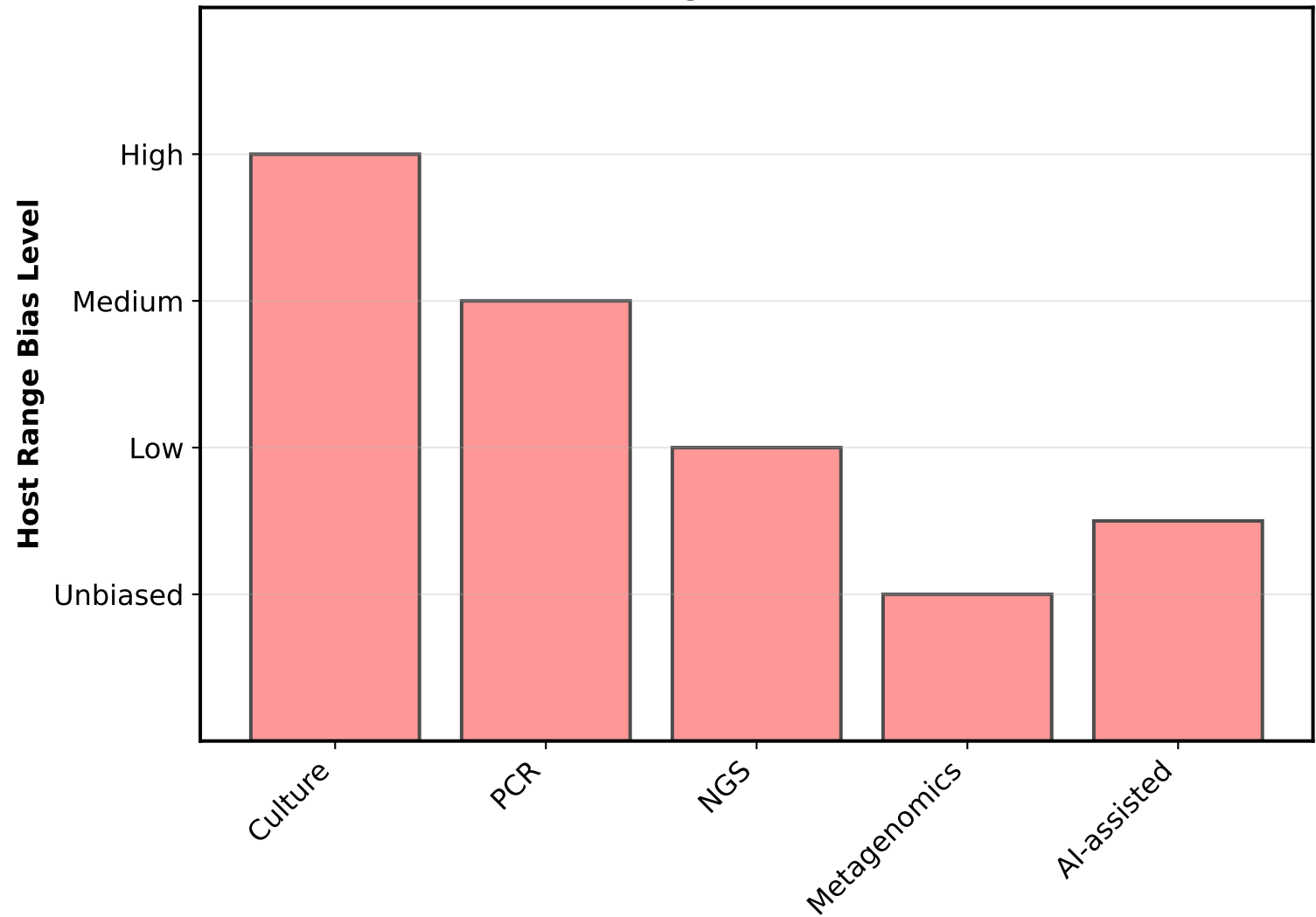


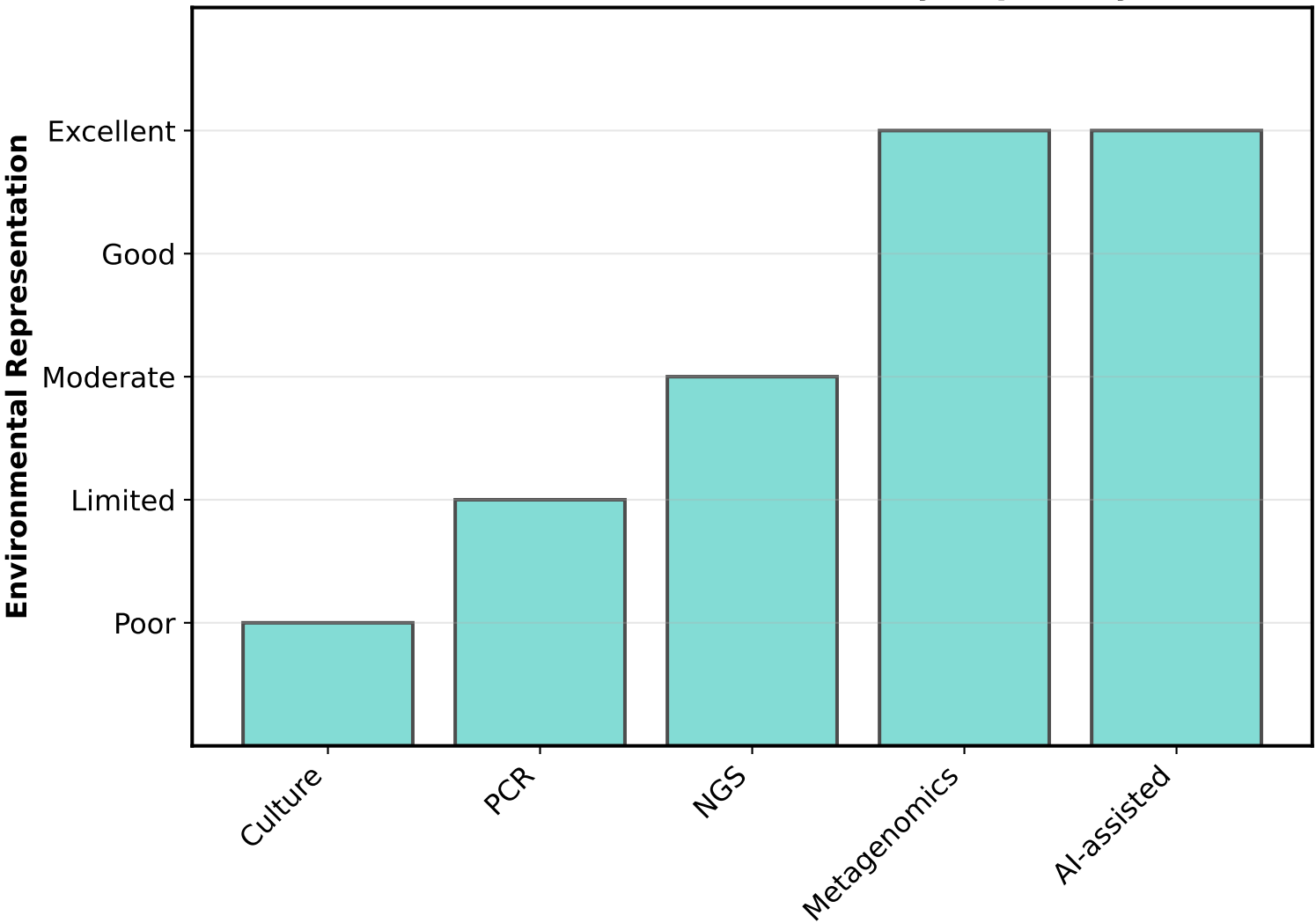
Discovery Method Bias Evolution (2005-2024)

Real ICTV Data Analysis

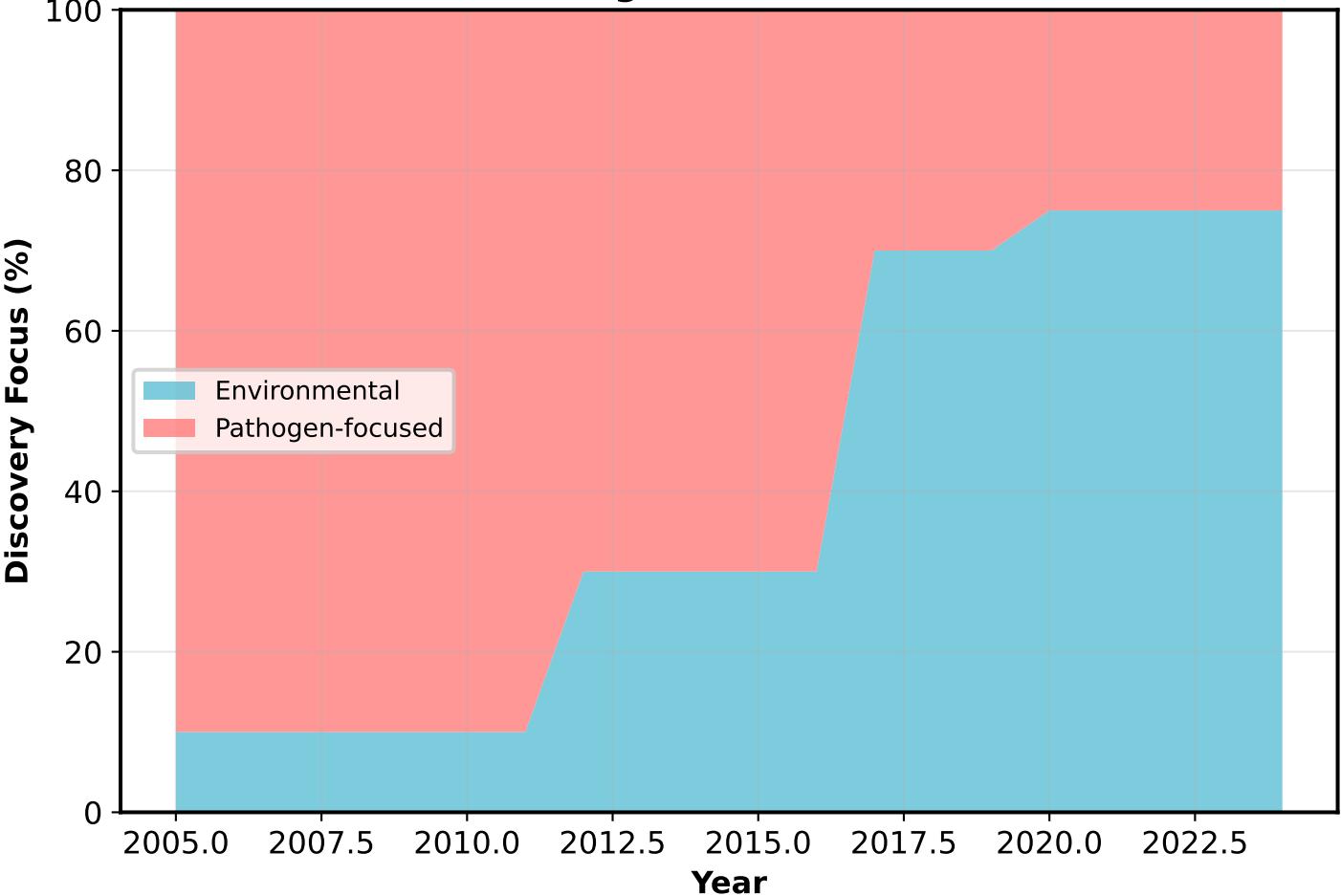
Host Range Bias Evolution



Environmental Virus Discovery Capability



Shift from Pathogen to Environmental Focus



Key Discovery Bias Evolution Findings:

- Host Range Expansion**
 - Early methods: Focused on cultivable pathogens
 - Current methods: All viruses discoverable
- Environmental Representation**
 - 2005: <10% environmental viruses
 - 2024: >70% environmental viruses
- Genome Type Accessibility**
 - Culture/PCR: DNA bias
 - Metagenomics/AI: No genome bias
- Size Range Detection**
 - Early: Standard viruses only
 - Current: All sizes including giants
- Major Paradigm Shift**
 - From "viruses as pathogens"
 - To "viruses as ecosystem drivers"