be integrated in to the new Sustainable Development Plan




# Sustainable Development Plan (SDP) for Montserrat: linked to better Biosecurity

- ▶ Sustainable agricultural production
- ▶ Growth of tourism including eco-tourism
- ▶ Sustainable use of natural resources
- ▶ Improved transport links to and from Montserrat
- ▶ Consultation on SDP identified threats from IAS particularly to Centre Hills Protected area
- ▶ New SDP is currently going through national consultation

**Sustainable Development Plan**

The National Vision

*"A healthy and wholesome Montserrat, founded upon a thriving modern economy with a friendly, vibrant community, in which all our people through enterprise and initiative, can fulfil their hopes in a truly democratic and God-fearing society."*



**Montserrat**  
Sustainable Development Plan  
2006 – 2020

# Thank you very much for your attention

## We will be happy to take questions

- ▶ For more information and resources please see
- ▶ <https://www.nonnativespecies.org/overseas-territories/>
- ▶ <https://www.gov.ms/government/ministries/ministry-of-agriculture-lands-housing-environment/department-of-environment/>

