Report of the Planning Meeting for the 2014 IWC-POWER[1] Cruise

CONTENTS

[1] North **P**acific **O**cean **W**hale and **E**cosystem **R**esearch

The meeting was held in Tokyo on 2 and 3 October 2013. The list of participants is given as Annex A.

1. OPENING REMARKS AND WELCOMING ADDRESS

Ohsumi reported the sad news of the death of Dr Ivar Christensen. He was a former long-term member of the IWC Scientific Committee. The meeting observed a short period of silence in his memory.

Kato (as convenor) and Sakomoto (on behalf of the Fisheries Agency of Japan) welcomed participants to Tokyo and to the meeting.

Sakamoto was pleased that this year's POWER cruise was completed successfully. A valuable amount of data and samples were obtained such as biopsy samples of fin, sei and Bryde's whales. He looked forward to receiving reports on their analyses at next year's IWC Scientific Committee meeting. The POWER cruise is an excellent example of international cooperation, and he expressed Japan's appreciation to the Republic of Korea and Mexico for sending scientists to the POWER cruise. The current Japanese financial situation was very tight, but the Fisheries Agency of Japan had a strong intention to continue with the POWER program, given its importance for conservation and management of whales in the North Pacific Ocean. He emphasized that obtaining tangible results of the POWER cruise, such as abundance estimates of large whales, would be most useful in obtaining budgets for POWER cruises in the coming years.

On behalf of the IWC, Donovan thanked the meeting organisers for the customary excellent facilities and hospitality, particularly the official function on 1 October. He echoed Sakamoto's remarks on the value of the IWC-POWER programme. The IWC-POWER cruises were extremely important to the IWC and indeed provided an excellent example of international cooperation. He looked forward to a successful planning meeting for the 2014 cruise and ultimately valuable results to assist in the medium-term planning process.

The ship's crew, for logistical reasons, was represented at this meeting only by Mr Mori of Kyodo Senpaku Co. Ltd. As in past years it was noted that it might be necessary to have greater crew representation at the planning meetings after the completion of the short-term component of the programme (i.e. after the 2014 cruise), to discuss the practical details of the medium-term programme.

2. APPOINTMENT OF CHAIR AND RAPPORTEURS

Kato was elected Chair. Bannister agreed to act as rapporteur, with assistance from Donovan and Matsuoka. Donovan agreed to coordinate preparation of the report.

3. ADOPTION OF AGENDA

The agreed Agenda is given as Annex B.

4. ORGANISATION OF MEETING

Kato thanked the organisers for providing such excellent facilities. Okazoe outlined the arrangements including the provision of a wireless connection.

5. REVIEW OF AVAILABLE DOCUMENTS

Documents available are listed in Annex C.

6. REVIEW OF DISCUSSIONS AT IWC 65A AND TAG REPORTS

At the 2012 Scientific Committee meeting, the Committee endorsed the report and recommendations of the Technical Advisory Group (SC/64/Rep1) on the short- and medium-term objectives and plans for the IWC-POWER cruises. These formed the framework for the discussions of the 2013 and 2014 cruises at the Annual Meeting and would be an important resource for the present meeting. The Committee had agreed the broad outline for the 2014 cruise given in SC/65A/O5, noting that details would be discussed at this Planning Meeting.

Matsuoka referred to the Scientific Committee's discussions at its recent meeting in Jeju, Republic of Korea, (IWC/65A/Rep 1, Annex G). He drew attention to the strong recommendation there that permission be sought to operate in the US EEZ far enough in advance for the 2014 cruise.

The meeting was pleased to note that as a result of the strenuous efforts of those responsible, previous difficulties over export of biopsy samples from Japan to USA under CITES had now been resolved (see Item…).

Donovan reported that while the budget for the cruise had been approved by the Scientific Committee as a whole, budgeting concerns had been expressed by three Commission member countries. The Commission Bureau had met to discuss the matter and he believed the meeting should proceed on the basis that the proposed expenditure would be approved.

7. PRELIMINARY RESULTS FROM THE 2013 CRUISE

Matsuoka spoke to a draft Cruise Report. The cruise had taken place between 19 July and 9 September 2013, on the Japanese Research Vessel *Yushin-Maru No 3*, with four researchers on board, two from Japan and one each from the Republic of Korea and Mexico. Although covering the longest distance so far, 32 days were spent in the research area. The research area was in the eastern North Pacific, north of 30°N, south of 40°N, between 160°W and 135°W (see Fig. 1). Survey coverage was 93.9%; a total of 3035.9 n. miles was surveyed in passing (NSP) with abeam closing mode. 845.9 and 451.4 n.miles were also surveyed in transit to and from the research area.

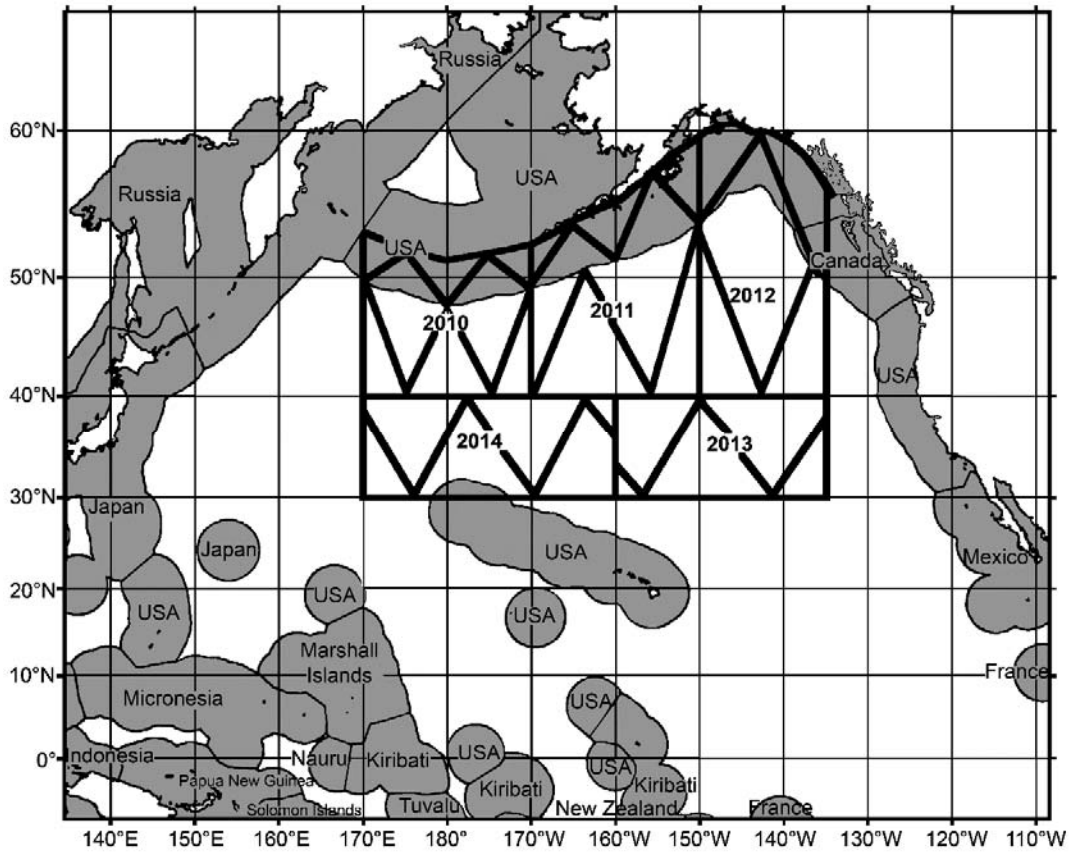

Fig. 1. Research area for the POWER cruises (future tracklines may be modified)

A total of 19 cetacean species was seen as well as some identified to genus (Mesoplodonts, Ziphiids). Sperm and Bryde's whales were the most frequently sighted large species. All solitary Bryde's and fin whales were west of 148°W in the research area. There were no sightings of high-priority photo-ID species (blue, humpback, North Pacific right whales) but photo-ID data for 3 fin, 2 sei and 6 Bryde's whales were obtained. Eight biopsies were taken, from 1 fin, 1 sei and 6 Bryde's whales. As in previous years the Estimated Angle

and Distance Training Exercise and Experiment was completed. The research area was within an area known as 'The Great Pacific Garbage Patch' and 1,580 records of marine debris were made, possibly related to the Japan Tsunami-2011. This, the 4th cruise under the POWER programme, was completed successfully, and provided important information on cetacean distribution in an area where no surveys had been conducted within recent decades.

The meeting congratulated Matsuoka and his colleagues on producing such a comprehensive report, even though still a draft, within so short a time from the end of the cruise. It noted that more effort than usual had been possible in the research area because of good weather. While sightings of fin, Bryde's and sei whales were low, that was as expected from previous catch records. Because of the relatively large amount of marine debris encountered, a protocol had been adopted where only 15minutes in each hour was to be devoted to recording such material; much effort had been made not to allow cetacean sightings to be compromised. It was noted that the further east the survey went, the fewer Bryde's whales were encountered.

In response to a request from the Scientific Committee in Jeju, weather conditions had been compared with those experienced on previous cruises.

The meeting thanked Matsuoka, as Cruise Leader, the researchers and the crew, for their hard work that had made the cruise a success, and reiterated its gratitude to Matsuoka and his colleagues for providing the Cruise Report at such short notice.

It was **agreed** that a final definitive version of the Cruise Report would be prepared for circulation to steering group members for their comments, noting that final responsibility rests with the authors.

8. AVAILABILITY OF RESEARCH VESSELS

8.1. Research vessel offered by Japan

Sakamoto reported that the meeting could consider next year's plan on the assumption of the availability of a vessel with the same characteristics as *Yushin-Maru No.3* for a total of 60 days.

8.2. Other possibilities

Last year Ohsumi had noted that covering any area to the east of that surveyed previously would be difficult if not impossible with a Japanese-based vessel because of the long transit distance. He had asked whether the US Government could provide a vessel to cover such an area. Brownell had noted that US vessel availability was always determined several years in advance. At this meeting he reported that the next Hawaii survey will be in 2015 or 2016; if in 2015 it would be in summer or autumn after a survey off American Samoa.

Sakamoto noted that plans for cruises after 2015 would need to be made at next year's Scientific Committee meeting, when it would be important to have information on future US cruise plans.

9. PRIORITY FOR THE 2014 CRUISE

The meeting confirmed that the 2014 cruise objectives would be the same as in previous years. The cruise will focus on the collection of line transect data to estimate abundance and biopsy/photo-identification data, to make a valuable contribution to the work of the Scientific Committee on the management and conservation of populations of large whales in the North Pacific in a number of ways, including providing:

(a) information for the proposed future in-depth assessment of sei whales in terms of both abundance and stock structure;

(b) information relevant to *Implementation Reviews* of whales in terms of both abundance and stock structure[2];

(c) baseline information on distribution and abundance for a poorly known area for several large whale species/populations, including those that were known to have been depleted in the past but whose status is unclear;

[2] The meeting noted that while attention had been drawn here previously to common minke whales as an example, the choice of sea state <6 as one component of acceptable conditions (part of the trade-off for multi-species cruises), it was unlikely that much new information on minke whales would be obtained as sighting efficiency for this species deteriorates rapidly in sea states above 3. However, considerable new information on Bryde's whales is expected that will greatly assist for *Implementation Reviews* for that species.

(d) biopsy samples and photo-identification photos to contribute to discussions of stock structure for several large whale species/populations, including those that were known to have been depleted in the past but whose status is unclear;

(e) essential information for a medium-long term international programme in the North Pacific.

10. REVIEW OF THE BUDGET

The meeting **agreed** that for discussion purposes it would assume the same level of Japanese Government funding for the 2014 cruise as for 2013.

The detailed budget for expenditure of Commission funds is provided in IWC/65a/Rep 1, Table 1, p19.

Donovan again noted the importance of the POWER programme to the Scientific Committee and the Commission.

11. CRUISE PLAN

11.1. Priorities and allocation of research effort

The broad priorities for 2014 are given under item 9. Given the available period of 60 days – the maximum operational period of the vessel without refuelling/resupply - and transit time of 17 days, 43 days would be available for survey.

It was **agreed** that as for the 2013 survey the target distance per day allocated to the line-transect component should be should be 90 n.miles. As discussed last year (see SC65A/Rep 1, Item 11.1), if the weather is better than expected (or fewer whales are encountered for biopsy/photo-ID work) such that time is available at the end of the completion of the predetermined trackline, then the Cruise Leader will decide the appropriate strategy depending on weather conditions/forecast. It is not possible to add additional tracklines for use in abundance estimation (this will affect the equal coverage probability assumptions used to determine the original track) thus the time must be used to maximise additional biopsy/photo-ID work. Options include: returning to a high density area and following an intuitive track; following the return transit track but in full searching mode and not steaming at night.

11.2 Itinerary

As in 2012, to minimise transit time and thus maximise research time, the home port will be Shiogama. The itinerary is shown in Table 1.

Table 1
Itinerary for the 2014 IWC-POWER cruise

Date	Event
2 July 2014	Vessel departs Shiogama, northern Japan
8 July	Vessel arrives at the research area start point at 170° 00'E
18 August	Vessel completes the research at 160° 00'W
30 August	Vessel arrives Shiogama

11.3. Research area

As agreed by the Committee (IWC/65A/Rep1), the research area is as shown in Fig.1. This is also in accord with the recommended future short-term cruise plan previously recommended by the TAG. The area is to be treated as a single stratum.

11.4. Research vessel

The *Yushin-Maru No. 3* should be available. Its specifications are given in Table 2. The vessel has proved to be a good sightings platform as well as of suitable manoeuvrability for efficient biopsy sampling/photoID work.

11.5. Other matters

There were no matters to discuss under this item.

Table 2

Specifications for *Yushin-Maru No. 3*.

Call sign	7JCH	Barrel height (m)	19.5m
Length overall	69.61m	Upper bridge height	11.5m
Moulded breadth	10.80m	Bow height (m)	6.5m
Gross tonnage	742	Engine power	5280/3900(PS/kW)

12. DETAILS OF THE CRUISE

12.1. Cruise track design

As already noted, the survey area will be considered a single stratum. Cruise track design (see Fig. 1) had been undertaken using 'Distance' software, following the IWC guidelines and the TAG report recommendation. The randomly selected start point would be at 170°00'W proceeding eastwards to 160° 00'W, based on 90 n. miles/day – as discussed under item 11.2.

12.2. Survey mode and research hours

As for previous surveys activities onboard the ship are classified into two principal groups: on-effort and off-effort. On-effort activities are times when full search effort is being executed and conditions (such as weather and sea conditions) are within acceptable parameters to conduct research. Off-effort activities are all activities that are not on-effort. All sightings recorded while the ship is on-effort are classified as primary sightings. All other sightings are secondary sightings.

Again as last year, the 2014 survey, undertaken as part of the short-term plan, will not operate in IO mode. Only NSP (passing with abeam closing as in 2011, 2012 and 2013) would be undertaken in 2014. The TAG report had recommended this as the most appropriate survey mode given the priority species and the need for confirming species identity and school size.

Sighting effort is conducted by the two primary observers; researchers and the chief engineer or deputies are also present. Primary search effort is only conducted in acceptable weather conditions. These conditions are used as guidelines; in some circumstances, less severe conditions may still be inappropriate for search effort (see below).

Based on a recommendation from Matsuoka, it was **agreed** that research hours during the cruise should begin and finish one hour later than in 2013, ie at 0700 and 1900hrs. As in the SOWER programme, for biopsy sampling/photo-identification work on priority species (in this case sei, Bryde's, common minke, North Pacific right, blue, humpback and fin) there may be occasions when it is beneficial to extend research outside the normal research hours. The basis for such special extension of research hours will involve mutual agreement between the captain and cruise leader and an allocation of equivalent time-off the following morning or evening. Details of photo-identification and biopsy work are given under Items 12.8 and 12.9.

In transit, the research day will begin 30 minutes after sunrise and end 30 minutes before sunset, with a maximum of a 12-hour research day. Time-zone changes will be in 30-minute intervals, coming into effect at midnight.

The meeting **agreed** that if sightings were made outside official research hours (e.g. before sightings effort begins in the morning), then these should be recorded as 'off-effort' sightings as they can contribute useful information on distribution even though they are not suitable for abundance estimation.

12.3. Number of crew on effort

As in 2013, two topmen will observe from the barrel at all times in passing mode. Two primary observers will be in the barrel whenever full searching effort using reticle binoculars and angle board is conducted. Two primary observers (captain and helmsman) will be at the upper bridge with binoculars with reticles, regardless of the research mode. Also present on the upper bridge, whenever the sighting survey is conducted, will normally be the chief engineer (or an alternate). With four researchers on board, the cruise leader should ensure that the number of researchers searching from the Upper Bridge is standardised.

12.4. Navigation and research speeds

As in 2013, 11.5 knots will be maintained during research.

12.5. Acceptable weather conditions

In accord with the recommendation of the TAG report, the usual guidelines will apply, i.e. visibility (in principle for seeing common minke whales) >2.0 n. miles; wind speed <21 knots; sea state < Beaufort 6. As noted earlier (see footnote 2 under Item 9), these conditions are not suitable to reliably see common minke whales but are sufficient for the other large whale species.

The meeting noted that while fog is likely to be non-existent, glare may pose more of a problem as the trackline, as in 2013, is further south than before (i.e. more intense sunlight). It was **agreed** that it is important to continue to collect good glare data, recognising that appropriate analytical techniques to incorporate this information into abundance estimates are still being developed. The meeting noted however that glare had not proved to be a problem on the 2013 cruise.

12.6. Estimated angle and distance experiment

During its meeting on the three previous days the TAG had discussed this at length. The experiment is designed to calibrate and identify any biases in individual observers' estimation of angle and distance. It was **agreed** that the experiment should be conducted during weather and sea conditions representative of the conditions encountered during the survey. The detailed protocol can be found in the Guide for Researchers.

In accord with the TAG report, the meeting **recommends** that every effort be made at least to conduct an experiment at the beginning and during the middle of the cruise, and that the IWC-POWER Steering Group continue to monitor the development and feasibility of using newer technology to improve estimated angle and distance, as detailed in SC/64/Rep 1item 3.1.3 p 4.

The meeting discussed concerns over how realistic the experiments are, and how well they are performed. It was informed that the TAG had concluded, from an analysis of recent results, that the results were good. However, it noted that for a variety of reasons the experiments had been undertaken in good conditions, which cannot always be expected. It would be useful to conduct experiments in at least moderate conditions. So far, they have been conducted using buoys at up to 3 n.miles from the vessel; if technically possible the distance could be increased to 5 n.miles. In addition, only crew members had been tested so far. Consideration could also be given to testing the researchers in more 'natural' searching conditions. For that, more than one buoy would be needed, perhaps up to three and the researchers told at the last minute which side to search for the buoy and given a limited period of time to provide their estimates. After some discussion, it was **agreed** that the matter needs further consideration by an intersessional group. It should include in its considerations the use of GPS rather than radar for determining the distance of the buoy/s from the vessel.

The meeting also discussed whether it was feasible to distinguish minke whale blows at 5 n.miles. Testing this would require more trials, requiring more time, perhaps up to an additional 2 hours over and above that expended during the 2013 survey.

It was **agreed** that the intersessional 'practical logistics' group should consist of Donovan, Matsuoka (chair), Miyashita and Hedley, to report to the Scientific Committee at its 2014 meeting on a protocol for experiments to be undertaken on the 2014 cruise.

12.7. Data format

The survey will be conducted using the modified data forms available for the 2013 cruise.

However, in discussing a comprehensive review of the results of the surveys to date (2010-2013), the TAG had noted a relatively high proportion of 'unidentified large whales' recorded, up to some 20%, leading to a large CV for the abundance estimates. It believed that attempts should be made to reduce that proportion, or at least to narrow it down. To that end, the TAG had proposed adding new codes, as follows:

'like Bryde's', 'like fin', 'like sei', 'like humpback', 'like sperm whale'

'unidentified large baleen whale'

'unidentified sei or Bryde's whale'

'unidentified fin or sei whale'

In addition, researchers should be encouraged to use the 'comments' box on the data sheet to expand on their reasons for the uncertainty of identification.

A question was raised over the use of higher-powered binoculars (not Bigeye, or for sighting) for identification of whales at a distance. Miyashita noted that they had been used successfully in surveys in the Okhotsk Sea for identifying otherwise unidentified large whales. The meeting was informed that they were available at ICR, and **agreed** they should be used on the 2014 cruise..

It was **agreed** that Donovan and Matsuoka should update the Guidelines for Researchers accordingly.

12.8. Biopsy sampling

12.8.1. Priority of species

As appropriate and decided by the Cruise Leader, research time will be given for biopsy sampling of Bryde's, sei, common minke, blue, humpback, gray and fin and whales (bowhead and North Pacific right whales are unlikely to be seen south of 40°N) with higher priority for Bryde's and sei whales.

12.8.2. Equipment

Biological sample collection will be by using biopsy sampling (skin/blubber collected by projectile dart). Projectile biopsies will be collected using either a compound crossbow or the Larsen gun system. During any single encounter, no more than five biopsy sampling attempts per individual will be made. It is rare that an animal would be targeted for biopsy more than twice during one encounter, but conservatively five sample attempts will be allowed as necessary. If signs of harassment such as rapid changes in direction, prolonged diving and other behaviours are observed from an individual or a group, biopsy will be discontinued on that individual or group. The animals to be sampled will either approach the vessel on their own or be approached by the research vessel during normal survey operations. The projectile biopsy sample will be collected from animals within approximately 5 to 30 m of the bow of the vessel.

For large cetaceans, small samples (<1 gram) will be obtained from free-ranging individuals using a biopsy dart with a stainless steel tip measuring approximately 4 cm in length with an external diameter of 9 mm and fitted with a 2.5 cm stop to ensure recoil and prevent deeper penetration (so that only 1.5 cm of the tip is available to penetrate the animal). Between sample periods, the biopsy tips are thoroughly cleaned and sterilized with bleach. Biological samples may be collected from adults, juveniles, females with calves and calves. The same size biopsy dart would be used for calves as for adults. No biological samples will be taken from newborn calves. The age of a calf would be determined by the subjective judgment of the biologist who have up to 20+ years' experience in the field. They would, and would be instructed to, err on the side of caution and not biopsy an animal that appeared too young.

12.8.3 Keeping of samples

As for the 2103 cruise, it was **agreed** that all samples would be frozen and stored in cryo-vials. Based on advice from Mizroch, each sample would be split into skin and blubber, the latter not being required for genetic analysis. The skin sample would be divided, one portion to go to ICR, the other to IWC. The blubber sample would be retained whole (i.e. not be split) and held at ICR; analyses of blubber (e.g. for contaminants, hormones, fatty acids) generally require larger amounts of tissue and splitting already small quantities may render such analyses impossible. The meeting **agreed** that the question of future analysis of blubber samples, and access to them by researchers, should follow the usual procedure for accessing IWC samples, unless modifications are propose at the 2014 Scientific Committee meeting.

12.9. Photo-identification studies

12.9.1 Priority of species

As appropriate and decided by the Cruise Leader, research time will be made available for photo-identification and /or video taping of right, blue and humpbacks as priority. Killer whales are a "non-target" cetacean with lower priority and should be photographed opportunistically. The estimated daily number of miles to be steamed in searching mode has a built-in allowance for such work. Generally, large whales will be approached within approximately 15-20 metres. Photo-identification of adult and juvenile males and females will occur. If the opportunity arises, females accompanied by calves may be approached for photo-identification, but efforts will cease immediately if there is any evidence that the activity may be interfering with pair bonding, nursing, reproduction, feeding or other vital functions.

12.9.2 Keeping of data

As noted last year, a master set of all photographs taken on the IWC-POWER cruises is kept at the IWC Secretariat within an Adobe Lightroom database; these are copyright of the IWC. Photographs that have been examined and catalogued as individuals for identification purposes will also be archived as the IWC-POWER

Catalogue. It is important to share such information with other researchers working in the North Pacific. A protocol to apply for use of the photographs for comparison or other purposes is available from the IWC Secretariat and is available through the IWC-POWER pages on the IWC website as well as via the Scientific Committee Handbook (a final decision on access is made by the IWC-POWER steering group). All researchers wishing to examine the photographs must obtain formal permission from the Secretariat. It was agreed that only in exceptional circumstances should researchers on the vessel send copies of photographs direct to other researchers during the cruise (e.g. where this is a condition of a permit to conduct research in national waters) – again formal permission must be obtained from the IWC. The necessary protocol should be included in the Guide for Researchers. Even if a researcher uses their own camera, the grant explains that photographs remain the property of the IWC.

12.10 Acoustic studies

The meeting **agreed** that as last year there would be no acoustic studies during the 2014 cruise. As noted previously, decisions on whether to conduct such studies in the future depend *inter alia* on whether it is practical to use a towed array for sperm whales and whether it is possible to obtain suitable sonobuoys for baleen whales. The meeting **reiterated** the TAG recommendation that a desk-top feasibility study of the incorporation of acoustic studies in the programme should be undertaken in the context of the IWC-POWER priorities (e.g. biopsy sampling); the idea that a whole cruise could be dedicated to line transect acoustic studies and consideration of using sonobuoys to detect blue and fin whales should be explored as part of the medium-term programme.

12.11. Oceanographic studies

As in 2013, no specific oceanographic studies are planned for 2014.

12.12. Satellite tagging

The meeting recalled last year's discussions where the TAG had noted the value of telemetry data to discussions of movement and stock structure but had recognised that at present, deployment requires small boat operations. It also believed that the IWC-POWER programme was not the appropriate platform for substantial technological development. Thus no telemetry work is recommended as part of the short-term plan (including 2013); however, it was again **agreed** that developments should be monitored for possible targeted studies in the mid-term.

12.13. Other matters

12.13.1. Marine debris

The meeting reiterated the importance of observations of marine debris in non-IWC contexts such as modelling the predicted movement of debris from the 2011 Tsunami across the Pacific. The large amounts encountered on the 2013 cruise, in the 'Great Pacific Garbage Patch', were reported in Item 7, as was the protocol adopted for recording such material (15 minutes in every hour) to prevent compromising the cetacean sightings searching effort. At the Cruise Leader's discretion the same protocol should be followed on the 2014 cruise.

13. INTERNATIONAL RESEARCHERS AND ALLOCATION OF RESEARCH PERSONNEL

13.1. Number of researchers

As in previous years, up to four researchers can be accommodated on the vessel.

13.2. Nomination and allocation of researchers

For 2014 the following framework for researcher involvement was **agreed**:

(1) Japan (IWC-POWER range state, vessel provider, Matsuoka)

(2) Korea[3] (IWC-POWER range state, name to be provided when known)

(3) To be decided, possibly from a range state.

(4) To be decided, possibly from a range state.

[3] Although it had not been possible for a Korean representative to be present at the meeting, it was hoped that a Korean researcher could be made available to participate in the cruise. Donovan undertook to write to the Korean Government accordingly on behalf of the Secretariat.

Matsuoka was appointed Cruise Leader.

It was noted that researchers from Mexico (S Martinez-Aguilar), Japan (Yoshimura), US (Mizroch?), and US/UK (Taylor, who is assisting with the photographic and biopsy database being developed by the IWC) were all possible candidates for vacancies 3) and 4). A decision on who should fill them should be made within the next 2-3 months. The Steering Group would take responsibility for the decisions, operating by correspondence. Sakamoto emphasised the need to have the relevant researcher's name by the end of December for inclusion in the biopsy permit submission for operations in the US EEZ.

14. GENERAL PREPARATIONS FOR THE 2012 CRUISE

14.1. Identification of the home port organiser

Nishiwaki undertook to act in this capacity.

14.2. Entry and other permits

The meeting noted that the 2014 cruise will include the US EEZ (around Hawaii).

It was gratified to be informed that after several years of protracted negotiations, the problems involving CITES permits had at last been resolved. The meeting **agreed** that thanks for this satisfactory outcome should be conveyed to the US State Dept and the US Embassy in Tokyo, to Brownell, and to Sakomoto, the latter in particular for their persistence in reaching this result.

Brownell agreed to advise Sakomoto on permits additional to that for biopsy that might be required in 2014.

14.3. Review of recommendations from the 2013 cruise.

There were no specific recommendations.

15. IN TRANSIT SURVEY

15.1. Home port to research area and back

As for 2013, while recognising the need to move rapidly to and from the research area, and that standard passing mode would be adopted during transit, the meeting **agreed** that should the opportunity arise, biopsy and photo-identification could be undertaken on right, gray and blue whales, in that order of priority.

16. TRANSPORTATION OF DATA, SAMPLES AND EQUIPMENT

16.1. Equipment

It was **agreed** that the tabled equipment list be adopted as amended, and with responsibilities as indicated (see Annex D).

16.2. Data and samples and necessary permits

Within two months of the end of the cruise, all sightings data, validated, will be forwarded to IWC. Biopsy samples will be forwarded by NRIFS to SWFSC in La Jolla, California, in accordance with CITES provisions. Matsuoka, as Cruise Leader, will submit all identification photographs and accompanying data to IWC. Any borrowed equipment (except IWC cameras and lenses) will be returned to its owners.

16.3. Responsible persons

The Cruise Leader is responsible for submitting all sightings data and identification photographs to IWC (see 16.2) and all samples to NRIFS. Yoshida at NRIFS will be responsible for sending biopsy samples to SWFC.

17. COMMUNICATIONS

17.1. Safety aspects (daily reports)

Daily vessel position reports should be submitted to ICR, NRIFS and the Fisheries Agency.

17.2. Between the Cruise Leader and the IWC

As in previous years, weekly reports will be provided to the IWC Secretariat and members of the Steering Group. Donovan **agreed** to establish a mailing list so that one address can be used for all.

17.3. Fog and sea temperature information.
It was **agreed** that fog information would not be required, otherwise the same arrangements as in 2103 would apply.

17.4. Other official communication
Given that there will be operations within the US EEZ, the same arrangements will apply as in 2012 for official communications. There would be a need to communicate information on marine debris (perhaps weekly) as in 2013.

17.5. Private communication
The usual conditions apply, with individuals to meet the cost, and to pay before the vessel reaches the home port.

17.6. Terms of payment of communication costs
See items 17.4 and 17.5. Payment will be in Japanese ¥.

18. MEETINGS

18.1 Pre-cruise meeting
A pre-cruise meeting will be held in Shiogama on 1 July 2014. In addition to the researchers and crew, at least all Japanese members of the Steering Group are encouraged to attend. The report will be circulated to the IWC-POWER Steering Group when completed.

18.2 Post-cruise meeting
As in previous years, the post-cruise meeting will be held on board the vessel during the return transit leg.

18.3 Home port arrangements and responsible persons
Nishiwaki will co-ordinate the home port arrangements in co-operation with the Cruise Leader. The shipping agent in Shiogama will be Tohhoku Dock Tekko Co. Ltd.

18.4 Responsible persons
Nishiwaki will perform this task.

19. REPORTS

19.1 Planning meeting report
The final planning meeting report, as drafted by Bannister and forwarded to Donovan for final editing, will be circulated to the IWC-POWER Steering Group. It will be tabled at the IWC/SC meeting in 2014.

19.2 Cruise report
The 2013 cruise report was drafted on the return journey of the cruise following the guidelines provided by Donovan, and made available for this planning meeting. As discussed in item 7, that report will be circulated to the Steering Group before final preparation by the authors; the final version will be sent to the Secretariat for submission to the IWC Scientific Committee as in the past. The 2014 Cruise Report should be handled in the same way.

20. OTHER LOGISTICS

20.1 Press releases
As in 2013 the Cruise Leader will prepare a draft with the final version being released by ICR in the format prepared by the IWC. Sakamoto stated that for domestic reasons he would like press releases to be available both before and after the cruise, as in 2013. Donovan reported that as last year the IWC website will include a press release pointing to the relevant IWC-POWER cruise web page; there will also be a weekly review of activities on the website as the cruise progresses, and a summary at the end of the cruise. See also discussion under item 21.2.

20.2 Security
Based on the 2010, 2011 and 2012 experience, no security problems are anticipated.

It was noted that for safety, life vests are to be worn for all activities below the bridge, e.g. during any operations on the foredeck, e.g. during biopsy work.

20.3 Accommodation and food costs
The IWC will cover the accommodation and food costs for the scientists involved; the cost (¥2,500 per day) remains unchanged from previous years.

20.4 Other matters
None were raised.

21. Other

21.1. Data validation and analysis
21.1.1 Validation

Work on data validation is being undertaken by the Secretariat. Where difficulties have arisen, these are being dealt with in co-operation with the Cruise Leader. Validation of the data for the 2010 and 2011 cruises is almost completed and ready for inclusion in the IWC database; work on the 2012 data is ongoing.

21.1.2 Analysis

Donovan reported on discussions of broader issues in the immediately preceding TAG meeting, noting the value of full Scientific Committee input into the analytical stages of POWER as well as the design phases.

21.2. IWC website
Donovan outlined current modifications being implemented, with improved access to objectives, documents and photographs.

22. CONCLUDING REMARKS

Kato noted that the 2014 cruise will complete the first stage of the POWER programme. Planning the cruises for 2015 and beyond will require consideration of this year's TAG report and discussion at next year's Scientific Committee meeting (in the IA subcommittee). It will be necessary for the future plans to be well-discussed there.

Kato noted that although the meeting had finished within one day, it had been greatly assisted by the deliberations of the TAG just beforehand, and there had been full discussions during the meeting of all relevant items.

On behalf of the IWC, Donovan thanked all those who had participated in the meeting. The IWC-POWER cruises are a particularly important component of the IWC's work. As the meeting has recognised, they are an excellent example of international collaboration. He stressed the importance of an enthusiastic and efficient crew, without whom the cruises could not succeed. He asked that the meeting's appreciation to the crew be conveyed to them. He thanked the Government of Japan for providing such excellent facilities in a beautiful setting, and in particular the Chair and the interpreters who had performed their difficult tasks with their customary efficiency and good humour. The meeting had been facilitated both by the deliberations of thee TAG and by the very good cruise report; also there are many similarities between the 2013 cruise and the 2014 cruise. Finally Kato thanked everyone for their co-operation and hard work. The meeting concluded at 1520 hours on 2 October.

Annex A

List of Participants

John Bannister	Invited Participant
Robert Brownell	Southwest Fisheries Science Center, U.S.A.
Greg Donovan	Head of Science, IWC
Dr. John C. "Craig" George	Department of Wildlife Management, North Slope Borough, Barrow, Alaska
Sharon Hedley	Invited Participant
Hidehiro Kato	Tokyo University of Marine Science and Technology, Japan
Koji Matsuoka	Institute of Cetacean Research, Japan
Tomio Miyashita	National Research Institute of Far Seas Fisheries, Japan
Hiroto Murase	National Research Institute of Far Seas Fisheries, Japan
Masakatsu Mori	Kyodo Senpaku Co., Ltd., Japan
Shigetoshi Nishiwaki	Institute of Cetacean Research, Japan
Seiji Ohsumi	Institute of Cetacean Research, Japan
Naohito Okazoe	Fisheries Agency of Japan, MAFF, Japan
Takaaki Sakamoto	Fisheries Agency of Japan, MAFF, Japan
Yoko Yamakage	Interpreter, Japan
Hiroko Yasokawa	Interpreter, Japan

Annex B

Agenda

1. OPENING REMARKS AND WELCOMING ADDRESS

2. APPOINTMENT OF CHAIR AND RAPPORTEURES

3. ADOPTION OF AGENDA

4. ORGANIZATION OF MEETING

5. REVIEW OF AVAILABLE DOCUMENTS

6. REVIEW OF DISCUSSIONS AT IWC 65A AND TAG REPORTS

7. PRELIMINARY RESULTS FROM THE 2013 CRUISE

8. AVAILABILITY OF RESEARCH VESSELS

   8.1 Research vessel offered by Japan
   8.2 Other possibilities

9. PRIORITY FOR THE 2014 CRUISE

10. REVIEW OF THE BUDGET

11. CRUISE PLAN

   11.1 Priorities and allocation of research effort
   11.2 Itinerary
   11.3 Research area
   11.4 Research vessel
   11.5 Other matters

12. DETAILS OF THE CRUISE

   12.1 Cruise track design
   12.2 Survey mode and research hours
   12.3 Number of crew on effort
   12.4 Navigation and research speeds
   12.5 Acceptable condition
   12.6 Estimated angle and distance experiment
   12.7 Data format
   12.8 Biopsy sampling
      12.8.1 Priority of species
      12.8.2 Equipment
      12.8.3 Keeping of samples
   12.9 Photo-id studies
      12.9.1 Priority of species
      12.9.2 Equipment
      12.9.3 Keeping of data
   12.10 Acoustic studies
   12.11 Oceanographic studies
   12.12 Satellite tagging studies
   12.13 Other matters

13. INTERNATIONAL RESEARCHERS AND ALLOCATION OF RESEARCH PERSONNEL

   13.1 Number of researchers
   13.2. Nomination and allocation of researchers

14. GENERAL PREPARATIONS FOR THE 2014 CRUISE

   14.1 Identification of home port organiser
   14.2 Entry and other permits
   14.3 Review recommendations of 2013 cruise

15. IN TRANSIT SURVEY

   15.1 Home port to research area and back

16. TRANSPORTATION OF DATA, SAMPLES AND EQUIPMENT

   16.1 Equipment
   16.2 Data and samples and necessary Permits
   16.3 Responsible persons

17. COMMUNICATIONS

   17.1. Safety aspects (daily report)
   17.2 Between Cruise leader and IWC
   17.3 Weather and sea temperature information
   17.4 Other official communication
   17.5 Private communications
   17.6 Terms of payment of communication cost

18. MEETINGS

   18.1 Pre-cruise Meeting
   18.2 Post-cruise Meeting
   18.3 Home Port arrangements
   18.4 Responsible persons

19. REPORTS

   19.1 Planning meeting report
   19.2 Cruise report

20. OTHER LOGISTICS

   20.1 Press release
   20.2 Security
   20.3 Accommodation and food costs
   20.4 Other matters

21. OTHER

   21.1 Data validation and analysis
   21.2 IWC website

22. CONCLUSION REMARKS

Annex C

List of Documents

POWER/14/WP

1. Report of the Workshop on planning for an IWC co-ordinated North Pacific research cruise programme (SC/63/Rep5)
2. Report of the TAG (SC/64/Rep1)
3. Report of the planning meeting for the 2013 IWC-POWER Cruise (SC/65A/Rep1).
4. SC/ 65A reports (SC report extracts)
5. SC/65A/AnnexG (Appendix)
6. Cruise report of the 2013 IWC-Pacific Ocean Whale and Ecosystem Research (IWC-POWER).
7. Research plan for the 2014 IWC-POWER (SC/65A/O5).
8. Required equipments for the 2014 IWC-POWER.
9. Review of IWC-POWER surveys (2010-2013)

Annex D
Equipment

Item	Equipment	Number	Owner	Shipping (Shiogama)	Discharge (Shiogama)
Sighting	Reticle Binocular (primary observer)	6	ICR	ICR	ICR
	Reticle Binocular (researcher)	4	ICR	ICR	ICR
	High power Binocular	2	ICR	ICR	ICR
	Computers	1	IWC	ICR	ICR
	Computer programs	1	IWC	ICR	ICR
	Office supplies (pencil etc.)	-	-	Researchers	-
Biopsy	Scope for Larsen gun with battery (CR2032)	4	ICR	ICR	ICR
	Larsen biopsy gun	4	ICR	ICR	ICR
	Larsen darts and tips	50	ICR	ICR	ICR
	Blank charges (larsen)	500	ICR	ICR	ICR
	Plugs (larsen)	500	ICR	ICR	ICR
	Compound crossbow (back up)	2	IWC	ICR	ICR
	Sample bottles (IWC)	200	NRIFS	NRIFS	NRIFS
	Sample bottles (Japan)	200	NRIFS	NRIFS	NRIFS
	Sample kit	1	NRIFS	NRIFS	NRIFS
	Pick up nets	2	ICR	Ship	Ship
	Rack for Larsen Gun	1	ICR	Ship	Ship
Photo-ID	Cleaning kit	2	ICR	ICR	ICR
	Digital Camera with 100-400mm with English manual	3	IWC	ICR	ICR
	Monopod for video recordings during dive time experiment	1	ICR	ICR	ICR
	Digital video camera with English manual	1	ICR	ICR	ICR
	Digital video battery (long-life)	3	ICR	ICR	ICR
	Long cable in top platform	1	Ship	Ship	Ship
	Data storage computer (Hard drive)	1	IWC	ICR	ICR
Record sheet	Record sheet original	ALL	IWC/ICR	ICR	-
	Record sheet	ALL	IWC/ICR	ICR	ICR
	Copy paper (A4,500sheet)	2	ICR	ICR	-
Other	IWC Flag (Large)	2	IWC	Ship	Ship
	IWC Flag (small)	2	IWC	Ship	Ship
	Newest IWC journal (SC report, electric files)	1	IWC	Donovan/ Matsuoka	Ship
	Planning report (English)	1	IWC	Donovan/ Matsuoka	-
	Information for researcher (English)	1	IWC/ICR	Donovan/ Matsuoka	-
	Information for Researcher (Japanese)	1	ICR	Matsuoka	-