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Please see our website www.essexinvest.com for updated insights from our portfolio management and research team.



The Worth of Water

By: William Page - Senior Portfolio Manager

"We never know the worth of water, til the well is dry."

Thomas Fuller, English Proverb, 1732

A key tenet for growth equity investing at Essex Investment Management is problems create investment opportunities. We concur with Nelson Rockefeller's quote, "Wherever we look upon this earth, the opportunities take shape within the problems." Our world is facing increasingly severe global challenges, and we believe our world's problems can be solved with innovative solutions. The recent food price shock, demonstrated by Figure 1 below is caused by pandemic-driven supply chain issues coupled with, we believe, economic re-openings. However, food price pressures could well be sustained given the historically severe global drought conditions from Brazil to California. California is the most important agricultural center for the U.S., producing over 2/3 of fruit supply and over 1/3 of our vegetables according to Bloomberg research. As over 85% of California is amidst extreme drought, we anticipate further declines in agricultural productivity. Irrigated agriculture accounts for over 86% of all water consumed in the West (source: Brian Richter UVA) and currently many farmers are letting crop land go fallow given water supply shortages. Currently in California's Central Valley, total agricultural acreage has declined 25% this growing season due to the historically severe drought which is limiting water allocations.

Figure 1.

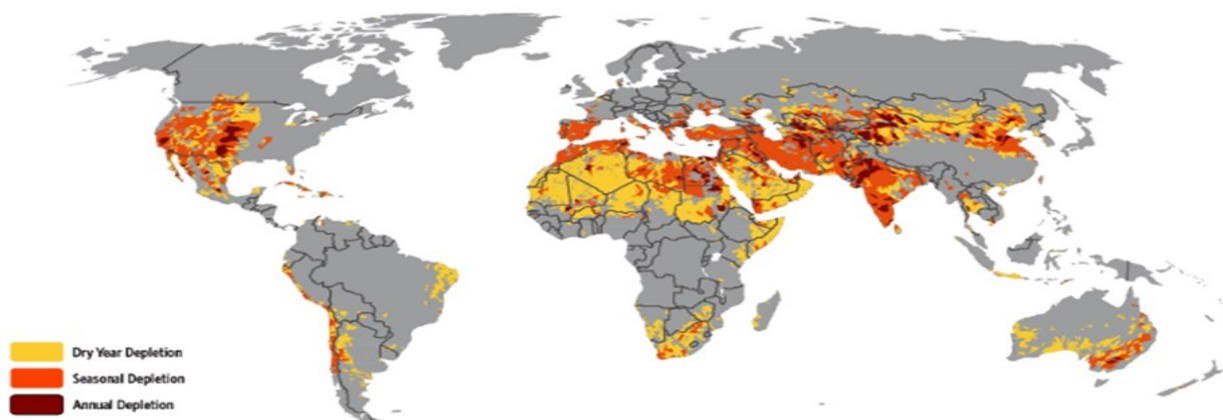


The Worth of Water

By: William Page, Senior Portfolio Manager

The current water shortages are not just the result of this year's drought - they have been building up for many years. The map in Figure 2 below depicts global water shortages, with yellow areas showing places that experience water shortages during droughts. The orange areas show scarcity annually - a challenge for California as the shortages come during the growing season. The red areas depict chronic drought, demonstrating the long-term challenges in the Central Valley of California. Water scarcity affects half the world's population, and over 75% of all agricultural areas. We anticipate greater water stresses across the globe, as global climate change continues to hinder precipitation patterns. Research shows that climate change has depleted agricultural productivity by 21% since the 1960s and will continue to play a part in disrupting farm output in coming years (source: Cornell University). The water challenges are centered on agriculture we believe, as cities have been increasing water efficiency. For example, in Los Angeles, over the past 50 years according to University of Virginia research, LA has reduced its water use by 23% as its population grew by 43%. Most cities are now implementing water conservation technologies, including water metering and reuse. San Francisco was just placed under a water shortage emergency, with two million people asked to reduce their water consumption by 15% compared to 2019.

Figure 2.



Source: Brauman Richter, others.

Water crises also lead to power problems. Brazil's worst drought in over 100 years has led to higher electricity prices, as low reservoirs are causing hydroelectric power to be curtailed in favor of more expensive and higher polluting sources such as diesel and coal power. In the West, Hoover Dam hydroelectric power production has decreased 25% due to low water levels in Lake Mead. If water levels fall any further, electricity production from the Hoover Dam will be cut off. According to the California Energy Commission, over 11% of California's energy is derived from hydroelectric sources. Drought conditions are also causing the West's fire season to occur much earlier, with current conditions generally not experienced until later in the summer. The Pacific Northwest has already undergone rolling brownouts given severe heat conditions, and the fire season is well underway in California which will lead to power disruptions.

The Worth of Water

By: William Page, Senior Portfolio Manager

The current drought conditions experienced globally are being increasingly caused, and will be further exacerbated by climate change. Water shortages and challenges will lead to disruptions across economies. Water is an input to global commerce, and droughts will lead to inflationary pressures which could be systemic. A key investment theme at Essex is investing in clean technologies that lower resource usage while furthering outputs and productivity. Water is a key investment theme, and we are investing in technologies that lower water usage across the economy. Essex strategies are invested in companies providing solutions that assist with water conservation practices, such as water meters, as well as water management technologies such as leak detection to shore-up water losses across distribution networks. Making potable water from sea water, called desalination is responsible for 100% of drinking water in the Middle East, and we are investing in technologies that lower energy use in desalination plants by over 60%. We are also investing in water management technologies that treat industrial wastewater for process reuse, as well as energy recovery of fluid flow to lower energy costs for manufacturing. Given the vagaries of electricity delivery in drought prone areas, Essex strategies have exposure to distributed energy technologies such as generators, solar power, and battery storage which enable homeowners and commercial facilities to operate during the rolling black and brown outs experienced during wildfire season. Agricultural productivity is also a key investment theme for our firm, and we are investing in technologies that enhance crop productivity while lowering water usage. We have strategy investments in advanced irrigation technologies and crop management systems that optimize planting and resources. We believe indoor farming will be adopted for more crop production, and we have invested in a company that lowers water usage by 90% while improving agricultural yields 30 times.

While water was once taken for granted, and regulators were hesitant in raising water rates, the proverbial water well is running dry, demonstrating the vast reach and complexity of this most important resource, and its long-term investment opportunity.

Essex Investment Welcomes.....Jack Lloyd - Impact Analyst

We are pleased to welcome Jack Lloyd to Essex in the newly created position of Impact Analyst. Essex is making strides in the environmental, social and governance (ESG) arena, having signed the U.N. Principles for Responsible Investment last year. Jack will be assisting Essex on ESG development and impact management, after working as an intern for the Essex Global Environmental Opportunities Strategy over the past year. Jack just graduated with a B.A. in Economics and Environmental Studies from Amherst College where he played ice hockey and was named to the 2019-2021 NESCAC Winter All-Academic teams.



**ESSEX INVESTMENT
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Client Service and Support:

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Essex Strategies

LONG EQUITY STRATEGIES

Micro Cap, Small Cap and SMID Cap Equity Strategies are managed by our all-women investment team based in Evanston, Illinois, which is focused exclusively on long-only growth equity strategies and has worked together for more than 15 years. The team manages three equity strategies that each share a common investment philosophy and process:

Micro Cap Growth Strategy: We look for under-followed, under-owned, under-appreciated companies & industries in early stages of acceleration.

Small Growth Strategy: The strategy focuses on identifying companies in an inefficient sector of the market at an inflection point where their growth rate is improving.

Small/Mid (SMID) Cap Growth Strategy: Our approach is to execute a systematic, fundamental process to find companies whose future growth prospects are not fully reflected in the price of the stock.

Essex Research Strategy is managed by a team of investment professionals seeking growth equity opportunities across an all-cap universe. By employing fundamental top down economic and sector analysis with bottom-up stock picking skills, the strategy provides the investment team a wide framework in which to identify growth candidates regardless of market capitalization restraint. Individual client portfolios are offered in two risk profiles: aggressive growth or growth and income.

Growth Equity is an All-Cap strategy designed to provide investors with exposure to growth companies in a market capitalization range of \$100 million and up. The strategy is a concentrated portfolio of 50-70 companies diversified across domestic industry sectors that show accelerating earnings and sustainable revenue growth. Individual client portfolios are offered in two risk profiles: aggressive growth or growth and income.

Essex Global Environmental Opportunities Strategy (GEOS) is a thematic, all-cap global stock strategy that invests in clean technology and clean energy companies that help solve the world's environmental problems. The Strategy is focused on nine environmental technology themes and invests with a long investment horizon, typically holding about 40 companies. GEOS is clean technology and energy infrastructure-focused, with companies that exhibit generally high growth rates. **This strategy is also offered as a mutual fund, the Essex Environmental Opportunities Fund (Institutional and Investor class tickers are GEOSX and EEOFX, respectively).** Please see our Funds website at www.essexfunds.com for further information and important disclosures.

LIMITED PARTNERSHIP HEDGE FUNDS

Essex Performance Fund is an ultra-aggressive equity strategy which primarily aims to uncover small and mid-sized companies that exhibit the potential for meaningful growth over time. Seeks to maximize returns by utilizing both fundamental and technical analysis with an emphasis on thematic investing and tactical market positioning. The strategy will use leverage to enhance returns.

Essex Evolution Long/Short strategy is a hedged equity strategy that aims to provide competitive risk-adjusted returns by utilizing both fundamental and technical analysis with an emphasis on thematic investing and tactical market positioning. Specifically, we aim to understand key themes within dynamic sectors to capture the growth in those trends and utilize short positions to both hedge portfolio risk and exploit specific mispriced stock opportunities. The fund generally has an equity exposure less than that of the overall market.

Please refer to our firm's websites at www.essexinvest.com and www.essexfunds.com for more information about Essex, the strategies we manage and important disclosures.