Climate Change Planning in Alaska's National Parks.

ARCTIC INTERIOR ALASKA NATIONAL PARKS

"NESTING THE SOCIO-POLITICAL FRAMEWORK."

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MAR. 28, 2012

Assateague Island
Case study:

Focal Question – “What will be the social and political landscape around Climate change over the next 25 years?”

Drivers: Socio-Political

Variables (Over the next 25- 30 years)

- rate and magnitude of GHG emissions/ technology developments
- mood / position of administration/leadership
- intensity of impacts on average American citizen
- regional population shifts and consequent development
- budgets (for funding science and management)
- degrees of cooperation between agencies, sectors, etc.
- energy availability and cost
- public reaction to rate of temperature and sea level change
- media portrayal
- sense of public ability to make a difference
- concern of / in society about natural systems
- social and environmental movements / renaissance
- global health concerns / epidemics / disease

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Broad Understanding

Heightened Urgency

High impacts on everyday lives of American citizens

Significant effects through energy demand , resource constraints and population movements

Powerful public reaction to weather phenomena and global images

People mostly feel able to make a difference

Marginal impact on everyday lives of American citizens

Effects on energy, resources etc. only impact a small proportion of population

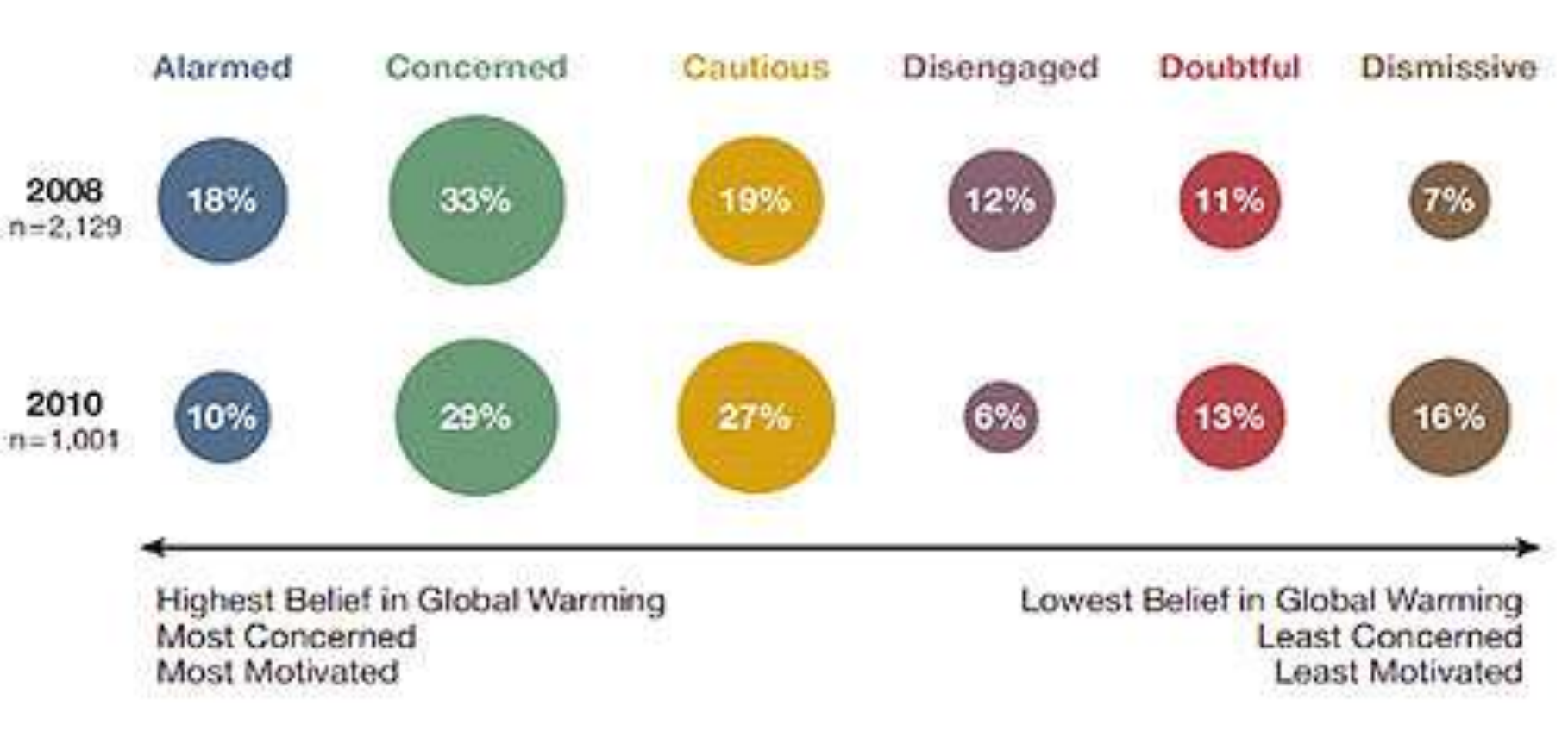
Public generally not interested in, or feel capable of, making a difference

Public concerns focus on other pressing issues (conflict, economy, health etc.)

Widespread indifference

Competing concerns

"Using Scenarios to Explore Climate Change" GBN, June 2009



www.environment.yale.edu/climate/files/SixAmericas

Mechanisms developed integrate stakeholders actions at all scales; coordinated, multilateral efforts are initiated, using value based decision making; inter-disciplinary efforts are rewarded; consensus is reinforced.

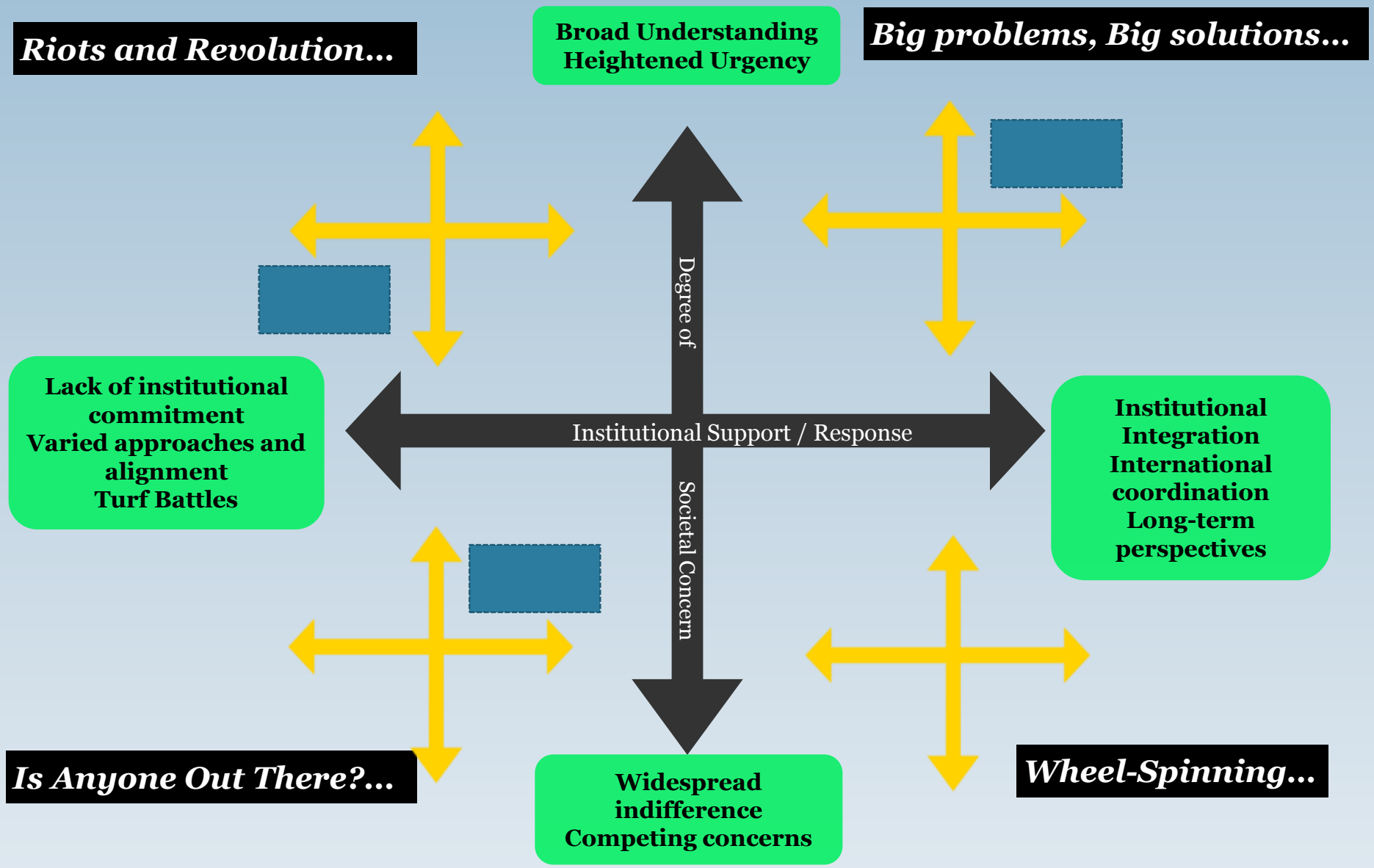
Fragmented Response

Institutional Response/Support

Integrated, Coordinated Response

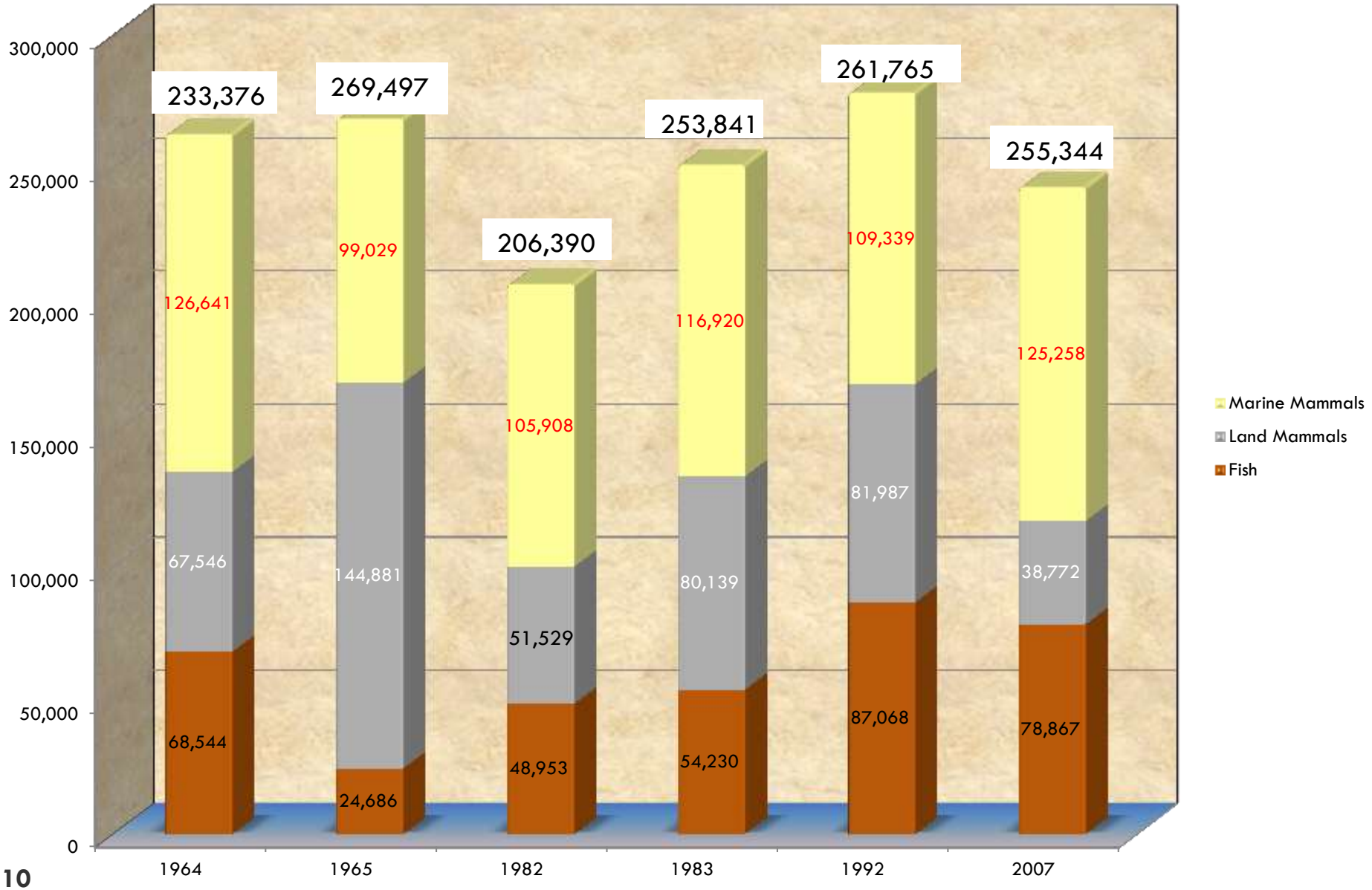
Institutional response is not integrated, agency "mandates" act as obstacles; characterized by turf battles, lack of coordination and cooperation between agencies, and stove pipe funding.

"Nested Scenarios"



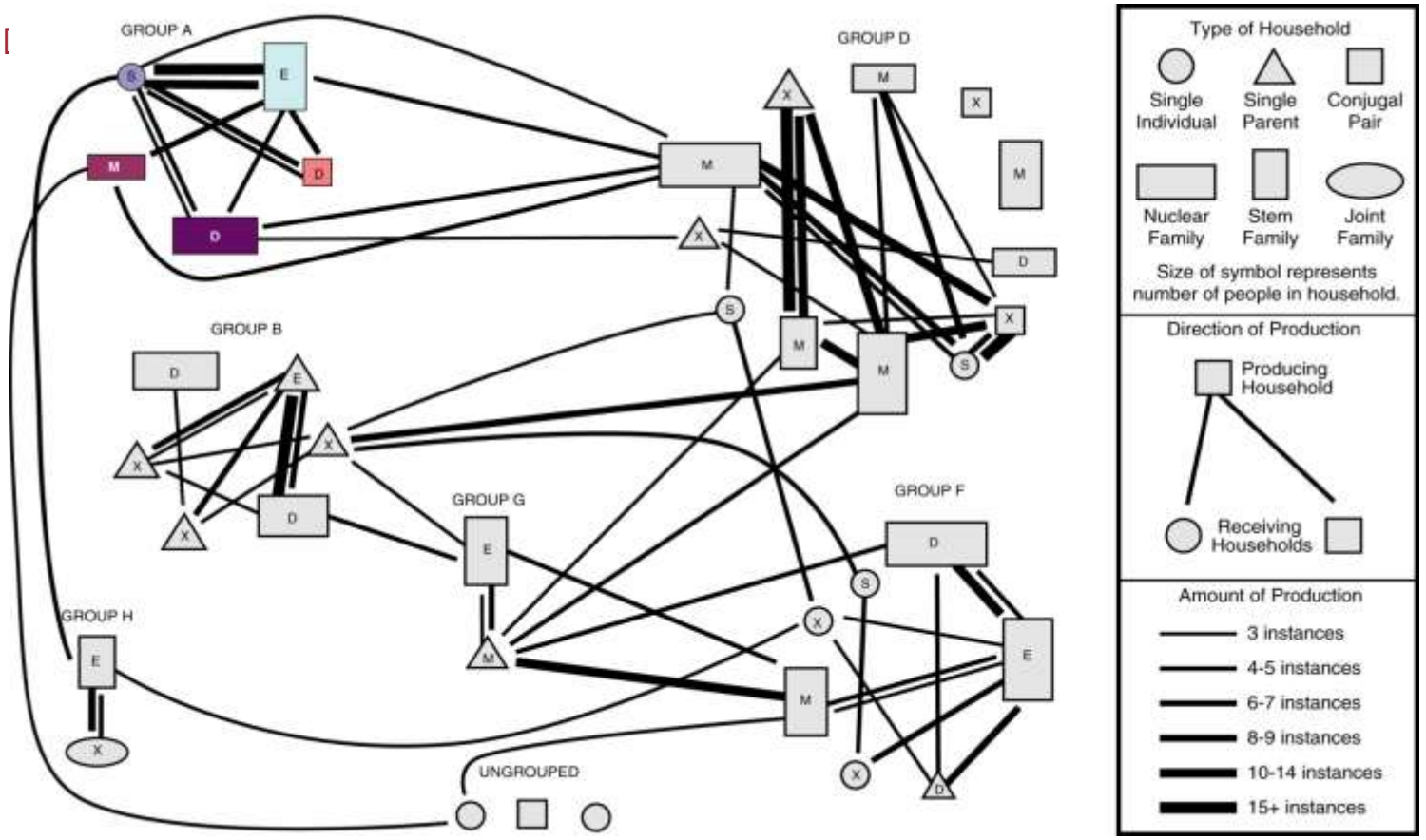
Kivalina

Kivalina Total Harvest 1964-2007 [lbs.]

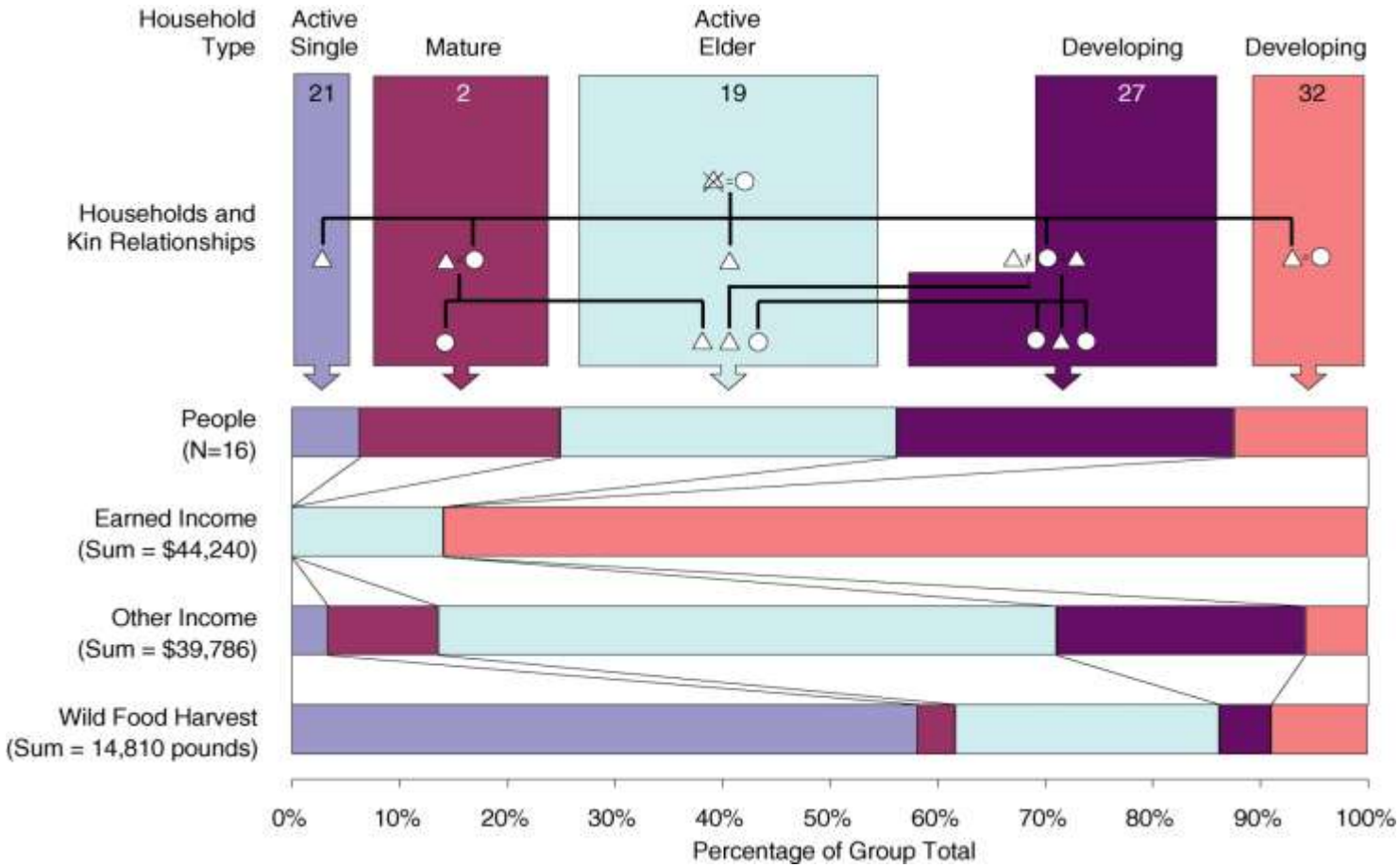


Community of Deering Alaska

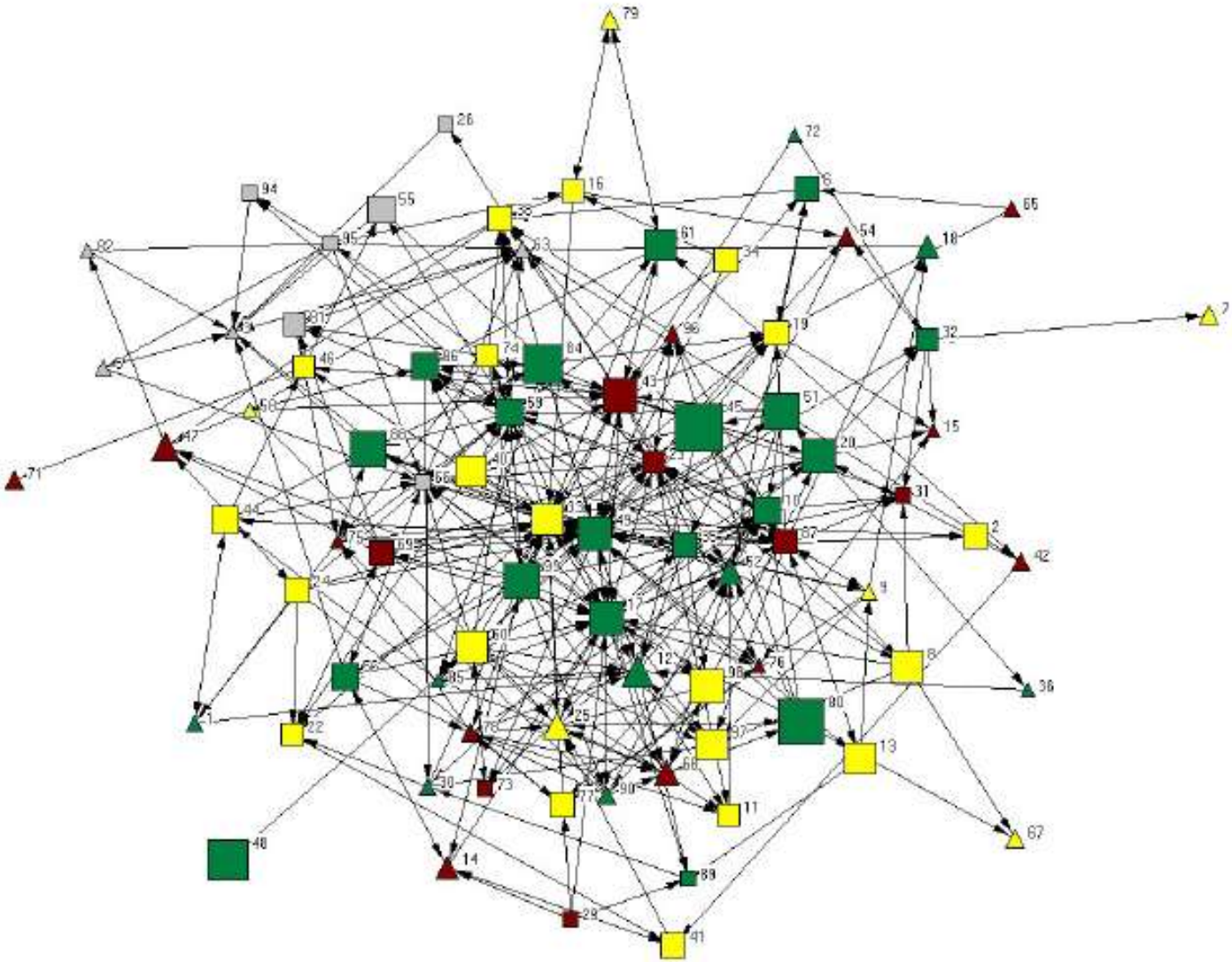
Wild Food Distribution Networks, Deering



One Network's Kin Relationships
Genealogy, People, Income, and Harvests, *Deering A*



Buckland Social Networks Based on Distribution of Subsistence Resources



Buckland Social Network

This diagram describes cooperation among 83 of 88 households in Buckland, Alaska, during 2003. Each symbol represents one household. In a survey of households, each household was asked:

"Who harvested, processed, and distributed the fish, meat, berries and greens your household used this year?"

"Who paid for the groceries, gasolines, and other supplies your household used this year?"

"Who owns the equipment your household used for subsistence this year?"

"For your household, who decided when, where, and how to hunt, fish or gather this year?"

Each line represents the answers to those questions. If someone outside the surveyed household provided wild food, other supplies, equipment, or decisions for the surveyed household, a line connects the two households.

The line begins at the source household and ends at the consuming household. The arrowhead points at the consuming household. The more kinds of support one household recieved from another, the wider the line.

The size of household symbols represents the number of people in each household. The color and shape of the symbols represent household heads' age and household structures.

- Elder Households (heads 60 years old or older)
- Mature Households (heads 40-59 years old)
- Developing Households (heads 39 year old or younger
- Teacher Households
- Households Headed by a Couple
- Households Headed by a Single Person

Newtok – The First Casualty

Aerial view of the village of Newtok, August 2006. The Ninglick River is in the foreground and the Kealavik (Newtok) River meanders to the east (right of village in photo).
Photo: Jon Menough, ADEC, Village Safe Water Program

Newtok Shoreline Erosion Map
Bank Erosion of the Ninglick River (1954-2006)
With Erosion Projections (2007-2027)
Newtok, Alaska
N
W
E
S
Newtok River
School
Water Source
Barge Landing
2027
2022
2017
2012
2007
2002
1996
1996 Dump Site
Ninglick River

Newtok Flood – September 22, 2005. *Source: Newtok Traditional Council and USACE*

Major Problems:

Flooding has eroded dock - bulk shipments of fuel can't be delivered.

Photo: Jennifer Payne, ADCCED

Photo: Jon Menough, ADEC Village Safe Water Program

Remains of barge landing.

Photo: Rich Sewell, ADOT/PF

Major Problems:

Solid waste disposal can only be accomplished by boat.

The old landfill eroded away in 1996. The new landfill is accessible by boat at high tide only.

Major Problems:

Complete community infrastructure – diesel storage, homes, school, clinic are eroding

Major Problems:

Flooding is causing problems with sewage disposal and may have serious health consequences.

Newtok – Agency Mandates Create Major Problems

- Stanley Tom of Newtok says one of the biggest obstacles is the lack of a single agency or group to be in charge of planning.
  - DOT can't build an airstrip unless we have a post office.
  - School has to have 25 students.
  - Land swap with USFWS requires lengthy and expensive EIS
  - FEMA regulations for emergency funding only allow for rebuilding on site, not for relocation.

Participants in Newtok Planning Group

Native Village of Newtok

- Newtok Traditional Council (NTC)
- Newtok Native Corporation (NNC)

State

- Alaska Department of Commerce, Community, and Economic Development (DCCED), Division of Community & Regional Affairs
- Alaska Department of Environmental Conservation/Village Safe Water Program (VSW)
- Alaska Department of Transportation and Public Facilities (DOT/PF)
- Alaska Department of Military and Veterans Affairs/Division of Homeland Security and Emergency Management (DHS&EM)
- Alaska Department of Education and Early Development (DEED)
- Alaska Department of Health and Social Services (DHSS)
- Alaska Industrial Development and Export Authority (AIDEA)/Alaska Energy Authority (AEA)
- Alaska Governor's Office

Federal

- U.S. Army Corps of Engineers (USACE), Alaska District
- U.S. Department of Commerce, Economic Development Administration (EDA)
- U.S. Department of Agriculture, Rural Development
- U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS)
- U.S Department of Housing and Urban Development (HUD)
- U.S. Department of the Interior, Bureau of Indian Affairs (BIA)
- U.S Department of Transportation, Federal Aviation Administration (FAA).
- U.S. Environmental Protection Agency (EPA)
- Denali Commission
- Senator Lisa Murkowski's Office

Regional Organizations

- Association of Village Council Presidents (AVCP), Housing Improvement Program (HIP)
- Coastal Villages Region Fund (CVRF)
- Lower Kuskokwim School District (LKSD)
- Rural Alaska Community Action Program (RurAL CAP)
- Yukon-Kuskokwim Health Corporation

Newtok
Implications of
Relocation Alternatives.

- Newtok:
  - 65 houses $50-100 million to relocate.
  - Lost 4,000 ft. to erosion & loses 90 ft shoreline per year.
  - Land under village will erode in next 5 years.
- Relocate to Bethel/Hooper Bay?:
  - Lose ready access to subsistence
  - Lose history & sense of intact community
  - May lose extended kin support integral to survival

Challenges [Bureaucratic Impediments] to Village Relocation

Sally Russell Cox, Newtok Planning Group

- No Mandate for Relocation Assistance
- No Designated Lead Agency at State and/or Federal Level.
- No Strategy for Relocation Process.
- No Dedicated Funding Source for Relocation.
- Uncertainty in Fulfilling NEPA.
- Barriers to Making Infrastructure Investments in Threatened and Unpopulated New Communities.
- Strained Local Capacity and Resources.

Possible Management Actions to Improve Institutional Response.

1. Create Climate Change Ombudsman Office.
2. Develop process for prioritizing impacted communities.
3. Create mandate for relocation assistance within State and Federal entities.
4. Designate lead agencies when agency responsibilities overlap.
5. Create dedicated funding source for relocation efforts.
6. Create Immediate Assistance Fund.
7. Streamline the NEPA Process.
8. Insure cross-cultural communication
9. Streamline regulatory response to subsistence seasons and bag limits.

What are the real possibilities of paying for relocation and/or erosion control projects?

- State legislature apportions more & more $'s to sustain urban infrastructure, e.g., roads in Fairbanks.
- Less $'s, even before this issue to maintain rural infrastructure (e.g., school maintenance)
- Fewer $'s and programs from State & Federal entities for local construction, services and transfer payments.
- Why "money is going to be tighter than ever before".

Summary: Threats to Sustainability

- Loss of subsistence species beyond community's ability to adapt.
- Relocation to urban areas impacts traditional sharing networks.
- Cost of living rising beyond ability to sustain infrastructure, heat houses or purchase gas/technology for subsistence.
- Long term cultural, social and psychological cost of "settlements without prospects".