CEPF FINAL PROJECT COMPLETION REPORT

Organization Legal Name:	The Endangered Wildlife Trust (EWT)
Project Title:	Community-led Reef Restoration and Blue Economy micro-enterprises along the Wild Coast of South Africa.
Date of Report:	11 December 2015
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CEPF Region: Maputaland-Pondoland-Albany

Strategic Direction: 2. Expand conservation areas and improve land use in 19 key biodiversity areas through innovative approaches

2.2 Integrate conservation practice into land-reform agreements to expand conservation management and sustain livelihood opportunities

Grant Amount: **$19 883 (**R 210 255)

Project Dates: 1 June 2014 – 31 August 2015 (extended)

Implementation Partners for this Project (please explain the level of involvement for each partner):

The Endangered Wildlife Trust (EWT) is the primary implementing agent for this project. The EWT has been responsible for the overall management of the project, including the submitting of financial and narrative reports to the CEPF.

Within the Wild Coast region, the EWT has engaged with the following organisations:

1. Shell Reef Projects (SRP) – implementing partner on the project, SRP is responsible for the community liaison, pilot mussel reseeding and surveys.
2. Sigidi Conservation Group – volunteer group from the local community,
3. Department of Agriculture Fisheries and Forestry (DAFF) – responsible for issuing permits for juvenile mussel spat harvesting and a key stakeholder in the development of blue economy in the mariculture sector
4. Nelson Mandela Metropolitan University (NMMU) – partner in developing other alternative livelihoods for the community. Expert support with cetacean guide training.
5. Wild Coast Sun Hotel and Casino – local stakeholder and supporter in kind. The hotel has provided training venue and mangrove nursery area at no cost

6. KZN Department of Oceans and Coasts – offered support with aspects of blue economy in KZN
7. Bizana Local Municipality – local stakeholder
8. Southbroom Conservancy – expressed interest in establishing a similar project in KZN
9. Eastern Cape Parks and Tourism Association – regional stakeholder
10. Eastern Cape Department of Economic Development, Environmental Affairs (DEDEA) – regional stakeholder
11. Wildlife and Environment Society of South Africa (WESSA) – developing a partnership along the Wild Coast on coastal micro-economies
12. Population Sustainability Network – established partnership with EWT. Currently working together in Kruger National Park and Bazaruto Archipelago National Park.
13. Sustaining the Wild Coast – local stakeholder and developing a partnership for collaboration
14. WWF-SA SASSI – EWT currently a networking partner for Gauteng. Exploring collaborations on small scale fisheries projects, including Wild Coast
15. University of Cape Town – engagement with post doc researchers in small-scale fisheries research and governance

1 Conservation Impacts

1.1 Please explain/describe how your project has contributed to the implementation of the CEPF ecosystem profile.

This project has contributed to the CEPF Strategic Directions 2 and 4: This project relates to the CEPF Investment Strategy in that it falls within the Pondoland North Coast Key Biodiversity Area, which faces "increasing mining and development threats and extreme pressures from poverty-based overexploitation of natural resources" (CEPF). Through the CEPF Strategy Direction 2 (Expand conservation areas and improve land use in 19 key biodiversity areas through innovative approaches), we aimed to merge the socio-economic needs of the community with restored reef ecosystems at sites along the communally-owned Wild Coast.

The Wild Coast in the Eastern Cape Province of South Africa stretches 250 km from the Kei River in the south, to the Mtamvuna River in the north. The Wild Coast's name is descriptive of the rugged coastline, interspersed with narrow gorges and waterfalls, and the historically undeveloped nature of the region. The region is biologically significant, both on land and in the marine environment. Its global significance is attributed to the diversity and endemism of the grasslands, marine environment, and mangroves, as well as the fact that it falls within the Maputaland-Pondoland-Albany Hotspot (MPAH), which is recognized as an important centre of floristic diversity and endemism in Africa. The Wild Coast is also recognised in South Africa's National Biodiversity Strategy and Action Plan (NBSAP) as one of the priority areas for biodiversity conservation.

Mussel beds are important habitat forming species that facilitate biodiversity and proper ecosystem functioning just like coral reefs, seagrass beds and kelp forests. Mussel beds provide essential living habitat for hundreds of invertebrate species and represent an important source of food for many migratory birds and coastal fish. With increasing over-exploitation of mussel beds along the Wild Coast these ecosystems have become increasingly

degraded with significant declines in biodiversity and shorebird abundance. What Areas that were once highly productive rocky shores are now largely denuded of mussels and dominated by invasive tube-worms and macro algae.

The brown mussel (*Perna perna*) is an indigenous shellfish found in intertidal rocky shores from Mozambique to Cape Town. Mussels have traditionally been an important source of protein for the coastal communities in South Africa but have been over-harvested in many areas. In 2000, the Marine and Coastal Management (MCM) Division of the Department of Environmental Affairs developed a protocol of coastal marine conservation through the artificial re-seeding of mussels into areas that have been over-exploited around Coffee Bay in the Eastern Cape. Studies of this protocol showed a survival rate of 80% after 12 months and this informed the initiation of successful community-based mussel rehabilitation projects at Sokhulu in Kwa-Zulu Natal and Coffee Bay in the Eastern Cape.

The EWT's Wild Coast Reef Restoration and Blue Economy Project aimed to build on these initiatives through three main goals:

- To restore and protect mussel beds and the associated reef ecology in rocky inter-tidal zones through the use of standard protocols;
- To capacitate women's groups in the local community to manage and sustainably harvest the mussels as part of a co-management scheme, together with the development of spin-off sustainable alternative livelihoods;
- To contribute towards improving community health and well-being through partnerships with family planning, women's rights and community health organisations (Population Health and Environment - PHE)

Unchecked harvesting practices has increasingly impacted the project area to a degree where no mussel clusters are evident within sub littoral, supra tidal, an upper mid tidal zones. Residual *Perna* clusters are evident on isolated rocky tables within the sub littoral zone and attempts by community members to harvest around the pedestals is a highly dangerous activity, as surges and side currents within the wave amplitude are severe. Anemones, chitons, green algae, isopods, limpets, mussels, sea lettuce, sea palms, sea stars, snails, crabs, crayfish, sponges, and whelks are similarly compromised as a result of poorly managed harvesting practices.

This small grant from the CEPF has been used as seed funding to develop the case for a blue economy along the Wild Coast, in particular the Sigidi community. We have laid a strong foundation for a community-managed fishery and set up the necessary partnerships to take forward a project of this nature.

1.2 Please summarize the overall results/impact of your project.

1.2.1 Planned Long-term Impacts - 3+ years (as stated in the approved proposal):

Goal 1:<u>To restore and protect mussel beds and the associated reef ecology in rocky inter-tidal zones through the use of standard protocols</u>

The rehabilitation of the intertidal zone is a long term objective and within the timeframe of 1 year, we have set the baseline conditions through a reef survey along the KwaZulu Natal and Pondoland coastlines. We assessed several South Coast resort intertidal reefs, namely:

- Kingsborough/Warner Beach. (Mid-affluent, holiday makers, leisure industry, local residents)
- Umgababa to Sipofu. (Traditional Zulu homeland, holiday influx at cultural days, Christmas, New Year, and Easter)
- Hibberdene. (Ski boat launch site, caravan park, cottages, influx during high vacation periods)
- Ramsgate and Southbroom. (Affluent residential, retired locals, influx during high vacation periods
- Sigidi. (Rural coastal village)

The survey demonstrated that mussel colonies are in decline not only in rural traditional areas but in affluent built up areas as well.

Kingsborough/Warner Beach tidal pool

GPS Coordinate	30*04’43.25’’ S 30*52’24.58’’ E elevation 0
Substrate classification	Brown sedimentary sandstone
Status of reef	Very good. Can supply juvenile recruits to denuded areas.
Rehabilitation assessment	Needs no intervention

Figure 1. Warner Beach Tourist Venue

The site is a holiday beach venue with a rocky sedimentary table outcrop forming the foundation of a public tidal pool. Perna perna are abundant throughout the splash zone, comprising of healthy adult shells, juvenile recruits, and new spat fall. The 2014 spring spat congregations measuring 20mm were found in profusion in rock folds and sandy crevices at distances up to 15-25 metres from the main colony indicating that mortality rates are high. Rocky platforms of the same rock form investigated 1100 meters south of the tidal pool

supported healthy perna clutches. Local people who were interviewed indicated that they had not before seen new recruitment so far from the splash zone.

Figure 2. Left: New spat recruitments. Distance from host colony 20 metres; Right: Healthy P. perna shell from tidal pool host clutch

Umgababa to Sipofu

GPS Coordinate	30*09’24.85” S 30*49’50.73 E elevation 0
Substrate classification	Sedimentary orange siltstone
Status of reef	Poor
Rehabilitation assessment	Requires reseeding intervention

Figure 3. Rocky sedimentary pedestal within wading distance. Outcrops in the survey area are devoid of marine life

This survey was conducted at Sipofu Beach, which is situated within a traditional African settlement area. The beach receives high- holiday traffic during cultural events and high season periods. No evidence of *P. perna* was found. Rehabilitation would require a reseeding intervention with juvenile seed acquired from the closest available healthy *Perna* colony.

Hibberdene

GPS Coordinate	30*33’44.39” S 30*34’58.85” E elevation 0
Substrate classification	Sedimentary red breccia
Status of reef	Poor
Rehabilitation assessment	Requires reseeding intervention

This survey was conducted 1.5 km south of Hibberdene main beach. The area receives holiday traffic during seasonal periods. Sedimentary pedestals in the surf zone show an abundance of limpet and barnacle with scattered wild oyster. Mussels are not evident.

Figure 4. Ideal Perna settlement substrate. Now colonised by limpet and barnacle

Rehabilitation would require a reseeding intervention with juvenile seed acquired from the closest healthy *Perna* colony. Evidence of *Perna* shell was found in beach flotsam suggesting that colonies are present in the sub littoral zone. It may be possible to gather free spat through the deployment of artificial fibre ropes attached to the rock formations.

Figure 5. Left: Evidence of mid-size and adult Perna shell with sea grasses; Right: Spat reseeding accumulator ropes. Burnt nylon tug rope & coir

Southbroom

GPS Coordinate	30*54’44.36” S 30*20’02.26” E elevation 0
Substrate classification	Sedimentary red siltstone
Status of reef	Poor

Rehabilitation assessment	High degree of difficulty for intervention. Turbulent wave surge.

The survey was conducted at the rocky point immediately south of Southbroom estuary. Southbroom is a highly affluent area, with an inland forest conservancy at the centre of the town. The marine environment is fairly heavily impacted. No *Perna* or Crustacea of any form were evident on rocky points in the area surveyed.

Figure 6.Southbroom outcrop devoid of marine life

All rocky outcrops surveyed displayed the characteristic of denudation, with remote and sporadic small clutches of *P. perna* enduring in places of extreme turbulence. *Perna* shell evidence was found in beach flotsam, however in sporadic instances only, indicating that lower sub-littoral colonies are present. Rocky substrates, at the granular level do influence abyssal attachment for bivalve habitats. Sedimentary formations offer a pitted surface for enhanced bonding, as opposed to the smooth texture of igneous basalt forms as found in the Umkomaas intertidal zone. Both types of rock are predominant throughout the assessment areas, being rocky outcrops of sedimentary red siltstone and grey limestone, or igneous black/grey basalt. Black sedimentary chert/flint formations were found in uMtentweni area which showed a sporadic formation of wild oyster and barnacle, with no evidence of mussels.

Figure 7. Igneous basalt forms not ideal for abyssal attachment. Umkomaas foreshore)

During the survey a number of elderly locals were interviewed as to the state of their intertidal zones dating back about 30 – 40 years. The anecdotal accounts confirm that the rocky areas in surf zones hosted vibrant *Perna* colonies and thriving marine ecosystems teeming with anemone, corals, sponges and associated marine life.

Sigidi

GPS Coordinate	31*07’07.23” S 30*10’11.08” E elevation 0
Substrate classification	Sedimentary conglomerate sandstone
Status of reef	Poor
Rehabilitation assessment	Requires reseeding intervention

The general condition of these reef systems is poor with most in considerable decline. Despite efforts by state authorities to enforce and manage mussel resources, the Pondoland rocky intertidal reef zones between the Mazamba River Mouth and the Mnyameni River Mouth area continue to decline. Sigidi coast and dune forest fall within a marine protected area. The intertidal reef is composed of a sedimentary conglomerate rock class offering the ideal surface for abyssal bonding. The formation erodes to form pedestals and rock pools offering model habitats for molluscs and crustaceans. The class of rock found in the transitional zone is similar to the Pelindaba form found in the Transvaal and Fishoek areas, which is characterised by odd shapes affected by wind and hydraulic weathering. The survey area is totally devoid of visible *Perna perna*. Evidence of large shells was provided by divers who

confirm that they are becoming increasingly more difficult to find. Community members chiselling the rock surface to find seafood were recorded, indicating that the activity is at its extreme limit. The same condition perpetuates in marginalised rural community areas south of the focus area. The sand stone reefs of these remote areas serve as a vital ecosystem for associated marine biota, many of which have declined or disappeared from traditional community harvesting areas. Sponges, sea stars and other marine life commonly associated with healthy mussel colonies are similarly compromised.

Water clarity and quality is affected in the absence of bivalve filtration resulting in a decline of what was a healthy and vibrant biosphere. Brown mussel species (*Perna perna*) is indigenous to the Eastern Cape shoreline. Invasions of alien mussel species, especially the robust Mediterranean mussel (*Mytilus galloprovincialis*) is an emerging risk to the Pondoland MPA and will create competition for space with the native species.

Figure 8. The degraded reef condition at Sigidi

Figure 9. Perfect Perna habitat - ideal for reseeding

Figure 10 Chiselling rock to find seafood

Successes: The baseline survey was completed and allowed for the comparison of a range of sites along the KZN and Pondoland coastlines. It also identified potential mussel spat source areas, such as Mkambathi Nature Reserve or Warner Beach.

Challenges: A considerable setback for the project was the inability to secure permits and buy in from the relevant government departments for juvenile mussel harvesting and reseeding. After numerous attempts at contacting local, provincial and national departments and meeting with officials, we were not able to effectively trial the reseeding techniques at Sigidi. This activity is unconventional and not part of the usual permitting request for straightforward mussel harvesting. Legislation prohibits the removal of juvenile mussels in situ. Transporting mussel spat requires special permits and transporting spat stock between provinces requires special permits and inter-provincial permission. Government officials are unclear as to where the mandate lies for an activity of this nature and many are unwilling to make a decision on the matter. We continue to approach the provincial and national departments and are currently attempting to secure research permits.

Goal 2: To capacitate women's groups in the local community to manage and sustainably harvest the mussels as part of a co-management scheme, together with the development of spin-off sustainable alternative livelihoods

The Sigidi Community approached Ms Sandy Heather of Sustaining the Wild Coast in 2013 with a request for assistance in recolonizing their traditional seafood harvesting area with the *Perna* mussel species. Ms Heather in turn contacted Bruce Goodwin for assistance and Shell Reef Projects (SRP) was registered as a non-profit organization in June 2013.

SRP consulted with the Sigidi Residents at several community meetings, where a committee comprising of 15 women and 5 men were formed with the specific aim of rehabilitating mussels in their area. The group is based on voluntary membership and they have applied for status as a legal entity as a Pty under the name of Mazamba Project Pty. Submission to the Registrar of Companies and a registration fee was submitted and supported through the Critical Ecosystems Partnership Fund.

Figure 11. Woman harvesting crayfish in the rough surf

Successes: The efforts by the Sigidi Community to enlist beach monitors shows a clear commitment to caring for their coastal environment. A unanimous resolution taken at a Sigidi public meeting to restore mussel, oyster and intertidal biota through a technical and structured methodology indicates a willingness to encompass a scientific approach to managing the resource. The establishment of a formal organisation is also a success and will allow us to work directly through this group going forward.

Figure 12. Volunteer conservation group at Sigidi

Challenges: Establishing a working base in the area posed quite a challenge but the community were generous enough to allow us to use one of the rooms in a hut at the home of Mr Moses Mbuthuma, which is close to the reseeding site. Also the community were not prepared to share information on current household income and therefore we were not able to establish a quantifiable baseline for this.

Figure 13. The project base in the Sigidi village

Goal 3:<u>To contribute towards improving community health and well-being through partnerships with family planning, women's rights and community health organisations (Population Health and Environment - PHE)</u>

South Africa's rural Eastern Cape boasts such spectacular biodiversity that it falls within one of only 35 Biodiversity Hotspots in the entire world. Biodiversity is not just a luxury for the rich; for marginalised rural communities it is essential for their survival. Often such communities rely on healthy ecosystems for their food, water, health and natural resource dependent livelihoods. Human population pressures are among the greatest threats to the rural Eastern Cape's biodiversity.

On average, women in the Eastern Cape have more children than women in any of South Africa's other eight provinces. Contributing factors to this include inadequate sexual and reproductive health services and a need for greater women's agency (best demonstrated by high local levels of sexual and gender based violence). Local school facilities are among the worst in South Africa and all too often children begin their education in shacks or mud schools lacking services or qualified teachers. A legacy of the region's lacking educational foundations and limited work opportunities is a substantially higher unemployment rate than elsewhere in South Africa; the resulting poverty exacerbates the region's other challenges.

The rural Eastern Cape's conservation, education, health, employment and gender challenges are deeply interwoven. To successfully respond to any one challenge requires an integrated approach addressing them all.

Population, Health and Environment (PHE) programmes reverse this cycle by integrating multi-sector interventions addressing all problems, kick-starting a series of positive chain reactions, which are impossible with single sector programmes. For instance, a woman empowered to choose the number and timings of her pregnancies, who has access to the contraceptive options of her choice and whose choice can be implemented because women's rights programmes have led to greater equality, is likely to have fewer, healthier children. This frees her to take a livelihood opportunity, but only if one is available. With fewer mouths to feed, fewer natural resources need to be harvested, benefiting food security and having a gentler environmental impact. A woman managing a coastal resource, such as mussels, can invest earnings in her children's education, health and nutrition whilst also assisting maintain biodiversity.

Programme actions we have identified involve the following organisations and include:

- **Community activists:** The NGOs train community activists who lead workshops and subsequent programmes informing and educating on rights and responsibilities relating to sexual and gender based violence, child abuse, sexual and reproductive health, the importance of early childhood development, conservation and new livelihood opportunities. Education on family planning options is insufficient if patriarchal norms prevent women from exercising their choices; consequently this would be the world's first PHE programme to incorporate a community led women's rights component.
- **Sexual and reproductive health:** Pathfinder International build the capacity of public clinics to provide high quality and gender sensitive sexual and reproductive health services, systems and information. Pathfinder engages communities and establish local community partnerships to address social and cultural barriers to sexual and reproductive health services and gender norms.
- **Early childhood development:** Loaves and Fishes Network trains unqualified pre-school teachers to enable them to obtain formal qualifications, register pre-schools to enable government funding, provide infrastructural improvements, manage a nutritional intervention, assist families' access to state entitlements and hold parenting workshops. The early childhood years are critical in children's lifelong development; this would be the world's first PHE programme to incorporate an early childhood development intervention.
- **Livelihoods:** A wide range of livelihood opportunities benefiting the environment, health, food security and which are focussed on women are available, in particular, mussels.
- **Conservation:** The restoration of the rocky intertidal zones is a key component of the programme.

Existing PHE programmes in the Philippines, Madagascar and East Africa demonstrate that the approach has greater results in each sector than single sector models. South Africa currently has no fully operational PHE programme.

Successes: The partnership with the Population Sustainability Network has been formalised and this project has provided the foundation with which to develop the PHE work further as adequate funding becomes available.

Challenges: Securing funding for integrated programmes has proved challenging as large donor agencies often have funding silos that deal with only education or conservation or health. There is often no channel for a project to address all three components simultaneously.

1.2.2 Planned Short-term Impacts - 1 to 3 years (as stated in the approved proposal):

Goal 1: Full literature review and documentation of similar projects, techniques and experiences both along the Wild Coast and internationally

In 1995 the 'Buhlebemvelo' Sokhulu Mussel Harvest Project was developed to restore the once-abundant mussel stocks on the coastline north of Richards Bay. Years of unchecked strip-harvesting by the resident community had resulted in the loss of this resource.

The project was a community-driven operation that supported a range of community upliftment initiatives, stretching along the entire KZN coastline. The overall benefits in terms of education, training and engagement with stakeholders beyond their own communities was a key aspect of the project. Twenty years on, the resource continues to be managed sustainably, a testament to the importance of engaging communities in managing their own needs for the long term, with the continued support of the provincial conservation department.

The Sokhulu community has achieved an annual off-take of about 5000kgs of mussels from the Dingini and Nyokinani sites. Apart from the provision of a sustainable protein source, the project stimulated a deep appreciation and awareness of community-based natural resource management and sustainable utilisation. Much of this could be attributed to the establishment of the Sokhulu Intertidal Co-Management Committee that represented Ezemvelo's District Conservation Officer as well as community representatives and the monitors selected from the community.

Aside from providing them with their traditional protein, the project has spawned a critical insight amongst them into how to manage a programme centred on the principle of sustainable utilisation. The long-term impact of the project was the expansion of the community subsistence programme to extend from mussel harvesters to line fishermen. When the Sokhulu project began, a Subsistence Fisheries Task Group was formed, that was later driven by Dr Jean Harris, head of Ezemvelo's Scientific Unit. Within the structure of the then, new Marine Living Resources Act of 1998 (MLRA), subsistence fishers were acknowledged. So the net of overall monitoring and engagement with communities was cast much wider to include such fishermen. Community committees were established, each electing their own representatives to take up the 'exemption permits' being offered by Ezemvelo to allow them to fish on a sustainable basis. And today there are over 1000 line fishers operating within this overall 'co-management' structure.

The Mussel Rehabilitation and Food Production Project was started in 2000 by Walter Sisulu University Zoology lecturer, Dr Calvo-Ugarteburu (better known as "Gugu"). The initiative has been one of the most successful and effective social responsibility projects in the Eastern Cape. It has proven that rehabilitation and controlled harvesting of mussel beds is sustainable. Together with producing tons of protein rich mussels for the benefit of the local community, it has contributed towards employment, skills training, environmental awareness, resource monitoring and catch-data collation. The project was funded by Marine and Coastal Management (MCM), WWF Nedbank Green Trust and the Department of Environmental Affairs Social Responsibility, Policy and Projects Directorate.

The project also created a vegetable seedling nursery and a community gardening programme which conducted training workshops and provided vegetable seedlings and fruit trees for a thousand households in the area. Detailed Household Livelihood Security Assessments (HLSA) were conducted by the University throughout 15 marginalized villages along the Wild Coast and partnerships were established with government departments, Local Economic Development (LED) departments, communities and NGOs such as WWF, Masifundise and WESSA.

To ensure sustainable food security, Gugu has lobbied for subsistence fishers' rights and legislative reform, and the community members who have contributed to the rehabilitated sites were, through her efforts, issued with exemption permits which allowed them to legally harvest up to 5 litres of mussels per day, instead of the impractical and unrealistic bag-limit of 30 mussels per subsistence or recreational permit holder. The issuing of permits was conditional to a workshop being held on sustainable harvesting techniques. In May 2008 the project celebrated its first official harvest at the successfully rehabilitated Nqutheni site even though the exemption permit had not been processed in time.

Community members were employed as: environmental trainers to teach harvesters how to rehabilitate mussel beds and on the principles of sustainable utilization; drillers who facilitated the rehabilitation process (the technique was pioneered by Professor Arthur Dye and some of his students in the 1990's); and monitors who recorded information on all subsistence fishery activities in the area. The catch data was recorded into a database and used for long term sustainability research, and also for the local management committee to lobby for TURF (Territorial Use Rights in Fisheries) quotas and provide the basis for co-management as set forth in the Marine Living Resources Act (1998).

There have been a number of spin-off studies that have added to the body of knowledge on intertidal mussel rehabilitation. Macala (2010) looked at the effect of wave action on the rehabilitation success of *Perna perna* in Coffee Bay and found that there was a correlation between wave action and rehabilitation, with the sites with highest wave force being the best sites for mussel attachment and development. Macala (2013) also went on to test the technique developed by Dye and Dyantyi (2002) to rehabilitate areas denuded of adult mussels. He found that small mussels deployed using mesh bags survived better than non-meshed or large mussels and small mussels grew faster than large mussels, but large mussels attached stronger than small mussels, with no effect of mesh. Although the factors that improve reseeding of mussels can be identified (use of mesh, use of small mussels, choice of sites with high recruitment rates), he postulated that successful long-term rehabilitation

requires appropriate subsequent management of re-seeded sites. Ngalwa (2010) looked at larval settlement as a major determinant of the success of intertidal organisms and found that it was important to determine in which sites are receiving more larvae as this would impact of rehabilitation success.

For harvested *P. perna* populations to recover on the exploited east coast (especially as settlement onto algae is likely to be wasted), the technique of reseeding of juvenile mussels protected from waves by plastic pipes with small holes was used in Coffee Bay. In close collaboration with local community members, it took 6-12 months to get a 60-65% mussel cover back from a totally denuded area, although the mussels were harvested a couple of months later by people from other areas not involved in the co-management program. This is a significant risk to any similar project and needs to be managed appropriately. A subsequent reseeding of mussels recently has again resulted in recovered mussel populations, which has been and hopefully still will be left undisturbed until the population is re-established.

In terms of policy around small scale fisheries, Raemaekers (2009) explains that within the Eastern Cape, the fisheries authority is based in Cape Town, more than 1000 kilometres away, and a local partner institute that could facilitate the implementation of a subsistence fisheries programme was never identified. The problem becomes apparent when contrasting the Eastern Cape situation with KwaZulu-Natal, where the provincial nature conservation agency claimed to have developed step-by-step co-management arrangements in most of the communities identified to undertake subsistence fishing (Harris *et al*., 2007).

Attempts were made by MCM to resource the subsistence fisheries programme by contracting extension officers and by employing more permanent staff in the Eastern Cape. However, their inexperience with co-management, and their limited capacity to process the large number of small-scale fishing communities has meant that effective co-management structures were not established. MCM also operates through centralised decision-making and regulations were based on a purely 'top down' approach. Very limited training and capacity building had been undertaken on either aspects of co-management or sustainable resource use tools. Restrictions were put in place without local stakeholder input reflecting livelihood strategies, or community-catch-monitoring data that reflects local intertidal resource trends.

As a result, the subsistence fisheries programme as implemented by MCM in the Eastern Cape, has not achieved its intended goals of sustainable resource use and effective participation by small-scale fishers in management decision-making processes. More importantly however, a root cause of this governance failure has been the conventional 'target resource orientated' and commercial fisheries management paradigm of individual use rights within the MLRA, and which MCM has simply transferred to the small-scale fisheries context. This meant that from the start, the emphasis in the roll-out of the subsistence fisheries programme was placed on the allocation of individual permits and the control of harvesting effort. The end result was that expectations among harvesters for commercial rights and profits were raised and harvesting efforts actually increased.

Raemaekers (2009) suggests that the starting point should be acknowledgement of the existing customary access fisheries and the associated fishing practises and this should be

followed by a facilitated process aimed at achieving a co-management arrangement. This will require an abandonment of MCM's narrow and ingrained 'target resource' orientation, and adoption of a broader "cooperative governance" approach in which MCM works in partnership with provincial and municipal authorities and target communities to promote local economic development based on marine resources. It is critical that adequate political will and lobbying by the stakeholders involved will allow the accepted governance framework to be translated into a workable management paradigm for small-scale fisheries.

Successes: The availability of information on small scale fishery policies and mussel rehabilitation techniques and case studies has allowed us to gain great insight into the issues in this sector as well as providing a strong case for the potential of mussels as a solution to ensuring food security in rural coastal communities.

Challenges: One of the key people involved in mussel rehabilitation and research, Gugu, is currently out of the country so it was not possible to meet with her directly.

Goal 2:Community engagement through a detailed needs analysis

Sigidi is a pastoral community reliant mainly on maize, sweet potatoes, beans and madumbi, as staple foods. Cattle and goats are ubiquitous throughout the area. Not all incomes are solely reliant on agriculture. There are a number of people working in cities. Growth in levels of absolute poverty over 1996–2001 has been greater in the Eastern Cape Province than nationally, with the poverty rate increasing dramatically from 34% to 67% over that period. This situation may have improved since 2004 given the higher levels of growth and employment creation in the last few years, but it is difficult to predict given the inadequacies in the available data. The depth of poverty and inequality in the province are major constraints to the development of the province. Low incomes also limit the potential for government to generate income and fund public works programmes and service delivery. Average annual household income in 2001 for South Africa as a whole was R46 291, while for the Eastern Cape it was R28 468. This was around half the national average income and the second lowest level of income for the provinces.

In terms of infrastructure, many rural communities are relatively isolated and disconnected with very poor road infrastructure. This disconnection has significant negative consequences for local economic development as well as service delivery. The transport of goods and services in this area is hampered by the poor condition of the roads in rural and urban areas, animals on the road, inadequate signage and road markings (low visibility), insufficient drop off areas and infrastructure for taxis in some areas, a lack of capacity to manage transport planning and implementation and weak law enforcement.

The Bizana tar road is in bad condition due to the presence of pot holes and the access road to Sigidi is 43km from the Bizana junction. The road meanders along the south bank of the Mazamba River gorge and is semi hardened with gravel. The road is not graded or maintained resulting in a rough drive of 1.5 hours to reach the Sigidi School. A 3km track from the school to the reseeding site requires an off-road vehicle. Access to the reseeding site via Casino Hotel is 2km necessitating a crossing of the Mazamba River at low tide.

Mining is a significant threat to communities and their environment in the area with an underlying perception by many local people that Bizana municipal officials are giving in to the pressure to mine the coastal dues at Xolobeni. Local communities are in strong opposition to mining in this area.

Successes: We have established, from meetings held with the community, that there is a considerable need for both direct food security within households as well as increased income from local and sustainable economic development. There is also need for support in accessing nearby markets, such as the south coast tourism sector and creating a central point through which to connect to the market.
Challenges: An attempt was made to collect data on average household income in Sigidi, however, as is often the case, local community members were generally not prepared to share this information with us.

Goal 3:Stakeholder mapping to determine key role players and establish strong partnerships with the most relevant organisations

For the stakeholder analysis, we have designated each stakeholder a category, in terms of their power within their organisation and their influence over the success or failure of this project.

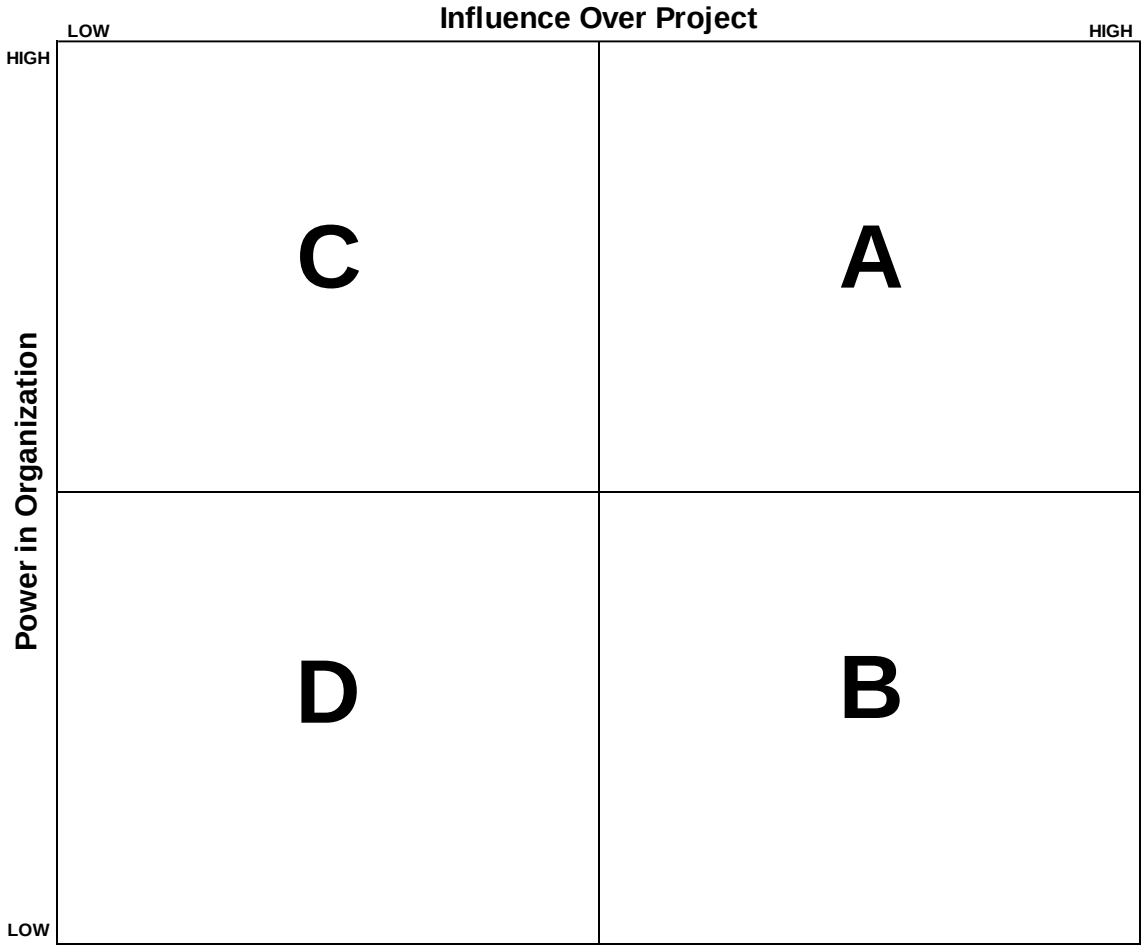

Figure 14. Power/Influence map

Table 1. Stakeholder diagnostic tool

	Key Stakeholder	Contact person	Role in Organization	Power/ Influence Category	Impact of Project on Stakeholder (H, M, L)	Current/Desired Support					Notes	Contact details
						Strongly Opposed	Opposed	Neutral	Supportive	Strongly Supportive		
1	Wild Coast Sun Hotel and Casino	Sonja Stroud	Sustainability manager	D	L				X		Offers assistance in allowing mangrove nursery on hotel property. Permission to access the site via hotel road system. Supplies kitchen waste organic compost. Provides venue for workshops.	Tel: +27 39 3052881 Email:sonja.stroud@suninternational.com
2	Sigidi Conservation Group	Nonhle Mbuthuma	Group Coordinator	A	H					X	Coordinates the activities of the community marine conservation volunteer group	Tel: 0734262955 Email: nonhlembuthuma@gmail.com
3	Department of Agriculture, Forestry and Fisheries Directorate: Forestry Management	M. G. Jakavula	Eastern Cape Deputy Director: Forestry Technical and Information services	D	L				X		Currently in discussions with SRP regards mapping mangroves of Eastern Cape estuaries	Tel: 043 604 5435 Cell: 082 888 0690 Email: McoseleliJ@daff.gov.za
4	Department of Agriculture, Forestry and Fisheries Directorate: Forestry Management	Mzikayise Dandala	Senior Forestry Scientist	D	L				X		Currently in discussions with SRP regards mapping mangroves of Eastern Cape estuaries	Tel: 043 604 5308 Cell: 071 892 8574
5	The Eastern Cape Department of Economic Development, Environmental Affairs and Tourism	Sandiso Zide	Manager : Coastal Zone Management	B	M			X			A meeting was held with Sandiso in March 2015, and discussions have progressed through representation by DEAET Matatiele Office	Tel: 043 605 7256 Email: sandiso.zide@deaet.ecape.gov.za
6	Department of Agriculture, Forestry and Fisheries Directorate: Forestry Management	Vuyisa Joyi	Estate Manager	D	L				X		Currently in discussions with SRP regards researching and developing a mangrove nursery on Mazamba River estuary	Tel: 039 727 6175 Email: VuyisaJ@daff.gov.za

7	Department of Agriculture, Forestry and Fisheries	Thanduxolo Ntshangase	Chief Marine Conservation Inspector	B	M			X			Closest DAFF Fisheries representative to project area	Tel: 0794449951 Email: ThanduxoloN@daff.gov.za
8	The Eastern Cape Department of Economic Development, Environmental Affairs and Tourism	Siyabulela Mtonjeni	Environmental Impact Assessor	D	L				X		Currently in discussions with SRP regards researching and developing a mangrove nursery and a mussel reseeding project in the intertidal zone of Sigidi Village.	Tel: 0820462095/ 0718973089 Email: Siyabulela.mtonjeni@deaet.ecape.gov.za
9	The Eastern Cape Department of Economic Development, Environmental Affairs and Tourism	Dean Ricketts	Biodiversity and Coastal Management	B	L				X		Currently in discussions with SRP regards researching and developing a mangrove nursery and a mussel reseeding project in the intertidal zone of Sigidi Village.	Tel: 0605324302 Email: deanricketts@deat.ecape.gov.za
10	Nelson Mandela Metropolitan University (NMMU)	Stephanie Plön	Coastal and Marine Research Institute	C	M				X		Partner in developing other alternative livelihoods for the community. Expert support with cetacean guide training.	Tel: 041-5042877 Email: Stephanie.Plon@nmmu.ac.za
11	KZN Department of Economic Development, Tourism and Environmental Affairs	Omar Parak	Coastal and Biodiversity Management	C	L				X		Offered support with aspects of blue economy in KZN	Tel: +27 33 355 9438 Email: Omar.Parak@kzndard.gov.za
12	Mbizana Local Municipality	Luvuyo Mahlaka	Municipal Manager	A	M				X		Service provider and supporter for economic development in the area	Tel:(039) 251 0230 E-mail:bgaxela@mbizana.org.za
13	Southbroom Conservancy	Peddy Bam	Chairman of Southbroom Conservancy	C	M					X	Expressed interest in establishing a similar project in KZN and linking up with other conservancies	helped@mweb.co.za
14	Eastern Cape Parks and Tourism Association	Megan van der Bank	Marine Ecologist	D	L			X			Linkage with mKambathi Nature Reserve for possible mussel juvenile stocks	Tel: +27 43 705 4469 Email: Megan.vanderBank@ecpta.co.za
15	Wildlife and Environment Society of	Mike Denison	Biodiversity Programme Manager	A	M				X		Developing a partnership along the Wild Coast on a wide range of coastal micro-economies	Tel: 043 748 5798 Email mike.denison@wessa.co.za

	South Africa (WESSA)											
16	Population Sustainability Network (PSN)	David Johnson	Chief Executive Officer	A	M					X	Established partnership with EWT. Currently working together in Kruger National Park and Bazaruto Archipelago National Park.	Tel: +44 (0)20 3317 5486 Email: dj@populationandsustainability.org
17	Sustaining the Wild Coast (SWC)	Sandy Heather	Chairperson	A	M					X	Local stakeholder and developing a partnership for further collaboration	Tel: 011 462 3176 Cell: 083 653 6480 Email: brash@netactive.co.za
18	University of Cape Town	Serge Raemaekers	Researcher: Small-scale Fisheries Research and Governance	B	M				X		Engagement with post doc researchers in small-scale fisheries research and governance on the policy side	Cell: +27 823660270 Email: serge.raemaekers@gmail.com
20	Walter Sisulu University	Gugu Calvo-Ugarteburu	Zoology lecturer	A	H				X		Key role player in community mussel rehabilitation projects	Tel: 047-532-6820 E-mail: gugu@getafix.utr.ac.za

Successes: The stakeholder analysis was carried out successfully to determine the key people that needed to be informed and/or consulted about this project and contact was made with stakeholders through email, networking events (including CEPF MPAH Forum meetings) and face-to-face discussions.

Challenges: None

Goal 4: Meetings and workshops with relevant officials from the Department of Agriculture, Fisheries and Forestry (DAFF), Eastern Cape provincial conservation agencies and the local mBizana Municipality to secure the buy-in and support from the various tiers of government and ensure that the project feeds into their own targets

Successes: Numerous meetings were held with officials in the Department of Agriculture, Fisheries and Forestry (DAFF), Eastern Cape provincial conservation agencies and the local Bizana Municipality to make them aware of the project and to seek guidance in getting the pilot project off the ground.

Challenges: One of the most significant challenges faced by the project was finding the right people within these departments who are willing and able provide solid guidance and make decisions around permitting. Because we were not seeking a conventional harvesting permit, we were passed from one official to the next and the final person we reached; Asanda Njobeni, the Director of Sustainable Aquaculture at DAFF; never replied to numerous attempts to contact him. The inability of officials to make decisions that exceed normal mandates is a considerable hurdle for projects, seeking to innovate and try different approaches to food security and poverty alleviation issues.

Goal 5: The identification of community members through the appropriate channels who will be integrally involved with the project as part of livelihood initiatives

Successes: Twenty community members were identified and they have registered their organisation Mazamba Project Pty Ltd. Fifteen of the group are women.

Challenges: None.

Goal 6: Feasibility assessment and livelihoods business plan development through a social development partner, who will be identified in due course

Successes: We have attempted to, not only develop livelihood opportunities around mussel harvesting, but also diversify livelihoods options. In July 2015, we held a dolphin and whale guide training at the wild Coast Sun for selected participants from the Sigidi community group. Training was facilitated by Michelle Caputo of Nelson Mandela Metropolitan University (NMMU), who is currently researching cetaceans off the Wild Coast. We intend to develop this training into a further practical day and provide binoculars and uniforms for the trained guides in 2016 as the project progresses.

Figure 15. The training group

Figure 16. The one day theoretical course

Challenges: The project was not able to finalise a partnership with a social enterprise NGO during the project timeframe. We did approach Henley Business School with the hope that they might be able to support the project through training and guidance for micro-enterprise but unfortunately, that is not a field they are currently working in. We also investigated the possibility of partnering with TechnoServe, however they are more focussed on larger projects with a potential to create scalable industries. This project is not quite at the level yet but we are currently in discussions with retailers around strategic partnerships for these market links and we will continue to work towards that possibility in future.

Goal 7: The establishment of a pilot mussel reseeding site to test the efficacy of mussel spat accumulator techniques (this will be adapted, as necessary, and upscaled in the following years)

The Methods for placement nets, shrouds, and spat accumulators is described below:

For placement nets and shrouds: coir geotextile with hessian stitched on inner surface is hand stitched using a sack needle. The rocky surface areas demarcated for spat reseeding are pre measured, and nets are made to size. The rocky substrate is cleaned with a wire brush to remove algae and maximise attachment potential and juvenile mussel spat are spread out under the net prior to net anchoring. In areas where the rock forms a pedestal, measurement is allowed to form a net shroud. The shroud is secured over the rock with coir rope binding. The coir net acts as a retention substrate allowing free spat to form abyssal bonds. Spat collected from retention substrates is reused as new stock.

Figure 17.Left: Coir net outside view; Right: coir net with hessian inner lining

For spat accumulators and retention ropes: coir braids are wound into a shank and the spat accumulator is affixed at either end with a washer and steel pin through a dowel plug. Coir retains strength when wet, and its fibrous nature allows for abyssal bonding.

Figure 18.Left: coir spat accumulators; Right: nylon and coir substrates

For the pin and anchor system: many techniques of affixing nets to the rocky substrate have been tried. Cordless electric drills are not an option due to water splashing. Pneumatic and hydraulic drills are cumbersome to site locate, and are expensive. Glues, cements, and epoxy's are not environmentally friendly. SRP's recommended technique of anchoring protective nets is low impact, cost effective and accessible. The rock drilling is by hand held 7mm cold chisels in combination with 7mm masonry drill bits powered by a hand brace. Holes are drilled to 30mm, and plugged with a 10mm wooden dowel and a pine cut and drilled washer holds the coir net in place. An 8mm galvanised nail is inserted through the washer and net into the dowel plug to secure the device.

Figure 19. Left: Plug, nail and washer; Middle: brace and masonry bit; Right: pine washer, galvanised pin and dowel plug inserted after hand drilling

Reclamation of nets, anchors and pins is effected before fibre degradation by extracting all anchor material and filling holes with a mixture of cement and drill tailings. Old nets are wound into chords for spat accumulator ropes.

Figure 20.Left: Cold chisel with rebar extension and tap and twist handle; Right: completed net

For the transportation of live spat: vibration from road surfaces is transmitted through the containment vessel during transportation, which could impact on their survival rates. It is recommended that mussel spat in transit be suspended in a net bag within the water body. Buckets settled upon a sponge surface will further elevate vibration. The container should have a breather pipe located in the lid, and preferably be white in colour.

Figure 21. Transport container with ventilation

For resource management and documentation: nets and equipment are inspected on a daily basis and repairs to damaged nets and accumulator ropes are undertaken immediately. Growth rates, tidal conditions, spat fall occurrence, and mussel counts are recorded on a regular basis by appointed monitors from the community. Adult mussel colonies form the base for new recruitment. It is essential to allow a year of adult growth before harvesting.

Such recruitment may be used to extend the colony area, or assist sister groups to reseed new areas.

Successes: The equipment for the various methods was constructed and mussel spat was collected by SRP.

Challenges: DAFF officials did not allow us to continue with the pilot reseeding effort in the field, due to issues with permitting. After a number of attempts to secure permits for this specific activity, we are yet to receive the go-ahead to continue with the field trial. Our perception is that at the national level, government is trying to drive the concept of "Oceans Economy" and with the establishment of Operation Phakisa, attempts are being made to open up avenues for mariculture activities. However, this vision is not being communicated effectively to local and provincial government offices, where the mandate is strictly around compliance and enforcement.

Goal 8: The mapping of local clinics for family planning support and training through our PHE partnership

The greater Amadiba community in the area closer to Port Edward have a moderate sized clinic. Emergency case patients are referred to St Patrick's Hospital in Bizana for special attention. The clinic has a water system, and electrification. Sigidi village has a newly built clinic, yet no local ambulance service. Patients injured or critically ill need to call a Bizana ambulance, which in most cases takes hours to reach the patient. Basic health care is undertaken by nurses and visits by doctors are twice weekly. The clinic has a photovoltaic electrical system and water is supplied from rain tanks which are supplemented by a road tanker.

In terms of reproductive healthcare, the Sigidi clinic offers basic birth control to women and does not have a Gender-based Sexual Violence (GBSV) Unit. Mobile clinics are infrequent, unable to reach remote areas, and cited as not well stocked with basic health care supplies.

Successes: We now have a clear idea of what kind of access the Sigidi community has to family planning and gender-based sexual violence support. This is a firm basis for developing an integrated programme around natural resource conservation and the impact of increasing human populations at the project level.

Challenges: Finding information on local healthcare facilities is not easy – it requires site visits to the clinics and is sometimes met with suspicion by staff.

Goal 9: Feasibility assessment for Early Childcare Development (EDC) centres where childhood nutrition and environmental education will be the focus through PHE

Education levels in the districts within the former Transkei are very low, with 23% of the population having no schooling and only 25% having obtained Matric and/or tertiary educational qualifications. An estimated 95% of learners walk to school, with 36% of these walking longer than 30 minutes.

In the village, there is the Sigidi Senior Primary School, which is a public primary school. In 2014 there were 129 registered learners, including 19 Grade R learners. The school has new prefabricated classrooms as an addition to permanent structures and secondary classrooms. A photovoltaic electrical system has been vandalised, and replaced by overhead cable. The cable placement appears strange, as the high voltage cable runs for 40km to supply a single school, yet does not supply the clinic, or residents en route. Sentube Junior Secondary School is a public combined school in Sigidi. In 2014 there were 435 registered learners, including 39 Grade R learners.

There is also a pre-school crèche in the village where efforts could be directed in terms of early childhood development support.

Successes: We have established the baseline for partners to take PHE work forward within an integrated programme.

Challenges: Pre-schools and home-based crèches are difficult to find and require on-site verification.

1.3 Were there any unexpected impacts (positive or negative)?

No.

2 Project Components

Please report on results by project component. Reporting should reference specific products/deliverables from the approved project design and other relevant information.

2.1 Project Deliverable 1: Proposal for further funding of the project to upscale and include an integrated approach

This report will form the basis for any funding proposal, going forward. We are currently exploring broader partnerships in the Blue Economy space and will be approaching relevant donors to continue with the project and ensure that the permit issues are resolved and we can put forward a comprehensive case for the continuation of this project, together with its key partners and stakeholders.

Were any components unrealized? If so, how has this affected the overall impact of the project?

The pilot mussel rehabilitation activity was not fully realised. It was not envisioned that we would encounter such considerable resistance by provincial governmental agencies to the mussel reseeding pilot. It did affect our ability to demonstrate to the community and future investors that mussel rehabilitation is possible and can contribute towards food security and increased income for coastal communities. However, based on the previous mussel rehabilitation work done by KZN Ezemvelo and Walter Sisulu University, we can at least point to successful attempts as well as safeguard against the risks that were identified in those projects in future.

Due to the challenges in establishing the pilot reseeding activity, we were not able to achieve 100% expenditure on the budget.

Please describe and submit (electronically if possible) any tools, products, or methodologies that resulted from this project or contributed to the results.

See attached dolphin and whale guide training course material.

3 Lessons Learned

Describe any lessons learned during the design and implementation of the project, as well as any related to organizational development and capacity building. Consider lessons that would inform projects designed or implemented by your organization or others, as well as lessons that might be considered by the global conservation community.

3.1 Project Design Process: (aspects of the project design that contributed to its success/shortcomings)

The project was developed as a direct response to requests by the Sigidi community. This ensured the buy-in from the community from the beginning.

3.2 Project Implementation: (aspects of the project execution that contributed to its success/shortcomings)

Direct communication with people involved with the previous mussel rehabilitation was not maximised. We could have worked a lot more closely with the Coffee Bay researchers to find out which routes they took to obtain permits to begin reseeding. We may have been able to approach it more from a research perspective, which would have assisted government agencies in authorising our activities.

3.3 Other lessons learned relevant to conservation community:

Strong partnerships with the relevant organisations and individuals is key to successful integrated projects. Each organisation brings their own strengths and experience to the table and this allows for a far greater impact than one organisation trying to undertake everything.

4 Additional Funding

Provide details of any additional funding that supported this project and any funding secured for the project, organization, or the region, as a result of the CEPF investment in this project.

****Additional funding should be reported using the following categories:***

A. *Project co-financing (Other donors or your organization contribute to the direct costs of this project)*
B. *Grantee and Partner leveraging (Other donors contribute to your organization or a partner organization as a direct result of successes with this CEPF funded project.)*
C. *Regional/Portfolio leveraging (Other donors make large investments in a region because of CEPF investment or successes related to this project.)*

Donor	Type of Funding	Amount (2014-2015)	Notes
—	—	—	—

In-kind donations were made to SRP by Trident Jute for the hessian material and proposals are being prepared for Pioneer Foods and Industrial Development Corporation as a result of this CEPF seed funding.

5 Sustainability/Replicability

Summarize the success or challenge in achieving planned sustainability or replicability of project components or results. Summarize any unplanned sustainability or replicability achieved.

Project sustainability is a concern on this project as we have not secured any continuation funding. However the EWT is exploring partnerships and funding avenues that would allow us to continue with efforts to secure permits and following on from that, we will be able to complete the pilot on site.

As this is year 1 of a 3 year project, we are comfortable that we are on track to getting a replicable and scalable mussel rehabilitation project fully underway at Sigidi.

6 Safeguard Policy Assessment

Provide a summary of the implementation of any required action toward the environmental and social safeguard policies within the project.

No actions were identified in the proposal for environmental and social safeguards as we did not intend on undertaking activities that would compromise these.

7 Additional Comments/Recommendations

Although we did have considerable challenges in getting the mussel rehabilitation pilot off the ground within the timeframe of this CEPF grant, we did manage to establish a detailed baseline and literature review for the project as well as organising the community conservation group into a formal entity. This CEPF seed grant has succeeded in initiating this project and we fully intend to leverage the work done to date to achieve our log-terms goals.

8 Information Sharing and CEPF Policy

CEPF is committed to transparent operations and to helping civil society groups share experiences, lessons learned, and results. Final project completion reports are made available on our Web site, www.cepf.net, and publicized in our newsletter and other communications.

Please include your full contact details below:

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Tel: +27 (0) 11 372 3600
Private Bag X11, Modderfontein, 1645, Gauteng

*****If your grant has an end date other than JUNE 30, please complete the tables on the following pages*****

9 Performance Tracking Report Addendum

CEPF Global Targets

Grant Term: **1 June 2014 to 30 August 2015**

Provide a numerical amount and brief description of the results achieved by your grant. Please respond to only those questions that are relevant to your project.

Project Results	**Is this question relevant?**	**If yes, provide your numerical response for results achieved during the annual period.**	**Provide your numerical response for project from inception of CEPF support to date.**	**Describe the principal results achieved from 1 June 2014 to 11 August 2015. (Attach annexes where necessary)**
1. Did your project strengthen management of a protected area guided by a sustainable management plan? Please indicate number of hectares improved.	No			*Please also include name of the protected area(s). If more than one, please include the number of hectares strengthened for each one.*
2. How many hectares of new and/or expanded protected areas did your project help establish through a legal declaration or community agreement?	No			*Please also include name of the protected area. If more than one, please include the number of hectares strengthened for each one.*
3. Did your project strengthen biodiversity conservation and/or natural resources management inside a key biodiversity area identified in the CEPF ecosystem profile? If	Yes	0.045 ha	0.045 ha	A Rocky Intertidal Zone between Mazamba and Maphlane River Estuaries. Being an area of rocky intertidal shoreline measuring 150m x 30m. Total of

so, please indicate how many hectares.				450msq, allocated for Mussel reseeding
4. Did your project effectively introduce or strengthen biodiversity conservation in management practices outside protected areas? If so, please indicate how many hectares.	No			
5. If your project promotes the sustainable use of natural resources, how many local communities accrued tangible socioeconomic benefits? Please complete Table 1 below.	Yes	1	1	The Sigidi community have benefitted from dolphin and whale guide training and are working with us to secure coastal sustainable mariculture areas

If you answered yes to question 5, please complete the following table:

Table 1. Socioeconomic Benefits to Target Communities

Please complete this table if your project provided concrete socioeconomic benefits to local communities. List the name of each community in column one. In the subsequent columns under Community Characteristics and Nature of Socioeconomic Benefit, place an X in all relevant boxes. In the bottom row, provide the totals of the Xs for each column.

Name of Community	Community Characteristics								Nature of Socioeconomic Benefit											
									Increased income due to:											
	Small landowners	Subsistence economy	Indigenous/ ethnic people	Pastoralists/nomadic people	Recent migrants	Urban communities	Communities falling below the poverty rate	Other	Adoption of sustainable natural resources management practices	Ecotourism revenues	Park management activities	Payment for environmental services	Increased food security due to the adoption of sustainable fishing, hunting, or agricultural practices.	More secure access to water resources	Improved tenure in land or other natural resource due to titling, reduction of colonization etc.	Reduced risk of natural disasters (fires, landslides, flooding etc.)	More secure sources of energy	Increased access to public services, such as education, health, or credit	Improved use of traditional knowledge for environmental management	More participatory decision-making due to strengthened civil society and governance	Other
Sigidi		X	X				X		X	X			Long term goal								
Total		1	1				1		1	1											

If you marked "Other", please provide detail on the nature of the Community Characteristics and Socioeconomic Benefit:

10 References

Reyers, B. and Ginsburg, A. (2005) Conservation assessment of the Wild Coast. *CSIR Report No. ENV-S-C 2005-022.*

Raemaekers, S. (2009) Rethinking South Africa's small-scale fisheries management paradigm and governance approach: evidence from the Eastern Cape. *PhD Dissertation: Rhodes University*

Macala, L. (2013) Identification and evaluation of key factors for rehabilitation of shores denuded of mussels (*Perna perna*) along the Transkei Coast, South Africa. *MSc Dissertation: Rhodes University*

Paliso, Q. (2002) co-management of mussel resources: the case studies of Sokhulu and Coffee Bay projects in South Africa. *MSc Dissertation: University of Natal*