CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES
OF WILD FAUNA AND FLORA
Amendments to Appendices I and II of CITES

Eleventh Meeting of the Conference of the Parties
Nairobi (Kenya), April 10-20, 2000

A. Proposal

Transfer of *Tursiops truncatus ponticus* from Appendix II to Appendix I

B. Proponents

Georgia and the United States of America

C. Supporting Statement

1. Taxonomy

1.1	Class:	Mammalia
1.2	Order:	Cetacea
1.3	Family:	Delphinidae
1.4	Species:	*Tursiops truncatus ponticus* (Barabash-Nikiforov, 1940 cited in Tomilin,1967; type locality given as Black Sea at Novorisisk)
1.5	Scientific synonyms:	None
1.6	Common names:	
	English:	Black Sea bottlenose dolphin
	Russian	Afalina chernomorskaya
	Bulgarian	Afala
	Georgian	Aphalina
	Romanian	Afalin, delfinul cu bot de sticia, delfinul cu bot gros
	Turkish	Afalina
	Ukrainian	Afalina chornomors'ka
1.7	Code numbers:	A-111.002.014.002

2. Biological Parameters

There is considerable evidence that overall abundance of the three species of dolphins in the Black Sea has declined greatly due to hunting, the impacts of pollution and other fundamental changes in the Black Sea ecosystem, including acute prey declines exacerbated by over-fishing.

2.1 Distribution: The subspecies *Tursiops truncatus ponticus* is endemic to the Black Sea and isolated from other populations of bottlenose dolphins in the Mediterranean and other waters (Tomilin, 1967; Rice, 1998). The species is distributed worldwide in temperate and tropical waters (Wells and Scott, 1999).

2.2 Habitat availability: The habitat is thought to be highly degraded and declining in quality due to contamination by sewage and industrial effluents, algal blooms, decrease in prey species due to overfishing and to by-catch in fisheries (Birkun et al., 1992; Bogdanova et al., 1996; Kulagin et al., 1996; Pavlov et al., 1996).

The Black Sea coastal zone is densely populated, containing a permanent population of approximately 16 million and another 4 million visitors during the summer tourist season (UNEP, 1999). Almost 1/3 of the land area of continental Europe drains into the Black Sea (BSEP, 1996). The drainage area includes major parts of 17 countries, 13 capital cities and some 160 million people (BSEP, 1996). The second, third and fourth most important European rivers discharge into this sea, but its only connection to the world's oceans is the narrow Bosporus Strait into the Mediterranean, which is also highly degraded (BSEP, 1996).

The enclosed nature of the Black Sea basin, and other aspects of the local geography, means that it is far more heavily influenced by riverine input that most other seas (GESAMP, 1997). It is subject to wide fluctuations in both salinity and temperature. It is also particularly vulnerable to destabilization because the waters are highly stratified, causing the larger part of bottom waters to be isolated from the ecosystem (GESAMP, 1997). This has limited the diversity of species, including predators.

It has been suggested that the vulnerable nature of the Black Sea and the profound impacts of human actions have caused the Sea to undergo an "ecosystem flip" to a new ecological state in which certain marine planktonic predators predominate and fish stocks (including top predators) have become greatly reduced. Reduced stocks have contributed to declines in dolphin populations.

Because of its enclosed nature, limited water exchange and slow circulation, the Black Sea is especially vulnerable to pollution (Vinogradov, 1996). The input of nutrients from agriculture, industry and sewage has caused eutrophication and widespread algal blooms. Sewage pollution also introduces human pathogens which have been associated with disease in dolphins. Industrial and agricultural chemicals are also present in high concentrations and may be responsible for reported immunosuppression and potentially low reproductive rates in the dolphins.

2.3 Population status: Available population estimates are not reliable (Buckland et al., 1992; Bel'kovich, 1996; Mikhalev, 1996), but it is thought that overall abundance of dolphins in the Black Sea has declined greatly due to severe over-exploitation up into the 1980s by several nations, for human consumption and for industrial products. Original abundance of small cetaceans in the Black Sea may have originally been as high as 1.5-2 million (Zemsky, 1996). A very large purse-seine fishery conducted by the U.S.S.R., Bulgaria and Romania collapsed in the 1960s due to overharvesting, and large takes by rifle continued by Turkey until a ban in 1983 and possibly subsequent years (Zemsky, 1996; Çelikkale et al., 1988; Buckland et al., 1992; Yel et al., 1996). The proportions of the three endemic small cetaceans (bottlenose dolphin, harbor porpoise (*Phocoena phocoena relicta*) and long-beaked common dolphin (*Delphinus delphis ponticus*) in these catches and their relative degrees of depletion is not known with confidence. The size of the present population of bottlenose dolphins is unknown (Buckland et al., 1992), and no estimates exist of sustainable levels of take. Thus any take for purposes of exhibit or export are potentially detrimental to the status of the population.

2.4 Population trends: Because no reliable population trend data are available, harvest figures are used as a population trend indicator. Harvest of small cetaceans of three species in the purse-seine fishery were in the tens of thousands annually and exceeded 100,000 in some years, followed by collapse of the fishery in the 1960s (Zemsky, 1996) and continued catches in Turkey (Yel et al., 1996). Present status is unknown but inferred to be depleted. Threats imposed by other extrinsic factors are referenced above.

2.5 Geographic trends: There are no known sub-populations. As noted above, there are no reliable population estimates, but abundance is thought to have declined greatly due to over-exploitation.

2.6 Role of the species in its ecosystem: Feeding is primarily on benthic species of the neritic zone, including the fishes *Raja clava, Bothus maeoticus, Gadus euxinus, Scorpaena porcus, Mugil cephalus* and other species, as well as crustaceans. It also consumes pelagic fishes if they are present in dense concentrations (BSEIN, 1999). Habitat is a narrow strip close to the shore, as opposed to the broad pelagic habitat of the common dolphin, which occurs throughout the Sea.

2.7 Threats: It is evident that the Black Sea bottlenose dolphin is significantly threatened and meets the 'biological' criteria in Annex I of Res. Conf. 9.24. Threats to the species and its habitat have been comprehensively highlighted by several international groups of experts and have been acknowledged by the range states:

1. Inspired by the Regional Seas Conventions which emerged after the 1972 Stockholm Conference on Environment and Development, in 1992, the Governments of Bulgaria, Georgia, the Russian Federation, Turkey and the Ukraine signed the Convention for the Protection of the Black Sea against Pollution (the Bucharest Convention), which was subsequently ratified and entered into force in early 1994. The Bucharest Convention includes a basic framework of agreement and three specific Protocols on the control of terrestrial sources of pollution, dumping of waste, and joint action in the case of accidents (such as oil spills). The implementation of the Convention is administered by the Istanbul Commission (see below).

2. As a first policy initiative, the six Black Sea Ministers for the Environment signed the Ministerial Declaration on the Protection of the Black Sea (the Odessa Declaration) in 1993. This contains objectives for the management of shared resources. For example, a Regional Activity Centre for Pollution Monitoring and Assessment was established in Odessa, Ukraine under the Odessa Declaration and Bucharest Convention Protocols on Land-based Sources and Dumping.

3. In 1993 the Council of the European Cetacean Society issued a Statement of Concern about the future of Black Sea dolphins.. It states that they "are currently facing a number of very serious threats which unless they are addressed as a matter of urgency will lead to marked population declines and possibly local extinction….The future for Black sea dolphins is very bleak indeed. There is a very real possibility of their full disappearance over the next decade or two unless urgent action is taken" (Evans and Addink, 1993).

4. In order to develop a longer-term Action Plan, the Black Sea countries requested support from the Global Environment Facility, GEF, the UN Development Programme and the UN

Environmental Programme. In June 1993, a three-year Black Sea Environmental Programme (BSEP) was established with US$ 9.3 million funding from GEF and collateral funding from the European Union (BSEP, 1999). It is coordinated by a GEF/BSEP Programme Coordination Unit in Istanbul (the Istanbul Commission). One of the Programme's main objectives is development of policy and legislative framework for the assessment, control and prevention of pollution, and maintenance and enhancement of biodiversity.

5. The First International Symposium on the Marine Mammals of the Black Sea, held in 1994, adopted the following Declaration on Conservation of Black Sea Marine Mammals: "The present situation and the future of Black sea marine mammal populations are of great concern. The Black sea has almost lost its population of Mediterranean monk seals. There are serious signs of cetacean population collapse related to human activity, coastal degradation, overfishing and technogenic pollution at the Black Sea basin".

6. In 1996, the six Black Sea governments signed a medium to long-term "Strategic Action Plan for the Rehabilitation and Protection of the Black Sea" (BS-SAP). It was designed to address the root causes of environmental degradation in the Black Sea and attain a biologically diverse Black Sea ecosystem with viable populations of higher organisms, including marine mammals...". The Resolution Desiring to Rehabilitate and Protect the Black Sea", which sets out the Action Plan, notes the "pressing need to take further concrete actions, individually and collectively, at national and regional levels in order to ensure the rehabilitation and protection of the Black Sea ecosystem and the sustainable use of its resources".

The Resolution concludes with the decision of the six Black Sea states "to agree on the following principles, policies and actions" which include a requirement to take the following measures with the aim of restoring populations of marine mammals:

- A ban on the hunting of marine mammals will be enforced by all Black Sea states with immediate effect.

- Regular population assessments of marine mammals shall be conducted and the first assessment will be completed in 1998. It is advised that these assessments be coordinated by the Istanbul Commission, through its Advisory Group on the Conservation of Biological Diversity.

- Consideration shall be given to modify fishing practices in order to avoid catching marine mammals, as by-catch, during normal operations.

Under BS-SAP the Odessa Regional Activity Centre was given a revised mandate to include collaboration with the Advisory Group on Fisheries and other Living Marine Resources and its Advisory Group on the Conservation of Biological Diversity for the development of a region-wide program to monitor the biological effects of pollution and to develop a strategy for the reduction of by-catches of marine mammals.

2.7.1 Environmental threats: The ecosystem of the Black sea is highly changed and disturbed. The primary reasons for this are widely accepted to be extensive pollution, coastal development, disturbance caused by extensive cabotage traffic, over-fishing and the impacts of introduced species, including the comb jelly, *Mnemiopsis leidyi*,

which now dominates the ecosystem (GESAMP, 1997). However, it is difficult to separate effects caused by this dominant invader from those generated by the increasingly poor water quality, intensive fishing and global changes such as climate change and increased UV-B radiation. The bottlenose dolphin has a low reproductive potential; females are slow to mature (sexual maturity at 5-12 years of age), bear a single calf, and have long inter-birth intervals (2-3 years) (Leatherwood and Reeves, 1983; Evans, 1987). It is unlikely that current reproduction, undoubtedly depressed by environmental factors, is keeping pace with current mortality and live-capture removal. Species threats to the Black Sea bottlenose dolphin which have been identified are:

2.7.1.1 Marine Pollution: As a result of significant riverine and coastal input of pollutants, contaminant burdens in Black Sea cetaceans are high. DDT contamination is particularly high compared to other parts of the world, indicating its continued use in the region (Tanabe et al., 1997). Inputs of insufficiently treated sewage results in the proliferation of microbiological contaminants and constitute a threat to public health; it has led to frequent beach closures and considerable financial losses in the tourist industry (BSEP, 1999).

In some places, solid waste is being dumped directly in the sea or on valuable wetlands. Research has shown that oil discharges into the Black Sea, from accidental and operational discharges from vessels, as well as through land based sources, amount to more than 110,000 metric tons per annum.

Several researchers have suggested that Black Sea cetaceans now exhibit an unusually high degree of poor health and a high death rate and link these to the state of the Black Sea environment (e.g. Bogdanova *et al*. 1996 and pers comm from A. A. Birkun, BREMA Laboratory, Ukraine to WDCS). Industrial and sewage pollution have been linked to cetacean health - one as a source of immuno-suppression and the other as a significant source of infectious agents (See 2.7.1.4 below).

A rapid rise in nutrients was recorded from the early 1970s (GESAMP, 1999). In the northwest Baltic, levels were an order of magnitude greater than those recorded in 1965. Plant plankton blooms were triggered, leading to increased turbidity in the northwest and the degradation of the original major “biofiltering” and oxygen-producing communities because of the resulting lack of light and oxygen. Associated effects included the loss of fish that were top predators and declines in demersal fish and benthic organisms, including macrophytes.

Nearly 87 percent of the Black Sea water volume (the water at depth) is anoxic and contains high levels of hydrogen sulphide, a condition due to the physical configuration of the Sea and its outlets. The 13 percent of the volume that contains oxygen consists of the shallow surface water and the waters from the shelves. The recent eutrophication of the sea has placed even this 13 percent under severe stress. The introduction of excess nutrient loads has been accompanied by massive phytoplankton blooms (especially flagellates), whose death in turn depletes even the shallow shelf waters of oxygen as the oxidation of organic material consumes valuable oxygen resources. Up to 40,000 sq. km. of the north-west shelf of the Black Sea is now subject to hypoxia and the occasional formation of hydrogen sulphide rich bottom

waters. The high levels of hydrogen sulphide, both naturally occurring and exacerbated by anthropogenic factors, have considerable socio-economic as well as ecological implications.

The most important result was probably the destruction of communities of filtering organisms. The bottom anoxia, for example, was estimated to have killed some 35 million tons of *Mytilus* (mussels) in the NW shelf region. Uncontrolled by filter feeders, there was a prolonged rise in phytoplankton density. This in turn caused the production of high concentrations of zooplankton.

Thus, when the comb jelly *Mnemiopsis leidyi*, which is an introduced species, arrived in the 1980s, it was able to exploit a very high standing stock of zooplankton and it rapidly became the dominant marine primary carnivore. It quickly reached a total mass of 900 million tons (ten times the annual fish harvest from the entire world).

After the *Mnemiopsis* invasion, the structure of the plankton was also significantly transformed. By the summer of 1991, its biomass was three times less than in 1989. Furthermore, *Mnemiopsis* itself is subject to periodic die-offs and falls into the anoxic layer causing significant increases hydrogen sulphide (H_2S). This is also in part due to the large quantities of mucous shed by the comb jellies. High H_2S production has therefore become another particular problem in this region.

2.7.1.2 Incidental mortality: *Tursiops* are susceptible to entanglement in fishing gear and from ship strike injuries inflicted by the increasing volume of vessel traffic in the Black Sea. Four percent of stranded cetacean species examined in 1989-1991 had traumas (wounds, skeletal fractures and haematomas), whilst 17% had gastric lesions similar to stress-induced ulcerations (Evans and Addink, 1993).

The level of incidental mortality is not known, but is believed to be significant: Cetaceans were found in 113 out of 3450 fishing nets examined in 1980-1981 in the Crimea (Zhuravleva et al., 1982), and 194 dead dolphins were found in driftnets on 14 Turkish boats arrested in the Spring of 1992 (Pasyakin, 1991). Given the very high level of fishing activity in the Black sea, bycatch is likely to be “very large” (Evans and Addink, 1993). The death of 20 dolphins in 1998 was attributed to entanglement in turbot nets (Svilen Enev, International Institute for Environment and Development *in litt*. to WDCS, 9/9/98).

2.7.1.3 Lack of food resources: The total fish catch in the Black Sea, and the adjacent seas of Marmara and Azov, amounted to 856-906,000 tons per year during the period 1985-86 but dropped to only 640,000 in 1989 (Vinogradov, 1996). Similarly, in the Black and Azov Seas, the annual catch of anchovy was 126-240,000 tons in 1980-88 but decreased to 70,000 tons in 1989 (Vinogradov, 1996). Declines in other fish stocks were also recorded and sharp declines in both the abundance and range of fish species have been observed in the Black Sea, attributed to both environmental pollution, the bloom of an exotic ctenophore and over-fishing (Andrianov and Bulgakova, V., 1996). Black Sea fishermen are said to have seen the number of species in their waters drop from 170 to 44 in just ten years. This is believed to have resulted in acute interspecific competition for food, and may render animals more susceptible to disease, parasitic infection and mobilization of toxic pollutants (Birkun et al., 1992).

2.7.1.4 Disease: Several researchers have suggested that Black Sea cetaceans now exhibit an unusually high degree of poor health and a high death rate and link these to the state of the Black Sea environment (e.g. Bogdanova et al. 1996 and pers. comm. from A. A. Birkun, BREMA Laboratory, Ukraine, to WDCS). Industrial and sewage pollution have been linked to cetacean health - one as a source of immuno-suppression and the other as a significant source of infectious agents.

The most frequent pathological disorders observed in stranded and by-caught cetaceans in the Black Sea are: pneumonia and sinusitis caused by nematode infection; gastritis caused by trematode infection; and skin, intestinal, liver and lymph node disorders caused by cestode infections (pers. comm. from A. A. Birkun to WDCS) . Lung infections by nematodes (complicated with bacterial and possibly viral superinfection) have been identified as the main "natural" causes of death for Black Sea cetaceans. Sixty-seven percent of bottlenose dolphins examined during 1989-1991, had destructive lesions in their lungs (Birkun et al., 1992).

There have been several cetacean mass strandings in the Black Sea, apparently related to immuno-deficiencies exacerbated by pollution (including morbillivirus outbreaks) (Birkun et al., 1999). In Spring 1990, unprecedented numbers of Black Sea cetaceans were found dead on the Turkish, Crimean, Russian and Bulgarian coasts. The probable cause of the epizootic was a virus infection and it was estimated that several thousand animals (of all three species) died as a result (Evans and Addink, 1993).

Similar events have been reported in populations of other marine mammal species elsewhere in the world, including bottlenose dolphins (Simmonds and Mayer, 1997). Most of these events appear to have been precipitated by the presence in the afflicted population of a virus belonging to the high pathogenic morbillivirus family. Birkun et al. (1999) recently reported that there were morbillivirus-specific lesions in a sample of the 1994 common dolphins, thereby establishing the likelihood that it had precipitated the mortality. The pathogenesis of morbillivirus infections in other populations has been linked to their pollution burdens.

2.7.2 Commercial exploitation: Pressures on Black Sea dolphins have included direct hunts both for products and for live capture (see 3 below).

A dolphin fishery was initiated in 1870 by the former Soviet Union, primarily for blubber oil. Turkey joined this fishery in the 1930s, harvesting between 40-70,000 cetaceans annually (Berzin and Yablokov, 1978). Landings peaked in 1938 with 147,652 cetaceans killed by the USSR alone (Bodrov et al., 1958). After 1960, Turkish fishermen almost exclusively used rifles in their hunt. The number of Turkish fishers involved in the fishery was about 600, with 500 rifles registered in use and provided, along with ammunition, by the Fisheries Department of the Ministry of Agriculture (Zemsky, 1996; Celikkale et al., 1988; Buckland et al., 1992; Yel et al., 1996).

Commercial dolphin hunting was banned in 1966 by the former Soviet Union, Georgia, Bulgaria and Romania and by Turkey in 1983. Poaching is reported to continue, with evidence of mass illegal killing detected in Turkey (Anonymous, 1991).

The exact number of Black sea dolphins killed in the 20th century is unknown, but kills by the USSR exceed 1.5 million and by other range states probably exceed 4 million (Birkun et al., 1992).

3. Utilization and Trade

3.1 National utilization: It is difficult to separate national utilization from international traffic. Captures for exhibit, research and commercial export have occurred in some of the range states, including Russia, Ukraine and Georgia (Entrup and Cartlidge, 1998). The scale of captures for national internal use is not known. Some dolphins shipped abroad were subsequently re-imported to the nation of origin and may have been converted to national use or re-exported.

There are currently six dolphinaria in the Black Sea region: in Russia, Georgia, Bulgaria, Romania and two in the Ukraine. They have capacity for over 150 marine mammals. Defects reported in 1992 include the lack of water filtration and sterilization systems and poor water circulation. Birkun et al. (1992) reports that every year between 24 and 48 wild cetaceans are captured to replace dolphins that die in the facilities. The most frequent cause of death reported is bacterial pneumonia and septicemia. The role of allergy and secondary immune deficiency in the pathogenesis of cetacean infectious diseases was detected (Birkun et al., 1990).

When dolphinaria first opened in the Black Sea states, hundreds of dolphins are reported to have been drowned because of an imperfect capture technique, called 'aloman catch'. As a rule, these mortalities were not reported (Birkun et al., 1992).

Ukraine, as part of the former Soviet Union, captured and trained 70 Black Sea bottlenose dolphins for 'special forces'. When the Cold War ended, the trained animals were no longer needed and the military tried to persuade oil companies that the dolphins would be useful to them following retraining. In 1994, a large number of ex-military Black Sea bottlenose dolphins were reported to be kept in very poor conditions in the Ukraine (First draft of report on the findings of the Working Committee on Captive Marine Mammals in the Ukraine, Antibes, 1994). The destination of these animals is not known, although three years later about 20 Black Sea bottlenose dolphins are reported to be in use in Ukraine in 'human therapy' programs (Specter, 1997).

At present, there are no cetaceans in captivity in Georgia (pers. comm. with Dr. Iraki Shavgulidze, NACRES). Formerly, the Batumi Dolphinarium kept 7-8 individuals. Mortality was frequent (with replacement from local populations), and there was no breeding success. The last four dolphins were exported to Malta via Yugoslavia in 1992.

3.2 Legal international trade: There clearly has been a substantial international commercial trade in bottlenose dolphins from the Black Sea. The maximum volume is unknown, as some international shipments abroad have been illegal and not recorded. Movement of 43 dolphins from the Black Sea in international trade was reported for the period 1990-1997 (Entrup and Cartlidge, 1998). Additional shipments were reported for 1998 and 1999 (WDCS, 1999).

Exporters in the Ukraine, Russia and Georgia have been able to obtain CITES permits for export of bottlenose dolphins to several countries, including Cyprus, Malta, Turkey, Israel, Argentina and Hungary, by stating that the purpose was to establish breeding colonies for conservation and research, but in all cases the actual purpose was commercial (Entrup and Cartlidge, 1998; Bastida et al., 1996). The majority of the animals died during or shortly after transport. In some cases they were imported illegally. In most cases, the facilities for their maintenance and care were grossly inadequate; in some cases facilities had not yet even been constructed. Only one captive birth (in Israel) has occurred, and no scientific research papers have resulted from the international traffic.

A recent investigation tracked 43 bottlenose dolphins exported from the Ukraine, Georgia and Russia to foreign oceanaria during the period 1990-1997 (Entrup and Cartlidge, 1998). All details of the transfers cannot be established, because of the absence of complete documentation. At least 20 have died; another three are likely to be dead. Only nine were confirmed still alive as of 1997 (Entrup and Cartlidge, 1998). Additional traffic was reported in 1998 and 1999 (WDCS, 1999), aimed mainly at non-parties to CITES. According to the European Cetacean Society (Evans and Addink, 1993), 25-50 bottlenose dolphins are removed from the Black Sea annually by Russia, Ukraine, Bulgaria and Romania for public display, to replace animals dying in both domestic and foreign oceanaria. Whether this level of take is sustainable is unknown.

The trade in Black Sea bottlenose dolphins continues through trading companies, including Zoolex, a Russian company that claims to have been capturing and exporting marine mammals, including dolphins, since 1996. As recently as 1998, Zoolex advertised on the Internet that it had Black Sea bottlenose dolphins from Anapa for sale at US$ 20,000 each (Reshetnikov, 1999).

3.3 Illegal trade: The level of illegal trade is unknown, but is possibly substantial. It is unclear whether the 43 documented exports of bottlenose dolphins by Black Sea States since 1990 fulfilled CITES requirements, as complete documentation has been lacking. It is unclear whether CITES export permits were issued by the Management Authority of the exporting state or if the conditions of Article IV export were met. For example, it is not known if the purpose of transaction (e.g., captive breeding or commercial purposes) or the source of the specimen (e.g., captive bred or wild-caught) was recorded accurately on export permits (or even whether these items were recorded at all). Likewise, it is unlikely that the requisite detriment determination was made, since it is unlikely that any harvest level was (or is) sustainable as required by Article IV.

3.4 Actual or potential trade impacts: The population is likely depleted, and its habitat badly degraded and declining. Any removals are hastening the further decline of the population.

3.5 Captive breeding or artificial propagation for commercial purposes (outside country of origin): The species breeds well in captivity in certain large, well-established oceanaria with adequate husbandry programs. However, breeding success with the subspecies has been attained in only one oceanarium outside the Black Sea, in Israel (Entrup and Cartlidge, 1998); the majority of bottlenose dolphins shipped in international traffic in recent years ostensibly for captive breeding programs have died soon after introduction into their new quarters, which for the most part have been grossly inadequate for purposes of breeding or even maintenance.

4. Conservation and Management

4.1 Legal status:

4.1.1 National: The USSR, Bulgaria and Romania banned directed take of dolphins in the Black Sea in 1967; Russia has maintained this ban since the break-up of the U.S.S.R. Turkey banned commercial harvest in 1983. The Black Sea bottlenose dolphin was placed in the Ukrainian National Red Data Book in 1989; this requires protection by government programs. It was also included in national red data books of Russia, Bulgaria and Georgia in the 1980s. In Georgia the subspecies is protected by the Law on Wild Fauna Protection of 1996, Article 30, under which all marine mammals are protected and no taking is allowed except for scientific, educational or veterinary purposes. All three Black Sea cetaceans will be included in a new Georgian red list.

4.1.2 International: All Cetacea not listed in Appendix I were listed in Appendix II in 1979. The bottlenose dolphin as a species is classified by IUCN as Data Deficient. The Black Sea population/subspecies is also listed in Appendix II of the Convention on Migratory Species of Wild Animals (CMS) and is defined as Endangered in the UNEP Global Plan of Action on Marine Mammals. It is also protected under the Bern Convention (under Appendix II, which imposes a clear and unequivocal duty to protect habitat; Turkey, Bulgaria and Romania are Parties) and EC Directive 92/43/EEC.

Commercial dolphin and porpoise hunting was banned in 1967 by an agreement between the former Soviet Union, Bulgaria and Romania. Under the provision of the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area (ACCOBAMS) under CMS, deliberate taking of cetaceans will be prohibited, with a few clearly-defined exceptions. The agreement requires development of a conservation plan specifying actions which parties will take in adoption and enforcement of national legislation, habitat protection, research and monitoring, training and education, and responses to emergency situations. Black Sea states who signed the final act in November 1996 include Georgia, Romania and Ukraine. Ratification of the Agreement by signature is open, and the Agreement will come into force after at least 7 coastal states have ratified it, including at least two from the Black Sea. At last report (January, 1998), of the Black Sea states only Georgia has signed.

4.2 Species management:

4.2.1 Population monitoring: At present, there are no formal programs to monitor the status of the population. In Georgia, a monitoring activity by the Biodiversity Activity Centre in Batumi is expected to be part of the TACIS Black Sea Programme under development. Ratification of ACCOBAMS may result in establishment of further such programs.

4.2.2 Habitat conservation: There are no formal programs of habitat conservation at present. In Georgia, Kolkheti National Park is under development (with support by the World Bank) and will include adjacent marine waters utilized by the bottlenose dolphin. Ratification of ACCOBAMS may result in establishment of additional programs. There are a number of agreements or plans designed to reduce pollution levels in the Black Sea, including the Bucharest Convention, the Odessa Declaration, and the BS-SAP (see Section 2.7.0 Threats - Background).

4.2.3 Management measures: There are no formal management programs. Ratification of ACCOBAMS may result in establishment of such programs. As mentioned in the previous section, there are a number of agreements or plans designed to reduce pollution levels in the Black Sea, including the Bucharest Convention, the Odessa Declaration, and the BS-SAP (see Section 2.7.0 Threats - Background).

4.3 Control measures:

4.3.1 International trade: There are no control measures on international trade other than CITES. Ratification of ACCOBAMS may result in establishment of measures among the Black Sea and Mediterranean states.

4.3.2 Domestic measures: There are no domestic measures to ensure sustainability of harvest. Ratification of ACCOBAMS may result in establishment of such measures, as part of a conservation plan.

In Georgia, marine inspectors at the major seaports of Batumi and Poti are responsible for monitoring captures and exports (none since 1992).

5. Information on Similar Species

It likely would not be possible to distinguish a dolphin of this subspecies from a bottlenose dolphin from another locality upon physical inspection, although it would likely be reasonable to assume that all bottlenose dolphins originating from the Black Sea are Black Sea bottlenose dolphins. It would be possible to develop a forensic genetic procedure to allow identification to subspecies; such a development would require investment of research funds and a well-equipped genetics laboratory. Such a program would involve maintenance of a registry of DNA fingerprints by the country of origin, against which the fingerprints of animals in international traffic could be checked. Another possibility would be to require that all bottlenose dolphins in international traffic be marked (fin-clipped, branded or otherwise tagged) with an individual registration number that would allow monitoring of origin, as is presently done for thoroughbred horses. The very high monetary value of captive dolphins to the oceanarium trade would justify the expense of setting up such a system.

6. Other Comments

Georgia and the United States have consulted with all CITES Parties and certain non-Parties that are range states for *Tursiops truncatus ponticus*. Turkey, Bulgaria, and Romania support transfer of the species from Appendix II to Appendix I, while Russia and Ukraine have not offered an opinion.

7. Additional Remarks

Tursiops truncatus ponticus meets the biological criteria for inclusion in Appendix I, as listed in Conf. 9.24. Specifically, the species meets criteria:

B. The wild population has a restricted area of distribution and is characterized by:
(iii) a high vulnerability due to the species' biology or behavior, and
(iv) an observed, inferred or projected decrease in the number of individuals, area or quality of habitat, and reproductive potential.

C(ii). A decline in the number of individuals in the wild, which has been inferred or projected on the basis of:
- levels or patterns of exploitation, and
- threats from extrinsic factors such as the effects of pathogens, competitors, parasites, predators, hybridization, introduced species, and the effects of toxins and pollutants.

8. References

Andrianov, D. P. and V. Bulgakova. 1996. The factors determining the abundance of the Black Sea anchovy. Pages 13-15 in B. Özturk, ed. Proceedings of the First International Symposium on the Marine Mammals of the Black Sea, 27-30 June 1994, Istanbul, Turkey. UNEP.

Anonymous. 1991. Turkey - Dark days for Black Sea dolphins. WDCS News No. 7:5.

Bastida, R., D. Rodriguez, J. Loureiro and M. Gerpe. 1996. Black Sea dolphins in Argentina: A sad story. Page 62 in B. Özturk, ed. Proceedings of the First International Symposium on the Marine Mammals of the Black Sea, 27-30 June 1994, Istanbul, Turkey. UNEP.

Bel'kovich, V. M. 1996. The population structure of three species of Black Sea dolphins as an adequate basis of their abundance estimation. Page 71 in B. Özturk, ed. Proceedings of the First International Symposium on the Marine Mammals of the Black Sea, 27-30 June 1994, Istanbul, Turkey. UNEP.

Berzin, A. A. and A. V. Yablokov. 1978. Quantity and population structure of the most exploited world ocean's cetacean species. Zool. Zh. 57, No. 12:1771-1785.

Birkun, A. A., Jr., V. V. Karpitsky, I. F. Kiryukhin, and N. A. Miloserdova. 1990. Bacterial mixtinfections under maintenance of bottlenose dolphins in captivity. Pages 25-26 in V. A. Zemsky et al. (eds), Marine Mammals: Proc. 10th All Union Conf. Study Protection Rational Use Mar. Mamm., Kaliningrad. Acad. Nauk, Moscow.

Birkun, A. A. Jr., S. V. Krivokhizhun, A. B. Shvatsky, N. A. Miloserdova, G. Yu. Radygin, V. V. Pavlov, V. N. Nikitina, Ye. B. Goldin, A. M. Artov, A. Yu. Suremkina, Ye. P. Zhivkova and V. S. Plebansky. 1992. Present status and future of Black Sea dolphins. Proceedings 6th Ann. Conf. European Cetacean Soc., San Remo, Italy, 20-22 Feb, 1992:47-53. E.C.S., Cambridge, U.K.

Birkun, A., T. Kuiken, D. M. Haiine, C. R. Joiris, S. Krivokhizhin, A. D. M. E. Osterhaus, U. Siebert, and M. Van de Bildt. 1999. Evidence of morbilliviral disease in Black Sea common

dolphins. Pages 323-327 in, P. G. H. Evans and E. C. M. Parsons, eds. European Research on Cetaceans 12: Proceedings of the Twelfth Annual Conference of the European Cetacean Society, Monaco, 20-24 January 1998.

Bodrov, V. A., S. N. Grigoryev and V. A. Tveryanovitch. 1958. Techniques and technology in processing of marine mammals (whales, dolphins, pinnipeds). Pischepromizdat, Moscow.

Bogdanova, L., E. Kapustina, N. Kaganova and S. Matisheva. 1996. Estimation of the state of the Black Sea bottlenose dolphin population. Pages 86-87 in B. Özturk, ed. Proceedings of the First International Symposium on the Marine Mammals of the Black Sea, 27-30 June 1994, Istanbul, Turkey. UNEP.

BSEIN. 1999. http://bsein.mhi.iuf.net/redbook/txt/tursiops.htm

BSEP - Black Sea Environmental Program. 1996. The Black Sea. A unique environment.

BSEP - Black Sea Environmental Program. 1999. Home page:
http://www.dominet.com.tr/blacksea/index.htm.
Buckland, S. T., T. D. Smith and K. L. Cattanach. 1992. Status of small cetacean populations in the Black Sea: Review of current information and suggestions for future research. Rep. Int. Whal. Comm. 42:513-516.

Çelikkale, M. S., S. Ünsal, H.F. Durukanoglu, H. Karaçam and E. Düzgünes. 1988. Karadeniz'de Yasayan Yunus Stoklarinin Belirenmesi ve Biyolojik Özelliklerinin Tesbiti. Trabzon (Turkish, with English summary). 101 pp.

Evans, P.G.H. 1987. The Natural History of Whales and Dolphins. Facts on File, New York.

Evans, P.G.H. and M. Addink. 1993. European Cetacean Society Newsletter 18: 6-7

Entrup, N. and D. Cartlidge. 1998. The dolphin traders. An investigation into the world-wide trade and export of Black Sea bottlenose dolphins (*Tursiops truncatus*) from the Ukraine and Russia, 1990-1997. A report for the Whale and Dolphin Conservation Society, U.K.

GESAMP- Group of Experts on the Scientific Aspects of Marine Environmental Protection. 1997. Opportunistic Settlers and the Problem of the ctenophore *Mnemiopsis leidyi* invasion in the Black Sea MO/FAO/UNESCO/WMO/IAEA/UN/UNEP Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection. GESAMP Reports and Studies No. 58. 84pp.

Kulagin, V. V., L. N. Bogdanova, O. G. Mironov and A. L. Morozova. 1996. Molysmology and bottlenose dolphin abundance in the Black Sea. in B. Özturk, ed. Proceedings of the First International Symposium on the Marine Mammals of the Black Sea, 27-30 June 1994, Istanbul, Turkey. UNEP.

Leatherwood, S. and R.R Reeves. 1983. The Sierra Club Handbook of Whales and Dolphins. Sierra Club Books, San Francisco.

Mikhalev, Y. A. 1996. Experience of the abundance estimation of the Black Sea dolphin based on the aerial survey. Pages 77-78 in B. Özturk, ed. Proceedings of the First International Symposium on the Marine Mammals of the Black Sea, 27-30 June 1994, Istanbul, Turkey. UNEP.

Pasyakin, V. 1991. The Operation 'Kalkan' was completed. Korortyny Krym, No. 78, p. 4.

Pavlov, V., A. Artov and T. Zhuravleva. 1996. Impact of fishing on Black Sea dolphins off the Crimea coasts. Pages 41-43 in B. Özturk, ed. Proceedings of the First International Symposium on the Marine Mammals of the Black Sea, 27-30 June 1994, Istanbul, Turkey. UNEP.

Reshetnikov, M. Message circulated via the Internet. Zoolex. January 1999Reshetnikov, M. Message circulated via the internet. Zoolex. January 1999

Rice, D. W. 1998. Marine mammals of the world. Systematics and distribution. Spec. Pub. Soc. Mar. Mamm. 4, 231 pp.

Simmonds, M. P. and S. Mayer. 1997. An evaluation of environmental and other factors in some recent marine mammal mortalities in Europe: Implications for conservation and management. Environ. Rev. 5:89-98.

Specter, M. 1997. Killer dolphins retire. International Herald Tribune. 5 August 1997

Tanabe, S, B. Madhusree, A. A. Özturk, R. Tatsukawa, N. Miyazaki, E. Özdamar, O. Aral, O. Samsun & B. Özturk. 1997. Persistent organochlorine residues in harbor porpoise (*Phocoena phocoena*) from the Black Sea. Mar. Poll. Bull. 34: 338-347.

Tomilin, A. G. 1967. Mammals of the U.S.S.R. and adjacent countries. Vol. 9, Cetacea. Israel Program for Scientific Translation, Jerusalem, 1967.

Wells, R. S. and M. D. Scott. 1999 [1998]. Bottlenose dolphin *Tursiops truncatus* (Montagu, 1821). Pages 137-182 in S. H. Ridgway and R. Harrison, eds. Handbook of Marine Mammals. Vol. 6. Academic Press, San Diego.

UNEP. 1999. http//www.grid.unep.ch/bsein/publish/populat.htm

Vinogradov, M. E. 1996. Contemporary state of the ecosystem of the Black Sea open regions and changes in the food base of dolphins. Pages 11-12 in B. Özturk, ed. Proceedings of the First International Symposium on the Marine Mammals of the Black Sea, 27-30 June 1994, Istanbul, Turkey. UNEP.

WDCS - Whale and Dolphin Conservation Society. 1999. Update on the trade with bottlenose dolphins originating from the Black Sea. (Unpublished report). Melksham, Wiltshire, UK

Yel, M., E. Özdamar, A. Amaha and N. Miyazaki. 1996. Some aspects of dolphin fishery on the Turkish coast of the Black Sea. Pages 31-39 in B. Özturk, ed. Proceedings of the First International Symposium on the Marine Mammals of the Black Sea, 27-30 June 1994, Istanbul, Turkey. UNEP.

Zemsky, V. A. 1996. History of the Russian fishery of dolphins in the Black Sea. Pages 46-48 in B. Özturk, ed. Proceedings of the First International Symposium on the Marine Mammals of the Black Sea, 27-30 June 1994, Istanbul, Turkey. UNEP.

Zhuraleva, T.M., A. I. Shalamov and Y. G. Prutko. 1982 . Control of observance of the prohibition on dolphins catching in the Black Sea. Pages 123-124 in V.A. Zemsky et al. (eds.), Study, protection and rational use of marine mammals: Proc. 8th All Union conf., Astrakhan.