

BROOKE CROUCH

BLC5ZR

[BLC5ZR@VIRGINIA.EDU](mailto:BLC5ZR@VIRGINIA.EDU)

UNIVERSITY OF VIRGINIA

BIODIVERSITY IS THE DIFFERENT KINDS OF LIVING ORGANISMS IN A GIVEN AREA. THE CLOSER TO THE EQUATOR, THE GREATER THE BIODIVERSITY. GENETIC DIVERSITY IS ANOTHER WAY OF MEASURING THIS- IT ALLOWS SPECIES TO ADAPT BETTER. CREATURES DEPEND ON EACH OTHER TO SURVIVE- WITH LESS BIODIVERSITY, THIS DEPENDENCY GROWS WEAKER. YOU CAN'T DEPEND ON ANOTHER CREATURE IF THEY DON'T EXIST ANYMORE. BIODIVERSITY ALSO KEEPS THE EARTH HEALTHIER- THE MORE PLANTS THERE ARE, THE HEALTHIER THE AIR AND SOIL ARE. A LOT OF INDUSTRIES RELY ON BIODIVERSITY BECAUSE THEY USE PLANTS IN THEIR PRODUCTS/SERVICES. MANY SPECIES THAT HAVE POTENTIALLY LIFE SAVING IMPACTS GO UNKNOWN BECAUSE THEY ARE WIPED OUT! HUMANS ARE, OF COURSE, RESPONSIBLE FOR THIS HORRIBLE LOSS IN BIODIVERSITY. WE ARE CHANGING THE NATURAL LANDSCAPE BY WIPING OUT NATURAL HABITATS. THE CLIMATE CHANGE WE ARE CAUSING IS ALSO A FACTOR IN LIMITING BIODIVERSITY- FOR EXAMPLE, WARMER OCEANS DAMAGE CORAL REEFS. THANK GOODNESS, WE ARE TRYING TO FIX SOME OF THESE PROBLEMS- MANY WILDERNESS AREAS AND CONSERVATION GROUPS ARE TRYING TO ADDRESS THE PROBLEM OF BIODIVERSITY!

"WITHOUT BIODIVERSITY, THERE IS NO FUTURE FOR HUMANITY." GRIM, BUT TRUE. WE COULD BE CAUSING THE SIXTH MASS EXTINCTION IN ALL OF EARTH'S HISTORY- ALL OF THE OTHER ONES HAVE BEEN NATURAL! ANOTHER REASON BIODIVERSITY IS DECREASING IS UNSUSTAINABLE PRODUCTION OF FOOD- ANIMAL AGRICULTURE IS THE NUMBER ONE REASON FOR SPECIES EXTINCTION. ANOTHER THING THAT COULD BE AFFECTED IS OUR FOOD- 75% OF THE WORLD'S FOOD COMES FROM 12 PLANTS AND 5 ANIMALS, WHICH IS INCREDIBLY HOMOGENOUS! IF ONE OF THESE FOOD SOURCES IS WIPED OUT, WE DON'T HAVE A LOT OF OPTIONS TO REPLACE IT! LOSS OF BIODIVERSITY IS A GREATER RISK THAN CLIMATE

CHANGE- THAT IS INCREDIBLY TERRIFYING TO ME. CLIMATE CHANGE IS CATASTROPHIC, YET THIS IS WORSE? WOAH. SOME WAYS TO COMBAT THIS IS TO INCREASE THE AMOUNT OF PROTECTED LAND AND OCEAN- SOME ARE CALLING FOR 1/2 THE EARTH TO BE PROTECTED. THERE IS ALSO AN INITIATIVE TO CREATE AN OPEN-SOURCE GENETIC DATABASE FOR ALL LIFE ON THE PLANET, WHICH WOULD HOPEFULLY CREATE ECONOMIC INCENTIVES TO PRESERVE BIODIVERSITY.

WHAT STRUCK ME ABOUT THIS VIDEO WAS THE WAY IT DESCRIBED THE INTERDEPENDENCE OF THE PEOPLE AND THE ANIMALS. FOR EXAMPLE, THE ELEPHANTS HELP TO CLEAR THE LAND SO THE CATTLE AND SHEEP CAN GRAZE. THE THING THEY ALL FEAR ARE THE POACHERS, NOT ANY NATURAL THING. THE ELEPHANT SANCTUARY MADE ME BOTH HOPEFUL AND SAD- HOPEFUL THAT THERE ARE PEOPLE WHO CARE ABOUT ANIMALS MORE THAN PROFIT, AND SAD THAT THESE ANIMALS ARE SO ENDANGERED THAT WE NEED SANCTUARIES FOR THEM. THE WILD IS THEIR HOME, THEY SHOULD BE SAFE THERE. THE WATER IS GOING BECAUSE THE LACK OF PLANTS MEANS THE SOIL ISN'T AS HEALTHY AND WON'T HOLD AS MUCH WATER. THIS FILM HIGHLIGHTS COMMUNITY CONSERVATION, WHICH IS REALLY INSPIRING TO SEE AND GIVES ME HOPE THAT EVEN IF OUR GOVERNMENTS ARE UNABLE TO PASS LAWS TO HELP INCREASE BIODIVERSITY, LOCAL COMMUNITIES WILL TAKE UP THE CHALLENGE FOR THEMSELVES AND NOT WAIT FOR HIGHER AUTHORITIES TO APPROVE.

THERE IS AN EMERGENCY SEED BANK IN SVALBARD THAT HOUSES AN EXTREMELY DIVERSE AMOUNT OF SEEDS. THESE SEEDS ARE A BACKUP FOR THE GLOBE IF THE CURRENT VARIETIES OF PLANTS PRODUCED ARE WIPED OUT FOR SOME REASON. INTRODUCING MORE DIVERSE STRAINS OF CROPS CAN HELP THEM BECOME HARDIER AND MORE RESISTANT TO CLIMATE CHANGE. DIVERSE STRAINS CAN HAVE DIFFERENT GENETIC CAPABILITIES THAT CAN ALLOW US TO ADAPT TO DIFFERENT SCENARIOS IN THE FUTURE. THIS MEANS WE WON'T NECESSARILY RUN OUT OF FOOD! YAY! BUT WE NEED TO START USING THESE DIVERSE VARIETIES OF CROPS INSTEAD OF CONTINUING TO FAVOR GENETIC HOMOGENEITY, OR WE MIGHT FIND OURSELVES WITH NO TIME TO EXPERIMENT AND FIND THE TRAITS WE NEED.

AFTER LOOKING AT ALL OF THESE DIFFERENT RESOURCES, I FOUND A COUPLE OF KEY SIMILARITIES. CLIMATE CHANGE AND HUMANS ARE CREATING A LOSS OF BIODIVERSITY, WHICH IS REALLY BAD BECAUSE BIODIVERSITY IS ESSENTIAL TO A HEALTHY PLANET! A LOT OF SPECIES ARE EXTINCT AND THE FOODS WE DO PRODUCE ARE GENETICALLY HOMOGENEOUS, WHICH MAKES THEM VERY SENSITIVE TO DISEASE AND SHIFTING CLIMATE. SOME CONSIDER LOSS OF BIODIVERSITY TO BE THE SINGLE BIGGEST THREAT TO EARTH IN OUR HISTORY. HOWEVER, THERE ARE WAYS WE CAN HELP! THESE MADE ME INSPIRED, BECAUSE UP TO THIS POINT I WAS PRETTY DEPRESSED AND FELT HOPELESS- AFTER ALL, IF MOST OF OUR SPECIES ARE EXTINCT, I CAN'T BRING THEM BACK TO LIFE, RIGHT? ARE WE DOOMED TO EXTINGUISH EVERY SPARK OF LIFE ON THIS PLANET? NO! THERE ARE A LOT OF WAYS WE CAN BRING BACK BIODIVERSITY. THERE ARE A LOT OF CONSERVATION GROUPS FIGHTING TO PRESERVE MORE LAND AND OCEAN IN ORDER TO PROVIDE A SAFE HOME FOR FLORA AND FAUNA TO THRIVE. IN A SIMILAR VEIN, THERE ARE EVER INCREASING NUMBERS OF WILDLIFE SANCTUARIES THAT PROTECT WILD ANIMALS FROM LOSS OF HABITAT AND POACHERS. ONE HUGE WAY TO REGAIN BIODIVERSITY IS TO UTILIZE THE SEED BANK AND ACTUALLY GROW A LOT OF DIFFERENT TYPES OF PLANTS, WHICH MAKES THEM MORE RESISTANT TO DISEASE AND CLIMATE CHANGE. WE AS CONSUMERS CAN SUPPORT LOCAL AGRICULTURE AND BUSINESSES THAT PROMOTE BIODIVERSITY AND SUSTAINABLE PRACTICES THAT DON'T MESS WITH NATURAL HABITATS AND SPECIES EXTINCTION. WE CAN ALSO PROMOTE CHANGE WITHIN OUR COMMUNITIES BY FOCUSING ON LOCAL CONSERVATION EFFORTS. IN SHORT, WE ARE NOT POWERLESS! WE HAVE THE POTENTIAL TO PREVENT A HUGE CATASTROPHE THROUGH OUR OWN ACTIONS- AND IF THAT ISN'T MOTIVATING, I DON'T KNOW WHAT IS.

RESOURCES:

<https://www.conservation.org/how/pages/hotspots.aspx>

THIS IS AN ARTICLE ABOUT BIODIVERSITY HOTSPOTS AND EFFORTS TO PROTECT THEM. HOTSPOTS ARE PLACES THAT HAVE EXTREME BIODIVERSITY AND THUS ARE EXTREMELY IMPORTANT TO THE HEALTH OF OUR PLANET. IT IS ONE OF THE PLACES WE NEED TO FOCUS OUR CONSERVATION EFFORTS, BECAUSE THEY ARE INCREDIBLY IMPORTANT! THIS ARTICLE GIVES BOTH INFORMATION ABOUT THEM AND THE CONSERVATION EFFORTS CURRENTLY IN PLACE.

<https://www.youtube.com/watch?v=-U8XI7KFHY4>

THIS VIDEO GIVES A LOT OF THINGS THAT ARE BEING DONE TO PRESERVE EARTH'S BIODIVERSITY. IT HELPS EDUCATE AND PROVIDE A SENSE OF AGENCY, WHICH I THINK IS REALLY IMPORTANT. IF WE ONLY GIVE BAD NEWS WITHOUT PROVIDING A WAY PEOPLE CAN FIX IT, THAT JUST CREATES A SENSE OF DEPRESSION AND APATHY.