

## The Precautionary Principle and Pythons

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Senate bill S373 proposes to place the great constrictors and the boa constrictor on the Injurious Wildlife List of the Lacey Act. This action is ostensibly supported by a lengthy report generated by USGS biologists (Reed and Rodda, 2009). In fact, that report is verbose, biased, and makes unfounded and unrealistic predictions (Barker and Barker, 2010). We suggest that such objective data and conclusions as can be found in the report do not support S373.

We have come to realize that S373 is based on the Precautionary Principle [PP]. The PP is a philosophical position of proactive regulation on the basis of uncertainty and prediction, and in the absence of science. In that sense, the USGS report well supports S373.

In the past decade, the PP has come to strongly influence legislation and regulation regarding issues of human health and environment throughout the United States, and particularly in Europe. We believe that in the matter of the essential ban of great constrictors and the boa constrictor in the USA by S373, the application of the PP is not supported or warranted in light of the consequences of this law. The ramifications of the implementation of S373 and also for alternatives to the actions of S373 have not been properly examined and evaluated.

The most accepted definition of the PP is the formal statement generated by the Wingspread Convention of 1998, as follows: *“When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically.”*

This statement then follows the definition: *“The process of applying the Precautionary Principle must be open, informed and democratic and must include potentially affected parties. It must also involve an examination of the full range of alternatives, including no action.”*

In light of the absence of any significant scientific data or conclusions that would support S373, we must conclude that the proposed legislation is in actuality based on the PP. We present the following observations and arguments on the relevance of this

principle in this matter and against the implementation of S373:

- The PP is usually invoked in matters of great national or global impact. There is no plausible evidence that establishment of any of the great constrictors is a national problem—rather it is a local problem restricted to South Florida. All predictions to the contrary stated in Reed and Rodda (2009) are based primarily on climate, and do not consider habitat, niche, suitable shelter, traffic, human density, land use, mechanized agriculture, predators, surface water, and many other factors critical to the establishment of any of these species outside of the geographic region of South Florida (Barker and Barker, 2010).

- No economic analyses have been accomplished to evaluate the consequences of the implementation of S373, nor to any alternative actions. S373 will bypass this mandate through legislative action, even though it is required by the Lacey Act.

- As mentioned in the Wingspread Conference Statement, implementation of the PP “... must be open, informed and democratic and must include potentially affected parties. It must also involve an examination of the full range of alternatives, including no action.” However, every attempt has been made to fast-track S373, and the actions taken by the sponsors and proponents of S373 have been to block or minimize any input from the affected parties. No economic analyses have been generated, and no period to allow public response and input has been provided.

- S373 damages and devalues property without compensation. This constitutes an illegal “taking of property.” This is in direct violation of Executive Order 12630, Section 3, subsections a. and b. To quote “Further, government action may amount to a taking even though the action results in less than a complete deprivation of all use or value, or of all separate and distinct interests in the same private property and even if the action constituting a taking is temporary in nature.”

- A consequence of S373 will be the failure of legal American small businesses that commercially propagate the great constrictors and the boa constrictor. It will force an unknown number of Americans into foreclosure and bankruptcy.

- S373 will negatively affect the education programs that are voluntarily coordinated and presented by reptile keepers throughout the United States. This is the largest and most successful volunteer education program on the topics of animals and nature ongoing in the U.S. public school system now for more than 40 years (Barker and Barker, 2009b).

- A law based on the PP, by definition, precludes some action. There is a nonzero probability that the precluded action may involve less risk and more positive benefits than the proposed law (Seethaler, 2009). This cannot be determined without risk analyses and economic analyses of all alternatives. The sum total effects of S373 have not been quantified or analyzed. Possible alternatives to S373 have not been discussed or considered. In fact, Florida already has in effect state regulations that make the implementation of S373 unnecessary.

- A consequence of S373 will be a chilling effect on the science of nature and animals. The USGS report of Reed and Rodda (2009) aptly illustrates this effect—more than 15% of the entries in the References Cited section of Reed and Rodda (2009) are studies that could not have been accomplished if S373 was in effect before those studies were begun.

- A consequence of S373 will be the disassembly and destruction of the most successful captive conservation program accomplished to date, that being the maintenance by commercial breeders of many species of reptiles in viable, self-sustaining captive populations, including many of the great constrictors and the boa constrictor (Barker and Barker, 2009b). This result of S373 is in conflict with the most urgent conservation methods of the 21st century endorsed and undertaken by the IUCN and AZA for a variety of vertebrates.

- S373 may cause the greatest mass euthanasia of vertebrate animals in history. S373 makes no

provisions for the dispensation of those great constrictors and boa constrictors currently maintained in American homes that will suddenly be without value and not allowed to be moved across state and national boundaries. A family moving to another state could not take their pets with them.

- In our opinion, Reed and Rodda (2009) fail to establish that any of the nine species, if established in South Florida, would harm the environment or ecosystem. Our hypothesis is actually testable because of the presence of a small population of boa constrictors, and larger population of Burmese pythons in South Florida. In the more than 30 years that these populations have been observed, no definitive statement can be made that they have caused harm to either humans or to the ecosystem. No native species in Florida has had its status changed to “threatened” or “endangered” due to predation or other interactions by these two introduced snake species.

- There is one paper that estimates the cost of Burmese pythons to Florida. Smith et al. (2007) estimated that one Burmese python feeding in the Everglades did wildlife damage ranging from \$83,992.00 annually up to \$6 million in their worst case scenario. Extending their worst case scenario, we figure that a population of Burmese pythons estimated at 30,000 animals then could “cost” Florida \$180 billion in annual wildlife losses, that being 25% of Florida’s annual GDP. If this is a true estimate of value, then the total value of the wildlife in South Florida alone must far exceed the GDP of the nation, literally tens of trillions of dollars. Frankly we are embarrassed that persons identifying themselves as scientists would sign their names to a paper containing such a ridiculous estimate. We would argue that that it is equally likely that Burmese pythons have a net positive effect on the South Florida ecosystem. A proper evaluation, as is typically done for laws based on the PP would investigate all alternatives to the proposed law.

- Typically an environmental law based on the PP is considered when there is at least some likelihood that the effects of the activity that is to be banned or controlled may cause serious and irreversible damage to the environment. Reed and Rodda (2009) make several statements that the establishment of great

constrictors and boa constrictors would be “irreversible”. We ask “how would they know?” Rodda and Reed have both worked for years on the brown treesnake project in Guam. This is the only funded invasive snake study in the world. Despite receiving between \$50 million to \$100 million from the US government and military over the 25 years of the project, both Rodda and Reed are on the record claiming that it was never their goal to eradicate the brown treesnake.

To date, no attempt has been made to eradicate any of the five established extralimital populations of snakes in the continental United States, including the tiny colony of boas in South Miami or the South Florida population of Burmese pythons. In fact, it appears that USGS biologists and National Park Service employees, for reasons unknown, ignored the presence of these two species, even when by 2000/2001 there was data clearly indicating that the more problematic Burmese pythons were established and reproducing.

- We would contend that Reed and Rodda (2009) includes valid objective data that can be interpreted to support the position that there is barely an infinitesimal probability that any of the great constrictors will in the future become established in Florida. This invalidates using a law based on the PP. Consider that, according to data in Reed and Rodda (2009), during the 31 years from 1977–2007 a total of more than 1.1 million of these nine species were imported. These animals are spread across the USA in almost every county of 49 states. Hundreds of thousands more have been captive bred. Where are all the introduced populations predicted by Reed and Rodda (2009)? This is not a risk analysis prediction—this is objective and quantifiable.

It has been convincingly demonstrated that the population of Burmese pythons in the Everglades is not comprised of released pets (Collins et al., 2008). Genetic analysis showed that the more than 150 pythons in the study, collected at different locations, were all descended from a small number of founder animals. These animals were likely released in the early 1990s, possibly due to the destruction of facilities of Miami animal importers by Hurricane Andrew. There is no evidence that the animals came from private python keepers or pet owners.

- The reports of Reed and Rodda (2009), Smith et al. (2007), Fujisaki et al. (2009), Barker and Barker (2009a) and others all strongly support a law based on the PP that would ban imports of exotic plants and animals into the Port of Miami. The nearly three thousand nonindigenous species of plants and animals that are recorded to be established in the Everglades National Park are further strong supporting evidence for this law. The problem is not that negligent pet owners are releasing animals—rather the problem is that the state of Florida has not correctly controlled the importation of thousands of species of exotic plants and animals coming into the only subtropical port in the USA.

To conclude, there is no significant evidence to support any necessity of S373. Proponents have defended the bill by claiming that the USGS report by Reed and Rodda (2009) provides scientific support of S373. It is our contention that there is little defensible science in the USGS report that supports the actions of S373.

To explain—first, the literature search performed in Reed and Rodda (2009) amounts to a synthesis of the published data, a recounting of the work of other scientists. It is not in itself science. It is not necessarily impartial or unbiased. This aspect of the report is meant to summarize what is known about each of the nine species and what is known about eradicating snakes—it is not the aspect of the report that is interpreted to justify S373.

Second, it is problematic to attempt to predict biological and ecological outcomes. Statistical analyses are no better than the data used, and Reed and Rodda (2009) repeatedly, throughout the report, identify information necessary to analyses that is unknown or uncertain. This is the aspect of the report that has been touted as the science supporting S373. Consider that the data on which the analyses are based, and the analyses themselves, are subjective, incomplete, qualitative, and in some cases, simply absent.

Scientific uncertainty would support the PP as the basis for S373 only if the probability of colonization is high, only if it is demonstrated to be a national problem, and only if a failure to enact S373 can be demonstrated to have irreversible and disastrous consequences. The USGS report simply does not accomplish that.

### So why S373?

Simple—it is based on agenda. Actually it is based on three disparate agendas that have come together to create a perfect storm. One agenda is simply to remove animals from American citizens from coast to coast. The NGO that is the primary supporter of S373 is the HSUS, a large, wealthy and well-organized animal-rights organization, and that is their agenda. They have lobbied long and hard in Washington DC to see that S373 is passed.

The second agenda is to get government money. A national law will generate federal money for a local problem. Florida wants money to spend on the Everglades; biologists want money for research projects in Florida. Invasion science biologists and environmentalists have been waiting for just the right species on which to hang their hats. Nonindigenous species like hydrilla and feral housecats failed to capture the media-driven attention of the public—they needed the “anti-panda,” a species of interest to the media, a species that could be used to scare the American public. Never in our memories have government biologists and academic environmentalists been so guilty of fear-mongering.

The third agenda has been political. Supported by the actions of the first two agendas, politicians in Florida and in Washington DC have co-

opted the media concern over the presence of pythons in the Everglades as their platform. They, too, want Florida to receive federal monies that S373 will generate, but more important to them has been the media attention they have received. They have preached that there is a national problem and that they have the solution.

S373 is not a solution. It will have absolutely no effect on the pythons in the Everglades. It cannot be defended on the basis of convincing argument, conclusive scientific proof, high probability of future widespread problems, or a justified application of the Precautionary Principle.

If S373 is passed and enacted into law, Florida will get money, but no other states will see a dime. S373 will confiscate property rights of American citizens, and the property of these citizens will be damaged. Across the nation, Americans will lose some of their constitutional rights without just cause. Politicians that support S373 will receive no gain for their states, but they will damage and anger a large percentage of their constituents.

The bottom line is that S373 is an inappropriate national law for a restricted local problem.

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