**Appendix**

Table S1 Waterbird data and related information. The MLYR means middle and lower Yangtze River.

|  |  |  |  |
| --- | --- | --- | --- |
| **Year** | **Survey date** | **Number** | **Data source** |
| **Numbers of wintering waterbird species at Chongming Dongtan** |
| 1986-1989 | Oct 1986-Dec 1989, Sep 1986-Dec 1988 | 56 | Huang *et al*. 1993, Zhang and Yuan 1989 |
| 2000/2001 | Oct 2000-Mar 2001 | 44 | Ma *et al*. 2004 |
| 2001-2004 | Feb 2001-Dec 2004 | 51 | Ma *et al*. 2009 |
| 2002/2003 | Nov 2002-Jan 2003 | 49 | Zhao *et al*. 2003a |
| 2003/2004 | Sep 2003-Apr 2004 | 56 | Fu 2004 |
| 2005/2006 | Nov 2005-Mar 2006 | 62 | Wang *et al.* 2007b |
| 2007/2008 | Nov 2007-Mar 2008 | 45 | Jin *et al.* 2008 |
| 2009 | Jan-Nov 2009 | 30 | Wu *et al*. 2010b |
| 2009/2010 | Nov 2009-Mar 2010 | 40 | Wu *et al*. 2011 |
| 2010/2011 | Nov 2010-Mar 2011 | 42 | Qin *et al*. 2011 |
| 2011/2012 | Nov 2011-Mar 2012 | 43 | Wu *et al*. 2013a |
| **Numbers of wintering waterbird species at Hong Lake** |
| 1950s-1960s | Unknown | 106 | Hu and Kang 2004 |
| 1981-1982 | Unknown | 87 | Hu and Kang 2004 |
| 1996-1997 | Aug 1996-May 1997 | 39 | Fang *et al.* 1997 |
| 2003/2004 | Jan-Apr 2004 | 17 | Hu *et al.* 2005 |
| **Numbers of goose and duck at Hong Lake** |
| 1950s | Unknown | 82,231  | Hu *et al.* 2005 |
| 1960s | Unknown | 62,867  | Hu *et al.* 2005 |
| 1970s | Unknown | 52,815  | Hu *et al.* 2005 |
| 1980s | Unknown | 14,876  | Hu *et al.* 2005 |
| 1990s | Unknown | 15,250  | Hu *et al.* 2005 |
| 2003/2004 | Jan-Apri 2004 | 78  | Hu *et al.* 2005 |
| **Numbers of main wintering waterbirds at Shengjin Lake** |
| 1993  | Unknown | 55,755  | Wang *et al.* 2007a |
| 1994  | Unknown | 81,213  | Wang *et al.* 2007a |
| 1995  | Unknown | 27,744  | Wang *et al.* 2007a |
| 1996  | Unknown | 36,487  | Wang *et al.* 2007a |
| 1997  | Unknown | 26,417  | Wang *et al.* 2007a |
| 1998  | Unknown | 24,774  | Wang *et al.* 2007a |
| 1999  | Unknown | 16,106  | Wang *et al.* 2007a |
| 2000  | Unknown | 23,018  | Wang *et al.* 2007a |
| 2001  | Unknown | 41,748  | Wang *et al.* 2007a |
| 2002  | Unknown | 34,417  | Wang *et al.* 2007a |
| **Numbers of Baer’s Pochard in the MLYR floodplain** |
| 1986-1993 | Unknown | 12,995  | Wang *et al.* 2012a |
| 1993-1999 | Unknown | 2,703  | Wang *et al.* 2012a |
| 2002-2005 | Unknown | 665  | Wang *et al.* 2012a |
| 2005-2008 | Unknown | 89  | Wang *et al.* 2012a |
| 2008-2011 | Unknown | 1,269  | Wang *et al.* 2012a |
| 2010/2011 | Jan 2011 | 194  | Lei *et al*. 2011 |
| **Numbers of Greater White-fronted Goose in the MLYR floodplain** |
| 1987-1993 | Unknown | 140,365  | Zhao *et al.* 2012 |
| 1993-1999 | Unknown | 142,159  | Zhao *et al.* 2012 |
| 2003/2004 | Unknown | 25,241  | Zhao *et al.* 2012 |
| 2004/2005 | Unknown | 26,494  | Zhao *et al.* 2012 |
| 2005/2006 | Unknown | 59,726  | Zhao *et al.* 2012 |
| 2006/2007 | Unknown | 25,660  | Zhao *et al.* 2012 |
| 2007/2008 | Unknown | 47,291  | Zhao *et al.* 2012 |
| 2008/2009 | Unknown | 17,952  | Zhao *et al.* 2012 |
| 2009/2010 | Unknown | 18,085  | Zhao *et al.* 2012 |
| 2010/2011 | Jan 2011 | 66,015  | Lei *et al*. 2011 |
| **Numbers of Lesser White-fronted Goose in the MLYR floodplain** |
| 1987-1993 | Unknown | 64,494  | Wang *et al*. 2012b |
| 1993-1999 | Unknown | 25,720  | Wang *et al*. 2012b |
| 2002/2003 | Unknown | 17,408  | Wang *et al*. 2012b |
| 2003/2004 | Jan-Feb 2004 | 16,937  | Barter *et al*. 2004 |
| 2004/2005 | Feb 2005 | 8,636  | Barter *et al*. 2006 |
| 2005/2006 | Unknown | 15,745  | Wang *et al*. 2012b |
| 2006/2007 | Unknown | 17,963  | Wang *et al*. 2012b |
| 2007/2008 | Unknown | 19,000  | Wang *et al*. 2012b |
| 2008/2009 | Unknown | 12,629  | Wang *et al*. 2012b |
| 2009/2010 | Unknown | 13,084  | Wang *et al*. 2012b |
| 2010/2011 | Jan 2011 | 27,182  | Lei *et al*. 2011 |
| **Numbers of White-naped Crane at Poyang Lake** |
| 1996/1997 | Jan-Mar 1997 | 2,470  | Wu and Ji 2002 |
| 1998/1999 | Dec 1998 | 870  | Li *et al*. 2012a |
| 1998/1999 | Dec 1998 | 758 | Wu and Ji 2002 |
| 1998/1999 | Mar 1999 | 630 | Wu and Ji 2002 |
| 1999/2000 | 11-15 Nov 1999 | 3,209  | Liu and Jia 2000 |
| 1999/2000 | Feb 2000 | 1,035  | Li *et al.* 2012a |
| 2000/2001 | Feb 2001 | 4,354  | Wu and Ji 2002 |
| 2000/2001 | Feb 2001 | 2,943  | Wu and Ji 2002 |
| 2003/2004 | Jan-Feb 2004 | 2,713  | Liu *et al*. 2012 |
| 2004/2005 | Feb 2005 | 1,568  | Li *et al*. 2012a |
| 2004/2005 | Feb 2005 | 1,491  | Liu *et al*. 2012 |
| 2006/2007 | 15 Dec 2006 | 1,757  | Liu *et al*. 2012 |
| 2008/2009 | Feb 2009 | 1,017  | Li *et al.* 2012a |
| 2010/2011 | Jan 2011 | 2,319  | Lei *et al*. 2011 |
| 2011/2012 | 18 Dec 2011 | 885  | Wu *et al*. 2013b |
| 2011/2012 | 18-19 Feb 2012 | 283  | Li *et al*. 2012b |
| 2012/2013 | 8 Mar 2013 | 688  | Liu *et al.* 2014 |
| 2012/2013 | 25 Dec 2012 | 221  | Liu *et al.* 2013a |
| 2013/2014 | 10 Jan 2014 | 1,663  | Liao *et al*. 2014 |
| **Numbers of wintering waterbird species at Poyang Lake** |
| 2003/2004 | Jan-Feb 2004 | 67 | Liu *et al*. 2012 |
| 2003/2004 | 9 Jan 2004 | 36 | Qian *et al*. 2011 |
| 2004/2005 | Unknown | ～67 | Lü 2011 |
| 2004/2005 | Jan-Feb 2005 | 30 | Wu *et al.* 2010a |
| 2004/2005 | Feb 2005 | 64 | Liu *et al.* 2012 |
| 2004/2005 | 9 Jan 2005 | 56 | Qian *et al*. 2011 |
| 2005/2006 | 29 Dec 2005 | 75 | Qian *et al*. 2011 |
| 2005/2006 | Unknown | ～63 | Lü 2011 |
| 2006/2007 | Dec 2006 | 75 | Liu *et al*. 2012 |
| 2006/2007 | 29 Dec 2006 | 66 | Qian *et al*. 2011 |
| 2006/2007 | Unknown | 75 | Lü 2011 |
| 2007/2008 | 3 Jan 2008 | 64 | Qian *et al*. 2011 |
| 2008/2009 | 13 Feb 2009 | 57 | Qian *et al*. 2011 |
| 2008/2009 | Feb-Mar 2009 | 44 | Wu *et al*. 2010a |
| 2011/2012 | 18 Dec 2011 | 51 | Zhu *et al*. 2012 |
| 2012/2013 | 25 Dec 2012 | 58 | Liu *et al*. 2013a |
| 2013/2014 | Dec 2013 | 56 | Liao *et al*. 2014 |
| **Numbers of wintering waterbird individuals at Poyang Lake** |
| 1996/1997 | Jan-Mar 1997 | 352,767 | Wu and Ji 2002 |
| 1998/1999 | Dec 1998 | 16,822 | Wu and Ji 2002 |
| 1998/1999 | Mar 1999 | 11,657  | Wu and Ji 2002 |
| 1999/2000 | Unknown | ～90,000 | Lü 2011 |
| 2000/2001 | Feb 2001 | 352,731  | Wu and Ji 2002 |
| 2000/2001 | Unknown | 37,928  | Wu and Ji 2002 |
| 2000/2001 | Feb 2001 | 194,276  | Wu and Ji 2002 |
| 2001/2002 | Unknown | ～190,000 | Lü 2011 |
| 2002/2003 | Unknown | ～350,000 | Lü 2011 |
| 2003/2004 | 9 Jan 2004 | 293,717 | Qian *et al*. 2011 |
| 2003/2004 | Jan-Feb 2004 | 138,641  | Liu *et al.* 2012 |
| 2003/2004 | Unknown | ～240,000 | Lü 2011 |
| 2004/2005 | Jan-Feb 2005 | 321,044  | Wu *et al*. 2010a |
| 2004/2005 | 9 Jan 2005 | 314,612  | Qian *et al*. 2011 |
| 2004/2005 | Unknown | 138,643  | Lü 2011 |
| 2004/2005 | Feb 2005 | 226,105  | Liu *et al.* 2012 |
| 2005/2006 | 29 Dec 2005 | 725,756 | Qian *et al*. 2011 |
| 2006/2007 | 29 Dec 2006 | 456,927  | Qian *et al*. 2011 |
| 2006/2007 | Dec 2006 | 527,557  | Liu *et al.* 2012 |
| 2006/2007 | Unknown | 527,557  | Lü 2011 |
| 2007/2008 | 3 Jan 2008 | 450,246 | Qian *et al*. 2011 |
| 2008/2009 | Feb-Mar 2009 | 409,077  | Wu *et al*. 2010a |
| 2008/2009 | 13 Feb 2009 | 287,180  | Qian *et al*. 2011 |
| 2011/2012 | 18 Dec 2011 | 590,613  | Zhu *et al*. 2012 |
| 2012/2013 | 25 Dec 2012 | 419,773  | Liu *et al*. 2013a |
| 2013/2014 | Dec 2013 | 653,000  | Liao *et al*. 2014 |
| **Numbers of wintering waterbird species at East Dongting Lake** |
| 1998/1999 | Dec 1998-Feb 1999 | 15 | Deng *et al*. 2001 |
| 2005/2006 | Feb 2006 | 45 | Li *et al*. 2007 |
| 2009/2010 | Jul 2009-Apr 2010 | 55 | Li *et al*. 2010 |
| 2010-2012 | Dec-Feb | 54 | Yuan *et al*. 2013 |
| **Numbers of wintering waterbird individuals at East Dongting Lake** |
| 1998/1999 | Dec 1998-Feb 1999 | 8,367  | Deng *et al*. 2001 |
| 2005/2006 | Feb 2006 | 33,000  | Li *et al*. 2007 |
| 2009/2010 | Jul 2009-Apr 2010 | 124,037  | Li *et al*. 2010 |
| 2010-2012 | Dec-Feb | 111,605  | Yuan *et al*. 2013 |
| **Numbers of Siberian Crane at Poyang Lake** |
| 1980/1981 | Unknown | ～100 | Zhou and Ding 1982 |
| 1981/1982 | Unknown | 140  | Zhou and Ding 1982 |
| 1981/1982 | Unknown | 91  | Zhou and Ding 1982 |
| 1996/1997 | Jan-Mar 1997 | 2,345  | Wu and Ji 2002 |
| 1998/1999 | 7 Jan 1999 | 2,536  | Qian 2003 |
| 1998/1999 | Dec 1998 | 2,004 | Wu and Ji 2002 |
| 1998/1999 | Mar 1999 | 932 | Wu and Ji 2002 |
| 1998/1999 | 7-11 Jan 1999 | 2,117 | Shan *et al*. 2012 |
| 1999/2000 | 11-15 Nov 1999 | 3,643  | Liu and Jia 2000 |
| 1999/2000 | 26-27 Feb 2000 | 897 | Li *et al.* 2005 |
| 2000/2001 | Feb 2001 | 3,008  | Wu and Ji 2002 |
| 2000/2001 | Unknown | 897 | Wu and Ji 2002 |
| 2000/2001 | Feb 2001 | 2,087 | Wu and Ji 2002 |
| 2000/2001 | 7-11 Jan 2001 | 1,707 | Shan *et al*. 2012 |
| 2000/2001 | 8 Jan 2001 | 1,791  | Qian 2003 |
| 2001/2002 | 9 Jan 2002 | 3,404  | Qian 2003 |
| 2001/2002 | 7-11 Jan 2002 | 3,272 | Shan *et al*. 2012 |
| 2002/2003 | 9 Jan 2003 | 4,004  | Qian 2003 |
| 2002/2003 | 7-11 Jan 2003 | 3,800 | Shan *et al*. 2012 |
| 2003/2004 | 9 Jan 2004 | 3,954 | Qian *et al*. 2011 |
| 2003/2004 | 7-11 Jan 2004 | 3,835  | Shan *et al*. 2012 |
| 2003/2004 | Jan-Feb 2004 | 2,746  | Barter *et al*. 2004 |
| 2004/2005 | Feb 2005 | 3,131  | Wu *et al*. 2010a |
| 2004/2005 | 9 Jan 2005 | 3,119 | Qian *et al*. 2011 |
| 2004/2005 | Feb 2005 | 2,683 | Liu *et al.* 2012 |
| 2004/2005 | 7-11 Jan 2005 | 3,004 | Shan *et al*. 2012 |
| 2005/2006 | 29 Dec 2005 | 3,944 | Qian *et al*. 2011 |
| 2005/2006 | 27-31 Dec 2005 | 3,682 | Shan *et al*. 2012 |
| 2006/2007 | 15-23 Dec 2006 | 2,715  | Liu *et al*. 2012 |
| 2006/2007 | 29 Dec 2006 | 2,693 | Qian *et al*. 2011 |
| 2006/2007 | 27-31 Dec 2006 | 2,587 | Shan *et al*. 2012 |
| 2007/2008 | 3 Jan 2008 | 3,750 | Qian *et al*. 2011 |
| 2007/2008 | 2-5 Jan 2008 | 3,642 | Shan *et al*. 2012 |
| 2008/2009 | Feb 2009 | 3,008  | Wu *et al*. 2010a |
| 2008/2009 | 13 Feb 2009 | 1,627 | Qian *et al*. 2011 |
| 2008/2009 | 11-15 Feb 2009 | 1,553 | Shan *et al*. 2012 |
| 2009/2010 | 10-13 Jan 2010 | 3,280  | Shan *et al*. 2012 |
| 2010/2011 | Jan 2011 | 3,374  | Lei *et al*. 2011 |
| 2011/2012 | 18 Dec 2011 | 4,577  | Zhu *et al*. 2012 |
| 2011/2012 | 18-19 Feb 2012 | 3,335 | Li *et al.* 2012b |
| 2012/2013 | 25 Dec 2012 | 1,966  | Liu *et al*. 2013a |
| 2013/2014 | Dec 2013 | 3,910  | Liao *et al*. 2014 |
| 2013/2014 | Jan 2014 | 3,296 | Liao *et al*. 2014 |
| **Numbers of Oriental White Stork in the MLYR floodplain** |
| 1988/1989 | Unknown | 1,793  | Wang and Yang 1995 |
| 1990/1991 | Unknown | 1,553  | Wang and Yang 1995 |
| 1991/1992 | Unknown | 1,775  | Wang and Yang 1995 |
| 2003/2004 | Jan-Feb 2004 | 1,697  | Barter *et al.* 2004 |
| 2004/2005 | Feb 2005 | 1,194  | Barter *et al.* 2006 |
| 2010/2011 | Jan 2011 | 4,784  | Lei *et al*. 2011 |
| **Numbers of wintering waterbird species in the MLYR floodplain** |
| 2003/2004 | Jan-Feb 2004 | 83 | Barter *et al*. 2004 |
| 2004/2005 | Feb 2005 | 95 | Barter *et al*. 2006 |
| 2010/2011 | Jan 2011 | 104 | Lei *et al*. 2011 |
| **Numbers of wintering waterbird individuals in the MLYR floodplain** |
| 2003/2004 | Jan-Feb 2004 | 515,896  | Barter *et al*. 2004 |
| 2004/2005 | Feb 2005 | 635,967  | Barter *et al*. 2006 |
| 2010/2011 | Jan 2011 | 914,088  | Lei *et al*. 2011 |