

Societal Responses and Challenges

John Gannon

United States Geological Survey

Pressures Impacting Major Issues

Major Issues

		Major Issues				
		Edible Fish	Drink	Swim	Breathe	Eco-system
Major Pressures	Non-native Species	X	X	X		X
	Contaminants & Pathogens	X	X	X	X	X
	Habitat Alteration	X				X

Societal Influences on Pressures

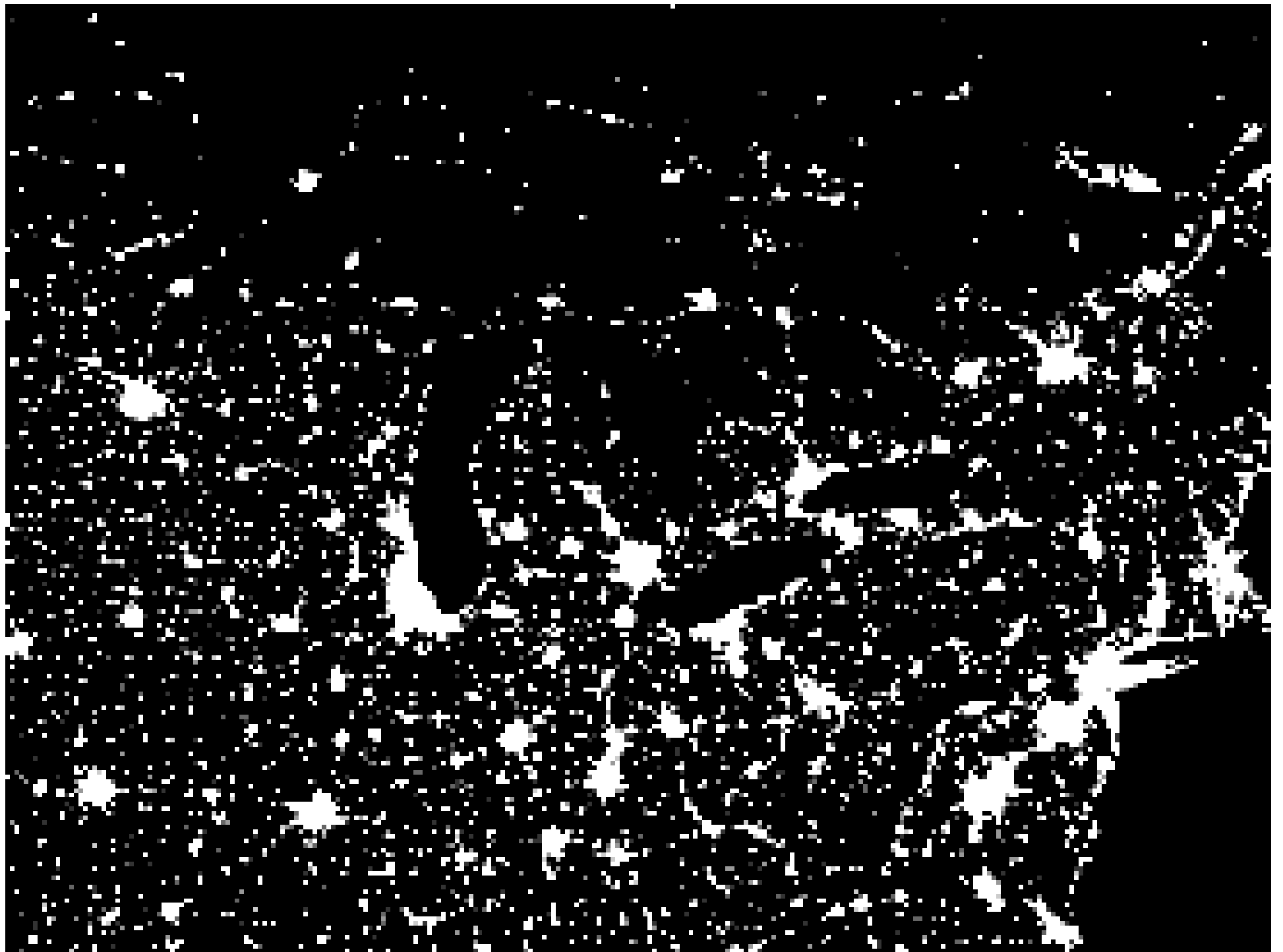
Major Pressures

Societal Influences

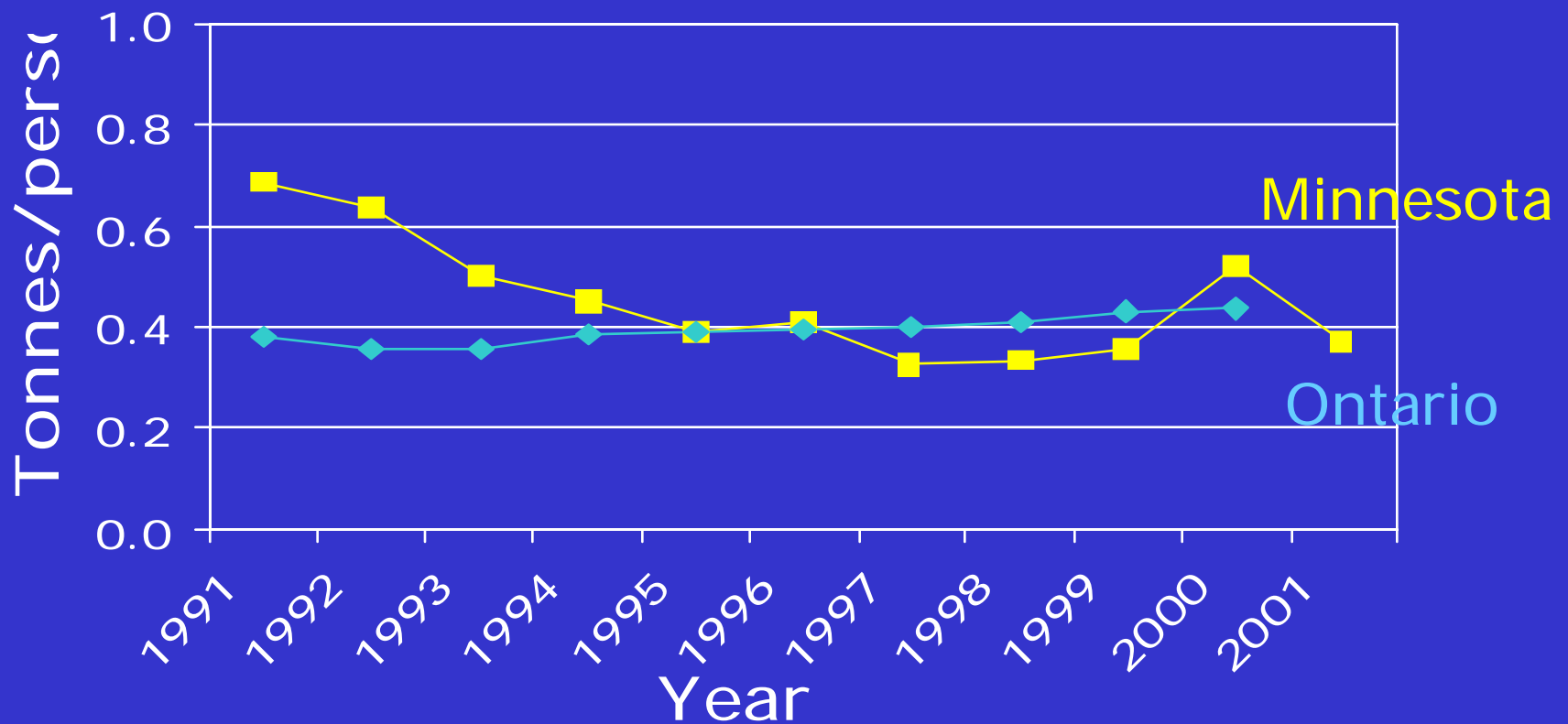
	Non-native Species	Contaminants & Pathogens	Habitat Alteration
Urban Density	X	X	X
Solid Waste Generation		X	X
Energy Consumption		X	X
Water Use			X

Light and heat signals detected by satellite sensors

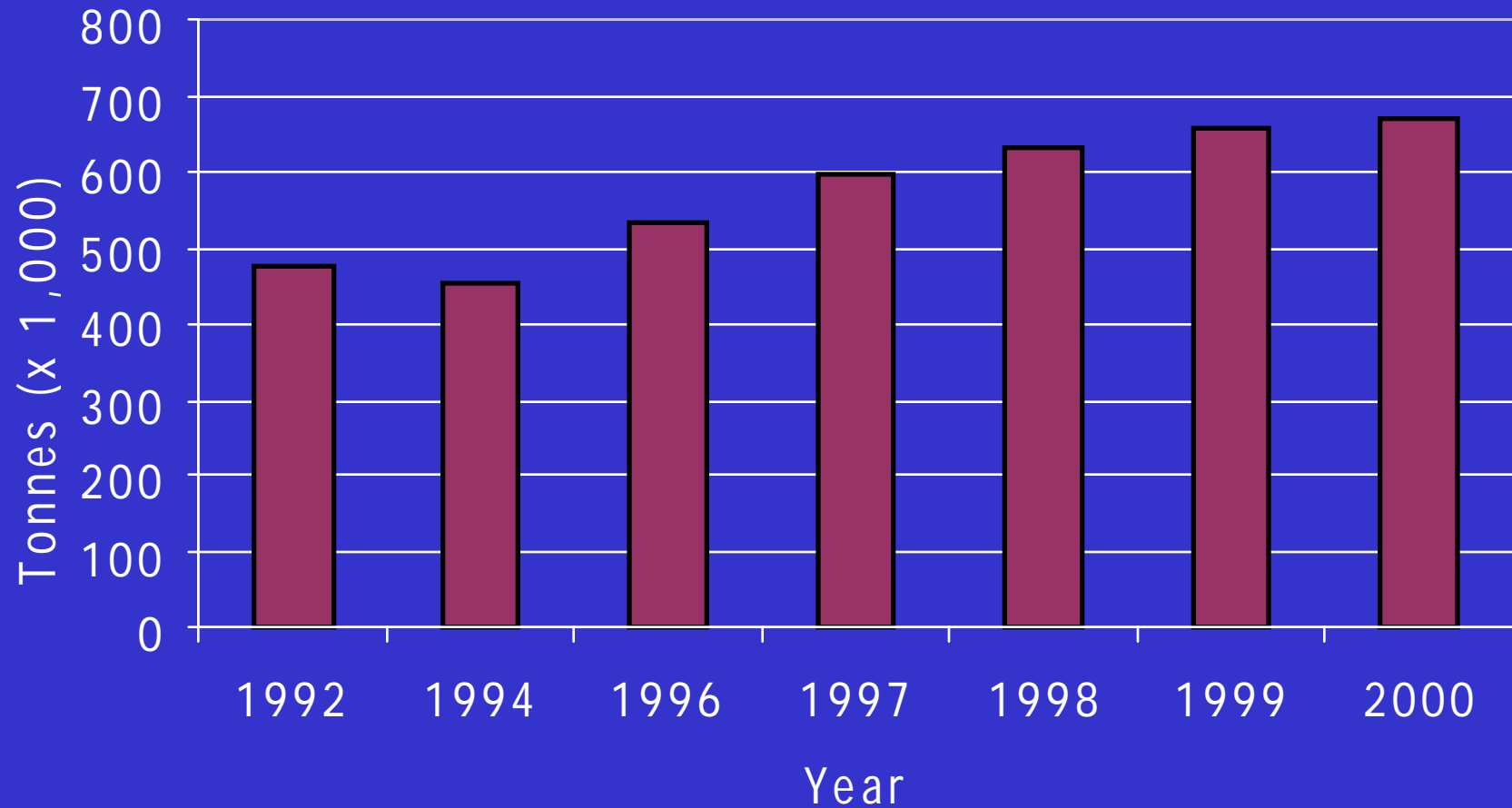




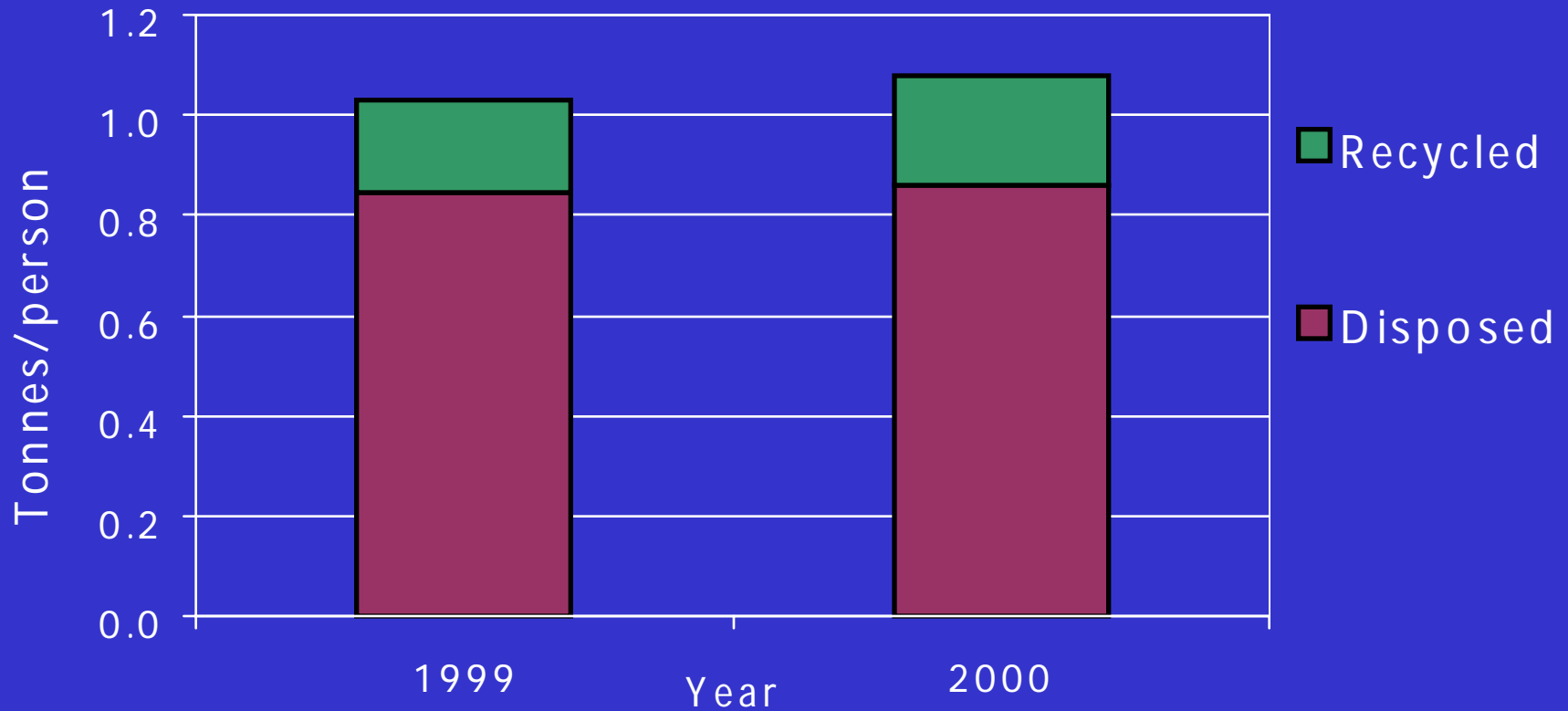
Average Per Capita Solid Waste Disposal in Ontario and Minnesota (Tonnes/person)



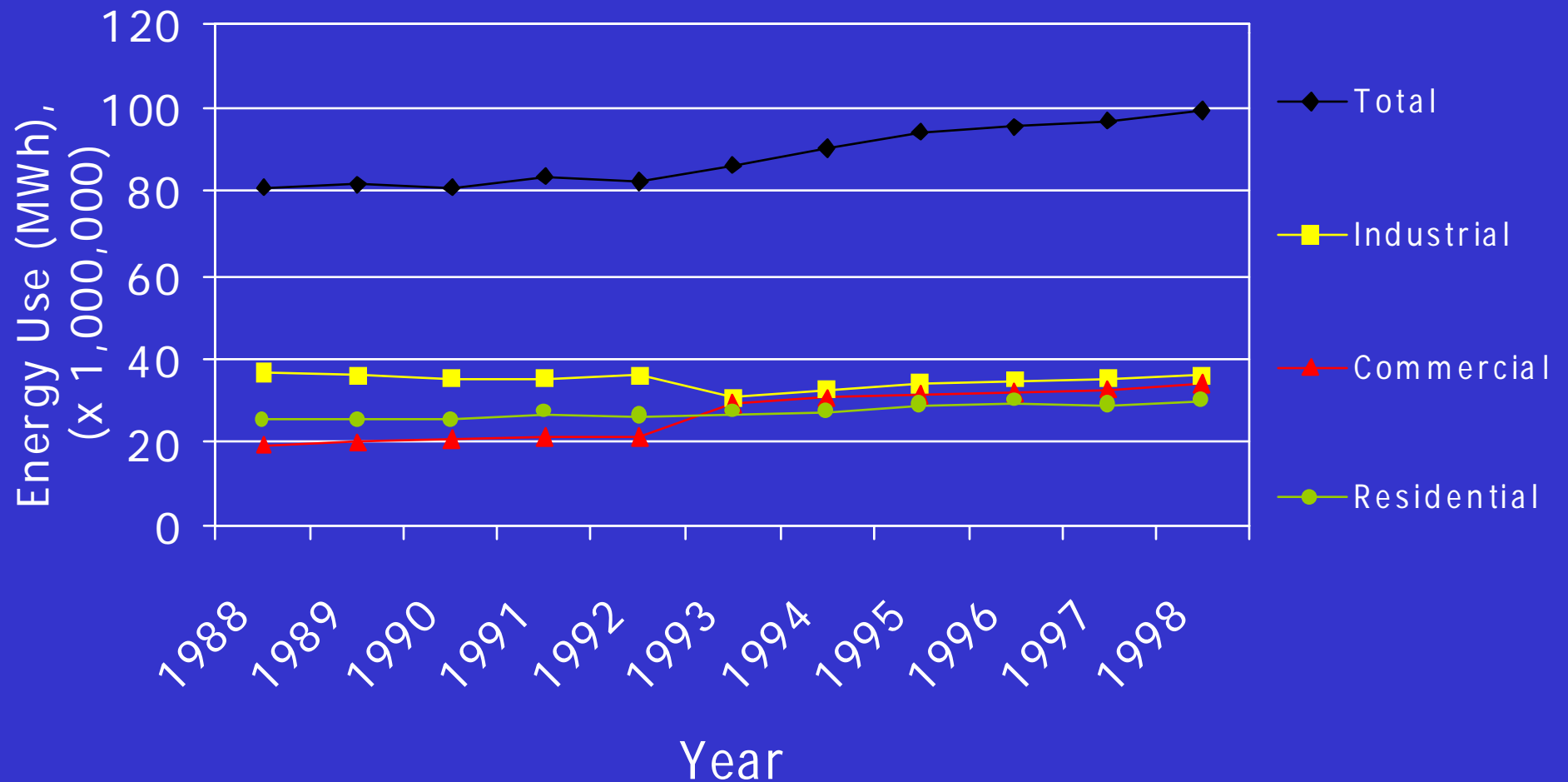
Recycling Tonnages in Ontario (1992 - 2000)



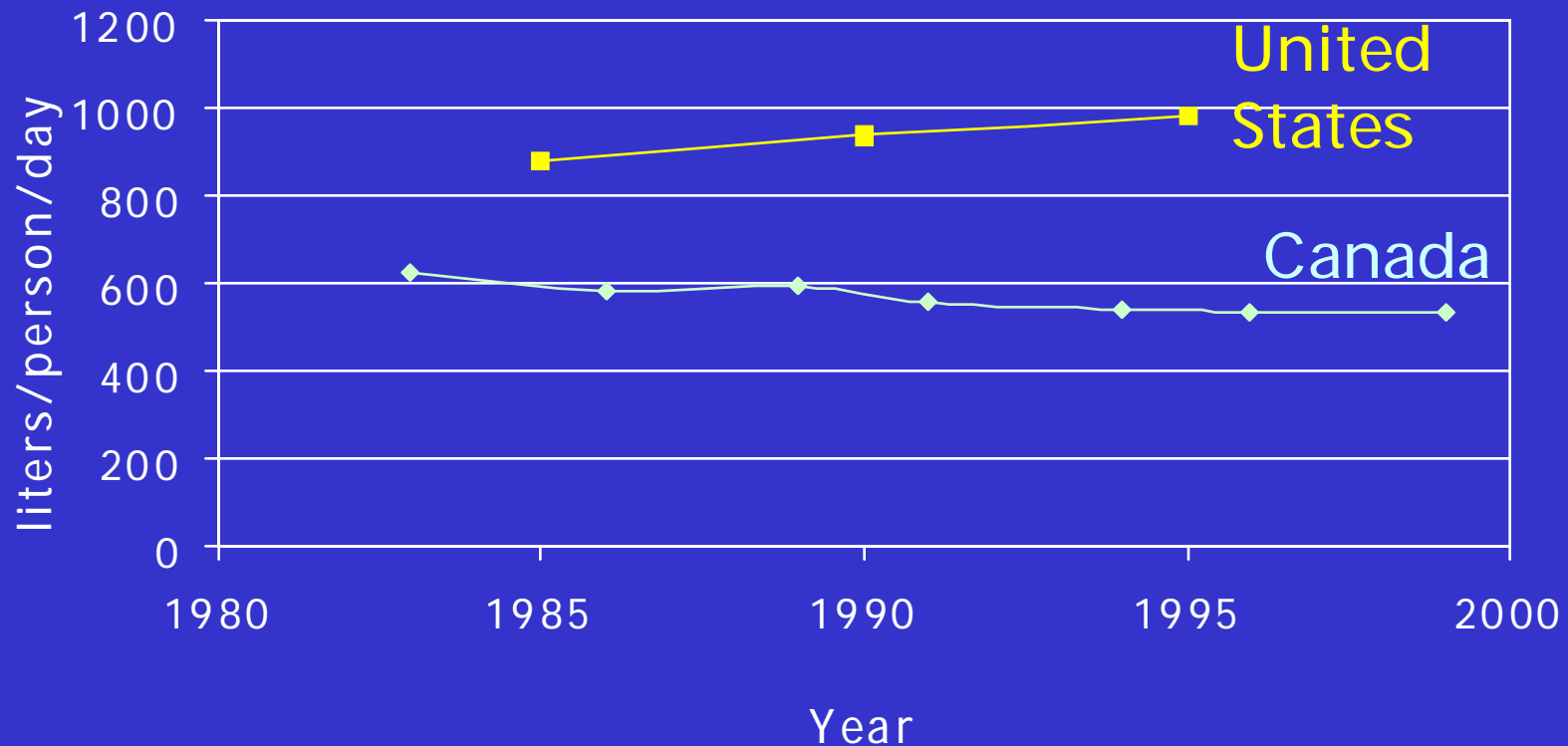
Average Per Capita Solid Waste Generated, Disposed, Recycled; Ohio, 1999 - 2000



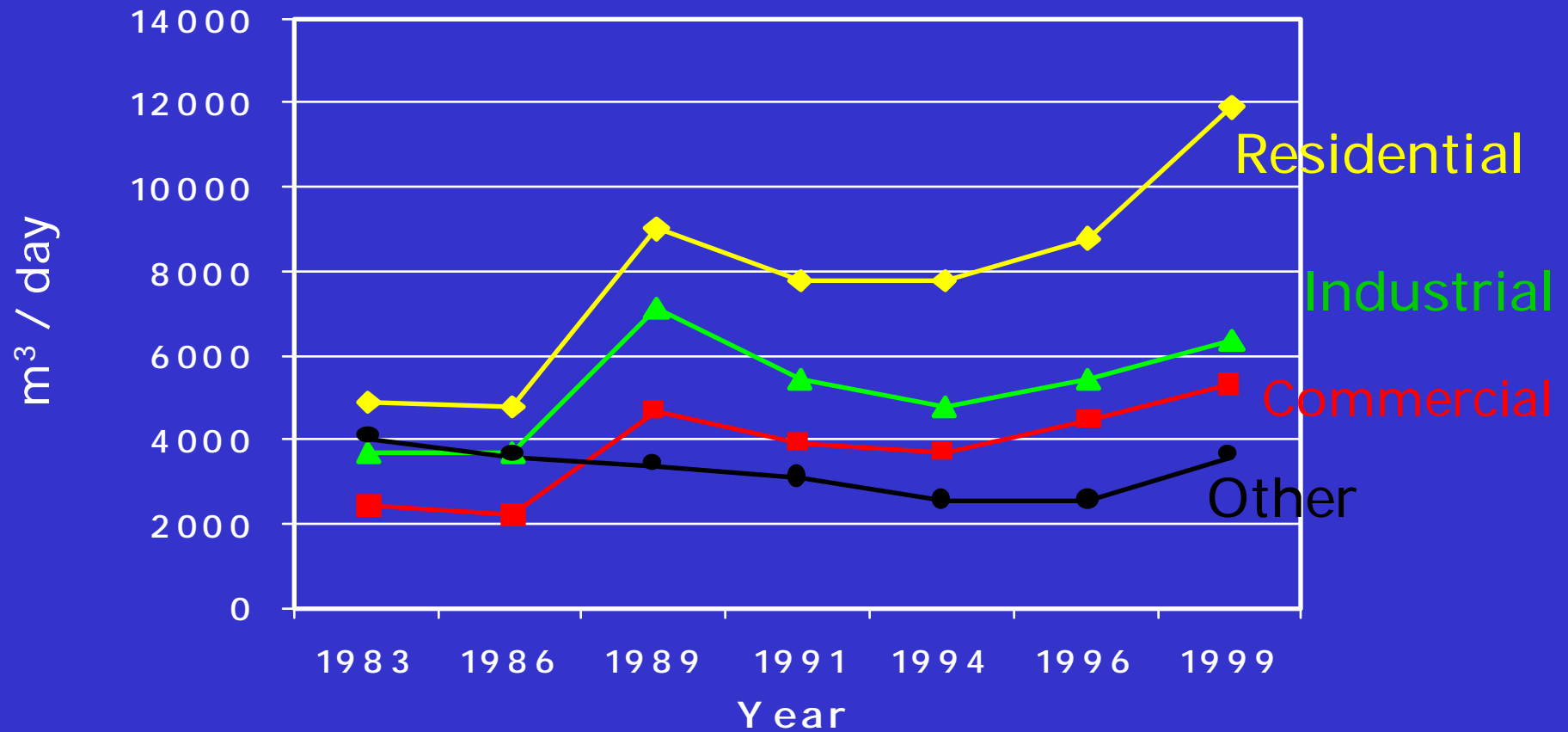
Electric Energy Consumption (MWh) in Michigan by Sector, 1988 - 1998



Average Daily Per Capita Municipal Water Use in Great Lakes Basin: Canada (1983-1999), U.S. (1985-1995)



Daily Average Municipal Water Use By Sector in the Canadian Great Lakes Basin: (1983-1999)

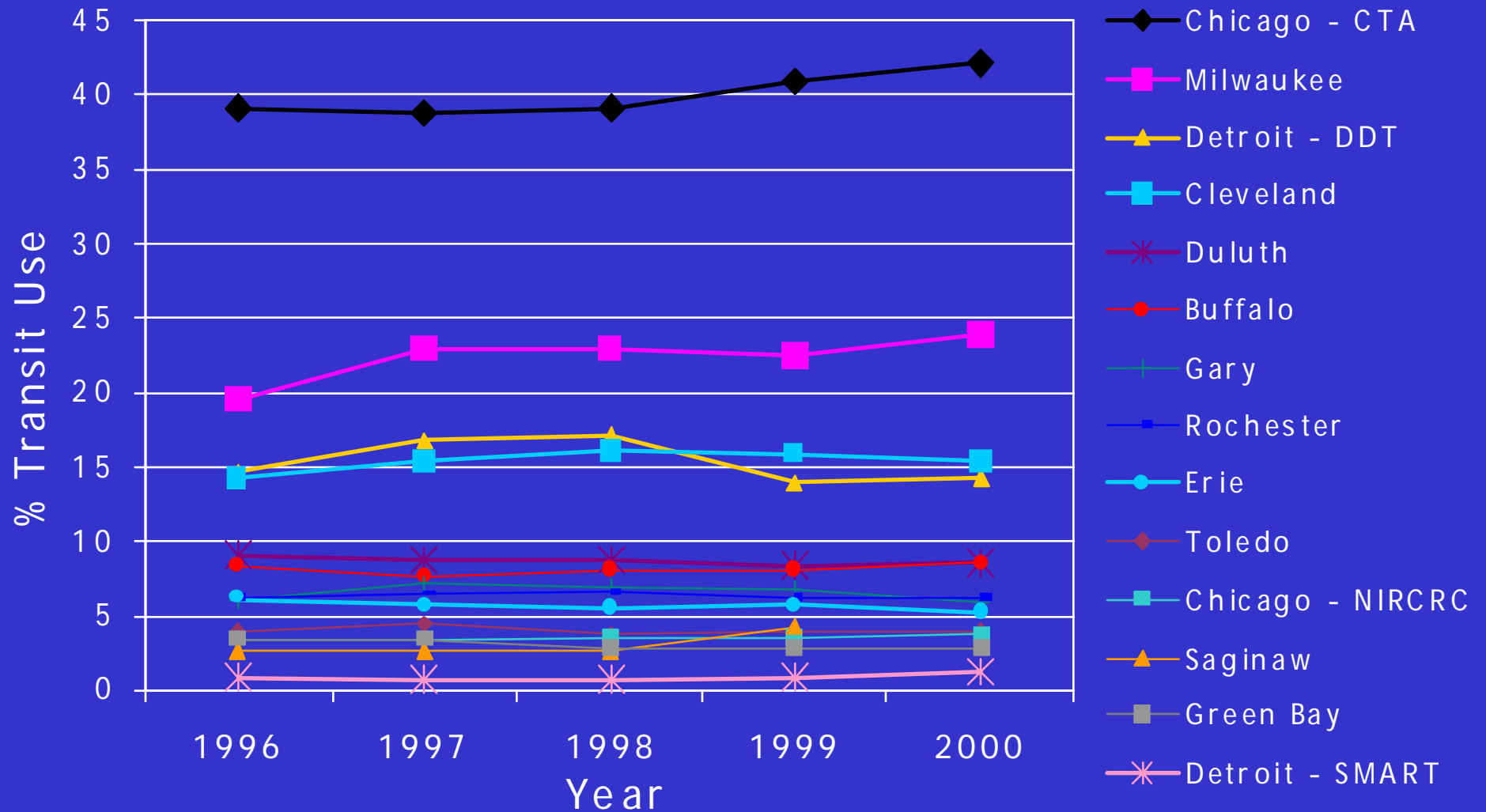


Influences on Pressures

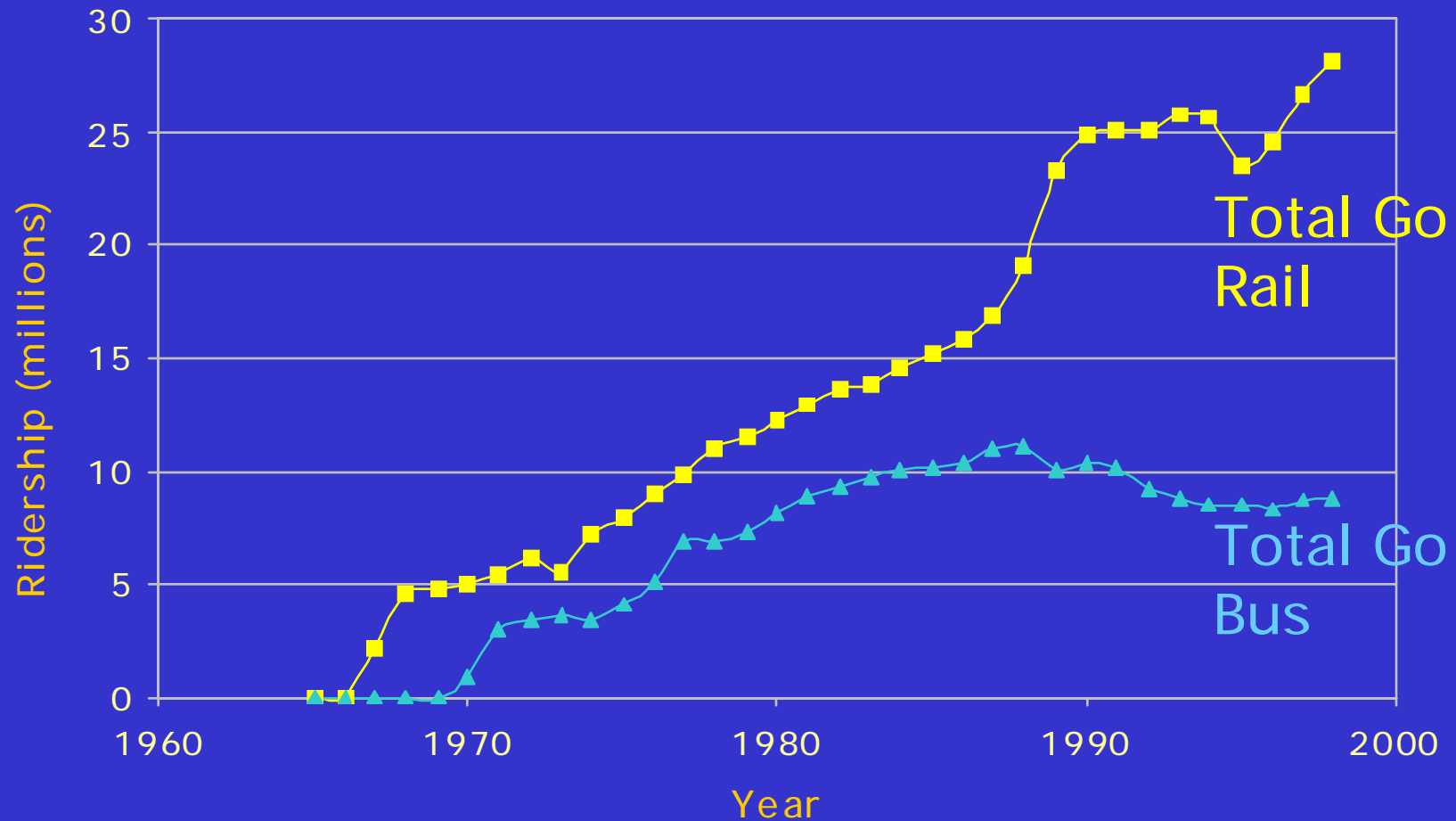
Major Pressures

		Non-native Species	Contaminants & Pathogens	Habitat Alteration
Societal Responses	Mass Transportation		X	X
	Brownfield Redevelopment		X	X
	Place-Based Stewardship	X	X	X
	Sustainable Agriculture	X	X	X

Percentage of Transit Use for U.S. Transit Agencies in the Great Lakes Basin from 1996 - 2000



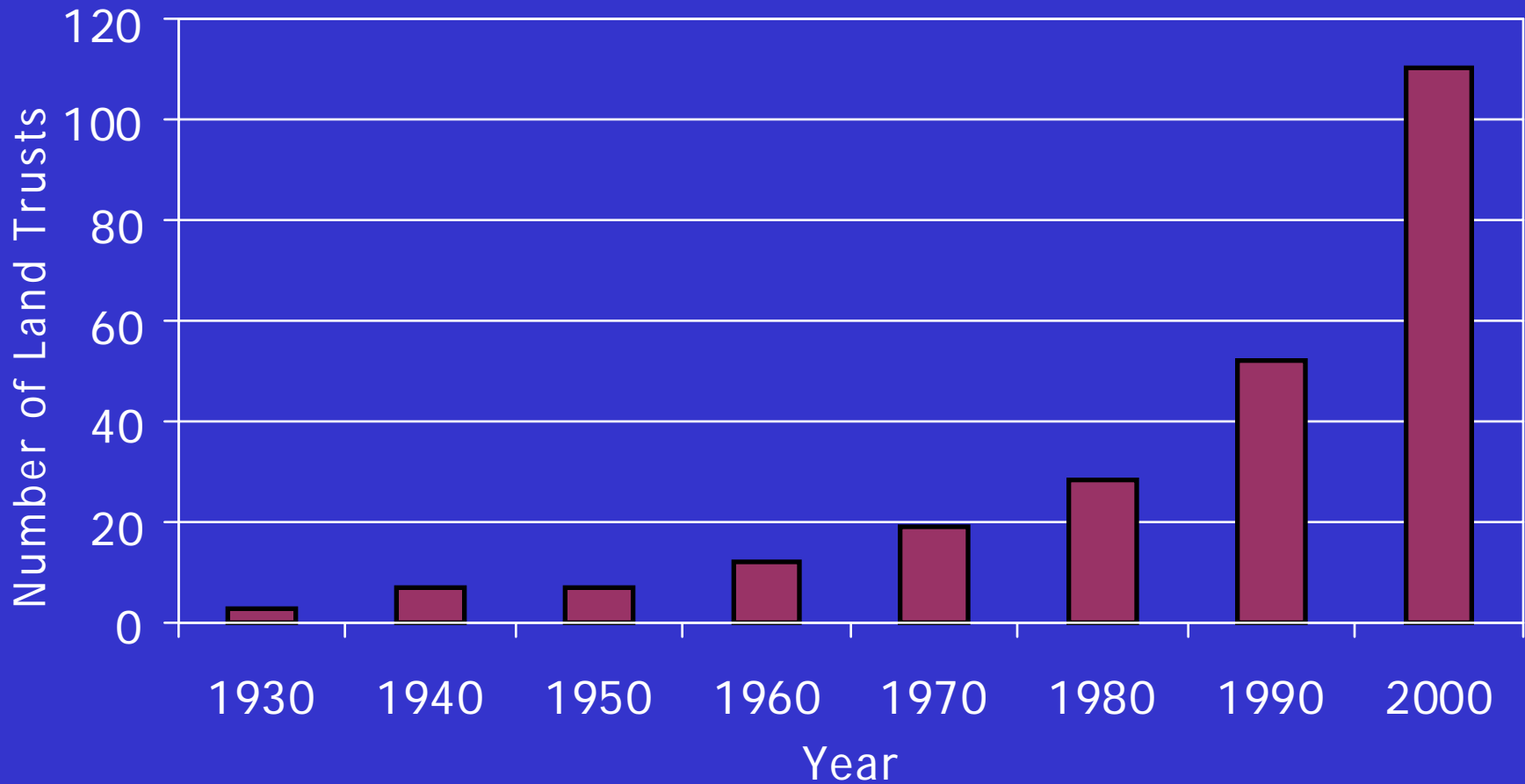
Ontario "Go Transit" System's Ridership, 1965-1998



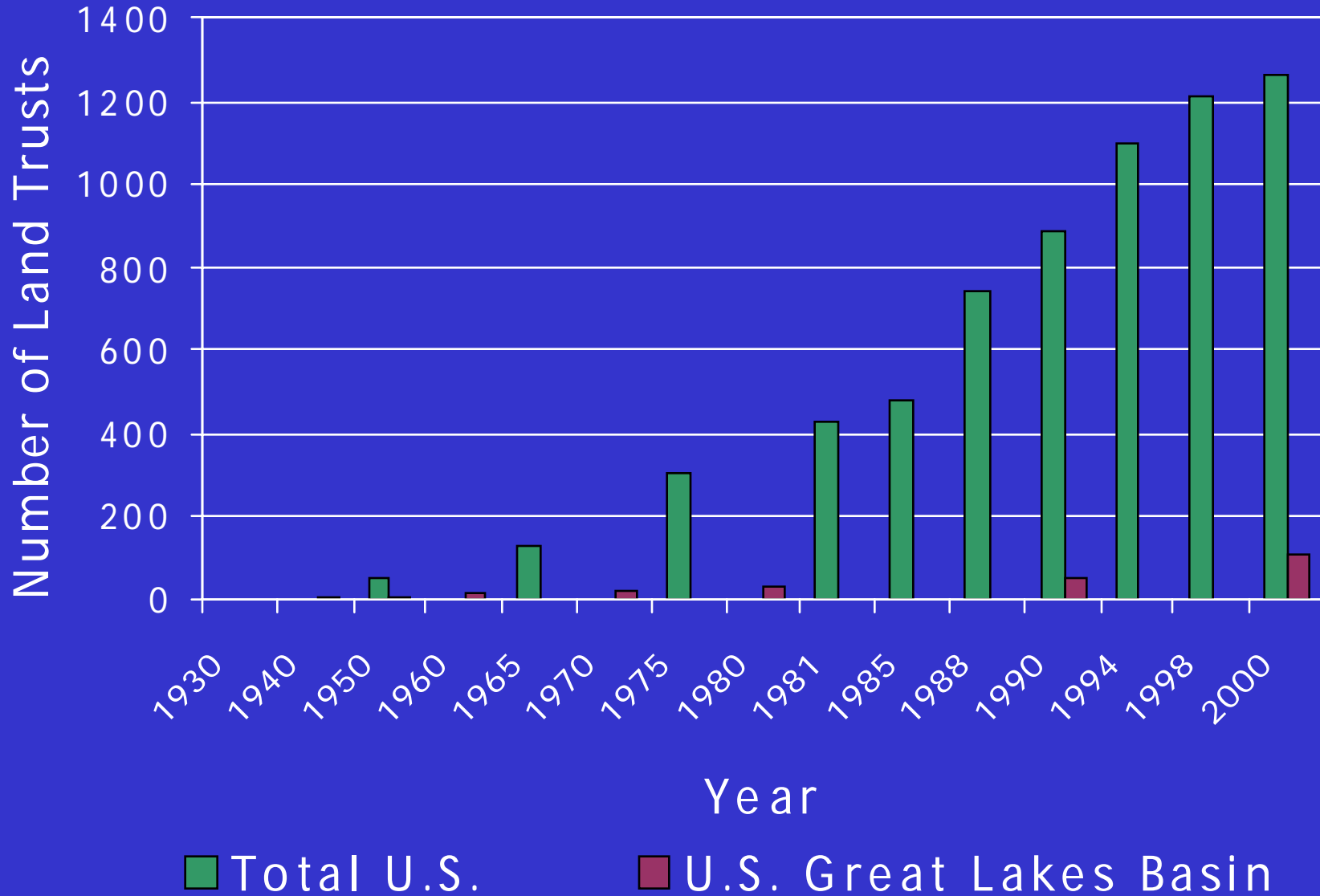
Brownfields Redevelopment



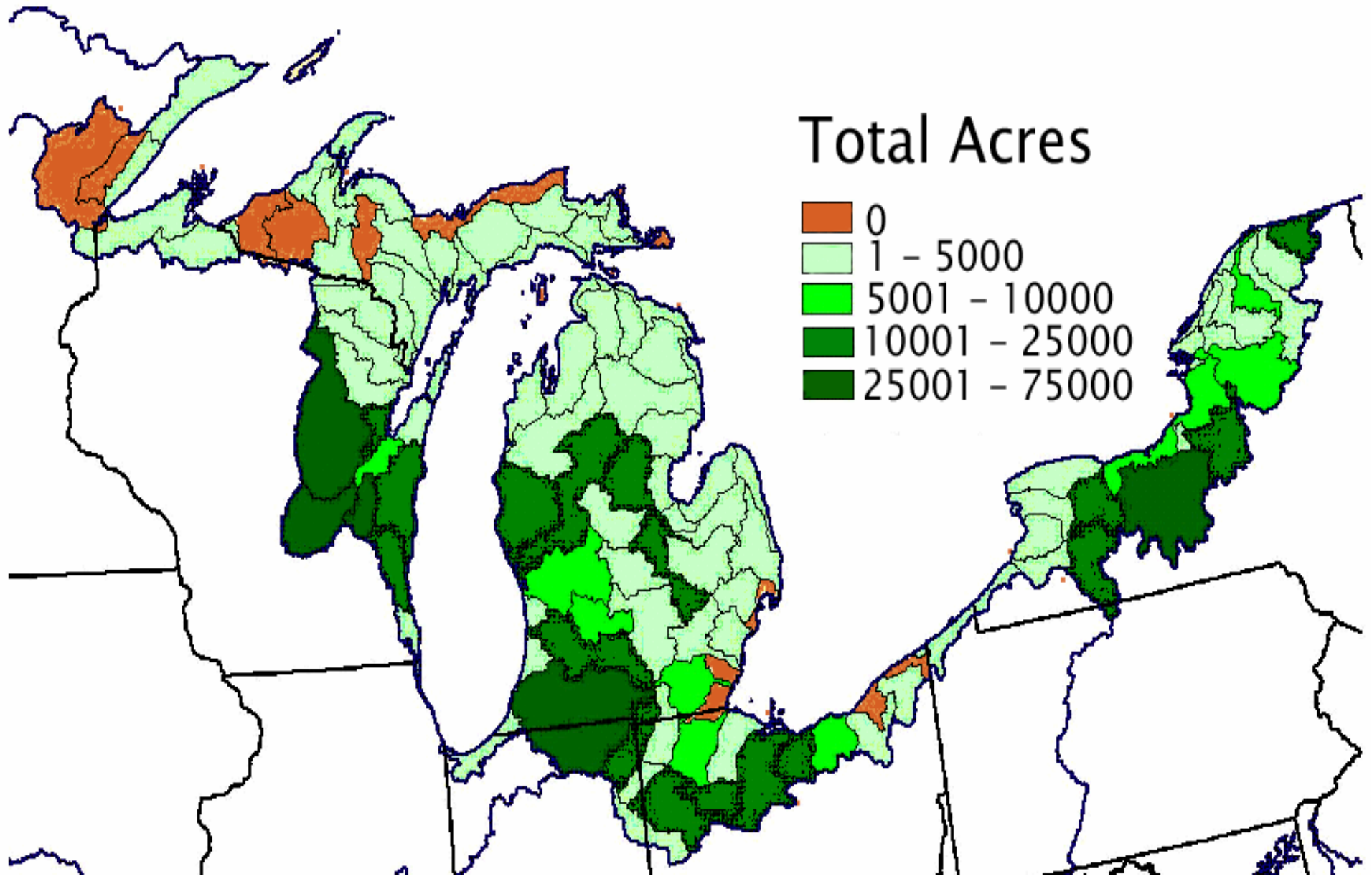
Land Trusts in the United States Great Lakes Basin, 1930-2000



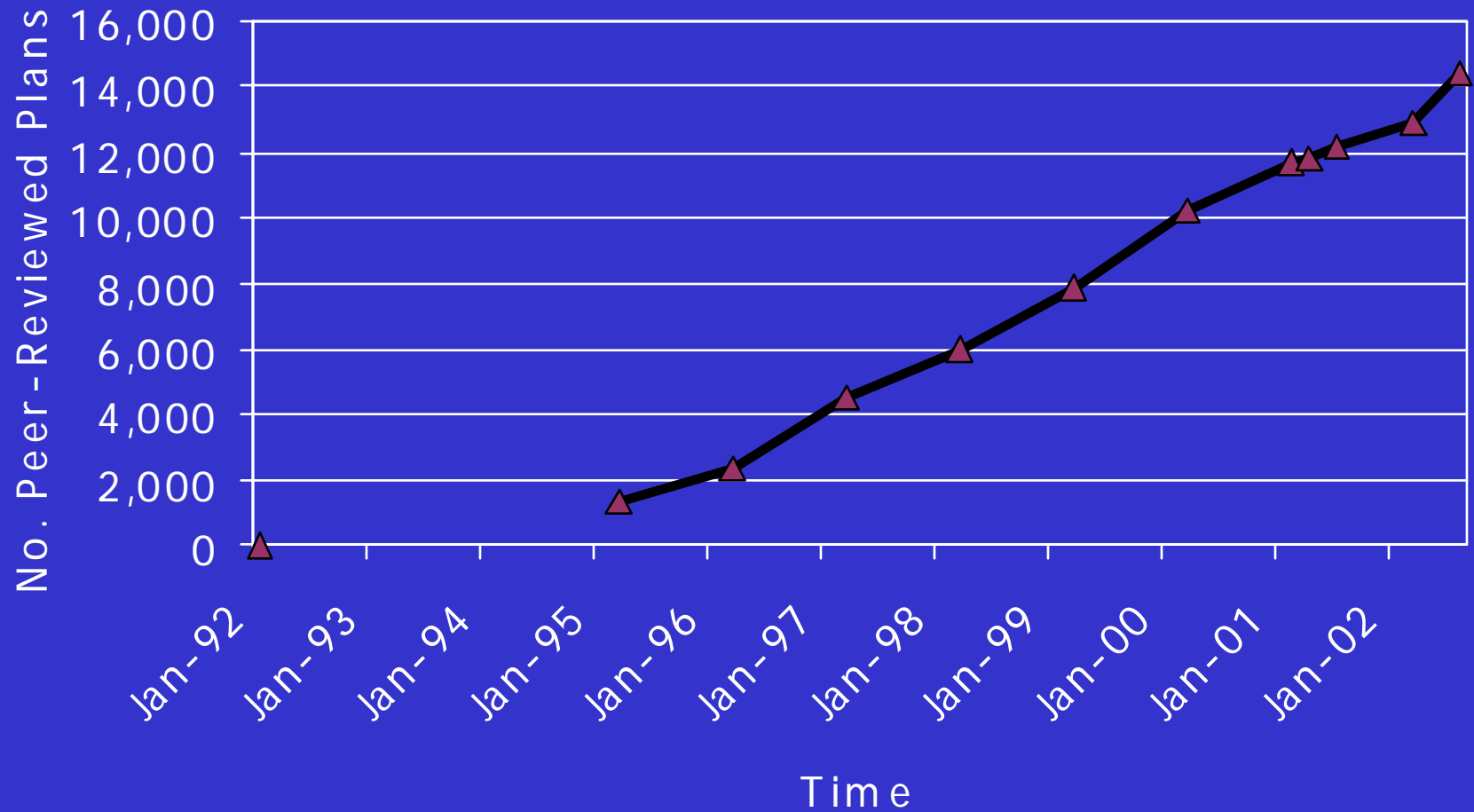
Land Trusts: U.S. National Total vs. U.S. Great Lakes Basin , 1930-2000



FY2001 Conservation Systems Planned



Peer-Reviewed Environmental Farm Plans in Ontario



Management Challenges: Habitat Alterations

- Encourage place-based stewardship activities

Management Challenges: Habitat Alterations

- Control suburban sprawl; minimize human habitation impacts

Management Challenges: Habitat Alterations

- Identify, protect, rehabilitate critical habitats, both aquatic and terrestrial

Management Challenges: Contaminants and Pathogens

- Emphasize Agricultural Best Management Practices

Management Challenges: Contaminants and Pathogens

- Foster contaminant reducing activities: mass transit; energy efficiency; recycling,

Management Challenges: Contaminants and Pathogens

- Encourage brownfield redevelopment

Management Challenges: Non-Native Species

- Understand relationships between economic well-being and increased threat of introducing non-native species

Management Challenges: Non-Native Species

- Prevent non-native species introductions

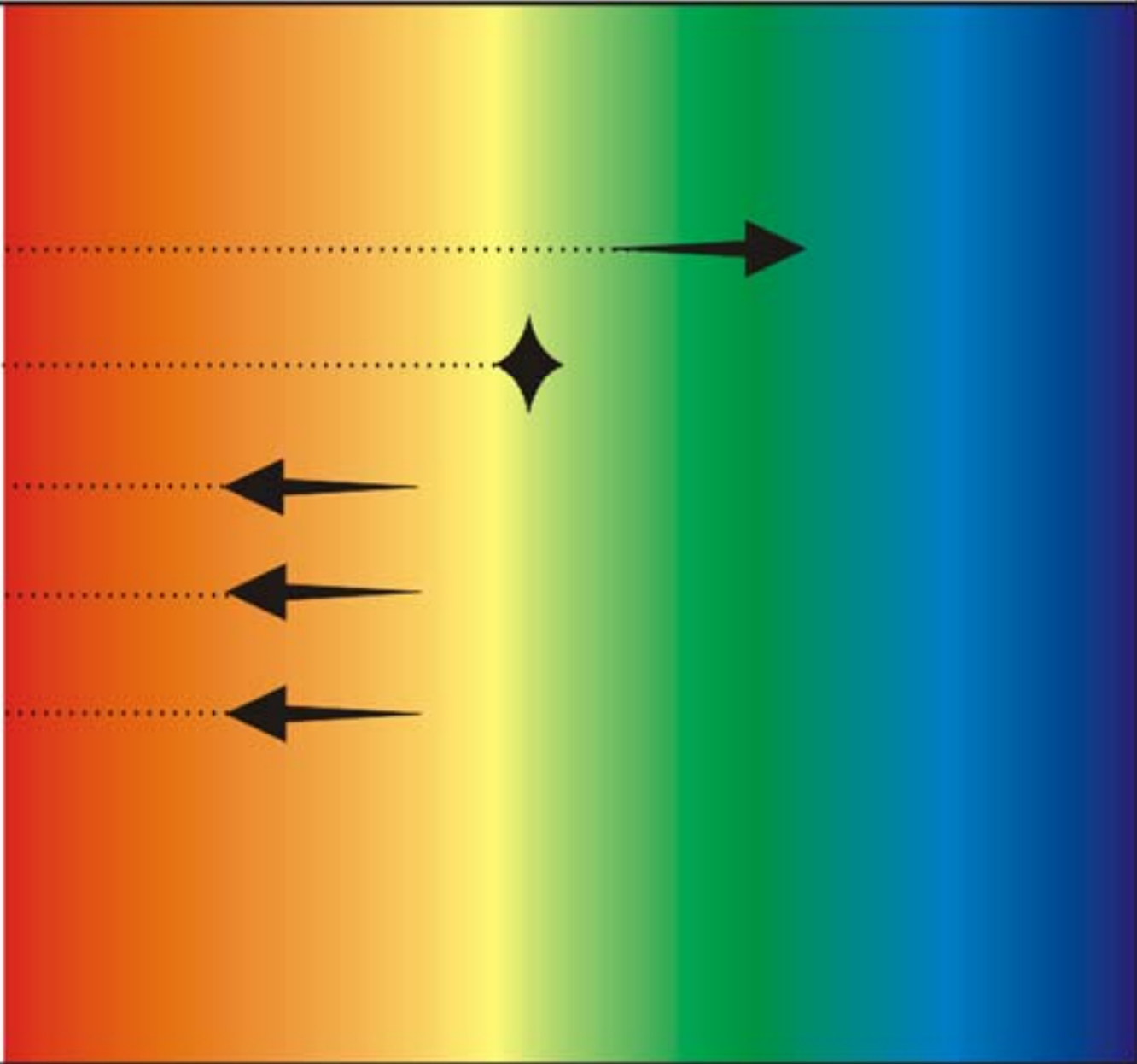
Management Challenges: Non-Native Species

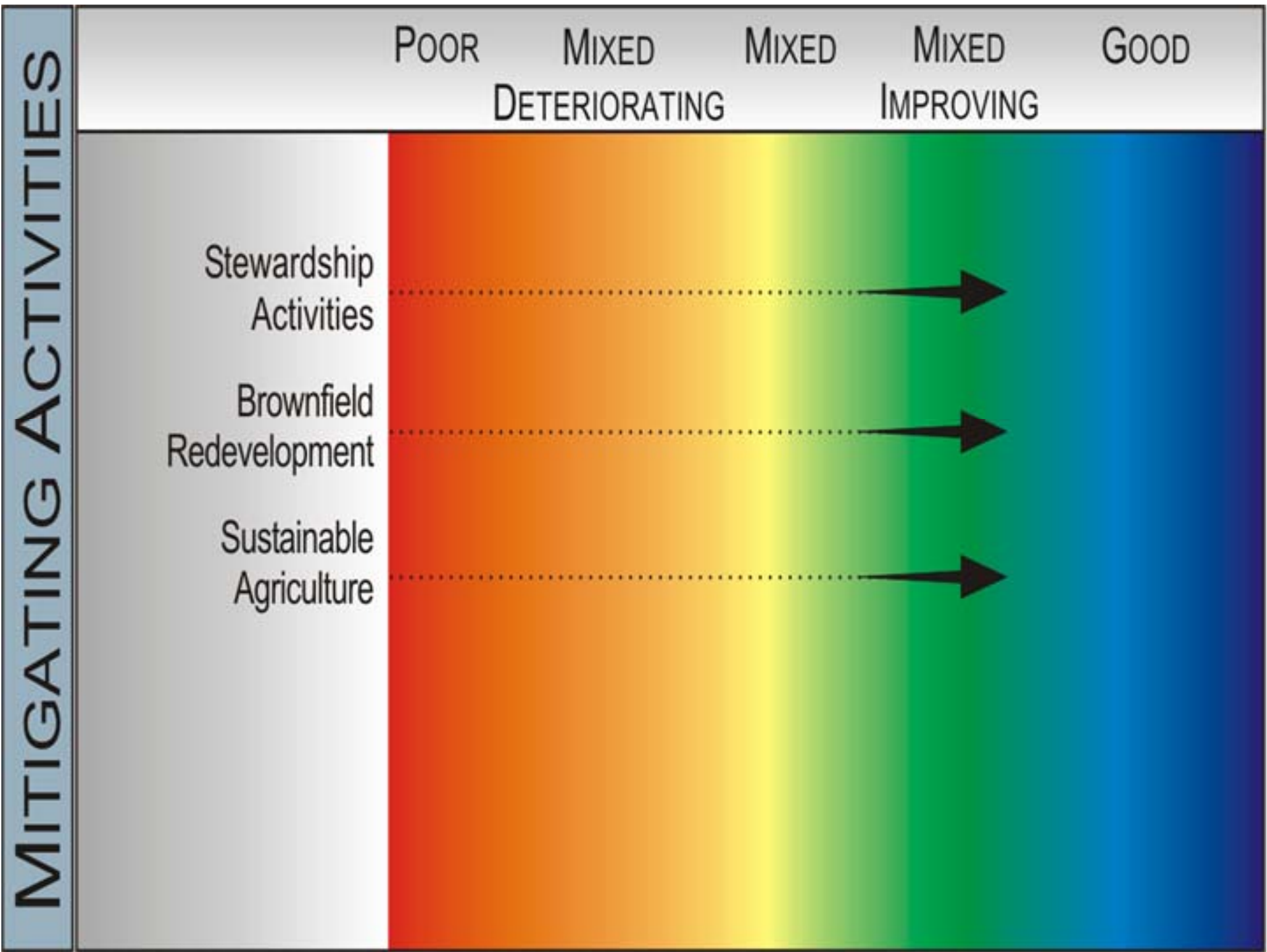
- Continue non-native species control programs such as for sea lamprey

SOCIETAL INFLUENCES

POOR MIXED MIXED MIXED GOOD
DETERIORATING IMPROVING

Solid Waste
Mass Transportation
Energy Consumption
Urban Density
Water Use





MITIGATING ACTIVITIES

POOR MIXED MIXED MIXED GOOD
DETERIORATING IMPROVING

Stewardship
Activities

Brownfield
Redevelopment

Sustainable
Agriculture