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ENVS 171 – ESA Policy Assignment

The U.S. Endangered Species Act, hereafter ESA, was passed with bipartisan support in 1973 (WWF, The Endangered...). The ESA, which was passed during Nixon’s presidency, spanned to include all endangered species – birds, mammals, reptiles, amphibians, invertebrates, marine species, fishes, grasses, flowers, and trees (Singh, ESA Lecture). The 1973 ESA also defined what it meant to be endangered species, outlined responsible parties, and outlined fines associated with breaking this law (Raymond, 2018). The ESA “includes strong protections for listed threatened and endangered species and has helped stabilize and recover hundreds of listed species” (Greenwald et al., 2019).

The ESA hailed as the “strongest law for protecting biodiversity passed by any nation,” primary goals are to prevent the extinction of species, increase their numbers, increase recovery of such species, and eventually remove the species from the endangered list (Center for Biological Diversity, The Endangered...). Similar to the Clean Water Act, the ESA has seen reform and amendments to the central policy. In 1995, the Clinton Administration announced a package of reforms to improve the ESA. These reforms include changes to base ESA decisions on “sound and objective science,” efforts to “minimize social and economic impacts,” changes to increase communication and fair treatment to landowners, higher emphasis placed on recovering and “de-list[ing] threatened and endangered species,” among other reforms (Bear, 1996). Other amendments have been made to ESA, with principal amendments made in 1978, 1982, 1988, and 2004 (FWS, Endangered Species Act A History of the...).

The ESA of 1973 sets out agencies responsible for implementing ESA: **U.S. Fish and Wildlife Service (FWS)** and the **Commerce Department’s National Marine Fisheries Service**

(NMFS). The FWS is responsible for terrestrial and freshwater species (birds, mammals, reptiles, amphibians, plants, and invertebrates), whereas the NMFS is responsible for marine species and anadromous fish (FWS, Endangered Species Act Overview). The FWS is responsible for maintaining a “worldwide list of endangered species” (EPA, Summary of the Endangered Species Act). Additionally, the EPA required federal agencies to consult with FWS and NMFS to ensure that they are not endangering/further endangering any listed species. The NMFS – through National Oceanic and Atmospheric Administration (NOAA) fisheries – is responsible for conserving marine and anadromous species and the ecosystems that they depend on (NOAA, Endangered Species Conservation). NOAA Fisheries currently has jurisdiction over more than 160 listed species, where they enact species recovery planning (NOAA, Endangered Species Conservation).

Taylor et al. (2005) conclude that the “ESA is effective and can be improved by prompt listing, protection of critical habitat, and dedicated recovery plans” (Taylor et al., 2005). Taylor et al. convey that recovery plans were associated with greater survival and recovery of listed species (Taylor et al., 2005). Henson et al. (2018) convey the complexity of the ESA, where critics state that the ESA has not led to the recovery of many listed species and proponents claim that ESA has prevented the extinction of the vast majority of the listed species. Henson et al. (2018) provide a list of recommendations to increase recovery of species under ESA, where they convey that recovery plans should be treated as guidelines and to “build on existing plans from other efforts” (Henson et al., 2018). Data has shown that the “ESA has saved more than 99% of species under its protection” (Greenwald et al., 2019). Greenwald et al. (2019) convey that with the few number of species under ESA protection that went extinct and the estimated 291 species where extinction was prevented, the “ESA achieved its core purposes – halting the loss of

species” (Greenwald et al., 2019). Greenwald et al. (2019) cite some species where the extinction was halted as a result of the ESA: California condor (*Gymnogyps californianus*), the black-footed ferret (*Mustela nigripes*), Hawaiian monk seal (*Neomonachus schauinslandi*), and the yellowfin madtom (*Noturus flavipinnis*).

Although the ESA has many accolades, this act is not without its downfalls. In the 1990s, the Northern Spotted Owl introduced severe controversy when a University of Oregon law student filed an ESA lawsuit against the US Forest Service (Singh, ESA Lecture). This controversy introduced a mindset of “jobs versus environmental frame,” where the question of importance between loggers’ jobs and protection of the Northern Spotted Owl old-growth forest habitat (Forest History Society, 2017). As a result of this controversy, logging mills were shut down throughout California and the Pacific Northwest to protect the species. In a 1990 article in the New York Times, it was estimated that nearly 10,000 people were expected to lose jobs to protect this species (Egan, 1990). The Northern Spotted Owl issue was cited as reasoning for why Clinton introduced the amendments in 1995 (Bear, 1996).

A currently listed species in California is the **California red-legged frog** (*Rana draytonii*) (FWS, California red-legged...). The California red-legged frog is currently listed as a threatened species, where threats to the species include invasive species, habitat loss, and overexploitation. The National Wildlife Association (NWF) conveys that, in the 19th and 20th centuries, they were overharvested for food, but now “water resources are overused, depleting frogs of the water habitat they need for homes and breeding” (NWF, California Red-Legged Frog). In addition to water resource loss, their wetland habitats are being built upon for farms, homes, and other buildings (National Wildlife Federation, California Red-Legged Frog). Some invasive species that contribute to the decline of the California red-legged frog are mosquitofish

(*Gambusia affinis*) and bullfrogs (*Rana catesbeiana*) (Lawler et al., 2001). There has been some dispute on critical habitat; in 2001, the FWS had designated more than 4.1 million acres of critical habitat. However, due to a building-industry lawsuit, only 450,288 acres were protected by the FWS (Center for Biological Diversity, Saving the California...). The Center for Biological Diversity has filed many lawsuits related to the California red-legged frog, fighting to keep the species from going extinct. The “Center [has] submitted a comprehensive, scientifically based conservation plan... [to] protect red-legged frog habitat” (Center for Biological Diversity, Saving the California...).

It seems that although the ESA has been beneficial to many species in protecting against extinction, in the case of the California red-legged frog, it seems in the contrary. The FWS, responsible for protecting listed amphibians, based their decision for acreage protection for this species on “biased economic analysis and ignored scientific evidence of the species’ needs” (Center for Biological Diversity, Saving the California...). Therefore, I believe that better decision-making with sound science should be emphasized. If decisions are made with “biased economic analysis” and plainly ignoring science, the ESA’s goals are not being met.

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