

Modeling Agents with Deep Reinforcement Learning in Social Ecological Systems

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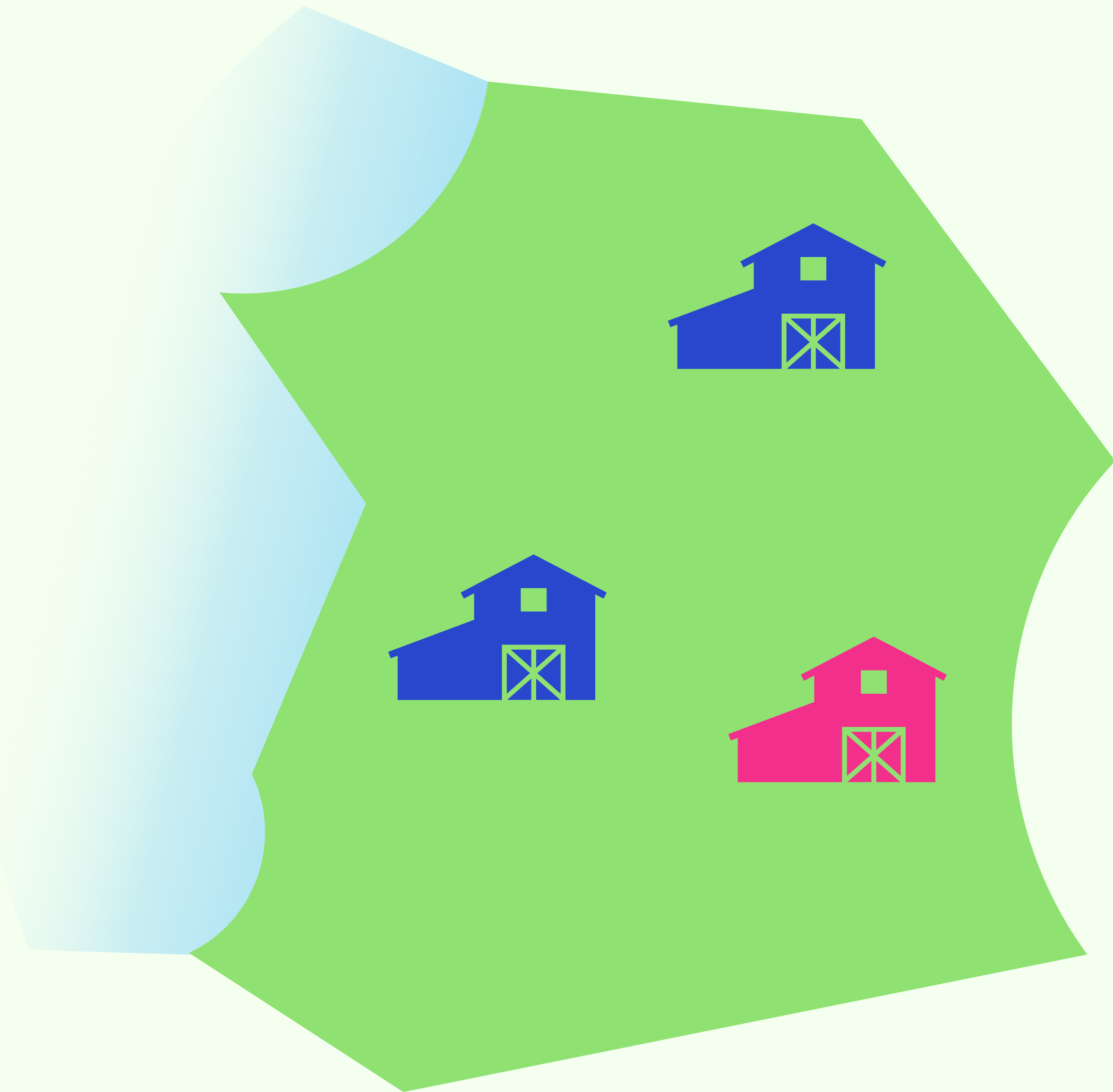


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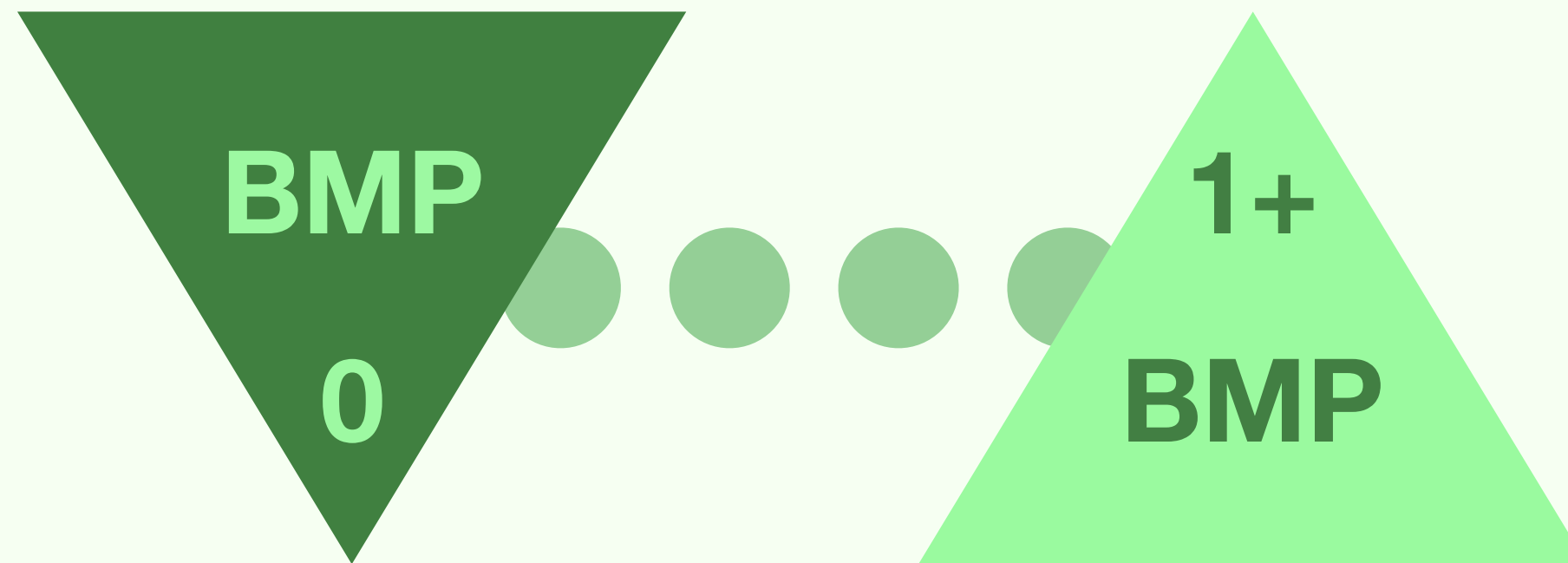
BREE
Basin Resilience to
Extreme Events
in the Lake Champlain Basin





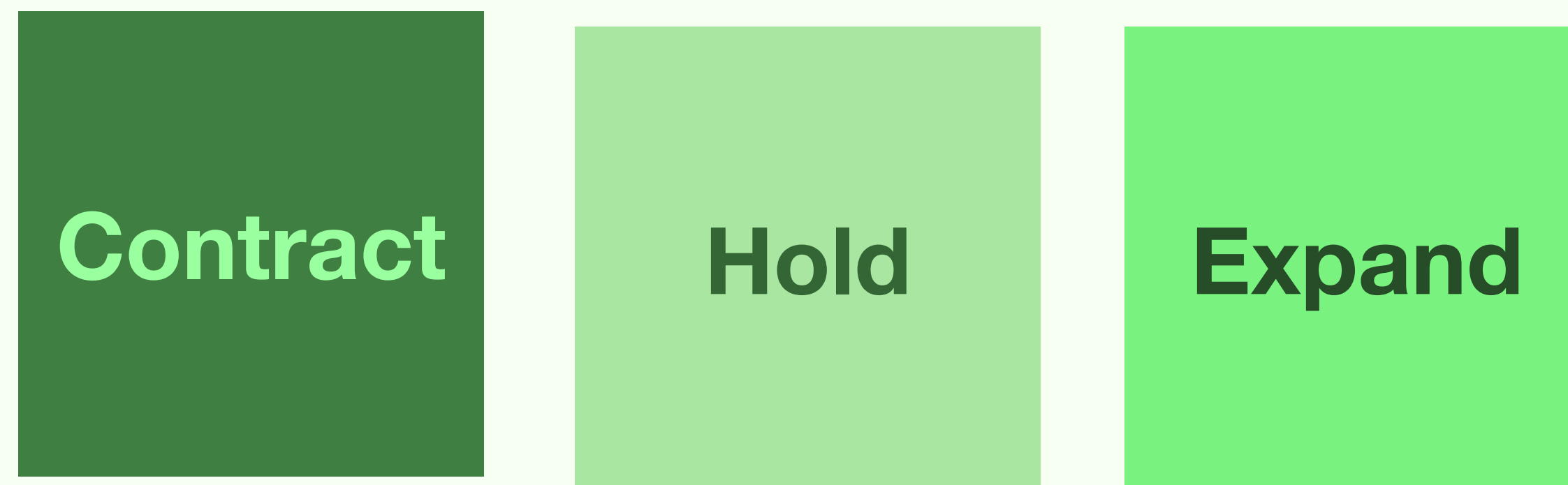
An Agent-Based Model (ABM) is used to simulate how people behave in a model landscape.

Actions



The current model learns policies from farm info and expected returns with RL.

State

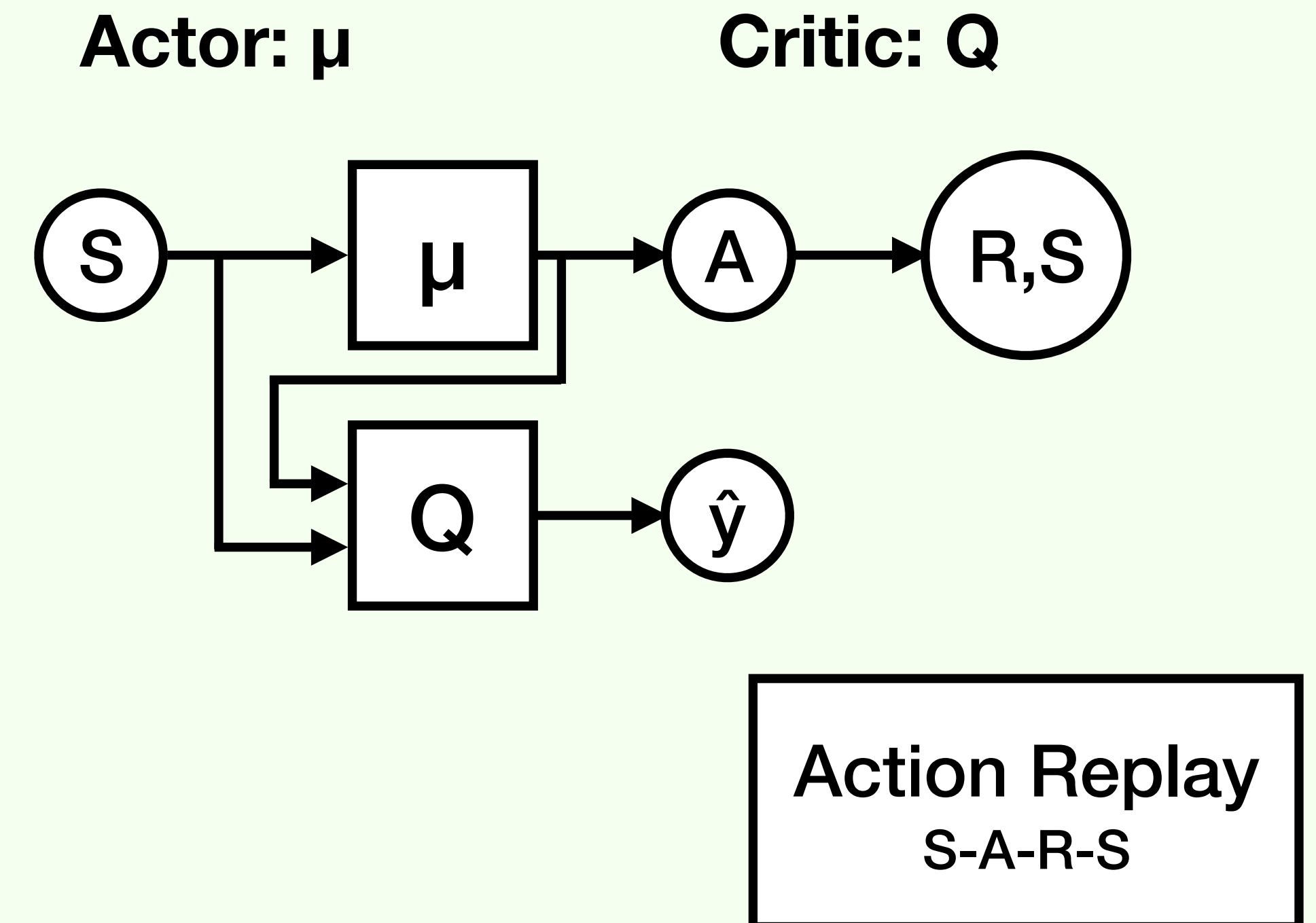


Farm Info

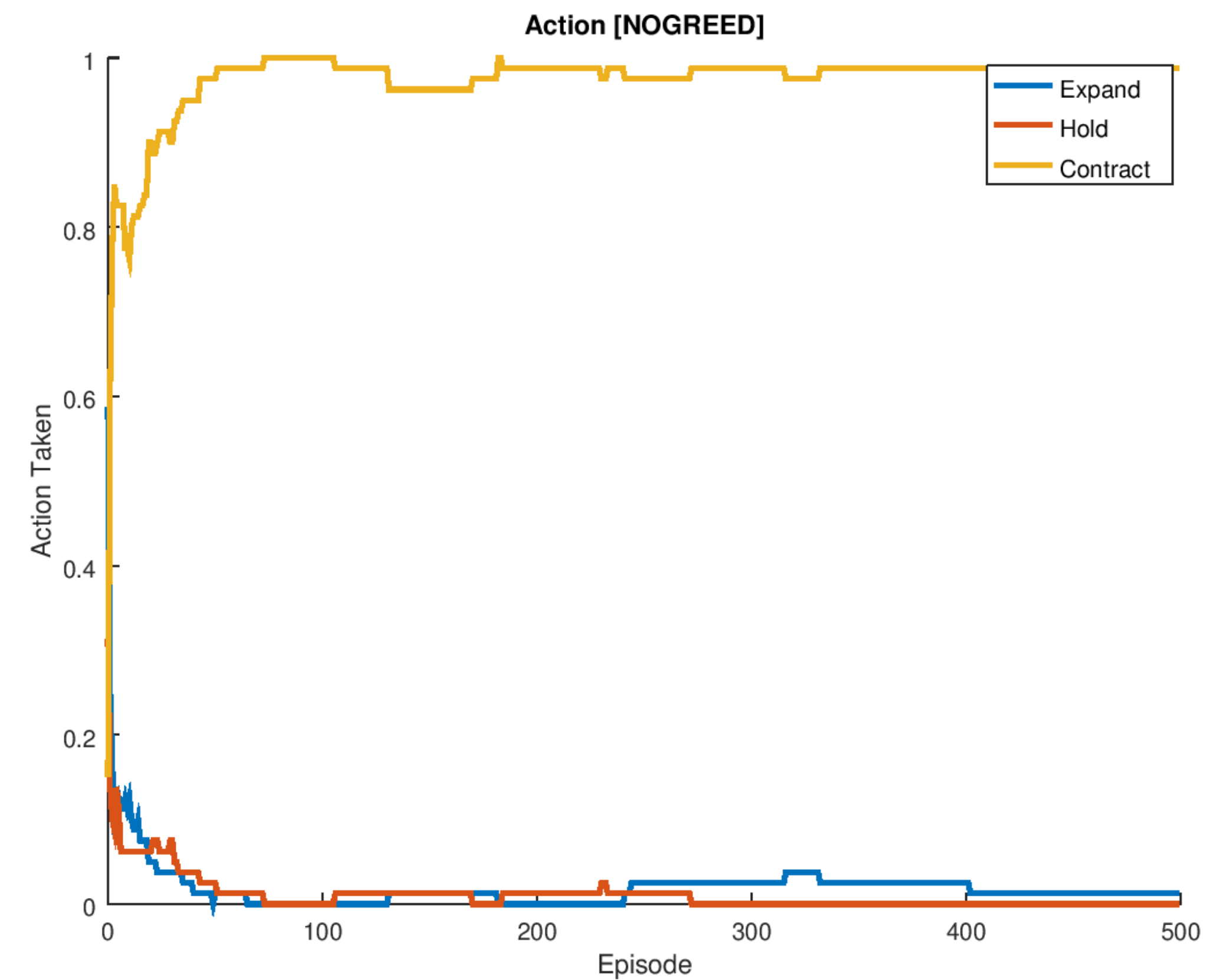
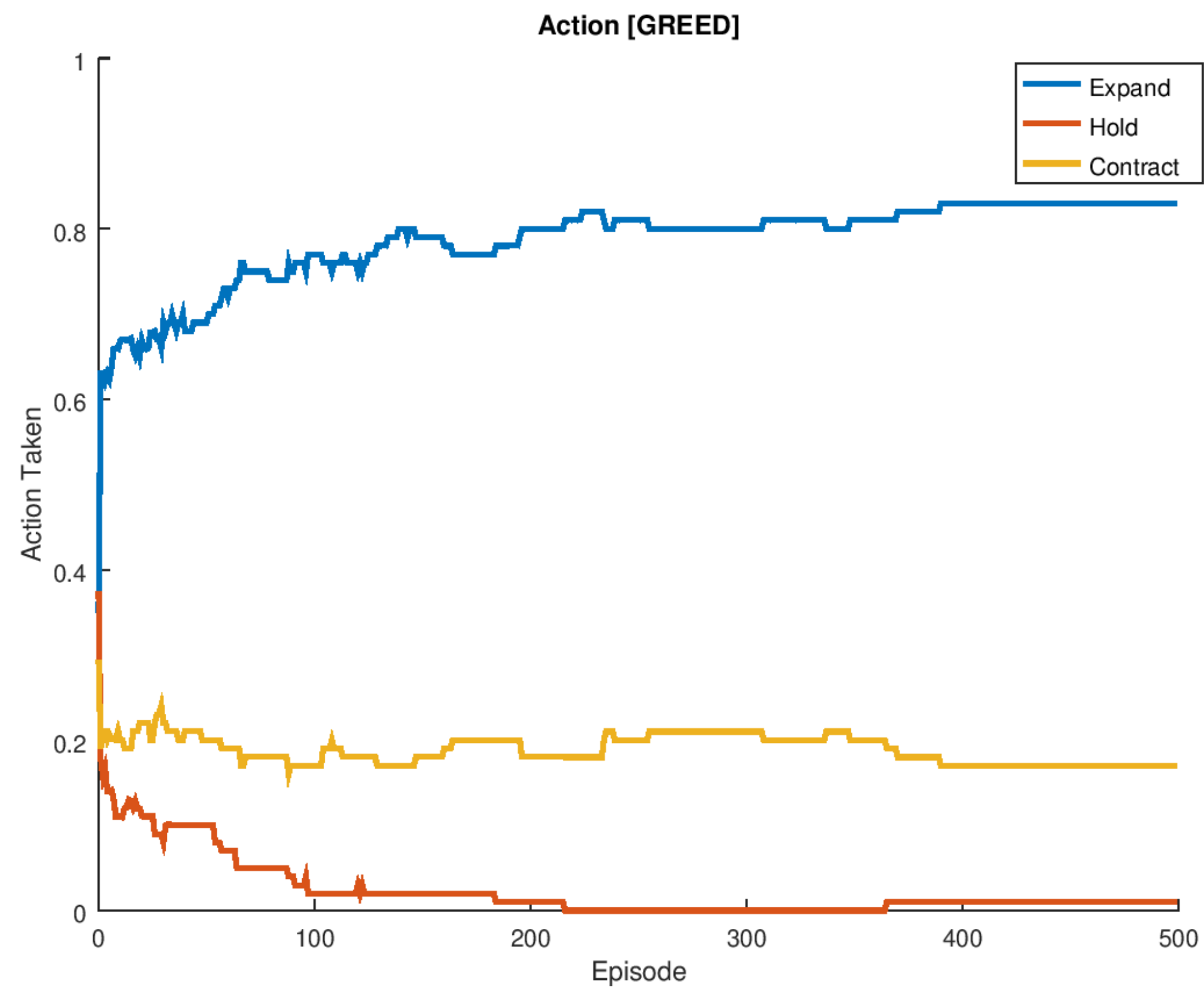
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Strategy

This is done with a DDQN RL
neural network architecture.



ABM calibration is in progress, and early results have farmers creating different policies for different farming strategies.



And adopting BMPs.

