

## 8.0 Research, Monitoring and Collaboration

### 8.1 RESEARCH PLANNING PROCESS

DOC and MPI are proposing an annual planning and review process to provide a transparent and more systematic procedure for determining future research and monitoring requirements for Hector's and Maui's dolphins. This framework may include the establishment of a Research and Monitoring Advisory Group to make recommendations and/or identify the key information needs to answer the management questions and priorities for each agency.

The annual planning and review process would do the following:

- Develop an ongoing review framework for an overarching strategy for research, monitoring and collaboration.
- Review the current management questions of both DOC and MPI to identify and prioritise the key information needs to aid future management decisions.
- Develop an adequate programme for monitoring the population and compliance of any mitigation measures, noting that due to small population size of the Maui's dolphin it will be difficult to reliably assess the effectiveness of current management measures<sup>162</sup>.
- Outline approaches to address the information needs to assist DOC and MPI in developing research proposals or monitoring programmes for the following year(s).
- Review the performance (i.e. quality, deliverables, and targets) of any research projects and monitoring programmes that were undertaken and/or completed in the current year.

The benefits of such a review process would effectively inform future reviews of the TMP in a timely manner, and enable Government to respond more urgently if required. New information gained would be assessed as it becomes available. The results would guide research priorities for the following year and inform managers if there is a need to revisit management actions.

The framework of an annual planning and review process is still under development, but will consider the high profile nature of the Maui's dolphins and thus the need to be able to conduct these processes efficiently. Both agencies acknowledge the need to streamline this with a similar process for Hector's dolphins.

#### 8.1.1 Research needs

There is a considerable body of information on Hector's and Maui's dolphin distribution, abundance and genetics<sup>163</sup>. Although a significant amount of research has already been conducted on Hector's and Maui's dolphins, there are some key areas where DOC and MPI consider that more research is required for Maui's dolphins specifically. Research is required to help inform future decisions on the management of Maui's dolphins and to monitor the population to assess the efficacy of any management measures put in place following this review.

DOC and MPI have identified four high priority information needs to support current and future management decisions by both agencies (Table 8.1). Many of the information needs outlined below represent areas highlighted as sources of uncertainty in the recent Maui's dolphin risk assessment, particularly those relating to Maui's dolphin distribution, genetics

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<sup>162</sup>Jaramillo-Legorreta *et al.* (2007)

<sup>163</sup>Consolidated as an annotated bibliography: Du Fresne *et al.* (2012)

and the level of human-induced mortality<sup>164</sup>.

**Table 8.1.** Joint DOC and MPI high priority information needed to support any future review, implementation or monitoring of management measures to address human-induced impacts on the Maui's dolphin population.

Type of Information	Why Important	Objectives
<p>Maui's dolphin distribution:</p> <ul style="list-style-type: none"> <li>• Southern extent</li> <li>• In harbours</li> <li>• Offshore</li> <li>• Seasonal movements</li> </ul>	<p>Improving information on Maui's dolphin distribution is considered the highest priority for further research. Expanding knowledge on the southern extent of their range and the frequency and extent of their use of harbours would improve our understanding of the impact of human-induced threats on the Maui's dolphin population.</p>	<ul style="list-style-type: none"> <li>• To assess the extent of Maui's dolphin distribution; e.g. southern extent, in harbours and offshore</li> <li>• To estimate residual risk to the Maui's dolphin population outside of current protection measures.</li> <li>• To assess the nature and extent of seasonal movements of Maui's dolphins.</li> <li>• To assess areas of overlap and the intensity of overlap in these areas between Maui's dolphin and different human activities, and where the dolphins are at greatest risk.</li> </ul>
<p>The genetic flow within and between Hector's and/or Maui's dolphin populations:</p> <ul style="list-style-type: none"> <li>• Risk of population fragmentation</li> <li>• Home range size</li> <li>• Migration</li> <li>• Level of population mixing</li> </ul>	<p>Recent findings of Hector's dolphins within the Maui's dolphin range highlight there is overlap between the subspecies. Hector's dolphins are observed on the East Coast of the North Island, around the Kapiti Coast and the Wairarapa, they are also regularly found in the Marlborough Sounds. These areas of overlap or close proximity between neighbouring populations could provide an area of mixing which could have implications for the potential recovery of Maui's dolphins.</p>	<ul style="list-style-type: none"> <li>• To determine the extent of overlap between Hector's and Maui's distributions on the North Island.</li> <li>• To determine the origin of Hector's dolphins on the North Island through microsatellite assessment.</li> <li>• To determine population substructure and potential risk of fragmentation.</li> <li>• To determine if there are areas of mixing or genetic dispersion between populations.</li> <li>• To assess the potential of interbreeding between subspecies</li> </ul>
<p>Maui's dolphin abundance:</p> <ul style="list-style-type: none"> <li>• Baseline monitoring</li> <li>• Trends over time</li> <li>• Collect DNA samples</li> </ul>	<p>Due to the small size of the Maui's dolphin population it is unlikely that the effectiveness of mitigation measures and changes in abundance will be detectable in the short to medium term<sup>165</sup>. The focus of the monitoring should be to maintain baseline data so differences in the population are detectable in the long-term, and information that would require further management actions are detected promptly.</p>	<ul style="list-style-type: none"> <li>• To determine a best practice methodology for population monitoring to ensure comparability between surveys.</li> <li>• To conduct regular surveys using the best practice methodology to allow for long-term identification of any population trends.</li> </ul>
<p>Social research project:</p> <ul style="list-style-type: none"> <li>• Community involvement</li> <li>• Information gathering</li> <li>• Tools for gathering data</li> </ul>	<p>Outside of targeted research surveys, public sightings, and sightings from platforms of opportunity, (for example, fisheries observers, seismic marine mammal observers, etc.) are relied on to gain more information on Maui's dolphins. The Government also relies on community support to encourage safe boating behaviour around dolphins, and to support other initiatives to better protect dolphins.</p>	<ul style="list-style-type: none"> <li>• To determine the best means of public engagement for encouraging sighting reports,</li> <li>• To develop new tools to assist the public in collecting information about Maui's dolphins</li> <li>• To raise awareness about Maui's dolphins, and encourage safe boating behaviour around the dolphins.</li> </ul>

<sup>164</sup> Currey *et al.* (2012)

<sup>165</sup> Example from Jaramillo-Legorreta *et al.* (2007) with vaquita that a 4% increase in population would take at least 25 years of annual surveys to detect

MPI and DOC propose to use the annual planning and review processes discussed above to identify other joint agency information needs, and assess the various methods that may be used to achieve the objectives. In addition, some agency-specific research priorities would improve specific information requirements for MPI and DOC to manage fishing and non-fishing-related threats, respectively.

#### 8.1.1.1 MPI Research Priorities

Type of Information	Objectives
The nature and extent of fishing-related mortalities in the Maui's dolphin population from different fishing methods.	<ul style="list-style-type: none"> <li>Quantify the degree of overlap between Maui's dolphins and specific fishing-related activities (e.g. commercial set net and trawl) using best available information on Maui's dolphin distribution.</li> <li>Estimate the vulnerability of Maui's dolphins to capture for each fishing method using fisheries observer data.</li> <li>Estimate the total captures of Maui's dolphins in each fishery from the overlap and vulnerability estimates.</li> </ul>

#### 8.1.1.2 DOC Research Priorities

Type of Information	Objectives
Impacts of mining	<ul style="list-style-type: none"> <li>Quantify the potential overlap between Maui's dolphins and proposed mining activity.</li> <li>Monitor the impact of exploratory and prospecting stages of mining on Maui's dolphins.</li> <li>Develop a research programme with industry to model the environmental effects of mining activities in order to predict potential impacts in places where direct observation is not possible.</li> <li>Develop a programme to test possible mitigation methods for minimising the impacts of mining on Maui's dolphins.</li> </ul>
Toxoplasmosis	<ul style="list-style-type: none"> <li>Necropsy all carcasses and test for the presence of <i>Toxoplasma gondii</i> and other potential lethal agents.</li> <li>Determine the pathways of <i>Toxoplasma gondii</i> into the sea to determine seasonality, prevalence, etc</li> <li>Test for presence of <i>Toxoplasma gondii</i> in other species, eg, fish species, what role do fish play in the infection of Maui's dolphins?</li> <li>Investigation of alternative methods for disposal of cat faeces, the primary vector for Toxoplasmosis, coupled with community engagement programme to trial alternative methods.</li> </ul>
Health screening	<ul style="list-style-type: none"> <li>Continue with ongoing necropsy of Hector's and Maui's dolphin carcasses from bycaught, or beachcast animals.</li> <li>Screen for a range of diseases that may have an effect on the population.</li> <li>Assess levels of pollutants dolphins are exposed to and whether lethal or sublethal.</li> <li>Test cortisol levels from a range of tissues (e.g. blood, blubber, saliva) in relation to a stressful event that may have led to the dolphin stranding.</li> </ul>
Vessel Traffic	<ul style="list-style-type: none"> <li>Characterisation of recreational boat traffic within the Maui's dolphin range</li> <li>Quantify the degree of overlap between Maui's dolphins and vessel activities (e.g. recreational boats, shipping traffic) using best available information on Maui's dolphin distribution.</li> <li>Estimate the vulnerability of Maui's dolphins to vessel traffic.</li> <li>Estimate the total vessel traffic-related mortalities of Maui's dolphins from the overlap and vulnerability estimates.</li> </ul>
Cumulative impacts of threats	<ul style="list-style-type: none"> <li>Quantify the level of impact of different threats</li> <li>Understand the interaction, if any, between certain threats in order to better understand cumulative impacts of multiple threats on the population</li> </ul>
Trophic interactions and diet	<ul style="list-style-type: none"> <li>Determine diet of Maui's dolphins.</li> <li>Understand the importance of direct trophic interactions on Maui's population. For example, is there overlap between what fisheries are taking and what dolphins are eating, and if so is it enough to impact on Maui's population?</li> <li>Understand the importance of indirect trophic interactions on Maui's dolphins. For example disruption to the seafloor, water quality or excessive noise in the environment from a range of activities (fishing and non-fishing) that could displace Maui's dolphin preferred prey species.</li> </ul>

*Questions for tangata whenua and stakeholder consideration*

- Have the key features of the proposed annual planning and review process been described?
- Are there any models or frameworks for the annual planning and review process that need to be considered?
- Are there suggestions for where efficiencies in such a process could occur?
- Are there any additional or different research needs that should be addressed?
- Have the rationale and objectives of the research needs been accurately set out?
- Are there other comments you would like to make about the planning and review process or research priorities discussed above?

## 8.2 MONITORING PROGRAMME

Information on the nature and extent of the overlap between human-induced threats and Maui's dolphins is important to guide decisions on how to best manage those interactions. MPI and DOC consider that monitoring should be focused in areas where Maui's dolphins may overlap with both human-induced threats, and where there are few management measures in place to avoid, remedy or mitigate the adverse effects of those threats. Such information will help both MPI and DOC assess the effectiveness of fishing-, and non-fishing-, related management measures, respectively, and whether more mitigation measures are required.

MPI and DOC consider that the annual planning and review framework for research discussed above may be one means for providing a more transparent and systematic procedure for determining key monitoring requirements for Maui's dolphins.

### 8.2.1 Ministry for Primary Industries: Monitoring the effects of fishing on Maui's dolphins

Monitoring allows for an analysis of Maui's dolphin interactions with fishing activities in areas where the distribution of the dolphins and fishing overlap. Monitoring does not reduce the risk to Maui's dolphins but does reduce the uncertainty in the level of risk the activity poses to the population and identifies the highest risk areas and activities.

Information on the nature and extent of the interaction between fishing-related threats and Maui's dolphins is important to inform decisions on how best to manage those interactions. The Marine Mammals Protection Act 1978, the Wildlife Act 1953, and the Fisheries Reporting Regulations 2001 require fishers to report protected species interactions, including dolphin entanglements. This reporting helps MPI determine the extent and nature of interactions.

The extent to which fishers currently report entanglements is unknown and although fishers are currently required by law to report dolphin bycatch, this does not always occur. Incentives to report entanglements are poor and some fishers fear they may be subject to onerous mitigation measures if reported mortalities are too high. However, the reporting of the dolphin mortality in January (as discussed in previous sections) is testament to the fact that many fishers can and do responsibly report accidental captures. Additionally, cryptic mortality from undetected interactions between fishing gear and dolphins can also occur from lost gear, or the dolphin naturally falling out of the net prior to be hauled in.

Therefore, it is difficult for MPI to determine the number of Maui's dolphin mortalities caused by fishing. Independent monitoring of fisheries provides an opportunity to gather reliable, unbiased information about fisheries interactions with Maui's dolphins.

This consultation paper contains proposals to increase the level of monitoring in the commercial set net and trawl fisheries. The management options for the trawl fishery are not explicit about what level the monitoring coverage should be increased to, just that it should be extensive.

#### *8.2.1.1 Need for increased monitoring*

Given the uncertainty about the nature and extent of fishing-related mortalities involving Maui's dolphins, there are real benefits from increased monitoring to better assess residual risk of fishing interactions under the existing and proposed management measures.

MPI's monitoring objectives include:

- Gathering information on the nature and extent of interactions between fishing activity and Maui's dolphins, and
- Assessing compliance with mandatory and voluntary mitigation measures.

MPI considers that where management measures do not eliminate risk, monitoring is required to verify the effectiveness of the chosen management action. The greater the residual risk, the greater the imperative for increased monitoring.

#### 8.2.1.2 Types of monitoring available

To assess compliance with mandatory and voluntary mitigation measures, MPI works closely with its fishery officers, other compliance personnel, and acts on information from the public to determine where laws may be broken or codes of practice not followed.

There are two approaches to improving independent monitoring of fisheries interactions with Maui's dolphins:

- Electronic monitoring, and
- Observers.

#### **Electronic monitoring**

Electronic monitoring (video cameras) is used in many fisheries around the world for a variety of purposes. Electronic monitoring has been used successfully in New Zealand waters aboard set net and trawl boats to monitor interactions with protected species. Trials in Canterbury in 2003-04 showed that at least some captured Hector's dolphins were identifiable using this technology.

Electronic monitoring units typically consist of a hard drive that records information by video camera(s) fixed above the vessel deck. The cameras on board the vessel may be activated in two ways: (1) at the beginning of fishing event, or (2) when the trawl winch starts. As fish are landed on the deck of the boat the camera records images in the field of view. The video footage is independently reviewed on shore and species identified.

The costs associated with an electronic monitoring programme generally include:

- Equipment (either purchased to own or leased)
- Installation fee, and
- Retrieval and analysis of footage (depending on the design of the monitoring programme).

The exact costs will vary depending on the equipment used and the design of the monitoring programme, however, the estimates outlined in Table 8.2 provide figures to determine the magnitude of the funds that would be required.

**Table 8.2.** Estimated capital and running costs of an electronic monitoring programme.

	Purchase of equipment	Lease of equipment (per yr)	Installation	Analysis of footage (per day)
Average cost	\$10 000	\$1 000	\$1 500	\$250
Maximum cost	\$16 000	\$1 600	\$ 2 000	\$500

In the long term electronic monitoring is likely to be more affordable to fishers than

observers. However, MPI notes there can be substantial upfront costs. In addition, purchased monitoring equipment would have to be replaced approximately every three to five years depending on its ability to withstand wear and tear.

In addition to financial costs, there are limitations in electronic monitoring programmes in terms of providing consistent and reliable detection of bycatch. MPI considers the design of an electronic monitoring system would need to address possible difficulties in identifying a fishing-related mortality:

- If a dolphin is buried under high volumes of catch on the vessel deck
- If fish landed onboard a vessel are put directly into the hold preventing a dolphin being observed, and
- If a dolphin is released or falls from a net before the net is retrieved onboard.

MPI considers that some electronic monitoring technologies currently in use around the world may be able to observe bycatch of threatened or protected species like the Maui's dolphin. However, rigorous testing and development alongside observers will be required to determine its efficacy.

MPI invites stakeholders to comment on electronic monitoring programmes that are likely to provide reliable information on fishing-related interactions with Maui's dolphins and their cost-effectiveness.

### **Observers**

MPI uses fisheries observers to monitor interactions between fishing vessels and protected species including Hector's and Maui's dolphins. MPI considers observers to provide the most reliable monitoring programme.

Benefits of observers include:

- Independent monitoring on the types of interactions that occur between marine mammals and fishing vessels
- Collection of multiple pieces of information on the nature of interactions with dolphins (for example, biological samples for genetic analyses)
- Communication of the legal requirements to report dolphin captures to fishers and the importance of reporting such captures
- Facilitating the return of carcasses of certain protected species for necropsy, and
- Reporting on, or recommending, ways to avoid or mitigate the effects of fishing on protected species.

However, there are significant costs that include:

- Difficulty placing observers on boats (that is, some fishing vessels are too small to be able to take an observer and crew)
- Inshore fishing is dependent on weather and other factors, so changes to trips at short notice can be difficult and costly to coordinate with the observer programme.
  - This can require some observers to be placed at local ports for several months, so they can be deployed at short notice
- Inshore observer coverage is expensive (\$650 – 1000 per day) and coverage, as a proportion of total fishing activity, is low. Expansion of the programme across a large proportion of the inshore fleet off the WCNI could:
  - Remove a large part of the profit margin from the WCNI inshore fishery, and
  - Affect the viability of some individual fishing operations.
- Personnel requirements to meet the capacity required to deliver extensive monitoring coverage off the WCNI in both the trawl and set net fisheries.

### *8.2.1.3 Levels of observer coverage*

In the management options outlined in Section 6.0, MPI is proposing:

- Prohibiting set net fishing from Pariokariwa Point to Hawera between 2 to 7 nautical miles offshore without an observer on board
- Put in place extensive monitoring coverage in the trawl fishery from Maunganui Bluff to Pariokariwa Point between 2 to 7 nautical miles offshore

MPI acknowledges the need to consider within these options the:

- Benefits and limitations of the information likely to be gained
- Practicalities associated with increased observer coverage, and
- Costs to industry.

The design of any monitoring programme is critical to ensure the level of monitoring put in place is appropriate to maximise the ability to detect a possible interaction between fishing and Maui's dolphins. MPI will collaborate with industry to ensure the design of any monitoring programme will achieve its objectives and consider the most cost-effective way it can be delivered. MPI notes that given the consequence of any interaction with the Maui's dolphin population and its small population size the level of monitoring coverage required is likely to be substantial and long-term.

### *8.2.1.4 Current monitoring*

Under the interim measures, MPI is funding 100 percent observer coverage for any commercial set net fisher operating from Pariokariwa Point to Hawera between 2 and 7 nautical miles offshore. This monitoring coverage will remain until the Minister for Primary Industries makes a decision on any monitoring coverage options that are presented in final advice.

## **8.2.2 Department of Conservation Monitoring Programme**

The Department of Conservation undertakes surveys to monitor the Maui's dolphin population. Supplementary to this DOC also regularly receives notifications of sightings and strandings of marine mammals, including Maui's dolphins. This information leads to a better understanding of the distribution of Maui's dolphins both offshore and alongshore.

### *8.2.2.1 Need for additional monitoring*

As with many species it is difficult to know the exact extent of their range. The core range is usually well understood but the extremes less so. This is exacerbated when dealing with a small population size, as with Maui's dolphins. However, to effectively support the recovery of the population, mitigation measures should support recovery throughout the historic range of the population, not just in the core range. For these reasons it is important to increase monitoring effort in the areas where there is still uncertainty about the frequency and numbers of dolphins present. An increased understanding of dolphin presence and habitat use in these areas will better inform management decisions on how to best protect this population.

### *8.2.2.2 Types of monitoring available*

There is a range of monitoring options available, each with their pros and cons discussed below. DOC considers using a suite of methods will result in increased information gains.

#### **Boat surveys**

Boat surveys along shore will aid in determining the presence of dolphins along the Taranaki coast. These surveys are constrained by sea conditions and also the distance that can be

searched in a given time period. As such they will be focused on inshore sightings of the dolphins during the summer months when dolphins are likely to be closer inshore. The benefit of boat surveys is the ability to take biopsy samples of the dolphins. These samples will assist

in other research areas, for instance determining the sub-species, sex, as well as some basic health screening looking at pregnancy rates, and levels of pollutants such as organochlorines.

### **Aerial surveys**

Aerial surveys can be undertaken alongshore as well as flying transect lines for detecting dolphins further offshore. These surveys have the added benefit of being able to search a greater area in a given time frame than boat surveys. They also are not as constrained by sea conditions since the height of being in a plane typically increases chances of sighting dolphins. Aerial surveys can operate in conditions with greater wind and sea state than boat surveys. While they do not allow directly for the collection of a biopsy sample, if run in conjunction with boat surveys or a stand by boat crew, dolphin sightings can be reported through to the boat for opportunistic biopsy opportunities.

### **Community engagement programme**

The West Coast North Island marine mammal sanctuary covers approximately 2,164 km of coastline, and extending out to 12 nautical miles the total area of the sanctuary is approximately 1,200,086 hectares and this does not include the south Taranaki region where sightings have occurred. Acknowledging the size of this area and the small population size of the Maui's dolphins, the chances of sighting a dolphin are much reduced at the extremes of their range. For these reasons it is important to increase the chance of sighting dolphins by increasing the number of opportunities for sighting them. This means not just relying on dedicated DOC or research surveys, but also encouraging and making use of other platforms of opportunity (for example marine industry, Airforce flights, shipping, community groups and the general public). While the effort is not uniform and is biased to popular beaches, or fishing locations etc, the benefit of this type of monitoring is that it greatly increases the area of coverage and the number of observers looking for dolphins, and therefore the chance of sighting a dolphin. Prompt reporting of any sightings similar to aerial surveys, will allow DOC to follow up with a boat to verify the sighting and collect a biopsy sample.

### **Commercial fisher liaison programme**

Similar to the community engagement programme fishers are regularly out on the water and covering a wide area. Many will be carrying a fisheries observer onboard. This increases the search area and chance of sighting dolphins, but through liaison with DOC staff, also increases the chances of collecting a biopsy sample.

#### *8.2.2.3 Current monitoring*

DOC has four main components proposed for gathering information on Hector's/Maui's dolphin off the Taranaki coastline during the July 2012 to July 2013 financial year. As mentioned above these methods each have various constraints, but when employed together increase the overall chance of observing dolphins, and through collaboration and reporting also increase the chance of collecting a biopsy sample.

- (1) Boat surveys using a DOC vessel and collection of biopsy samples
- (2) Aerial surveys using a fixed wing aircraft
- (3) A community engagement programme to solicit sightings data from the public and follow up response to sightings from DOC
- (4) A commercial liaison programme to gather information from the fishing industry

The goals of this programme are to:

- determine presence/absence of Hector's/Maui's dolphin in the Taranaki area;
- obtain biopsy samples for genetic analysis to:
  - determine sub-species of individuals (Hector's or Maui's dolphin)
  - detailed genetics work on population of origin, rate of gene flow etc., sex of individuals sampled
  - additional information such as levels of toxins in blubber; pregnancy rates

## 8.3 COLLABORATION

DOC and MPI recognise that both agencies can achieve more for the recovery of the Maui's dolphin population through development of collaborative processes. Such processes would better enable both agencies to address some of the gaps highlighted in the research and monitoring sections above. DOC and MPI consider collaborative processes go beyond their own agencies mandates and capacity and can be extended even broader to other public, private, and non-governmental organisations.

Such a collaborative approach has the potential to develop innovative and integrated solutions to address many of the human-induced threats that are affecting the Maui's dolphin population. As such DOC and MPI are seeking feedback and ideas on how you think you could contribute to the protection of Maui's.

To support this discussion DOC and MPI have listed some suggestions below for various groups that share an interest in protecting this unique subspecies. Collaborative projects or initiatives may be possible where these should have a shared interest in a region or on a particular activity. For example, there is significant uncertainty about Maui's dolphin distribution and use of the WCNI harbours and catchments, and the harbours and catchments are areas of intensive use that tangata whenua and various stakeholders have an interest in.

### 8.3.1 Tangata whenua

- Review the named research priorities and comment on their suitability
- Provide input into the research planning process particularly on research proposals that may take place in their rohe or will assist in their own management of customary fisheries and interactions with Maui's dolphins
- Assist in the gathering of information on Maui's dolphins
- Seek opportunities to collaborate with others, government, industry, research providers, and community groups to increase capacity of iwi forums in gathering information and raising awareness about the cultural importance of Maui dolphin

### 8.3.2 Research providers

- Review the named research priorities and undertake projects where possible
- Provide input into the research planning process
- Seek opportunities to collaborate with others, government, industry, tangata whenua, community groups to increase the capacity of your research

### 8.3.3 Industry

- Review the named research priorities and see if there are any you could support financially or logistically
- Provide input into the research planning process
- Assist in the gathering of information on Maui's dolphins

- Seek opportunities to collaborate with others, government, research providers, tangata whenua, and community groups to increase the use of data you collect or your platform of opportunity

#### 8.3.4 Local government

- Report sightings and strandings of dolphins
- Consider what tools you have available to control any human-induced threats to the population
- Provide input into the research planning process
- Seek opportunities to collaborate with others government, research providers, tangata whenua, and industry to increase the capacity for gathering information on Maui's dolphins and sharing ideas on how to protect them

#### 8.3.5 Non-governmental organisations

- Review the named research priorities, comment on their suitability, and undertake or support projects where possible
- Provide input into the research planning process
- Help develop better tools for reporting sightings or raising public awareness
- seek opportunities to collaborate with others, government, industry, tangata whenua, and community groups to increase the capacity of your research

#### 8.3.6. Community groups and general public

- Report sightings and strandings of dolphins
- Help develop better tools for reporting sightings or raising public awareness
- Lead social engagement initiatives to raise awareness (can be led by school groups or community groups)
- Learn how you can decrease rubbish and pollution into the marine environment
- Volunteer as a look out for Maui's dolphins at events which may pose a risk to the dolphins
- Seek opportunities to collaborate with others, government, research providers, tangata whenua, and industry to increase the capacity for gathering information on Maui's dolphins and sharing ideas on how to protect them.

#### *Questions for tangata whenua and stakeholder consideration*

- Are there any additional or different collaborative tools or approaches that should be addressed?
- Are there other comments you would like to make about collaborative opportunities to improve protection of the Maui's dolphin population?

