My name is Jason Brown and I am the inventor of the “Artificial Reef Device.” I represent an interested individual in the debate of the management of the inshore wild fin fish resource that is currently under concerted investigation and scrutiny in Queensland. I welcome the opportunity to be part of the Productivity Commission Enquiry and be heard regarding relative issues around the production and plunder of the resource that represents the Great Barrier Reef and its associated industries. Furthermore, I wish to represent someone who is willing to provide and substantiate the need for reform in the constructive debate to ensuring sustainability, increased productivity and evidence of competition will lead to a better long term outcome for the Great Barrier Reef and its associates of both the recreational and commercial fishing and tourism sectors and that viability remains front and centre to our successful competitiveness on the world stage.

“The De-escalation of Investment of Diminishing Returns”

Whether George or Mat can feel it or not we are in a carbon crisis and yet they fail to observe the signs and wonders and hardships carbon is now afflicting on the environment rolled out around the world. It’s like they have hardened scales over their eyesight. The world doesn’t want our coal, they’re in desperation for a cheap reliable source of energy, as is every household in Australia.

And ultimately a common person now has enough information to draw upon to understand these things coexist in an intertwining web on a plane that directly observes a fundamental law of nature. That is, “if enough carbon is pumped into the air we breathe, the lungs of the planet are going to choke.” I would refer to this situation as signs and wonders. I often wonder though if this is a sign of a hardening of the heart of just a symptom.

It’s very hard for me to put into words but these words should be shared none the less.

At the very best we are witness to a stagnation if not a decline of harvestable, edible inshore fish stocks and Australia has one of the best maintained fishery resources left in the world. Australia also is the sole custodian of the third largest Economic Exclusion Zone, some 10 million kms or approximately 0.4% of the Pacific Ocean or 0.2% of the earths surface.

Now the state government of Queensland understands what is happening to the inshore fishery and has determined in its measurements there are, is no longer enough fish to evenly distribute between recreational anglers (voters) and commercial fishermen (also voters), on the timescale under the current model this translates to a fishery of diminishing returns. These facts have led to a heightened sense of awareness or hyper-rationalism regarding the condition of inshore fisheries associated to areas of relative high populations and the potential dollar investment by the recreational fishing sector is on a prescribed growth curb which is closing in on the $1 billion mark observed in Queensland alone.

I understand people have varying opinions as to the condition and health of Whitsunday’s and Mackay’s inshore fishery and for that matter Yeppoon, but I believe it shouldn’t go unsaid that Dr Peter Ridd and George Christensen make valid representation of the facts around the perceived general health of the Great Barrier Reef and also inshore reefs. However, I’ve chosen to draw a different conclusion by my interpretation of those same facts. I can say I believe that the inshore reefs of the Whitsundays are suffering under immense strain and pressure not only from a man induced prospective but also as to what happens next as the biological clock on our Whitsundays rotates into an undefined period where no one is sure of the outcome only that we are all waiting with bated breath as to what the carbon crisis has install next. In my humble opinion, and I’ve grown up in Australia thinking I have one, our Green Zones have become a haven for endangered invertebrates, especially those of the edible nature and we could be on the verge of the next instalment of a total collapse of a wonder of nature (or is it a sign). I feel it imperative to mention also some people local to the Whitsundays have suggested the recent shark attacks in Cid Harbour, one of which claimed the life of Daniel Christidis, 33 while on holiday from Melbourne, can be linked to the rapid and abrupt depletion in of sharks wild food resource directly after Cyclone Debbie, but I’m not qualified to make such assumptions. The real scientists have however hinted that larger species of fish would have moved elsewhere in order to maintain and sustain their food requirements away from the apex predators’ historical migratory path.

What I don’t see is our federal representative fighting tooth and nail for our fair and dismal share of the GBRMPA funding or those funds available through the GBR Foundation. A simpler way of

understanding this equation, how many reef scientists do we have dedicated (living) to this region and how many dedicated reef scientists to every undergraduate? It's wagering a sense of poverty mentality to suggest everything is sugar coated and nothing could be further from the truth. The public expenditure by these two cartels should and needs to be scrutinize to the point that they must publish a public weekly newsletter for our region. I am encouraged by the words of Nancy Knowlton, Coral Reef Scientist at the Smithsonian Institution – "If we are to have a hope of saving hard coral reefs it needs to happen at a local level, though all of these interventions entail some risk, the risk from doing nothing is increasing year by year."

And hats off to Jason Costigan, local state member, for putting his hand up as our representative, if the "Authority" or should authoritarians (trying to be careful what I say here) hadn't sidelined him we would have our first emissions busting fish and coral attracting device popular tourist attraction up and running by now in the form of the scuttled "Tateyama Maru," thanks solely to Cyclone Debbie. Instead the whole system of important local decision making is run by a bureaucracy to our detriment. Check out George Christensen's latest picture of the "SS Yongala," best dive wreck in the world he says? And they go on and on and on about common sense? With reference to Langford Reef new faux jewellery (living art) in the Whitsundays, I really must question the stewardship of advice the GBRMPA received around their intent, as a function of time I find it difficult to understand their conservation value, other than being anything but ornamental? Yes, it is a tourist drawcard but otherwise its functionally from an environmental manipulation perspective is a reminder of what once was or could have been and doesn't go far enough in a biological sense to highlight that the marine park is a natural kaleidoscope of colour, wonderment of diversity. It's also my understanding that it created only one indigenous job that happened to be temporary in nature.

In order that we don't see a perceived collapse in the fish stocks in our neighbourhood, which incidentally is taking place right now in other places around the world, there has to be a serious investigation into disruptive technologies, what I mean by that is the likes of artificial reef devices (Patent expired) and fish attraction devices to bolster habitat and assist with the reduction of emissions. If we have a standalone artificial reef off Mackay and Airlie Beach and Yeppoon this will I perceive aid and assist a speedy recovery of the natural environment(s) whereby less human induced pressures are exerted on favoured fishing zones which and using this technology we can pool recreational fishing activities reducing our handprint around those activities, I don't have the time right now but I could go on and on and on. Essentially emissions are reduced by the single fact that the recreational fisher arrives at his/her fishing destination in reduced time with minimal effort, knowing that the reef infrastructure he/she is fishing from has been purposely seeded with artificial reef technology and efforts are leveraged in his/her favour, that it will be this technology that put fish next to the bread at the dinner table tonight.

I say carbon crisis because I share the experiences, the joys, the failings, the elation, and sadness with the planet, in other words I'm human. But part of being human I feel it's important being able to say, "Hey mate that's not right or mate that was in the past, let's make a decision to do something about it going forward, we can have (hope) a go together. It may not be the right decision, but I guess well both find out regardless, the planet depends on you and me so come on let's have a go. You got this." I think that's what it's like to be an Australian and why wouldn't you want to be one! We are approaching a time where just about every responsible carbon credit has been liberated and we run the risk of a carbon deficit and the mini trade war between the state government and professional fishing pales in significance. We can no longer be ignorant of the terminology; the earth will go on being earth regardless but an inheritance tax is what we are leaving the Millennials and Generation Z. That said the free, and I mean free as in democratically free, world has the ability to put mankind on an exceptional trajectory of discovery, but we, like our fishi friends in the ocean are stagnating and if we just observe from our point of reference without actually doing something to tease out the fundamental yet very complex factors abounding at the heart of this issue, we will all falter. It's actually our abilities to come up with new inventions, new ways of just doing things that separates humans from anything else this planet has ever seen and once we stop humans will become redundant here, and the worlds eyes are upon the major democracies to take a leading and just role and, very much like the Americans re-engineered Germany and Japan after WW2, lead them and guide them out of the trench warfare they are experiencing right now, overthrow the unjust empire of the east (the commies) and create a new beginning, thankyou George, Lucas that is. And if anybody would like a history lesson you just have to check out the 1940 speech by a captain of industry in his own right, Charlie Chaplin, "the Great Dictator," it's pretty self-explanatory. https://youtu.be/-HA8kSdsf_M "I double dare you!"

I developed reef seeding technology as an intervention over 30 years ago, as a singular rudimentary device which involves many moving parts, *many moving human parts that is*. It requires the efforts of many specialized individuals, people all working together along a supply chain to conceptualize, act and implement. Specialized in the sense that there is many manufacturing, transportation and seeding requirement jobs from a people perspective but above that the regulatory and statutory roles are a major hurdle and would further warrant a Federal investment package similar to that provided for the hybrid private / public system now put into practice by the Whitsunday Joint $7million Tourism Recovery Fund. Once implemented though the artificial reef device takes on the personality of the surrounding habitat. It was originally designed as an amplifier for fish (invertebrates) no matter what the species, just depends the on which way, direction, the scientists (me, back yard scientist) want the seeded environment to grow and progress. This device over here could be coral trout, one kilometre that way it could be parrot fish, fifty kilometres that way could be squid, red emperor and so on and be driven by vibrant diversity. Pool (combine several of) the devices into the one common area and you have opportunity to seed a reef with many varieties of preselected fish invertebrates. The device becomes active as soon as it's comes into contact with the see floor working 24/7, 52 weeks of the year. And with a few minor and very simple adjustments prior to implementation it's obvious to me the device can be utilized, using the same seeding technology to assist with the intervention of adaptive corals on mass. I'm not talking tens or hundreds, I'm saying hundreds of thousands of syringed seeds to every device every year, the device amplifies by the way of hatching seeds (fish eggs) and providing shelter in those first critical stages of life as one of the driving principles, those first few days where life is so crucially dependant on this or that, lessening their dispersal and exposure to the harsh open sea thereby decreasing their mortality, leading to increased survival percentages (safety in numbers) of its juvenile inhabitants and in the case of corals I envisage that through the device's upper most orifice it's possible to recuperate and harvest corals that were seeded in prior seasons as the corals spawn forth as you would capture the spores of a mushroom but underwater. The science associated to bringing fish into fertility and egg extraction is already well documented and established and clearly defined for some species, but it is only rendered for impoundments and sea cages as is witnessed by the very successful Tasmanian salmon harvest and business model.

The reef, our reef, the Great Barrier Reef of Australia is under threat from several fronts and reef 2.0 must be modelled on our, yours and mine and the people of the world perceptions and behaviours going forward. Right now at present the modelling associated to the Total Allowable Catch (TAC) suggests that if things remain the same, Regulators must have their hand forced, then at some point we either engage a system of harsher and harsher limits and penalties or we go to the other extreme and reduce the number of players, which incidentally is the historical "status quo" view point, above all act in the interests of the Australian public. Already the GBRMPA have made it illegal to extract Maori Wrasse, a totally edible species and have asked recreational anglers not to remove parrot fish from the marine park, another totally edible fish species, as they represent the herbivores that reduce the weed infestations – *that's reduce and not remove* – because they, the GBRMPA know very well the limitations of their own abilities and the best science, underwritten by and consistent with current policy, at the moment tells them by restricting the removal of parrot fish the weed infestations are reduced whereby allowing improved opportunity for hard corals to once again establish a limited presents at best. Myself, after visiting and snorkelling the Green Zones of Magnetic Island off Townsville and my home of the coastal waters of the Whitsundays, though my own observations know and realize that this strategy of wait and see with reference to the "reef guardian parrot fish" is dismal in its effectiveness to say the least. Furthermore, I believe the infestations of weed are directly contributing to the abundancy of algae in these inshore reef ecosystems as the algae I observed are clinging to the weeds' leaves as such, and when disturbed be it by wave action, the coming and going of the tides the algae add to the agitation of water clarity on a massive scale and by doing so activate more room for the algae to regrow onto weeds' leaves once again. I'm also suggesting with my reef seeding technology as an engagement tool in these sets of circumstances can locally enhance the abundance of herbivore fish species thereby minimizing the potential threat posed by invasive species as well as grow the dynamic corals required to repopulate weeded areas to the point where deformation can be adverted in future. ***To put things into perspective, if you could imagine placing one "Artificial Reef Device" article in an area that has been devastated by a naturally occurring invasive seaweed where a coral garden once existed, with the ability to position such a device within 50m to 100m away or even closer and then inseminate 100'000 fertilized parrot fish eggs in one attempt and have a 85 percent plus successful survival rate would be like releasing 85'000 juvenile robust autonomous and very hungry mowers put to work immediately and providing a constant mechanism of response on hatching 3 days later.***

This is not the one shoe that fits all sizes solution, however it does represent a major step in the right direction in the fight against the climate crisis both in terms of the TAC and preservation and resilience of the resource that is the GBR and associated harvestable produce.

I really can't understand why the scientist in Australia are so willing to overlook and dismiss this form of adaptive seeding technology when the fishery of the GBR is in such turmoil and we're faced with the real possibility of a mass extinction event going forward. ***An overall review of the principle science has determined the that GBR is experiencing a phase shift as hard coral habitats are essentially moving towards less diversity and replaced with soft corals, primarily this has been interpreted as a major decline in habitat health alluding to the fact the GBR is in a constant state of fluidity or fluxional decline in terms of branching hard corals and supported structured diversity, this is compatible with observations worldwide. Please reference the link below to read the definition more precisely:***

http://www.jwire.com.au/longest-coral-reef-survey-to-date-reveals-major-changes-in-australias-great-barrier-reef/

Internet post from “Reefers” to highlight the declining core values encountering the reef today

The free world is looking to Australia, especially the nations of the Pacific Rim for guidance and reassurance that we understand and grapple with the deep and often disruptive events, the length and breadth of our very existing dimension and the times we live in and that we can conceptualise, what is required in the form of new and amazing technologies needed to take our standards forward to the whole region. Yes, cheap and reliable electricity is just that and we all understand that *but* is coal the only way possible to arrive at that destination and is the science sustainable around coal induced electricity, I don’t know. But what I do know is that Australia has one of the best fisheries in the world right now! And it’s entering a period of accelerated contractual haemorrhaging or divestiture that is stripping away investment, a ***synchronous event*** whereby the foreseeable decline must come from either the recreational sector, local fish monger - commercial sector or at the expense of our exposure to export markets, where the product(s) our reef (Great Barrier Reef fish) generate are as such in very, very high demand. Yet notwithstanding clarification from governing bodies has meant that the many competing sectors equates to local domestic economies in degradation that is both dangerously exposed to volatility and an over-representation of fishing authority governance, Law Enforcement and open to taxation avoidance in the form rouge operations as highlighted recently in the GBRMPA’s 2019 Outlook Report, stating, ‘the threat from illegal fishing and poaching remains “Very High” and the trend is increasing,’ coupled to week business investment. These constrains also inflict undue pressure on our ability to bring forth new technology and are a disincentive to implement strategies that would otherwise enable us to capitalize on supplying the international markets where Australia’s presence encourages free and equitable trade with emphasis on sustainability and market adaption lending into a *renewables* future.

The GBR as a living entity has been a constant in providing protein to us since colonization in 1788. And since 1788 and well before that it has served as a resource for humans to tap into, and now that resource is under sustained pressure and is potentially threatened from many external influences. I believe, in the 21st century it’s time to identify and conceptualize the bounty the GBR has shown itself to us to be of, and adapt its natural attributes and principles, which incidentally is what my seeding technology is based around, and formulate these intricate building blocks into a basic pattern that can be replicated for human advancement and achievement, that we have a device here that potentially can be utilized to provide protein for millions of people the world over and give birth to a disruptive technology that takes advantage of Australia’s 10 million square kilometres of economic exclusion zone, the third largest in the world. Leaving behind our hunter and gather instincts, working towards seeding, planting and ultimately harvesting the fruits of our labours in this form of open ocean ranching, the Pacific Ocean is a very, very big place and Australia’s presents determines that we must play a very, very big role both in terms of military presents and advancing the economics of our subservient democratic neighbours and with reference to this terminology assisting and investing in this form of proposed technology from a governmental perspective, here in Queensland at the local entry level (so to say) opens the way forward for investment in trade and bolstering relationships with neighbouring economies of the Democratic Pacific Nations (DPN) we share our region with. The incremental advances in this science needs to happen here in the waters off Mackay, off Yeppoon as here we have the ability to attract the right talent as in people with the right skills from the word go. Demographically we are blessed with already some of the very best people in mining, mining techniques and our abilities to meet our commitments and reinvest into the mining future are at *“world best practice”* in our region, our ingenuity is a constant in terms of reshaping the mining industry with new and inventive pathways to production and safety around these activities. However there also exists in our region easy access to very, very large exhausted mining tyres utilized to create this intervention at our doorstep with the likes of Mackay, Rockhampton of even Woorabinda or Cherbourg to the south have that ability to become recycling hubs for this invention, coupled to the adjacent relative marine environment that in the past has produced one of the nation’s most abundantly prolific bounty’s, represents a stark contrast as opposed to bringing to market the infrastructure needed somewhere like Brisbane which has its own issues or say an island in the middle of the Pacific where the materials and skilled persons are absent to initiate R&D. And here is where we can begin the transition to creating the right incentives of opportunity as a regional hub that brings the narrative of a positive future in coal and associated businesses with marriage to the worlds best practice regarding the built environment that’s structured around initiatives that bolster and provide a segue towards harmonious human interventions and interactions that support our ideologies and are consistent with the best management principles for the future governance of our natural

attributes and its ocean resources, all of which is pivotal to the success story of coal in Central Queensland.

Since Cyclone Debbie visited, what little savings I had have diminished and my wife Kirsten and 3 children Theo 16, Tiana 13 and Nyah 6, live paycheque to paycheque, as every electrical device just broke one after the other, how crazy is that? And the bills just keep coming. I'm not writing today to inform you that I need a hand out, quite the contrary, I need a hand up – when I first envisaged the Artificial Reef Device 30 years ago a permit to implement an artificial reef as such through the GBRMPA cost $5'000 and I thought this is totally do-able, I think the information age was just kicking off and the GBRMPA just went live. From that time to when I finalized my patent application the permit fee went to $250'000 and then $500'000 and today its well above the expectancy of my entire life wages. Go figure? My point is that I want to help the reef, I want to help save the reef, and I always have. There is no pot of gold at the end of the rainbow here. The Barrier Reef is totally mesmerizing and 30 years ago when I went fishing with my daddy around Hay Point Coal Terminal where the really, really big fish congregate, and I snorkelled the reef I dreamt this idea - what if you married the two things together, the reef and the tall steel piles that make the undersea fortresses of Hay Point Coal Terminal and used both their attributes, what would that become? What it turned out to be was a real lot of heartache for the next 40 years. The GBRMPA and the GBR Foundation hold all the aces here and well little me I can't even scrape a pair 7's even if I had the opportunity to sit at the table (that's a metaphor by the way). My point I wish to raise, there isn't any silver bullet here that's going to satisfy every prerequisite, but without meeting the establishment fee and ongoing maintenance fees imposed by authorities there can be no enhancement strategy from the private sector, and even the fear of God might be easier to stand than a prosecution brought on by the GBRMPA in its attempt to undermine and punish its detractors. I'll just come out and say it, "There needs to be a competition put to the public and the best seven, yes seven great ideas get a free pass. That free pass exits in the form of public private partnerships so as to attract investment from the private sector and that free pass also has to stand for 10 years to 20 years, without fear of prosecution, ever, at any point, as long as a set of simple established guidelines are followed." Did I get that right, "Without Fear of Prosecution!" Essentially private enterprise needs a way to transition to come into the renewable sector, acting with integrity when defining climate abatement and climate mitigation strategies as the basis for action, and this is what I would term a renewable resource sector going forward that ticks those boxes. Anything else is a "De-escalation in Investment." I've contacted many scientists at GBRMPA and the GBR Foundation. ALL do not reply back, I think they must be very busy. GBR Foundation say I've already initiated contact with their leading professionals and that's it, and GBRMPA have given up responding to me, I think? In my letter addressed to Hon. Mr Warren Entsch 07/06/19 which was replied to by the Hon. Mr George Christensen 07/07/19, his letter of reply quoted, "The GBRMPA is an independent statutory authority," suggesting it to be under no jurisdiction to the Federal Government and, "cannot be dictated to under any circumstances." I guess that essentially means Dr Ridd's arguments about how reef scientists conduct their peer analysis / reviews within the confines of their strict regimes holds little or no weight what so ever as the modus operandi functions within the GBRMPA only serves those views and opinions of the self-serving righteous prepared to enshrine observing and adhering their own societies Hippocratic Oath. And if asked I think Dr Ridd could quote many instances of these circumstances that he personally has been subjected too.

The solution if I were asked in regard to shaping the future management of the investment into the diversity of the Great Barrier Reef and its ability to produce an abundance of edible fish varieties for consumption rests solely as a politically one and looking outwardly to build and develop resilience, not the short game presently being played out in the media between politicians where the inevitable game means only one outcome – one winner and the rest are all losers. Invest and diversify – give private enterprise the green light to boost economic opportunity, ability and tools to conceptualize where sustainable growth is achievable while allowing damaged reef communities to rebuild their complexity and convalesce though assisted and dynamic interventions at the local level, either rewrite the rule book of the GBRMPA or throw that rule book out and revise the funding model for this cartel so as to include indigenous / private enterprise partnerships and not somebodies wife or brother of this department or that department within the organisation (think Crown of Thorns éclat).

http://www.abc.net.au/news/2018-10-19/reef-company-altered-scientist-report-crown-of-throns-program/10391730.

The Angles must be scratching their heads that in the 21st Century you can't get an indigenous partnership up and running for an oyster farm within the Authorities covetous without a whole section

of Queens Council Lawyers going to a full bench sitting of the Federal Court of Australia. The whole application processes should be outsourced and simplified down to 2 pages of understandable rules, not the current process of making an application of this sort where there are over 5000 pages applying to the various Acts where the applicant must show the culpable ability to meet obligations and the GBRMPA has the right to reword an act requiring a new application fee. Its bureaucracy at its pinnacle, I remain astounded that the same authorities that have approved the coal port infrastructure and dredging within the reef lagoon demand such a high level of complexity and fees just to allow a simplistic private enterprise venture to investigate and research potential solutions that could alter and assist to abate the climate crises presently unfolding in this generation – Sub-branch the GBR Foundation in the terminology of its charter with a core focus to investigate, stimulate and propagate opportunities for growth before we reach the point where the price per kilogram of many of our locally caught seafood outstrips supply and we are faced with exuberantly inflated pricing going well beyond the presently fluctuating price of around $60 per kilo of fillets for coral trout at Whitsunday Butchers and Seafood, Cannonvale as an example. GIVE ME A GO! I believe this tech could eventually be homogenized into submerged ocean rafts ranches, whereby they are, these artificial reef devices are tethered to the deep sea floor some 200 kms of the Australian coast where they float at an ideal depth of 20 to 50 metres below the surface and once again using seeding technology to build a propagating reef that meets the supply requirements of future populations. Big ambitions I know but that opportunity cannot exist without the gate keeper's authorization to make a pathway to progression achievable. And that vessel of opportunity exists now through today's panel and the critical decisions you must make.

If views and opinions hold any weight in this room today I submit before you that our love affair with Australia's and particularly Queensland's coastline is a fractured and flawed one and failure to support a business first principle that identifies with the ideologies of new technologies puts at risk our push towards climate resilience associated with medium to high density population growth. Without mobilizing our population to give precedence to the jobs of the future with new training techniques, new technical fields of studies we jeopardise a major driver of jobs growth alluding to greater efficiencies, coupled to new investment opportunities that potentially delivers sustainable outcomes within the fishing industrial index. Achieving what potentially could be a precursor to springboard new and unique local and independent small business models that feed into an outward looking economy that's driven by costal expansion of technologies that share the next wave of innovation where everybody that participates, be it the local fish monger, the recreational fisher, the coal miner treating his wife and kids out on the water fishing, the aspiring marine biology student (me wannabe), everybody gets to go home a winner at the end of their day knowledgeable their hard work efforts and the union between conservation and new technology have paid dividends for themselves and generations to come. The trade-offs cannot be clearer, George Christensen and Dr Ridd have both valid and persuasive assessments in that the GBR is indeed highly resistant and able to make dramatic and consequential adaptations when formulating the processes involved in natural selection in its ecology to deal with and reconstitute its ecology as it has done for a thousand years and a thousand more to come – yet today we are not faced with general assumptions or casual appraisals but the existential analysis pivotal to the processes involved that support and bias the plunder of a wild and living resource, this is a foreseeable plot to an unravelling horror movie and everybody is invited to opening night. ***When clearly there needs to be push back against the stasis quo and stabilise, and balance both sides of the equation that enable us as humans look to our activities that enhance and activate the necessary pillars and principles of opportunity in the order of our societal and social influences both locally and on the world stage reflect our general ability to distinguish where our abilities and strengths lie either in "deficit" or in "surplus" according to the scale of time when divided by past, present and future projections for the intrinsic blue carbon economy***. But what Dr Ridd fails to recognise in formulation of his hypothesis I feel, is the egregious and very real hostile retribution that is evidence of climatic change, instead preferring to abdicate substantial responsibility away from the debate regarding progressive and dynamic interventions that support delicate ecosystems and their symbionts relationships, which make great soundbites in the media only serving to handicap the substantive value that the GBR represents to the Nation's economy and threatens to overshadow any collective achievements. However, you break it down there has to be and is going to be a divvying out of the Wild Total Allowable Catch (TAC), unless there exists a plausible way forward to reorganise and re-evaluate the math that adds investment into the equation. And that investment can only be realized if heavy tariffs and quotas exist using the current modelling that essentially promote deliberation over the gradual decline of the wild stock remaining. Assumptions are one thing, but too bring about change that

recognizes the threats, prioritises pathways to optimal health, and delivers stimulus you're going to have to get creative and adjust the mechanics necessary for that to exists in the first place and that's going to utilize every bit of our human abilities and ingenuity we can muster in order to conceptualize a carbon neutral trajectory that provides the right setting for human activity and I hold firm to my belief that this apparatus, the Artificial Reef Device, I invented is part of that solution going forward. No winners, no losers, just incremental steps that add investment, diversity and opportunity to Australia's board approach to deal with our regional security and food security, conservation and recycling efforts which all combine to bolster support for our way of life for those of us who see the transition from infinite - to finite and on to the renewable economy.

And I'd like to suggest here, opportunity exits to fostering indigenous involvement in this initiative would potentially increase the employment within, close to, their (indigenous) communities should assistance be something the government were willing to support. Indigenous involvement in a proposal of this nature would represent a collective win for society in general as the advantages as I perceive them, are much more than just social and economic. Yes, a 38 hour working week should be the normal expectation of every willing Australian, but to provide these same opportunities in places like Woorabinda and Murgon and Palm Island, while lifting the expectation of closing the gap have proved redundant as I understand it, with a basic lack of willingness or progress these communities, again as I understand, and inter-general welfare dependency becoming normalized. I feel, if given the green light from Government this project potentially represents a once in a generation opportunity to work in conjunction with these communities, bringing change to individual and community circumstances. The consensus being that these Artificial Reef Devices' can be manufactured with indigenous labour skills which in turn can lead to better and ongoing employment opportunity should such individuals desire more opportunity over and above what this project offers. Also being a green field of industry and with the financial backing being underwritten by federal government translates to opportunities beyond the proposed welfare card with any/all employees on the payroll being subjective to ongoing drug and alcohol screening while at the same time elevating personal wellbeing, purpose and self-determination.

It is without doubt that logistics plays a pivotal role in these circumstances but in the national interest I am unaware of any mining activities or initiatives that represent any meaningful proposition to recycle these very large mining tyres or a willingness to repurpose these items other than landfill, I could be wrong in making this assumption? Yes, these tyres receive ongoing maintenance repairs but there does exist the fact that they have a recommended usable shelf-life and once that has been exhausted such tyres are grave-yarded on the subjective mine sites with no real avenue to recycle as financial costings are presently understood to be prohibitive or adversely operate to undermine the feasibility of mining and not a requirement under the mining act. I do understand that these very large mining tyres are very recyclable however and an exchange one for one or agreed re-transportation to nearest recycling facilities are non-existent outside a relative range of distance from such facilities. The idea my invention can repurpose all of these very large mining tyres is not plausible, however the initiative does represent one way to repurpose the inherent carbon value locked within each very large mining tyre and the accumulative combination of such devices does represent a type of blue carbon sink, when balanced with the anticipated production of viable edible seafood and the attributes of this invention towards micromanagement of invasive species as mentioned above, also to mention the possibility to grow and harvest hard corals on mass.

Coal, efficient rail transport, electricity, fuel, clean air and water, sealed roads, safe cars and trucks, sugar, computers, Coles, Woolworths, IGA, town swimming pools, a clean place to go to the toilet, a safe roof over our heads are all "*constants"* in our modern Australian society, please take this opportunity to visualize and conceptualize as I have done to look at a future without constraint, with diverse corals, with boats both recreational and commercial, with many people with vested interests in inshore recreational fishing actively catching fish and with an abundance of fish in the marketplace for all consumers. Please do not be the government that deliberates over the declining wild stock of table fish, that *"manufactures"* stricter and stricter rules in the perceived even playing field of commercial exports on one side and recreational sector on the other, but instead through your weight behind improving opportunity for all players including the indigenous sector, and focus on removing those barriers that exist instead to resist change and insist there can be no other way but quotes and tariffs and tighter regulation of players in a declining market place. Please help me to improve the inherent value of the inshore wild stock, boost manufacturing jobs in Central Queensland, provide opportunity for small business, improve historical indigenous outcome trends, increase the quality and quantity of all varieties of table fish produce across the board for export, create a product that is Australian

manufactured, “The Artificial Reef Device” that can be exported to our pacific neighbours that improves their own abilities to provide export competition in the form of fish protein and improves their ability to be better at self-sufficiency thereby less reliant on Australian foreign aid for stability and security, assist to help reverse the decline in hard coral deforestation of inshore reefs, bolsters reforestation efforts of native hard coral and hybridized corals on mass, reduces our the overarching carbon handprint in the blue carbon economy, provides an avenue for mining to reinvest into capturing credits for recycling efforts that improve outcomes for societal wellbeing, Oh yeah I forgot to say, “Make Australia Great Again!”

In summary I’d like the opportunity to say do not be misled by the assumptions of others that holler tyres or more precisely mining tyres as in this form of structured artificial reef design are environmentally harmful to the marine ecology. This form of negative conformity only serves as an endorsement of the values that restrict our freedoms, retard our ability to respond with practical resilience and ultimately is costing jobs, in other words if things remain as they are we will be witness a form of assisted dying as we deliberate ways to negotiate the climate crisis without poring vast sums of money or resources into avoiding a mass disintegration of iconic reef values. There have been instances of past practices around the world where people have abused their responsibilities and gone beyond meaningful objectives however there have been very successful instalments of artificial reefs using tyres like South Australia’s Glenelg Artificial Reef of Adelaide’s coast as testament to what precision planning can achieve, as opposed to the failure of Florida’s Osborne Reef of the coast of Fort Lauderdale 1970’s experience, this was more of a butchers hack than a precision placement of a surgeon’s scalpel. Glenelg Artificial Reef is a series of tyre tetrahedrons, has become very successful at nurturing an abundance of new life where prior to its implementation there was little marine diversity.

https://youtu.be/ujlqY-T9S5c

https://youtu.be/hZ6MS-c31Wc

https://youtu.be/iFNvaOGX2Bw

https://youtu.be/7vy-plCLjj8

https://youtu.be/aPPYNUAMVj0

https://www.youtube.com/watch?v=BdMOE0Gf5EI

South Australia’s Glenelg Reef has achieved its goals, it has brought diversity where prior there little marine life and represents a success story as a human intervention using tyres as its major constituent. With this in mind I feel it imperative to establish a fact that this formation of construct that is my design, using modern technology can be 3D printed using marine grade cement as I highlighted to the Honourable Ministers Warren Entsch and George Christensen. Yet we have here a very adaptable material in ex-mining tyres that tangibly meets all requirements accept that of the one person that matters, and that signature can only come from the chairman of the GBRMPA himself and without that going forward I am simply delusional in my expectations. Furthermore, it is envisaged that either the entire product or alternatively segmented portions be skin wrapped and secured in a marine grade stainless steel fine mesh cloth sheeting that represents a conducive substrate to attracting even more marine animals and plants. Once wrapped in the mesh it’s possible to manually attach coral fragments to the structures exterior and interior with relative ease. This method of grafting corals also allows coral fragments to be position straight into shaded portions of the structure very easily, further enhancing the corals abilities to resist periods of extreme heat. Another attribute of the structure enables it to be almost entirely covered in this fine mesh in the manufacturing stage, in order to breed hybrid corals from within the structures shaded cylindrical centre tube – this “tube” can be used to reproduce and harvest the corals’ spawn via the devices top open orifice in a way similar to harvesting the spores from mushrooms. Again, with this form of assisted evaluation it’s possible to progressively relocate and accelerate the transformation of corals on mass to more southern, cooler waters while maintaining the genetic pool. At the point of going to sea trials the purpose could not be defined any clearer, the outcome of which is as it always has remained, to construct an artificial habit that utilizes reef seeding technology that reduces and alleviates exposure to external pressures encountered by the wild stock reserves, firstly for the recreational sector, moving into the future with

the aim to support commercial seeding and harvesting. Most of the technology required already exists at our disposal yet to reach operative status would require a concerted push from stakeholders.

We need the GBR resource to be at its optimal health going forward, full of diversity too withstand any incursion, be it invasive pest like the crown of thorns, robust enough to weather the changing seasons or an abrupt disfigurement of nature like cyclones and climatic change but above all adaptable to our requirements, with plenty of fresh fish both inshore and beyond. As all these suggestive things have to be in place together with the provision of great water clarity (quality) and are implicit to maintaining the principles of an infinite resource, we know from experiences around the world all fisheries and their reserves are very finite. We are the adults standing at the cross roads of our own destiny, yet the diagnosis and prescription for inland Australia is dyer, where drought with a non-discloser as to when or if it ends is the new normal, we are at the pinnacle of what we can manifest in terms of our imaginations, equipped with the tools, land and sea all provided by those who have come before us to do these things and so much more and rather be a victim of circumstance regarding fish quotas this invention represents a simple step in the terms of balancing the ledger. Any decent fisherperson when targeting the myriad of tropical edible finfish in of inshore Queensland will tell you your chances of success improve astronomically when fishing in and around underwater structures.

Let us make this perfectly clear, this structure and it design and functions represented are well within the parameters of what is considered reasonable and safe, that aside and what remains as a foreseeable fact is that not to address sea trials is indeed a fatal assumption. We as a collective conscious nation, a generation, cannot afford the GBR to fail on our watch full stop and we are fully aware of the warning signs. As I write this NSW is in the midst of an infestation of sea urchins carpeting the seafloor as their natural predators have all be but removed. South Australia has metred out the strictest of closed seasons on harvesting snapper to ensure the wild reserve remains viable which is tethering on collapse. And as we become more and more efficient at methods of targeted extraction, all the while Politian's dither dabber as to the best natural practices to replace what was taken if nothing more other than to be consumed for our pleasure, their cavalier attitude "*but wait and see, it's OK*," will no longer wash when the social consciousness is collectively screaming out, "*replenish the renewable resource*," the time for meaningful action is now! ***If its our, Australia's intention, to drive down our overseas debt, we as a nation must look inwards as to what platforms of the economy can provide some level of self-sufficient resilience (stimulus) needed going forward and how these areas of industry can not only be managed sustainably but enhanced to the point that similar overseas products become less palatable throughout the wider domestic marketplace. But if we are going to achieve this status there must first be a fundamental and rudimentary form or purpose of inbuilt redundancy from an engineering perspective to enable those free market values to exist in the first place. Without this form / purpose of independence, this perceived balance if you will, in place, inferior imported product will always have its place front and centre on the supermarket shelves and we will be left to reflect as to how this came to be…..was it the chickens or the eggs fault, when we know it was the biggest chicken (Administration) that ate the last egg (Quotes) metaphorically off course.***

For me, my life is like a series of assumptions, a box of chocolates if you like – never know what you're gonna get. We can all sit on our hands or twiddle our thumbs but what will that achieve – we are a species of makers, of tinkerers and we are a nation of do'ers – not willing to take a back seat when it comes to our abilities, our liberties, to put forward our own practical perspectives as to how Australia fits upon the world. I simply request that as part of this great nation that is Australia I be granted that ability to scientifically research and explore, and abide by our nations laws in the hope that my chosen field of study generates an abundant return for this region of Central Queensland and the greater community regarding all of the things I have outlined today, a fair go.

Thank you for taking the time to hear my submission.

I am deeply sorry if I have offended parties to the contrary and only attempt to sublime the paradoxical political and arbitrary climate of the world I visualize.

Regards Jason Brown
20 Ann St
Proserpine. 4800 QLD

24.10.2019

The following articles are directly related to my artificial reef device and its properties:

ABSTRACT

The Artificial Reef Device is a dedicated stand-alone marine propagation structure. This device utilizes the characteristics of very large mining tyres to create a compartmental structure represented by a symmetrical column having a central illuminated core to cast areas of diffused shade and light bringing into existence a construct of permeable permutation resulting in an elemental body. Large, long, rigid bolts assist the construct to combine several bulbous spherical chambers (support pillars), around the structures centrally aligned vertical axis, separating the said larger mining tyres into tiers (levels) 5 of which support the middle tier and 3 to support the upper tier, making the structure rigid. Each individual support pillar specializes to perform the dual task of repository and dispensary, acting as incubation chambers that are impregnated artificially with an introduced specific species of fertilized eggs.

These processes when implemented form the basis for a mechanical form of biochemistry allowing for a wide variety of different preselected species to hatch-out and instantly assimilate to the Artificial Reef Device and its cluster of sub-urban attributes which exhibits itself to the juveniles of varying species as a functionary administrator merging differing areas of light, shade and sound, adjacent swim-through passages, crevasses and cavities. Furthermore, several such Artificial Reef Device's producing a sheltered arena for juveniles to act out and become the larger delinquent inhabitants whereby they are fulfilling they're role as the upper level predators within the natural food chain dynamics. This act or acts thereof can be further leveraged (up scaled) to provide a substantial overrepresentation of a certain target species to produce and reproduce the target species for market supply or to mirror the oversupply of a target species that can be introduced as a sanctioned control method whereby the species select (native animal) can be introduced on-mass and inadvertently feed off and drive out, efficiently dispatching the identified threatening invasive animals or subsequently force their numbers into remission, delivering greater chance and opportunity for that area to re-establish preferred native marine flora and fauna populations.

The Artificial Reef Device can at any time in its tenure be withdrawn from service as the structure itself is rigid enough to be removed and repurposed in another position throughout its expected operational life, or it can be simply left in situate and repurposed to aid as a driver for economic growth be it by strengthening marine diversity and allowing for a re-introduction of mixed native marine animals via the above outlined processes or modelled to deliver a method of evolution that corresponds to a specific development outline for instance to manage and assist in the harvest and redistribution of endangered corals on mass into vacant seabeds, and or adopted as a technique to repopulate a precise area with hybrid coral polyps using minor adaptations on the incumbent design and its strategies.

Introducing the ACHaRRD – Artificial Coral Habitat Reef Restoration Device by Jason Brown

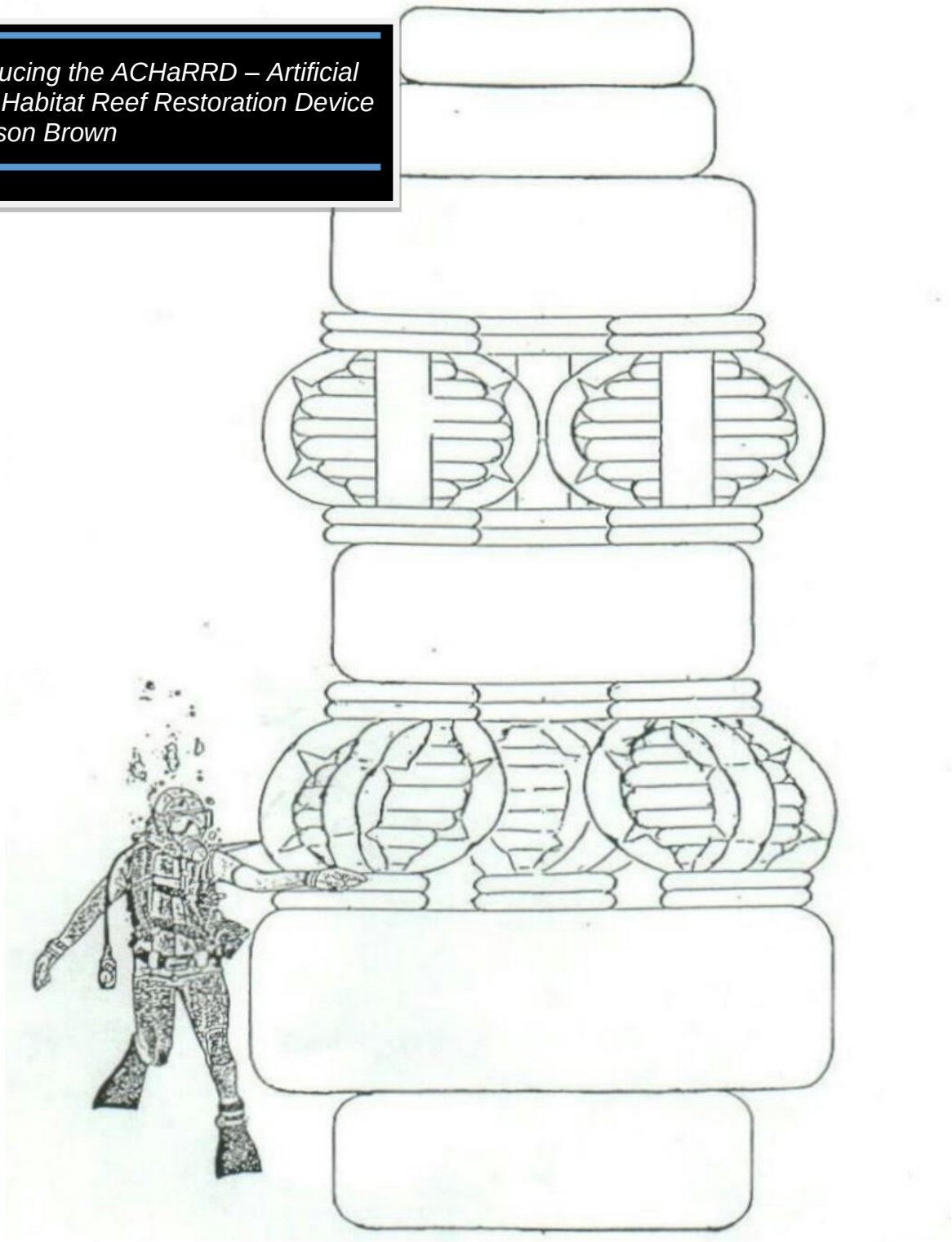
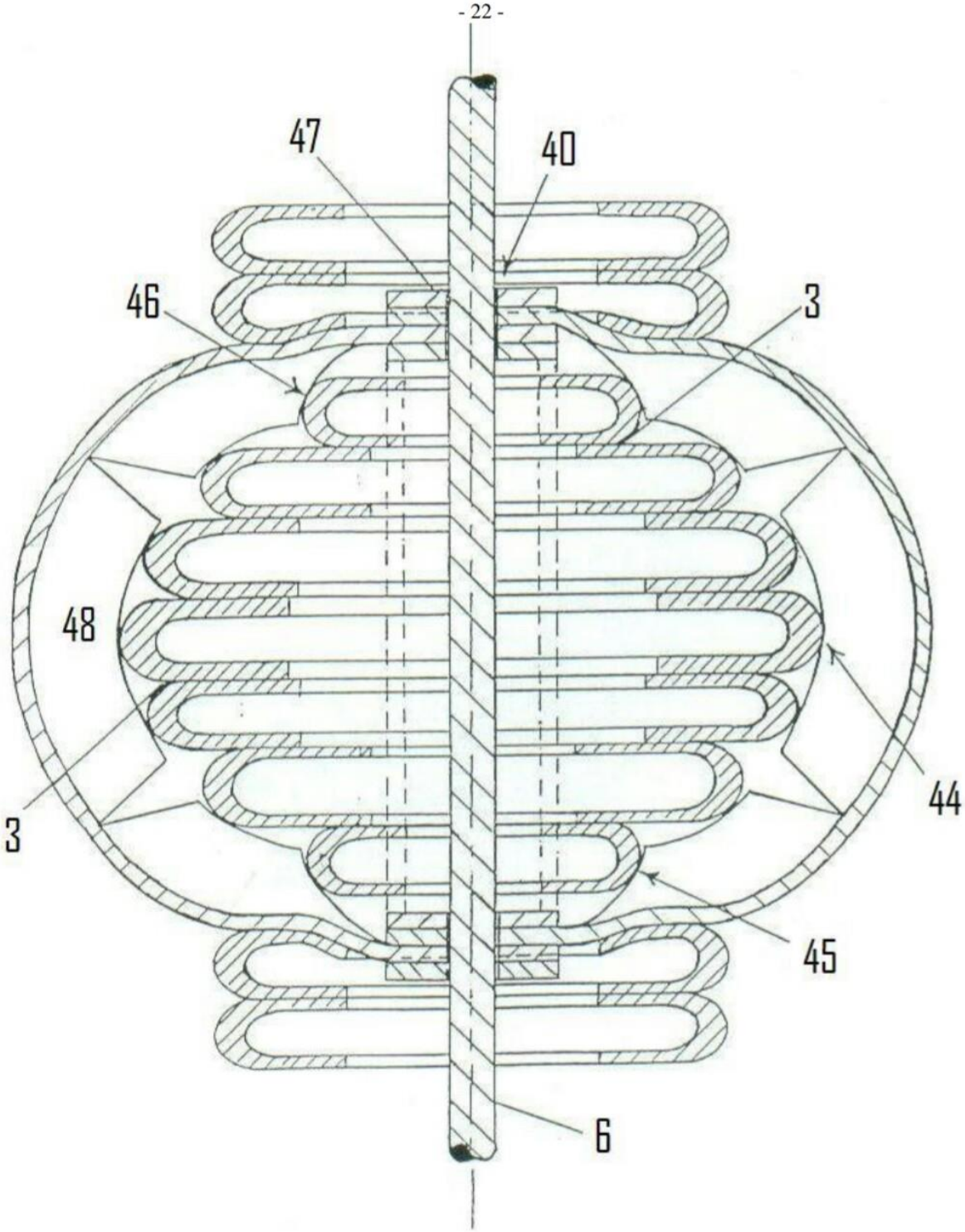


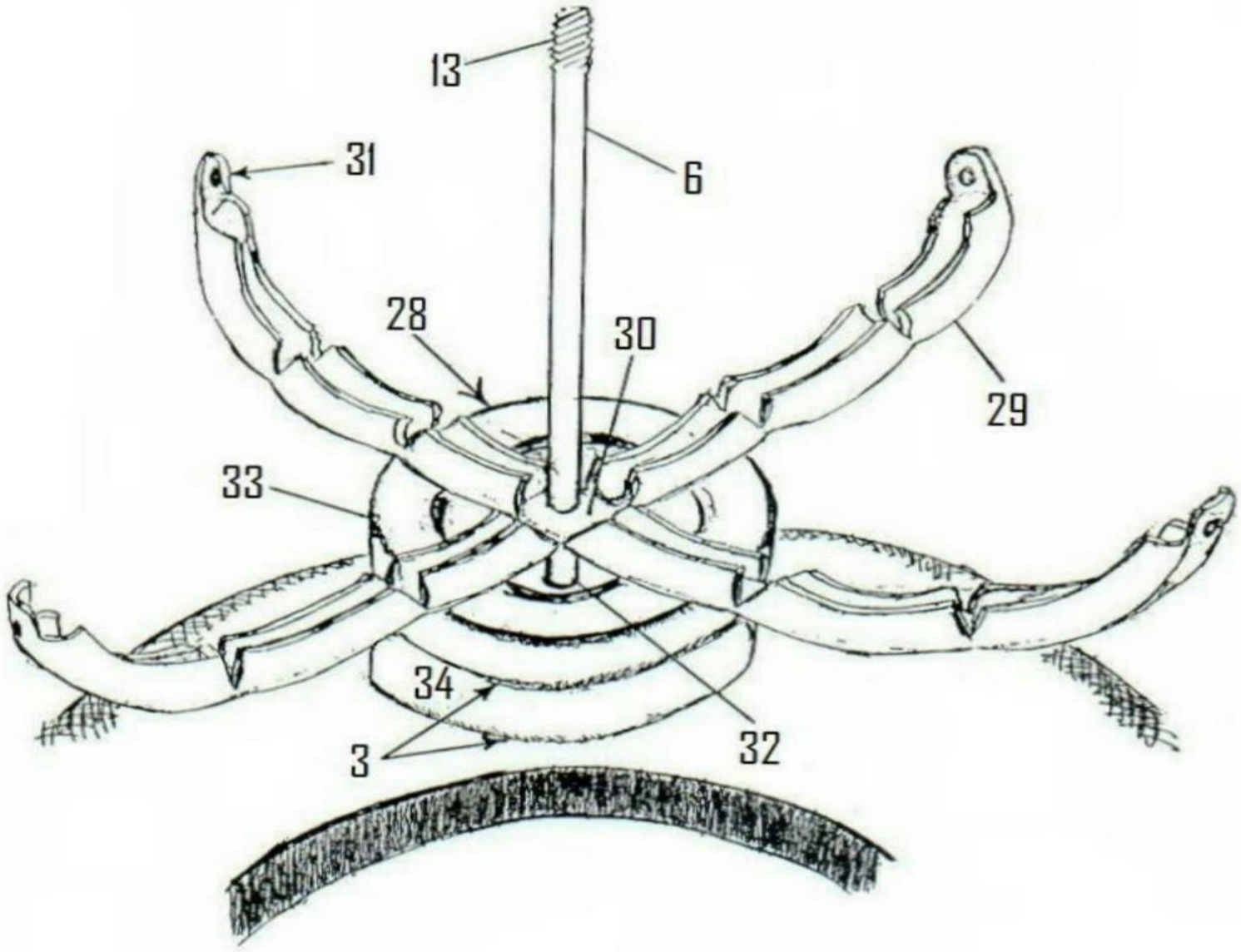
Figure -11-

This picture is a presentation of a diver relative in size to the **ARTIFICIAL** Coral Habitat and **REEF** Restoration **DEVICE** invention (ACHaRRD)



This picture is a cut-a-way drawing of the pillar/chamber used as the structures incubation service modulator as a form of delivery of larval marine animals. Several of these bulbous modulators form the pillars that act in combination to support upper tier levels.

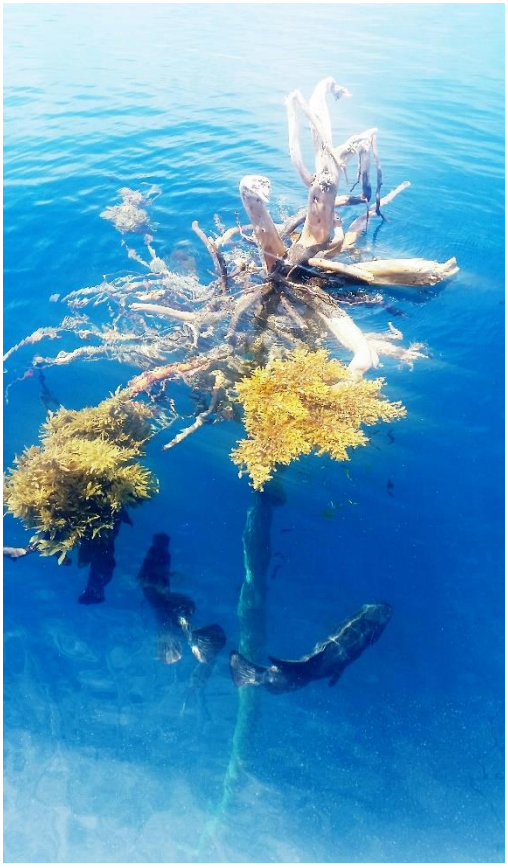
This is a picture of the base of the interconnected ribs of the pillar/chamber



Prior to positioning the chamber above - the protruding bolt shaft is visible and passes through the pillar/chambers centre whereby the ribs interlock above at the shaft once they have encased the pillar/chamber. This representation of the base of the pillar/chamber further supports the bulbous chamber that as an act of function produce small openings both top and bottom via the rib assembly that assist to help convectional currents disperse and dispense the condense within (the condense being of fertilized fish eggs, larvae). Although here the pillar/chamber is constructed using tyres it could ultimately be made from several different design materials that incorporated functionalities more aligned toward multiple uses.

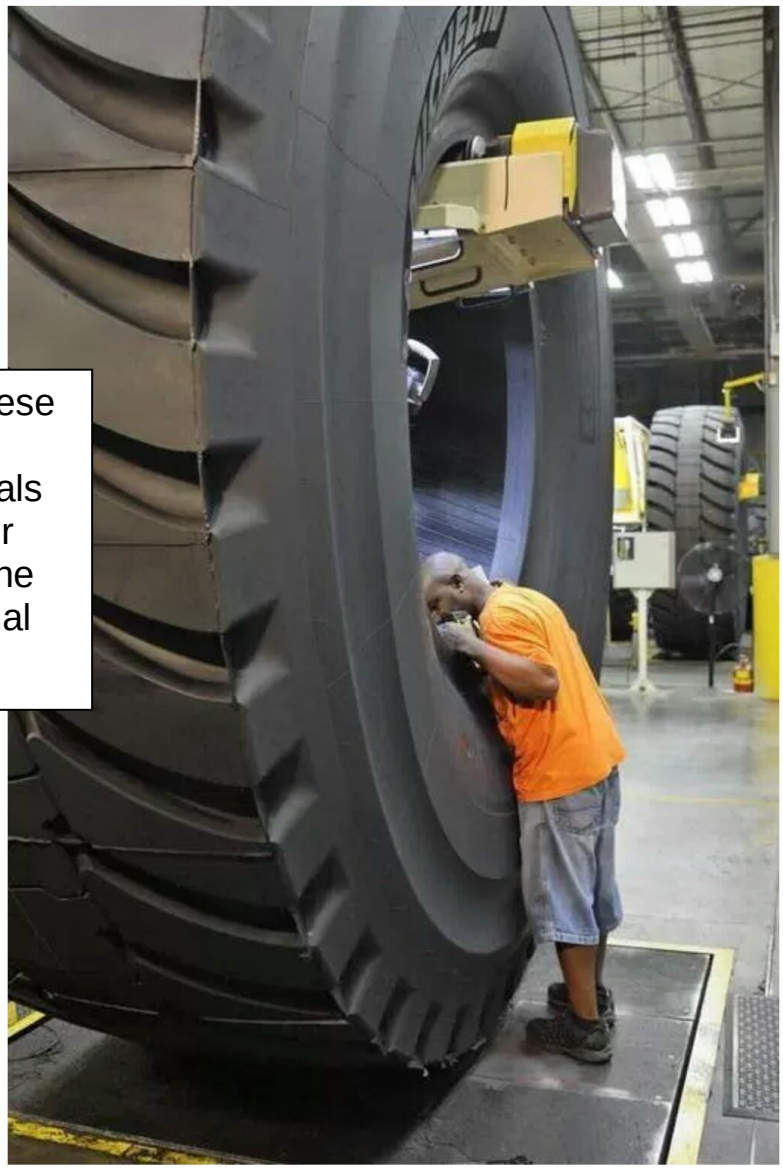
The device comprises mostly tyres of varying sizes, adhered together to make components, which are combined using a series of bolt fastener assemblies so as to establish large accessible crevices and cavities and partitions into a vertical structure, as a place of dwelling at the bottom of a body of water, for large, small, juvenile and larval marine animals. The bolt shaft of each bolt fastener assembly is encased within a pillar, with the pillar supporting a chamber suited to the incubation of artificially (syringed) introduced larval eggs, the subsequent hatched larval eggs are released after gestation through small openings, top and bottom of each said chamber. The small openings are created by the rendezvous of tab ends of four tyres which have been altered to represent vertical ribs, with the tab ends of four vertical rib-like tyres engaging the respective bolt shaft, therein encasing the said pillar. The said vertical rib-like tyres also establishing an area of shelter there around for the structures smaller inhabitants from the larger predators that exist there. The pillars also used in conjunction around a central vertical axis to support the larger components of the vertical structure and in doing so establishes adjacent swim-through passages for its marine inhabitants. The structure also supports a cylindrical hole passing from its top most part and meeting the solid base below, therein allowing natural light from above to pass unabated throughout the structures core. The base of the structure using two very large tyres partially filled with cement to create a foundation, therein providing sufficient weight to keep the structure stationary and vertical.

Although not the most ideal of circumstance our marine friends are prepared to look beyond our humanizing indiscretions and create for themselves their own shared diversity with the resources available at the time.



These pictures were recently taken of a family of fish that I witnessed while out on the water in the Whitsundays with my family. Although it can be seen that this *TREE* supports several large and small fish....what cannot be seen in the background is the several hundred juvenile dolphin fish (mahi-mahi) all about 600mm long continually circling this us and structure in what appeared to be endless clockwise motion. All the animals were very brazen while hand feeding up until I actually entered the water with them. Totally amazing. I inserted these pictures just to provide an indicator that as a representation of a natural system at work that offers very little in terms of shelter however it represented that particular day a place of residents for up to 300 or even 400 fish of several species. I don't imagine this scenario to be an isolated case, Hay Point Coal Terminal (where fishing has been banned for a long time now) I would see people pull up with boat load after boat load of huge fish just after the high tide at the boat ramp. Almost all fisherpersons will give first hand testament to how structure attracts a range of diverse marine life. The bigger the structure the bigger the fish around it. I'm definitely not aware of any scientific marine studies that have taken place at Hay Point or Dalrymple Bay Coal Terminals as to the benthic abundance, however I'm sure professional industrial marine divers could provide firsthand accounts of the monsters lurking beneath these fortresses.

For me tyres like these used in mining Queensland minerals represent another dimension to marine diversity and animal behaviour

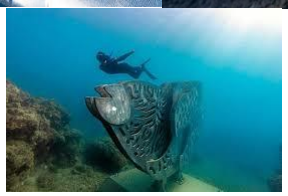


The humble wheel has so many uses the question begs, were they used to help us create the Pyramids' or was it aliens?

Tyres can hold so much potential

Habitat can take on many shapes and forms

Artist impressions and impressionism are important to help people to make connections with their surroundings and how the see (perceive) themselves past and present, assisting to aid a perception of their future and self-determination.

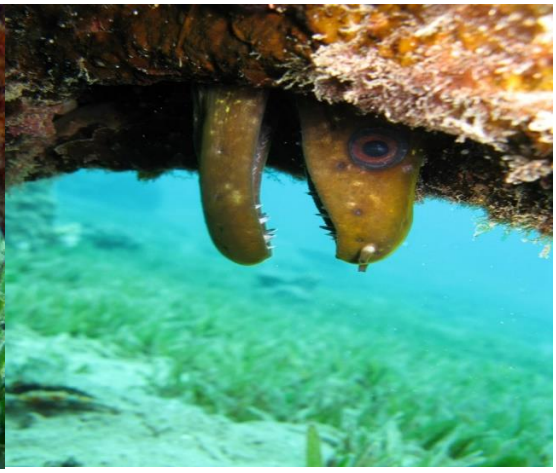


Reef Ecologic's Whitsunday $7million Public Art Project Grant (3 bottom Pictures)

https://www.abc.net.au/news/2019-09-02/great-barrier-reef-adds-underwater-art-in-image-change/11412576

Funded in full by Whitsunday Tourism Recovery Fund post Cyclone Debbie

https://www.arts.qld.gov.au/arts-queensland/news/underwater-artworks-to-become-new-whitsundays-tourism-attraction



Mining tyres that have sustained the coal industry are stockpiled at the end of service at various mine sites throughout Queensland. I envisage this practice is encouraged in other states of throughout Australia

Please assist me to starve of the next wave of drought emergency *(senility)* as Australia immerses into a period of economic stagnation that potentially will not abate well into the next decade. Simple observations of trends suggest that if we do not have meaningful targeted infrastructure interventions both on land and sea we are left to deal with consequences that play out in the media, induce unwarranted stress on individuals and potentially change Australia's destined course form that of "*supplementary*" to "*reactionary*." My ideal is not one of fashionable art deco/nouveau or tourism trail, but to research the potential theoretical manifestation of principles that bring abundant benthic diversity to marine environments through strategic infrastructure placement that induces foundational habitats into borderless ocean ranch farming for recreational and professional fishing purposes. Recreational fishing in Queensland represents a powerhouse of growth in the state's economy that's not showing any signs of slowing, partly in response to our coastal love affair, yet the systematic plunder of the resource that supplies a demanding population as Australians switch from land-based protein to 3 serves of fish per week places the resource in critical jeopardy with demand far outstripping supply which has brought us to this point in time where self-interest and loathing between competing devourers risk the whole resource being placed on lockdown to ensure it survives the next wave of protraction and so from where we now stand the whole system has been forced into paralysis with the government acting as mediator over and above free market principles only to protect its voter base and not acting in the interest of the resource that supports the survival of the planet going forward. Just to say failure to act from a ***Research and Development*** perspective will only lead to a contracted environment, and to those people who relish these things most being children, the poor and elderly not being participants in the sport of recreational fishing or having fish subtracted from their diets as was evident at the last "Bowen Fishing Classic" where the entire represented catch was not forwarded onto the local retirement villages as a precaution to ensure or enshrine their act of health and safety, where there had not been any recorded incident breaches from past events where this practice was in place. We have a clear choice to either stand very still, look down with wilful blindness as our rights and privileges are eroded by the degeneration unfolding and allow resentment to wash over us ***or*** we can get our hands dirty and act well before a mass critical response is required, act with an awareness to invest and investigate the deep meaning of the principles that sustain us to take our values and expectations forward into the future. Jobs and Growth right!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Listed here are more YouTube video examples that display how instalments of tyres interact with the marine environment. Without overstating the obvious there has also been recorded instances where over time unhinged interventions have contributed to the marine environment be degraded due to reckless and impulsive decision making and an abandonment of process to diligent reporting lending to negligent behaviours. My attempt here today is to brings the importance of the challenge ahead into focus so that we may imagine and build a future that doesn't yet exits, to reach higher in terms of proficiency, accessibility and climate resilience.

So please view the following videos and try to keep an open mind:

https://youtu.be/LhVMGllcHqc

https://youtu.be/mheJancX_Ao

https://youtu.be/OQPYvV-KFHg

https://youtu.be/2RV2GwCnv9w

https://youtu.be/G4lsVYULyI0

https://youtu.be/99JJyB_Sw7M

https://youtu.be/ER7-qs6GIIU

https://youtu.be/ekItYoYyMN0

https://youtu.be/dPBMKBJjMCw

https://youtu.be/m0M5B2Kge6s

https://youtu.be/aPPYNUAMVj0

https://youtu.be/osvSQOyAxzY