CORAL REEF PARTNERS pdf

1: NOAA's Coral Reef Conservation Program (CRCP) - Impacts from Unsustainable Fishing Pressure

Coral Reef Capital is a private investment firm specializing in private equity investments in real assets, partnering with experienced management teams to grow organically and through acquisitions in the upstream exploration and production, oil field services and metals and mining sectors.

We are an international collaboration of scientists, managers, and supporters aimed at improving the regional condition of reefs in the Western Atlantic and Gulf of Mexico. For 20 years, AGRRA has used an innovative regional approach to examine the condition of reef-building corals, algae and fishes and support the conservation of coral reef ecosystems. We curate and distribute data, research and educational materials that support this mission. Collaborating with numerous colleagues, advisors and students, AGRRA has become a leading advocate for coral reef science and conservation. Priority was placed on conducting baseline assessments of remote reefs such as in Cuba, The Bahamas, Panama and Los Roques and on creating educational materials and leading training workshops for in-country partners around the Caribbean. A cornerstone of our program has been providing open-access to scientific data collected through our partner network. The AGRRA data portal greatly improves the efficiency, transparency and reliability of data compilation and analysis. AGRRA has become a key source of scientific data used to inform reef policies, legislation, management and conservation. AGRRA has developed a comprehensive set of visual training tools to help partners learn identification of key reef organisms, their role in reef health, and how to scientifically monitor, track and understand these systems. We strive to promote a learning platform through trainings, exchanges and education materials and to catalyze conservation impact through creative effective communication to wider audiences. Conduct scientifically sound, comparable regional surveys of the health of coral reefs using a standardized method 2. Promote a collaborative learning platform through trainings, exchanges and open-access education materials 3. Advance our scientific understanding of coral reefs, analyze data results and provide easy data access with the AGRRA data platform and on-line data entry tools 4. Catalyze conservation impact through partnerships and creative effective communication to wider audiences. We invite you to join us as we continue our scientific and conservation efforts to conserve coral reefs for future generations. The vitality of a reef depends on complex relationships among corals, fishes and algae. Therefore, to evaluate the condition of a reef from a one-time assessment, it is critical that multiple indicators of the corals-algae-fishes relationships are examined. You can explore the data through our database, ready-made spreadsheets and GIS shapefiles. The PORT allows you to generate individually customized reports by country, indicator, year. The Online Data Entry System allows registered users to enter data directly into the database. Other training tools are available to help improve accuracy and consistency of collected data. Report cards are an easy to understand communication tool that integrate survey data to provide an overview of the current state of the reefs and to engage stakeholders to help protect marine ecosystems. Reporting this type of information helps track progress in protecting reefs and inform future monitoring and management. AGRRA data have also been used in many scientific publications and reports. More can be found on our Resources page. We are grateful for their inspiration and support. We invite you to join us as we continue our collective conservation and scientific efforts. We thank Big Sea for support on the design of our website.

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2: Coral reef - Wikipedia

Partners. CORAL recognizes the important role that the private sector can play in advancing our mission of uniting communities to save coral reefs.

Fringing reef A fringing reef, also called a shore reef, [29] is directly attached to a shore, [30] or borders it with an intervening narrow, shallow channel or lagoon. The final width depends on where the sea bed begins to drop steeply. The surface of the fringe reef generally remains at the same height: In older fringing reefs, whose outer regions pushed far out into the sea, the inner part is deepened by erosion and eventually forms a lagoon. Like the fringing reef itself, they run parallel to the coast. The fringing reefs of the Red Sea are "some of the best developed in the world" and occur along all its shores except off sandy bays. Above all, the offshore outer reef edge formed in open water rather than next to a shoreline. Like an atoll, it is thought that these reefs are formed either as the seabed lowered or sea level rose. Formation takes considerably longer than for a fringing reef, thus barrier reefs are much rarer. The best known and largest example of a barrier reef is the Australian Great Barrier Reef. Platform reef[edit] Platform reef Platform reefs, variously called bank or table reefs, can form on the continental shelf , as well as in the open ocean, in fact anywhere where the seabed rises close enough to the surface of the ocean to enable the growth of zooxanthemic, reef-forming corals. Some platform reefs of the northern Mascarenes are several thousand kilometres from the mainland. Unlike fringing and barrier reefs which extend only seaward, platform reefs grow in all directions. Their usual shape is oval to elongated. Parts of these reefs can reach the surface and form sandbanks and small islands around which may form fringing reefs. A lagoon may form In the middle of a platform reef. Platform reefs can be found within atolls. There they are called patch reefs and may reach only a few dozen metres in diameter. Where platform reefs form on an elongated structure, e. This is the case, for example, on the east coast of the Red Sea near Jeddah. In old platform reefs, the inner part can be so heavily eroded that it forms a pseudo-atoll. Some platform reefs of the Laccadives are U-shaped, due to wind and water flow. Atoll Formation of an atoll according to Charles Darwin Atolls or atoll reefs are a more or less circular or continuous barrier reef that extends all the way around a lagoon without a central island. A ring of reefs results, which enclose a lagoon. The initial stage of a fringing reef. Type of platform reef. Also called a shelf-edge reef or sill reef. Usually, three major zones are recognized: The three zones are physically and ecologically interconnected. Reef life and oceanic processes create opportunities for exchange of seawater , sediments , nutrients and marine life. Most coral reefs exist in waters less than 50 m deep. Some inhabit tropical continental shelves where cool, nutrient-rich upwelling does not occur, such as the Great Barrier Reef. Others are found in the deep ocean surrounding islands or as atolls , such as in the Maldives. The reefs surrounding islands form when islands subside into the ocean, and atolls form when an island subsides below the surface of the sea. Alternatively, Moyle and Cech distinguish six zones, though most reefs possess only some of the zones. This diagram represents a reef on a continental shelf. The water waves at the left travel over the off-reef floor until they encounter the reef slope or fore reef. Then the waves pass over the shallow reef crest. When a wave enters shallow water it shoals , that is, it slows down and the wave height increases. The reef surface is the shallowest part of the reef. It is subject to surge and tides. When waves pass over shallow areas, they shoal , as shown in the adjacent diagram. This means the water is often agitated. These are the precise condition under which corals flourish. The light is sufficient for photosynthesis by the symbiotic zooxanthellae , and agitated water brings plankton to feed the coral. The off-reef floor is the shallow sea floor surrounding a reef. This zone occurs next to reefs on continental shelves. Reefs around tropical islands and atolls drop abruptly to great depths, and do not have such a floor. Usually sandy, the floor often supports seagrass meadows which are important foraging areas for reef fish. The reef drop-off is, for its first 50 m, habitat for reef fish who find shelter on the cliff face and plankton in the water nearby. The drop-off zone applies mainly to the reefs surrounding oceanic islands and atolls. The reef face is the zone above the reef floor or the reef drop-off. Coral and calcareous algae provide complex habitats and areas that offer protection, such as cracks and crevices. Invertebrates and epiphytic algae provide much of the food for other organisms. The reef flat is the

sandy-bottomed flat, which can be behind the main reef, containing chunks of coral. This zone may border a lagoon and serve as a protective area, or it may lie between the reef and the shore, and in this case is a flat, rocky area. Fish tend to prefer it when it is present. Each reef is made up of irregular patches of algae, sessile invertebrates, and bare rock and sand. The size, shape and relative abundance of these patches changes from year to year in response to the various factors that favor one type of patch over another. Growing coral, for example, produces constant change in the fine structure of reefs. On a larger scale, tropical storms may knock out large sections of reef and cause boulders on sandy areas to move. Most corals live within this boundary. Note the cooler waters caused by upwelling on the southwest coast of Africa and off the coast of Peru. This map shows areas of upwelling in red. Coral reefs are not found in coastal areas where colder and nutrient-rich upwellings occur. Southeast Asia accounts for Atlantic and Caribbean coral reefs account for 7. Coral reefs are rare along the west coasts of the Americas and Africa , due primarily to upwelling and strong cold coastal currents that reduce water temperatures in these areas the Peru , Benguela and Canary Currents respectively. The presence of coral reefs at this high latitude is due to the proximity of the Gulf Stream. Bermuda coral species represent a subset of those found in the greater Caribbean. Coral[edit] Close up of polyps arrayed on a coral, waving their tentacles. There can be thousands of polyps on a single coral branch. Coral When alive, corals are colonies of small animals embedded in calcium carbonate shells. Coral heads consist of accumulations of individual animals called polyps , arranged in diverse shapes. Zooxanthellae[edit] Coral polyps do not photosynthesize, but have a symbiotic relationship with microscopic algae dinoflagellates of the genus Symbiodinium , commonly referred to as zooxanthellae. Without their symbionts, coral growth would be too slow to form significant reef structures. There are eight clades of Symbiodinium phylotypes. Each clade contributes their own benefits as well as less compatible attributes to the survival of their coral hosts. Each photosynthetic organism has a specific level of sensitivity to photodamage to compounds needed for survival, such as proteins. It is able to produce mycosporine-like amino acids that are UV resistant , using a derivative of glycerin to absorb the UV radiation and allowing them to better adapt to warmer water temperatures. In the event of UV or thermal damage, if and when repair occurs, it will increase the likelihood of survival of the host and symbiont. Since clades B through D are found at deeper depths, they require an elevated light absorption rate to be able to synthesize as much energy. With elevated absorption rates at UV wavelengths, these phylotypes are more prone to coral bleaching versus the shallow clade A. Typical shapes for coral species are named by their resemblance to terrestrial objects such as wrinkled brains , cabbages, table tops , antlers , wire strands and pillars. These shapes can depend on the life history of the coral, like light exposure and wave action, [62] and events such as breakages. An individual polyp uses both reproductive modes within its lifetime. Corals reproduce sexually by either internal or external fertilization. The reproductive cells are found on the mesenteries , membranes that radiate inward from the layer of tissue that lines the stomach cavity. Some mature adult corals are hermaphroditic; others are exclusively male or female. A few species change sex as they grow. Internally fertilized eggs develop in the polyp for a period ranging from days to weeks. Subsequent development produces a tiny larva , known as a planula. Externally fertilized eggs develop during synchronized spawning. Polyps across a reef simultaneously release eggs and sperm into the water en masse. Spawn disperse over a large area. The timing of spawning depends on time of year, water temperature, and tidal and lunar cycles. Spawning is most successful given little variation between high and low tide. The less water movement, the better the chance for fertilization. Ideal timing occurs in the spring.

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3: Evolution: Survival: Coral Reef Connections

As part of our Habitat Month focus on partnerships, we interviewed Jessica Levy from the Coral Restoration Foundation, an organization that partners with NOAA to rehabilitate and restore coral reef habitat in the Florida Keys. Jessica Levy, the Restoration Program Manager at the Coral Restoration.

Include necessary monitoring equipment and planning in the scope of work and budget to validate results. Include necessary monitoring and planning in the scope of work and budget to validate results. Federal agencies, including parties within and outside of the United States. Ineligible applicants include U. If NOAA employees will be a collaborator on a project, they may provide a statement verifying that they are collaborating with the project applicant, confirming the degree and nature of the collaboration, and acknowledging the utility of the proposed work. NOAA employee activities, including travel and salaries, are not allowable costs. Ineligible Uses of Grant Funds NFWF funds and matching contributions may not be used to support political advocacy, fundraising, lobbying, litigation, terrorist activities or Foreign Corrupt Practices Act violations. NFWF funds may not be used to support ongoing efforts to comply with legal requirements, including permit conditions, mitigation and settlement agreements. However, grant funds may be used to support projects that enhance or improve upon existing baseline compliance efforts. Projects should be months in duration. Matching funds from non-U. Federal sources are required at a 1: These reviews are required for all projects with federal funds under this program prior to contracting. Proposals will then be evaluated based on the extent to which they meet the following criteria. Project addresses one or more of the program priorities. Technical Merit â€" Project is technically sound and feasible, and the proposal sets forth a clear, logical and achievable work plan and timeline. Project engages appropriate technical experts throughout project planning, design and implementation to ensure activities are technically-sound and feasible. Conservation Plan and Context â€" The project advances an existing conservation plan or strategy. Monitoring â€" Project includes a plan for monitoring progress during and after the proposed project period to track project success and adaptively address new challenges and opportunities as they arise. Long-term Sustainability â€" Project will be maintained to ensure benefits are achieved and sustained over time. This should include how future funding will be secured to implement necessary long-term monitoring and maintenance activities. Past Success â€" Applicant has a proven track record of success in implementing conservation practices with specific, measurable results. Partnership â€" An appropriate partnership exists to implement the project and the project is supported by a strong local partnership that leverages additional funds and will sustain it after the life of the grant. Identify proposed partners, if known including potential or contemplated subawards to third party subrecipients of the applicant , the roles they will play in implementing the project, and how this project will build new or enhance existing partnerships. Larger match ratios and matching fund contributions from a diversity of partners are encouraged and will be more competitive during application review. When procuring goods and services, NFWF recipients must follow documented procurement procedures which reflect applicable laws and regulations. Recipients may also be asked by NFWF to provide high-resolution minimum dpi photographs depicting the project. Receiving Award Funds â€" Award payments are primarily reimbursable. Projects may request funds for reimbursement at any time after completing a signed agreement with NFWF. A request of an advance of funds must be due to an imminent need of expenditure and must detail how the funds will be used and provide justification and a timeline for expected disbursement of these funds. Documentation of compliance with these regulations must be approved prior to initiating activities that disturb or alter habitat or other features of the project site s. Applicants should budget time and resources to obtain the needed approvals. As may be applicable, successful applicants may be required to comply with additional Federal, state or local requirements and obtain all necessary permits and clearances. Permits â€" Successful applicants will be required to provide sufficient documentation that the project expects to receive or has received all necessary permits and clearances to comply with any Federal, state or local requirements. Where projects involve work in the waters of the United States, NFWF strongly encourages applicants to conduct a permit pre-application meeting with the Army Corps of Engineers prior to submitting their proposal.

In some cases, if a permit pre-application meeting has not been completed, NFWF may require successful applicants to complete such a meeting prior to grant award. Federal Funding â€" The availability of federal funds estimated in this solicitation is contingent upon the federal appropriations process. Funding decisions will be made based on level of funding and timing of when it is received by NFWF.

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4: Home - Coral Reef Capital

Coral reefs cover 2% of the ocean floor but are home to 25% of marine life in the ocean. Coral reefs are among our most highly productive ecosystems, providing us with an incredible number of benefits, both for leisure and livelihood, such as: beautiful diving and snorkeling, protection of our coasts and habitats, and acting as nurseries for.

Partners Free rides and win-win situations: Commensals and Mutualists Between predator-prey and competitive relationships, it may seem that organisms are alone in the world, fighting to survive and reproduce. But many organisms have evolved cooperative strategies for survival and reproduction. In these species "partnerships," at least one partner benefits, and neither is harmed. If only one partner benefits, and the other is not much affected, the relationship is called commensalism. Consider barnacles that attach themselves to whales. If both partners feel the effects of the other, their relationship is called mutualism. In this case, each species tends to evolve adaptations to the other that is, they coevolve in order to maximize benefits and minimize losses caused by their close association. Read about commensalistic and mutualistic relationships on the reef. Among the largest living fishes, manta rays can reach 20 feet in width and weigh more than two tons. Like most marine behemoths, they are filter feeders. Using an unusual pair of "head flaps," they funnel tiny prey, such as small fish, crustaceans, and comb jellies, into their gaping mouths. Whatever morsels escape might be wasted, but are frequently caught and eaten by hitchhiking remoras. Fast-swimming predators, like the manta ray, are messy eaters who leave behind a trail of food scraps. Remoras, or "suckerfish," have evolved a highly specialized body that allows them to exploit that resource. Fast swimmers, they easily catch up with a host and attach from below, using a powerful suction disc -- which evolved from an ordinary dorsal fin -- on top of their heads. It takes a lot of energy to secrete the calcium carbonate exoskeletons hard outer structures that make up coral reefs. To make up for this deficiency, hermatypic corals shelter microscopic algae zooxanthellae within their tissues; in exchange, the algae supply the corals with carbohydrates so the corals have enough energy to build reefs. Zooxanthellae pronounced "zoe-zan-thelly" are microscopic algae that live within the tissues of host animals, including hermatypic coral animals. Like all plants, zooxanthellae make their own food by a process called photosynthesis. Using solar energy absorbed by special pigments, they transform carbon dioxide into carbohydrates and oxygen. Some multicellular algae on the reef produce calcium carbonate limestone skeletons very similar to those made by hard corals. These calcareous algae play a major role in barrier reef construction, acting as a sort of living mortar that holds together individual coral colonies. Growing between corals and wrapping around the bases of branching corals, calcareous algae protect the corals from erosion, especially in high-energy areas. Individual coral colonies, especially branching corals, can easily be toppled in high-energy reef zones, such as the reef front and rock rim. So how do branching corals ever get a solid foothold in such zones? Calcareous algae grow between corals and around their bases, preventing erosion and stabilizing the reef structure. On the reef, carnivores have diversified into many more species than have herbivores. Competition among carnivores has produced a treacherous environment for prey, in which hungry jaws lurk around every corner, during all hours of the day. To escape predation, some relatively defenseless herbivores, such as parrotfish Scarus spp. Goldlined rabbitfish Siganus lineatus , locally called spine-feet fish, are so named for the defensive venomous spines at the ends of each of their pelvic fins. But spines are a last-ditch defense. To avoid being thrust into a risky spine-to-fang battle, rabbitfish employ their expert color-changing talents to avoid predator detection in the first place. Schools of rabbitfish thus provide an excellent refuge for their poorly defended relatives, the parrotfish. Nestling among the venomous stinging tentacles of a sea anemone seems like a very bad survival strategy -- unless you and the anemone have some kind of an arrangement. Clown anemonefish Amphiprion akindynos and sea anemones have evolved just such a relationship. As juveniles, clownfish perform a ritual of "anemone rubbing. From then on, they defend each other, and clownfish have even been seen dragging food to their host anemone. Reef animals are masters of disguise, and sea anemones are no exception. Attached to the reef by a suction disc, tentacles swaying with the current, they are the animals perhaps most often mistaken as plants. The illusion is further reinforced by the presence of two or more commensal clownfish among the tentacles. But the clownfish and

anemone are a predatory team, working side by side and sharing food. In addition, the clownfish fight off intruders, such as anemone-eating butterflyfish, and the stinging cells nematocysts of the anemone deter potential clownfish predators. The mucus offers some protection against parasites and also reduces drag as they swim. Unfortunately, mucus itself is an attractive food to some parasites and bacteria. It visits a small cleaner fish, like the bluestreak wrasse, that gently eats away surface parasites from skin, mouth, and gills. The resident fish doctor and dentist on the reef is the bluestreak cleaner wrasse Labroides dimidiatus. With an easily identifiable bright blue stripe and stereotypical behavior, the bluestreak attracts larger fish, like the reef lizardfish, to its cleaning station. Sponge crabs Dromiidae family avoid predators by carrying a disguise with them at all times. Their posterior legs are modified for grasping, and the crabs use them to carry live Halichondria sponges on their backs. Many sea sponges have evolved chemical weaponry for use against other sessile organisms in the never-ending battle for space on the reef. Since the compounds tend to be distasteful and often toxic to predators, the sponges avoid most predation. Sponge crabs exploit this defense by carrying live sea sponges on their backs. And the sponges may benefit, too: By living atop a crab, they no longer have to battle for space. Myths about divers being caught and eaten by giant clams Tridacna gigas still abound. The clams, though immense up to three feet across and weighing more than pounds , are not man-eaters. In fact, they are filter feeders that strain tiny food particles from the water. They get whatever additional nutrition they need from symbiotic algae, such as zooxanthellae, similar to those found in reef-building corals. Zooxanthellae are microscopic algae that live within the tissues of a variety of host animals, including giant clams. Like all plants, zooxanthellae use energy from sunlight to make their own food by a process called photosynthesis. Because zooxanthellae make food most efficiently in fairly shallow, well-lit waters, giant clams are most abundant there too. Jellyfish are soft-bodied, free-swimming animals closely related to the corals. Most jellyfish are predators, using the tentacles that drape from their floating bell to ensnare and paralyze prey. A few species of so-called upside-down jellyfish Casseiopea medusae , however, have literally "flipped their lids. Zooxanthellae are microscopic algae that live within the tissues of host animals, including hermatypic corals, giant clams, and upside-down jellyfish. The jellies may be the best hosts of all because they can swim to a depth where the zooxanthellae have optimal sunlight levels. Every living organism eventually dies, whether killed by a predator, a disease, or just "old age. Not surprisingly, a large group of organisms, called detritovores, have evolved in a way that lets them take advantage of this resource in every environment. For example, stalk-eyed ghost crabs eat carcasses, such as dead terns, that wash up on cay beaches. In turn, living terns Sterna spp. Ghost crabs Ocypode spp. Quickly pinpointing the location of newly arrived carcasses, masses of crabs share in the feast while the carcass is still fresh. When a giant triton Charonia tritonis dies, its tissues will likely be consumed by a group of detritovores, organisms evolved to eat dead and decaying organic matter. But the marvelous, and often enormous up to 20 inches across , calcareous shell made by the living triton cannot be eaten. Instead, it will quickly be claimed by a hermit crab, which cannot make a shell of its own for protection. Unlike other crabs, hermit crabs such as Dardanus megistos are unable to make a thick, protective shell carapace for its hind-end. While the head and legs are well protected from predators, the vulnerable back-end must be tucked inside a shell scavenged from the reef floor after its original owner dies. Each time the hermit crab outgrows its shell, it must find a larger one and then move in quickly to avoid being eaten.

5: Coral Reef Conservation Fund Request for Proposals

"The Nature Conservancy's unparalleled network of partnerships around coral reef conservation and restoration in the Caribbean provides an extraordinary opportunity to validate satellite data and use mapping data to save corals," said James Deutsch, director of biodiversity conservation for Paul G. Allen Philanthropies.

6: Partners | Coral Reef Alliance

Coral Reef Capital, L.L.C. is a private equity firm specializing in structured special situations, PIPEs, bridge financing,

industry consolidation, recapitalizations, management and leveraged.

7: Indonesia | Coral Reef Alliance

The FRB collaborates with the International Coral Reef Initiative (ICRI) to implement of the ICRI action plan with the aim to transfer knowledge about marine biodiversity. Support IYOR Let us know if you can support our efforts.

8: Florida Reef Tract Coral Disease Outbreak | Florida Keys National Marine Sanctuary

Coral reefs are being degraded by an accumulation of stresses arising from human activities and changes in the natural environment. Increased emissions of CO2 as a result of human activities have contributed to the warming of the earth's surface; this includes the temperature of the world's oceans, which is having a devastating effect.

9: NOAA and partners assess reef, aid recovery following Hurricane Irma

Individual coral colonies, especially branching corals, can easily be toppled in high-energy reef zones, such as the reef front and rock rim. Waves can easily scour away sediments from a colony's.

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European space agency annual report Dynamics of canine gait Palace of illusions book Secrets Of International Identity Change Parents complete special education guide Loire (Philips Travel Guides) Policies and persons Cupids chase by Barbara Jean Hicks Embracing a complex God Gods Little Instruction Book Class of 2008 (Gods Little Instruction Books) The Adventuress (Irene Adler) Knowledge base for teaching. Faculty/department meetings would be Alternation between work and education Postmodern university? Deep work full book Gale encyclopedia of childrens health Firefox html ument not Nag Hammadi Codex II, 2-7 (VOL. 2 (Nag Hammadi) Transcutaneous immunization using the heat-labile enterotoxin of E. coli as an adjuvant Richard T. Kenney Rdso approved vendor list 2017 Kaplan lsat practice test CHAPTER 4 REASON FOR SEASONS Asthmatic glassblower and other poems Anne of Green Gables (Complete and Unabridged Classics) Metamorphosis of a medieval city Romulan pd20 You dont live the moment twice Waiting for Yesterday Hockney Drawing Retrospective Personal Peripherals Work energy power physics Pull the right levers for your situation The negro in business in Philadelphia. Spinning woollen and worsted: being a practical treatise for the use of all persons engaged in these trad Goldmine Standard Catalog of American Records 1950-1975 Definition of economic growth and development Guide to the ballet. Campaign strategy Preliminary report on deposit models for sand and gravel in the Cache la Poudre River valley A blackbird singing [words Francis Ledwidge ; [music Michael Head