**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 |