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State and Federal Regulatory Actions Effecting Sharks  
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The following state and federal regulatory actions have effected shark populations since the early 1980s, to the current time.

1. Early 1980s, the National Marine Fisheries Service, (NMFS) and Sea Grant promoted the utilization of an underutilized resource, sharks. Both the states and the NMFS failed to properly monitor the catch and landings for most of the first decade of commercial shark fishing.
2. Beginning in 1989, the NMFS sought to start a fisheries management plan (FMP) for sharks of the US Atlantic Ocean region from Maine to Texas. The directed shark fleet was a growth industry for this region.
3. During 1992, the state of Florida began shark regulations that effectively closed state waters to commercial shark fishing. Other states have done the same during more recent years.
4. On April 26, 1993, the NMFS implemented final rules for the Atlantic Shark FMP. An annual commercial large coastal shark (LCS) quota was set at just under six million (6,000,000) pounds dressed weight (DW). By some calculations this action caused a reduction of over 60% in annual LCS mortalities. During the middle of May 1993, the commercial shark fishing for LCS was closed for the first time ever, until July 1, 1993 in federal waters, due to the first biannual LCS quota having been caught. By July 30, 1993, the second biannual LCS quota had been quickly met and led to a closure until 1994. Recorded US shark attacks averaged about a dozen a year for most of the 1980s, with 1993 being a year with fewer attacks.
5. Starting January 1, 1994, a 4000 pounds DW LCS trip limit was begun by the NMFS to reduce the derby effect. This made fishing for LCS by bigger boats economically difficult due to the small trip limit.
6. It seems that by pressure on the NMFS from shark academia and environmental non-governmental organizations (ENGOS), a scheduled 1995 rebuilding plan increase of over a million pounds DW for the LCS category was canceled.
7. The state of Florida began a gillnet ban during 1995 which help to increase the baitfish populations near the beaches. Other states have since done similar actions.
8. A crisis mentality about shark extinction on the part of the ENGOS and shark academia during 1996 led to calls to cut the LCS commercial quota by 50%. The majority of the Shark Operations Team (OT), established by

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the FMP rules, felt in an August 1996 meeting that such a reduction was draconian. Dr. William Hogarth was the Chief of the Highly Migratory Species (HMS) management division of the NMFS, which was responsible for the Atlantic Shark FMP and had asked for the vote of the OT about the proposed LCS reductions. The ENGOs engaged in further communications with the NMFS during the fall of 1996, pushing for the 50% LCS reduction.

9. On April 7, 1997, the NMFS announced that the LCS quota would be reduced by 50%. This left a LCS commercial quota of just under three million (3,000,000) pounds DW. The NMFS claimed that this action would NOT have a significant economic impact on the shark fishery. On May 2, 1997 a coalition of shark industry participants filed a lawsuit challenging this reduction in the Tampa, Florida federal court. Judge Steven Merryday was given charge of the case. He let the LCS quota reduction take place to be conservative, while he learned many of the facts of the case. This LCS quota change was designed to hurry the rebuilding increase of shark populations, by immigration and breeding.
10. Florida created a new regulation that pushed the shrimp boats outside of one mile on the east coast, effective July 1997. This made a sanctuary effect inside one mile for prey fish and apex predators for the first time since WW II. Shark attacks had already been on the increase since 1994, with Volusia County, Florida leading the way.
11. Judge Merryday remanded the NMFS during February 1998 to do an economic assessment for the shark quota reduction, due by May 1998. Based on “new” information the NMFS concluded in that report that the 50% LCS commercial quota reduction would have a serious economic effect on the shark fishing industry.
12. By 1998, the ENGOs had lobbied the NMFS to abandon the original open population Maximum Likelihood Estimate (MLE) assessment model for sharks and replace the modeling efforts with their paid consultants Bayesian approach with a closed population production model. They produced results, which set the stage to bring about a further 60% reduction to the remaining LCS commercial quota.
13. The NMFS announced final rules on May 28, 1999 that would cause the further major reduction to the LCS commercial quota. The 1997 shark lawsuit was still being negotiated in federal court. On June 25, 1999, the shark industry coalition filed a second lawsuit that Judge Merryday also handled. He froze the LCS quota at the 1997 levels until he could work things out legally between the plaintiffs and the NMFS.
14. Beginning July 1, 1999, the NMFS began a limited access permit system for sharks. This reduced the federal shark permits from about 2256

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permits, to around 250 directed shark permits and several hundred incidental permits. It now began to take even longer to land the annual three million (3,000,000) pound DW LCS quota due to small trip limits, the NMFS not letting the shark fishery catch the entire LCS quota due to monitoring difficulties on their part with landings, the prohibited shark species list expansion, long migration habits of large sharks like Sandbar sharks (*Carcharhinus plumbeus*) which are shared with Mexico & Cuba, other open fisheries with better economic opportunities, bad weather, etc. The NMFS has been mostly responsible for the nearly complete economic collapse of the US directed shark fishery and its market since 1993 by mismanaging the industry early on. Buyout suggestions for much of the shark fishing fleet have been ongoing with no results to date.

15. On December 7, 2000, Judge Merryday signed off on a settlement agreement between the NMFS and the shark coalition. Included in the agreement was an independent review of the 1998 shark science.
16. Near the end of 2001, the independent review of the science sided with the shark industry in most part. They felt for the most part that the model used for the LCS assessment wasn't right. A NMFS large coastal shark stock assessment is due to be finished by the summer of 2002. The results will have to be independently reviewed as agreed in court. A SCS stock assessment is being concluded also, the first in a decade. It does not have to be reviewed.
17. Both the years of 2000 and 2001 saw the highest recorded levels of US shark attacks ever, mostly on the Florida east coast. Some of the worst US shark attacks those years were blamed on Bull sharks (*Carcharhinus leucas*) that have always had a reputation for attacking human beings. They like to live nearshore and have always had a healthy, robust population from the United States to Mexico.
18. A lot of the minor shark bites on human beings are caused by smaller larger coastal shark species, such as Blacktip sharks, (*Carcharhinus limbatus*), or by small coastal shark (SCS) species perhaps. In 1998, the NMFS stock assessment results for species like Blacktip and Bull sharks, or non-Ridgeback sharks as they later became known collectively, concluded that these populations were being threatened with possible extinction any day now. Both exist close to the beach and are responsible for the majority of the current shark attack trend. Perhaps they aren't as endangered as some folks want others to believe.

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