Report of the Planning Meeting for the 2013 IWC-POWER Cruise

Report of the Planning Meeting for the 2013 IWC-POWER[1] Cruise[2]

The meeting was held in Tokyo on 25 and 26 October 2012. The list of participants is given as Annex A.

1. OPENING REMARKS AND WELCOMING ADDRESS

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

Sakomoto was pleased that the 2012 cruise had been completed successfully. A valuable amount of data and samples was obtained including biopsy samples from blue, fin and sei whales. He looked forward to receiving reports on their analyses at next year's IWC Scientific Committee meeting. He expressed Japan's appreciation to the Governments of USA and Canada for issuing the relevant permits. He also expressed Japan's appreciation to the Republic of Korea and USA for sending scientists to the IWC-POWER cruise. The IWC-POWER programme was an excellent example of international cooperation. While the current Japanese financial situation was tight, the Fisheries Agency of Japan had a strong intention to continue with the POWER programme, given its importance for conservation and management of whales in the North Pacific Ocean. He emphasised that obtaining tangible results from the IWC-POWER cruises, including abundance estimates of whales, would be most useful in obtaining budgets for future cruises under the programme.

On behalf of the IWC, Donovan 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 2013 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 Yoshemura of Kyodo Senpaku Co. Ltd. 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. Numata outlined the arrangements including the provision of a wireless connection. He reminded participants of the invitation from IWC Commissioner for Japan, Mr Kenji Kagawa, to an official reception on 26 October.

[1]North **P**acific **O**cean **W**hale and **E**cosystem **R**esearch.
[2]Presented to the meeting as SC/65a/Rep01.

5. REVIEW OF AVAILABLE DOCUMENTS

Documents available are listed in Annex C.

6. REVIEW OF DISCUSSIONS AT IWC/63

At last year's Scientific Committee meeting, the Committee endorsed the report and recommendations of the Technical Advisory Group (IWC, 2013b) on the short- and medium-term objectives and plans for the IWC-POWER cruises. These formed the framework for the discussions of the 2012 and 2013 cruises at the Annual Meeting and would be an important resource for the present meeting. The Committee had agreed the broad outline for the 2013 cruise given in Kato *et al.* (2012), noting that details would be discussed at this Planning Meeting.

7. PRELIMINARY RESULTS FROM THE 2012 CRUISE

Matsuoka spoke to a preliminary draft report of the cruise. It had taken place between 13 July and 10 September 2012, on the Japanese Research Vessel *Yushin-Maru No. 3*, with four researchers on board, two from Japan and one each from the USA and Republic of Korea. The area covered was in the eastern North Pacific, north of 40°N, south of Alaska, between 150°W and 135°W (see Fig. 1). The area was divided into two strata: a northern stratum within the EEZs of the USA and Canada; and a southern stratum. In both strata, over 80% of the planned tracklines were covered on effort (2,126 n.miles).

Of the large whale species sighted, sufficient sightings were made that will allow abundance estimates to be obtained for fin whales in both strata and sei whales in the southern stratum. A total of 14 cetacean species were seen as well as some sightings identified to genus (Mesoplodonts and Ziphiids). The cruise made one sighting of the rare North pacific right whale in the northern stratum (120 n.miles southwest of Kodiak Island, Alaska) and four sightings of blue whales in the northern stratum. Sperm whales – mostly solitary males – were common in both strata. Although only two sightings of common minke whales were made, this reflected the difficulty of sighting the under the prevailing conditions. The most common small cetacean species seen were Dall's porpoises (both strata especially the southern), common dolphins (southern only) and killer whales (both strata).

A total of 189 animals were photographed for individual identification (four blue whales, one north Pacific right whale, 26 humpback whales, 60 fin whales, 51 sei whales and 47 killer whales) and 52 biopsy samples were obtained (two blue whales, 12 fin whales, 37 sei whales and one killer whale). Some 230 objects of marine debris were recorded, including some dense concentrations and these were reported to the relevant authorities in the USA and Japan at weekly intervals as requested.

In discussion, it was noted that the Canadian authorities had not required a Canadian researcher to be on board as part of the permit requirements. Both Canada and the USA had requested information on the work carried out within their waters as part of the permit requirements. It was **agreed** the full results of the cruise will be transmitted to the

Governments of Canada and the USA once the cruise report has been completed; it will include appendices that provide information on work undertaken within each EEZ.

The meeting welcomed the very efficient biopsy sampling strategy employed on the cruise (over three quarters of the samples were obtained in less than 20 minutes of first sighting) and commended Matsuoka and the Captain for their work.

It was also pleased to receive some preliminary results from Mizroch on matches of humpback and killer whales and looks forward to a full report on the photo-identification work from the cruises including numbers of catalogued animals as well as matches at SC/65a in Korea. The general issue of data analyses for the IWC-POWER cruises, including photo-identification catalogues is consider under Item 20.

Sakamoto noted that the US and Canadian Governments had asked that a copy of the cruise report be provided to them within six months of the conclusion of the cruise. It was **agreed** that the full report be provided, not solely the information contained in Appendices B and C of the report.

The TAG had recommended that appropriate authorities should be contacted to ensure that the types of data on marine debris were suitable to contribute to full studies of this issue reports of marine debris should be circulated to relevant countries. At the Commission meeting, the USA and Japan held bilateral discussions and it had been agreed that the marine debris data collected by IWC-POWER was valuable and that weekly reports should be submitted to the relevant agencies in Japan and the USA. Matsuoka reported that this had been done.

The meeting requested that the final report should also tabulate effort by sea state. This will allow a better evaluation of the balance between acceptable conditions and sightings efficiency, especially for species such as the common minke whale for which sightings are rarely able to be made above sea state 4 (only two sightings of this species were recorded during the 2012 survey). Matsuoka undertook to provide the tabulation.

It was **agreed** that the authors should prepare a final definitive version of the 2012 cruise report, 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 Fisheries Agency of Japan was negotiating its budget requests with the Ministry of Finance. Results of negotiations, which were revised budget requests, would become available at the end of December. After that, the revised budgets would be considered for approval by the Japanese Parliament in March 2013. While the Fisheries Agency of Japan was requesting the same level of funding for the 2013 cruise as for 2012, some reduction might not be avoidable. The Fisheries Agency of Japan would do its best to obtain the budget as close as possible to the 2012 figure for next year's POWER cruise, and this 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. It was **agreed** that if the result of these discussions was to reduce the number of ship days, this would require a revision of the cruise strategy including reconsideration of tracklines and coverage.

8.2 Other possibilities

Ohsumi noted that covering any area to the east of that surveyed in 2012 would be difficult if not impossible with a Japanese-based vessel because of the long transit distance. He asked whether the US Government could provide a vessel to cover such an area. Brownell noted that US vessel availability was always determined several years in advance and the earliest possibility of one being available would be from 2014 or 2015.

9. PRIORITY FOR THE 2013 CRUISE

The meeting referred to IWC (2013a, p.40), where the plans for the 2013 cruise were detailed. The rationale for choosing the research area is given in Kato *et al.* (2012, p.2). The area had been poorly covered by previous surveys and not at all in recent decades, with a resulting important information gap for several large whale species.

The meeting confirmed that the 2013 cruise objectives are 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[3];
(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;
(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; and
(e) essential information for a medium-long term international programme in the North Pacific.

These objectives are in accord with the short-term priorities recommended in the TAG report.

10. REVIEW OF THE BUDGET

The meeting referred to Sakamoto's statement in Item 8.1. It **agreed** that for discussion purposes it would assume the same level of Japanese Government funding for the 2013 cruise as for 2012.

The detailed budget for expenditure of Commission funds is provided in IWC (2013a, p.75, table 13).

Donovan noted that the importance of the POWER programme to the Scientific Committee and the Commission continued to be reflected in the fact that at its meeting in Panama the Commission had approved the Committee's budget request of £60,754.

[3]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.

11. CRUISE PLAN

11.1 Priorities and allocation of research effort

The broad priorities for 2013 are given under Item 9. Given the available period of 60 days – the maximum operational period of the vessel without refuelling/resupply – and that as in 2012, 24 days would be required in transit from and to Japan given the eastern location of the research area (to 135°W), only 36 days are available for survey.

In terms of research time allocations amongst the various priorities, it was noted that a key governing factor from the planning perspective was the target distance per day allocated to the line-transect component. In the cruise outline given in Kato *et al.* (2012) it had been stated that a target distance of 90 n.miles per day was proposed based on experience in the area which was further south than previous IWC-POWER surveys and was much less subject to fog. The TAG report had suggested a general value of 65 n.miles per day that had been used in the surveys to date based on the available information.

In view of the importance of this assumption to the cruise, a small group under Donovan was established to further consider the available information before finalising the target distance. While it is impossible to predict weather conditions accurately, it is important to choose a target distance that is not too ambitious given the available knowledge – poor track coverage can affect the validity of abundance estimates if it seriously affects the key assumption of equal coverage probability. Choice of an overambitious target can also present problems for the Cruise Leader in terms of determining the appropriate balance between surveying and other priorities such as biopsy sampling and photo-identification work.

The sub-group examined information available from four surveys undertaken in similar areas by the Far Seas Fisheries Research Laboratory (prior to 1996) and a 2012 survey undertaken as part of the JARPN II programme. After examining the range of achieved searching distances per day (ranging from around 100-114n.miles although with little biopsy/photo-id effort), the numbers of sightings made during the 2012 survey and the range of times to obtain biopsy samples achieved during the 2012 IWC-POWER cruise, the sub-group **agreed** that the range of acceptable target distances per day was from 80 n.miles to 90 n.miles. The sub-group also **agreed** that within this range, the decision should be made by the Cruise Leader as it was his responsibility to implement any decisions and to ensure the appropriate balance of activities in the field. The sub-group therefore **recommended** Matsuoka's preferred target distance of 90 n.miles per day. This should allow for the two angle/distance experiments and about 50 biopsy/photo-id attempts if the weather conditions are similar to the cruise with the worst conditions recorded for this area during the five surveys examined (about 100 n.miles per day).

If the weather is better than expected (or less 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 2013 IWC-POWER cruise.

Date	Event
12 July	Vessel departs Shiogama, northern Japan
27 July	Vessel arrives at the research area start point at 135°00'W
29 August	Vessel completes the research at 160°00'W
9 September	Vessel arrives Shiogama

11.3 Research area

As agreed by the Committee (IWC, 2013a), the research area is as shown in Fig.1. This is also in accord with the recommended future short-term cruise plan recommended by the TAG report. The area is to be treated as a single stratum.

11.4 Research vessel

Depending upon funding (see Item 8) 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/photo-id work.

Table 2
Specifications for *Yushin Muru 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)

11.5 Other matters

There were no matters to discuss under this item.

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 start point would be at 135°00'W (Waypoint 107), proceeding westwards to Waypoint 101 at 160° 00'W, based on 90 n.miles/day – as discussed under Item 11.2.

12.2 Survey mode and research hours

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.

The TAG report had recommended that pending analyses of IO results for the 2010 survey and an examination of any other relevant studies for sei and Bryde's whales, the

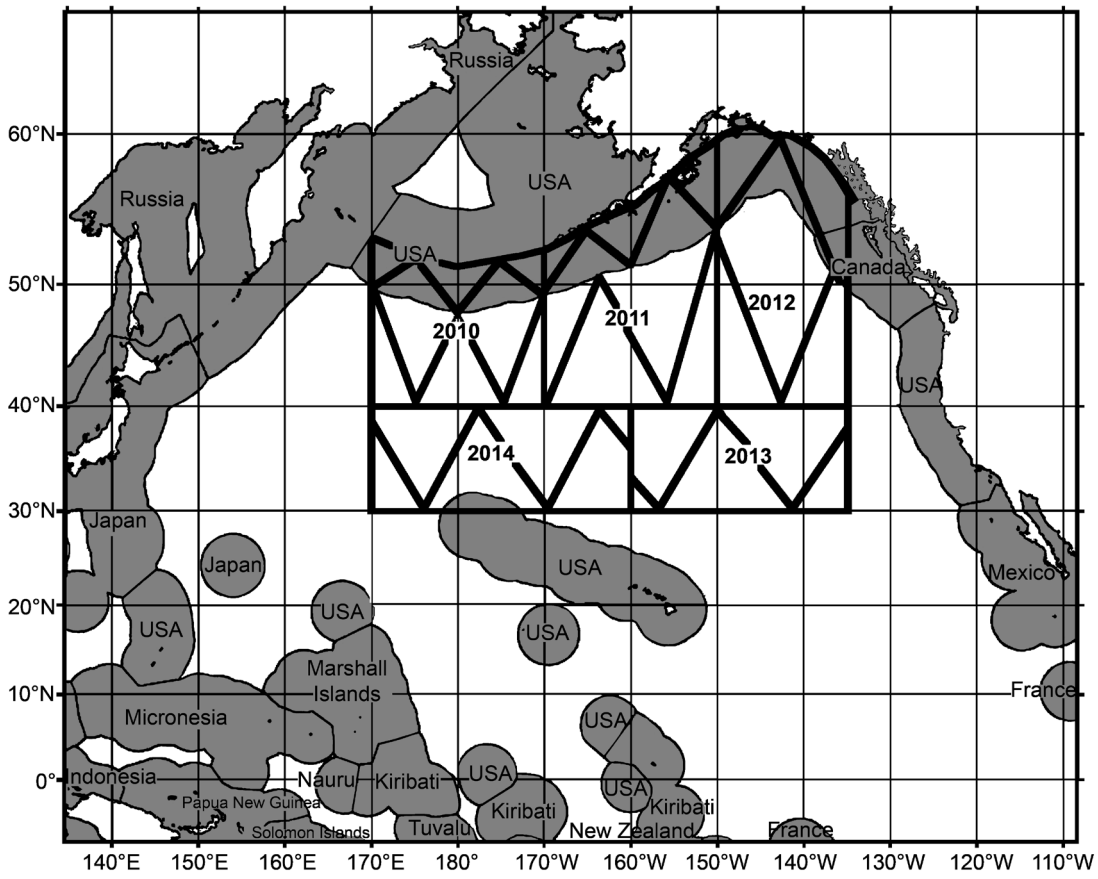

Fig. 1. The research area for the POWER cruise.Grey areas=EEZs.

surveys undertaken as part of the short-term plan should not operate in IO mode. It was therefore **agreed** that only NSP (passing with abeam closing as in 2011 and 2012) would be undertaken in 2013. 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).

Research hours during the cruise will be the same as on recent SOWER cruises (from 6:00-18:00; begin 60 minutes after sunrise and end 60 minutes before sunset, with a maximum 12 hours per day). As in the SOWER programme, for biopsy sampling/photo-identification work on priority species (sei whales, Bryde's whales, common minke whales, North Pacific right whales, blue whales, humpback whales and fin whales - see items (a) and (b) under Item 9) 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 2012, 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 2012, 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, 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 will be less of a problem, glare might pose more of a problem as the trackline will be 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.

12.6 Estimated angle and distance experiment

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 IWC (2013b, p.344).

12.7 Data format

The survey will be conducted using data forms modified for the 2012 cruise from those used on the SOWER cruises and the 2011 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 whales, sei whales, common minke whales, blue whales, humpback whales, gray whales and fin whales (bowhead whales and North Pacific right whales are unlikely to be seen south of 40°N but should also be given priority if encountered). Biopsy of killer whales and sperm whales will be attempted on an opportunistic basis. Pastene advised that very few Bryde's whale samples were available for this area and it was agreed that priority in sampling should be given to that species rather than sei whales (which are usually found further north) in 2013.

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 5-30m 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 4cm in length with an external diameter of 9mm and is fitted with a 2.5cm stop to ensure recoil and prevent deeper penetration (so that only 1.5cm of the tip is available to penetrate the animal). Between sample periods, the biopsy tips are thoroughly cleaned and sterilised 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 researchers. They would err on the side of caution and not biopsy an animal that appeared too young.

Two compound crossbows will be provided from ICR, as in 2012, as back-up for Larsen guns. If necessary, ICR will provide supplies of darts.

12.8.3 Keeping of samples

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 be discussed at the next IWC 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 sei and Bryde's whales on this cruise, recognising that they and right whales, blue whales and humpback whales are also a 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 15-20m. 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 Equipment

At SC/64, funds were sought for IWC to purchase a new/refurbished cameras and lenses and associated spare batteries and memory cards. With the budget being approved, funds are now sufficient. The equipment will be delivered by hand by Donovan *en route* to SC/65a in Korea.

12.9.3 Keeping of data

The meeting noted that 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. As noted in the TAG report 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 will be made 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. Donovan **agreed** to prepare the necessary protocol and he and Matsuoka will ensure that this will be included in the Guide for Researchers.

12.10 Acoustic studies
The meeting **agreed** that there would be no acoustic studies during the 2013 cruise. As noted last year, decisions on whether to conduct such studies 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
No specific oceanographic studies are planned for 2013.

12.12 Satellite tagging
As noted last year 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
See earlier discussions under Item 7. Observations of marine debris are important in non-IWC contexts such as modelling the predicted movement of debris from the 2011 tsunami across the Pacific. The IWC Secretariat does not require the data weekly. Authorities from the USA and Japan will discuss whether weekly reports are required from the 2013 cruise and inform the Steering Group should this be the case.

13. INTERNATIONAL RESEARCHERS AND ALLOCATION OF RESEARCH PERSONNEL

13.1 Number of researchers
As in 2010, 2011 and 2012, up to four researchers can be accommodated on the vessel.

13.2 Nomination and allocation of researchers
For 2013 the following framework for researcher involvement was **agreed**:

(1) Japan (IWC-POWER range state, vessel provider, Matsuoka);
(2) Korea (IWC-POWER range state, name to be provided by An when known);
(3) Japan (IWC-POWER range state, vessel provider, Kumagai); and
(4) to be decided, will be from a range state.

Matsuoka was appointed Cruise Leader.

14. GENERAL PREPARATIONS FOR THE 2013 CRUISE

14.1 Identification of the home port organiser
Nishiwaki undertook to act in this capacity.

14.2 Entry and other permits
While there are no requirements under this item for the 2013 cruise, the meeting noted that the 2014 cruise will include the US EEZ (around Hawaii). It urged that discussions of the problems involving CITES permits be maintained, so that a satisfactory conclusion can be reached in good time for the 2014 cruise.

14.3 Review of recommendations from the 2012 cruise
Two matters were raised in the 2012 cruise report:

Biopsy sample numbering
The meeting noted that a satisfactory protocol, as detailed in the cruise report, had been adopted on the 2012 cruise, and **agreed** it should be maintained in 2013. For biopsy samples the year prefix (e.g. '2012') will not be included. This will be incorporated by Matsuoka and Donovan into the Guide for Researchers.

2010 cruise identification photographs
The meeting **agreed** that the photographs from the 2010 cruise be catalogued and integrated into the IWC catalogue as soon as possible. Donovan has received all photographs for the 2010-12 cruises on a hard drive at the meeting and will work with the Steering Group to ensure that this work is done.

15. IN TRANSIT SURVEY

15.1 Home port to research area and back
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 whales, gray whales 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 to SWFSC in La Jolla, California, in accord 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.

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
In 2012 fine-scale information was provided from NOAA at no cost apart from communication costs. Brownell commented that the same could probably be arranged for 2013; coverage was likely to be available even though further south. It was **agreed** that a sub-group comprising Mizroch, Matsuoka and a Company representative should discuss the level of communication costs for report to the pre-cruise meeting.

17.4 Other official communication
Given that there would be no operations within the US or Canadian EEZ, there would be no requirement in 2013 for official communications, e.g. over right whale sightings, as there was in 2012. There would be a need to communicate information on marine debris (perhaps weekly) in which case the costs would come under this item. It was **agreed** that this should be clarified at the pre-cruise meeting.

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.

18. MEETINGS

18.1 Pre-cruise meeting
A pre-cruise meeting will be held in Shiogama on 11 July 2012. 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 onboard 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 will be circulated to the IWC-POWER Steering Group. It will be tabled at the IWC/SC meeting in 2013.

19.2 Cruise report
The 2012 cruise report was drafted on the return journey of the cruise following the new guidelines provided by Donovan, although it had not been possible to provide a definitive final version before this Planning Meeting. As discussed in Item 7, the report will be circulated to the Steering Group before final preparation by the authors; the final version will sent to the Secretariat for submission to the IWC Scientific Committee as in the past.

20. OTHER LOGISTICS

20.1 Press releases
As in 2012 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 2012. Donovan reported that 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.

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
Donovan reported that the IWC Secretariat Computing section had raised with him a number of instances where their cruise data validation had revealed some discrepancies between sightings data provided from the cruises in both electronic and 'paper' versions. The question was whether this arose from coding errors by the researchers or deliberate changes in the electronic version that had not been noted in the paper version. It was important in the validation process to know which was the case.

Matsuoka responded that the IWC-POWER cruises were very different from the SOWER cruises in the much larger amount of automatic data entry now performed, resulting in many fewer errors. On the return transit checks were made between the two databases. There was an increasing trend towards automatic data entry. An reported that attempts were made to check data entries daily but with an electronic system it was difficult to discover errors; he believed both paper and electronic systems should continue to be used.

The meeting **agreed** that for all three cruises from 2010 double checking of paper against electronic data should continue. However, Donovan would discuss with Matsuoka arrangements for him to discuss the problem direct with the Secretariat coding personnel.

21.1.2 Analysis
In the past 'standard' sightings data analyses had been undertaken by St Andrews personnel under contract to the IWC but at recent Scientific Committee meetings results had been presented of analyses by Japanese scientists. Donovan raised the question of who should undertake such analyses in the future. The IWC Secretariat was developing a strategy to

update DESS, to incorporate IWC-POWER cruise sightings data as well, eventually, as biopsy and photo-id information: a proposal is to be presented to the 2013 IWC Scientific Committee meeting (SC/65a) and will be circulated to the IWC-POWER Steering Group beforehand.

Matsuoka noted that the Japanese analyses, with sei and Bryde's whales as priority, had been undertaken in response to a request from the Scientific Committee's IA sub-committee. Japanese scientists were interested in undertaking analyses for those two species at least, and in having the results critically reviewed by the Scientific Committee. Sakomoto believed that Japanese scientists were interested in doing analyses for individual areas year by year; the question arose as to how analysis of the total area would be undertaken in two years' time.

Donovan noted that the question of the overall analysis would be raised for discussion at the next Scientific Committee meeting (SC/65a) to provide an answer well ahead of time. Priority should certainly be given to sei whales, probably fin, and also Bryde's (but in their case depending on the number of sightings). The meeting noted that there is a need to ensure that at next year's Scientific Committee meeting (SC/65a) a group should already have been established to meet to discuss future amendments to DESS, so that when the IWC-POWER programme moves into the mid-term a new system is already available.

21.2 IWC website

Donovan outlined the proposal as summarised in Annex E. He undertook to email full details for individual comment following the meeting. The meeting **agreed** it was an exciting prospect and looked forward to seeing it up and running.

In endorsing the proposal Ohsumi raised the question of intellectual property rights. Donovan noted that the text would be ©IWC, photographs would effectively be the IWC's while individual photographers would be acknowledged, and graphics would be in a form acceptable for viewing but not at a level for unauthorised reproduction.

21.3 Request from PICES

Kato reported that PICES had requested through him that a bird observer should be appointed to the cruise. The meeting **agreed** that if space was available it would be delighted to meet the request, but space was hardly sufficient to accommodate the IWC-POWER research needs. The question of bird data collection had also been raised. It was **agreed** that this would be difficult except opportunistically, and then only for observations at the same level, i.e. the sea surface, as for cetaceans, for example where concentrations of birds formed a sighting cue.

Kato undertook to report to the next PICES meeting that the Planning Meeting had officially considered the request in the above terms.

22. CONCLUDING REMARKS

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 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. Finally Kato thanked everyone for their co-operation and hard work. The meeting concluded at 13:00 hours on 26 October 2012.

REFERENCES

International Whaling Commission. 2013a. Report of the Scientific Committee. *J. Cetacean Res. Manage. (Suppl.)* 14:1-86.

International Whaling Commission. 2013b. Report of the Technical Advisory Group (TAG) Meeting on the Short and Medium Term Objectives and Plans for the IWC-POWER Cruises. *J. Cetacean Res. Manage. (Suppl.)* 14:341-55.

Kato, H., Matsuoka, K., Miyashita, T., Murase, H. and Pastene, L. 2012. Proposal for the 2013 IWC-Pacific Ocean Whale and Ecosystem Research (POWER). Paper SC/64/O7 presented to the IWC Scientific Committee, June 2012, Panama City (unpublished). 13pp. [Paper available from the Office of this Journal].

Annex A

List of Participants

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Isamu Yoshimura

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Toshiya Kishiro
Tomio Miyashita

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Robert Brownell

Tokyo University of Marine Science and Technology, Japan
Hidehiro Kato

Invited Participant
John Bannister

IWC Head of Science
Greg Donovan

Interpreters
Yoko Yamakage
Hiroko Yasokawa

Annex B

Agenda

1. Opening remarks and welcoming address
2. Appointment of Chair and rapporteurs
3. Adoption of Agenda
4. Organisation of meeting
5. Review of available documents
6. Review of discussions at IWC/64
7. Preliminary results from the 2012 cruise
8. Availability of research vessels
   - 8.1 Research vessel offered by Japan
   - 8.2 Other possibilities
9. Priority for the 2013 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/allocation of research personnel
    - 13.1 Number of researchers
    - 13.2. Nomination and allocation of researchers
14. General preparations for the 2013 cruise
    - 14.1 Identification of home port organiser
    - 14.2 Entry and other permits
    - 14.3 Review of recommendations from the 2012 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
    - 21.3 Requests from PICES
22. Concluding remarks

Annex C

List of Documents

POWER/13/WP

1. International Whaling Commission. 2013. Report of the Technical Advisory Group (TAG) Meeting on the Short and Medium Term Objectives and Plans for the IWC-POWER Cruises. *J. Cetacean Res. Manage. (Suppl.)* 14:341-55.
2. International Whaling Commission. 2012. Report of the Planning Meeting for the 2012 IWC-POWER Cruise. Paper SC/64/Rep7 presented to the IWC Scientific Committee, June 2012, Panama City (unpublished). 14pp. [Paper available from the Office of this Journal].
3. International Whaling Commission. 2013. Report of the Scientific Committee. *J. Cetacean Res. Manage. (Suppl.)* 14:1-86 (extracts).
4. International Whaling Commission. 2013. Report of the Scientific Committee. Annex G. Report of the Sub-Committee on In-Depth Assessments. *J. Cetacean Res. Manage. (Suppl.)* 14:195-213.
5. Kato, H., Matsuoka, K., Miyashita, T., Murase, H. and Pastene, L. 2012. Proposal for the 2013 IWC-Pacific Ocean Whale and Ecosystem Research (POWER). Paper SC/64/O7 presented to the IWC Scientific Committee, June 2012, Panama City (unpublished). 13pp. [Paper available from the Office of this Journal].
6. International Whaling Commission. 2012. Report of the Workshop on planning for an IWC co-ordinated North Pacific research cruise programme. *J. Cetacean Res. Manage. (Suppl.)* 13:369-92.
7. Cruise report of the 2012 IWC-Pacific Ocean Whale and Ecosystem Research (IWC-POWER).
8. Required equipment for the 2013 IWC-POWER.

Annex D

Equipment

Table 1
Equipment for the cruise.

Equipment	Numbers		Owner	Responsibility	
	YS3	Total		(Shipping)	(Discharge)
Sighting					
Reticle binocular (primary observer)	6	6	ICR	ICR	ICR
Reticle binocular (researcher)	3	3	ICR	ICR	ICR
Computers	2	2	IWC*	-	-
Computer programs	0	0	IWC*	-	-
Computer printer	0	0	ICR	-	-
Computer printer ink	0	0	ICR	-	-
Copy cartridge	1	1	IWC	ICR	ICR
Office supplies (pencil etc.)	-	-	-	Researchers	-
Biopsy					
Telescopic battery (CR2032)	4	4	ICR	ICR	ICR
Scope for Larsen gun	4	4	ICR	ICR	ICR
Larsen biopsy gun	4	4	ICR	ICR	ICR
Larsen darts and tips	50	50	ICR	ICR	ICR
Blank charges (Larsen)	500	500	ICR	ICR	ICR
Plugs (Larsen)	300	300	ICR	ICR	ICR
Compound crossbow (back up)	2	2	IWC	ICR	ICR
Sample bottles (Japan)	200	200	NRIFS	NRIFS	NRIFS
Sample bottles (IWC)	200	200	NRIFS	NRIFS	NRIFS
Sample kit	1	1	NRIFS	NRIFS	NRIFS
Pick up nets	2	2	ICR	Ship	Ship
Rack for Larsen gun	1	1	ICR	Ship	Ship
Photo-id					
Digital camera with 100-300mm	0	0	IWC*	-	-
English manual for digital	0	0	IWC*	-	-
Cleaning kit	2	2	ICR	ICR	ICR
Digital camera with 100-400mm	1	1	ICR	ICR	ICR
Digital camera with 100-300mm	1	1	ICR	ICR	ICR
Monopod for video recordings during dive time experiment	1	1	ICR	ICR	ICR
Digital video camera	1	1	NRIFS	NRIFS	NRIFS
Digital video camera English manual	1	1	NRIFS	NRIFS	NRIFS
Digital video tape (60 min.)	20	20	NRIFS	NRIFS	NRIFS
Digital video battery (long-life)	3	3	NRIFS	NRIFS	NRIFS
Cable for long-life battery	1	1	NRIFS	NRIFS	NRIFS
i-LINK cable from video to PC	1	1	NRIFS	NRIFS	NRIFS
Long cable in top platform	1	1	Ship	Ship	Ship
Data storage computer (hard disc)	0	0	IWC*	-	-
Record sheet					
Record sheet original	ALL	ALL	IWC/ICR	ICR	-
Record sheet	ALL	ALL	IWC/ICR	ICR	ICR
Copy paper (A4, box)	2	2	IWC	ICR	-
Other					
IWC flag (large)	1	1	IWC	Ship	Ship
IWC flag (small)	1	1	IWC	Ship	Ship
IWC banner	0	0	IWC	Donovan/Matsuoka	Ship
Newest IWC journal (electronic files)	1	1	IWC	Donovan/Matsuoka	Ship
Planning report (English)	1	1	IWC	Donovan/Matsuoka	-
Planning report (Japanese)*	1	1	ICR	Matsuoka	-
Information for researchers (English)	1	1	IWC/ICR	Donovan/Matsuoka	-
Information for researchers (Japanese)	1	1	ICR	Matsuoka	-

Annex E

Proposal for the POWER section of the IWC website

Greg Donovan

Level 1: Objectives
- Provide the long-term objectives and then link to the plans for the short-medium term objectives.
- Include tables summarising what is known by species and agreed list of priority species/questions/methods.
- Highlight international component and contributions from Japan, Korea, USA and IWC.

Level 2: Individual cruises
Provide information on each cruise and summaries of results (see also graphics and documentation):
- distribution and abundance;
- photo-identification; and
- biopsy sampling.

Provide 'accumulated' results summary.

Level 3: Documentation
Provide links to all of the background documentation since the inception of the programme including Workshops, Planning Meetings, cruise reports, etc.

Graphics:

(1) photos of the vessel and 'life on board';
(2) photos of the key species;
(3) photos of the techniques – observers, photo-id and biopsy;
(4) maps of each of the cruise tracks;
(5) maps showing sightings by species; and
(6) video clips: An-san.