

Key characteristics of island eradication and mainland control operations

	Eradication on Islands	Control on Mainland
Location	Rodent eradications are primarily conducted on islands where an invasive species is impacting the native species and natural ecological processes, as well as where rodents cannot easily recolonize after the eradication.	Rodent control efforts are primarily attempted on the mainland in urban, residential, or agricultural areas where rodents impact people or commercial endeavors. Rodent control is also undertaken to benefit native species, agriculture, and human health.
Goal	Restoration of an island ecosystem by complete removal of the target invasive non-native species. One hundred percent removal of all individuals is required, as failure to remove an individual from an island could result in repopulation.	Reduction of the rodent population in a confined management area to benefit agriculture, human health, or native species for economic or conservation benefit. Generally, eradication is impossible because rodents can recolonize from adjacent areas.
Outcome	100% removal of all individuals is required, as failure to remove an individual from an island could result in repopulation. Biosecurity measures can prevent recolonization of islands.	Generally, complete removal on the mainland is impossible because rodents can recolonize from adjacent areas. Unless active control is sustained indefinitely, rodent populations will return to pre-control levels within a short period of time.
Successful Method	On all but the very smallest of islets, the only technique that has been used successfully to remove rodents from islands has been the distribution of bait containing a rodenticide.	A variety of toxic, non-toxic, mechanical and biological methods are available to control rodents. It is not necessary for control operations to remove every individual.
History of Success	Rodent eradications have been successfully conducted on more than 482 islands world-wide. Without exception, successful eradications have resulted in the recovery of native biota.	Control operations are often successful at reducing rodent populations with demonstrated economic benefit and benefits to biodiversity. However, unless active control is sustained, rodent populations will return to pre-control levels within a short period of time.
Length of Operation	Rodent eradications are typically one-off time operations that usually take a few days or weeks to conduct.	Depending on the nature of the infestation, control efforts must be sustained for long periods or revisited periodically in perpetuity.
Extent of Positive Impact	The positive impacts to ecosystems and native species are measurable and permanent .	Positive impacts are limited in extent, degree, and duration; however, some benefits to native species can be obtained.

Commented [MA1]: Delete this topic (covered under goal etc.)

Commented [MA2]: Added new topic to split out info from Goal and other deleted topic areas

Commented [MA3]: Delete this topic (not necessary/covered on other slides)?

Commented [MA4]: Delete this topic (covered elsewhere and/or rely on handout or partners to emphasize in their testimony)?

Commented [MA5]: Can we add info re: immediacy (e.g. positive impacts seen within X years post-removal)?

Commented [MA6]: Can we revise for more emphasis re: because only controlling rodents, rodent impacts still continue so positive impacts are less etc.?

Extent of Negative Impact	While eradications have been known to have non-target effects, these unintentional impacts have largely been short-term and have not impacted native species at the population-level. The majority of impacts can be avoided, minimized or mitigated. Most have a limited extent and are confined to a relatively closed island ecosystem.	Negative impacts of rodent control efforts have occasionally resulted in direct and indirect impacts to non-target species, primarily predatory birds and mammals. Because of the open ecological system on the mainland, a toxicant can be distributed widely through a variety of pathways by a range of scavengers and predators. Repeated use of toxicants in urban and agricultural settings extends the period of time and number of non-target individuals in which exposure can occur.
Risk of Failed Operation	Because of the high cost and logistical complexity of conducting a rodent eradication on islands, there is a reduced likelihood of implementing follow-up eradication attempts. A failed operation eradication would not generate the anticipated ecological benefits to native species and resources.	Because of their relatively low short-term cost and low logistical complexity, unsuccessful rodent control efforts on the mainland can be followed up with additional techniques to increase the chance of success.
Extent of Regulatory Oversight	In the U.S., island eradications are permitted after extensive planning and a review of potential impacts are assessed under NEPA, in addition to the federal, state, and local permits authorizations that are required.	For some compounds, pesticide applicator licenses and permits are not required for purchase and use on the mainland. Often their use is allowed without the need for a NEPA analysis.

Commented [MA7]: In my mind, “success” for control (reduction) is different than success for eradication (100% removal) – if the goal of control is to reduce #s, is there ever an “unsuccessful” control effort? Also it’s not really fair to compare costs because since control is ongoing effort it is really expensive too. Also these descriptions don’t really address “risk” of failed operation but rather the consequences of failure. What are we really trying to convey here?

Commented [MA9]: Let’s be specific to what we intend to use – anticoagulant rodenticides/broadifacoum. Also add info to account for current regulatory restrictions on rodenticides in CA but still emphasize distinction on allowances for island eradications (e.g. personal/individual uses on mainland is widely documented as indiscriminant and exceeded restrictions vs island use highly regulated & thus allowed for specific conservation uses etc.)

Commented [MA8]: Semantics but “authorizations” covers both permits and consistency determinations and the like that aren’t actual “permits”