Community Engagement Evaluation of the TurtleCare Program

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Executive Summary

TurtleCare Sunshine Coast is a volunteer marine turtle nesting monitoring, protection and conservation program coordinated by Sunshine Coast Council's Environmental Operations Branch. TurtleCare officially began in 2005, with a small number of interested residents monitoring nest occurrences at Shelly Beach. The program's study area now covers 22km of beach from North Bribie Island to Mooloolah River. Endorsed by Council as a community volunteer program in 2007, the program has over *170 volunteers (2017/2018 nesting season). TurtleCare Sunshine Coast operates under the Queensland Government Turtle Conservation Project as a collaborative research partnership.

A critical review of citizen science within TurtleCare focused on program aims and objectives, volunteer and community involvement, and the identification of potential program gaps. Five stakeholder groups, central to the TurtleCare Program, were examined: Sectional leaders, volunteers, residents, local businesses and Divisional Councillors. Interviews and online survey responses suggest community awareness of the TurtleCare program is high (90%, n= 165). Community engagement within TurtleCare is supporting Council's aim *to sustain an ongoing marine turtle monitoring program* as some volunteer assist *to identify and record species, nesting locations, frequency and success rates of nesting activity.* Sectional leaders and volunteers felt the program was well organised and that being a TurtleCare volunteer is a *positive*, *meaningful* experience that *encouraged skills and knowledge development* and *increased their personal confidence*. The program has been sustained for 10 years with the program having *good leadership,* supported *by highly educated professionals* and *quality leadership from Councillors.*

The program aims to *encourage awareness and commitment to turtle conservation through the study and enjoyment of turtles and protection of their environment.* Ninety percent (n= 184) of respondents stated the TurtleCare program is achieving these aims. The inclusion of volunteers *encourages awareness and commitment* and the protection of the turtles' environment as volunteers are invited to participate in community events such beach clean ups. Almost three quarters (74%; n= 107) of residents were aware of what actions could be taken to protect sea turtles.

Recommendations to strengthen and sustain community engagement in the TurtleCare program include:

- the participant experience should be explicitly outlined and systematically evaluated in the TurtleCare guidelines
- volunteers to be actively engaged in the development of a communication strategy,
- strong support for ongoing public interaction and education training,
- increasing participation by younger community members,
- "Tourist for Turtles" one-off or casual short-term volunteer activities,
- the provision of intra-season training to enhance both hard and soft skills and support team building and promote and strengthen bonding,
- systematic and periodic (yearly) evaluation of the stakeholder experience and
- increase volunteer engagement through meaningful research-community interactions

*NOTE: There were 200 volunteers recorded in the 2018/2019 nesting season

1.0 Introduction

Community-based participation in research projects is rising, as is the need to understand, and evaluate these types of community programs. TurtleCare, as a community turtle monitoring program, has been running on the Sunshine Coast for over 10 years. Growing from a grassroots community group, TurtleCare now coordinates over 200 dedicated volunteers with the support from the funding efforts of Sunshine Coast Council. Volunteers are integral to the program's success, and program evaluation is a critical component in achieving intended outcomes. The purpose of this report is to provide an evaluation of Sunshine Coast Councils TurtleCare program based on the programs stated aims and objectives.

The report outlines the aims and positions the evaluation within a citizen science framework, followed by the methodical approach undertaken. Results elucidate the mostly qualitative responses from program sectional leaders, volunteers, residents, local businesses owners/managers and regional Divisional Councillors. The report concludes with a discussion and recommendations to inform gaps in the program's aims and future community engagement of the TurtleCare program.

2.0 Aims and Significance

With growing recognition of the potential value of community-based participation in research, there has arisen a greater need to understand and evaluate these types of community programs. Outcome-centred assessment explores the impact on participants regarding the program's goals, with the aim of improving implementation and managerial decision making. There needs to be a greater understanding of the participants (demographic characteristics, diversity etc) (Wright et al., 2015) as greater understanding will assist in the recruitment, engagement, retention and increased inclusion to achieve focal and broader outcomes. Research findings within community (citizen science) programs suggest the majority conducted less than rigorous or no evaluation about the participants and broader stakeholder groups (Phillips et al., 2014). A lack of evaluation reduces the effectiveness of program efforts and outcomes (Phillips et al., 2014).

The aims for this community engagement evaluation included:

- a review of the TurtleCare Sunshine Coast Operational Guidelines aims and objectives;
- investigation of the volunteer experience (sectional leaders and volunteers);
- local resident perceptions of the TurtleCare program (including potential impacts);
- the citizen science benefits of the program;
- identify and address the current gaps in the program;
- provide recommendations for the future community engagement of the TurtleCare program within the context of citizen science.

In addition to the focal aims, these programs seek to explore, understand, and inform the broader community about the complexity of the natural world. Effectively designed citizen science projects create inclusive volunteer opportunities that increase:

- public awareness and strengthen attitudes towards important issues (Crall et al., 2013; Cronje et al., 2011),

- build social capital, research experience, skills and knowledge,
- an inclusive means for the wider community to be involved in research (data collection, analysis and reporting), and
- offer avenues for participants to *'make a difference'* (Brightsmith et al., 2008; West, 2008; Wearing, 2001).

3.0 Citizen Science Background

Community engagement in science-based programs such as TurtleCare can be posited within citizen science. Citizen science is a form of collaborative research that aims to facilitate engagement between experts (researchers) and non-professionals (amateur researchers, visitors and the public) to support the voluntary collection, categorisation, transcribing, and/or analysis of scientific data (Bonney et al., 2014). Shirk et al., (2012:2) used the term Public Participation in Scientific Research (PPSR) or "…intentional collaborations in which members of the public engage in the process of research to generate new science-based knowledge".

A successful citizen science-based program aims to give participants a voice to determine program activities, influence policies that may ultimately affect their lives and generates a sense of ownership by providing opportunities for learning, builds capacity and enhances responsibility. Conservation researchers have long lacked sufficient funding to carry out their work (Brightsmith et al., 2008). Simultaneously, within public policy, there have been growing calls for greater public participation in science (Bryson et al., 2013). When seeking large volumes of data, local community members can offer more sustained engagement as they pass by the data collection point on a regular basis and thus, have a sense of 'ownership' based on being able to actively support their home environment.

Program evaluation is deemed a critical component in achieving intended outcomes. A comprehensive evaluation provides organisers with an understanding of the program's impact (Phillips et al., 2014). This includes how the program is achieving its desired goals, as well as identification of unanticipated outcomes. This in-depth and objective understanding is very useful in improving the program as it evolves (Kieslinger et al., 2017) and can be used as justification to potential funders and partners (Chase & Levine, 2016; Phillips et al., 2014; Pocock et al., 2014; Porticella et al., 2013; Shirk & Bonney 2015; Wyler, 2015). The approach of the researcher to project evaluation must be thoughtfully considered. Evaluation is valuable at any point, yet it is most useful as a summative exercise (Blackstock et al., 2007; Dicksinson & Bonney, 2015; Oliver et al., 2008; Porticella et al., 2013; Shirk & Bonney, 2015). Phillips et al., (2014), argue that, for best results, evaluation should occur before, during and after the program is implemented, and engage diverse stakeholders in the appraisal of the program for the broader and most useful understanding of its strengths and weaknesses (Blackstock et al., 2007; Collay et al., 2015; Mochnick, 2016; Shirk & Bonney, 2015; Wyler, 2015).

4.0 Evaluating the Sunshine Coast TurtleCare Program

The TurtleCare program on the Sunshine Coast has been running for 10 years with scientific outcomes offering greater insight into turtle biology and ecology. TurtleCare Sunshine Coast (TurtleCare) is a volunteer conservation program coordinated by Sunshine Coast Council that undertakes marine turtle nesting monitoring and protection. TurtleCare officially began in 2005, with a small number of interested residents monitoring nest occurrences at Shelly Beach. The programs study area has expanded to include a 22-km stretch of coastline from North Bribie Island to the Mooloolah River (Figure 1). The program was endorsed as a Council supported community volunteer program in 2007 and has since grown to over 170 volunteers in the 2017/2018 nesting season. TurtleCare Sunshine Coast operates under the Queensland State Government turtle conservation program in a collaborative research partnership agreement and is managed by the Sunshine Coast Council's Environmental Operations Branch.

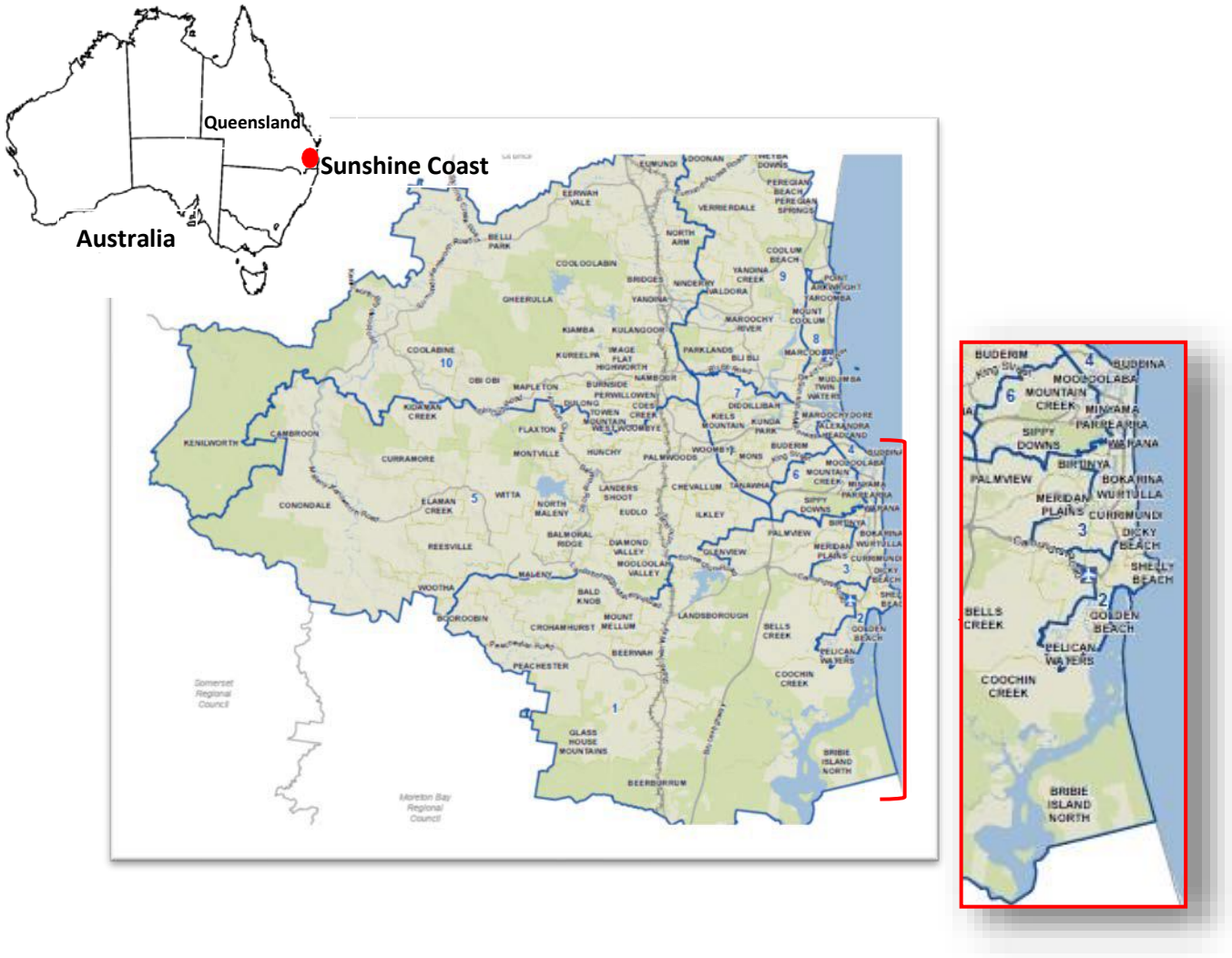

Figure 1. Sunshine Coast Electoral Divisions Map showing the focal TurtleCare beaches

As with many other citizen science-based programs, TurtleCare has focused on the environmental, scientific-based evaluation. The stated aim of TurtleCare is to "implement an ongoing marine turtle monitoring program for nesting activity on Sunshine Coast beaches (North Bribie Island – Point Cartwright) to identify and record species, nesting locations, frequency and success rates of nesting activity". With the programs objectives as follows:

- To monitor and maintain nesting conditions in as close to the natural state as possible, with minimal interference with habitat, turtles or nests
- To gain an understanding of how turtles react to increasing impacts from urbanisation (i.e. Threatening processes by people, domestic animals, feral species and litter) and find a united approach to reduce those threats along the Sunshine Coast
- To encourage community awareness and commitment to turtle conservation through the study and enjoyment of turtles and protection of their environment
- To monitor turtle nesting populations for the two known nesting species, Loggerhead (*Caretta caretta*) and Green (*Chelonia mydas*) turtles, on Sunshine Coast beaches and provide annual nesting records to the Department of Environment and Heritage Protection (DEHP)
- To monitor the emergence success of clutches
- To monitor and minimise fox predation
- To enlist the assistance of the local authority and Queensland Parks and Wildlife Service regarding regular pest management program to control predator numbers and provide assistance with monitoring predator numbers and locations as part of this control program
- To establish a network for reporting marine strandings and assisting injured turtles on Sunshine Coast beaches

Engagement with local communities is essential to the development of a successful local monitoring program. To investigate community engagement, more qualitative data is required to understand the participants' enjoyment of the program, skills and confidence developed, the evolution of their attitude towards science, and adoption of stewardship roles (Phillips et al., 2014). The socio(social)-ecological dimension explores the impact of the program for enhancing skills and capacity such as knowledge gained, confidence and communication. In addition, the attitudes and understanding of the TurtleCare program as perceived by other stakeholders are explored.

5.0 Methodology

Predominantly qualitative data was collected via interviews and online surveys in November 2018. Qualitative responses add depth and clarity by offering respondents the opportunity to include personal insights, feedback and to respond comprehensively. Descriptive analysis was undertaken to address project objectives.

5.1 Project objectives

The objectives of this evaluation were to:

- Provide a critical review and evaluation of the TurtleCare program focused on volunteer and community involvement.
- Identify the current gaps in the program's aims and objectives, pertaining to volunteer and community expectations and citizen science outputs.
- Develop recommendations for the future community engagement of the TurtleCare Program within the context of citizen science.

5.2 Data Collection

USC human ethics and Sunshine Coast Council approved interview questionnaires, online surveys, recruitment protocol, and invitations developed for data collection from five key participant groups: Sectional leaders, volunteers, residents, business owners/managers and Divisional Councillors. Data collection for each participant group varies as outlined. In-depth interviews were conducted with two groups:

- Sectional Leaders
- Divisional Councillors

5.2.1 Divisional Councillors

All 10 regional Divisional Councillors were invited to participate. A semi-structured, de-identified survey sought to examine the program awareness, program characteristics (program strengths, weaknesses, opportunities) and extent to which the TurtleCare Sunshine Coast Operation Guidelines achieved program aims and objectives.

5.2.2 Sectional Leaders

Sectional Leaders are those volunteers who assist to offer Sunshine Coast Council officers support for the coordination and management of sectional teams engaging in TurtleCare activities. All 14 leaders were invited to participate. A semi-structured, de-identified survey sought to examine the descriptive characteristics (demographic data), participation characteristics (length of participation), experience within the program (personal capacity building, achievement of program relevant knowledge and skills, communication skills, confidence) and program characteristics (program strengths, weaknesses, opportunities).

Online surveys were utilised to collect data from three groups:

- Program volunteers
- Local residents
- Local business owner/managers

5.2.3 Program volunteers

The number of TurtleCare volunteers has grown steadily from 2005/06 season (33 volunteers) 170 volunteers in 2017/2018. Seventy-four volunteers (47%) chose to complete the online survey. This does not include the current sectional leaders.

An invitation was sent by the Sunshine Coast Council to all volunteers listed within the Sunshine Coast Council TurtleCare database. Invitations included links to an anonymous survey that sought to elicit descriptive characteristics (demographic data), participation characteristics (length of participation, expectations), experience within the program (personal capacity building, achievement of program relevant knowledge and skills, communication skills, confidence) and program characteristics (program strengths, weaknesses, opportunities).

5.2.4 Residents

To delineate the broader resident population of the Sunshine Coast, a boundary was demarcated based on the main arterial road that runs parallel to the nesting beaches (Figure 2). Approximately 5000 residents within this corridor were sent an invitation by the Sunshine Coast Council. The invitations included links to an anonymous survey that sought to examine awareness of the TurtleCare program, understanding of turtle nesting and conservation on the Sunshine Coast, as well as descriptive characteristics (demographic data), volunteer activity, and extent to which the TurtleCare Sunshine Coast Operational Guidelines achieved program aims and objectives. For those seeking more information, a link to the TurtleCare Program page on the Sunshine Coast Council website was included after completing the online survey.

Figure 2. Boundary delineating broader resident population

5.2.5 Local business owners/managers

To delineate a sample group, the geographic boundary was demarcated based on immediate proximity to the nesting beaches. Of the 31 identifiable businesses and organisations, 19 invitations (63%) were successfully emailed. The invitations included links to an anonymous survey that sought to examine awareness of the TurtleCare program, understanding of turtle nesting and conservation on the Sunshine Coast, descriptive characteristics and extent to which the TurtleCare Sunshine Coast Operational Guidelines achieved program aims and objectives.

6.0 Results

Successful citizen science-based projects purport the importance of participant diversity. A diverse participant group may strengthen project outcomes, influence recruitment, retention and engagement. Diversity can be evaluated by examining participant demographics, commitment and motivation, training and education, and collaboration. Responses were collected to offer insights into the program, based on the experiences and understanding of five stakeholder groups. This section commenced with the demographic characteristics of the four stakeholder groups: Sectional Leaders, volunteers, residents, and businesses. This is followed by key findings from the five stakeholder groups. Finally, a summary of the remaining data is provided.

6.1 Demographics characteristics of stakeholder groups

Demographic characteristics were collected from four of the five stakeholder groups: Sectional leaders (n= 13), volunteers (n= 74), residents (n= 144) and business owners/managers (n= 3). It is noted that not all participants answered all questions.

Gender: Participants within these four groups were mostly female (67% ; n= 155) (Figure 3).

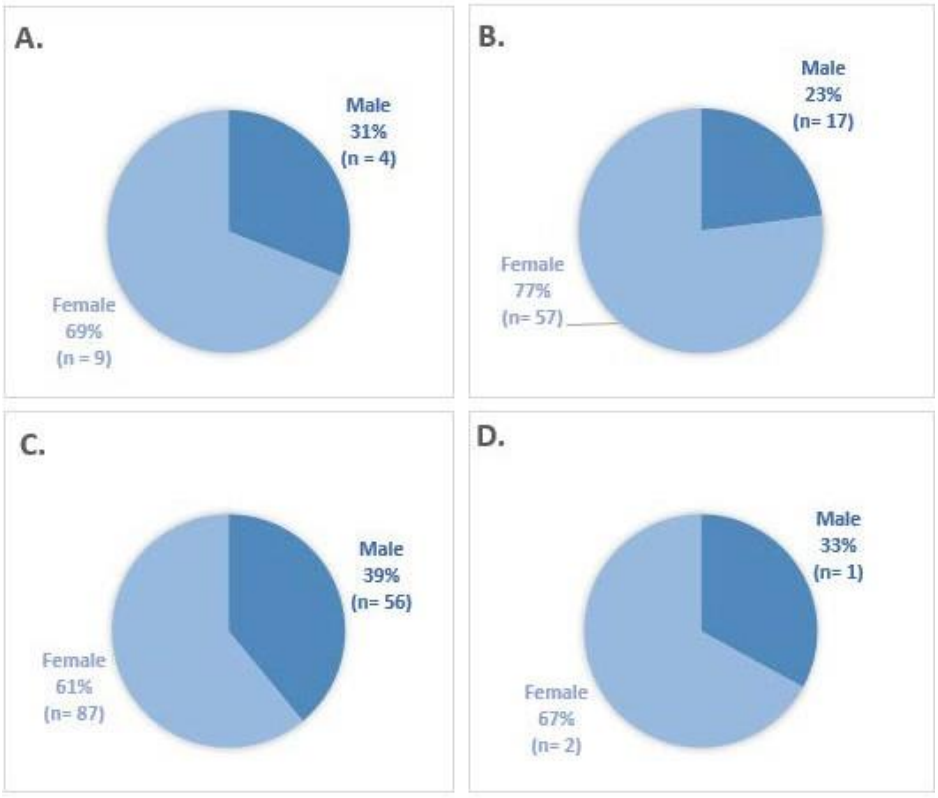

Figure 3. Gender (A) Sectional leaders, (B) volunteers, (C) residents, (D) businesses

Age: Approximately one third of participants were within the 55–64 years age group (30%, n= 70) with more than half aged between 45-64 years (56%; n= 130) (Figure 4).

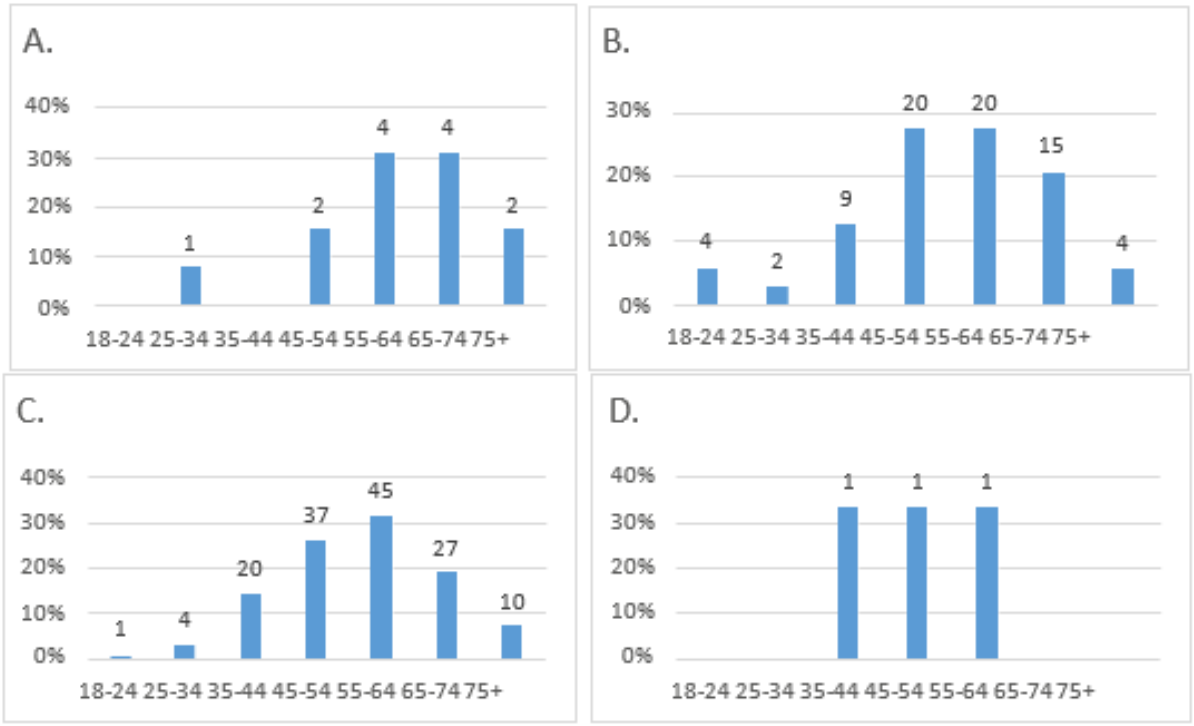

Figure 4. Age related demographic data (A) Sectional leaders, (B) volunteers, (C) residents, (D) businesses

Education: The highest level of education varied with the majority holding a university degree (36%; n= 84) (Figure 5).

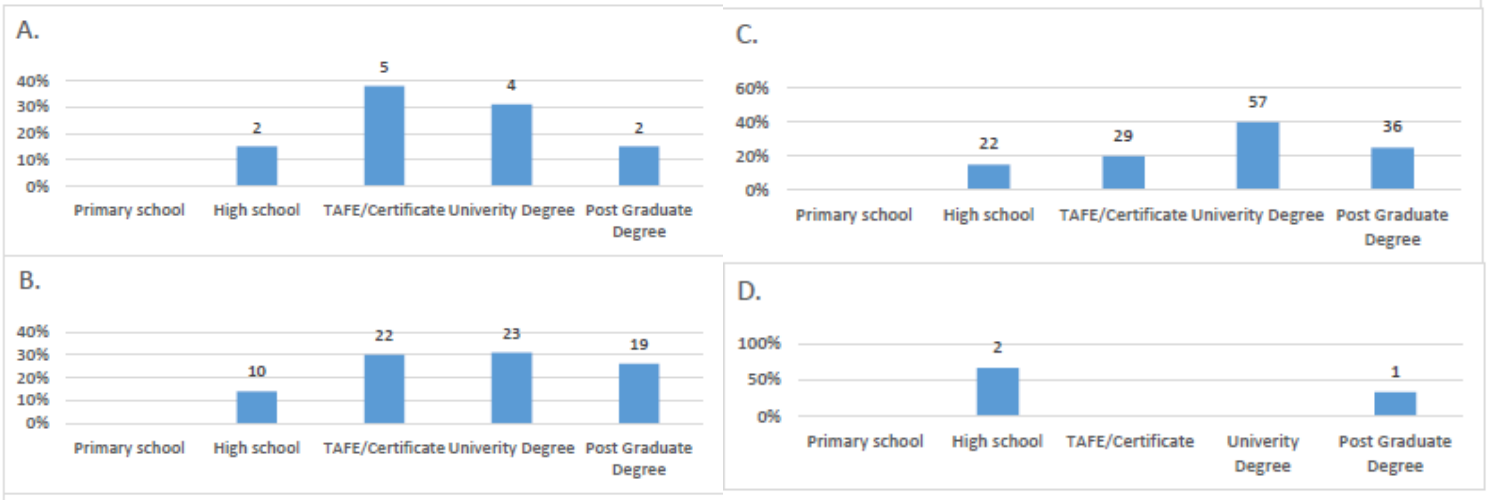

Figure 5. Level of education for (A) Sectional leaders, (B) volunteers, (C) residents, (D) businesses

Principle place of residence: Participants were geographically dispersed throughout the Sunshine Coast with most residing in Buddina (21%; n= 50) (Figure 6). Note: due to the small sample size, the Regional divisional councillor residential suburbs have not been included.

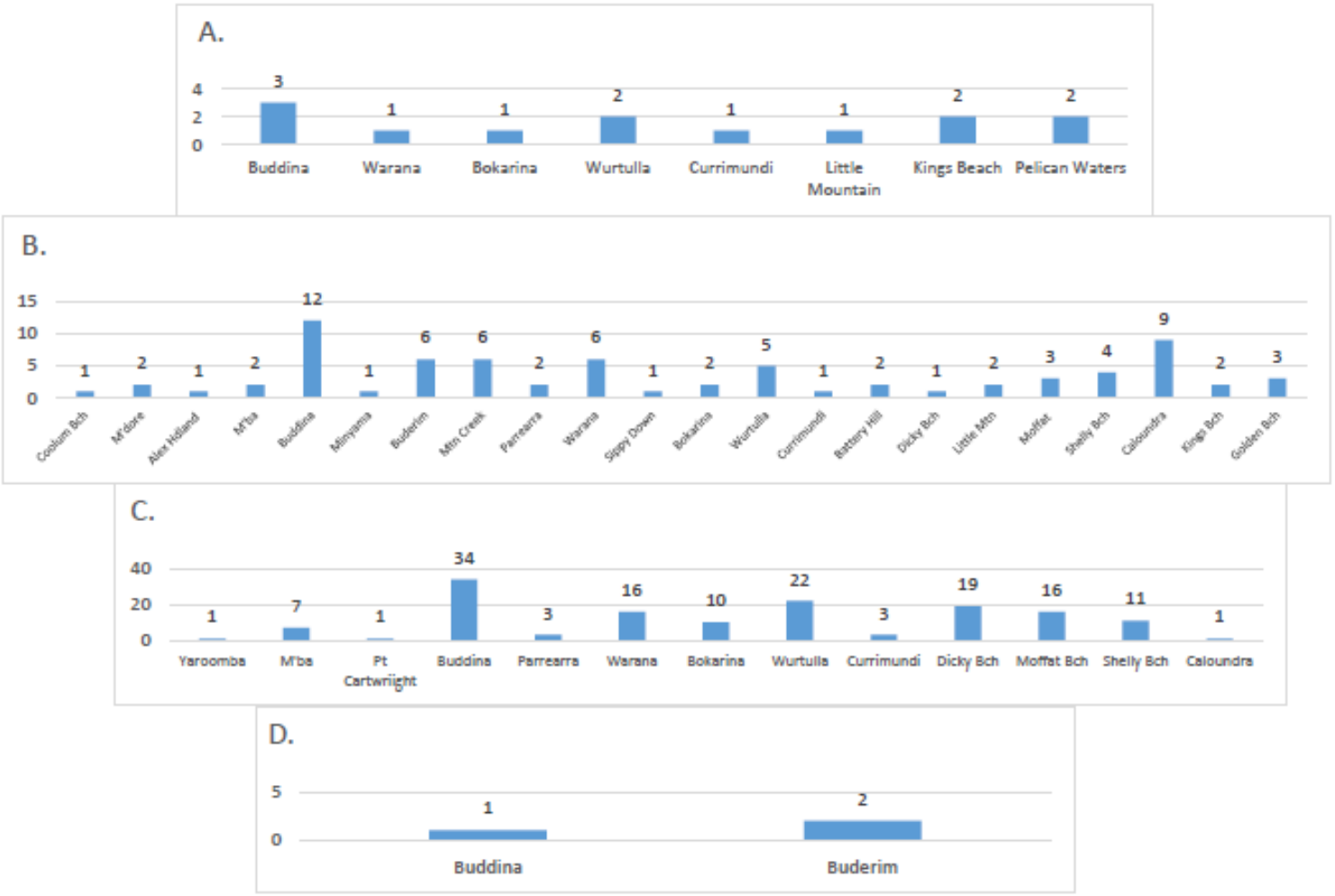

Figure 6. Residential suburbs for (A) Sectional leaders, (B) volunteers, (C) residents, (D) businesses

6.2 Sectional Team Leaders and Volunteers: Participation Characteristics

Volunteer activities within TurtleCare can be undertaken in different capacities. A volunteer (walkers with no accreditation), an accredited volunteer (have been with the program for more than one season, completed the training offered at Mon Repo and gained accreditation) or a Sectional leader. Sectional leaders are accredited volunteers responsible for organising and coordinating their beach teams; they also record and pass on collected data to Council officers within TurtleCare. In 2018, there were 14 TurtleCare sectional leaders.

TurtleCare Volunteers (SCC 2018)

TurtleCare volunteer groups consist of residents who have access to nesting beaches and can commit to an ongoing roster, preferably daily or at least weekly, for three to four months over Summer. Typical duties include monitoring and maintaining nesting conditions, turtle nesting populations, emergence success of clutches and minimising fox predation (SCC 2018).

Both groups were asked how long they had been volunteering with TurtleCare. Over one third (39%; n= 5) of Sectional leaders stated they had been volunteering for 10 years or more. Similarly, almost half (46%; n= 6) had been acting in the role of Sectional leader for more than 10 years. In contrast, volunteers had been actively participating with the program for five years or less (84%; n= 61). Fourteen volunteers indicated it was their first year/season (19%) (Figure 7).

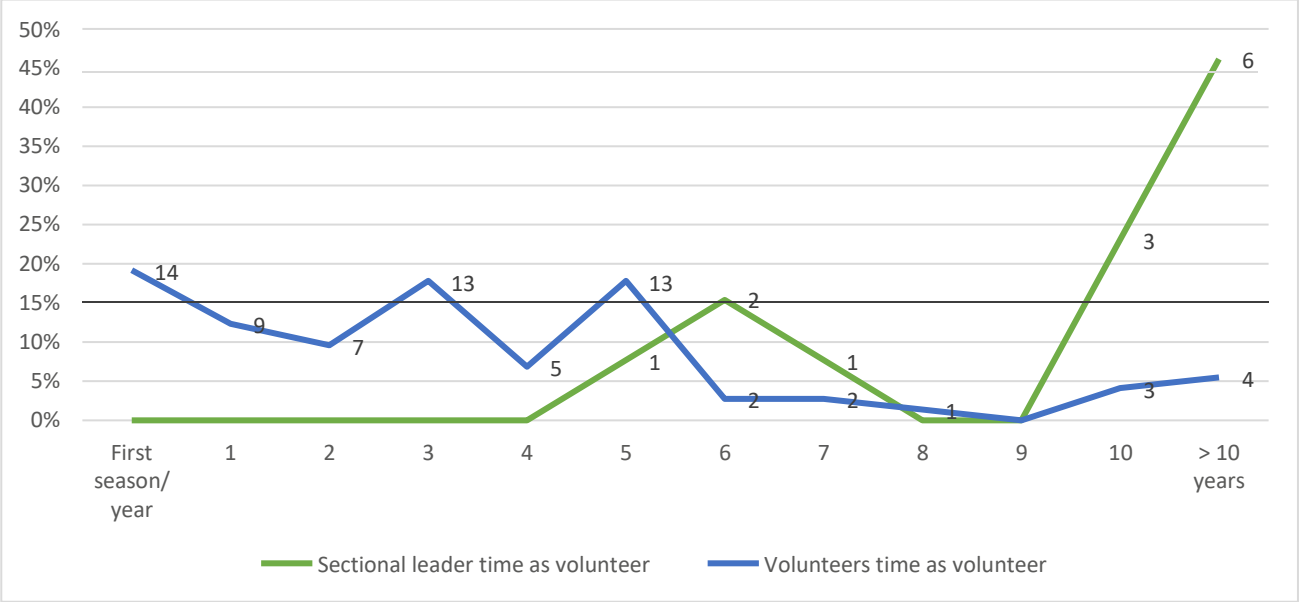

Figure 7. Time spent volunteering with TurtleCare

6.2.1 Reflecting on the TurtleCare experience

Sectional leaders and volunteers were asked to reflect on their expectations, satisfaction and involvement within the program.

Expectations are described as the strong hope or belief that something will happen, or that we will get/achieve something we want. In addition, *satisfaction* is defined as the fulfilment of one's wishes, expectations, or needs, or the pleasure derived from this. As satisfaction is related to expectations, both were examined.

All 13 sectional leaders indicated their expectations had been met as a TurtleCare volunteer. Over three quarters (77%; n= 10) indicated they were very satisfied, while 23% (n= 3) were satisfied being a TurtleCare volunteer.

The most frequently used words expressed by sectional leaders about their expectations were collated into nine key themes (Figure 8). Participants stated their expectations were centred

on education (about turtle and marine life), the environment, and being able to engage with like-minded people. Interestingly, several participants had no expectations (38%; n= 5).

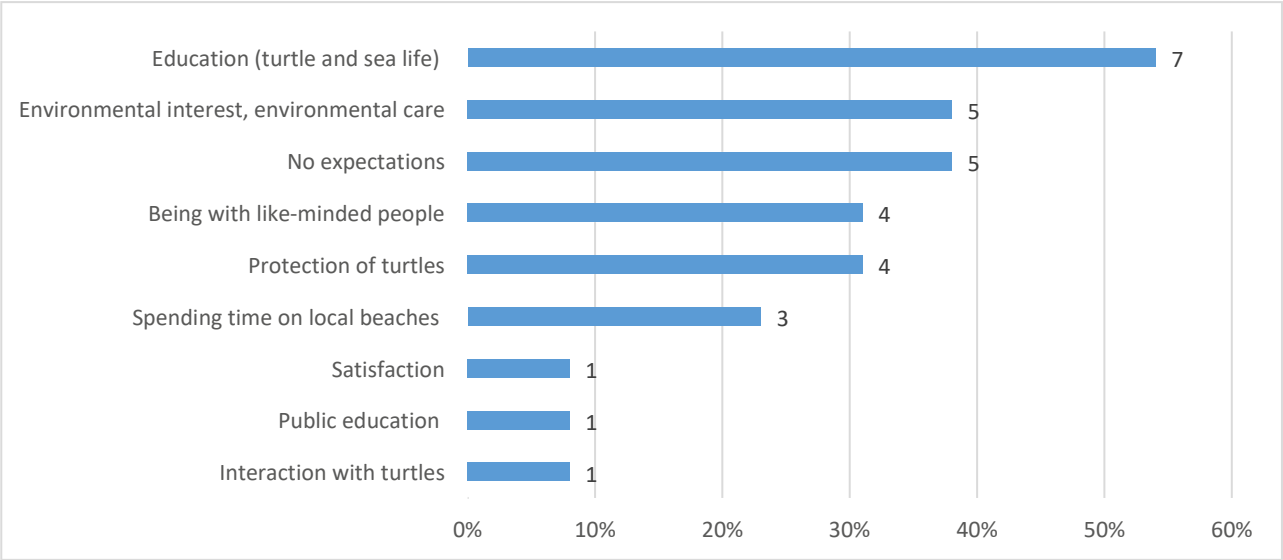

Figure 8. Themes relating to sectional leader expectations

Sixty-seven of the 74 participating volunteers (92%) indicated their expectation had been met as a TurtleCare volunteer. Almost 95% of participants were either very satisfied (60%; n= 44) or satisfied (34%; n= 25) being TurtleCare volunteers. One participating volunteer was very dissatisfied.

The opportunity to contribute to sea turtle conservation topped the list for volunteers (n=42). Other key themes were extracted from the comments provided (Figure 9) which included:

- Education (*about turtle and conservation*) (15%; n= 17)
- Experiencing turtle encounters (12%; n= 14)
- Opportunities to educate the public (9%; n= 10)
- Being involved in the community (8%; n= 9)

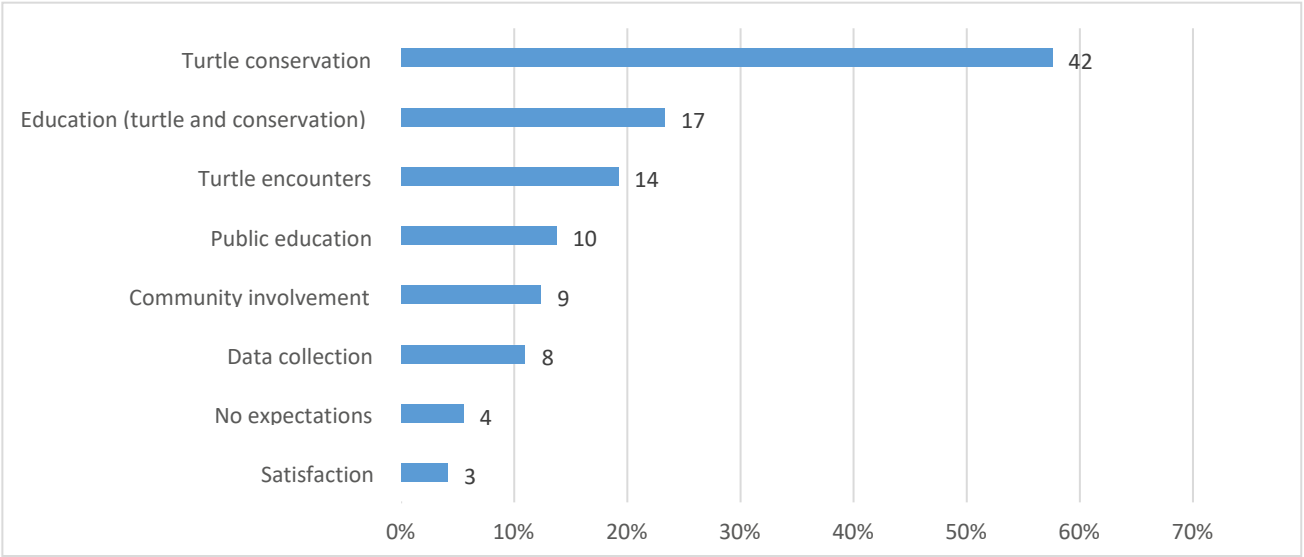

Figure 9. Key themes relating to volunteer expectations

Both groups were asked to reflect then describe their experience as a TurtleCare volunteer. Responses were examined with key themes extracted. From sectional leader responses, 10 different themes were identified. Most often, sectional leaders described their experience in positive terms relating to enjoyment (36%; n= 15) including great, fantastic, joy, worth it, a wonderful experience, rewarding and, satisfying (Figure 10). In addition, comments referred to the ability to learn about various aspects such as the turtles and the environment (19%; n= 8) and volunteering offered a sense of community (17%; n= 7).

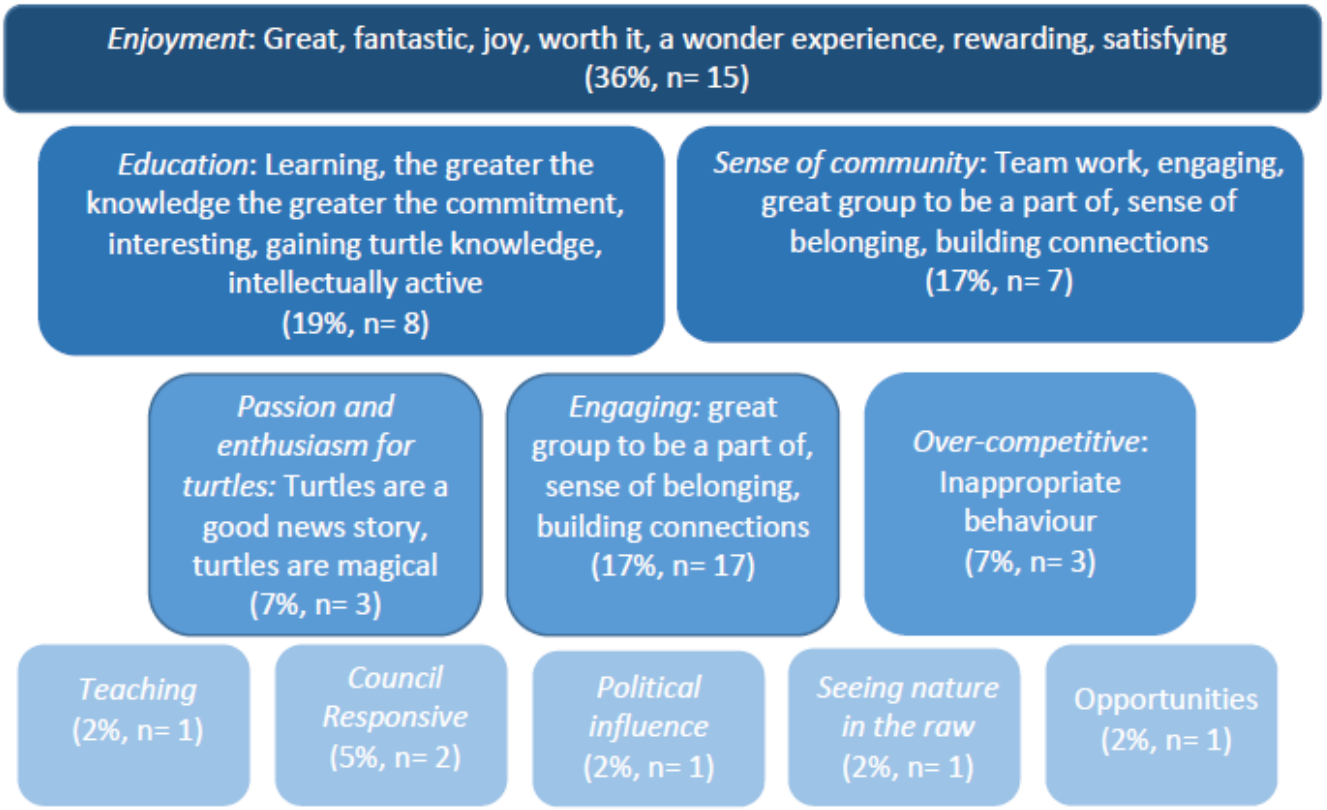

Figure 10. Thematic responses relating to the sectional leader experience

Program volunteers provided a combined 69 responses about their experience. Themes (and *direct quotes*) focused on:

- Education and gaining knowledge (42%; n= 29)

  Very informative and leaders in the program are very knowledgeable

  I have gained turtle understanding and knowledge of turtles and how we can help

  Have learnt a great deal not just about sea turtles but also the environment in which we live

- Making a difference, rewarding or sense of fulfilment (42%; n= 29)

  I value my role with TurtleCare more than my paid work roles

  The experience that I can describe for myself is that it is one of wonder and fulfilment Contributing to the conservation of an endangered species

- Community and being part of a team (30%; n= 21)

  Family; belonging; being part of a team. Meeting like-minded people

- Enjoyment (20%; n= 14)

  Definitely an unforgettable experience Love the beach by day or night

- Challenging (9%; n= 6)

  Is frustrating at times though with issues of light interference particularly with regards to developments

  Occasionally frustrating, sometimes not wanting to get up so early

Nine activities relevant to volunteering within the TurtleCare program were compiled. The list included:

i) Sign on/orientation evening at SeaLife Mooloolaba

ii) Basic training at the beginning of the season (at the Buderim Square Dance centre)

iii) Walk the beach at your designated time

iv) Volunteer for additional walks (e.g. night walks; walks on other beaches)

v) A dig to relocate eggs

vi) Lay/collect gutter guard

vii) An emergence

viii) A post-emergence nest inspection

ix) Additional training (e.g. Mon Repos)

Sectional leaders indicated high levels of participation. Of the nine activities listed, seven had been undertaken by all 13 sectional leaders. When asked to state additional activities undertaken, responses included tagging turtles (18%; n= 3), attendance at marine conferences such as the Australian Marine Turtle Symposium (18%; n= 3), public education (18%; n= 3), Administrative tasks (12%, n= 2), collaboration with other wildlife organisations (12%, n= 2) and beach clean ups (12%, n= 2; Figure 11).

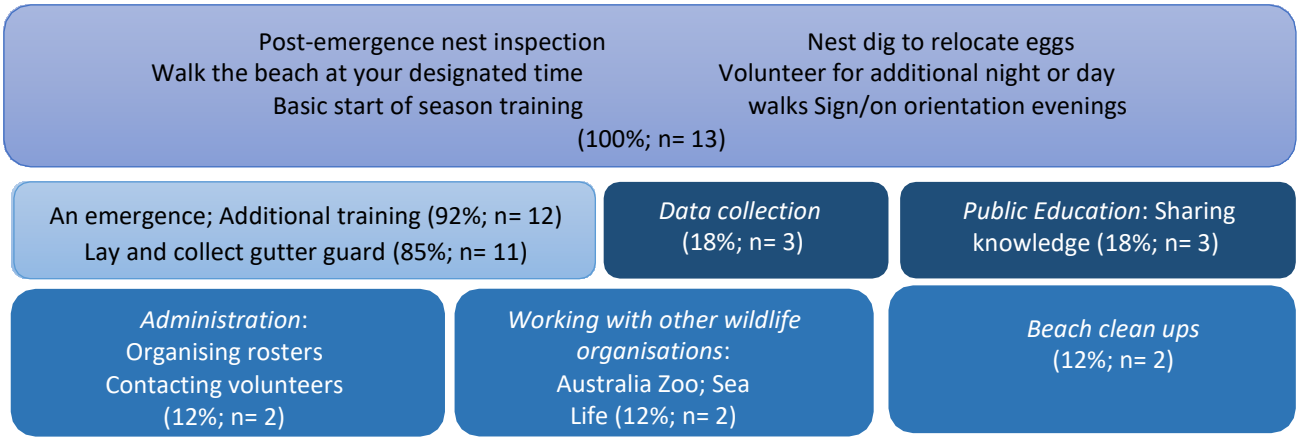

Figure 11. Activities undertaken by TurtleCare Sectional leaders

Volunteers also undertake various tasks and activities with some organised, and others serendipitous depending on the sectional beach events (such as turtle track identification, laying, nest monitoring, or emergences). Responding volunteers were active with the majority attending organised sign-on and orientation evenings, the basic training day and their designated walks. More than half also undertook additional walks (night walks: 77%; n= 53) and monitoring activities (emergences: 74%; n= 51) (Figure 12).

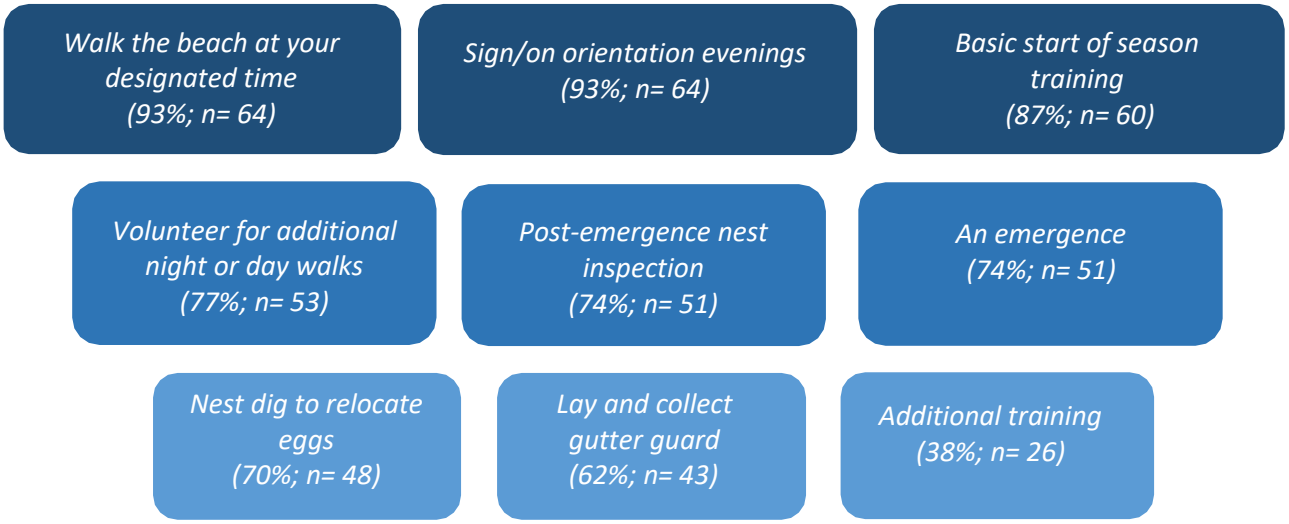

Figure 12. Activities undertaken by TurtleCare volunteers

6.2.2 Personal capacity building

Personal capacity building refers to the development of an individual's knowledge and skills. Building capacity involves individuals and/or organisations obtaining new knowledge and skills, improving existing knowledge and skills, and retaining current knowledge and skills, while sharing these with others. Personal capacity building is an important component of citizen science-based programs. For citizen science programs and projects to be effective, volunteers should have the opportunity to improve their personal knowledge and skill. Sectional leaders and volunteers were

asked about their knowledge and skill development.

Knowledge: During their time volunteering in the TurtleCare program, all sectional leaders stated they had gained knowledge of the following:

- Turtle biology (turtle structure/physicality/function, life cycle, growth and development; origin, evolution and distribution)
- Turtle ecology (relationship between turtles and their physical surroundings; other animals)
- Beach processes
- Light pollution impacts
- The importance of the beach to the turtles

Sixty-eight volunteers provided responses that highlight a variety of areas from which they gained knowledge (Figure 13). Whilst some participants stated they *came with some previous knowledge* it is clear knowledge was gained volunteering in particular that relating to sea turtle biology, ecology and beach habitat.

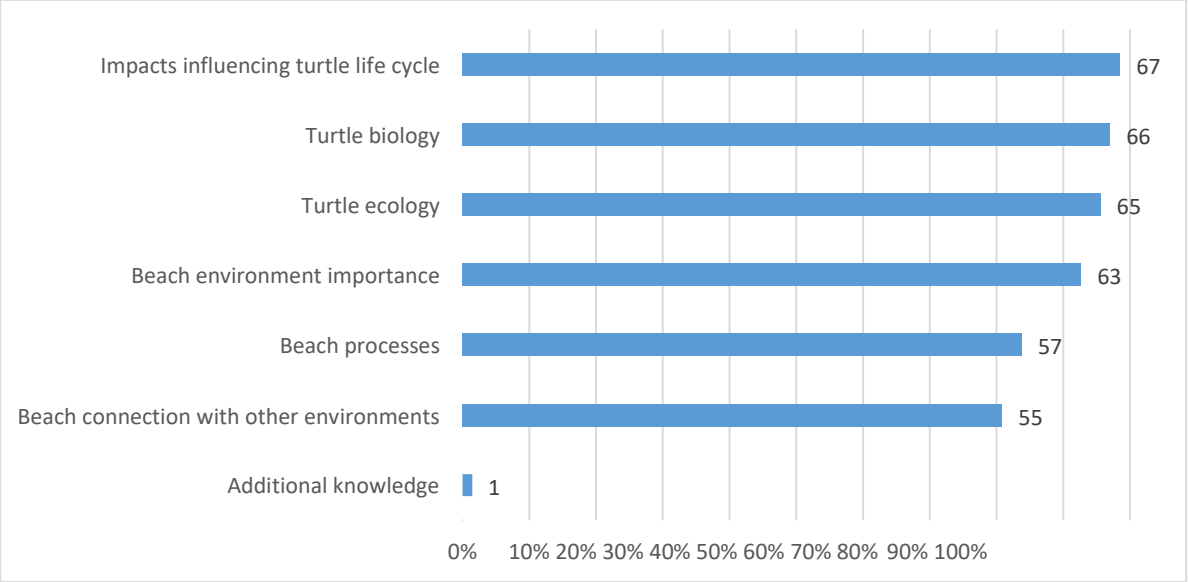

Figure 13. Knowledge gained by volunteers

Sectional leaders and volunteers were asked to provide comments about additional knowledge gained. Five sectional leaders had increased their knowledge in areas such as:

- Understanding of arising issues (environmental and turtle related) (60%; n= 3)

  Global warming and soil temperatures; real-estate near the beach face; high traffic areas

- Educational benefits (40%; n= 2)

Learn on the job, identifying biodiversity; Connection with marine biologists, erosion specialist, turtle specialists

- Understanding of beach processes, significance and arising issues (40%; n= 2)

  The realisation that a beach changes daily; the tide the strength of the water, storms and lows; timing of turtles; signs and reading the beach.

Twenty-seven volunteers (40%) offered additional comments identifying knowledge they had gained which included:

- Public relations, crowd control and public education (26%; n= 7)

  Interaction with the public on beaches especially people wanting to sight turtles regardless of the consequences; training in conflict management, specifically with crowds on the beach

- Current turtle research, purpose and importance (26%; n= 7)

  Gained additional knowledge on studies in a wide range of sea turtle areas from a vast number of people at the Marine Turtle Symposium; ability to assist research students at Mon Repos with their projects for example, testing strength and fitness of hatchlings, measuring and weighing eggs and hatchlings, taking temperature of hatchlings, testing crawl speeds, self-righting speeds; identifying turtle species through tracks

- *Understanding environmental or turtle related issues (22%; n= 6)*

  Dune care and weeds, invasive species and predators, issues of litter and micro plastics; effect of abiotic factors on turtles.

Skills: Skills relate to the ability to perform a given task. Skills can be taught and developed. Sectional leaders and volunteers were asked to indicate if they have developed program and other related skills while engaging with the TurtleCare program.

During their time as a TurtleCare sectional leader, all stated they had gained program relevant skills. All 13 sectional leaders stated they had developed the skills needed to:

- *collect relevant data*

identify:

- *suitable nesting/re-nesting sites*
- *the different turtle species by the tracks left on the beach*
- *the entry and exit points left by nesting turtles by looking at the turtle tracks*
- *a turn-around*
- *hatchling tracks*
- *measure the fan*

- *locate a nest*
- *relocate a nest*
- *improve communication skills*

Twelve sectional leaders (92%) said they also developed new skills related to recording GPS coordinates. Seven sectional leaders offered comments about further skills they had developed while volunteering with TurtleCare such as:

- Collecting physical data (43%; n= 3)

  Tagging turtles
- Identifying risks to turtles (43%; n= 3)

  Foxes (can identify tracks), pest species
- Public communication (29%; n= 2)

  Learn to communicate about turtles with the public

In addition to program related skills, 12 (92%) sectional leaders stated they had increased their personal confidence during their time volunteering with the TurtleCare.

It was evident that volunteers also improved necessary skills during their time in the TurtleCare program (Figure 14). Of the 68 participants who provided responses, 3% (n= 2) stated they had not improved their skills while volunteering with TurtleCare. However, 97% (n= 66) affirmed they had gained various skills such as the ability to identify turtle tracks on the beach.

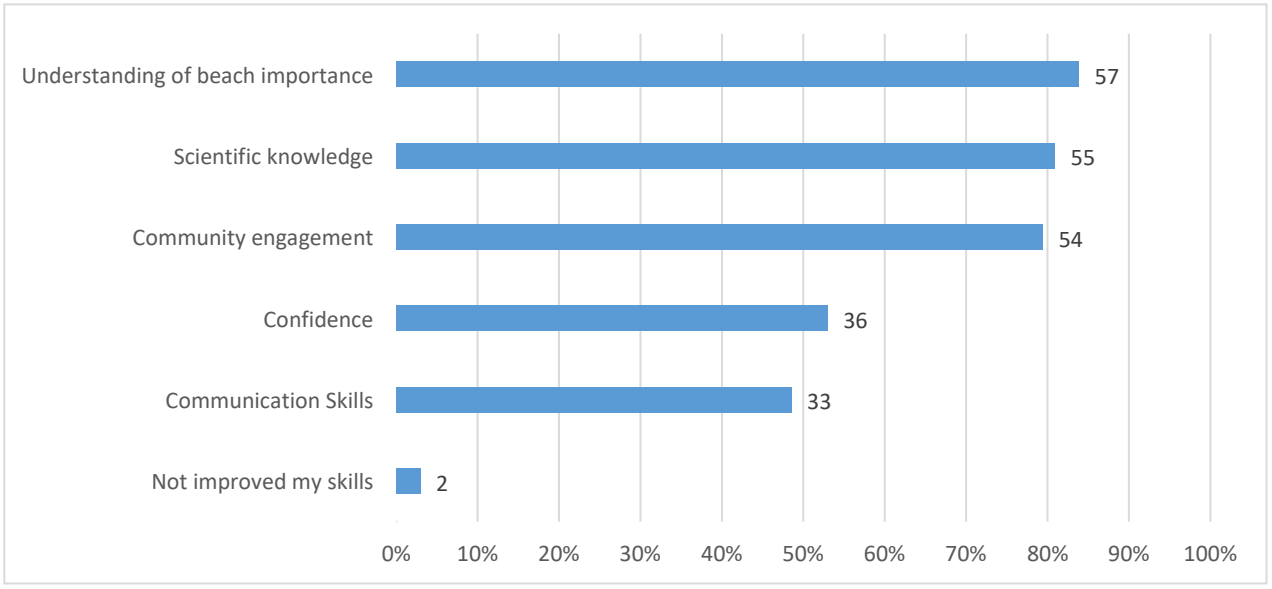

Figure 14. Areas in which volunteers improved their skills while with TurtleCare

Eighteen (26%) participants provided additional comments that outline other skills gained whilst volunteering including:

- Collection of relevant data (31%; n= 8)

  How to tag a turtle, how to handle turtle eggs, measure a turtle; identifying specific flora and fauna

- Public Education and Communication (27%; n= 7)

  Educating others on marine turtles and the threats they face; confidently communicate with the public or crowds on the beach about turtles, their nesting or emergence activity

- Crowd Control (15%; n= 4)

  Crowd control and communicating to the public about our valuable turtle resource; how to better handle difficult situations

6.2.3 Engagement – Sectional Leaders

The degree to which participants can engage with the program can influence overall satisfaction and the effectiveness of the program. Engagement is more than turning up. Engagement is about taking part, active participation, involvement. Sectional leaders were asked to characterise their engagement within the TurtleCare program. Three engagement descriptions were provided: *Contributors, Collaborators and Co-creators*.

All thirteen sectional leaders believed they were *contributors*. This is the lowest level of engagement and focuses on contributing. As a contributor, participants carry out their assigned task, and assist with data collection (e.g. recording hours, recording nests/turn-around, complete counts).

The next level of engagement involves collaboration. As a collaborator, participants are actively involved in multiple research activities, including analysing samples, interpreting data and drawing conclusions, and presenting results to others (group members, scientists, community). Collaborators may also help to design and refine data collection protocols. Only nine sectional leaders (69%) considered themselves to be program *collaborators*.

Higher engagement is characterised by co-creation. As a co-creator, participants help develop questions, identify issues and raise questions; assist to answer these questions and suggest solutions. As co-creators, participants are encouraged to take part in all stages and aspects of the program. All thirteen sectional leaders believed they were *co-creators.*

Volunteers were also asked to characterise their engagement within the TurtleCare program,

from the three engagement descriptions. Overall, 90% (n= 61) considered themselves to be a *contributor*. Whilst, 7% (n= 5) considered themselves *co-creators*. The remaining 3% (n= 2) considered themselves as *collaborators*, actively being involved in multiple activities.

Eleven sectional leaders (85%) felt their involvement within the TurtleCare program had opened opportunities to volunteer in other community projects and activities. In providing examples, a wide array of organisations, programs and groups were identified including:

- Other Council projects
- SeaLife hospital
- Dune Care
- Dr Col Limpus' research
- CoastCare
- OSCAR
- At Mon Repos and Heron Island
- Turtle Symposium
- Marine Stranding's
- Educational talks
- Queensland Turtle Conservation Project (QTCP)

Not all volunteers chose to respond to this question. Of the 68 volunteers who provided responses, 38% (n= 26) indicated their involvement with the TurtleCare program had not opened opportunities to volunteer in other community projects and activities. A few of these volunteers offered reasons such as *prior involvement with other community activities or programs* (36%; n= 5) and a *lack of time or full-time work* (29%; n= 4). The remaining 62% (n= 42) indicated their involvement with the TurtleCare program had opened opportunities to volunteer in other community projects and activities.

A further 61% (n= 27) felt TurtleCare opened other opportunities to volunteer with 30% (n= 8) offering beach clean ups as an example. Seven respondents (26%) specifically stated TurtleCare provided information, exposure to and suggestions for other volunteer opportunities. Examples of organisations, programs, or activities volunteers have been involved in included:

- Dune Coast Care
- Reef Check Australia
- Brisbane Museum
- Animal Preservation Society
- Mon Repos
- Oscar
- Bird & plant workshops
- Whale strandings

6.2.4 Actions taken by sectional teams to engage volunteers

Sectional leaders play an important role in leading their assigned teams of volunteers. Motivating volunteers and providing a positive experience is important to achieving long term

volunteerism. Challenges may exist as some beaches may experience little or no activity (e.g. no tracks and/or nests). The TurtleCare program runs for up to four months and volunteers walk once or more a week, every week, no matter the weather; on weekends and holidays. Night walks are also undertaken for specified periods or by choice. It may be that after the initial introduction and training, volunteers will not meet with Council staff, their sectional leaders or other volunteers for the duration of the program. To gain an understanding of voluntary efforts undertaken by sectional leaders, each was asked to clearly and specifically state the activities they instigate to increase engagement. Twelve participating Sectional leaders responded and provided examples (Figure 15).

Communication

- Communicate regularly - Contact via emails telephone and personal.
- Email through interesting information e.g. photos, facts about the beach.
- Encourage volunteers to keep their sectional leader informed and report in after their walks (e.g. absent/ present tracks, litter, erosion, dogs, foot traffic). Then share this information.
- Text 95% of the time - track identification and potential nest sights.
- Nest emergence texts and hatchlings on the beach.

Collaboration

- Fit their walking to their work shift and family life.
- Work around volunteer commitments.
- Instigate a guessing game (when first turtles will arrive).
- Schedule day and night walks - coordination.

Collegiality

- Fit their walking to their work shift and family life.
- Host a greeting dinner.
- Host an end of season dinner.
- Get together with volunteers before the training.
- Create family spirit amongst the volunteers.

Education and Training

- Answer all questions regardless of their relevance.
- Encourage/educate volunteers to walk in all conditions.
- Educate volunteers on the current conditions.
- Try to make it interesting for volunteers.
- Walk with new volunteers the first couple of times to help them learn.
- Go over issues and what's happened that season.
- Developing the skills of those who haven't been to Mon Repos.
- Always make help available.
- Try to teach volunteers practically - when on the beach - showing them how to do things.
- Try to let volunteers do little bits and pieces with my supervision.
- Constantly sharing your knowledge.

Figure 15. Voluntary actions undertaken by sectional leaders to increase volunteer engagement

6.2.5 Motivation

Motivation of volunteers can be strongly attributed to the success of an organisation. When thirteen SLs and 73 program volunteers were asked to reflect and describe their key motivations for joining TurtleCare, answers established four central themes.

- Making a difference, conservation of turtles and the environment (62%; n= 53)

  To contribute to an animal care project on the coast

- Interest or passion for the environment and sea turtles (26%; n= 22)
- Community involvement (7%; n= 6)

  Participating with like-minded people in a program that supports the natural environment where we live

- Seeing turtles (6%; n= 5)

Furthermore, when asked to reflect and describe their continued participation in the TurtleCare program, answers established seven central themes.

- Commitment to conservation of turtles and the environment (49%; n= 36)
- Passion and interest for turtles and the environment (19%; n= 14)
- Sense of community and involvement with like-minded people (19%; n= 14)
- Rewarding and satisfying experience (12%; n= 9)

  Rewarding experience that aligns with my interests, provides learning opportunities and fits into my lifestyle

- Education of self and the public (22%; n= 6)

  The opportunities made available to me through gaining experience and knowledge at TurtleCare

- Seeing and experiencing the turtles (8%; n= 6)
- Opportunities (7%; n= 5)

Overall impressions of the TurtleCare program was gained from analysing quantitative responses based on participants strength of agreement with 10 statements (Table 1). Responses were fixed using a 5pt likert style scale from (5) Strongly agree, (4) Agree, (3) Undecided, (2) Disagree, to (1) Strongly Disagree. All responses were of a positive nature (agree to strongly agree). The program was considered by both sectional leaders and volunteers as well organised. Being a TurtleCare volunteer is considered a positive experience, is a meaningful role and participants stated they were encouraged to increase their skills and knowledge (Table 1).

Standard deviations (Stdev) quantify the amount of variation or dispersion within a set of data values or more simply, are a measure of how spread out the numerical responses are from the mean. The Stdevs were calculated for the statement responses. A standard deviation closer to zero means most of the responses are close to the average. In contrast, the higher the standard deviation, the more spread out the responses. Spread out responses mean participants have offered a variety of responses along the 5pt scale.

Overall, most statement responses from the sectional leaders had little variation. However, several statement responses provided by volunteers and one by sectional leaders have higher calculated Stdev. Responses given for the statement *Being part of the TurtleCare Program has inspired me to increase my efforts to be more sustainable in my daily life (e.g. recycling at home, picking up litter)* had a mean of 4.2 but also had a range of responses from 5 (strongly agree) to 1 (strongly disagree). This suggests that being in TurtleCare had not inspired them to increase efforts to be more sustainable in their daily lives. A similar result was found for the statement *Being part of the TurtleCare Program has increased my interest in environmental science* (av 4.2; Stdev 1) also suggesting that not all participants were interested in environmental science.

Unlike sectional leaders, volunteers were uncertain or disagreed that their *current level of participation is enough.* Overall, with a mean of 3.5, it could be perceived that the level is somewhat enough. However, a calculated Stdev of 1.1, highlights that responses were quite varied ranging from 5 (strongly agree) to 2 (disagree).

Table 1. Statement agreements by Sectional Leaders and volunteers

Relevant Statements	**Sectional Leaders**		**Volunteers**	
	Mean	*Stdev*	*Mean*	*Stdev*
The TurtleCare program is well organised	5	0	4.5	0.6
Being a TurtleCare volunteer has been a positive experience	4.9	0.3	4.7	0.5
I have a meaningful role in the TurtleCare program	4.9	0.3	4.3	0.6
I am encouraged to increase my skills and knowledge	4.9	0.3	4.4	0.6
The TurtleCare Program provided quality training	4.8	0.4	4.3	0.8
Being part of the TurtleCare Program has inspired me to increase my efforts to be more sustainable in my daily life (e.g. recycling at home, picking up litter)	4.8	0.4	4.2	1.1

Being part of the TurtleCare Program has increased my interest in environmental science	4.8	0.4	4.2	1
My efforts are acknowledged by Program leaders	4.8	0.4	4.3	0.8
My current level of participation is enough	4.8	0.4	3.5	1.1
I receive feedback about the activities I and other group members undertake	4.5	0.9	4.1	0.9

Similarly, an overall positive response was calculated when assessing the mean for the statement *I receive feedback about the activities I and other group members undertake.* This statement received the lowest mean from both the sectional leaders (av 4.5) and volunteers (av 4.1) and the Stdev was also high (0.9 respectively). This suggests not all participants received feedback about their and their group's activities.

Participants were asked to provide open-ended comments about the responses given to the various statements. Fifty-eight responses were provided, and these were collated into key themes. Five key themes were identified focused on increasing group engagement, greater contribution to habitat protection, increased acknowledgement and more training (Figure 16).

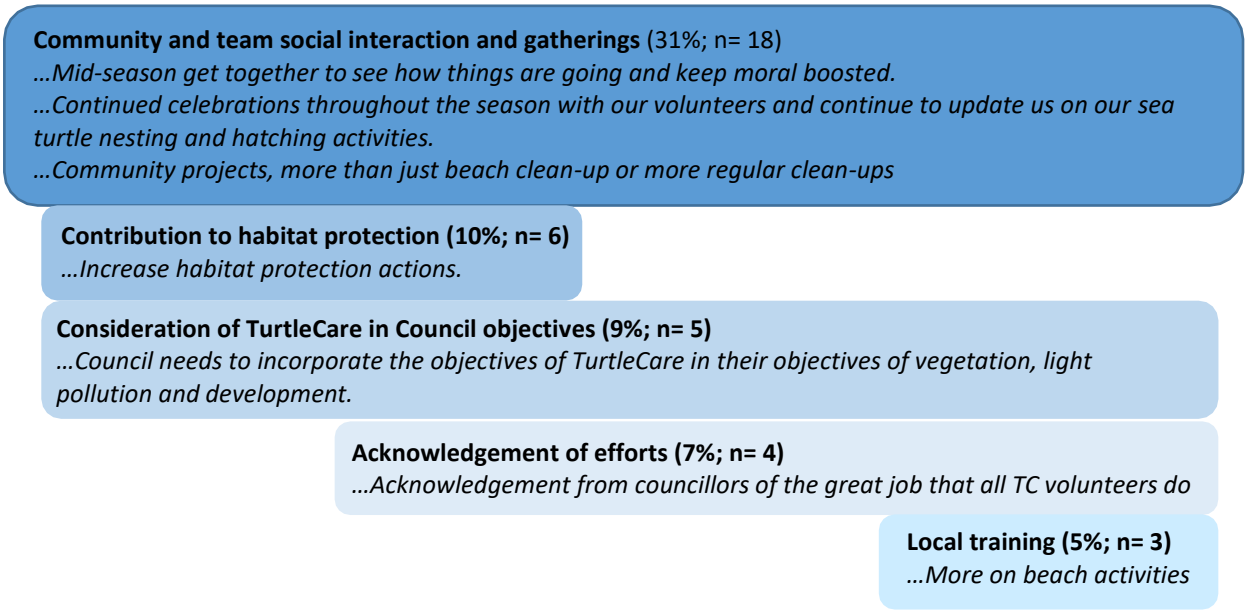

Figure 16. Key themes identified to focus on group engagement

6.3 Resident stakeholders

Demographic characteristics for residents were outlined in section 6.1. This section reports on the results of questions specifically directed towards residents: beach visitation, awareness of sea turtles, awareness of projections efforts, awareness of TurtleCare, and impact of TurtleCare on residents.

6.3.1 Visitation to Sunshine Coast beaches

Residents were asked about how often they visited a Sunshine Coast beach. Of the 144 residents who offered a response, 94% (n= 136) visited a Sunshine Coast beach on a weekly basis, with 52% (n=75) visiting daily. Just one participant reported *never* visiting the beach (Figure 17).

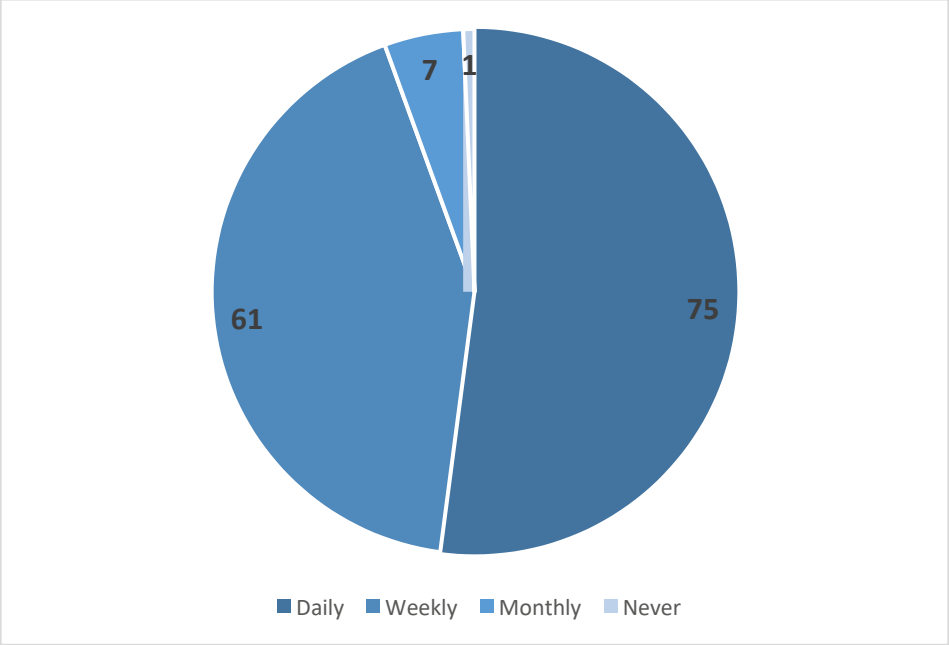

Figure 17. Overall visitation to Sunshine Coast beaches by residents (%)

Of the beaches nominated, Buddina (n= 24), Wurtulla (n= 22) and Moffat Beach (n= 20) were the most frequently visited, representing almost half (47%) of all visitation (Figure 18). Collectively, 99% of beaches visited were designated TurtleCare nesting beaches. Two beaches, Marcoola (n= 1) and Yaroomba (n= 1), are outside the TurtleCare nesting beaches area.

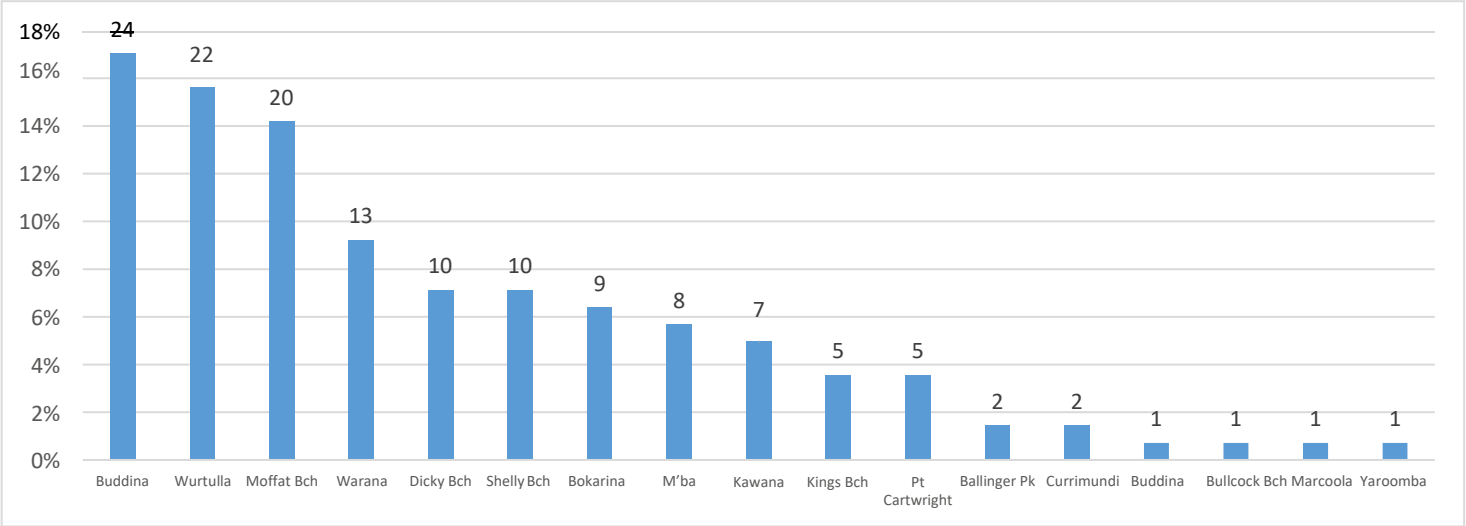

Figure 18. Sunshine Coast beach visitations by geographic location

6.3.2 Awareness of sea turtle nesting on Sunshine Coast beaches

The awareness of sea turtle nesting on Sunshine Coast beaches by those responding was high among these residents (94%; n= 136). Just 6% (n= 8) of participating residents indicated no knowledge of sea turtle nesting on the Sunshine Coast (Figure 19).

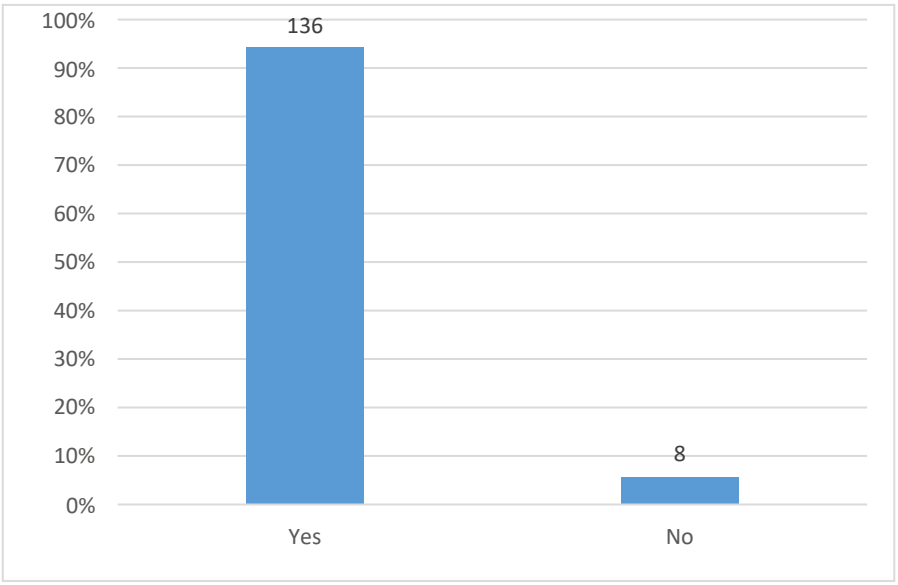

Figure 19. Awareness of sea turtle nesting on Sunshine Coast beaches

6.3.3 Awareness of protective measures for sea turtles and nesting beaches

Approximately three quarters (74%; n= 107) of participating residents were aware of what actions could be taken to protect sea turtles, while approximately one quarter (26%; n= 37) indicated they were not aware (Figure 20).

Eight different themes were extracted from the 43 additional comments provided (Figure 21). The most frequently reported knowledge of protective actions included:

- Disturbance controls e.g. *to stay off dune areas*, *keep dogs on leash*, *walk below tide line* (29%; n= 23)
- Nest protection e.g. *netting*, *mesh*, *covering from foxes/dogs*, *relocating nests* (19%; n= 12)
- Light pollution (e.g. *minimise lights on/near nesting beach* (16%; n= 13)

To enhance the analysis, a word cloud was generated to offer a visual representation of word frequency (the larger the word, the more times participants mentioned it) (Figure 21). The word cloud reiterates that *protection* and *nests* were frequently mentioned.

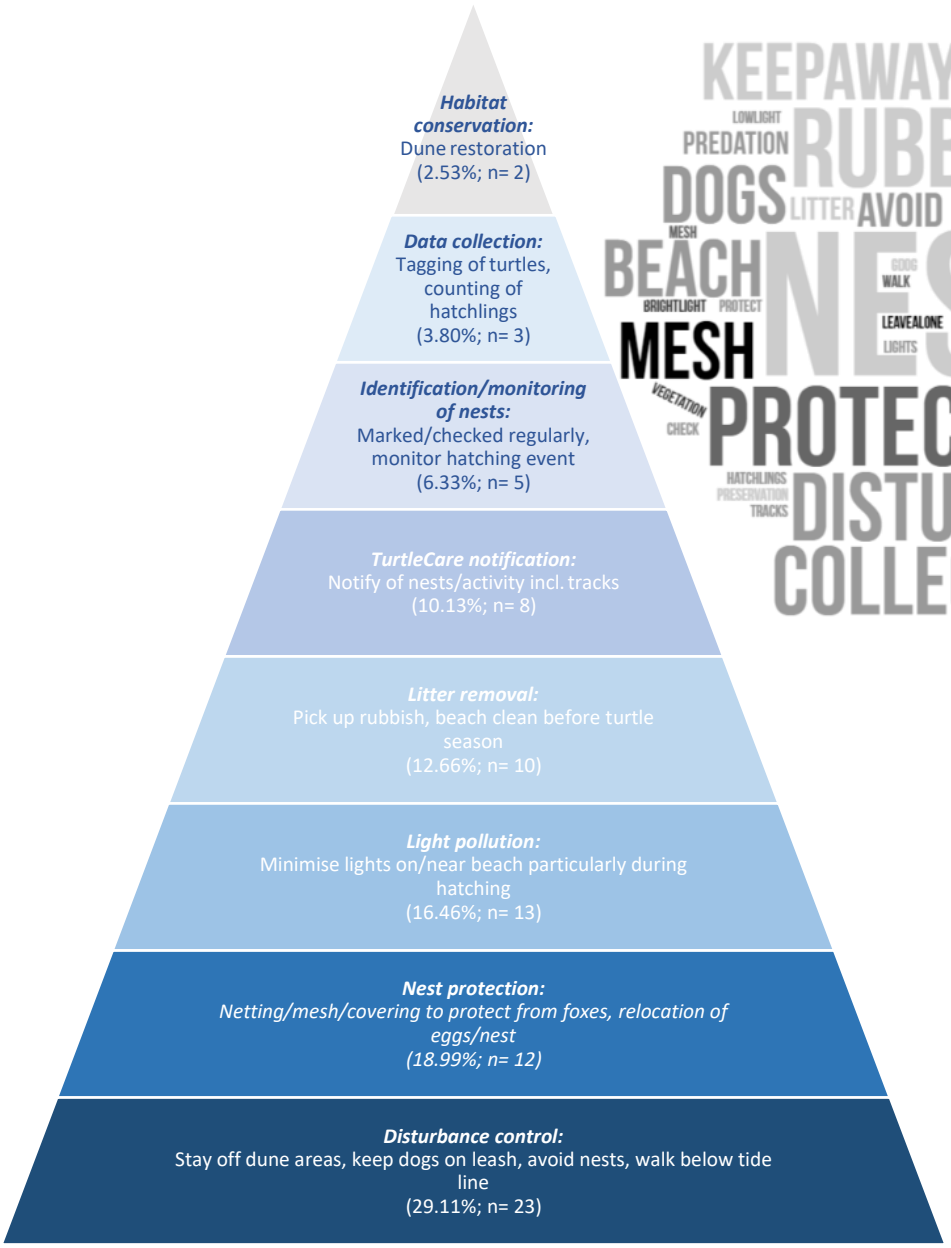

Figure 20. Common themes in relation to Awareness of protective measures for sea turtles

Figure 21. Word cloud displaying visual representation of word frequency

6.3.4 Awareness rate of Sunshine Coast TurtleCare Program

Awareness of the Sunshine Coast TurtleCare Program was moderate to high among participating residents (74%; n= 106). However, 26% (n= 38) reported they had no knowledge of the program. These results are similar to the previous section (6.3.3) *Awareness of protective measures for sea turtles and nesting beaches.*

6.3.5 Overall impact of the TurtleCare program on residents

Not all participating residents chose to respond to this question (n= 100). Over half of the participating residents indicated they were impacted by the TurtleCare program (57%; n= 57) with remaining 43% (n= 43) stating they were not impacted by the program. Residents were then asked to indicate if the impact was positive or negative. Of the 57 residents who indicated they were impacted, 55 (96%) responded. Of these 55, 96% (n= 53) stated they positively impacted. Only 4% (n= 2) reported a negative impact.

Participants were asked to provide additional open-ended comments. Fifty-five comments were given, and these were analysed to reveal four key themes (Figure 22) including:

- Beach clean ups (9%; n= 5): *Understanding the need for beach clean ups in accordance with turtle conservation, and then participating in them*
- Negative impacts (3%, n= 2): *Report of interference with turtles by volunteers*

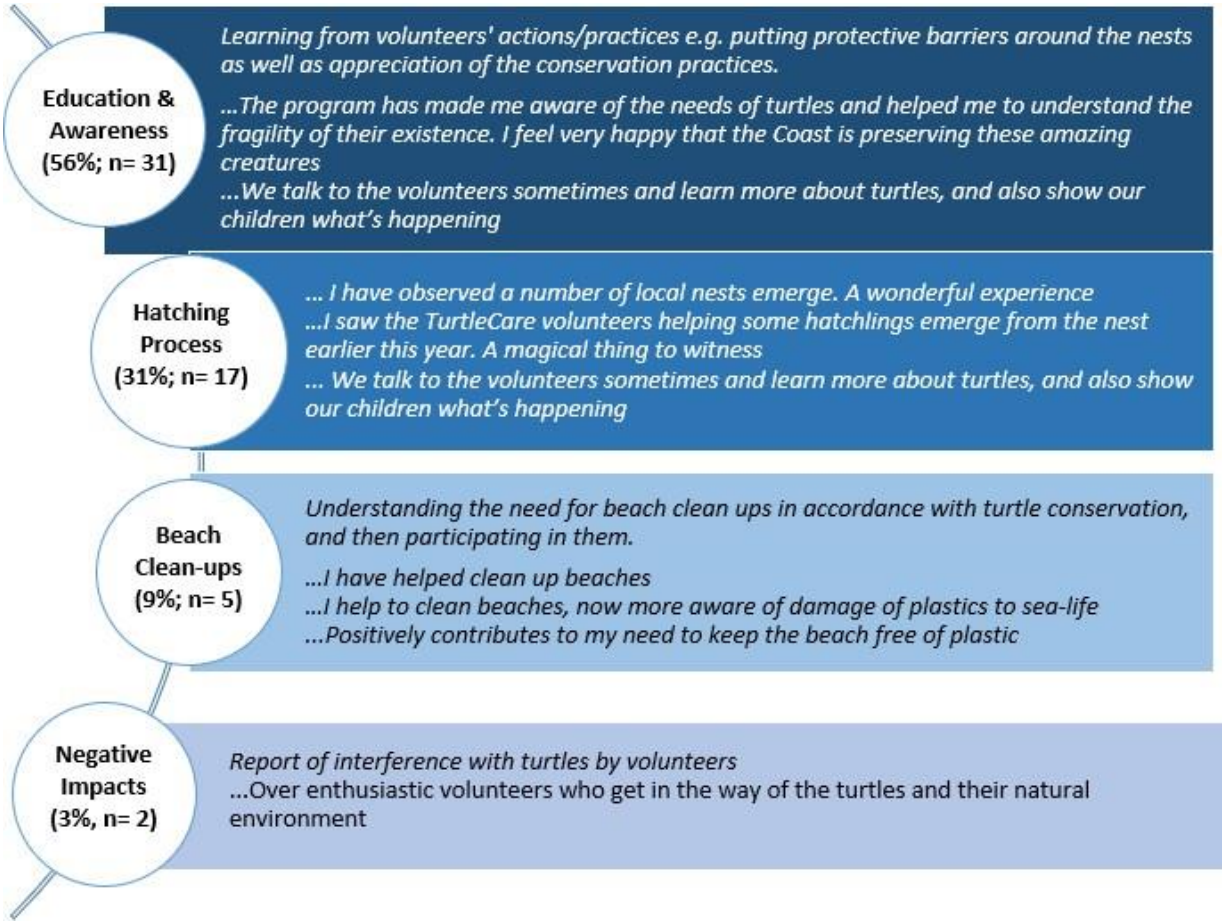

Figure 22. Thematic analysis of resident comments about positive and negative impacts of TurtleCare

The promotion of education and awareness was the most widely reported impact of the TurtleCare Program (56%, n= 31). Respondents reported learning about turtle conservation by observing TurtleCare volunteers in action. In addition, they expressed an overall feeling of gratitude towards the Program for providing the knowledge and awareness platform within the community. Furthermore, the response information revealed that residents were impacted after witnessing hatching/emergences of turtles (31%, n= 17).

Respondents also expressed gratitude for the TurtleCare program based on observable efforts to conserve sea turtles on the Sunshine Coast. Respondents reported learning about conservation practices by seeing TurtleCare volunteers in action.

6.3.6 Community volunteerism by residents

Participating residents were asked to indicate any community volunteer activities they undertake. Just over half 54% (n= 58) indicated they are not active volunteers. Of the residents who do volunteer, beach clean ups were most popular (23%; n= 25). Additionally, other volunteer activities stated include tree planting (7%; n= 8), festivals (7%; n= 7), regional art galleries (6%; n= 7) and libraries (6%; n= 7) (Figure 23). Interestingly, participation in nature conservancy programs, or environmental education centres had the lowest rate of volunteering (4%; n= 4) and could be encouraged on the Sunshine Coast.

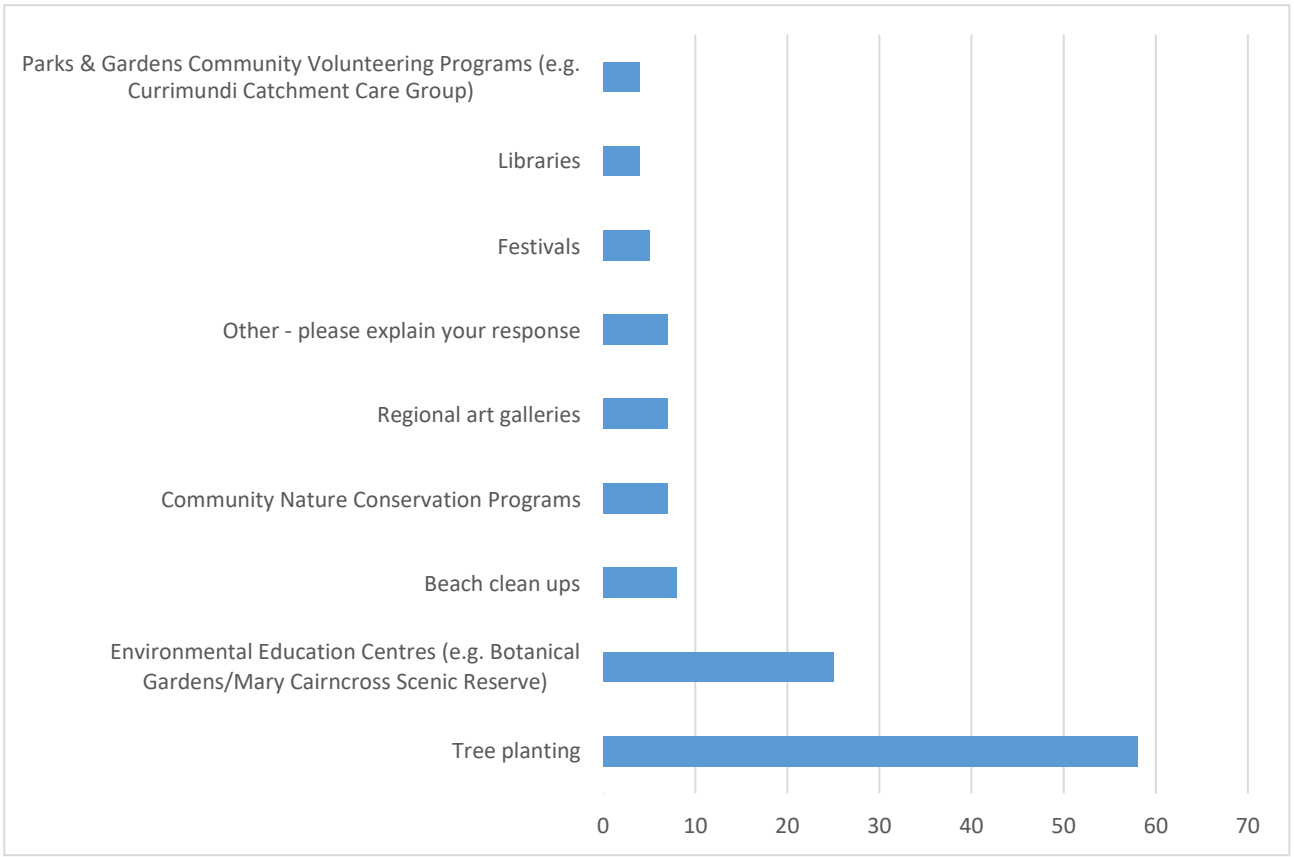

Figure 23. Community volunteer activities by participating residents

The full list of organisations identified are represented in a word cloud (the larger the text, the more often the organisation was identified) (Figure 24).

Figure 24. Word cloud pertaining to the volunteer activities revealed in additional comments

6.4 Business Owners/ Managers

Demographic characteristics for residents were outlined in section 6.1. This section reports on the results of questions specifically directed towards residents: beach visitation, awareness of sea turtles, awareness of projections efforts, awareness of TurtleCare, and impact of TurtleCare. It should be noted that the number of participants is low (n= 3).

6.4.1 Visitation, awareness and impacts

Participating business owners/manager within immediate proximity to the Sunshine Coast TurtleCare nesting beaches (n= 3) reported visiting a Sunshine Coast beach weekly (n= 2) or daily (n= 1). Maroochydore, Kawana Beach, Buddina and Mudjimba were the beach of choice. Two of the identified beaches are not in the TurtleCare nesting beach precinct.

No impact of the TurtleCare program on business owners was reported. All three participants were aware of sea turtle nesting in the area their business premises are located. Knowledge of the TurtleCare Program varied with two being aware, and one being unaware. Similarly, two business owner/managers were aware of what actions could be taken to protect sea turtles. Additional

comments highlighted that a participant was *aware but did not change behaviour* and another recognised that *groups monitor and look after the turtles during the nesting stage.*

6.4.2 Community volunteerism by business owner/managers

Participating business owner/managers indicated they engaged in community volunteer activities including community nature conservation programs (n= 1), beach clean-ups (n= 1), and tree planting (n= 1).

6.5 Divisional Councillors

There are 10 regional Divisional Councillors within the Sunshine Coast Council region. All were invited to participate in the project. Only three agreed to be interviewed.

All three participants were aware of the TurtleCare Program. When asked to explain what they know about the TurtleCare program, Councillors said the program:

….. is about turtle ecology and biology

….. includes preservation measures

….. involves the relocation eggs/nests as required (n= 3)

….. includes the management of turtles to ensure they have the best chance

….. assisted interested volunteers to immerse themselves in a turtle nesting program

….. increased knowledge of turtle nesting (67%; n= 2)

….. offers opportunities to engage in educational activities

All three Councillors were aware that TurtleCare volunteers came from not just within close proximity to the nesting beaches, but from the broader Sunshine Coast community. While all three were aware of the training activities at Mon Repos, two Councillors were only somewhat aware of the other annual volunteer training events held on the Sunshine Coast.

When asked to identify the opportunities associated with the TurtleCare program, Divisional Councillors identified the following:

- *The Sunshine Coast TurtleCare program could serve as an exemplar that could be used to increase volunteerism in other local government regions*
- *The importance of education around monitoring without making judgements*
- *The potential support for dunal vegetation management*

- *Increased youth involvement and accreditation and/or recognition for their contribution and learning*
- *Partnerships are imperative*
- *Potential to offer all volunteers accreditation*
- *More engagement, broader than the volunteers*
- *Be sure to offer good feedback*
- *Looking for avenues for further collaboration with community is key*

6.6 Program Strengths and Weaknesses

Participating Divisional Councillors, Sectional leaders and volunteers identified what they saw as the strengths and weaknesses of the TurtleCare program. A total of 88 responses were provided: Divisional Councillors (n= 3), Sectional leaders (n= 13) and volunteers (n= 68).

6.6.1 Program Strengths

Divisional Councillors considered the strengths of the program focused on the *dedicated volunteers*. All three recognised that the program would not be possible without *volunteers* or *community ownership,* with *community involvement* considered *key*. In addition, the associated *research* and *data collection* opportunities support *sustainability*, *enlighten planning, policy and management of shorelines*, *support informed decision making* and create *shared knowledge of turtle ecology/biology* - all considered clear strengths of the program*. Greater awareness* and *understanding* were also mentioned.

Participating Sectional leaders and volunteers identified numerous program strengths with some confirming those identified by Councillors. Program strengths included the provision of *knowledge*, *experience* and *education* (35%; n= 28), facilitation of *a sense of community and belonging* (32%; n= 26), *the support offered by highly educated professionals* and *quality leadership from Councillors* (25%; n= 20) (Table 2).

Table 2. Strengths of the TurtleCare program

Theme	***%***	***N =***
Knowledge, experience and education *Knowledge and experience attained, learn lots, help and education, chance to learn, ongoing education and support*	35	28
Sense of community and belonging *Good network of team members, working with people with similar concerns/ interests, strong friendships, always have each-others backs, passion, community spirit and commitment, feel included and able to participate to a level that suits the individual, feels like family*	32	26
Highly educated professionals and quality leadership *Leadership from Council and volunteer leaders, experienced turtle professional employed by council, council support program for volunteers, recognised expertise in sea turtle conservation, great coordination from highly experienced professionals, leadership, backed by scientific studies*	25	20
Effective conservation efforts *Helping the turtles, improve the chances of turtle survival, protecting our sea turtle nests and ensuring maximum success of nest emergences, preservation of the environment, turtle conservation*	25	20
Supportive environment (volunteers and councillors) *Support of each other, very supportive, support from immediate supervisors, great support given by paid staff and fellow volunteers, good support*	20	16

Quality of training *Mon Repos training, quality training provided, ongoing training*	19	15
Dedication, commitment and enthusiasm *Volunteer dedication, dedicated leadership, high degree of commitment, enthusiastic, passionate, caring, lovely and dedicated people, very focused on wanting to protect the turtle species (environmental department within council)*	16	13
Positive media perception and raising awareness *Very positive public perception, successful promotion of the TC program, high public interest, successful branding* and *marketing opportunity, awareness creation with community, raising awareness of turtles in the region, community awareness of environment and its fragility*	12	10
Organisation, Coordination and communication *The people who volunteer and demonstrate their commitment, commitment to the group, commitment to saving the environment, making a commitment and wanting to make a difference, well organised,*	11	9
Further opportunities and rewards *Get to meet and work with other environmental organisations such as DuneCare, animal preservation society, the further opportunities offered to learn, with the successful promotion of the TC program there are increased numbers of volunteers, improving likelihood of identifying all turtle nests, there are many opportunities from other travel opportunities (e.g. Great Barrier Reef, Mon Repos) to symposium attendance and meeting hundreds of turtle experts*	10	8

6.6.2 Program Weaknesses

The identification of weaknesses assists to gain a fuller understanding and raise awareness of the situation to facilitate strategic planning, resource deployment, priorities and decision-making. A total of 73 responses were provided: Divisional Councillors (n= 3), sectional leaders (n= 13) and volunteers (n= 57).

Participating Divisional Councillors identified the following weaknesses:

- The need for *more volunteers*
- To *ensure an in-depth experience for volunteers* and
- Issues that exist between volunteers and residents. Council has received complaints about *over-zealous volunteers* who may *lack civility* in their encounters with non- volunteers and this *has the potential to divide the community*

Of the 70 responses provided by sectional leaders and volunteers two (3%) volunteers felt there were no weaknesses within the program. The remaining participants identified weaknesses which were analysed to reveal key themes. These included *council involvement* (26%; n= 18), *lack of support and communication causing conflict* (23%; n= 18), and *inadequate resources to resolve issues about habitat protection* (17%; n= 12). Key themes were identified from the comments provided (Table 3).

Table 3. Weaknesses of the TurtleCare program as provided by sectional leaders and volunteers

Theme	***%***	***N =***
Council involvement *Limited ability to be heard by councillors, being unable to protest local council developments that threaten our local population of turtles, the data that we put effort into obtaining does not belong to us, it belongs to council and therefore cannot be used to our advantage on behalf of our turtles, limited resources for things like batteries in GPS etc - no budget readily available, lack of understanding of some council rules (e.g. Media) and workplace health and safety rules are hard to understand, not enough notice taken of council offices when they make recommendations, the program is Council supported which sometimes over complicates or hampers expanded activity, being under the Council banner is a conflict at times particularly with regards to development impacting on the beach, don't always feel supported by our council in areas of turtle or wildlife protection*	26	18
Lack of support, lack of communication, conflict *Lack of communication with the local community, Turtle groups are generally fragmented and communication needs improvement, communication difficulties exist, a lack of support for educating the public about what turtle care does and the importance of what we are trying to do to save the turtles, keeping volunteers informed of political developments regarding turtle care, better communications for strandings and emergencies*	23	16
Environmental issues, lack of habitat protection, inadequate resources *Habitat protection is not listed as a TC goal or aim (e.g. important issues of lighting and vegetation), TC guidelines do not include habitat protection and without this commitment the TC program may not be viable in the future, need more budget and commitment to fix the existing habitat issues, insufficient action to address habitat issues, inability to recognise and address issues such as fox predation, vegetation loss, light pollution*	17	12

Accreditation, training and education *Limited opportunity for accreditation, education is important but so is support, lack of public education, education is offered very close to the season itself offering volunteers basic education before the season starts, proper training day/refresher course offered on the Sunshine Coast for Sectional Leaders to brush up their skills instead of going to Mon Repos as Mon Repos is a long time to be away (e.g. having children, work commitments or at an older age), more formal acknowledgement of accreditation*	1 6	1 1
Crowd control *Crowd control and how to deal with people in the dark on the beach that have their own idea of what should be going on and don't know any better, volunteers don't have the authority to tell people what to and what not what to, conflict with non-like-minded people, dealing with public, can be working in silos, passive-aggressive nature at times, need to be understanding and respect others rights and communicate rather than tell them what to do and be seen as turtle fanatics*	3	2

6.7 Achieving Aims

The Sunshine Coast Council website (SCC, 2018) states the *TurtleCare Volunteer program aims to sustain an ongoing marine turtle monitoring program. The goal is to identify and record species, nesting locations, frequency and success rates of nesting activity.*

The Sunshine Coast Council TurtleCare Guidelines (2009-current) further includes this objective: *To encourage community awareness and commitment to turtle conservation through the study and enjoyment of turtles and protection of their environment.*

Based on this information, participants were asked if the program is achieving this aim and objective. Of the 184 respondents across the five participant groups, 90% (n= 165) stated *yes*, the Sunshine Coast TurtleCare program is achieving these aims (Figure 25; See also Appendix 1).

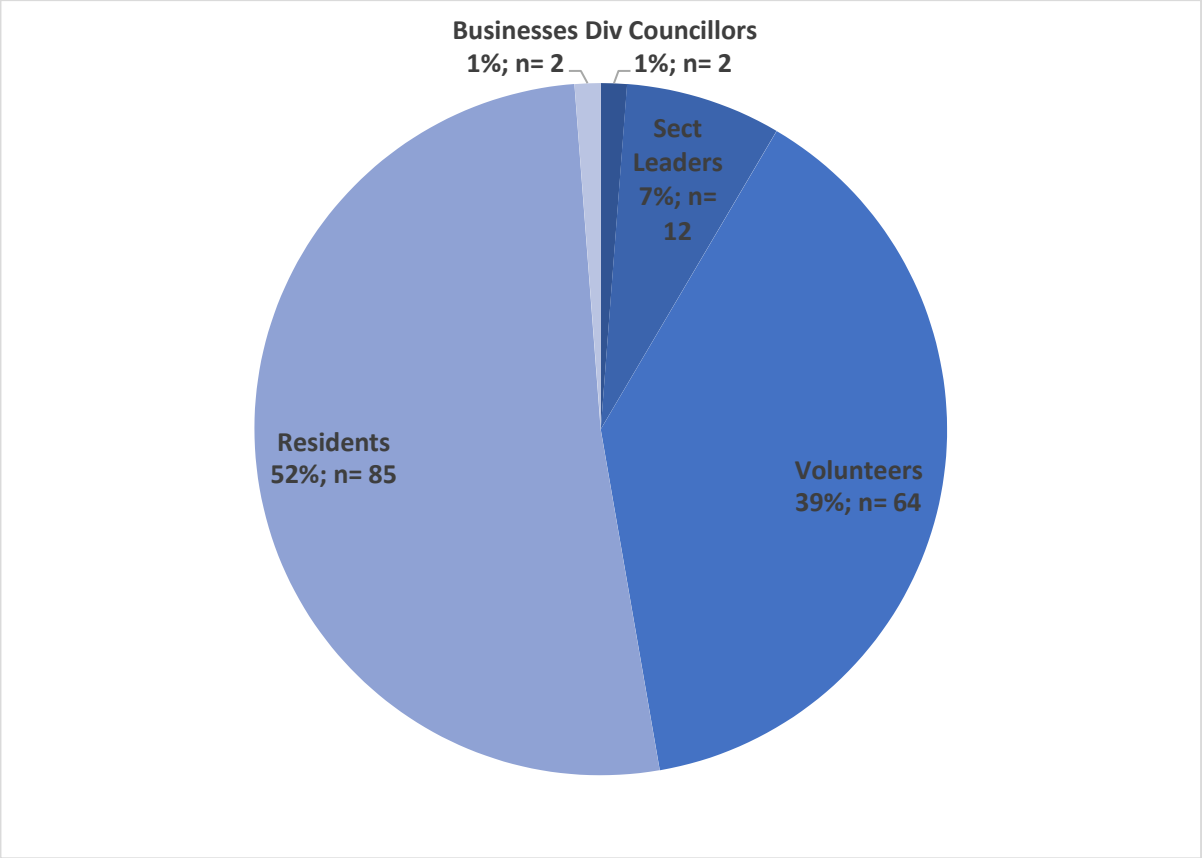

Figure 25. Participants who stated TurtleCare is achieving set aims

One hundred and sixty-seven participants chose to offer further explanation to their response. For those who stated aims were being met, comments reiterate the strengths of the program and recognise the efforts of Council and volunteers. Over half (53%) of the yes responses, comments focus on creating awareness, the need for more awareness or there is good awareness with the community. The following quotes are indicative of the comments offered:

- *Without the program we wouldn't be able to be involved*
- *Community could be better informed of what TurtleCare does but the awareness of the community about the turtles is generally good*
- *The program has a very high profile. School kids see it and tell the wider community*
- *Council's actions to date have demonstrated their commitment to the program outcomes*
- *Great to see the volunteers walking the beach*
- *Have done an amazing job*

Participants who said *yes* but felt not all aims were being addressed or additional objectives are needed, elaborated in a variety of comments. The following quotes are indicative of the comments offered:

- *Yes but 'protection of their environment' has not been achieved*

  Achieving aims but need to increase to include habitat protection and *light pollution Yes, but it's a fine line between too much awareness which increases innocent public*

- *Creating more problems at nesting and hatching times*

  Yes and no - there should be more community awareness that turtles do nest on our beaches and we all have a role to play in maintaining a healthy habitat for turtles and other sea creatures

- *Signage to support awareness raising*

For those who stated *no*, the TurtleCare aims were not being met, comments offer some insights. These include:

- *I have lived here for two years and did not know turtles nested on the beach here Have seen volunteers on the beaches but don't know what they are doing or why*

  Don't agree TurtleCare is achieving the aims of the protection of their environment Community awareness piece is missing, seems to be a 'secret'

- *Do not know enough about the programme to comment*

  Not enough publicity on work being done and how public can help protect turtles

7.0 Participant suggestions for program improvements

Divisional Councillors, Sectional leaders and volunteers were asked to suggest areas of improvement and potential opportunities for the TurtleCare program. Seventy-three responses were provided. A fifth of the responses (21%; n= 15) stated the TurtleCare program is an effective program. Sample quotes have been extracted. The quotes provided are representative of the key themes within the comments.

Provide more signage (36%; n= 26)

…Better signage that has education and has a website, email, phone line for more information and tells people what to do if they spot a turtle or emergence

…Signage about effects of littering, keeping off dunes, controlling dogs on beach

Conservation management of the turtle's habitats (25%; n= 18)

…Make sure the Sunshine Coast beaches are turtle friendly

…Include protection of habitat in Council aims and goals; implement appropriate actions to protect the habitat

…Dune protection

…Including other marine species

…Lighting – an issue that was repeatedly raised

Working with Council (19%; n= 14)

… It would be ideal to be separate from the Council to effectively protect the turtles. When development conflicts with this process, we have no voice as trained educated volunteers.

…Increase "the voice" of the TurtleCare program within Council and influence Council policy in relation to appropriate environmentally sensitive development approvals

…Get councillors along to watch turtles nesting or hatching to raise awareness of impacts of development

Extending the program (15%; n= 11)

…Make the program accessible to as many people as possible

…Education program for beach users

…Allow more volunteers to participate in training

…Communication between different beach groups

…Partnerships are imperative

…More places at Mon Repos research centre

…Providing the Mon Repos training on the Sunshine Coast

…Further studies and volunteer opportunities with Dr Col Limpus

…Include more young people

…Training to learn how to deal with the public and with crowd control

…Assess and manage the risks to the program

…Offer more support for the growth and development of the volunteers (knowledge, skill development, learning, education)

Publicity (5%; n= 3)

…Increasing activity on social media channels to target younger audiences and raise more awareness

… More publicity, media exposure for the program

8.0 Discussion and Recommendations

Overall, alignment to current knowledge can elevate the awareness and interest among various groups, and in turn, ignite intrinsic motivations to advance conservation and inform management. Tulloch et al., (2013), determined that citizen science program monitoring can provide a foundation in which strategic management decisions can be made. Evaluation frameworks posit that participation design, diversity, training and education, evaluation and dissemination, partnerships and collaboration should be considered (Figure 26). Within the framework, evaluation should assess program aims to identify gaps and opportunities.

8.1 Current gaps in programs aims and objectives

The Sunshine Coast Council (SCC, 2018) *TurtleCare Volunteer program aims to sustain an ongoing marine turtle monitoring program. The goal is to identify and record species, nesting locations, frequency and success rates of nesting activity.* Participants indicated that this aim has been achieved. As with many other citizen science-based programs, this aim focuses on the environment, the evaluation of which would require scientific-based approaches. A monitoring program is directed towards the focal species and does not consider the participants, the volunteers.

To identify an aim or objective that relates to the social impacts, the Sunshine Coast Council TurtleCare Guidelines (2009-current) were examined. Of the eight objectives outlined, only one mentions people, the community. The relevant objective reads: *To encourage community awareness and commitment to turtle conservation through the study and enjoyment of turtles and protection of their environment.* Whilst this is a relevant objective, it does not effectively allow for the evaluation of the participant experience. The Sunshine Coast Council seeks to develop a monitoring program. The focus is the monitoring of sea turtles. However, the monitoring and evaluation of the stakeholder experience is as important as measuring specific scientific outcomes. Evaluation aids in identifying avenues to *encourage commitment, study and enjoyment* but as the volunteers are at the coalface, or in this instance the foreshore, they will have invaluable insights into how the program can *encourage community awareness* and meet the remaining objectives.

The lack of aims associated with, and the subsequent, periodic evaluation of the participant experience, is a significant gap in the current TurtleCare program aims and objectives.

8.2 Critical evaluation of the community involvement with the TurtleCare program

Community involvement in the context of TurtleCare relates to various stakeholder groups. Achieving conservation outcomes inherently means working with stakeholders. The stakeholders in this evaluation are Divisional Councillors, sectional leaders, volunteers, residents and local business owners/managers as these people have a vested interest in the natural resources (such as beaches, sea turtles) and will potentially be affected by project activities. However, multi-stakeholder

conservation programs can be difficult. As stated, successful multi-stakeholder programs that rely on the commitment and dedication of volunteers, need to give equal attention to the monitoring and evaluation of the volunteer experience.

Effective conservation outcomes and volunteer-based programs require conservation scientists to successfully partner with other stakeholder groups. As a research participant commented - *partnerships are imperative.* A partnership is an arrangement where parties agree to cooperate to advance their mutual interests. Program stakeholders were described as *passionate*, are motivated by a *love of turtles*, have *a sense of belonging* and *want to make a difference*. Viewing stakeholders as partners, engenders a sense of ownership, builds capacity and enhances responsibility. It was mentioned that groups can function in *silos* and individuals may work in isolation. Offering opportunities for stakeholder groups to collaborate can facilitate a collegial approach that offers avenues for people to share their views, have a say, gain a better understanding of the polices and decision made. This approach can identify opportunities, lessen risk and reduce conflict. For example, participants expressed frustration, uncertainty and raised concerns about various matters such as light pollution, signage and community education. On the surface different stakeholder groups may have conflicting viewpoints about these complex issues. However, these are concerns shared by participants within the project groups.

TurtleCare volunteer involvement is high and perceived by participants to be a *positive, rewarding* and a *satisfying* experience. Volunteers are motivated, have a strong *commitment to conservation of turtles* and the *environment.* Sectional leaders start out as volunteers and results show many have engaged since the program's inception. This commitment is the underlying foundation for *sustaining an ongoing marine turtle monitoring program.*

The sustainability of the program is also reliant on effective leadership. The program has good leadership as reiterated by volunteers who highlighted *the support offered by highly educated professionals* and *quality leadership from Councillors.* Council officers (full-time and contracted) within the TurtleCare program were described as *skilled*, *supportive leaders* with the *TC coordinator highly regarded with recognised expertise in sea turtle conservation and clear communication skills.*

Training undertaken in the company of a professional enhances the accuracy of participant observations (Fitzpatrick et. al., 2009), enabling the asking and answering of questions that increase knowledge and confidence. The TurtleCare program equips volunteers with the ability to complete required tasks by offering training in the presence of experienced volunteers, Council officers and scientists (e.g. Dr Limpus). Active participation in program activities by Sectional leaders and volunteers was high. Training includes a full day pre-season. Training at Mon Repos is open to all volunteers. To be eligible to access the Sunshine Coast Council rented accommodation, volunteers must have completed at least one full season. The effectiveness of the training provided is evident with most Sectional leaders and volunteers indicating they had gained additional knowledge and skills from participating in the TurtleCare program. Participants suggested that additional on-site (on the

beach) training could be provided to refresh, up-skill and engage volunteers. The Mon Repos training is highly regarded. However, those who are unable to travel away for the required period due to work, family or personal challenges (e.g. physical or age-related) are unable to participate and thus, unable to advance their skills or levels of program responsibility.

TurtleCare has a *very positive public perception* and the *successful promotion* and *branding of the TC program has led to increased numbers of volunteers* and *high public interest.* Awareness about the presence of nesting turtles, TurtleCare and what needs to be done to support turtle conservation were all moderate to high. Although residents were aware of TurtleCare, several indicated they *do not know what the program was about* or what the volunteers did despite *seeing them on the beach*. Overall, participating residents stated they were positively impacted by the TurtleCare program. In way of explanation, residents spoke of serendipitous engagement with TurtleCare including *seeing nests*, *being present at an emergence*, *talking to volunteers*, *picking up rubbish*, *seeing tracks*.

Despite this, the need for more diverse community involvement (e.g. school children and young people) and increased awareness was repeatedly raised by participants within all five stakeholder groups as a weakness and an opportunity. Awareness denotes knowledge of a topic and the first step towards more active involvement or engagement. Extending community awareness into community engagement can facilitate informed decision-making and the implementation of management actions and strategies within TurtleCare.

8.3 Recommendations

The community engagement within the Sunshine Coast TurtleCare program is supporting Council's aim *to sustain an ongoing marine turtle monitoring program* as some volunteer assist *to identify and record species, nesting locations, frequency and success rates of nesting activity.* Participant oriented program aims focus on *encourage[ing] awareness and commitment to turtle conservation through the study and enjoyment of turtles and protection of their environment.* The inclusion of volunteers encourages awareness and commitment. The protection of the turtles' environment is encouraged as volunteers are invited to participate in community events such as the mid-season beach clean up to *help the hatchling*. However, to increase community engagement, the participant experience should be explicitly outlined.

Recommendations are based on the critically reviewed program aims and participant responses. A participation framework with five key activities have been proposed to assist in framing future program aims, activities and evaluations (Figure 26):

i) Participation design

ii) Diversity

iii) Training and education

iv) Evaluation and dissemination

v) Partnerships and collaboration

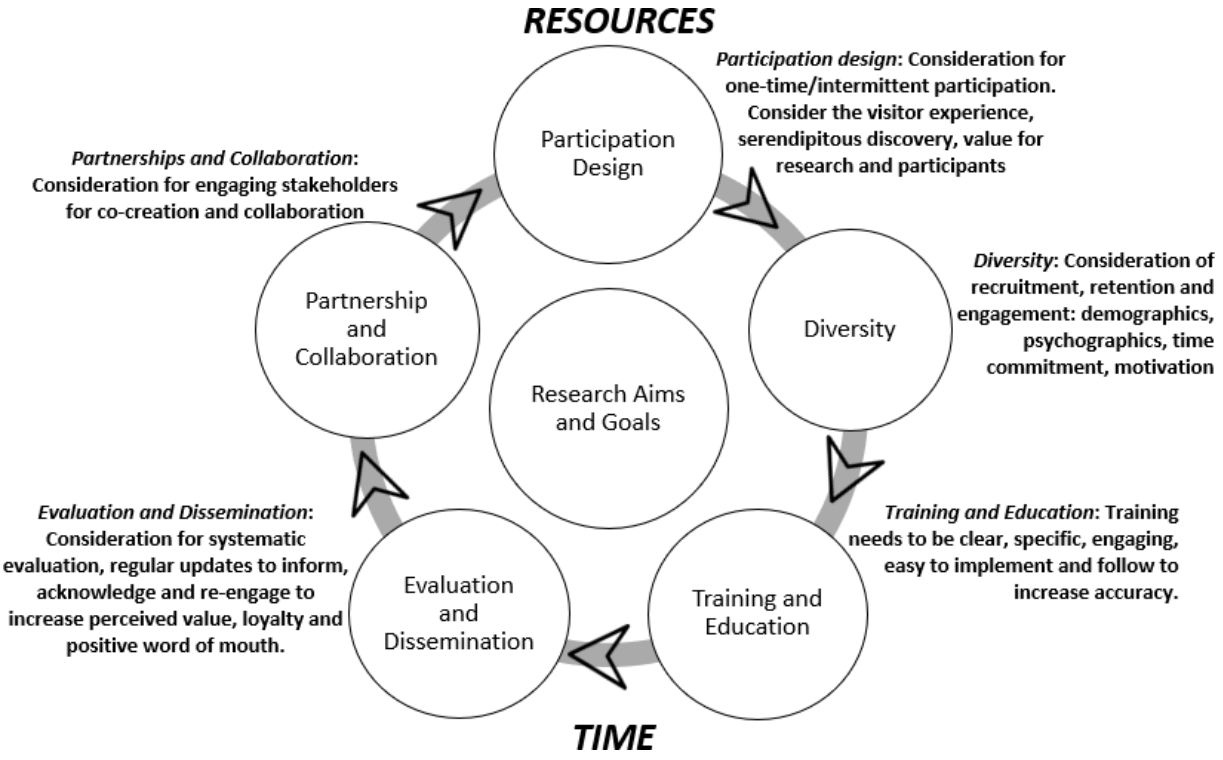

Figure 26. Framework for evaluating Citizen Science

Participation design: The TurtleCare program could further consider the volunteer experience and the potential for further community involvement. To capitalise on serendipitous discovery by residents and visitors, volunteers could offer information to stimulate greater

awareness, education and engagement. As conflict can arise when passionate volunteers witness non-volunteers intentionally or unintendedly interfering with turtles, a communication and interaction strategy is highly recommended. To achieve this, a workshop "*Enhancing public education*", could be offered as part of the local pre-season training session with a volunteer presenter (to manage costings). The goal would be to teach volunteers how to talk to and 'manage' the public.

The three C's (contribution, collaboration and co-creation) can inform participation design to facilitate the programs aims for the *identify and record species, nesting locations, frequency and*

success rates of nesting activity. These activities are predominantly undertaken by Sectional leaders. In some instances, volunteers are invited to assist but this is not always the case. It may be that Sectional leaders do not include the broader team or there has been no turtle related activities on the focal beach. Apart from inserting volunteer hours into BETI, many volunteers may not collect or engage with data. Some teams share a nest or post-emergence count with the wider team, so they can take part in the collection of data. Although emails are being sent throughout each season, a page may be set up in BETI where collected data could be viewed (e.g. number of turn-arounds, nests) by all program participants.

In addition, the program aim also states that it *encourage[s] awareness and commitment to turtle conservation through the study and enjoyment of turtles and protection of their environment*. *Awareness and commitment to turtle conservation* is facilitated though the training sessions and guest presentations. Once volunteers are confirmed, an e-pack could be sent that contains conservation information, WHS information as well as rules and regulations; 'career progression' opportunities such as training at Mon Repos, and proposed program outlining the dates and locations for the training days, various guest presentations and beach clean ups. This may aid participant planning and serve to reinforce the importance of volunteer participation.

Diversity: Diversity of individual experience, personal skills, knowledge and abilities can increase the value of the outcomes and build community capital. The Sunshine Coast Council endeavours to build an inclusive community and to improve access to council's programs, services, resources, information, facilities and open space for diverse members of our community to promote civic participation, and a sense of belonging, leading to stronger, more cohesive and resilient communities (SCC, 2018). Volunteer diversity supports inclusiveness. Participants suggested opening volunteer opportunities to younger community members. The underrepresented groups are those 18-25 and those under 18 years, who can only volunteer with a parent or guardian. Avenues should be explored to increase participation by younger community members (see section 8.2).

Diversity may also be enhanced by casual volunteerism. It is noted that tourists occupy the homes close to the nesting beaches. As being accompanied by a professional (e.g. Sectional leader or volunteer) enhances participant observations and provides learning opportunities (Fitzpatrick, Preisser, Ellison & Elkington, 2009), "Tourist for Turtles" could include the partnering of registered visitors with willing volunteers for one-off or casual short-term engagement. This could be promoted through the Sunshine Coast Council TurtleCare webpage.

Training and education: Training is critical to program success. The pre-season training offered is beginner level. Training offers more than hard skills (those skills needed to complete a task) and can develop soft skills such as communication, confidence and self-esteem. To build personal capital, the provision of intra-season training will enhance both hard and soft skills and support team building and promote and strengthen bonding.

The formal training offered at Mon Repos is highly regarded but is for many, inaccessible. It was proposed that a similar format be offered on the Sunshine Coast. This advanced training could create personal, team and program benefits and support retention as volunteers can gain greater recognition and take on more responsibility. This would incur additional costs. However, volunteers

are currently expected to cover travel, food and other expenses so may be willing to pay a nominal fee to undertake the training locally. This could be explored by asking volunteers about their willingness to pay.

Within community education and awareness, signage was raised within three stakeholder groups as a possible suggestion. This is an example of a topic that requires explanation. Interpretive signage raises awareness, informs, and even educates. Conversely, poor quality signage can increase visual pollution, offering little value. There may be negative implications of drawing attention to nest locations. Interpretive signage helps tell a story, increase awareness and education. The value of interpretive signage to community education is clear however, this suggestion would need greater development and resourcing (inter-departmental). If this were to be pursued, a goal for interpretation should be developed within the aims of the program (e.g. *To communicate accurate, balanced and representative information about sea turtle conservation*).

Volunteers offered numerous suggestions but not all are viable in the short or long term such as the development of a tourist program (as per Mon Repos), more media attention for turtle activities, a dedicated social media and funds for more equipment. Sharing the reasoning behind decisions and opening forums to generate innovative solutions with economic, social and environmental benefits. Divisional Councillors and other relevant Council staff could attend training sessions, post-season BBQ or other dedicated forums to offer an opportunity for participants to voice their ideas and for those that may not be possible, provide the reasoning. This creates greater awareness and a more collegial approach to program development.

Volunteers and sectional leaders receive turtle-related training. However, people management is also critical to the success of the program. Motivating volunteers and providing a positive experience is essential to long term volunteerism. After the initial introduction and training, volunteers may not meet with Council staff, their sectional leaders or other volunteers for the duration of the program. Sectional leaders are supported by the coordinator and make regular (daily) contact for updates and advice.

Sectional leaders take different approaches to educating and supporting their teams from regular email communication, walking with new volunteers and hosting get-togethers pre-during-post season without any contribution from Council (Figure 15). The compilation of a Sectional leaders 'how to' guide could be developed from the activities listed in Figure 15 and expanded upon in a Sectional leader post-season focus group. If run post-season (between seasons), the focus group could be an opportunity to keep sectional leaders engaged with the program, build strong inter and intra-team relationships to mitigate competition, focal beach parochialism and open pathways for new sectional leaders.

Evaluation and dissemination: Program monitoring provides a foundation for strategic management decision making (Tulloch et al. 2013). The stakeholder experience must explicitly feature within program aims and objectives. Systematic and periodic (yearly) evaluation of the stakeholder experience is highly recommended. Sectional leaders, volunteers and Council appointed TurtleCare officers should be invited to participate in yearly evaluations followed by the dissemination of a summary of report. Broader community (residents and businesses) should be included annually or bi-annually. The encouragement of open discussion, provision of intra-season and post-season

feedback, formal collection and the collation of unsolicited community feedback should become part of a well-designed evaluation process.

Participants discussed feeling *irrelevant* as their *ideas do not matter*, *we are not listened to*, *our efforts and opinions are not considered in decision-making or policy development*. Divisional Councillors indicated *research* and *data collection* opportunities support *sustainability*, *enlighten planning, policy and management of shorelines*, *support informed decision making* and create *shared knowledge of turtle ecology/biology* - all considered clear strengths of the program. This contradicts with some volunteer responses. Effective communication of program outcomes by Council may assist sectional leaders, volunteers and the broader community, understand the value and recognition of their shared ideas, actions and program outcomes do impact decision making.

Avenues should be sought to bridge this gap. The Council sponsored post-season BBQ could be semi-structured to serve not only as a thank you but to:

- recognise participant efforts (highlight particularly interesting, challenging or outstanding efforts)
- report on the achievements from the season
- serve as a debrief for collecting feedback and responding to questions, concerns
- collect participant experience data
- advise how volunteer efforts have informed turtle conservation and program outcomes
- share information and updates.

Social evaluation should be undertaken in conjunction with scientific evaluation for a comprehensive assessment based on the program aims and objectives.

Partnerships and collaboration: Results revealed participants recognise the importance of partnerships. Partnerships are characterised by the opportunity for collaboration and co-creation. Sectional leaders felt they were able to contribute, co-create (100% respectively) and collaborate (63%, n= 9) within the TurtleCare program. Most volunteers felt they could contribute (90%, n= 61) but with few felt able to collaborate (3%, n= 2) or co-create (7%, n= 5). This presents an opportunity to increase volunteer engagement. Previously mentioned training related recommendations could address this opportunity. *Making a contribution* was one of the key reasons for taking part. If volunteers do their weekly walks, they are contributing. However, this can be done in isolation as volunteers may not see any turtle activity nor engage with other volunteers or sectional leaders. How do they know they are making a difference? By increasing engagement to include input to research such inter-beach data collection for nest counts (post-emergence), presenting results to others (inviting volunteers to present data collected about nesting activity on their focal beach at end of year BBQ), encourage the identification of issues and questions (these could be reported to Sectional leaders who respond in a 'all of team' email which may be shared with the TurtleCare Council officer who may further respond), or pose questions for an open discussion so volunteers can ask further questions and suggest solutions.

To develop meaningful partnerships, this should be included in the yearly program evaluation of the volunteer experience and active elicitation of what volunteers need. The responses will inform

future actions.

The citizen science benefits of the TurtleCare program are clear. Proponents argue that citizen science creates an inclusive means for the wider community to be involved in data collection and can increase community awareness and strengthen attitudes towards important issues (Crall et al., 2013; Cronje, Rohlinger, Crall & Newman, 2011). Citizen science projects build social capital, offer occasions to be immersed within a new culture, gain research experience, skills and knowledge, and to 'make a difference' (Brightsmith, Stonza & Holle, 2008; Wearing, 2001; West, 2008). Outcomes from citizen science projects do not erode the value of the scientific community, rather can complement policy and planning, increase public ecological knowledge, exposure to unexpected events, and may even identify ways to improve research methods and data collection. "Observer quality" is an important aspect of face-to-face training (Dickinson et al. 2010: 160).

In summary, TurtleCare program aims should be linked to the benefits of utilising citizen science in the monitoring and management. These include:

- reduction in the costs of data collection, identification and recording of species, monitoring of nesting locations, frequency and success rates of nesting activity
- broadening community access to knowledge and skills
- giving diverse perspectives to problems and issues
- increasing scientific knowledge among participants and the wider community
- instilling concerns about the health of our society and environment
- providing personal growth for participants (enhance community-based social capital)
- opening avenues for additional volunteer activity to support greater region and
- developing inclusive decision making.

9.0 Limitations

This evaluation of the TurtleCare program was undertaken as a research project. While efforts to address limiting factors are undertaken, the following should be considered.

This is the first time the volunteer experience has been evaluated. The TurtleCare program has been running for 10 years, initially evolving organically, then more purposefully and strategically as the Sunshine Coast Council's involvement and volunteer numbers increased. The evaluation results will offer evidenced based decision making and inform further research.

The main limitation relates to the sample sizes (number of responses). For the Sectional leaders and volunteers, the sample size is representative of these stakeholder groups and results can

be generalised in the context of the TurtleCare program, at the time of the evaluation. The sample size for the residents is useful (n= 144) but caution is recommended when generalising the responses across the whole population. Although 30% of the Divisional Councillors provided responses, the overall sample population is small. Therefore, responses should be viewed in this context. The responses for the businesses provide insights to inform future studies but is too small to be a representative sample.

It should be noted that sample size when conducting interviews within predominantly qualitative research is influenced by time and resources. Interviews took on average 60-90 minutes. When participants are passionate about the topic under investigation, time, patience and consideration are needed. Time needs to be allocated to allow full responses and for participants to ask questions. Qualitative data offers deeper insights and exploration of the topics being investigated.

To increase sample size and corresponding data reliability, avenues to increase sample size should be pursued in future evaluations.

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Appendix

1. TurtleCare program aim, objectives and summary comments

In summary of sections 6.7 and 8.1, table 4 outlines the program aim and objectives. The volunteer contribution appears minimal (one objective). Listed last, this suggests the value and recognition for the efforts expended are secondary considerations. Volunteers are essential to achieving the desired environmental outcomes. It is recommended the objectives be re/aligned to reflect the importance of volunteer efforts, contribution and experience. In addition, once confirmed, should be shared with volunteers and potentially the broader community.

Table 4. TurtleCare aim, objectives and summary comments

Aim and Objectives	Comments
Aim Implement an ongoing marine turtle monitoring program for nesting activity on Sunshine Coast beaches (North Bribie Island – Point Cartwright) to identify and record species, nesting locations, frequency and success rates of nesting activity.	The evaluation confirms volunteers within TurtleCare are positively contributing to the achievement of the program aim. This aim could be reworded to include the volunteer experience: *Implement and sustain an ongoing volunteer-based marine turtle monitoring program for nesting activity on Sunshine Coast beaches (North Bribie Island – Point Cartwright) to identify and record species, nesting locations, frequency and success rates of nesting activity; and build capacity through community* *engagement.*
Objectives To monitor and maintain nesting conditions in as close to the natural state as possible, with minimal interference with habitat, turtles or nests	The evaluation confirms volunteers within TurtleCare undertake tasks related to this program objective.
To gain an understanding of how turtles react to increasing impacts from urbanisation (i.e. Threatening processes by people, domestic animals, feral species and litter) and find a united approach to reduce those threats along the Sunshine Coast	The evaluation suggest volunteers within TurtleCare are aware of the issues stated in this program objective. Directives come from the Council TurtleCare Officer. Sectional leaders consult before acting. This supports a united approach. However, litter, for example, is addressed or not, by individuals. There is an annual community beach clean-up day. However, litter is ever present. A united approach to daily litter collection would positively impact the beach, offer collaborative volunteers tasks to help them 'make a difference' (regardless of whether the focal beach has direct turtle activity) and offer

	positive reinforcement for the wider community.
To encourage community awareness and commitment to turtle conservation through the study and enjoyment of turtles and protection of their environment	The evaluation suggests, amongst volunteers (who are community members) within TurtleCare, awareness and committed is evident, and most gain much pleasure and enjoyment from volunteering. From this perspective, this program objective is well addressed. However, broader community engagement, enjoyment and conservation may be limited. Respectful relationships are a prerequisite for success. With regards to community engagement, it may be useful to add an objective that addresses volunteer/community interactions. Protocols should evolve from objectives. Volunteers will interact with different groups such as residents, tourists, other volunteers, who may not have any knowledge or experience with turtles, nests, conservation. There may be quite disparate agendas and opinions.
	Protocols can guide volunteers and help them develop skills to facilitate positive community interactions. This may include acknowledging the problems, speak and active listening, conflict management and reporting, and demonstrating respect.
To monitor turtle nesting populations for the two known nesting species, Loggerhead (Caretta caretta) and Green (Chelonia mydas) turtles, on Sunshine Coast beaches and provide annual nesting records to the Department of Environment and Heritage Protection	Sectional leaders may be more involved in addressing this objective. Not all volunteers within TurtleCare would have the opportunity to participate (no direct turtle activity on their beaches). The identification of opportunities to include volunteers on beaches without direct turtle activity would further support engagement and commitment. Whether information is or is not shared with the DEHP, may not be broadly known.
To monitor the emergence success of clutches	The evaluation confirms volunteers within TurtleCare who have active turtle activity on their focal beach, monitor emergences as per this objective.
To monitor and minimise fox predation	The evaluation confirms volunteers within TurtleCare who experience predation by foxes (or other species) monitor and respond as directed to address this objective.

To enlist the assistance of the local authority and Queensland Parks and Wildlife Service regarding regular pest management program to control predator numbers and provide assistance with monitoring predator numbers and locations as part of this control program.	Although foxes were identified as pests by a few participants, for those not on beaches where this an issue, this may not be well known. NOTE: In 2019, a guest presenter addressed this issue to a group of approx. 40. Greater awareness can be achieved by these events.
To establish a network for reporting marine strandings and assisting injured turtles on Sunshine Coast beaches.	Volunteers reported the presence of marine stingers and unfortunately, turtle deaths/strandings to sectional leaders. For some volunteers, where this information goes to and how it is compiled/used is not clear. How volunteers should address issues such as these should be clear. What happens to the data/information should also be confirmed. An e-pack was suggested as an avenue to engage volunteers and share important information. Similarly, an end of season e-pack could summarise the seasons activities. NOTE: It is acknowledged that numerous emails from Council, sectional leaders and other volunteers are shared throughout the season. Over-communication can reduce the effectiveness of important information sharing.
Volunteer –Turtle Care Position Objectives TurtleCare volunteer will work closely with the Conservation Wildlife officer (Wildlife/Turtles) in monitoring and maintaining nesting conditions of turtle habitats and nests and identify any threats to their environment.	As the program cannot function without volunteers, this should be incorporated, not added separately, to the objectives list. It is recommended that the title be edited, even deleted (Volunteer – Turtle Care Position Objectives) and the content embedded within earlier objectives. TurtleCare volunteers may not work closely/directly per se with the Council TurtleCare officer. They may never see, work with or speak to the officer after the initial training activities. Sectional leaders however, engage regularly. Consider rewording: *TurtleCare volunteers will adhere to program guidelines and support the Conservation Wildlife officer (Wildlife/Turtles) by diligently and with commitment, monitoring and maintaining nesting conditions of turtle* *habitats and nests and identify any threats to their environment.*