Citation	DOI/Stable URL	HI-specific? (Y/N)	Subject	Key Points
Morris, J., & Bagby, J. (2008). Measuring environmental value for Natural Lawn and Garden Care practices. The International Journal of Life Cycle Assessment, 13(3), 226-234.	10.1065/lca2007.07.350	N	Human Health	- "Lawns and gardens account for 25% of Seattle's land area, so lawn and garden care methods potentially have substantial impacts on the city's land-and water-based ecosystems. Life-cycle assessment (LCA) methods provide an informative methodology for comparing environmental impacts from lawn and garden care practices. These methods reveal the importance of more natural lawn and garden care practices." (abstract, results) - "The study concludes that each household converting from synthetic to natural practices produces nearly $75 in annual ongoing public health, ecological, water conservation and hazardous waste management benefits – between $16 and $21 of environmental benefits from reduced use of synthetic fertilizers and pesticides..." (abstract, conclusions) - "Production of fertilizers and pesticides has nearly three times greater global warming and human toxicity impacts than production and use of gasoline for lawn mowing. Also, production of fertilizers and pesticides and their on-site release to the atmosphere and surface waters during and after application to lawns and gardens have ecosystem toxicity impacts that are nearly two orders of magnitude larger than the upstream and on-site ecotoxicity impacts from using gasoline as the energy source for mowing." (pg 227)
Powlson, D.S., Addiscott, T.M., Benjamin, N., Cassman, K.G., De Kok, T.M., Van Grinsven, H., RS: NUTRIM - R Gene-environment interaction. (2008). When does nitrate become a risk for humans? Journal of Environmental Quality, 37(2), 291-5.		N	Human Health	- Two main concerns of nitrate in the water system: infant methaemoglobinaemia, also known as blue baby syndrome, and cancers of the digestive tract. (pg 292) but overall concensus from this paper is that there is no direct conclusion of nitrate effect on human health and future studies needed (295) - "Space does not permit here to discuss other concerns expressed about dietary nitrate, such as risk to mother and fetus, genotoxicity, congenital malfunction, enlarged thryroid gland, early onset of hypertension, altered neurophysiological function, and increased incidence of diabetes." (pg 292) - Strong evidence that the blue baby syndrome resulted from presence of bacteria, not nitrate per se (292). "A recent interpretation of these early studies is that gastroenteritis resulting from bacteria in the well water stimulated nitric oxide production in the gut and that this reacted with oxyhaemoglobin in blood, converting it into methaemoglobin" (292)
Ahmed, M., Rauf, M., Mukhtar, Z., & Saeed, N. (2017). Excessive use of nitrogenous fertilizers: An unawareness causing serious threats to environment and human health. Environmental Science and Pollution Research, 24(35), 26983-26987.	10.1007/s11356-017-0589-7	N	Human Health	- More citations to follow "Drinking nitrate contaminated groundwater or consuming of high nitrate containing vegetables may lead to serious pathological conditions in human population (Ward 2009; Ward et al., 2005)." (pg 26984) - Reference to health concerns including blue baby (which seems would be a whole lit review in itself to get a definite answer on?): thyroid cancer, hypertension, testicular cancer, stomach cancer, neural tube defects, diabetes, and blue baby (pg 26984-5) (Ingestion of nitrate contaminated drinkingwater and consuming excessive diets of root and leafy vegeta- bles are the main source of human exposure to nitrogen fertilizers (Jones et al. 2016), which cause adverse health effects, i.e., thyroid cancer (Ward et al. 2010; Bivolarska and Gatseva 2015), hypertension (Majumdar and Gupta 2000), testicular cancer (Kristensen et al. 1996), stomach cancer (Zaldívar and Robinson, 1973), neural tube defects (NTDs) (Manassaram et al. 2006), diabetes (Bahadoran et al. 2016), and blue baby syndrome (methemoglobinemia) (Majumdar 2003).) - Mechanism of how nitrate affects the body (pg 26985) - Figure 2, very helpful visual - Commercially available N fertilizers with NO3- content and application to various crops
"Environmental Health and Medicine Education." Centers for Disease Control and Prevention, Centers for Disease Control and Prevention, 5 Dec. 2013, www.atsdr.cdc.gov/csem/csem.asp?csem=28&po=9.		N	Human Health	- https://www.atsdr.cdc.gov/csem/csem.asp?csem=28&po=9 - Human absorption, metabolism, and excretion details of nitrates
"Nitrate and Nitrite in Drinking-Water." World Health Organization, 2011, http://www.who.int/water_sanitation_health/dwq/chemicals/nitratenitrite2ndadd.pdf		N	Human Health	- Nitrate can reach both surface water and groundwater as a consequence of agricultural activity (including excess application of inorganic nitrogenous fertilizers and manures), from wastewater treatment and from oxidation of nitrogenous waste products in human and animal excreta, including septic tanks. (pg 1) - Under aerobic conditions, nitrate can percolate in relatively large quantities into the aquifer when there is no growing plant material to take up the nitrate and when the net movement of soil water is downward to the aquifer. Degradation or denitrification occurs only to a small extent in the soil and in the rocks forming the aquifer. (1) - The natural nitrate concentration in groundwater under aerobic conditions is a few milligrams per litre and depends strongly on soil type and on the geological situation. As a result of agricultural activities, the nitrate concentration can easily reach several hundred milligrams per litre (WHO, 1985b). - Surplus nitrate readily moves with the groundwater (USEPA, 1987; van Duijvenboden & Matthijsen, 1989) (pg 1) - The mean dietary intakes determined by the duplicate portion technique (WHO, 1985a) range from 43 to 131 mg of nitrate per day
Water Resources Research Center. (2013). WRRC Project Bulletin July 2013: Source Water Assessment Program in Hawaii: Audit of the Susceptibility Analysis for Groundwater Sources.		Y	Human Health	- https://manoa.hawaii.edu/kaunana/hawaii-may-not-be-accurately-predicting-groundwater-contamination-at-local-drinking-water-sources/ - "A recent audit of Hawai'i's Source Water Assessment Program (SWAP) drinking water source susceptibility analysis shows that the state's current approach may not be accurately predicting groundwater contamination at local drinking water sources. - The research was performed by Alan Mair, a former postdoctoral fellow at UH Mānoa's Department of Geology & Geophysics and Water Resources Research Center (WRRC), and Aly El-Kadi, a professor of Geology & Geophysics and an associate director of the WRRC. The analysis is published in the WRRC Bulletin – July 2013 issue"

Fabricius, Katharina E. "Effects of terrestrial runoff on the ecology of corals and coral reefs: review and synthesis." Marine pollution bulletin 50.2 (2005): 125-146.	10.1016/j.marpolbul.2004.11.02	N	Water Quality	- The sedimentation and light reduction associated with runoff considerably reduces nearly all aspects of adult coral fitness (Fig 1) - The 4 main parameters associated with runoff (dissolved inorganic nutrients, POM, light reduction, & sedimentation) all have negative impacts on coral reproduction (Fig 3)
Smith SV, Kimmerer WJ, Laws EA, Brock RE, Walsh TW. 1981. Kaneohe Bay sewage diversion experiment: perspectives on ecosystem responses to nutritional perturbation. Pac Sci 35(4): 279-395.		Y	Water Quality	- After diversion of sewage that was going into Kaneohe Bay, the amount of algal standing crop decreased dramatically; nearly a 40% reduction with no additional intervention (Table 31)
Brodie, J. E., et al. "Terrestrial pollutant runoff to the Great Barrier Reef: an update of issues, priorities and management responses." Marine Pollution Bulletin 65.4-9 (2012): 81-100.	10.1016/j.marpolbul.2011.12.01	N	Water Quality	- "These nutrient increases are driven by the application of fertiliser on sugar cane, horticulture and other cropping areas in the GBRCA (Rayment, 2003; Waterhouse et al., 2012), and losses of particulate bound nutrients from agricultural and urban lands due to soil erosion (Brodie and Mitchell, 2005; McKergow et al., 2005b; Waterhouse et al., 2012)." (p84) - Large source of DIN affectde GBR is fertilizer runoff (p84)
Bouwman, A. F., Beusen, A. H. W. & Billen, G. 2009 Human alteration of the global nitrogen and phosphorus soil balances for the period 1970–2050. Global Biogeochem. Cycles 23, GB0A04	10.1029/2009GB003576	N	Water Quality	- "Impacts of nutrient loss from agroecosystems include ground water pollution and increased nitrate levels in drinking water, eutrophication, increased frequency and severity of algal blooms, hypoxia and fish kills, and 'dead zones' in coastal marine ecosystems" pg. 2965
Derse, Elizabeth, et al. "Identifying sources of nitrogen to Hanalei Bay, Kauai, utilizing the nitrogen isotope signature of macroalgae." Environmental science & technology 41.15 (2007): 5217-5223.	10.1021/es0700449	Y	Water Quality	- Info on how nitrogen and phosphorus excess can decrease coral abundance and increase alage, and how algae affect organisms (pg 5217) - Limited literature and research on the topic for Hawaii, reference to density population and reef ecosystem degradation (pg. 5217) - Differentiation of nitrogen sources by following isotopes of N (5217) - (abstract) "Relatively low δ15N values (average -0.5‰) were observed in all algae collected throughout the Bay; implicating fertilizer, rather than domestic sewage, as an important external source of nitrogen to the coastal water around Hanalei." - "The potential impact of anthropogenic nutrient loading on aquatic ecosystems is more pronounced when the added nutrient is limiting growth." (pg 5222) - Great summary: "Based on these results, it is probable that all excess anthropogenic N input into the bay is utilized immediately for macroalgae (and other primary producers) growth. This implies that the macroalgae might be growing as fast as the nutrients can be supplied, and such macroalgae growth could possibly have an alarming impact on the surrounding reef environment if input will increase in the future. This evidence, combined with the implications that fertilizer runoff is flowing into the bay in large amounts, suggests that the reef in Hanalei Bay could be in crisis if nutrient loads increase in the future." (pg 5222)
De'ath, Glenn, and Katharina Fabricius. "Water quality as a regional driver of coral biodiversity and macroalgae on the Great Barrier Reef." Ecological Applications 20.3 (2010): 840-850.	10.1890/08-2023.1	N	Water Quality	- Reducing agricultural (largely fertilizer) runoff alone would both greatly reduce macroalgal cover and increase richness of corals (abstract)
Galloway, J. N. et al. 2004 Nitrogen cycles: past, present, and future. Biogeochemistry 70, 153–226.	10.1007/s10533-004-0370-0	N	Water Quality	- "Globally, approx. 50% of N applied as fertlizer is taken up by the crop, 2-5% is stored as soil N, 25% is lost as N2O emissions and 20$ moves to aquatic systems" pg. 2966
Howarth, Robert, et al. "Nitrogen fluxes from the landscape are controlled by net anthropogenic nitrogen inputs and by climate." Frontiers in Ecology and the Environment 10.1 (2012): 37-43.	10.1890/100178	N	Water Quality	- Analysis of 154 coastal watersheds in US and Europe. Synthetic fertilizer is the largest component of the net anthropogenic nitrogen inputs in many watersheds but atmosphere deposition of N is substatial in some regions (abstract and pg 40) - Relation to climate change and fertilizer: "That the average flux of N in rivers increases as average multi-year discharge increases has profound implications for managing N pollution. Our finding suggests fewer long-term sinks for N in the landscape as it becomes wetter, with a greater percentage of NANI exported to coastal waters."
Belliveau, Stephanie A., and Valerie J. Paul. "Effects of herbivory and nutrients on the early colonization of crustose coralline and fleshy algae." Marine Ecology Progress Series232 (2002): 105-114.	http://www.jstor.org/stable/2486	N	Water Quality	- Slow release fertilizer nutrient enrichment treatments significantly decreased change in surface cover of CCA at one site (pg 110). - "Further laboratory study by Björk et al. (1995) found the addition of phosphate to CCA caused a significant decrease in growth and calcification, whereas nitrate and ammo- nium had no significant effect on CCA growth." (pg 112) - "High levels of phosphate have also been shown to inhibit calcite crystal growth in hard coral (Kinsey & Davies 1979), hence decreasing calcification and coral growth (Smith 1984, Tomascik & Sander 1987, Green et al. 1997)." (pg 112)
Boehm, Alexandria B., et al. "Dissolved inorganic nitrogen, soluble reactive phosphorous, and microbial pollutant loading from tropical rural watersheds in Hawai'i to the coastal ocean during non-storm conditions." Estuaries and coasts 34.5 (2011): 925-936.	10.1007/s12237-010-9352-8	Y	Water Quality	- "A likely source of the dissolved inorganic nitrogen (DIN) and soluble reactive phosphorus (SRP) is fertilizer, particularly given the high ammonium concentrations observed (Table 3) and the association between concentrations and cultivated land cover. Previous work in Hanalei Bay using stable isotopes of nitrogen in macroalgal tissue and particulate organic matter suggested that fertilizer is a major source of biologically available nitrogen in the bay." (pg. 933)

Thorburn, P. J., S. N. Wilkinson, and D. M. Silburn. "Water quality in agricultural lands draining to the Great Barrier Reef: a review of causes, management and priorities." Agriculture, ecosystems & environment 180 (2013): 4-20.	10.1016/j.agee.2013.07.006	N	Water Quality	- "Pollutants from agricultural lands (fine sediments and attached nitrogen (N) mainly from grazing lands, and dissolved N and pesticides mainly from cropping) in catchments draining into the GBR lagoon threaten the health and resilience of this ecosystem." (abstract) - "Substantial N fertiliser is applied to high value crops in GBR catchments, and the primary path to reducing N losses from cropped lands will be through reducing N applications." (abstract, section 3.2)
Tsatsaros, Julie H., et al. "Water quality degradation of coastal waterways in the Wet Tropics, Australia." Water, Air, & Soil Pollution 224.3 (2013): 1443.	10.1007/s11270-013-1443-2	N	Water Quality	- "Leakages of nitrogen and phosphorus from agricultural, industrial and urban systems to waterbodies (fresh, estuarine and marine), and the resulting eutrophication are becoming widespread in northern Queensland waterways (Bainbridge et al. 2009; Brodie et al. 2011; Brodie and Mitchell 2005; Furnas 2003)." (abstract) - "Almost 100 % of the anthropogenic DIN levels in Wet Tropics streams are derived from fertiliser losses from sugar cane and banana cultivation (Waterhouse et al. 2012)." (pg 9, column 2) - "Globally, large increases in nitrate concentrations in rivers have been correlated with human population or fertiliser use." (pg 9) - "Fertilised agricultural areas of the coastal Wet Tropics are a hot spot area for nutrients (mainly nitrogen) that pose the greatest risk to freshwaters and downstream coastal ecosystems (Waterhouse et al. 2012). In addition to surface runoff, sub-surface flows may also be an important mechanism conveying dissolved nutrients to rivers and streams." (pg 10)