The burmese python research papers example

Environment, Animals

Invasive python in Florida (everglades)

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Annotated bibliography

Pizzatto, Lígia, Camila Both, and Richard Shine. " Quantifying Anuran Microhabitat Use To Infer The Potential For Parasite Transmission Between Invasive Cane Toads And Two Species Of Australian Native Frogs." Plos ONE 9. 9 (2014): 1-11. Academic Search Premier. Web. 25 Nov. 2014.

Kempel, Anne, et al. " Plant-Microbe-Herbivore Interactions In Invasive And Non-Invasive Alien Plant Species." Functional Ecology 27. 2 (2013): 498-508. Academic Search Premier. Web. 25 Nov. 2014.

Bottollier-Curtet, Marion, Anne-Marie Planty-Tabacchi, and Eric Tabacchi. " Competition Between Young Exotic Invasive And Native Dominant Plant Species: Implications For Invasions Within Riparian Areas." Journal Of Vegetation Science 24. 6 (2013): 1033-1042. Academic Search Premier. Web. 25 Nov. 2014.

Kaufman, Sylvan R, and Wallace Kaufman. Invasive Plants: A Guide to Identification, Impacts, and Control of Common North American Species. Mechanicsburg, PA: Stackpole Books, 2013. Print.

In this book, the authors have discussed majorly on the features of different animal species including the Burmese python. Detailed information regarding the effects on the ecosystem and the characteristics of the Burmese python are also discussed. The book is useful in that it gives the steps to manage invasive species.

Introduction

Numerous invasive species have now been recognized at most locations around the world, and the degree of new species invasions and accounts of new invasive species endure growing. Multiple invasive species cooperate in complex and impulsive ways, changing their invasion success and influences on biodiversity. Unavoidable invasive species can be substituted by functionally similar invading species through viable processes; however, the generalized conditions leading to such competitive dislodgment have not been well examined. The likelihood of competitive dislocation is a function of the compulsory advantage of the local invasive species and the propagule heaviness of the inhabiting aggressive species. Researchers have modeled interactions amongst populations of two functionally similar invasive species and designated the circumstances under which domination can be through propagule pressure and obligatory advantage. Under certain conditions, a normally secondary species can be incumbent and reject an inhabiting dominant species, or efficaciously colonize in rivalry with a dominant species during concurrent invasion.

The influences of invasive species on ecosystem services have created concerns worldwide attention. Despite the irresistible evidence of these influences and a growing appreciation for bionetwork services, however, investigators and policymakers rarely unswervingly address the connection between incursions and ecosystem services. Innumerable efforts have been made to address the ecosystem processes that are pretentious by invasive species, but the links between these mechanisms and bionetwork services are largely missing in the literature. Valuations of the economic impacts of

invasive species cover costs outside those associated with bionetwork services (e. g., control costs), and usually do not distinguish by ecosystem service type.

The Florida Everglades is one of the major freshwater marshes in the biosphere. The marsh is a unique mosaic of saw grass, wet prairies, sloughs, and tree islands. Just over 100 years ago, this vast wilderness encompassed over 4, 000 square miles, extending 100 miles from the seashores of Lake Okeechobee south to Florida Bay. The merger of temperate and Caribbean flora fashioned habitat for a variety of fauna, including Florida panthers, alligators, and hundreds of thousands of wading birds. The Everglades of the past were defined by several major characteristics: How the water flowed. Water attached the system, from top to bottom. Surface water flowed freely and slowly across the flat and level landscape. Rainfall during one season was still available during another. The enormous amount of water storage capacity and the slow flow made wetlands and coastal waters less vulnerable to South Florida’s variable and often intense rainfall.

Vastness. The large area provided a variety of wildlife habitats. Millions of acres of wetlands provided large feeding ranges and diverse habitat for wildlife. The vastness produced abundant aquatic life while facilitating recovery from hurricanes, fires, and other natural disturbances.

Diverse mosaic of landscapes. The Everglades was a multifaceted system of plant and animal life dictated in part by varied water regime - minimum, average and maximum water depths, along with the duration of surface water inundation. This resulted in diverse, expansive areas of wet prairies, saw grass marshes, cypress swamps, mangrove swamps, coastal lagoons,

and bays.

Natural water quality conditions. There were no external sources of pollutants to the ecosystem. There was no urban development or agriculture. Nutrients, ions, and metals all occurred at natural concentrations. Rainfall recharged groundwater and generated surface water, which interacted with the natural plant communities and soils. The slow flow of surface water across the landscape provided many opportunities for cleansing by extensive wetlands. The saw grass marshes and wet prairies of the Everglades developed under conditions of extremely low phosphorus concentration. The mosaic of habitats, their vastness and the variety of water patterns supported the long-term survival of under a range of seasonal and annual water conditions.

Currently, there has been an immense impact on the environment. There is about 90 to 95 percent reduction in wading-bird inhabitants, 70 animal and plant species are susceptible or endangered. There is evidence towards decreased biodiversity. Additionally, the everglades have over 1. 5 million acres infested with intrusive, exotic plants resulting in the declining population levels of vital fish species, defoliation of sea grasses; fish kills and distorted fish. Additionally, there is continued the reduction in a number of birds initiating propagation in South Florida.

Few areas in the world are as naturally rich as the Everglades environment. Approximately 46 species of mammals, as well as about 11 marine forms, recurrent the Everglades and associated bays, coastal estuaries, sounds, and offshore waters. Hundreds of kinds of fish and thousands of kinds of marine, estuarine, and freshwater invertebrates animate in the waters of this

network. More than 50 kinds of reptiles, as well as the renowned alligator, lend truth to the discernment that the Everglades are home to the collection of wildlife.

Nearly 20 species of frogs, salamanders, and toads live in or adjacent alligator holes, sloughs and marshes in the watershed. Apart from insect kinds – that number in the thousands – conceivably no other animals signify the area’s biological assortment and affluence better than birds. Almost 350 kinds of birds, both temperate and tropical, have been documented. Definite animals have a special prominence to the overall health and veracity of the ecosystem. These are termed keystone species. They disturb other organisms in dangerous ways. For instance, the alligator quarries holes that become dry-season refuges for many other animals. The apple snail functions as an exclusive food source to the endangered snail kites.

Statistically, it is evident that the Burmese python is one of the principal snakes in the world. In the Everglades, the sizes of the Burmese pythons that are normally caught are in average between 1. 7 meters and 2. 7 meters. However, the size can be bigger than that as the largest python that has been caught measured over five meters. Kaufman (124), “ in terms of color, the Burmese pythons are tan in color with dark blotches that are found around the back and on the sides”. The marks look like puzzle pieces and look like the patterns on a giraffe. They have a pyramid-shaped head with a dim, arrowhead-shaped segment prolonging toward the nose. These Burmese pythons are semi-aquatic but are normally found in areas that support aquatic lives. Additionally, the Burmese pythons are excellent climbers and can be found on trees. The native areas of the Burmese

pythons include a wide area and they include, Lower China, India, the Malay Peninsula and some islands in the East Indies. There are innumerable ways in which invasive species are moved from one ecosystem to another. World travel and international mail are amongst the many paths that have made it probable for invasive species from all over the globe to find their way to other ecosystems. Sometimes invasive species are taken there intentionally, and occasionally they hitchhike along with unaware travelers.

Invasive species are transported to the Everglades through a variety of pathways. Marine invasive species can land in the ballast water in ships. Vessels take on water from foreign ports along with thousands of aquatic species and discharge that water when they reach their terminus. After the introduction of the invasive species, ballast water has developed a highly regulated in freshwater, but it vestiges less regulated in U. S. coastal waters. Many vessels are willingly releasing marine ballast water in the open ocean before incoming United States waters, which reliefs to avert invasive introductions. Nevertheless, ballast water interchange is still a potential route for invasive marine species to enter the Everglades, as demonstrated by the green mussel, which was hosted to Tampa Bay in 2000.

Other aquatic kinds such as barnacles and aquatic plants that can cover surfaces or become snarled around blades can brand their way to Florida on the hulls or propellers of frivolous boats. Boats can also pick up a mysterious species in one lake and transference it to another that has not been infected, helping to spread the invasive species from lake to lake. Aquaculture agriculturalists raise aquatic species for food or the pet trade, and frequently these animals are kept in outdoor ponds. Throughout times of high rainfall,

non-native species can escape from these flooded aquaculture ponds into proximate lakes and streams. Though, laws pertaining to the aquaculture manufacturing have resulted in importantly reducing this specific pathway of introduction.

Fischer et al., (56) notes that invasive influences or costs are often confidential as economic, conservational, or social in nature. Economic impressions are those of direct significance to humans, characteristically leading to monetary losses. Ecological impacts are those that affect environment structure and function, often mentioning to loss of biodiversity or exclusive habitats. Social influences focus mainly on human health and safety, but can also shelter quality of life, frivolous opportunities, cultural heritage, and other aspects of social structure. Where do bionetwork services fit this classification? An exceptional facet of the concept of ecosystem services is the touching of ecological integrity and human benefit.

The freight business uses all customs of wooden crates and spools to ship things from other countries. This foreign storing material is often pest-ridden with invasive wood-boring species. Other types of storing material that may harbor non-native species comprise seaweed and seawater used to pack seafood and plant material used to pack vegetables and fruits. Invasive species can also reach in the everglades through international food arcades. These arcades carry many live animals envisioned to be used for food, but there is continuously the chance of seepage. In 2001, numerous live snakehead fish, which are forbidden in the everglades Florida, were impounded from an Asian marketplace in Broward County. These are just approximately of the many pathways that invasive species use.

However, the ultimate pathway by which non-native fish and wildlife kinds find their way into Florida's environments is through escape or release by pet owners. Presently authorities are allocating with Burmese pythons in the Everglades. These large snakes can prey on natural wildlife as well as companions like dogs and cats, and are large enough to injure people. The Burmese python is a hostile species as the existing place that they reside is not their original place of origin.

Everglades are the only area that the pythons have ever been found to prove populations. This concordance is predominantly persuasive, as no data regarding the presence of the Burmese pythons in the United States was used to generate the influence that invasive species have on the environment. The pythons are principally predicted to happen in the United States in the only place that they have been found to arise, despite the widespread attendance and availability of these snakes as pets all over the United States.

The Everglades forms a bionetwork, which is outstanding in the mainland United States, a subtropical swampland that may be quite alike to the Burmese python's favorite native environment. Though, the extent of this bionetwork is limited to exciting southern Florida; the rest of the peninsula is poised of xeric highlands and subtropical lowlands. The projected expansion of the python into the continental United States would necessitate an expansion of the definite tropical marshland habitat encompassing most of the Everglades, not merely the presence of similar temperature and rainfall conditions. The future projected distribution designates that the area of apposite habitat for the Burmese python would contract following an

international temperature upsurge. In distinction to the forecast, the only large area of appropriate habitat foretold in the continental United States occurs within the boundaries of Everglades National Park. Furthermore, other areas are projected to contract suggestively or disappear altogether.

The critical impacts of the invasive species should not be downplayed. The critical problems that invasive wildlife poses for native bionetworks or the possible influence that global climate alteration may have on the atmosphere. The formation of the Burmese python in the Everglades pretenses a serious risk to the balance of the park's network. Though, the results from the ecological niche modeling suggest that the likelihood for the development of the kinds into the rest of the United States is massively exaggerated, and citizens during most of North America should have no distress of giant snakes invading their localities. Furthermore, global warming is probable to have a negative effect on the species' sustained survival. Climate change models show that the effects of global warming will result in a radical decrease in the appropriate habitat for the Burmese python, both in the United States and its innate range. These serious glitches do not benefit from any possible exaggeration of possible intimidation to the public and the legislature (Richardson et al., 34).

Since the 1940s, the brown tree snake has eliminated all breeding populations of seabirds on the island of Guam, caused the extinction of 10 of 13 species of endemic forest birds (the remaining 3 are endangered), and caused the extinction of 2 of 3 native mammals and 6 endemic lizards. In addition to environmental damage, the brown tree snake also causes property damage (1, 400 power outages between 1978 and 1996) livestock

losses, and impacts human health and safety. It is projected that the cost of Burmese snake related power outages is conservative US$1 million per year and the price of medical treatment of snakebites is US$25, 000 per year. Reported damage to resources caused by Burmese tree snakes for the period FY 1994 to FY 1997 was US$1, 225, 812. The Everglades' environment is home to 68 federally listed threatened and endangered species. This includes 34 species of plants and 30 species of animals. Registered animal species include the West Indian manatee, Florida panther, American crocodile, Atlantic saltmarsh snake, roseate tern, Eastern indigo snake, and snail kite, wood stork, and Cape Sable seaside sparrow. According to Bottollier-Curtet et al. (34), the Florida panther is endangered. Individuals have a better chance of far-sighted a Florida Python at the zoo than in the Everglades. The kitten's charity to range from Texas to Florida. Today, between 80 and 100 are left, wandering the ever-shrinking wilderness of South Florida. As many as 22 panthers wear radio collars that monitor their arrangements (Gerlach, 103).

The best way to help avert new overviews of invasive species into Everglades Florida is to be an accountable pet owner. Many pets are misleadingly small at the time of acquisitions, and individuals may not be organized to care for them when they produce to their full adult size. Repeatedly, individuals move and feel that captivating their pet with them is too abundant of a hassle, or they developed uninterested with their pets. It may seem kind to announcement a pet into the wild, thus background it free, but this can be harmful to the animal and the atmosphere. Russel (23) notes that pet proprietors may not comprehend that a released pet will more than

likely die deprived of care from its proprietor. But not all will die, and persons that continue have the probable to become invasive, meaning they can take over environments and displace native fish and environment species. In its place of turning pets loose, try to find them a new family. Search the internet for clubs or liberation groups that specialize in the same kind of animal as your pet. Some pet shops will permit individuals to return the animal; others may admit it as a donation. Wildlife rehabilitators are another selection, or you can try contributing the animal to a gallery or nature center. Conclusion The Burmese python is strappingly limited to the small area of suitable ecological conditions in the United States it presently inhabits due to the environmental niche inclinations of the snake. The aptitude of the Burmese python to enlarge further into the United States is severely limited by environmental restrictions. Walsh et al. (23), argues that overall, the amount of damage attributed to the invasive brown tree snake was minimal when considering the irreplaceable loss of species on Guam and the continuing threat to existing species. The populace of Burmese pythons currently established in the Everglade is the result of inadvertent and/or deliberate discharges by individual pet owners or as a result of the hurricanes. These overviews can have devastating significances to the ecosystem. Burmese pythons have been recognized to feed on an extensive variety of mammals and natures in the Everglades even, the occasional alligator. By marauding on native environment, and competing with other native marauders, pythons are extremely influencing the natural order of south Florida's environmental communities. The continued propagation of Burmese pythons and the continued outline of new foreign species can further lurk many of the

defenseless plants and animals they are occupied diligently to protect. During the past ten years, the National Park Service has functioned alongside partner supports to explore probable control methods for management the existing people of Burmese pythons. During this period, park experts and partners have distributed a wide array of trainings that help designate how these unsolicited invaders are interrelating with the landscape. Burmese pythons will probably never be eliminated from the area, but individuals have an imperative role to play in thwarting the spread and location up of invasive species.

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