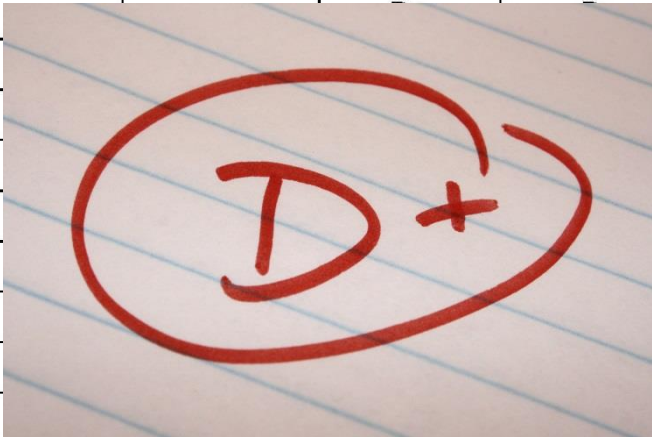


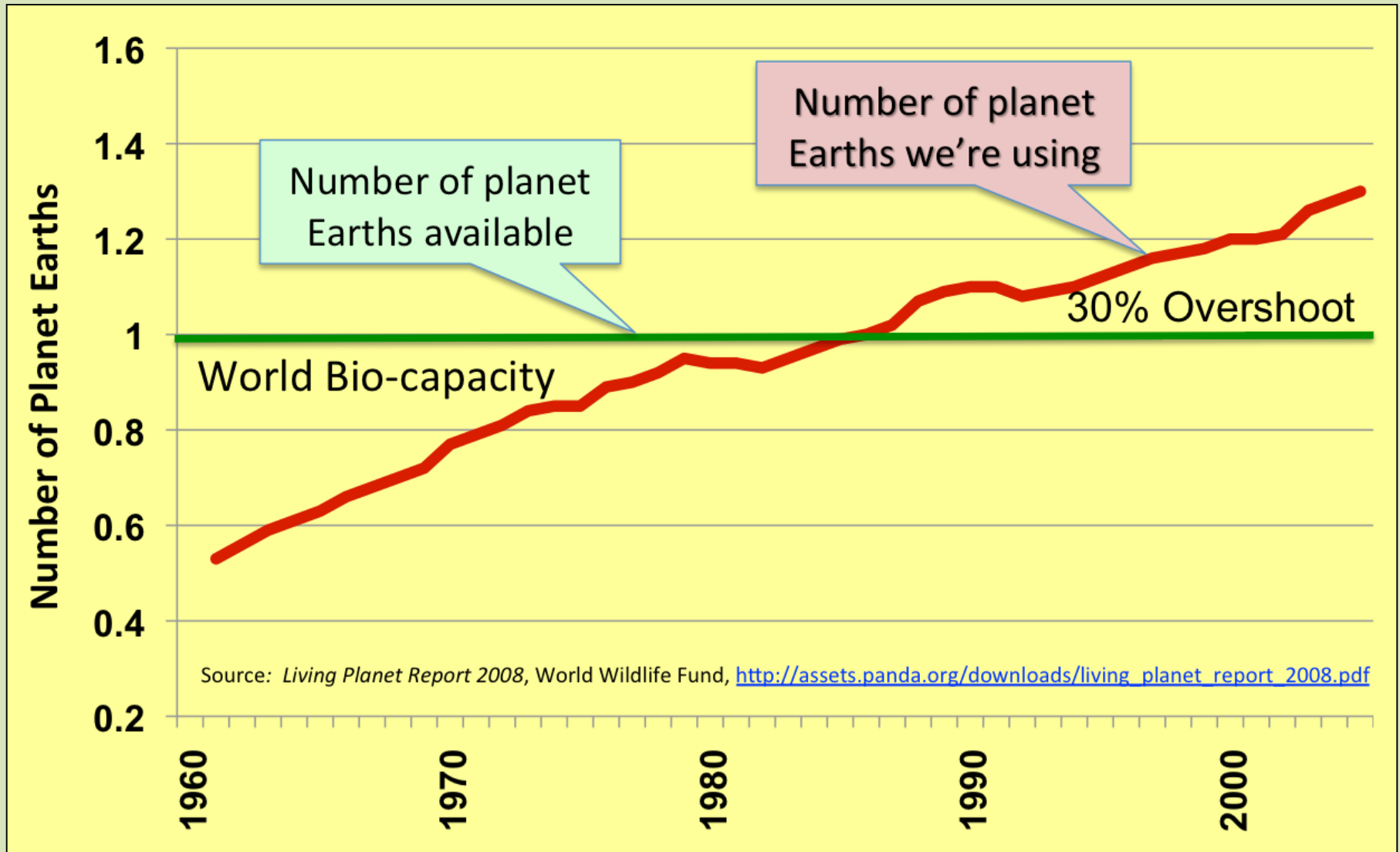
Integrating Sustainability principles in optimizing performance of geotechnical construction

Why is discussion on Sustainability relevant?

2013 Report Card for America's Infrastructure

Category	1988*	1998	2001	2005	2009	2013
Aviation	B-	C-	D	D+	D	D
Bridges	-	C-	C	C	C	C+
Dams	-	D	D	D+	D	D
Drinking Water	B-	D	D	D-	D-	D
Energy					D+	D+
Hazardous Waste					D	D
Inland Waterways					D-	D-
Levees					D-	D-
Public Parks and Recreation					C-	C-
Rail					C-	C+
Roads					D-	D
Schools					D	D
Solid Waste					C+	B-
Transit	C-	C-	C-	D+	D	D
Wastewater	C	D+	D	D-	D-	D
Ports	-	-	-	-	-	C
America's Infrastructure GPA	C	D	D+	D	D	D+
Cost to Improve	-	-	\$1.3 trillion	\$1.6 trillion	\$2.2 trillion	\$3.6 trillion

2008 Living Planet Report



What about Global Climate Change?



Role of Sustainability



Economic Growth



Social Progress

Impact on
Environment and
Natural Resources



Definition of Sustainability

Sustainable Development is defined as any development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

(Brutland Commission's Report, 1987)

Sustainability is a set of environmental, economic and social conditions in which all of society has the capacity and opportunity to maintain and improve its quality of life indefinitely without degrading the quantity, quality or availability of natural resources and ecosystems.

(American Society of Civil Engineers, ASCE)

Geoprofessionals and Sustainable Development?

Pile Foundation Design and Construction

- Efficient pile design for material conservation
- Re-use of existing foundations
- Construction site waste management
- Efficient use of resources/local supplies
- Use of low energy materials



Professional Practice, Education, and Research Needs

Sustainability Rating Tools for Geoprofessionals



In Summary

- Geotechnical professionals can play a vital role in design and construction of any project.
- Addressing sustainability in geotechnical engineering is fundamental to addressing sustainability in construction.
- Several Sustainable rating tools are available for Geo professionals.



Thank you!