



RECOVERY PLAN OR OBITUARY?

CBD

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Greenhouse gas mitigation can reduce sea-ice loss and increase polar bear persistence

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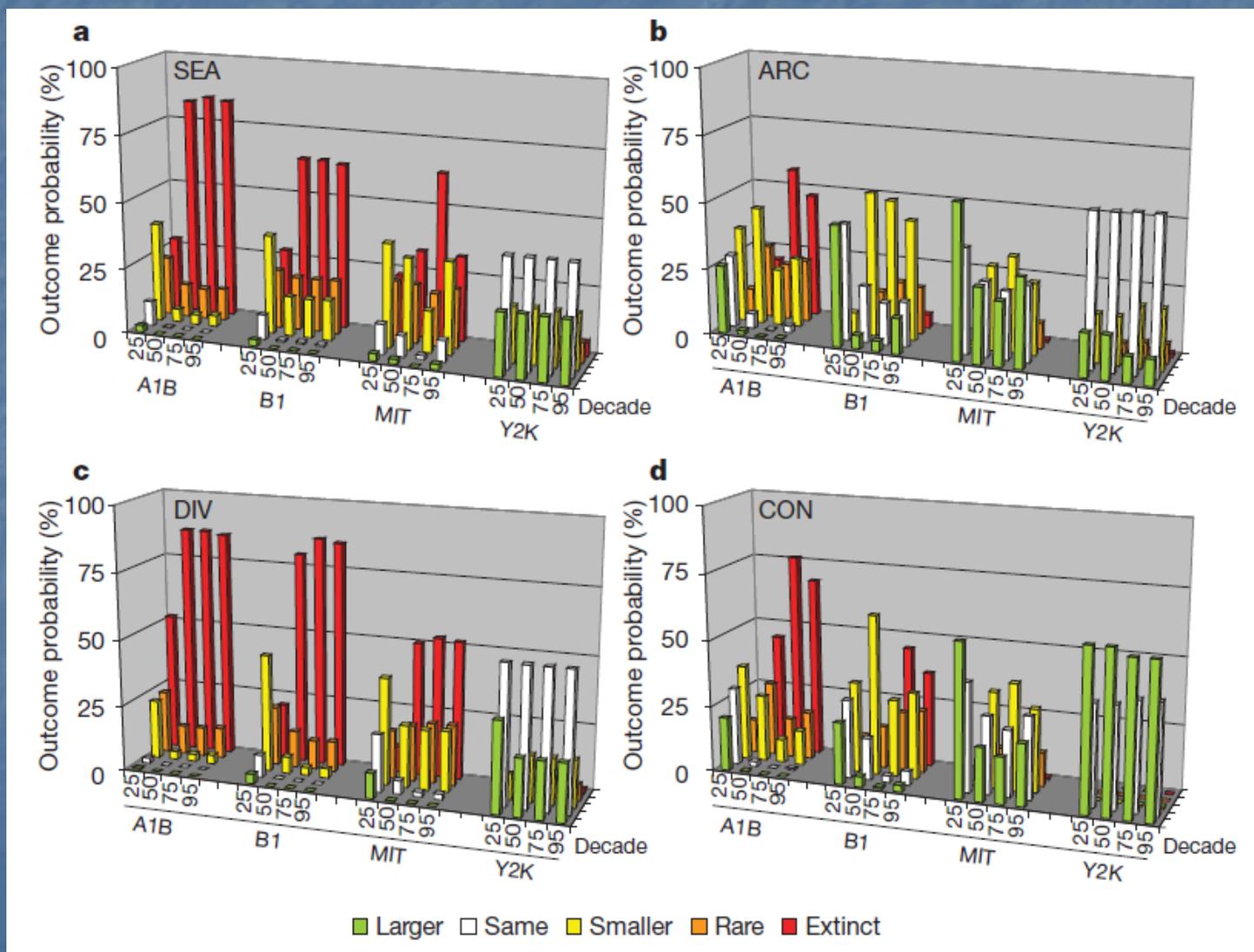


So long as the Earth is in energy imbalance due to elevated GHG concentrations, the planet will continue to warm and the polar bear's Arctic sea-ice habitat will continue to decline.

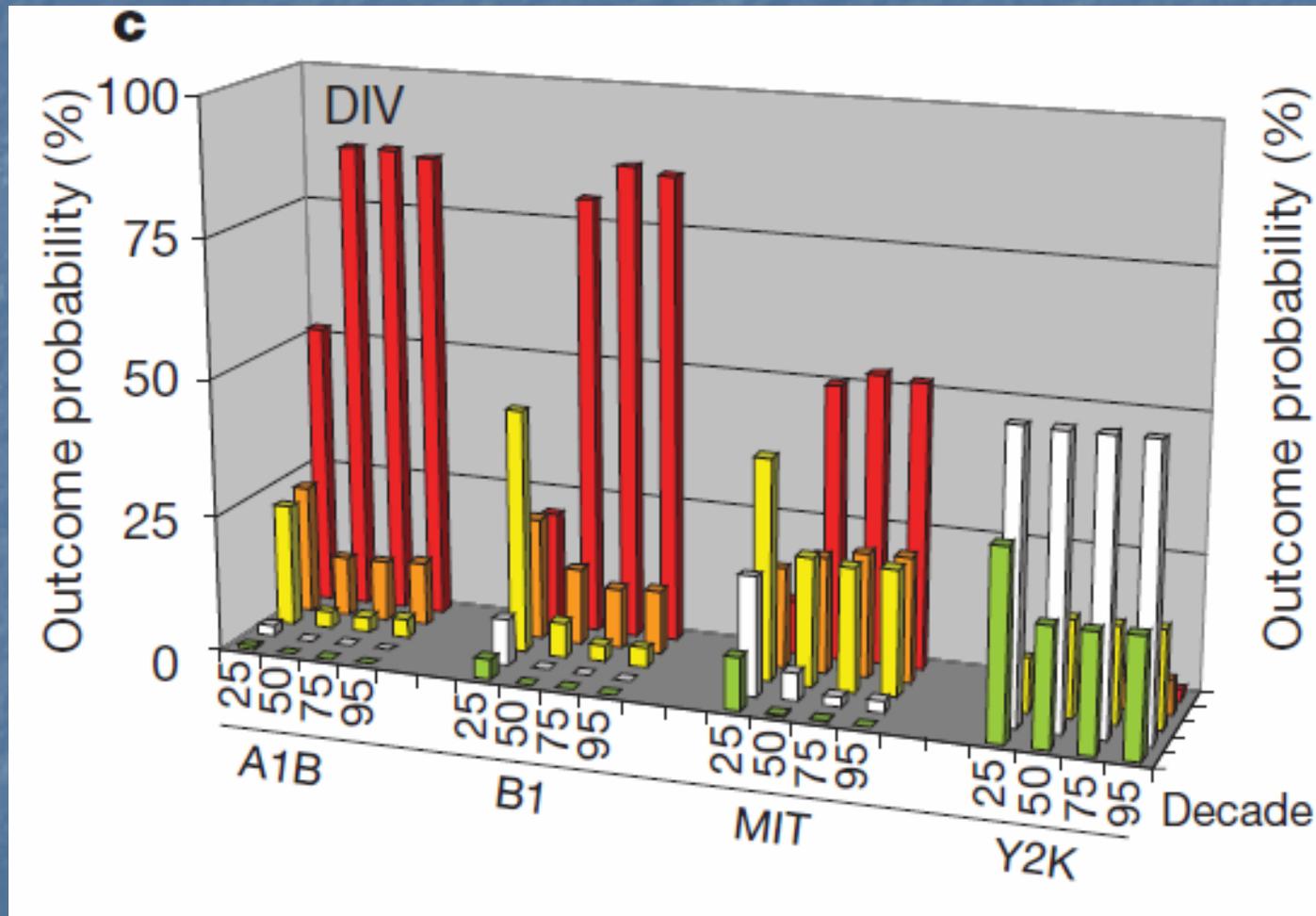
What is the Conservation Unit?

- Global Species
- Divergent Ice Ecoregion
- Alaska Bears
- Southern Beaufort Sea Population
- Chukchi/Bering Sea Population
- DPS/Significant Portion of Range/Recovery Unit

Greenhouse gas mitigation increases polar bear persistence in the four ecoregions (Amstrup et al. 2010)



Divergent ice ecoregion

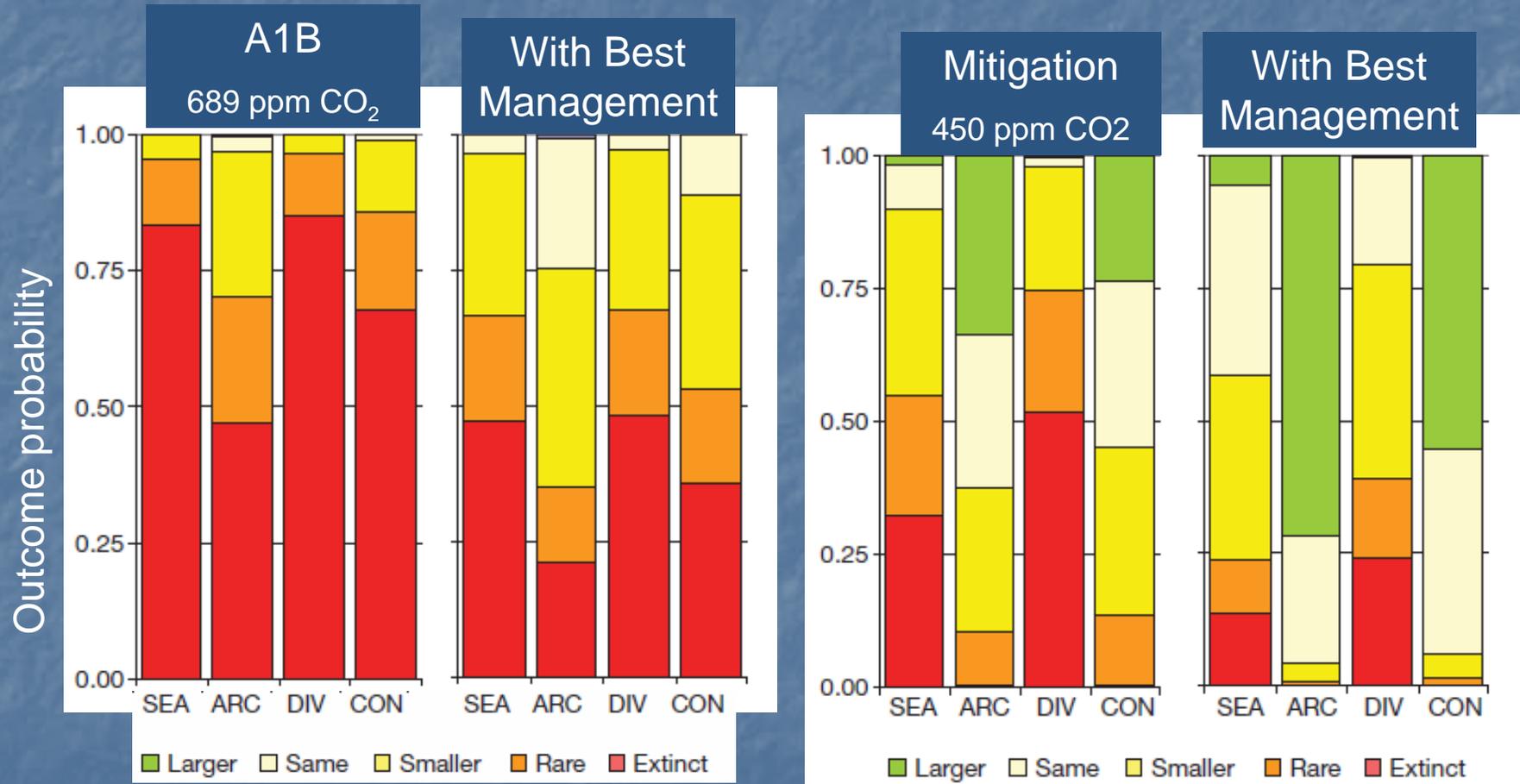


■ Larger
 □ Same
 ■ Smaller
 ■ Rare
 ■ Extinct

Delisting Criteria

- Demographic
- Sea Ice
- Temperature
- Atmospheric CO₂ Concentrations

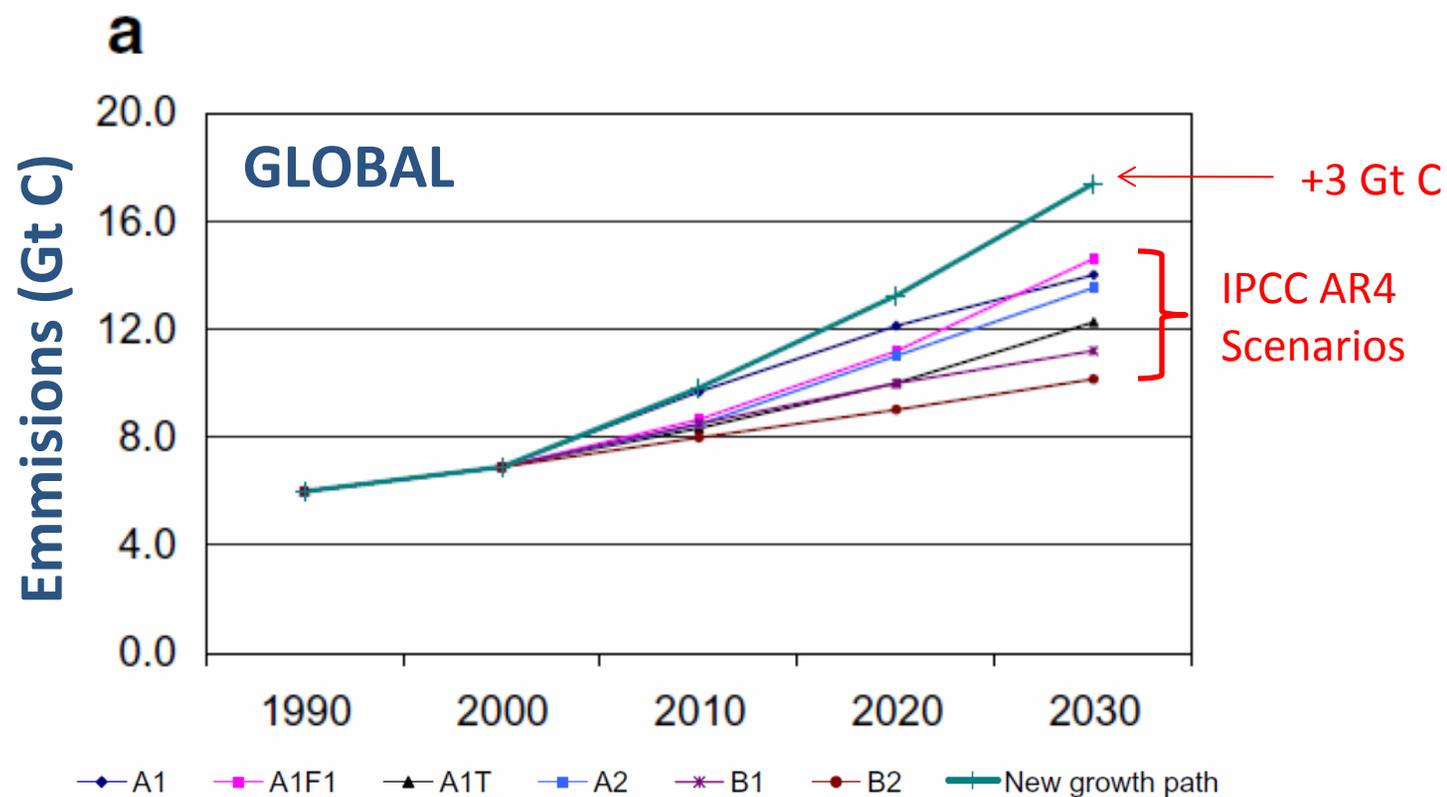
Greenhouse gas mitigation combined with the best-possible management increases population persistence



from Amstrup et al. (2010)

The new global growth path: implications for climate change analysis and policy

Peter Sheehan



“If humanity wishes to preserve a planet similar to that on which civilization developed and to which life on Earth is adapted....CO₂ will need to be reducedto at most 350 ppm, but likely less than that.... A further imbalance reduction, and thus CO₂ ~ 300-325 ppm, may be needed to restore sea ice to its area of 25 years ago.”

J. Hansen et al., *Target Atmospheric CO₂: Where Should Humanity Aim?*, 2 Open Atmospheric Sci. J. 217, 218 (2008).

Uplisting to Endangered

“The Commission believes that the southern Beaufort Sea polar bear population should, at a minimum, be listed as threatened. However, these projections also indicate that, barring some intervening factor to reverse the projected trends in sea ice loss, **this population is already at the point where it should be considered sufficiently in danger of extinction to warrant listing as endangered.**”

-Marine Mammal Commission October 22, 2007

Uplisting Criteria

- Steller Sea Lion:

“an endangered population may be defined as one with a greater than 5 percent chance of extinction over the next 100 years.”

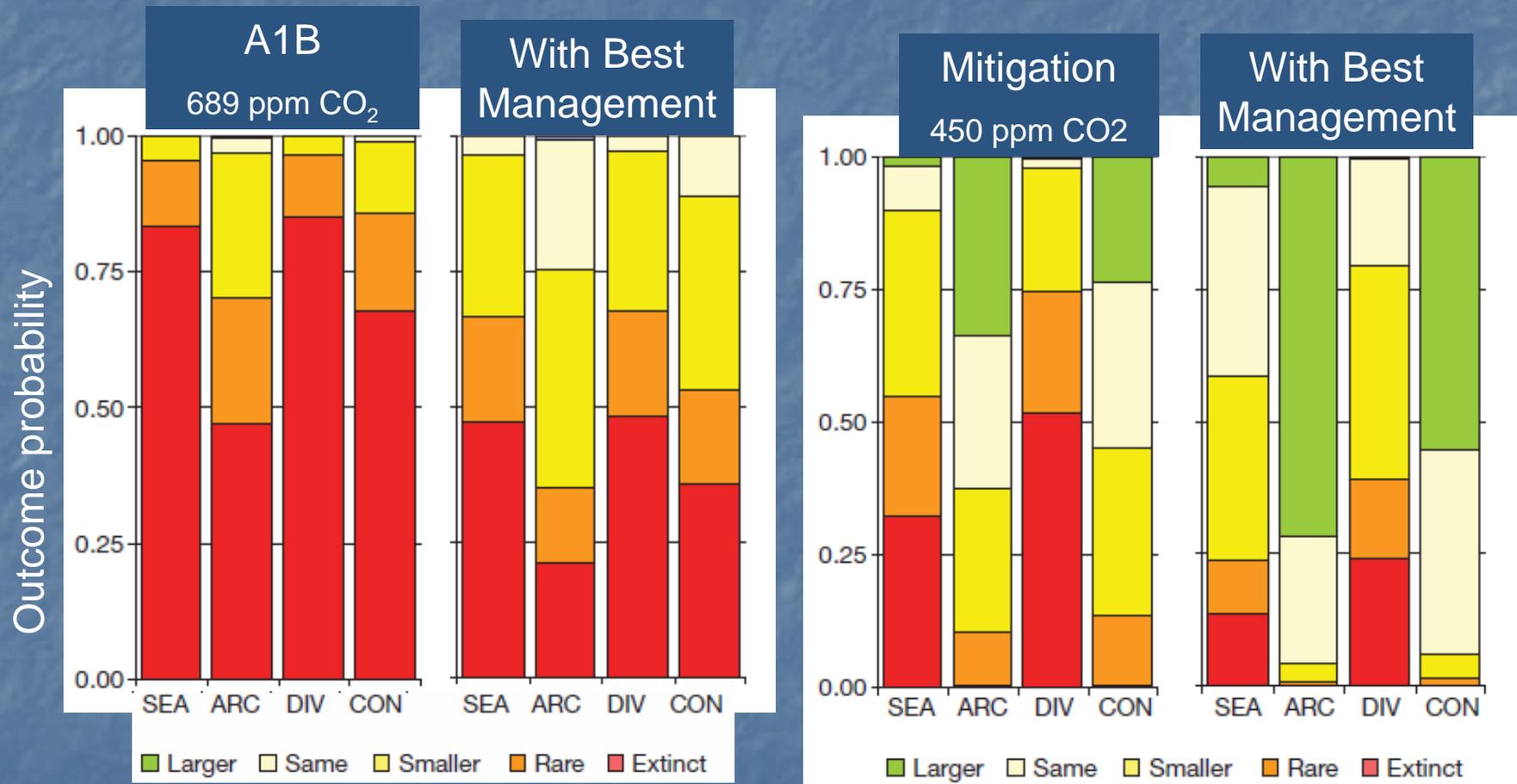
- Steller's Eider:

Uplist from threatened to endangered if extinction risk rises to greater than 20% over 100 years

Pathways to Recovery

- The IPCC found that to reach a 450 ppm CO₂eq target, the emissions of the United States and other developed countries should be reduced by 25 to 40% below 1990 levels by 2020 and by 80 to 95% below 1990 levels by 2050 (Gupta et al. 2007)
- Baer et al. (2009) outlined a trajectory to reach a 350 ppm CO₂ target by 2100 that requires 2020 global emissions to reach 42% below 1990 levels, with emissions reaching zero in 2050.
- Short-lived pollutants (methane, black carbon)

Greenhouse gas mitigation combined with the best-possible management increases population persistence



from Amstrup et al. (2010)

What is “Best Management”?

- Oil
- Contaminants
- Human/Bear Interactions
- Harvest

OIL

"Polar bears are listed under the ESA range-wide, so analysis to determine if an Action would jeopardize the continued existence of the species occurs at the range-wide scale. Therefore, although the loss of tens of bears resulting from an oil spill in the Beaufort Sea which reaches the barrier islands (the worst case scenario for the DS), coupled with other impacts from development activities, subsistence hunting, and impacts described in the environmental baseline is significant; it does not reach the threshold of jeopardizing the continued existence of the species by significantly reducing the numbers, distribution, or reproduction of polar bears."

FWS 2009 (Beaufort/Chukchi Lease Sale BiOp)

Contaminants

"if contaminants are not a significant enough threat to warrant listing the polar bear under the ESA, then preventing contaminants from making their way to the Arctic cannot be necessary for the conservation of the species."

FWS 2010

Harvest

What is a “sustainable” harvest of a declining population?

As the Arctic unravels

- Churchill
- Starving bears
- Stranded bears
- Orphans
- Captivity

A polar bear is walking across a snowy, rocky landscape. The bear is in the middle ground, facing right. The ground is covered in snow with some rocks and tracks visible. The background is a vast, flat, snowy expanse.

Polar Bears

need us to get to

350