A few thoughts on “Context Awareness”

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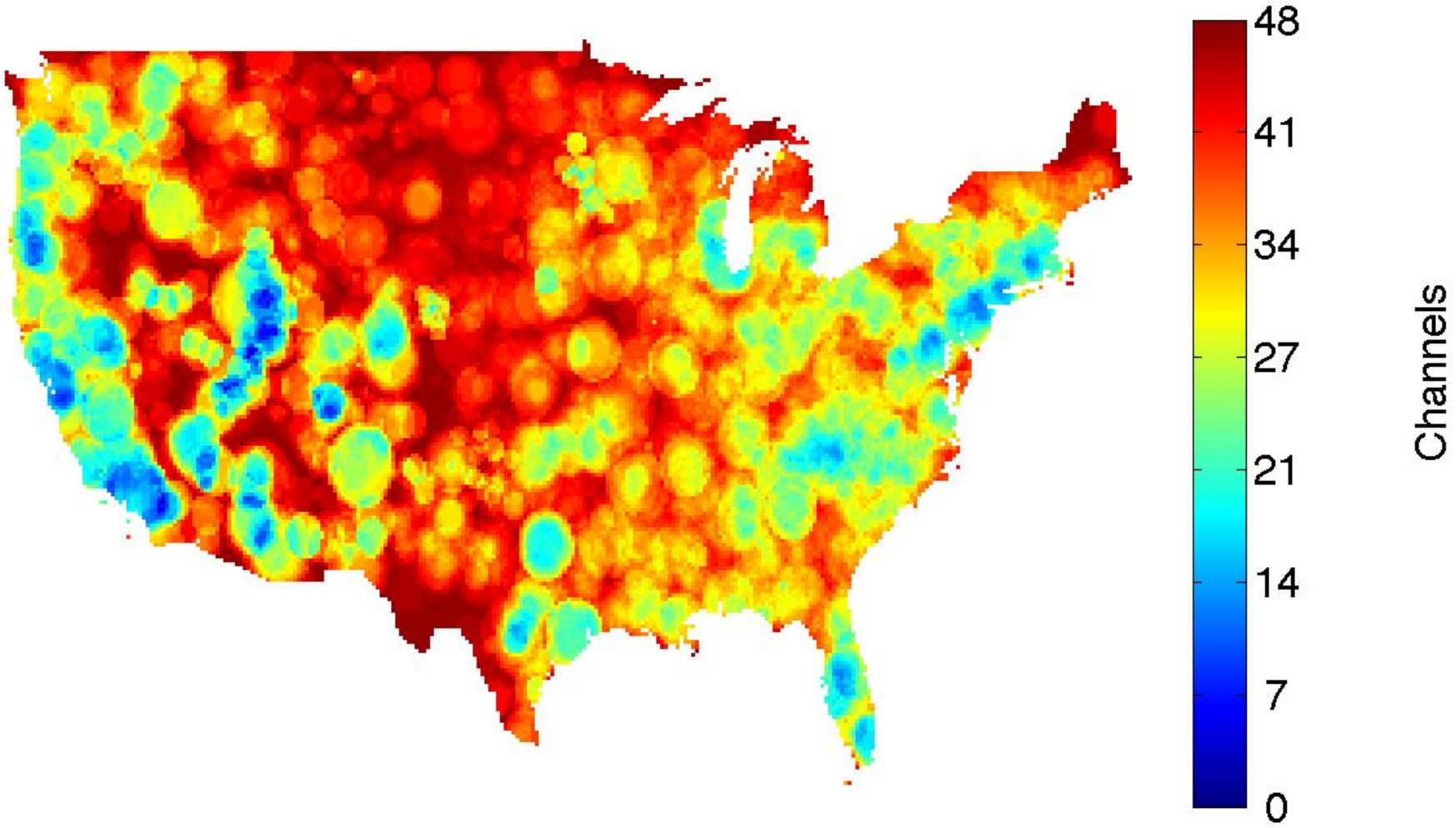
Support from the National Science Foundation and C2IT

ISART 2010

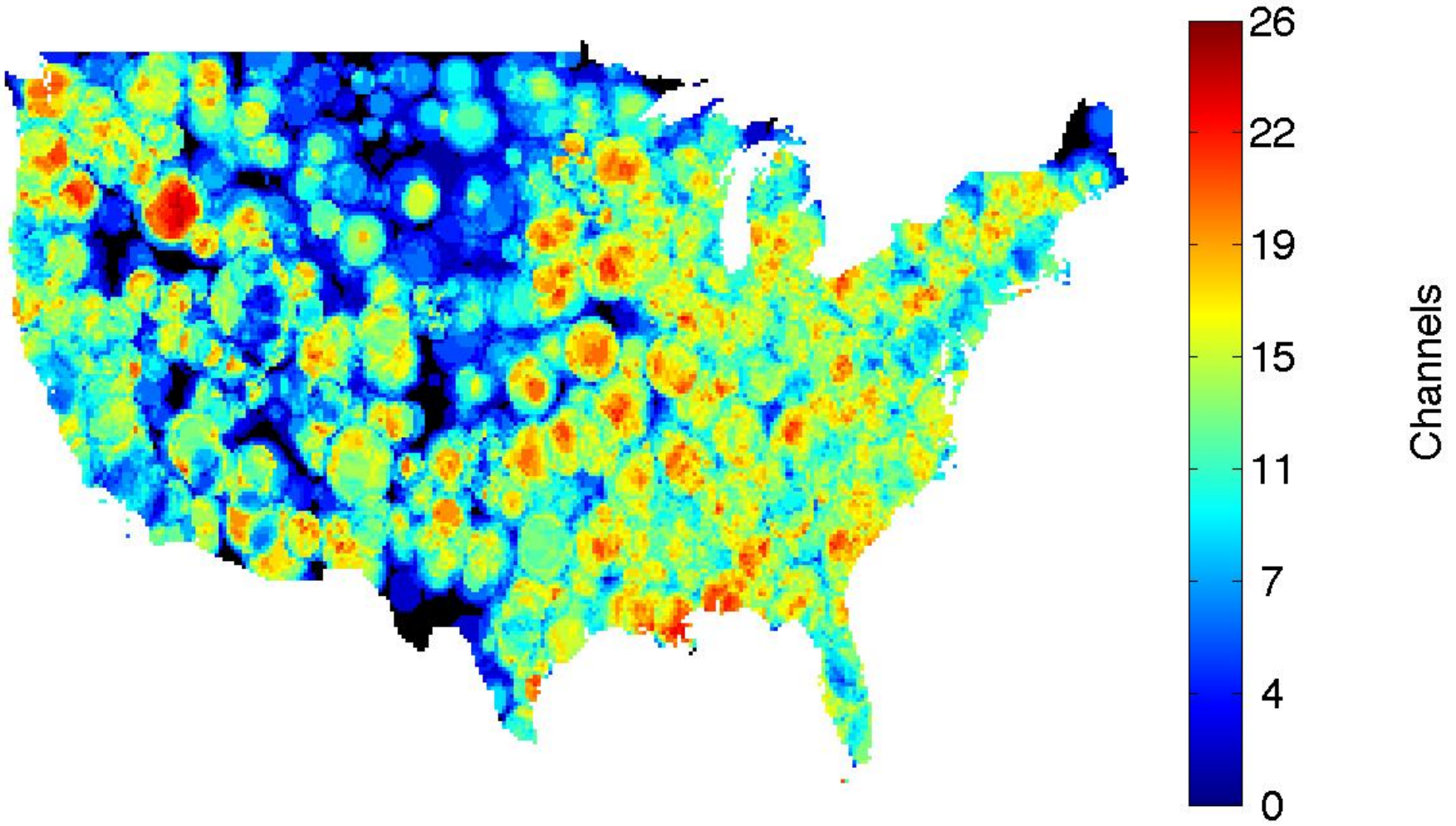
Outline

- Primary context: Adaptive power control
- Sensing context: Cooperation and new enforcement frameworks

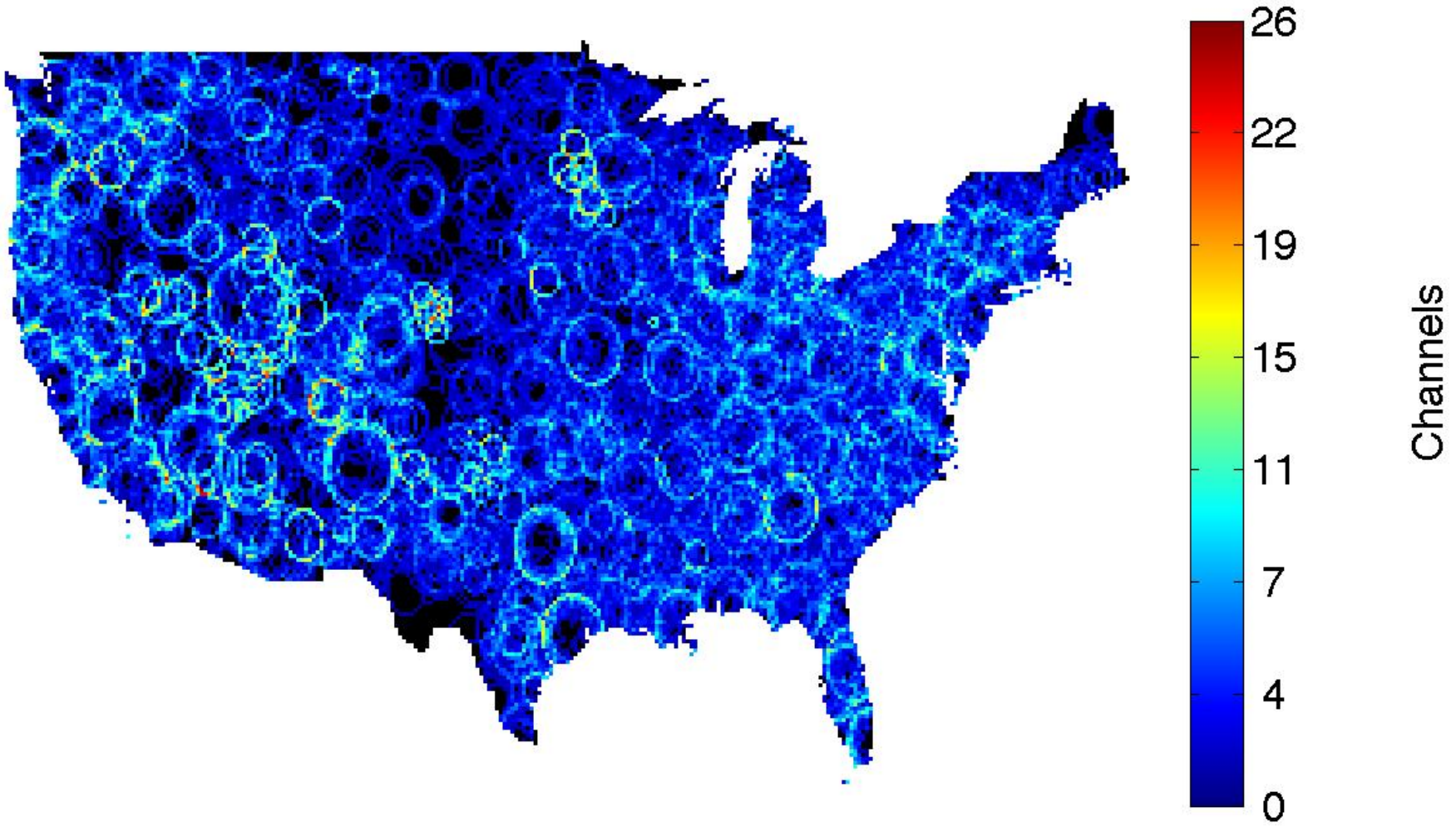
An approximate view of channel availability for fixed



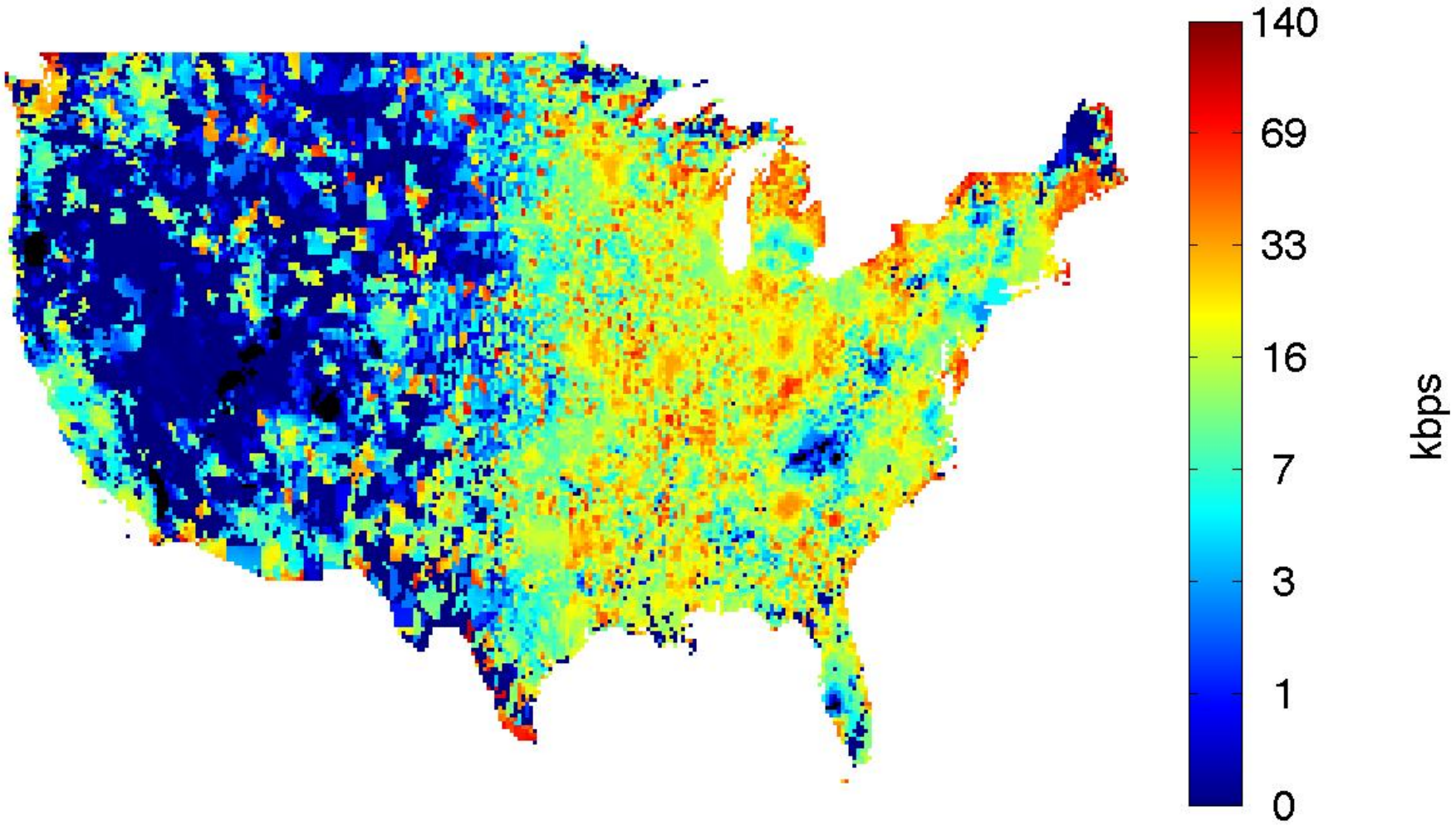
“loss” from protecting adjacent channels



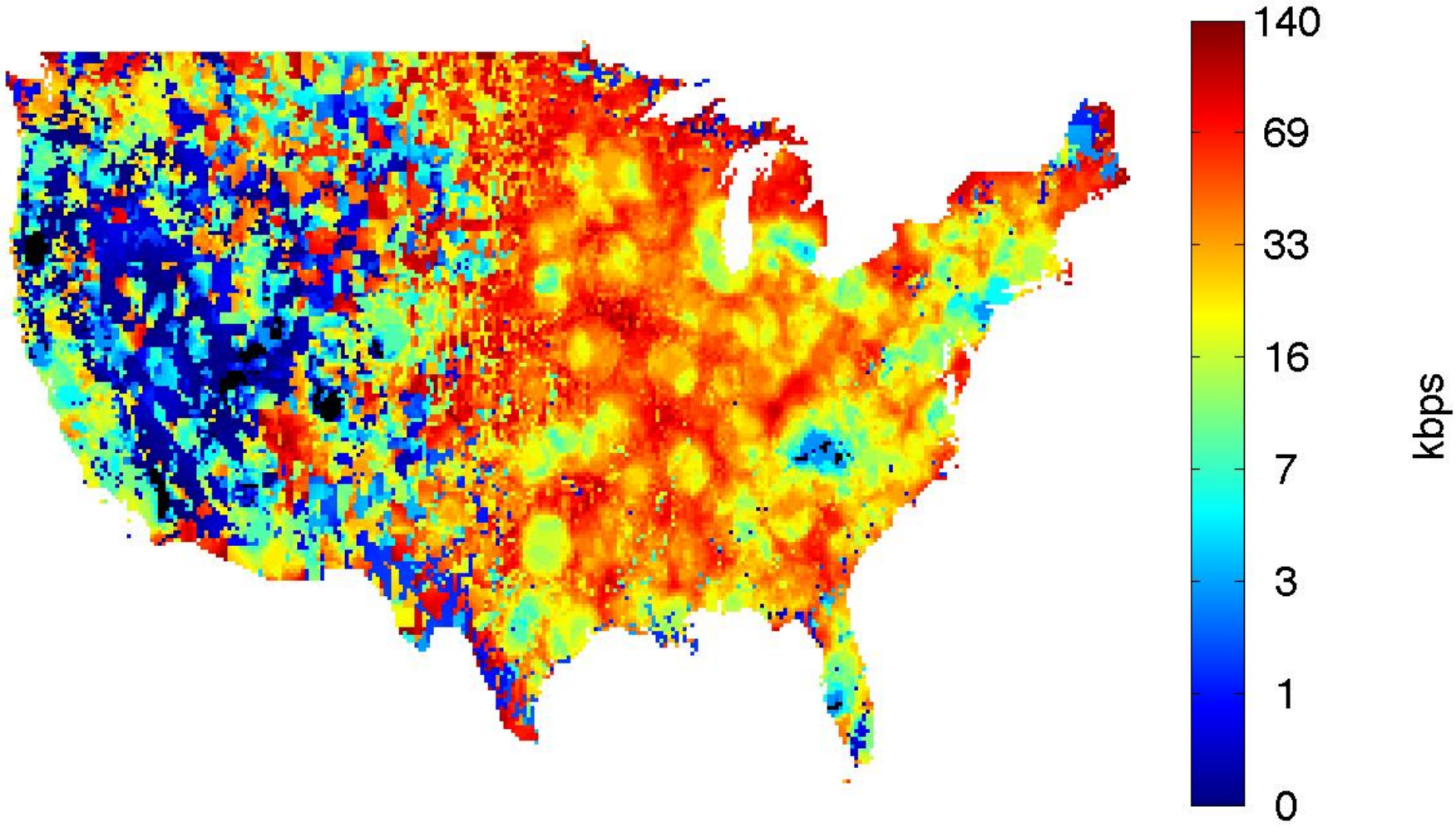
. . . Less so from exclusion around core



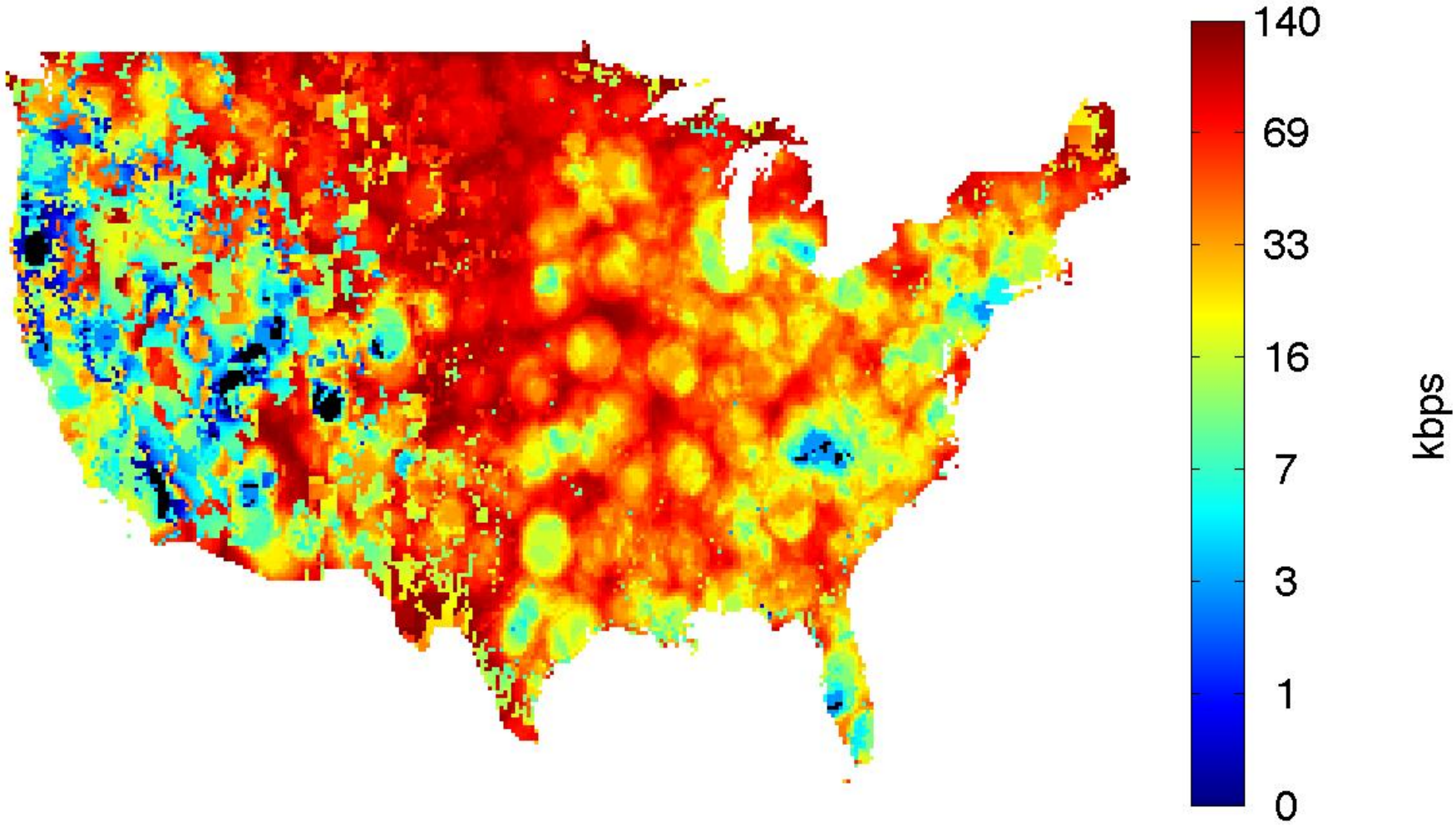
Hypothetical cellular-style coverage: 40mW Fixed



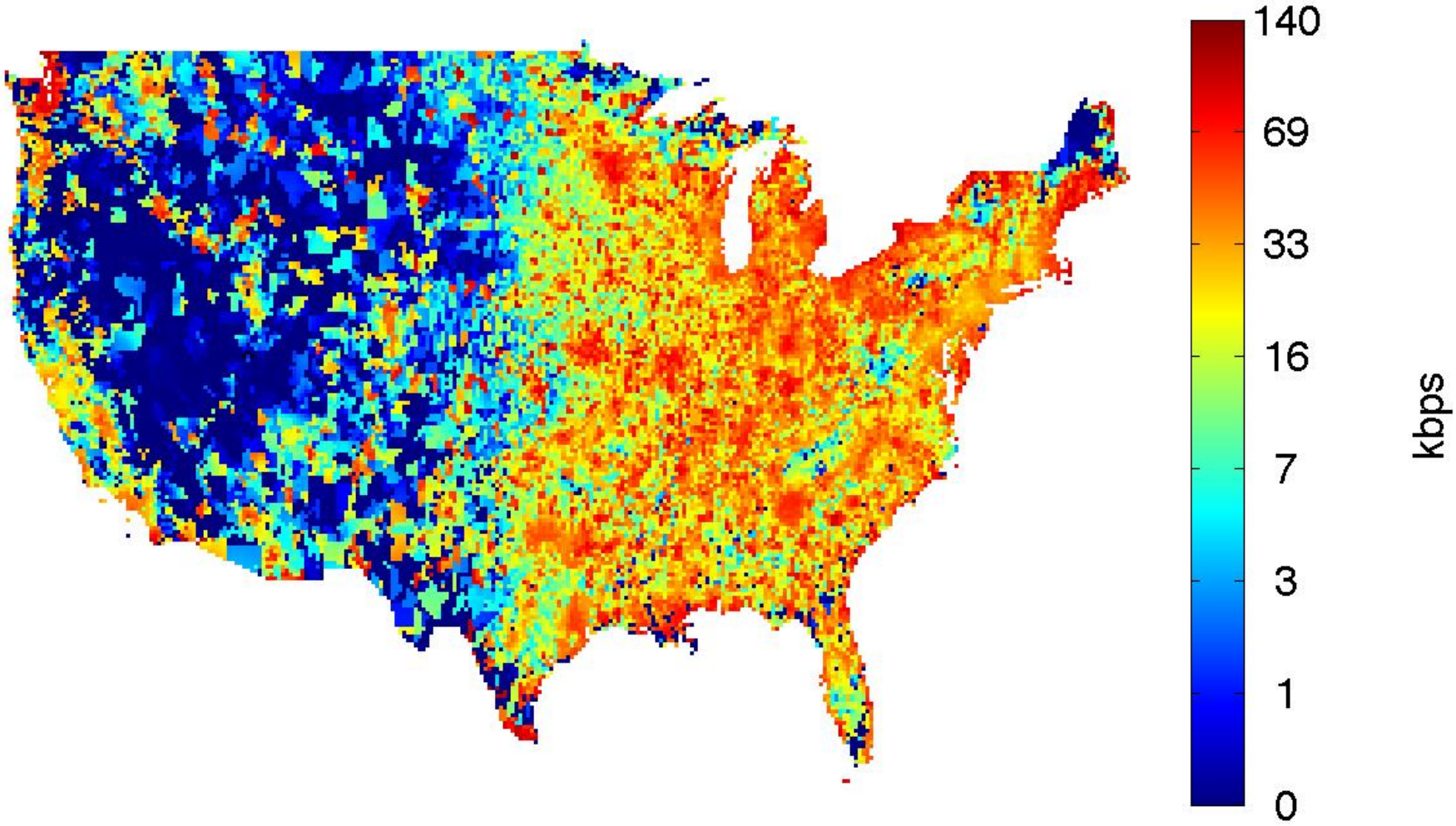
Actual fixed limit: 4W EIRP



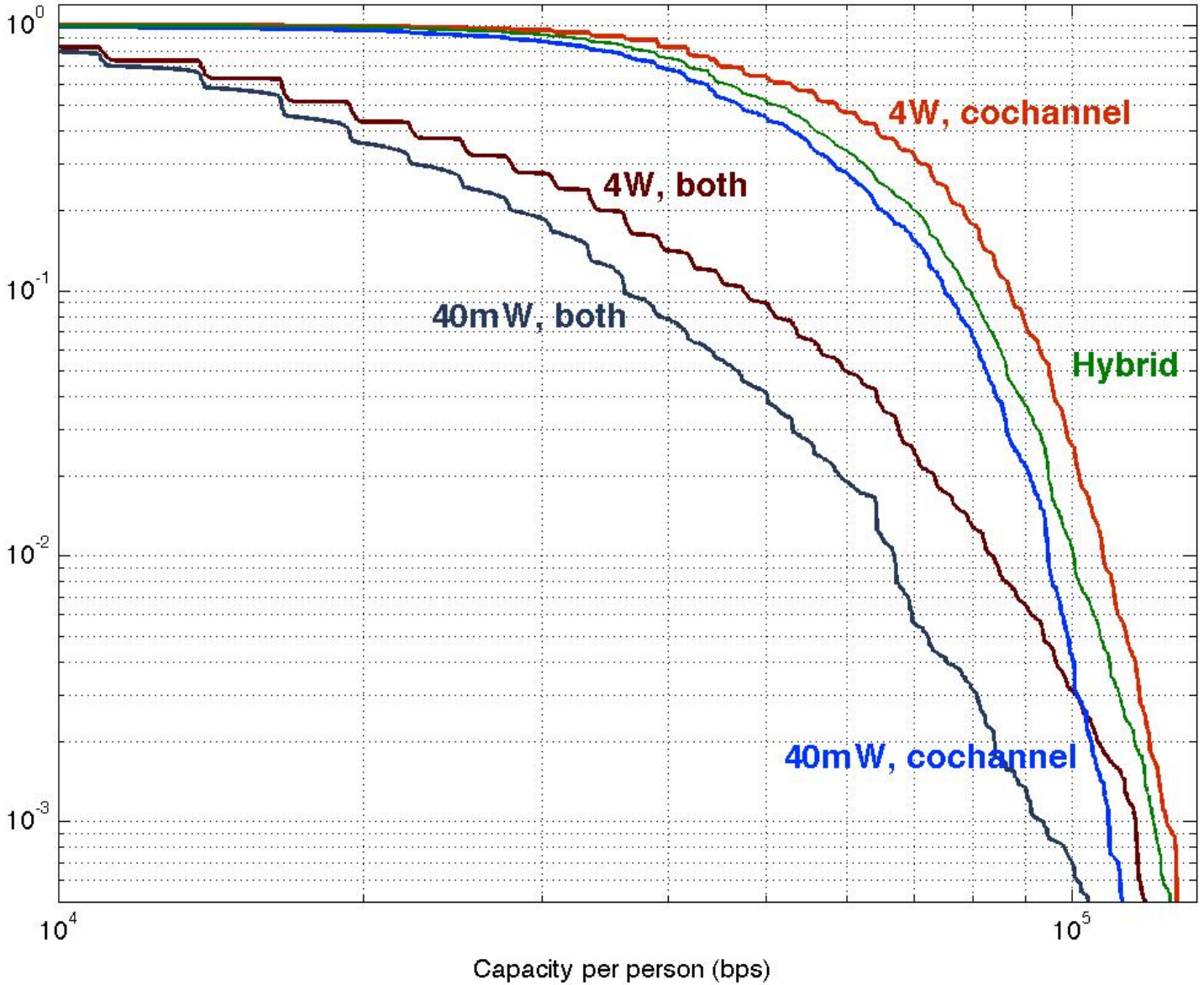
Hypothetical: 400W EIRP



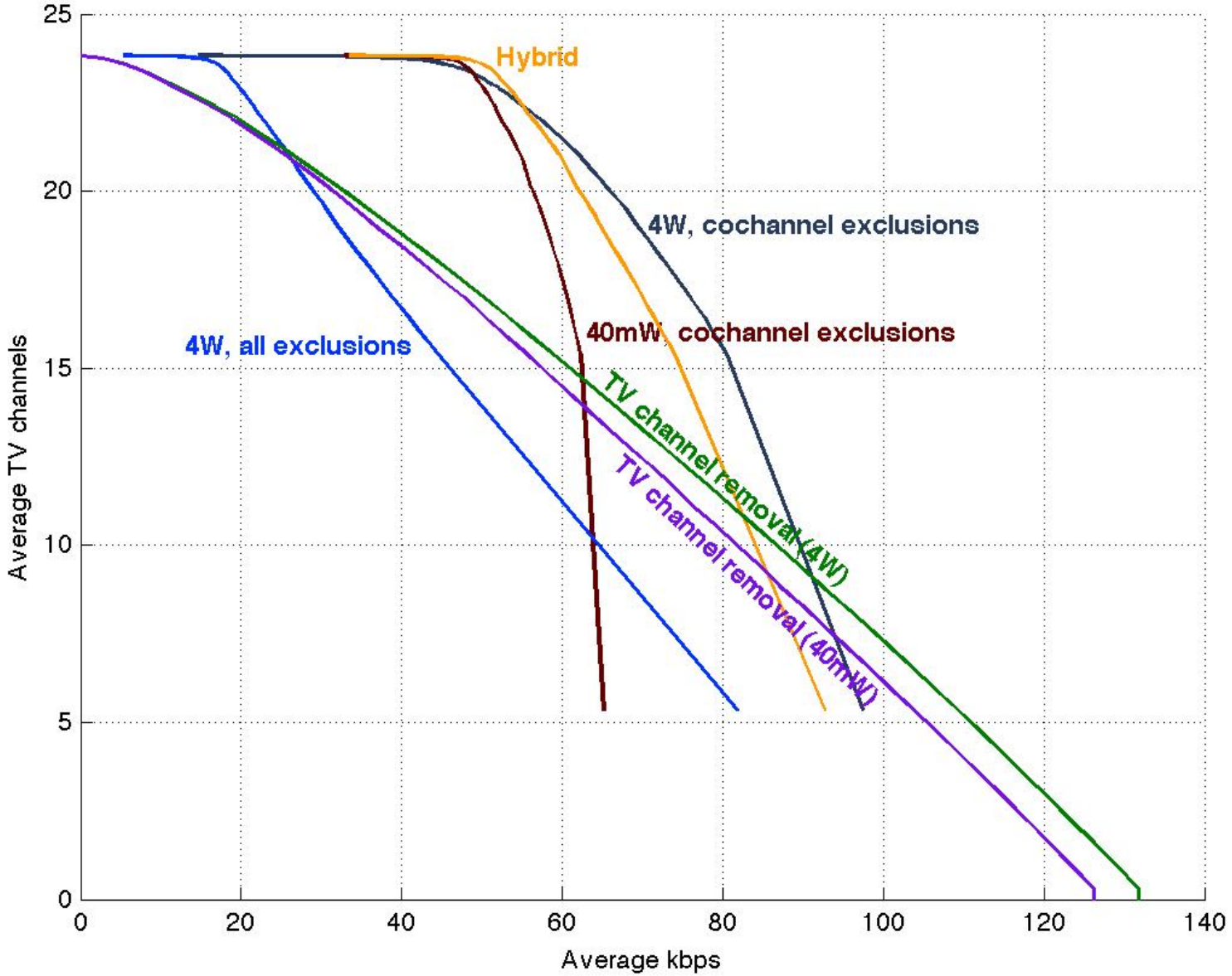
Hypothetical: 40mW Co-channel only



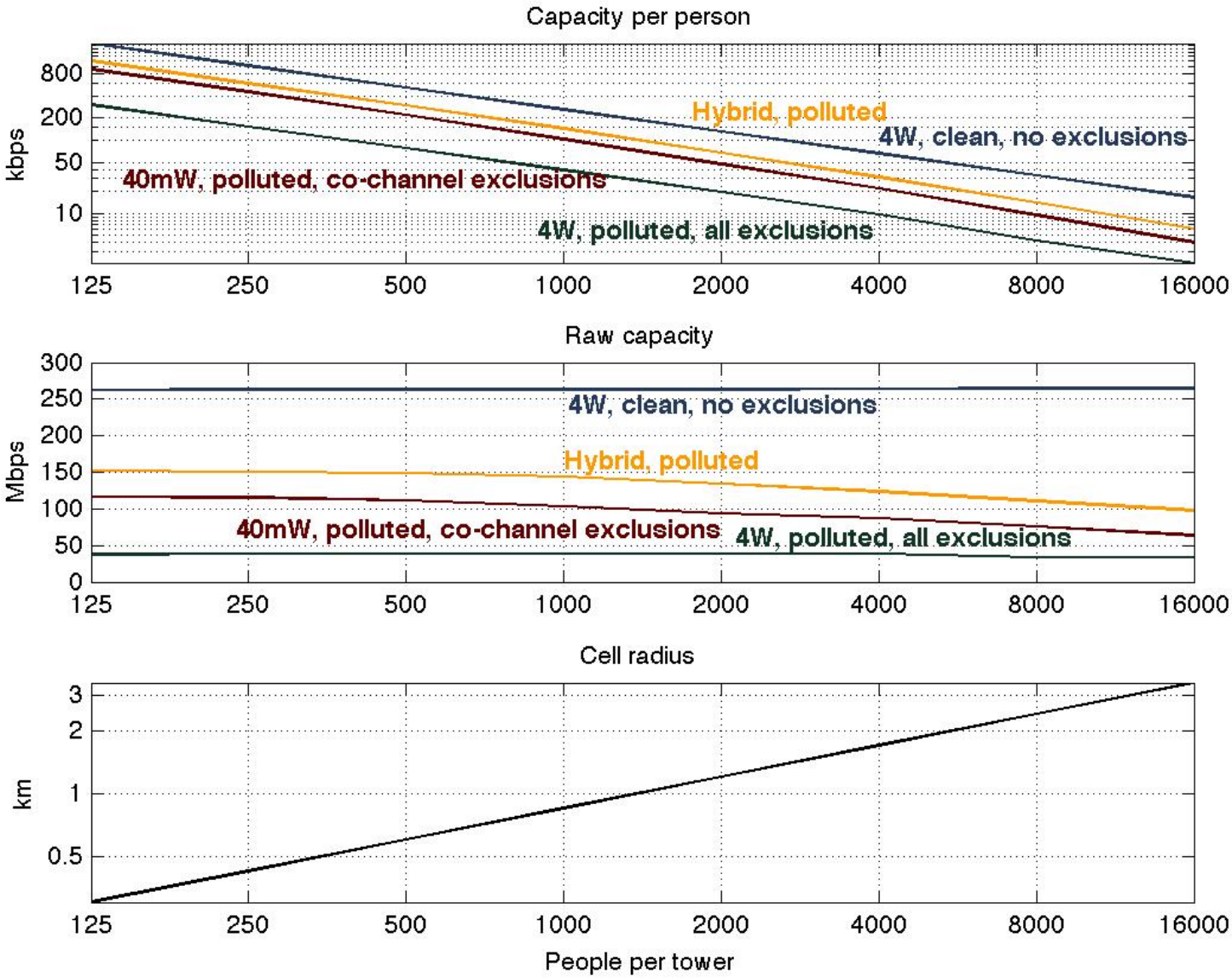
Compare per-person rate distributions



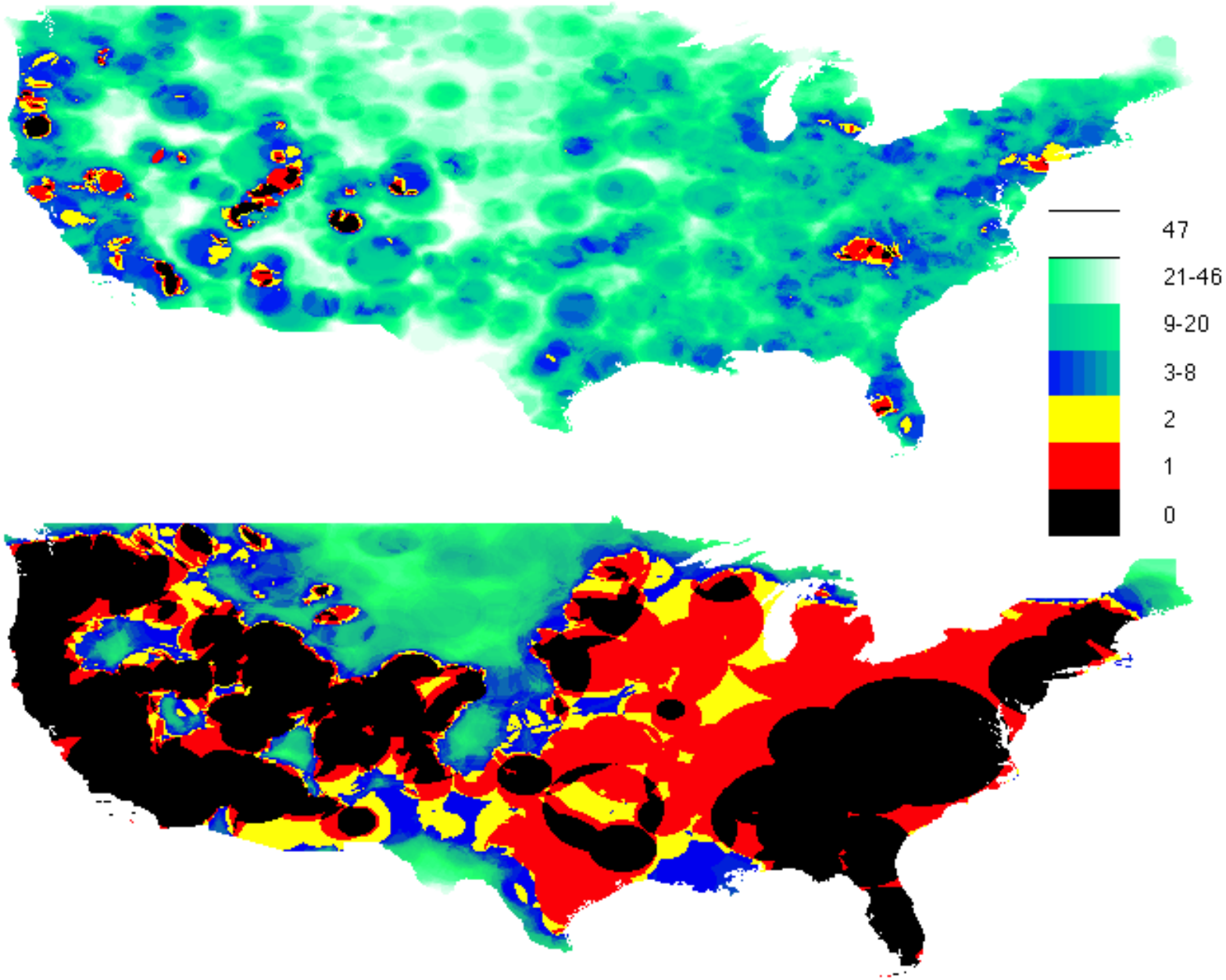
The tradeoff between TV watchers and data users



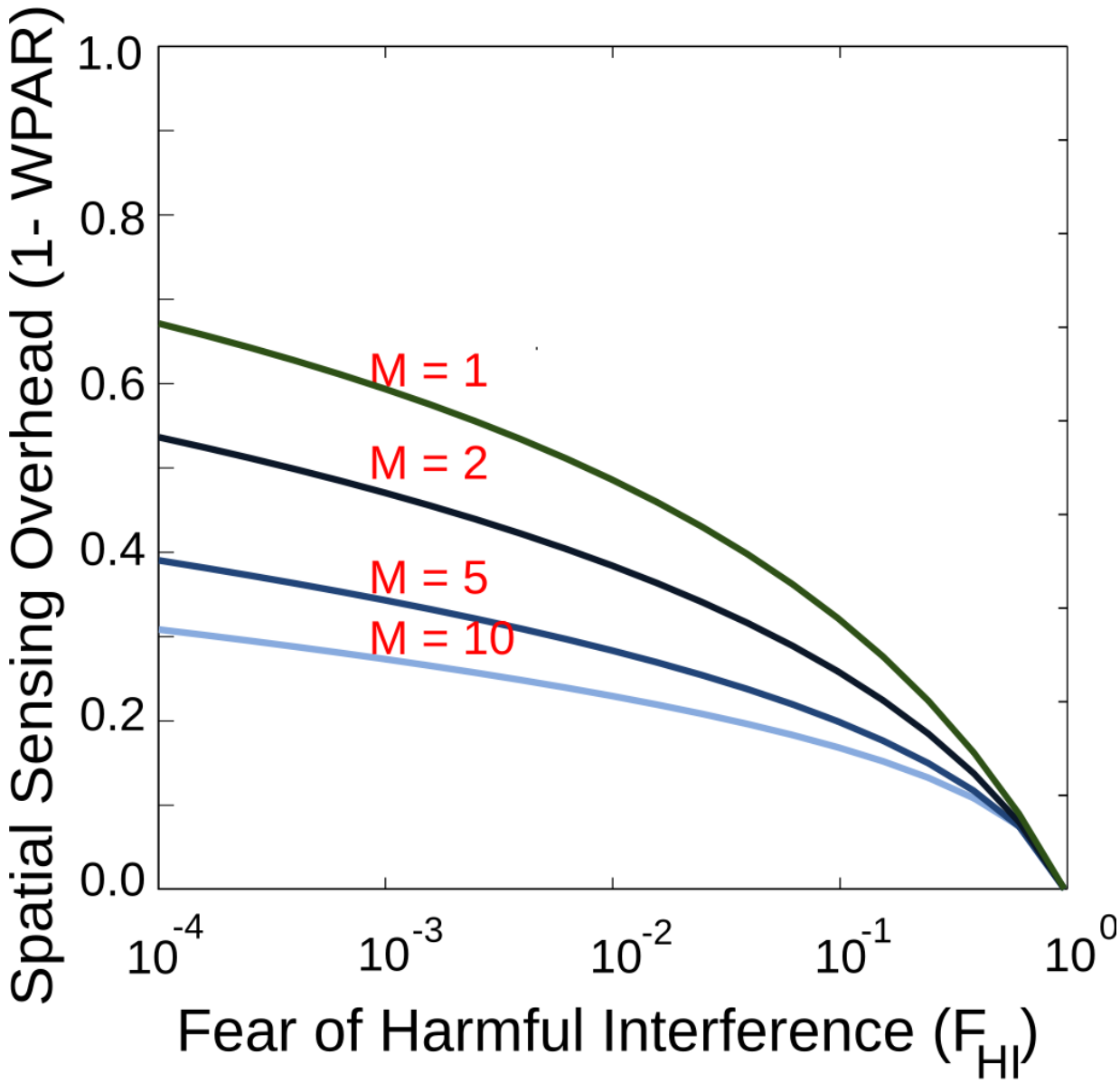
How to get more data rate per person?



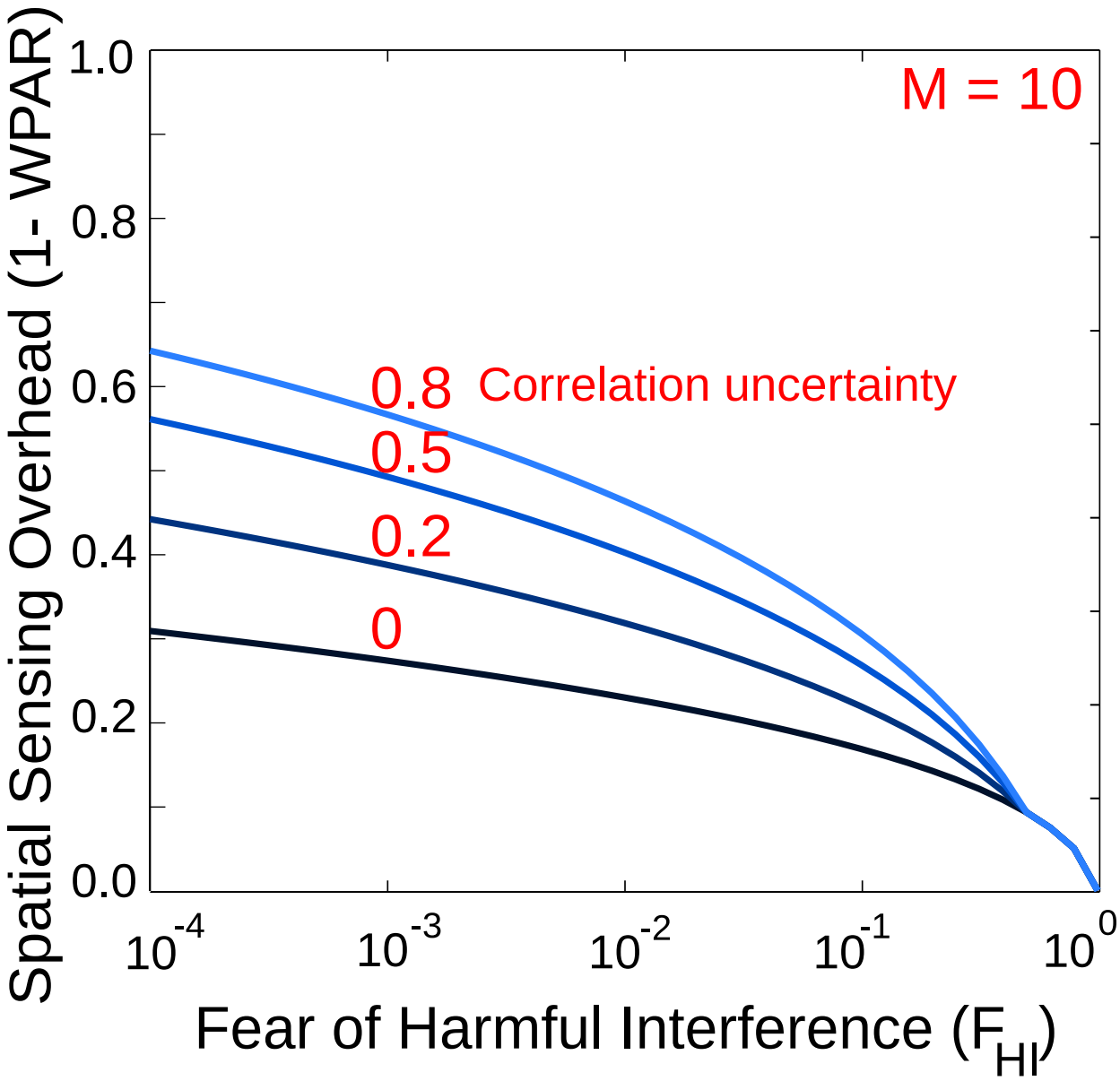
Sensing: thank goodness for database priority!



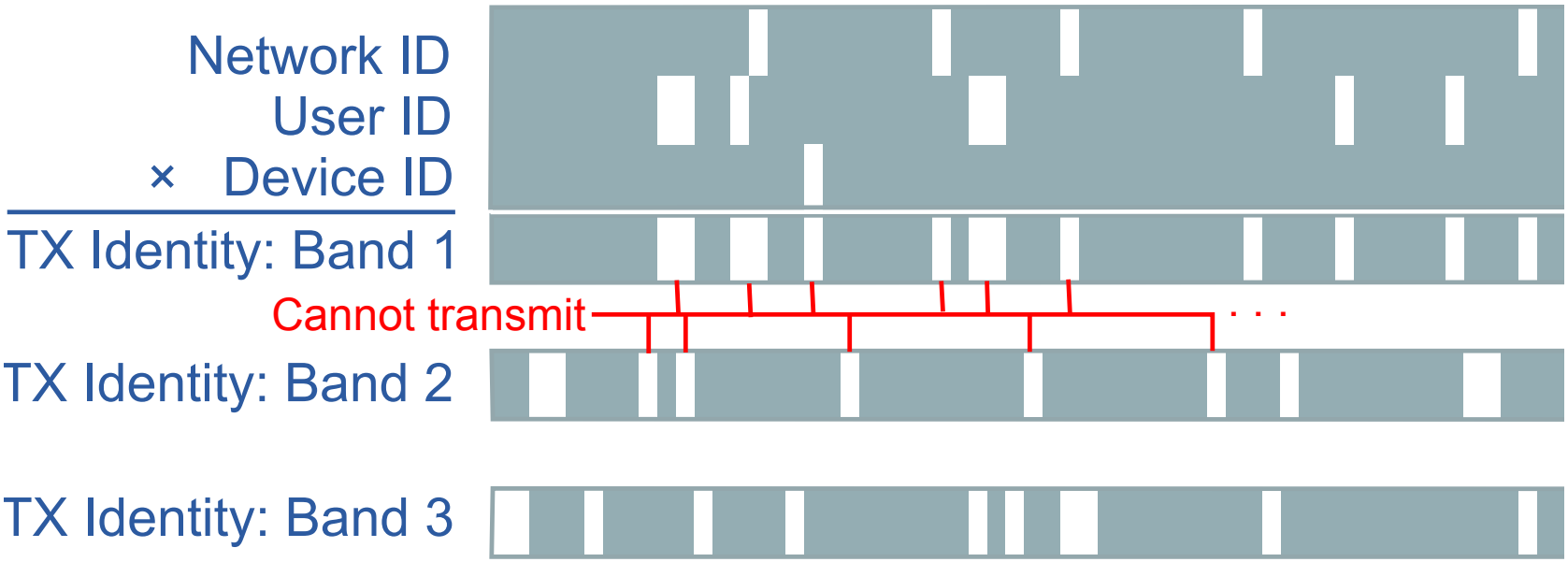
Cooperation to avoid the sensing nightmare



But correlation uncertainty is deadly

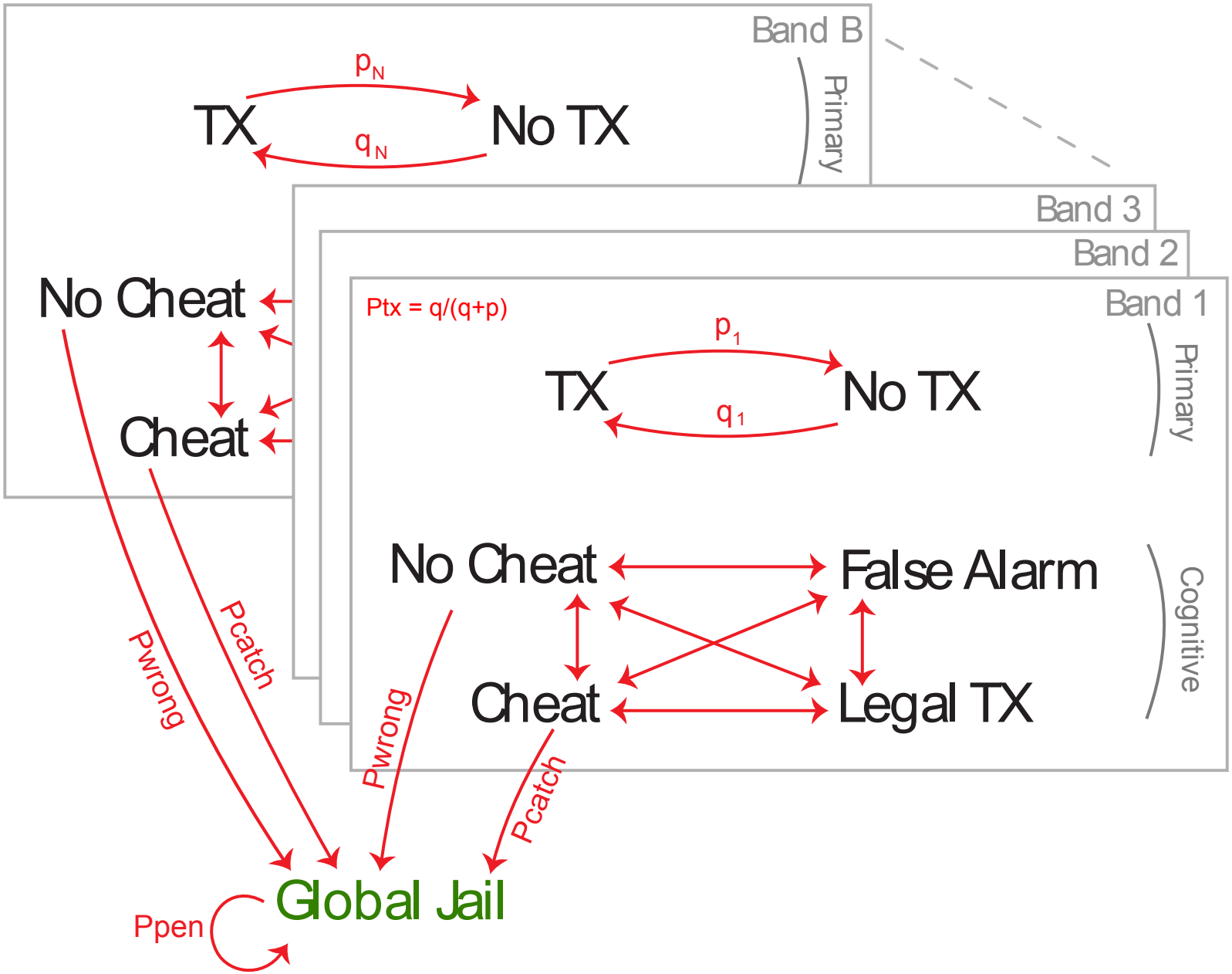


Runtime enforcement: monitoring, **identity**, consequences

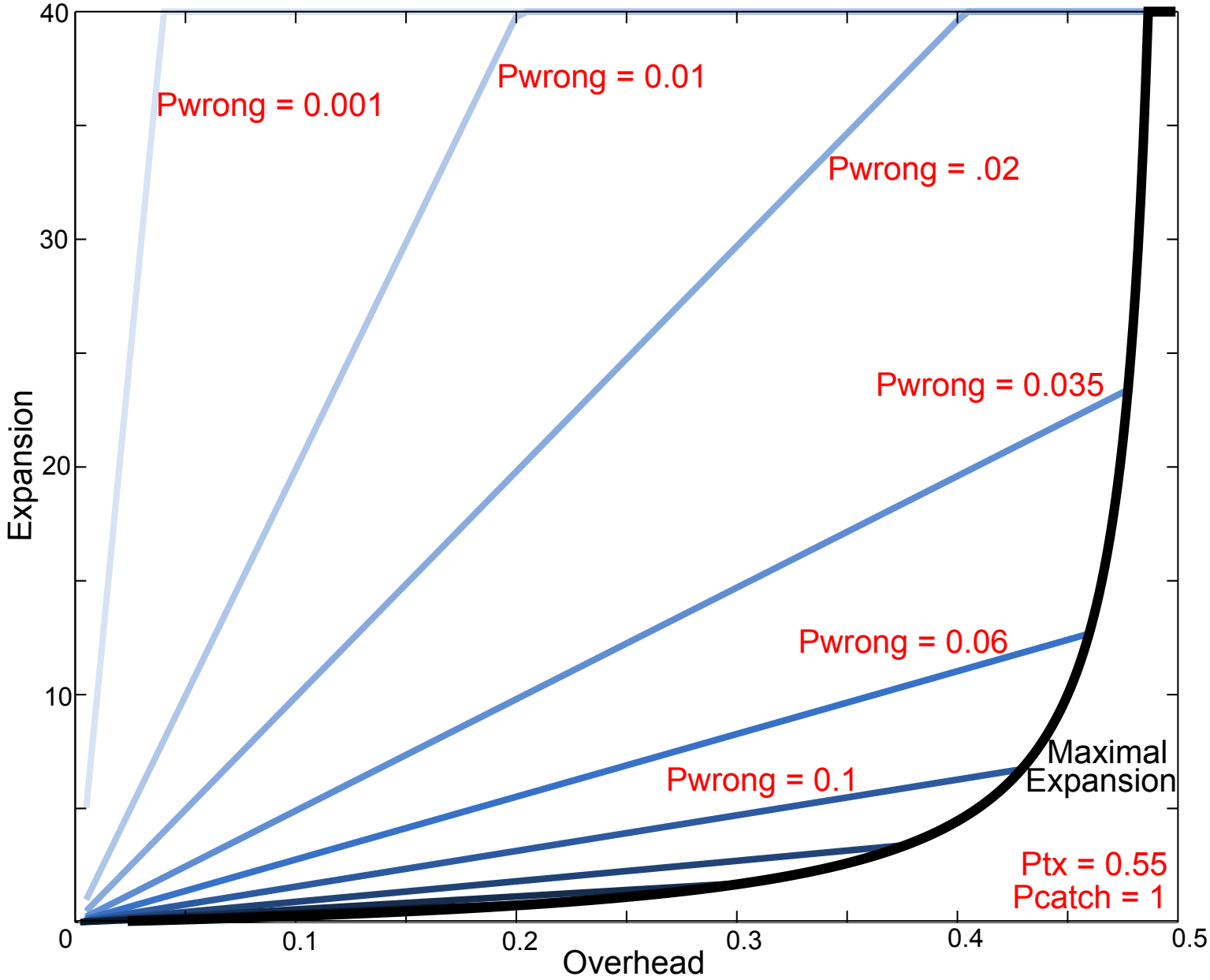


- Inspiration: Rossmo '95 on serial murderers

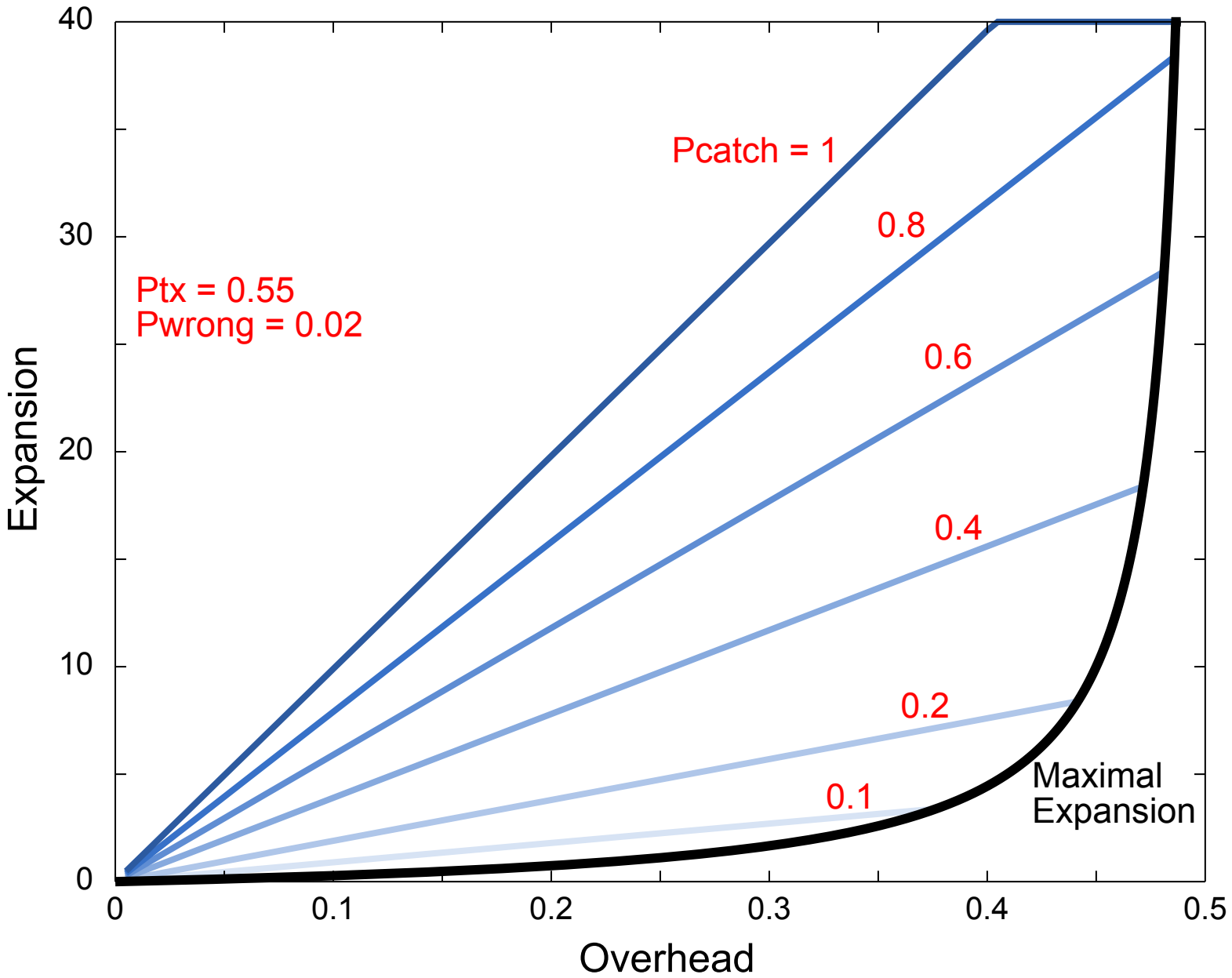
Runtime enforcement: light-handed consequences



Runtime enforcement: light-handed consequences



Runtime enforcement: light-handed consequences



Runtime enforcement: light-handed consequences