

Appendix 1. Tables A1.1 – A1.4. Comparisons of the scenarios.

Table A1.1. Overarching Change Agent by Scenario

<i>Abandonment and Renewal</i>	<i>Accelerated Innovation</i>	<i>Connected Communities</i>	<i>Nested Watersheds</i>
Inadequate preparation for environmental challenges, notably climate change and poor water quality	Prioritization of technology to address environmental challenges	Collective values shift toward community and sustainability to address environmental challenges	Government reform geared toward preserving national water supply

Table A1.2. Ecological Outcomes in 2070

<i>Scenario</i>	<i>Land</i>	<i>Water</i>	<i>Climate</i>
<i>Abandonment and Renewal</i>	Rejuvenated and mostly feral ecosystems (forests, wetlands, savannah, grasslands) increase substantially and consist of mix of native and non-native plants and animals; agricultural land and urban land have decreased significantly.	Lakes have a heavy legacy of nutrient runoff to shed, but are recovering in the dearth of humans	Annual average temperatures are around 9°F warmer than in 2010; climate is wetter, but extreme rainfalls have moderated by 2070; drought frequency has increased
<i>Accelerated Innovation</i>	Ecosystems are highly engineered; urbanization has increased but is compact; agricultural land has decreased, but technology maintains productivity; natural areas decrease	Lake water quality has improved due to technological advancements	Annual average temperatures are about 3°F warmer than in 2010; the climate continues to get wetter, but technology has moderated climate change and its impacts overall; drought frequency is similar to historical record
<i>Connected Communities</i>	Agricultural land becomes more diversified, and pasture area increases; urbanization is curbed and compacted; natural areas, especially wetlands, increase; land is managed to improved connections with nature	Water quality improves, but slowly	Annual average temperature is about 6°F warmer than in 2010; climate is wetter but variable overall; drought frequency increases
<i>Nested Watersheds</i>	Agricultural acreage is drastically reduced and replaced mostly by grassland; biofuel production, pastureland, and non-commodity cropland increase; urbanization is more controlled; land management largely centered around water conservation and improvement	Water quality improves but slowly, and setbacks occur sporadically	Annual average temperature is about 7°F warmer than in 2010; climate becomes wetter, but has moderated since mid-century; drought frequency increases

Table A1.3. Social Outcomes in 2070

<i>Scenario</i>	<i>Lifestyle</i>	<i>Economy</i>	<i>Governance</i>
<i>Abandonment and Renewal</i>	Survival and resourcefulness are main concerns; people live in small urban clusters or on subsistence farms; some live somewhat migratory lives, to avoid lakes during dangerous cyanobacteria season	Equity has increased, but material wealth has decreased; bartering system has replaced money.	Centralized government and social support systems are nonexistent; communities are autonomous
<i>Accelerated Innovation</i>	Technology pervades human lifestyles and many interactions with nature	Economy is largely based in tech industry; material wealth increases; ecosystem services are protected with market mechanisms	Government and private sector work in tandem to support innovation; government plays investor role
<i>Connected Communities</i>	Lifestyles are oriented toward building and preserving community, sustainability, and improving quality of life	Economy functions as an ecosystem and is a means to preserve quality of life, not increase GDP; Gross National Happiness becomes index of “wealth”	Public participation in governance increases; social support systems enhanced
<i>Nested Watersheds</i>	Water conservation and climate change adaptation have risen in public salience; many sectors—from farming to construction—have incorporated water management goals into their status quo	Water management becomes important part of economic activity in both private and public sectors	Water governance performed at watershed level; holistic management of water improves; incremental adaptation has become the pattern; government regulation of natural resources has strengthened

Table A1.4. Some opportunities and threats in each scenario

<i>Scenario</i>	<i>Opportunities</i>	<i>Threats</i>
<i>Abandonment and Renewal</i>	<p>Regeneration of ecosystems and ecosystem services</p> <p>Opportunities for society and culture to start anew</p> <p>Social equality increases</p>	<p>Human survival is difficult</p> <p>Human vulnerability increases</p> <p>General economic and social collapse has occurred</p>
<i>Accelerated Innovation</i>	<p>Region's wealth increases</p> <p>Advancements in human knowledge</p> <p>Ecosystem and societal efficiencies increase</p> <p>Water quality improves</p> <p>Climate change is moderated</p> <p>Strong tech-based economy</p>	<p>Nature loses intrinsic value</p> <p>Risk of unintended consequences and technology failures</p> <p>Negative effects of local population growth</p> <p>Loss of "survival" skills</p> <p>Market risks put ecosystem services at risk</p> <p>Technology can't solve all problems</p>
<i>Connected Communities</i>	<p>Improved quality of life and equality</p> <p>Governance more democratic</p> <p>Increased connection with nature improves ecosystems</p> <p>Water quality improving (but slowly)</p> <p>Stabilized climate</p> <p>Improved social support</p>	<p>Some present-day conveniences are gone (e.g., cheap air travel)</p> <p>Risk of rogue individuals, organizations, and countries</p> <p>Prices increase on foods and goods (to reflect social and environmental costs)</p> <p>Climate has still warmed, even if stabilized</p>
<i>Nested Watersheds</i>	<p>Improved water quality and supply</p> <p>Improved and more holistic water management</p> <p>Improved water-based ecosystems and some ecosystem services (e.g., soil quality)</p> <p>Local economy thrives</p> <p>Improved ability of farmers, businesses, etc. to protect water (i.e., because of incentives and expectations)</p>	<p>Incremental adaptation creates vulnerability</p> <p>Climate change not moderated; impacts ensue</p> <p>Uncertainty around maintaining widespread public support for regulations in the long-term</p>