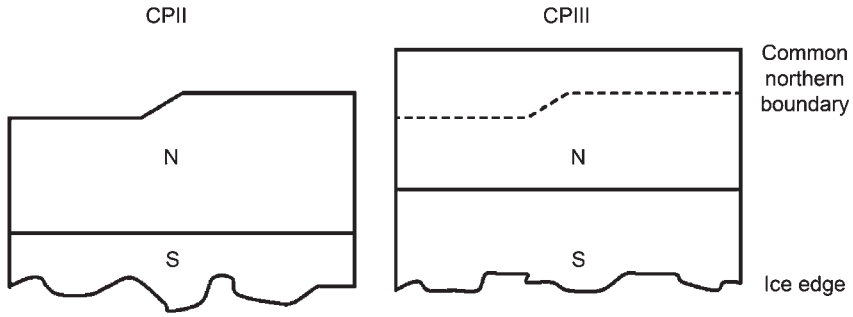


Fig. 1. Example of the Common Northern Boundary method, showing sample north (N) and south (S) strata in CPII and CPIII. Sightings and effort in CPIII between the dashed line and 60°S would be excluded from the analyses.

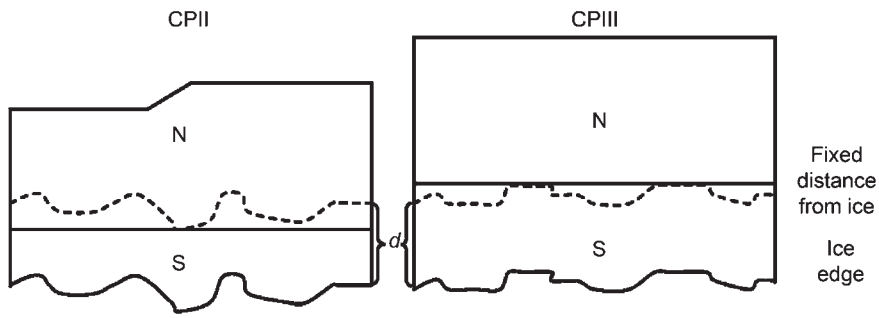


Fig. 2. Example of the Fixed Distance from the Ice Edge method. Sightings and search effort in both CPII and CPIII that were further than a distance *d* from the respective ice edges would be omitted from the analyses.

## Appendix 8

## PREPARATION FOR A COMPREHENSIVE ASSESSMENT OF NORTH PACIFIC SEI WHALES

J. Cooke, S. Baker, D. Butterworth, H. Kato, L. Pastene, L. Walløe and R. Brownell

**Previous assessment**

The last assessment of North Pacific sei whales was performed by Tillman (1977), and seems to have been accepted by the Scientific Committee in 1974 (Gambell, 1974). The exploitable stock (≥40ft) is estimated to have declined from 42,000 in 1963 to 8,600 in 1974, during a period of intensive pelagic whaling.

The assessment was based on a combination of the following data:

(1) JSV sightings 1965-73 (Wada, 1975);
(2) Japanese pelagic catch and tonnage-corrected effort in Zone N 1965-74, from catch and effort data on NP1 and NP2 forms (now held by IWC); and
(3) length data on NP3 forms (now held by IWC), converted to age distributions using age-length keys constructed from unpublished age-length data supplied by Dr H. Omura and Dr S. Ohsumi.

**Stock structure**

Masaki (1977) hypothesised three sei whale stocks in the North Pacific with boundaries at 155°W and 175°W, although the evidence was relatively weak by modern standards. Kanda *et al*. (2006) found no evidence of spatial heterogeneity in nucleotypes of sei whales taken under JARPN II in 2002 and 2003, but all the whales were taken between 145°-170°E, which is well within the boundaries of Masaki's proposed western stock.

SWFSC, La Jolla, holds samples from 20 North Pacific sei whales: 8 from Hawaii, 1 each from Oregon and Washington and 10 from elsewhere in the North Pacific, in addition to some samples from the Southern Hemisphere. mtDNA sequences from the Hawaiian samples were used in a phylogenetic analysis by Baker *et al*. (2004), together with sequences from 32 market samples representing at least 20 individuals.

Old tissue samples from Canadian, US, Japanese and Russian commercial whaling exist, and DNA may be extractable from some of them, depending how they have been preserved.

*Recommendation*:
Inventories should be compiled of:

(1) mtDNA sequences that have been obtained from NP sei whales to date; and
(2) both recent and old potentially useable tissue samples from all parts of the North Pacific.

At this stage, it is not known whether there is any population structure among North Pacific sei whales, and there is insufficient information to formulate stock structure hypotheses, apart from the null hypothesis of panmixis.

Inclusion of sequences from Southern Hemisphere sei whales in phylogenetic analyses may also contribute to an understanding North Pacific stock structure, especially if it emerges that North Pacific sei whales do not group into a single clade.

**Catch history**

The IWC catch data base contains sei whale catches in the North Pacific during 1904-75, but some of these were Bryde's whales. A division of historical sei catches in the North Pacific into sei and Bryde's whales has been conducted by the Scientific Committee in the context of the Bryde's whale RMP *Implementation* (IWC, 2007).

USSR catch data for sei whales has been falsified, especially in the period 1966-71 (Doroshenko, 2000). The sei whale catch in these years was exaggerated, to hide the catch of protected species.

From 1970 onwards, sei whale catches in the North Pacific were limited by a combined sei/Bryde's catch limit, which was reduced progressively from 4,924 in 1970 to 2,000 in 1975. From 1976, sei whales were protected, and there was a specific Bryde's whale limit. This may have provided some incentive to underreport, but international observers were present on factory ships from 1972 onwards, at least during the official whaling season.

*Recommendations*

(1) The same division into sei/Bryde's that has been used to construct North Pacific Bryde's whale catch series be used to construct sei whale catch series; and
(2) the corrected USSR data be entered into the IWC catch database, if this has not already been done.

**Data on abundance and trends**

1965-75 – commercial Japanese Scouting Vessel (JSV) attached to pelagic whaling fleets, daily counts and effort only (Wada, 1975; 1976; 1977).

1976-82 - chartered JSV, collecting standard line-transect data (Anonymous, 1982; 1983; 1984; Ohsumi and Yamamura, 1982; Wada, 1978; 1979; 1980; 1981).

1983-present – dedicated sightings surveys (summer) (Anonymous, 1985; 1986; 1987; 1988; 1989; 1990; 1991; 1992; 1993; 1994; 1995; 1997; Kato, 1996; 1998; 1999; 2000; 2001; 2002; 2003; Kato and Miyashita, 2004; 2005; Miyashita and Kato, 2006), SC/59/ProgRepJapan.

1994-1999 – JARPN surveys (Fujise *et al*., 1996; Fujise *et al*., 1995; Fujise *et al*., 1997; Zenitani *et al*., 1999).

2000-present – JARPN II surveys (Fujise *et al*., 2001; Fujise *et al*., 2002; Fujise *et al*., 2003) (Tamura, 2006; Tamura *et al*., 2004; Tamura *et al*., 2005).

Preliminary analyses of Japanese sighting data with respect to sei whales have been reported by Miyashita *et al*. (2002) and Hakamada *et al*. (2004).

Recent sightings surveys suggest that sei whales are scarce in the waters of the US west coast (excluding Alaska) and Hawaii in summer (Barlow, 2003a; 2003b).

Some of the dedicated sightings surveys and some of the JARPN surveys encountered few or no sei whales, because the survey effort was too far south. This is relevant negative information, which is useful for bounding the summer range of sei whales. Likewise, the absence of sei whale sightings in the Okhotsk Sea and the Sea of Japan represents relevant negative information.

Most winter surveys in the North Pacific to date have found few or no sei whales. The winter distribution of sei whales is poorly known, but is perhaps not a high priority for a first assessment.

A tendency for inter-annual, and possibly also long-term, shifts in sei whale distribution pose an especial challenge for the analysis of data collected over many years, with limited coverage in individual years.

*Recommendations*

(1) The available sightings data be plotted and inspected visually to enable selection of:
    (a) a span of summer months for sightings data to be used for an assessment; and
    (b) the geographical range over which sei whale density is non-negligible in these months (i.e. areas outside the main summer distribution could be excluded, e.g. waters south of 35°N, Okhotsk Sea, etc.).
(2) Consideration be given to conducting a spatio-temporal modelling analysis of the full set of sei whale sightings data. This may require identification of the respective data holders and preparation of a proposal for submission to the Data Availability Group.

**Biological parameters**

Age and reproductive data from Japanese commercial whaling have been analysed by Doi and Ohsumi (1970) and Masaki (1976). Age at sexual maturity was estimated at 9-10, and mortality rates at 0.06-0.08 for males and 0.10-0.12 for females. From commercial whaling samples from the eastern North Pacific (California), Rice (1977) estimated a mean age at maturity of 10 years for both sexes.

Modern age and reproductive samples (from ~400 sei whales) have been collected under JARPN II during 2002-06, and are awaiting analysis with respect to biological parameters.

*Recommendation*

Historical age and reproductive data from commercial whaling in the eastern and western North Pacific should be recompiled and presented, so that comparisons with results from modern catches can be made when the latter are available.

REFERENCES

Anonymous. 1982. Japan. Progress report on cetacean research, June 1980 to May 1981. *Rep. int. Whal. Commn* 32: 179-83.
Anonymous. 1983. Japan. Progress report on cetacean research, June 1981 to May 1982. *Rep. int. Whal. Commn* 33: 213-20.
Anonymous. 1984. Japan. Progress report on cetacean research, June 1982 to May 1983. *Rep. int. Whal. Commn* 34: 203-09.
Anonymous. 1985. Japan. Progress report on cetacean research, June 1983 to April 1984. *Rep. int. Whal. Commn* 35: 168-71.
Anonymous. 1986. Japan. Progress report on cetacean research, May 1984 to May 1985. *Rep. int. Whal. Commn* 36: 158-61.
Anonymous. 1987. Japan. Progress report on cetacean research, June 1985 to April 1986. *Rep. int. Whal. Commn* 37: 172-75.
Anonymous. 1988. Japan. Progress report on cetacean research, May 1986 to May 1987. *Rep. int. Whal. Commn* 38: 194-98.
Anonymous. 1989. Japan. Progress report on cetacean research, June 1987 to April 1988. *Rep. int. Whal. Commn* 39: 201-04.
Anonymous. 1990. Japan. Progress report on cetacean research, May 1988 to April 1989. *Rep. int. Whal. Commn* 40: 198-201.
Anonymous. 1991. Japan. Progress report on cetacean research, May 1989 to May 1990. *Rep. int. Whal. Commn* 41: 239-43.

Anonymous. 1992. Japan. Progress report on cetacean research, June 1990 to March 1991. *Rep. int. Whal. Commn* 42: 352-56.
Anonymous. 1993. Japan. Progress report on cetacean research, April 1991 to May 1992. *Rep. int. Whal. Commn* 43: 277-84.
Anonymous. 1994. Japan. Progress report on cetacean research, June 1992 to March 1993. *Rep. int. Whal. Commn* 44: 222-27.
Anonymous. 1995. Japan. Progress report on cetacean research, April 1993 to March 1994. *Rep. int. Whal. Commn* 45: 239-44.
Anonymous. 1997. Japan. Progress Report on Cetacean Research, April 1995 to April 1996. *Rep. int. Whal. Commn* 47: 342-9.
Baker, C.S., Dalebout, M.L., Funahashi, N., Yu, M., Steel, D. and Lavery, S. 2004. Market surveys of whales, dolphins and porpoises in Japan and Korea, 2003-2004, with reference to stock identity of sei whales. Paper SC/56/BC3 presented to the IWC Scientific Committee, July 2004, Sorrento, Italy (unpublished). 8pp. [Paper available from the Office of this Journal].
Barlow, J. 2003a. Cetacean abundance in Hawaiian waters during summer/fall of 2002. *SWFSC Admin. Rep. No*. LJ-03-13. 20pp.
Barlow, J. 2003b. Preliminary estimates of the abundance of cetaceans along the US west coast: 1991-2001. *SWFSC Admin. Rep. No*. LJ-03-03. 31pp. [Available from: *www.st.nmfs/tm/swfsc*].
Doi, T. and Ohsumi, S. 1970. Report of the Scientific Committee, Annex H. Sixth memorandum on results of Japanese stock assessment of whales in the North Pacific. *Rep. int. Whal. Commn* 20: 97-111.
Doroshenko, N.V. 2000. Soviet whaling for blue, gray, bowhead and right whales in the North Pacific Ocean, 1961-1979. pp.96-103. *In*: Yablokov, A.V. and Zemsky, V.A. (eds). *Soviet Whaling Data (1949-1979)*. Center for Russian Environmental Policy, Moscow. 408pp.
Fujise, Y., Iwasaki, T., Zenitani, R., Araki, J., Matsuoka, K., Tamura, T., Aono, S., Yoshida, T., Hidaka, H., Nibe, T. and Tohyama, D. 1996. Cruise report of the Japanese whale research program under a Special Permit for North Pacific minke whales in 1995 with the result of a preliminary analysis of data collected. Paper SC/48/NP13 presented to IWC Scientific Committee, June 1996 (unpublished). 39pp. [Paper available from the Office of this Journal].
Fujise, Y., Kishiro, T., Zenitani, R., Matsuoka, K., Kawasaki, M. and Shimamoto, K. 1995. Cruise report of the Japanese whale research program under a Special Permit for North Pacific minke whales in 1994. Paper SC/47/NP3 presented to the IWC Scientific Committee, May 1995 (unpublished). 29pp. [Paper available from the Office of this Journal].
Fujise, Y., Pastene, L.A., Tamura, T., Bando, T., Murase, H., Kawahara, S., Watanabe, H., Ohizumi, H., Mogoe, T., Kiwada, H., Nemoto, K. and Narita, H. 2001. Progress report of the feasibility study of the Japanese Whale Research Program under Special Permit in the western North Pacific – Phase II (JARPN II) in 2000. Paper SC/53/O10 presented to the IWC Scientific Committee, July 2001, London (unpublished). 77pp. [Paper available from the Office of this Journal].
Fujise, Y., Shimada, H., Zenitani, R., Goto, M., Tamura, T., Lindstrom, U., Uchida, A., Yoshida, H., Shimamoto, K., Yuzu, S., Kasai, H., Kinoshita, T., Iwata, T. and Tohyama, D. 1997. Cruise report of the 1996 Japanese Whale Research Program under a Special Permit for Western North Pacific (1996 JARPN) and some preliminary analyses of the data collected from the 1996 JARPN. Paper SC/49/NP8 presented to the IWC Scientific Committee, September 1997 (unpublished). 38pp. [Paper available from the Office of this Journal].
Fujise, Y., Tamura, T., Bando, T., Watanabe, H., Kiwada, H., Otani, S., Kanda, N., Yasunaga, G., Moore, T., Konishi, K., Inamori, M., Shigemune, H. and Tohyama, D. 2002. Cruise report of the feasibility study of the Japanese whales research program under special permit in the western North Pacific – phase II (JARPN II) in 2001. Paper SC/54/O16 presented to the IWC Scientific Committee, April 2002, Shimonoseki, Japan (unpublished). 51pp. [Paper available from the Office of this Journal].
Fujise, Y., Tamura, T., Bando, T., Yasunaga, G., Konishi, K., Murase, H., Yoshida, T., Itoh, S., Ogawa, R., Oka, T., Sasaki, T., Fukutome, K., Isoda, T., Birukawa, N., Horii, N., Zharikov, K.A., Park, K.J., Tohyama, D. and Kawahara, S. 2003. Cruise report of the Japanese Whale Research Program under Special permit in the western North Pacific – Phase II (JARPN II) in 2002 [Part I] – Offshore component. Paper SC/55/O7 presented to the IWC Scientific Committee, May 2003, Berlin (unpublished). 41pp. [Paper available from the Office of this Journal].
Gambell, R. 1974. A review of reproduction parameters and their density dependent relationship in Southern Hemisphere sei whales. Paper SC/SP74/Doc 9 presented to the Sei and Bryde's Whale Special Meeting, La Jolla, December 1974 (unpublished). 13pp. [Paper available from the Office of this Journal].
Hakamada, T., Matsuoka, K. and Nishiwaki, S. 2004. Increasing trend and abundance estimate of sei whales in the western North Pacific. Paper SC/56/O19 presented to the IWC Scientific Committee, July 2004, Sorrento, Italy (unpublished). 9pp. [Paper available from the Office of this Journal].
International Whaling Commission. 2007. Western North Pacific Bryde's *Implementation*: Report of the First Intersessional Workshop, 25-29 October 2005, Shizuoka, Japan. *J. Cetacean Res. Manage. (Suppl.)* 9:407-27.
Kanda, N., Goto, M. and Pastene, L. 2006. Genetic characteristics of western north Pacific sei whales, *Balaenoptera borealis*, as revealed by microsatellites. *Marine Biotechnology* 8: 86-93.
Kato, H. 1996. Japan. Progress report on cetacean research April 1995 to April 1996. *Rep. int. Whal. Commn* 46: 255-61.
Kato, H. 1998. Japan. Progress report on cetacean research May 1996 to April 1997. *Rep. int. Whal. Commn* 48: 329-37.
Kato, H. 1999. Japan. Progress report on cetacean research, April 1998 to March 1999. Paper SC/51/ProgRep Japan presented to the IWC Scientific Committee, May 1999, Grenada, West Indies (unpublished). 19pp. [Paper available from the Office of this Journal].
Kato, H. 2000. Japan. Progress report on cetacean research, April 1999 to April 2000. Paper SC/52/Prog.Rep.Japan presented to the IWC Scientific Committee, June 2000, in Adelaide, Australia (unpublished). 22pp. [Paper available from the Office of this Journal].
Kato, H. 2001. Japan. Progress report on cetacean research May 2000 to May 2001. Paper SC/53/ProgRep Japan presented to the IWC Scientific Committee, July 2001, London (unpublished). 12pp. [Paper available from the Office of this Journal].
Kato, H. 2002. Japan. Progress Report on cetacean research June 2001 to April 2002. Paper SC/54/ProgRep Japan presented to the IWC Scientific Committee, April 2002, Shimonoseki, Japan (unpublished). 14pp. [Paper available from the Office of this Journal].
Kato, H. 2003. Japan. Progress report on cetacean research, May 2002 to March 2003. Paper SC/55/ProgRep Japan presented to the IWC Scientific Committee, May 2003, Berlin (unpublished). 16pp. [Paper available from the Office of this Journal].
Kato, H. and Miyashita, T. 2004. Japan. Progress report on cetacean research, April 2003 to April 2004. Paper SC/56/ProgRep Japan presented to the IWC Scientific Committee, July 2004, Sorrento, Italy (unpublished). 15pp. [Paper available from the Office of this Journal].
Kato, H. and Miyashita, T. 2005. Japan. Progress report on cetacean research, May 2004 to April 2005. Paper SC/57/ProgRep Japan presented to the IWC Scientific Committee, June 2005, Ulsan, Korea (unpublished). 14pp. [Paper available from the Office of this Journal].
Masaki, Y. 1976. Biological studies on the North Pacific sei whale. *Bull. Far Seas Fish. Res. Lab*. 14: 1-104.
Masaki, Y. 1977. The separation of the stock units of sei whales in the North Pacific. *Rep. int. Whal. Commn (special issue)* 1: 71-79.
Miyashita, T. and Kato, H. 2006. Japan. Progress report on cetacean research, May 2005 to April 2006, with statistical data for the calendar year 2005. Paper SC/58/ProgRep Japan presented to the IWC Scientific Committee, May 2006, St. Kitts and Nevis, West Indies (unpublished). 11pp. [Paper available from the Office of this Journal].
Miyashita, T., Kato, H., Matsuoka, K., Hakamada, T., Nishiwaki, S. and Ohsumi, S. 2002. Abundance and biomass of major cetaceans occurring in the western North Pacific particularly in sub-areas 7, 8 and 9 and biological aspects of cetacean species to be sampled by JARPN II. Appendix 1 of SC/54/O2. [Paper available from the Office of this Journal].
Ohsumi, S. and Yamamura, K. 1982. A review of the Japanese whale sightings system. *Rep. int. Whal. Commn* 32: 581-86.
Rice, D.W. 1977. Synopsis of biological data on the sei whale and Bryde's whale in the eastern North Pacific. *Rep. int. Whal. Commn (special issue)* 1: 92-97.
Tamura, T. 2006. Cruise report of the Japanese Whale Research Program under Special Permit in the western North Pacific – Phase II (JARPN II) in 2005. Part I – Offshore component. Paper SC/58/O8 presented to the IWC Scientific Committee, May 2006, St. Kitts and Nevis, West Indies (unpublished). 52pp. [Paper available from the Office of this Journal].
Tamura, T., Fujise, T., Bando, T., Yasunaga, G., Konishi, K., Kiwada, H., Isoda, T., Itoh, S., Machida, S., Tsunekawa, M., Konagai, T., Takamatsu, T., Ohshima, T., HonJo, K., Matsuoka, T., Zharikov, K.A., An, Y.R., Tohyama, D. and Kawahara, S. 2004. Cruise report of the Japanese Whale Research Program under Special Permit in the western North Pacific-Phase II (JARPN II) in 2003 (Part I) –

Offshore component. Paper SC/56/O13 presented to the IWC Scientific Committee, July 2004, Sorrento, Italy (unpublished). 47pp. [Paper available from the Office of this Journal].
Tamura, T., Fujise, Y., Mogoe, T., Kanda, N., Yasunaga, G., Konishi, K., Kiwada, H., Ogihara, M., Hasegawa, A., Kitajima, M., Sugiyama, T., Sasaki, T., Mori, M., Teraoka, T., Tsunekawa, M., Fukutome, K., Zharikov, K.A., Na, J.H., Tohyama, D., Inagake, D. and Kawahara, S. 2005. Cruise report of the Japanese Whale Research Program under Special Permit in the western North Pacific – Phase II (JARPN II) in 2004 (part 1) – Offshore component. Paper SC/57/O3 presented to the IWC Scientific Committee, June 2005, Ulsan, Korea (unpublished). 33pp. [Paper available from the Office of this Journal].
Tillman, M.F. 1977. Estimates of population size for the North Pacific sei whale. *Rep. int. Whal. Commn (special issue)* 1: 98-106.
Wada, S. 1975. Report of the Scientific Committee, Annex L. Indices of abundance of large-sized whales in the North Pacific in 1973 whaling season. *Rep. int. Whal. Commn* 25: 129-65.
Wada, S. 1976. Indices of abundance of large-sized whales in the North Pacific in the 1974 whaling season. *Rep. int. Whal. Commn* 26(2): 382-91.
Wada, S. 1977. Indices of abundance of large-sized whales in the North Pacific in the 1975 whaling season. *Rep. int. Whal. Commn* 27: 189-94.
Wada, S. 1978. Indices of abundance of large-sized whales in the North Pacific in the 1976 whaling season. *Rep. int. Whal. Commn* 28: 319-24.
Wada, S. 1979. Indices of abundance of large sized whales in the North Pacific in the 1977 whaling season. *Rep. int. Whal. Commn* 29: 253-64.
Wada, S. 1980. Japanese whaling and whale sighting in the North Pacific 1978 season. *Rep. int. Whal. Commn* 30: 415-24.
Wada, S. 1981. Japanese whaling and whale sighting in the North Pacific 1979 season. *Rep. int. Whal. Commn* 31: 783-92.
Zenitani, R., Fujise, Y., Matsuoka, K., Tamura, T., Bando, T., Ichihashi, H., Shimokawa, T., Krasnenko, A.S., Taguchi, F., Kinoshita, T., Mori, M., Watanabe, M., Ichinomiya, D., Nakamura, M., Sakai, K., Matsuzaka, K., Kamei, H. and Tohyama, D. 1999. Cruise report of the Japanese Whale Research Program under a Special Permit in the North Pacific in 1998. Paper SC/51/RMP7 presented to the IWC Scientific Committee, May 1999, Grenada, WI (unpublished). 20pp. [Paper available from the Office of this Journal].

## Appendix 9

## PROGRESS TOWARD AN IN-DEPTH ASSESSMENT OF SPERM WHALES

Tim D. Smith

**Abstract**

Progress toward developing information essential for the conduct of an in-depth assessment of sperm whales is reviewed. Progress has been made on population structure, historical catches, and survey methods. In addition, substantial information is being developed on abundance and distribution in several studies and on the potential effects of anthropogenic noise on sperm whales. Progress has however been slower than was hoped and the timing of such an assessment requires further discussion.

### Introduction

There is a need to better understand the status of sperm whale populations both world-wide and regionally. The IUCN is interested in completing an assessment of status on a worldwide basis (B. Taylor, pers. comm.) and the US has revised a draft recovery plan for sperm whales (originally drafted by R. Reeves) and will be circulating it soon for public comment (J. Barlow, pers. comm.). Although the IUCN classification as vulnerable and the US classification as endangered were based on global considerations, the need for considering the status of sperm whales on regional levels consistent with population structure has been discussed (B. Taylor and R. Reeves, pers. comm.).

The Scientific Committee agreed in 2002 (IWC, 2003, p.49; 2004, p.26) to pursue the possibility of conducting an in-depth assessment of sperm whales. In support of this interest, a Workshop to review assessment-related research on sperm whales was held in Woods Hole, Massachusetts, USA, 1-3 March 2005. The results of that workshop were reviewed in 2005 (IWC, 2006, pp.31-32), based on a summary of the report of the workshop (Smith *et al*., 2005b). The report of the workshop was finalised as Smith *et al*. (2005a). Workshop participants identified many topics where additional research is needed (Table 1), with the following five having highest priority (Smith *et al*., 2005b):

(1) developing provisional hypotheses about population structure;
(2) obtaining information on female survival rates;
(3) improving historical catch data in several ways, including spatial resolution to match hypothesised population structure; further exploring the effects of differential exploitation by sex;
(4) improving methods to correct abundance survey data to account for bias; and
(5) refining population modelling approaches.

Subsequent to that workshop there has been progress on developing needed information. That progress is described below, first relative to these five priority topics and second relative to other topics.

### Progress

*Developing provisional hypotheses about population structure*

Mesnick, Taylor and Morin have continued the analysis of tissue samples to determine population structure in the North Pacific (S. Mesnick, pers. comm.). Morin *et al*. (2006) report on a new method of sex determination using genetic markers and Morin *et al*. (2005) report on the characterisation of 18 new single nucleotide polymorphism (SNP) markers for sperm whales; these provide a necessary addition to the genetic tools employed for understanding population structure on a global scale. Rendell *et al*. (S. Mesnick, pers. comm.) will provide a direct comparison of genetic and acoustic markers for determining stock structure in the Pacific.

A global compilation of all known mitochondrial DNA haplotypes ($n$=28) has been posted on GenBank (S. Mesnick, pers. comm.).

Plans have been developed for a study of population genetics using old tooth samples, as recommended by the workshop (Smith *et al*., 2005a), and funding continues to be sought.