

Case Study #3: Galapagos Islands

1. Describe the characteristics of the landscape. What is unique about your system?
 - Archipelago of 19 islands. One of the most unique and diverse places on the planet. 97% is designated as a national park.
2. Describe the native species.
 - Many species are unique to the Galapagos, for example: reptiles such as the Giant tortoise and lava lizard, birds such as the Galapagos penguin and waved albatross, and mammals such as the Galapagos sea lions.
3. What are the identified threats from invasive species?
 - Many invasive species have been introduced since humans discovered the islands in the 1500s. These include goats, pigs, cats, rodents, insects, and plants.
4. What is the main focus of the area's Biosecurity Plan?
 - There are a number of plans in place. The current Plan focuses on protection from further introduction of invasive species. There are also plans taking place focused on the eradication of established invasive species.
5. Who is involved?
 - Directorate of Galapagos National Park, Charles Darwin Foundation, Island Conservation, community, school teachers, and students.
6. How successful has the Plan been to date?
 - Eradication has been successful on various islands for: rats, several ant species, goats, donkeys, pigs, cats, rock pigeons, and blackberry. The community and others actively participate to implement programs.
7. What are the ongoing risks to the area?
 - Tourists, boat, and airplane traffic.

Case Study #4: Santa Cruz Island, California

1. Describe the characteristics of the landscape. What is unique about the ecosystem?
 - Rugged coastal island
2. Describe the native species.
 - 60 endemic species
3. What are the identified threats from invasive species?
 - Rats, dogs, plants
4. What is the main focus of the area's Biosecurity Plan?
 - Educating tourists and informing boaters.
5. Who is involved?
 - National Park Service, The Nature Conservancy
6. How successful has the plan been to date?
 - Plan is new.
7. What are the ongoing risks to the area?
 - Boat traffic and tourists.

Case Study #5: Coronado Islands, Mexico

1. Describe the characteristics of the landscape. What is unique about the ecosystem?
 - Four islands of the coast of Baja Mexico. Formerly occupied by a casino and illegal alcohol traders.
2. Describe the native species.

LESSON FOUR

LAB 4.1 BIOSECURITY PLAN C.S. - TEACHER KEY

- Seabirds: Ashy Storm-Petrel (*Oceanodroma homocroa*), Black Storm-Petrel (*Oceanodroma melania*), Brown Pelican (*Pelecanus occidentalis*), Brandts Cormorant (*Phalacrocorax pencillatus*), Double-crested Cormorant (*Phalacrocorax auritus*), Western Gull (*Larus occidentalis*), Xantus murrelet (*Synthliboramphus hypoleucus*)
 - Extirpated Seabirds: Leach's Stormpetrel (*Oceanodroma leucorhoa*) Cassin's Auklet (*Ptychoramphus aleuticus*), Xantus' Murrelets (*Synthliboramphus hypoleucus*), and Black Storm Petrels (*O. melania*)
 - Coronado rattlesnake (*Crotalus oreganus caliginis*)
 - Los Coronados Song Sparrow (*Melospiza melodia coronatorum*), Los Coronados House Finch (*Carpodacus mexicanus clementis*)
 - Los Coronados whiptail lizard (*Cnemidophorus tigris vividus*), Los Coronados alligator lizard (*Elgaria multicarinata nana*)
 - Los Coronados white-footed mouse (*Peromyscus maniculatus assimilis*)
3. What are the identified threats from invasive species?
 - Rats and formerly feral cats are eating seabirds.
 4. What is the main focus of the area's Biosecurity Plan?
 - Educating boaters and tourists.
 5. Who is involved?
 - Audubon, Conservacion de Islas, Friends of the Mexican Fund for the Conservation of Nature, and The Cornell Lab of Ornithology
 6. How successful has the Plan been to date?
 - Successful
 7. What are the ongoing risks to the area?
 - Boaters, tourists

Case Study #6: Palmyra Atoll, Hawaii

1. Describe the characteristics of the landscape. What is unique about the ecosystem??
 - Flat atoll, consists of several islets
2. Describe the native species.
 - Coconut crab (*Birgus latro*)
 - Seabirds: Red-footed Booby (*Sula sula*), Brown booby (*Sula leucogaster*), Masked Booby (*Sula dactylatra*), Sooty Tern (*Onychoprion fuscata*), Black Noddy (*Anous minutus*), Brown Noddy (*Anous stolidus*) and Great Frigatebird (*Fregata minor*)
 - Migratory birds: Pacific Golden Plovers (*Pluvialis fulva*), the Bristle-thighed Curlew (*Numenius tahitiensis*), Ruddy Turnstones (*Arenaria interpres*), and Wandering Tattlers (*Heteroscelus incanus*)
 - *Pisonia grandis*
3. What are the identified threats from invasive species?
 - Boaters, researchers
4. What is the main focus of the area's Biosecurity Plan?
 - Preventing introduction of invasives from boats, food, and airplanes.
5. Who is involved?
 - The Nature Conservancy, U. S. Fish and Wildlife Service
6. How successful has the Plan been to date?
 - Successful
7. What are the ongoing risks to the area?
 - Boats, airplanes, researchers

Comparisons

1. Similarities in the Biosecurity Plans
 - Government, community, and special interest groups are all involved.
 - Plans have three main components: prevention, detection, response.
 - All areas are islands and boat traffic is a constant threat.
2. Differences in the Plans among areas?
 - Plans are unique to the landscape and native species involved.
 - Plans may have slightly different focuses such as keeping invasive species out or dealing with further incursions.
3. What are the keys to a successful Biosecurity Plan?
 - Community involvement is imperative.
 - Diligence in monitoring and enforcing the rules to prevent/control incursions.