

Table A1.1. The core papers resulting from the literature search and selection. Titles with “*” indicate overlapping papers.

SS		SES	
Vulnerability. <i>Global Environmental Change</i> 16(3):268–281.	Adger, W. Neil. 2006*	A safe operating space for humanity. <i>Nature</i> 461:472–475.	Rockstrom, Johan; Steffen, Will; Noone, Kevin; Persson, Asa; Chapin, F. Stuart, III; Lambin, Eric F.; Lenton, Timothy M.; Scheffer, Marten; Folke, Carl; Schellnhuber, Hans Joachim; Nykvist, Bjorn; de Wit, Cynthia A.; Hughes, Terry; van der Leeuw, Sander; Rodhe, Henning; Sorlin, Sverker; Snyder, Peter K.; Costanza, Robert; Svedin, Uno; Falkenmark, Malin; Karlberg, Louise; Corell, Robert W.; Fabry, Victoria J.; Hansen, James; Walker, Brian; Liverman, Diana; Richardson, Katherine; Crutzen, Paul; Foley, Jonathan A. 2009
Science for managing ecosystem services: Beyond the Millennium Ecosystem Assessment. <i>PNAS</i> 106(5):1305–1312.	Carpenter, Stephen R.; Mooney, Harold A.; Agard, John; Capistrano, Doris; DeFries, Ruth S.; Diaz, Sandra; Dietz, Thomas; Duraiappah, Anantha K.; Oteng-Yeboah, Alfred; Pereira, Henrique Miguel; Perrings, Charles; Reid, Walter V.; Sarukhan, Jose; Scholes, Robert J.; Whyte, Anne. 2009*	A General Framework for Analyzing Sustainability of Social-Ecological Systems. <i>Science</i> 325(5939):419–422.	Ostrom, Elinor. 2009
Resilience, adaptability and transformability in social-ecological systems. <i>Ecology And Society</i> 9(2).	Walker, Brian; Holling, CS; Carpenter, Stephen R; Kinzig, Ann. 2004*	Resilience: The emergence of a perspective for social-ecological systems analyses. <i>Global Environmental Change</i> 16(3):253–267.	Folke, Carl. 2006
A framework for vulnerability analysis in sustainability science. <i>PNAS</i> 100(14):8074–8079.	Turner, BL; Kasperson, Roger E; Matson, Pamela A; McCarthy, James J; Corell, Robert W; Christensen, Lindsey; Eckley, Noelle; Kasperson, Jeanne X; Luers, Amy; Martello, Marybeth L; Polsky, Colin; Pulsipher, Alexander; Schiller, Andrew. 2003*	Adaptive governance of social-ecological systems. <i>Annual Review of Environment and Resources</i> 30(1):441–473.	Folke, Carl; Hahn, Thomas; Olsson, Per; Norberg, Jon. 2005
A diagnostic approach for going beyond panaceas. <i>PNAS</i> 104(39):15181–7.	Ostrom, Elinor. 2007*	Vulnerability. <i>Global Environmental Change</i> 16(3):268–281.	Adger, W. Neil. 2006*
Global desertification: Building a science for dryland development. <i>Science</i> 316(5826):847–851.	Reynolds, James F.; Stafford Smith, D. Mark; Lambin, Eric F.; Turner, B. L.; Mortimore, Michael; Batterbury, Simon P. J.; Downing, Thomas E.; Dowlatabadi, Hadi; Fernandez, Roberto J.; Herrick, Jeffrey E.; Huber-Sannwald, Elisabeth; Jiang, Hong; Leemans, Rik; Lynam, Tim; Maestre, Fernando T.; Ayarza, Miguel; Walker, Brian. 2007	Complexity of coupled human and natural systems. <i>Science</i> 317(5844):1513–1516.	Liu, Jianguo; Dietz, Thomas; Carpenter, Stephen R.; Alberti, Marina; Folke, Carl; Moran, Emilio; Pell, Alice N.; Deadman, Peter; Kratz, Timothy; Lubchenco, Jane; Ostrom, Elinor; Ouyang, Zhiyun; Provencher, William; Redman, Charles L.; Schneider, Stephen H.; Taylor, William W. 2007
Environment and development - Sustainability science. <i>Science</i> 292:641–642.	Kates, Robert W; Clark, William C; Corell, Robert; Hall, J. Michael; Jaeger, Carlo C; Lowe, Ian; McCarthy, James J; Schellnhuber, Hans J; Bolin, Bert; Dickson, Nancy M; Faucheux, Sylvie; Gallopin, Gilberto C; Grubler, Arnulf; Huntley, Brian; Jager, Jill; Jodha, Narpal S; Kasperson, Roger E; Mabogunje, Akin; Matson, Pamela; Mooney, Harald; Moore, Berrien; O’Riordan, Timothy; Svedin, Uno. 2001	Science for managing ecosystem services: Beyond the Millennium Ecosystem Assessment. <i>PNAS</i> 106(5):1305–1312.	Carpenter, Stephen R.; Mooney, Harold A.; Agard, John; Capistrano, Doris; DeFries, Ruth S.; Diaz, Sandra; Dietz, Thomas; Duraiappah, Anantha K.; Oteng-Yeboah, Alfred; Pereira, Henrique Miguel; Perrings, Charles; Reid, Walter V.; Sarukhan, Jose; Scholes, Robert J.; Whyte, Anne. 2009*
Humid tropical forest clearing from 2000 to 2005 quantified by using multitemporal and multiresolution remotely sensed data. <i>PNAS</i> 105(27):9439–44	Hansen, Matthew C.; Stehman, Stephen V.; Potapov, Peter V.; Loveland, Thomas R.; Townshend, John R. G.; DeFries, Ruth S.; Pittman, Kyle W.; Arunarwati, Belinda; Stolle, Fred; Steininger, Marc K.; Carroll, Mark; DiMiceli, Charlene. 2008	Resilience, adaptability and transformability in social-ecological systems. <i>Ecology And Society</i> 9(2).	Walker, Brian; Holling, CS; Carpenter, SR; Kinzig, A. 2004*
Transdisciplinary research in sustainability science: practice, principles, and challenges. <i>Sustainability Science</i> 7:25–43.	Lang, Daniel J.; Wiek, Arnim; Bergmann, Matthias; Stauffacher, Michael; Martens, Pim; Moll, Peter; Swilling, Mark; Thomas, Christopher J. 2012*	A framework for vulnerability analysis in sustainability science. <i>PNAS</i> 100(14):8074–8079.	Turner, BL; Kasperson, Roger E; Matson, Pamela A; McCarthy, James J; Corell, Robert W; Christensen, Lindsey; Eckley, Noelle; Kasperson, Jeanne X; Luers, Amy; Martello, Marybeth L; Polsky, Colin; Pulsipher, Alexander; Schiller, Andrew. 2003*

Categorising tools for sustainability assessment. <i>Ecological Economics</i> 60(3):498–508.	Ness, Barry; Urbel-Piirsalu, Evelin; Anderberg, Stefan; Olsson, Lennart 2007		A diagnostic approach for going beyond panaceas. <i>PNAS</i> 104(39):15181–7.	Ostrom, Elinor. 2007*
Sustainability science: The emerging research program. <i>PNAS</i> 100(14):8059–8061.	Clark, William C; Dickson, Nancy M. 2003		Understanding the complexity of economic, ecological, and social systems. <i>Ecosystems</i> 4(5):390–405.	Holling, CS. 2001
Integrating local and scientific knowledge for environmental management. <i>Journal of Environmental Management</i> 91(8):1766–1777.	Raymond, Christopher M.; Fazey, Ioan; Reed, Mark S.; Stringer, Lindsay C.; Robinson, Guy M.; Evely, Anna C. 2010		The emergence of land change science for global environmental change and sustainability. <i>PNAS</i> 104 (52) 20666-20671.	Turner, B. L., II; Lambin, Eric F.; Reenberg, Anette. 2007
Adaptive capacity and its assessment. <i>Global Environmental Change</i> 21(2):647–656.	Engle, Nathan L. 2011		Going to the extremes. <i>Climatic Change</i> 79(3–4):185–211.	Tebaldi, Claudia; Hayhoe, Katharine; Arblaster, Julie M.; Meehl, Gerald A. 2006
Multidimensional evaluation of managed relocation. <i>PNAS</i> 106(24):9721–9724.	Richardson, David M.; Hellmann, Jessica J.; McLachlan, Jason S.; Sax, Dov F.; Schwartz, Mark W.; Gonzalez, Patrick; Brennan, E. Jean; Camacho, Alejandro; Root, Terry L.; Sala, Osvaldo E.; Schneider, Stephen H.; Ashe, Daniel M.; Clark, Jamie Rappaport; Early, Regan; Etkerson, Julie R.; Fielder, E. Dwight; Gill, Jacquelyn L.; Minter, Ben A.; Polasky, Stephen; Safford, Hugh D.; Thompson, Andrew R.; Vellend, Mark. 2009		Planetary Boundaries: Exploring the Safe Operating Space for Humanity. <i>Ecology and Society</i> 14(2):32.	Rockstrom, Johan; Steffen, Will; Noone, Kevin; Persson, Asa; Chapin, F. Stuart, III; Lambin, Eric; Lenton, Timothy M.; Scheffer, Marten; Folke, Carl; Schellnhuber, Hans Joachim; Nykvist, Bjorn; de Wit, Cynthia A.; Hughes, Terry; van der Leeuw, Sander; Rodhe, Henning; Sorlin, Sverker; Snyder, Peter K.; Costanza, Robert; Svedin, Uno; Falkenmark, Malin; Karlberg, Louise; Corell, Robert W.; Fabry, Victoria J.; Hansen, James; Walker, Brian; Liverman, Diana; Richardson, Katherine; Crutzen, Paul; Foley, Jonathan. 2009
Landscape sustainability science: ecosystem services and human well-being in changing landscapes. <i>Landscape Ecology</i> 28(6):999–1023.	Wu, Jianguo. 2013		Rising to the challenge of sustaining coral reef resilience. <i>Trends in Ecology and Evolution</i> 25(11):633–642.	Hughes, Terry P.; Graham, Nicholas A. J.; Jackson, Jeremy B. C.; Mumby, Peter J.; Steneck, Robert S. 2010
SS AND TD			SES AND TD	
Transdisciplinary research in sustainability science: practice, principles, and challenges. <i>Sustainability Science</i> 7:25–43.	Lang, Daniel J.; Wiek, Arnim; Bergmann, Matthias; Stauffacher, Michael; Martens, Pim; Moll, Peter; Swilling, Mark; Thomas, Christopher J. 2012*		Scale and cross-scale dynamics: Governance and information in a multilevel world. <i>Ecology and Society</i> 11(2):8.	Cash, David W.; Adger, W. Neil; Berkes, Fikret; Garden, Po; Lebel, Louis; Olsson, Per; Pritchard, Lowell; Young, Oran. 2006
Linking vulnerability, adaptation, and resilience science to practice: Pathways, players, and partnerships. <i>Global Environmental Change</i> 17(3–4):349–364.	Vogel, Coleen; Moser, Susanne C.; Kasperson, Roger E.; Dabelko, Geoffrey D. 2007		Resilience and Vulnerability: Complementary or Conflicting Concepts? <i>Ecology and Society</i> 15(3):11.	Miller, Fiona; Osbahr, Henny; Boyd, Emily; Thomalla, Frank; Bharwani, Sukaina; Ziervogel, Gina; Walker, Brian; Birkmann, Joern; van der Leeuw, Sander; Rockstroem, Johan; Hinkel, Jochen; Downing, Tom; Folke, Carl; Nelson, Donald. 2010
Landscape services as a bridge between landscape ecology and sustainable development. <i>Landscape Ecology</i> 24(8):1037–1052.	Termorshuizen, Jolande W.; Opdam, Paul. 2009		Urban ecology and sustainability: The state-of-the-science and future directions. <i>Landscape and Urban Planning</i> 125:209–221.	Wu, Jianguo. 2014
Design in science: extending the landscape ecology paradigm. <i>Landscape Ecology</i> 23(6):633–644.	Nassauer, Joan Iverson; Opdam, Paul. 2008		From complex systems analysis to transformational change: a comparative appraisal of sustainability science projects. <i>Sustainability Science</i> 7(S1):5–24.	Wiek, Arnim; Ness, Barry; Schweizer-Ries, Petra; Brand, Fridolin S.; Farioli, Francesca. 2012*
From complex systems analysis to transformational change: a comparative appraisal of sustainability science projects. <i>Sustainability Science</i> 7(S1):5–24.	Wiek, Arnim; Ness, Barry; Schweizer-Ries, Petra; Brand, Fridolin S.; Farioli, Francesca. 2012*		Land-Change Science and Political Ecology: Similarities, Differences, and Implications for Sustainability Science. <i>Annual Review of Environment and Resources</i> 33:295–316.	Turner, B. L., II; Robbins, Paul. 2013*

Structuring sustainability science. <i>Sustainability Science</i> 6(1):69–82.	Jerneck, Anne; Olsson, Lennart; Ness, Barry; Anderberg, Stefan; Baier, Matthias; Clark, Eric; Hickler, Thomas; Hornborg, Alf; Kronsell, Annica; Lovbrand, Eva; Persson, Johannes. 2011		Implementing ecosystem-based management: evolution or revolution? <i>Fish and Fisheries</i> 13(4):465–476.	Berkes, Fikret. 2012
A review of transdisciplinary research in sustainability science. <i>Ecological Economics</i> 92(August):1–15.	Brandt, Patric; Ernst, Anna; Gralla, Fabienne; Luederitz, Christopher; Lang, Daniel J.; Newig, Jens; Reinert, Florian; Abson, David J.; von Wehrden, Henrik. 2013		Geographies of resilience: Challenges and opportunities of a descriptive concept. <i>Progress in Human Geography</i> 39(3):249–267.	Weichselgartner, Juergen; Kelman, Ilan. 2015
Sustainability science: a review, an analysis and some empirical lessons. <i>Environmental Conservation</i> 38(3):275–287.	Spangenberg, Joachim H. 2011		Disentangling intangible social-ecological systems. <i>Global Environmental Change</i> 22(2):430–439.	Bodin, Orjan; Tengo, Maria. 2012
Transdisciplinary global change research: the co-creation of knowledge for sustainability. <i>Current Opinion in Environmental Sustainability</i> 5(3–4):420–431.	Mausser, Wolfram; Klepper, Gernot; Rice, Martin; Schmalzbauer, Bettina Susanne; Hackmann, Heide; Leemans, Rik; Moore, Howard. 2013		Environmental flows and water governance: managing sustainable water uses. <i>Current Opinion in Environmental Sustainability</i> 5(3–4):341–351.	Pahl-Wostl, Claudia; Arthington, Angela; Bogardi, Janos; Bunn, Stuart E.; Hoff, Holger; Lebel, Louis; Nikitina, Elena; Palmer, Margaret; Poff, LeRoy N.; Richards, Keith; Schluter, Maja; Schulze, Roland; St-Hilaire, Andre; Tharme, Rebecca; Tockner, Klement; Tsegai, Daniel. 2013
Land-Change Science and Political Ecology: Similarities, Differences, and Implications for Sustainability Science. <i>Annual Review of Environment and Resources</i> 33:295–316.	Turner, B. L., II; Robbins, Paul. 2013*		Rethinking the Galapagos Islands as a Complex Social-Ecological System: Implications for Conservation and Management. <i>Ecology and Society</i> 13(2):13.	Gonzalez, Jose A.; Montes, Carlos; Rodriguez, Jose; Tapia, Washington. 2008*
Establishing sustainability science in higher education institutions: towards an integration of academic development, institutionalization, and stakeholder collaborations. <i>Sustainability Science</i> 7(SUPPL. 1):101–113.	Yarime, Masaru; Trencher, Gregory; Mino, Takashi; Scholz, Roland W.; Olsson, Lennart; Ness, Barry; Frantzeskaki, Niki; Rotmans, Jan. 2012		Multi-level participation for building adaptive capacity: Formal agency-community interactions in northern Kenya. <i>Global Environmental Change</i> 21(4):1185–1194.	Robinson, Lance W.; Berkes, Fikret. 2011
Framework for participative reflection on the accomplishment of transdisciplinary research programs. <i>Environmental Science and Policy</i> 13(8):733–741.	Roux, Dirk J.; Stirzaker, Richard J.; Breen, Charles M.; Lefroy, E. C.; Cresswell, Hamish P. 2010		Program on ecosystem change and society: an international research strategy for integrated social-ecological systems. <i>Current Opinion in Environmental Sustainability</i> 4(1):134–138.	Carpenter, Stephen R.; Folke, Carl; Norstrom, Albert; Olsson, Olof; Schultz, Lisen; Agarwal, Bina; Balvanera, Patricia; Campbell, Bruce; Carlos Castilla, Juan; Cramer, Wolfgang; DeFries, Ruth; Eyzaguirre, Pablo; Hughes, Terry P.; Polasky, Stephen; Sanusi, Zainal; Scholes, Robert; Spierenburg, Marja. 2012
Learning for change: an educational contribution to sustainability science. <i>Sustainability Science</i> 8(1):103–119.	Barth, Matthias; Michelsen, Gerd. 2013		Hunting Down the Chimera of Multiple Disciplinarity in Conservation Science. <i>Conservation Biology</i> 28(1):22–32.	Pooley, Simon P.; Mendelsohn, J. Andrew; Milner-Gulland, E. J. 2014
Progress in sustainability science: lessons learnt from current methodologies for sustainability assessment: Part 1. <i>International Journal of Life Cycle Assessment</i> 18(9):1653–1672.	Sala, Serenella; Farioli, Francesca; Zamagni, Alessandra. 2013		Science with Society in the Anthropocene. <i>Ambio</i> 42(1):5–12.	Seidl, Roman; Brand, Fridolin Simon; Stauffacher, Michael; Kruetli, Pius; Le, Quang Bao; Spoerri, Andy; Meylan, Gregoire; Moser, Corinne; Gonzalez, Monica Berger; Scholz, Roland Werner. 2013
Rethinking the Galapagos Islands as a Complex Social-Ecological System: Implications for Conservation and Management. <i>Ecology and Society</i> 13(2):13.	Gonzalez, Jose A.; Montes, Carlos; Rodriguez, Jose; Tapia, Washington. 2008*		The Interplay of Well-being and Resilience in Applying a Social-Ecological Perspective. <i>Ecology and Society</i> 17(4):5.	Armitage, Derek; Bene, Chris; Charles, Anthony T.; Johnson, Derek; Allison, Edward H. 2012