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# **Pesticide Risk/Benefit Analysis Under Various Federal Statutes with Emphasis on Endangered Species Evaluations**

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# Politics!

- \* Our “Status Report” for this conference was prepared before Trump took office
- \* Current situation, especially with regard to EPA, gives new meaning to Knight’s distinction between risk and uncertainty!
- \* Uncertainty dominates current policy, BUT
  - \* Laws remain on the books
  - \* Considerable institutional inertia in Federal Agencies
  - \* EPA under Court order for ESA evaluations

# Primary Federal Statutes

- \* **FIFRA:** Federal Insecticide, Fungicide and Rodenticide Act of 1972
- \* **FFDCA:** Federal Food, Drug, and Cosmetic Act of 1938
- \* **FQPA:** Food Quality Protection Act of 1996. Amended FIFRA and FFDCA
- \* **PRIA:** Pesticide Registration Improvement Act of 2012 with extensions (House approved for the next 4 years; awaiting action in the Senate)
- \* **ESA:** Endangered Species Act of 1973 with Amendments through 2004
- \* Agencies with significant involvement in ESA: FWS, NMFS, EPA & USDA

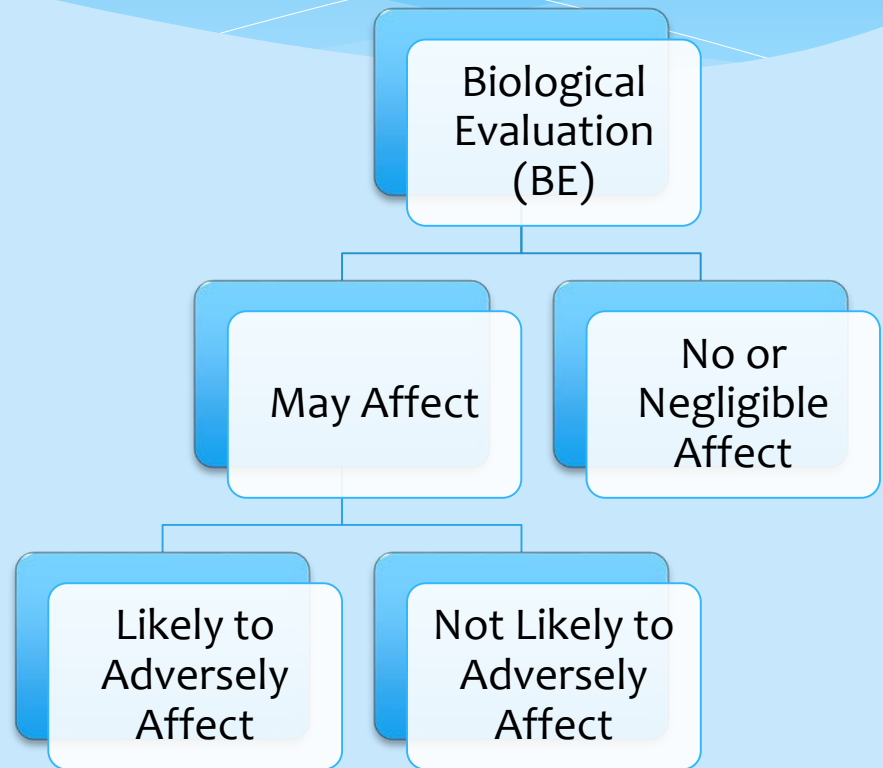
# ESA & Pesticides

- \* **FIFRA/FQPA** is a “risk/benefit statute”
  - \* EPA is required under FIFRA/FQPA to insure that pesticides do not pose “any unreasonable risk to man or the environment, taking into account the economic, social, and environmental costs and benefits of the use of any pesticide.”
- \* **ESA** is a “may affect” statute
  - \* 1973 ESA Congress explicitly stated that economic effects were NOT to be considered
  - \* 1978 Amendments introduced economic considerations but only in 2 limited cases
- \* EPA must consult with Services (FWS or NMFS) if EPA deems that pesticide registration will present a risk to threatened or endangered species and their habitats

# ESA “Effect Determinations”

## Now called Biological Evaluations (BE)

- \* 1,597 species currently listed as threatened or endangered
- \* Mandated Decision Tree (for ESA listed species and/or designated critical habitats)



# Deemphasizing FIFRA?

- \* Former “Risk/Benefit Assessments” by EPA appear to have become “Effect Determinations” when listed species are involved
- \* **ESA bar of a possible effect on one individual of a listed species appears to take precedence over FIFRA risk/benefit tradeoffs**
- \* Agencies involved—FWS, NMFS, EPA, USDA—may have different bars as to what is “negligible” and what is “likely” and what is “adversely”

# EPA Assessment for ESA

- \* Historically highly qualitative
- \* Draft BE's for 3 pesticides released in 2016; more forthcoming under Court order
  - \* Reflected sophisticated quantitative modeling of risks to listed species
  - \* BUT implemented with extremely conservative parameter assumptions
    - \* Examples:
      - \* 200 fold overestimate of dermal exposure
      - \* Pesticide applied within one hour of the most extreme rainfall event in 30 years, at the maximum rate, and adjacent to the ES critical habitat
  - \* AND the only listed species considered “No/Negligible Effect” were those that are now considered extinct or only historically present



# Risk: Take an Umbrella?

- \* If the weatherman says that there will be a 0.0000002% chance of rain today, will you take an umbrella?
- \* Numbers this extreme are moving ESA “no effect” determinations to “may affect”

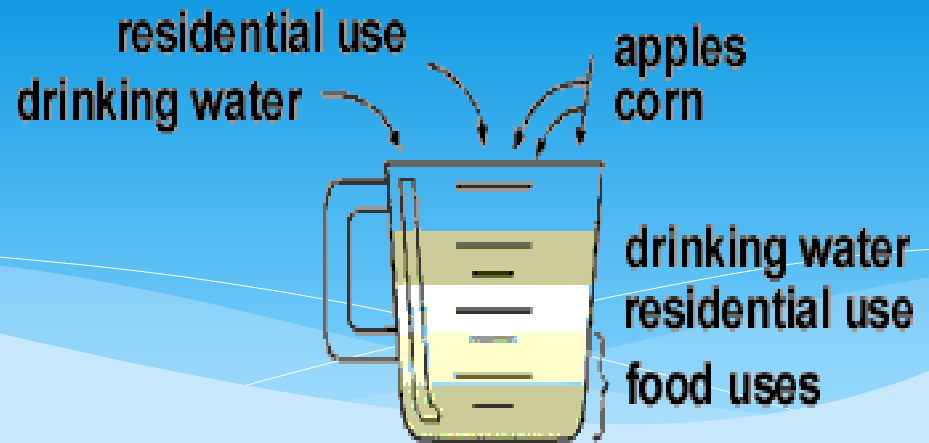
# Opinion

- \* Historically, EPA has considered economic impacts in FIFRA/FQPA registration
  - \* For major pesticides mainstream economic concepts (surplus, etc) have been applied
  - \* Ignored gussied up sales pitches
  - \* However, weighting of risks and benefits is not transparent
- \* Recent BE evaluations by EPA using extreme assumptions are not consistent with the 45 year history of FIFRA

# Opinion

- \* Comprehensive RISK and/ or ECONOMIC evaluations of pesticides and/or ES are rare
  - \* Pesticide and ES evaluations are done one-by-one
  - \* Sequence of evaluation may determine eventual risks and benefits to society
    - \* Problem well recognized for decades, but nothing done
  - \* ES focuses on “charismatic” species, seemingly overlooking millions of unseen critters
- \* Delays, delays, delays
- \* Visibility & influence of economists—inside and outside relevant agencies—appears to have been declining for 4 decades!

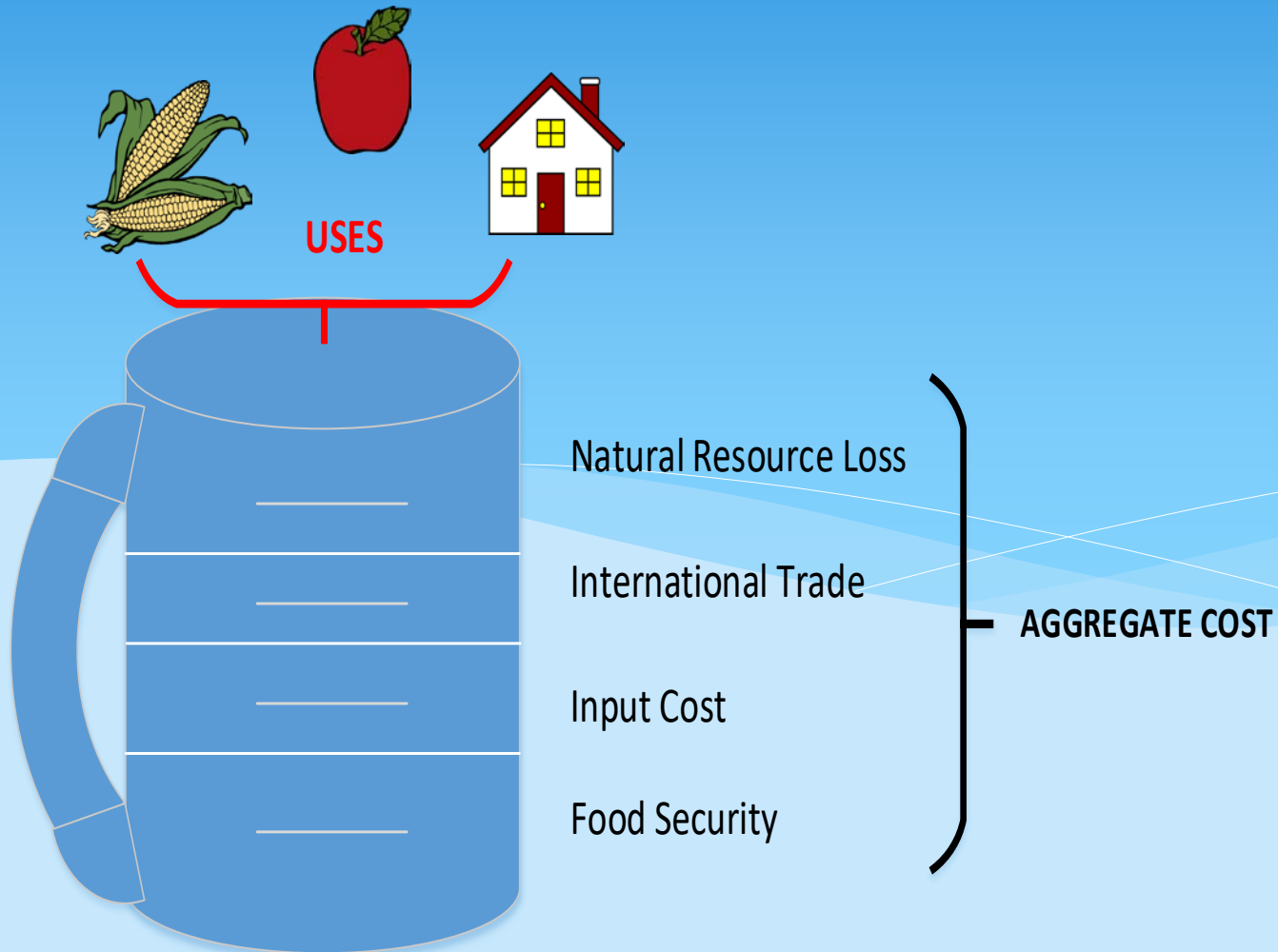
# FQPA Aggregate Risk Cup



**Aggregate Risk Cup**

- \* Evolution of the concept of a risk cup for pesticides under FIFRA and FQPA has moved EPA closer to a decision model akin to Roy's Safety First criterion
- \* BUT the recent BE evaluations by EPA for pesticides relevant to ESA considerations are a distinct departure from such a criterion
- \* Under current interpretation of law, economics will not matter in ESA decisions, except in very limited cases, and may not matter in FIFRA decisions

# What about a FIFRA/ESA “Cost Cup?”



# Limbo

- \* On Tuesday, the U.S. House of Representatives held Hearings titled “*ESA Consultation Impediments to Economic and Infrastructure Development*”

- \* [https://naturalresources.house.gov/uploadedfiles/hearing\\_memo\\_-\\_ov\\_hrg\\_on\\_03.28.17.pdf](https://naturalresources.house.gov/uploadedfiles/hearing_memo_-_ov_hrg_on_03.28.17.pdf)

- \* Will EPA be eliminated?
- \* Will EPA revise their BE evaluations to make them more in touch with reality?
- \* Will ESA evaluations be “defunded” by Appropriations, such as was done to prevent USDA from implementing GIPSA rules under Farm Programs?

**To quote Yogi, “It ain’t over till  
it’s over!”**

Questions/Comments?