IDST BIO. ACQ. – C. 2023 - SELEZIONE PUBBLICA, PER ESAMI, PER LA COPERTURA DI N. 1 POSTO A TEMPO PIENO E INDETERMINATO DEL PROFILO PROFESSIONALE DI ISTRUTTORE DIRETTIVO DEI SERVIZI TECNICI – AREA DEI FUNZIONARI E DELLA ELEVATA QUALIFICAZIONE – POSIZIONE ECONOMICA 1 – AMBITO DI ATTIVITA': BIOLOGO ACQUARISTA

DOMANDE PROVA ORALE del 12/12/2023

Domande di Problem Solving

- Si trova in un team di 4 persone a dover gestire le vasche dell'Acquario Civico e si avvicina il periodo di ferie natalizie. La Direzione chiede la presenza fissa di 2 persone dal lunedì al venerdì ma i suoi colleghi vorrebbero assentarsi tutti negli stessi periodi che interessano anche a lei: come pensa di comportarsi?

- Devono arrivare dei pesci all'Acquario Civico ma per un incidente sul percorso di arrivo il furgone potrà arrivare in serata a museo chiuso. I suoi colleghi non sono disposti a rimanere in straordinario. Come pensa di comportarsi?

- È necessario acquisire un cospicuo quantitativo di sale per la ricostruzione di acqua di mare per le vasche espositive dell'Acquario Civico in tempi relativamente brevi perché si è avuto un consumo in emergenza non preventivato che ha diminuito le scorte. Come pensa di procedere?

- In occasione delle Olimpiadi invernali, la Direzione chiede al team acquariologico di collaborare con il conservatore per la realizzazione di progetti rivolti al pubblico. Come e quale tipo di collaborazione intende offrire?

- Una volta assunto diventa parte di un team composto da persone di pari grado con molti anni di esperienza e con equilibri interni consolidati. Tendono quindi a trattarla con atteggiamento "fraterno" o "paterno/materno". Come gestisce il suo ruolo e la relazione con i colleghi?

- Una volta assunto diventa parte di team composto da persone di pari grado con molti anni di esperienza e con equilibri interni consolidati. Tendono quindi a passarle i lavori che non gradiscono portare avanti. Come gestisce il suo ruolo e la relazione con i colleghi?

- Un cittadino scrive al Sindaco per lamentarsi ingiustamente delle condizioni degli animali presenti in una vasca a lei assegnata nella gestione. Il suo responsabile la incarica di scrivere una bozza di risposta al cittadino. Come pensa di strutturare la risposta?

- A causa di un imprevisto blocco della metropolitana arriverà in forte ritardo rispetto all'orario di servizio, proprio quando aveva preso appuntamento per un progetto scientifico che pensava di proporre alla Direzione. Cosa intende fare?

- Vede un suo collega lavorare senza gli adeguati dispositivi di sicurezza e successivamente si infortuna. Come si comporta?

- Hai delle difficoltà nel lavoro con il tuo team di lavoro alle vasche espositive e mentre tu stai controllando la situazione dall'esterno, si avvicina un visitatore e ti chiede molte informazioni sia relative agli animali presenti nella vasca, sia relative al tuo lavoro e alla tua soddisfazione nel portarlo avanti. Cosa e come risponderesti?

- Le viene assegnato il compito di redigere il progetto di riorganizzazione del servizio acquariologico dell'Istituto: come pensa di organizzarlo?

- Ti viene assegnato un'attività e durante lo svolgimento ti rendi conto di non avere le competenze adeguate. Come ti comporti?

- Sei stato appena assegnato al tuo nuovo lavoro, nell'ufficio siete in 4 ed un collega ti è particolarmente ostile, al punto da creare spesso una forte tensione per ridurre le tue capacità attentive. Come ti comporti?

- Il tuo responsabile ti ha incaricato di scrivere un report molto dettagliato. Una collega che fa parte dello stesso gruppo di lavoro ti fa notare errori e lacune. La collega ha molta più esperienza di te. Come ti comporti?

- Hai il compito di scrivere un progetto molto complesso, con una scadenza di consegna ravvicinata. Sono coinvolti altri colleghi che però non sembrano attivarsi per il loro contributo. Come ti comporti?

- Ti viene assegnato il compito di organizzare una breve sessione di formazione a dei giovani stagisti. Ti vengono illustrati gli obiettivi della formazione che consistono nella spiegazione del lavoro che dovranno svolgere. Nessun'altra informazione ti viene aggiunta. Cosa fai?

- Il responsabile di un ufficio diverso dal tuo ha inviato molte mail per la richiesta urgente di un incontro con il tuo responsabile. Il responsabile del tuo ufficio però è fuori ed è incontattabile. Come ti comporti?

- Sei un professionista dell'Acquario Civico e non sei d'accordo con il tuo superiore rispetto al trattamento per un pesce. Dopo aver parlato con il tuo superiore ti senti arrabbiato. Come ti comporti?

- Stai svolgendo un lavoro di gruppo quando ti accorgi che stai svolgendo il ruolo di leader. Come ti comporti? Enfatizzi il tuo ruolo facendolo notare?

- Stai lavorando ad un progetto molto complesso che richiede competenze molto diverse. Cerchi di coinvolgere i tuoi colleghi? Condividi con loro i risultati?

Domande Teoriche

- Le Determinazioni Dirigenziali
- In che cosa consiste il Capitolato Speciale Tecnico Prestazionale (Capitolato Speciale d'Appalto)?
- Ruolo e funzioni del Responsabile Unico del Procedimento in materia di appalti pubblici
- Cosa si intende per principio di trasparenza nelle modalità di affidamento di un servizio/fornitura/ opera?
- Cosa si intende per conflitto di interesse negli appalti e nelle concessioni?
- Quali sono gli obblighi del dipendente pubblico?
- Quali sono i diritti del dipendente pubblico?
- Cosa si intende per diritto di accesso agli atti amministrativi?
- La figura del preposto alla sicurezza
- Quali sono gli organi di governo del Comune?
- Cosa si intende per elettorato passivo?
- Cause di ineleggibilità del Sindaco, Presidente della Provincia, Consigliere Comunale, Consigliere Metropolitano, Provinciale, Circostanziale
- Ruolo e funzioni del Segretario Comunale
- Ruolo e funzioni del Sindaco

Testo 1

Threatened & Endangered Species

Until recently, humankind seemed to view the ocean as a source of infinite resources. Its vast size and depth and unexplored frontiers made the ocean appear invulnerable to overexploitation. The truth is that the populations of many species are decreasing at an unsustainable rate, and the number of species listed as endangered from marine life families such as whales, dolphins, manatees and dugongs, salmon, seabirds, sea turtles and sharks to name a few, are on the rise. The threats to marine species are difficult to perceive because marine animals are not as visible as animals on land. But unfortunately, marine creatures are equally, if not more, vulnerable to problems such as habitat destruction and overexploitation. Shallow water animals that breathe air, like turtles, manatees, dugongs, and whales are often hit by boats and caught in fishing gear. Species such as turtles that lay their eggs on land often lose their nurseries due to coastal development. Animals that have taken millions of years to evolve, that are invaluable to all ecosystems, have and continue to vanish from places where they once flourished.

Fonte: https://www.marinebio.org/creatures/marine-vertebrates/marine-birds/

Testo 2

Threatened & Endangered Marine Species

Scientific Research

More than 42,100 species are threatened with extinction. Loss of habitats, the spread of disease, pollution and unsustainable fishing practices are directly related to the actions of humans and recovery from these problems is rarely straightforward.

Scientists and the general population are worried that if the destruction of biodiversity continues at the current rate, a mass extinction event will eventually take place. Many species go extinct before there is time to save them. Without protection, resources like global fisheries and future medicines may be lost forever unless adequate policy, scientific research, and individual actions can prevent further loss.

The North Atlantic right whale is one example of an animal researched at Woods Hole* in response to the mysterious reduction in species number. Scientists think that a number of factors may contribute to the declining number of right whales in the North Atlantic including collisions with boats, entanglement with fishing gear, failure to reproduce, unprotected feeding grounds, and exposure to chemicals. Simply stating that an animal is on a protected list and banning hunting is not enough. There are many other human influences preventing survival.

*The **Woods Hole Oceanographic Institution** (**WHOI**) is a private, nonprofit research and higher education facility dedicated to the study of marine science and engineering

Fonte: https://www.marinebio.org/creatures/marine-vertebrates/marine-birds/

Testo 3

Threatened & Endangered Marine Species

Categories and Controversy

The definition of a **threatened species** is one that may become extinct if measures aren't taken to protect it. An **endangered species** is one that has a very small population and at greater risk of becoming extinct. Many species that become extinct never make it to the endangered species list.

The IUCN* Red List of Threatened Species provides the conservation status for different species and indicates how many exist, an increase or decrease in numbers, how well they are reproducing and if their populations face potential threats.

Conservation categories include: extinct, extinct in the wild, critical or critically endangered, endangered, vulnerable and secure or low risk

There is great controversy surrounding the endangered species list related to when a species should be considered endangered, when should the species be removed from the list, whether governments can take land to protect habitats from development, and loopholes to the protection laws. Placing a species on the endangered list often causes the value to soar for poachers and collectors.

*IUCN (International Union for Conservation of Nature)

Fonte: https://www.marinebio.org/creatures/marine-vertebrates/marine-birds/

Testo 4

Threatened & Endangered Marine Species

Listing a Species

Sometimes, the U.S. Fish and Wildlife Service or National Marine Fisheries Service will add a species to the list and other times citizens or groups will petition for the species to be added. Before a species can be placed on the Endangered Species list it must first be on the Federal list of endangered and threatened wildlife and plants. Due to political pressures or time frames, species are often placed on a candidate list before they can be officially considered endangered or threatened. Once on the official list*, anyone who ignores the Endangered Species Act can be fined up to $50,000 and jailed for up to one year. A plan is also made detailing how important habitats will be protected and what will be done to assist recovery of the species. Most species placed under protection by the Endangered Species Act have avoided extinction. Another interesting fact about the Endangered Species Act is that it contains a citizen enforcement clause so that the public can "sue" the government to make sure a species with dwindling numbers is listed.

*Provided by **IUCN (International Union for Conservation of Nature)**

Fonte: https://www.marinebio.org/creatures/marine-vertebrates/marine-birds/

Testo 5

Threatened & Endangered Marine Species

Loopholes

Sometimes, the preservation of one endangered species can mean a lot more than preventing the extinction of an animal. In the 1970's the Tellico dam in Tennessee not only threatened the survival of the perciform (snail) darter, but also the existence of one of the few remaining wild rivers in the state, sacred Native American land, important farmland, and recreational sport fishing. Using the Endangered Species Act, citizens in 1978 were able to get a Supreme Court ruling to prevent building of the Tellico dam in 1978. Politicians lobbied for a provision to the Environmental Species Act that would allow the dam and other projects to be completed if the benefits of building these structures would outweigh environmental problem caused. Even when it was determined that the dam was not economical, Congress allowed the dam to be built anyway. The snail was found in other places so it was moved down to the threatened list and the farmland, American Indian sites, and recreation on the wild river were lost.

Fonte: https://www.marinebio.org/creatures/marine-vertebrates/marine-birds/

Testo 6

Aquaculture

Aquaculture, also known as aquafarming, is the practice of cultivating aquatic organisms such as fish, shellfish, and aquatic plants under controlled conditions.

Aquaculture serves various purposes beyond just food production. It encompasses a range of activities that contribute to economic, environmental, and social goals. Here are some of the different uses of aquaculture:

Food Production: One of the primary uses of aquaculture is the production of fish, shellfish, and other aquatic organisms for human consumption. It helps meet the increasing global demand for seafood and provides a reliable source of protein and nutrients.

Ornamental Trade: Aquaculture also caters to the aquarium trade by breeding and rearing various colourful and exotic fish species, as well as ornamental aquatic plants. This reduces the pressure on wild populations and helps conserve rare or endangered species.

Fisheries Stock Enhancement: Some aquaculture practices involve the breeding and rearing of fish and shellfish for release into the wild to enhance wild fisheries. This can help replenish declining populations and support conservation efforts.

Fonte: https://www.marinebio.org/creatures/marine-vertebrates/marine-birds/

Testo 7

Aquaculture

Aquaculture, also known as aquafarming, is the practice of cultivating aquatic organisms such as fish, shellfish, and aquatic plants under controlled conditions.

Aquaculture is important for several reasons, and its significance has been increasing over the years due to various factors. Some of the key reasons why aquaculture is important are as follows:

Meeting Global Food Demand: With the world's population continuously growing, there is an increasing demand for seafood. Aquaculture helps to supplement wild-caught fish and shellfish, providing a reliable and sustainable source of protein for human consumption.

Food Security: Aquaculture contributes to global food security by reducing the pressure on natural fish stocks, which are often overfished and facing depletion. By cultivating fish and other aquatic species in controlled environments, aquaculture helps ensure a more stable and consistent food supply.

Economic Impact: The aquaculture industry generates significant economic benefits by creating jobs in rural and coastal communities. It supports livelihoods for millions of people worldwide, especially in developing countries where fishing and aquaculture provide important income opportunities.

Fonte: https://www.marinebio.org/creatures/marine-vertebrates/marine-birds/

Testo 8

Threatened & Endangered Species

Adaptations for Marine Life

Marine birds possess a range of remarkable adaptations that enable them to exploit the marine environment efficiently. One of the most prominent adaptations is their waterproof plumage. The feathers of marine birds are densely packed and coated with waterproof oils, which prevent them from becoming waterlogged. This adaptation allows them to stay buoyant and maintain their body temperature, even when diving or flying over the water.

Another vital adaptation is the salt glands found in marine birds. These glands, located above their eyes, help eliminate excess salt accumulated from consuming saltwater prey. By excreting concentrated salt solution from their nostrils, marine birds can maintain a stable internal salt balance, allowing them to survive on the limited freshwater resources available in the ocean.

Flight is another crucial aspect of marine birds' adaptations. Many species have long, narrow wings that enable efficient gliding and soaring over vast distances, reducing energy expenditure during long flights. This is particularly evident in the majestic albatrosses, known for their incredible long-distance migrations. Additionally, certain species, such as the northern gannet, have developed specialized air sacs that act as shock absorbers during high-speed diving into the water to catch prey.

Fonte: https://www.marinebio.org/creatures/marine-vertebrates/marine-birds/

Testo 9

Threatened & Endangered Species

Ecological Roles

Marine birds play essential ecological roles in marine ecosystems. They are often considered top predators and are vital for maintaining the balance of marine food webs. By consuming fish, squid, krill, and other marine organisms, marine birds regulate prey populations and prevent overpopulation of certain species. Additionally, their foraging activities in the open ocean help redistribute nutrients from nutrient-rich areas to nutrient-poor areas through their excrement, stimulating primary productivity.

Moreover, marine birds serve as indicators of ecosystem health. Their population trends and distribution patterns can provide valuable insights into the overall condition of marine environments. Declines or shifts in the distribution of marine bird species may indicate changes in prey availability, pollution levels, or habitat alterations, alerting scientists to potential environmental issues that require attention.

Fonte: https://www.marinebio.org/creatures/marine-vertebrates/marine-birds/

Testo 10

Threatened & Endangered Marine Species

Marine Mammals

Marine mammals close to becoming an endangered species are categorized under threatened. These include: the Eastern Stock of the Steller sea lion, Guadalupe fur seals, and the California sea otters.

According to the Marine Mammal Protection Act (MMPA), species can also be called "depleted". A depleted species is one whose numbers have dropped lower than the optimum sustainable population (OSP). The OSP is determined by whether the animals are reproducing in a healthy number that corresponds to the carrying capacity of the environment. When it is determined that a species has been depleted, the NMFS* comes up with a plan to research factors involved and to bring the numbers back. Animals considered depleted are the North Atlantic Coastal bottlenose dolphins, Eastern spinner dolphins, North Pacific fur seals, the Northeastern Offshore and Coastal spotted dolphins, and Cook Inlet beluga whales. More information is being collected on "species of concern" which include Cook Inlet beluga whales and orcas (killer whales). Eastern Pacific gray whales has been recovered by the Endangered Species Act and were actually taken off the list. Steller's Sea cows was lost forever shortly before the MMPA and ESA** were implemented.

*National Marine Fisheries Service

**Endangered Species Act

Fonte: https://www.marinebio.org/creatures/marine-vertebrates/marine-birds/

Testo 11

Threatened & Endangered Marine Species

Marine Mammals

Marine mammals close to becoming an endangered species are categorized under threatened. These also include Pinnipeds which are seals, sea lions or walruses but are taxonomically relatives of bears, dogs, raccoons, otters or weasels. The families under pinnipedia include Phocidae, Otariidae and Odobenidae which are earless seals, fur seals or sea lions, and walrus respectively. The main reason for the loss of many pinnipeds is the amount of commercial fishing that took place from the 1700's up to the 1900's. Other reasons include the development of coastline and lack of fish due to overfishing.

Another group of marine mammals affected by commercial hunting between the 1700's and the 1900's were the baleen whales. Populations of baleen whales are still low in numbers even though commercial hunting is now mostly illegal. Many whales are still being hit and killed by ships, particularly critically endangered northern right whales. Whales are also tangled in fishing gear or marine garbage. Sometimes something as small as a party balloon can kill a whale by cutting off its digestive tract.

Fonte: https://www.marinebio.org/creatures/marine-vertebrates/marine-birds/

Testo 12

Threatened & Endangered Marine Species

Marine Invertebrates

Marine invertebrates and plants are currently listed under the "candidates or species of concern" category in the Endangered Species Act due to a lack of information or time. These include Brachiopods, Corals, Mollusks, and various plant life. Brachiopods are invertebrates that live on the seafloor and feed through a filter appendage. They are attached to objects in the ocean and resemble a clam. Brachiopods reached the peak of their numbers in the Paleozoic era and were reduced greatly during the Permo-Triassic mass extinction. Reasons for decline in number of brachiopods include habitat destruction, overfishing, pollution and sediment accumulation and general vulnerability to stress.

Mollusks are invertebrates and most of them are in the Class Gastropoda which means "stomach foot" in Latin. They have a soft body and are often found with a shell, although they can also have an internal shell or no shell. Animals qualifying as species of concern include: black abalone, green abalone, pink abalone, and pinto abalone. The white abalone is currently classified as endangered. The abalone has been overfished, numbers decreased, genetic diversity has been lost, it has been subjected to disease, poachers and changes in the food chain resulting in an increase in predation.

Fonte: https://www.marinebio.org/creatures/marine-vertebrates/marine-birds/

Testo 13

Threatened & Endangered Marine Species

Marine Invertebrates

Marine invertebrates and plants are currently listed under the "candidates or species of concern" category in the Endangered Species Act due to a lack of information or time. These include Brachiopods, Corals, Mollusks, and various plant life.

Corals are made of invertebrate polyps and are either hard or soft. They have been around for 500 million years since the Cambrian period. Hard corals are composed of calcium carbonate and they live symbiotically with zooxanthellae, a type of phytoplankton. Soft corals have calcareous pieces of matter in their structure and are usually found independently in deeper waters. All corals are related to anemones, hydras or jellyfish. There is only one class of coral and that is Anthozoa. Subclasses include Alcyonaria, Ceriantipatharia, and Hexacorallia (Zoantharia). In consideration for endangered status are the elkhorn coral, staghorn, ivory-bush, and Hawaiian reef corals (Order Scleractinia). Corals have declined drastically in numbers due to disease epidemics since the 80's, destruction of habitat, accumulation of sediment, a changing food chain resulting in increased predation, hurricanes, pollutants, alien species, invasive species like green algae, small numbers, fishing practices, and bleaching of corals due to temperature changes, to name a few.

Fonte: https://www.marinebio.org/creatures/marine-vertebrates/marine-birds/

Testo 14

Threatened & Endangered Marine Species

Sea Turtles

Sea turtles are another animal threatened by extinction in the oceans. With aerodynamic bodies, oversized flippers and the ability to breathe air, these unique animals live in tropical or subtropical oceans all over the planet. The United States is visited by six of the seven types of sea turtles including greens, hawksbills, Kemp's ridleys, leatherbacks, loggerheads and olive ridleys. Sea turtles rely on undisturbed beaches to lay eggs and can travel huge distances to feed or nest.

The major reasons why sea turtles are declining in numbers include: development or destruction of nesting and foraging places, accidental tangling in nets or lines, tangling in marine garbage and being hit by boats or motor craft. Regulations on gillnets, longlines, pound nets and trawls have been established by the NOAA* fisheries and certain areas crucial for sea turtles have been roped off at important times. It is also important to handle sea turtles in a certain way and there are now regulations for this as well. Comprehensive strategies, research and management efforts are in the process of being developed so that the sea turtle can recover. In addition to nation-wide programs, the NOAA also has national and international programs.

*National Oceanic and Atmospheric Administration

Fonte: https://www.marinebio.org/creatures/marine-vertebrates/marine-birds/