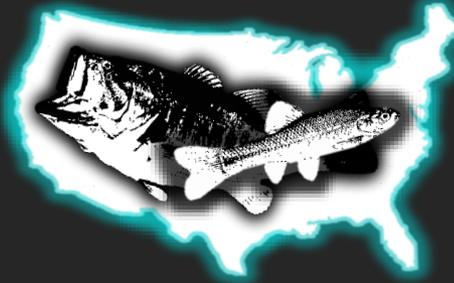


# Costs of Regulations on Baitfish/Sportfish Farms: What Will it be for Trout?



Carole R. Engle and Jonathan van Senten  
United States Trout Farmers Association  
Fall Meeting and Penn Aqua  
September 8, 2016

**ENGLE-STONE**  
*Aquatics*

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Life Sciences



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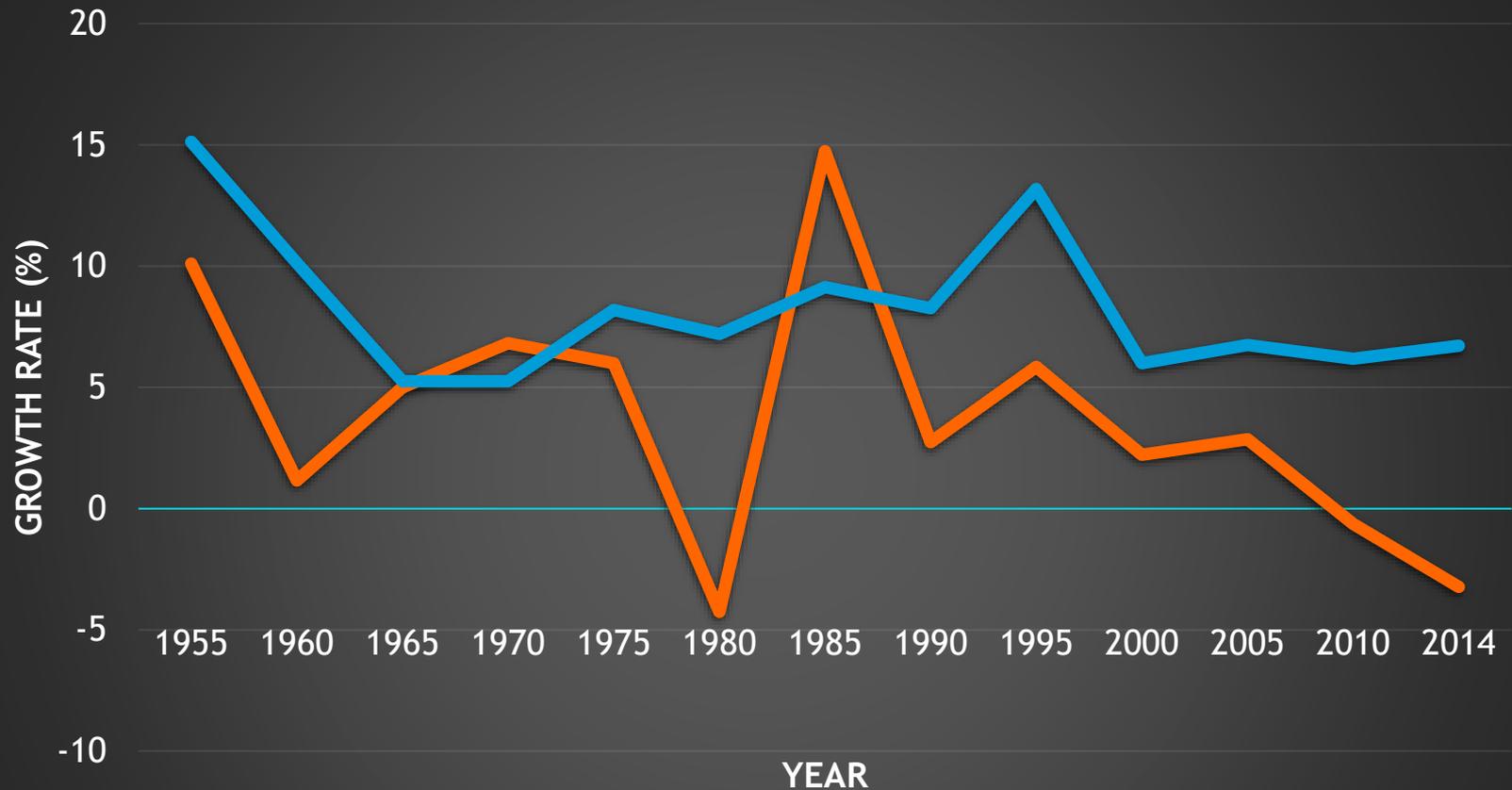
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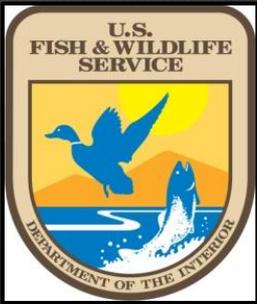
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# Current state of U.S. aquaculture



SOURCE: FAO (2016)

— United States — World



Texas Department  
of Agriculture  
Todd Staples, Commissioner

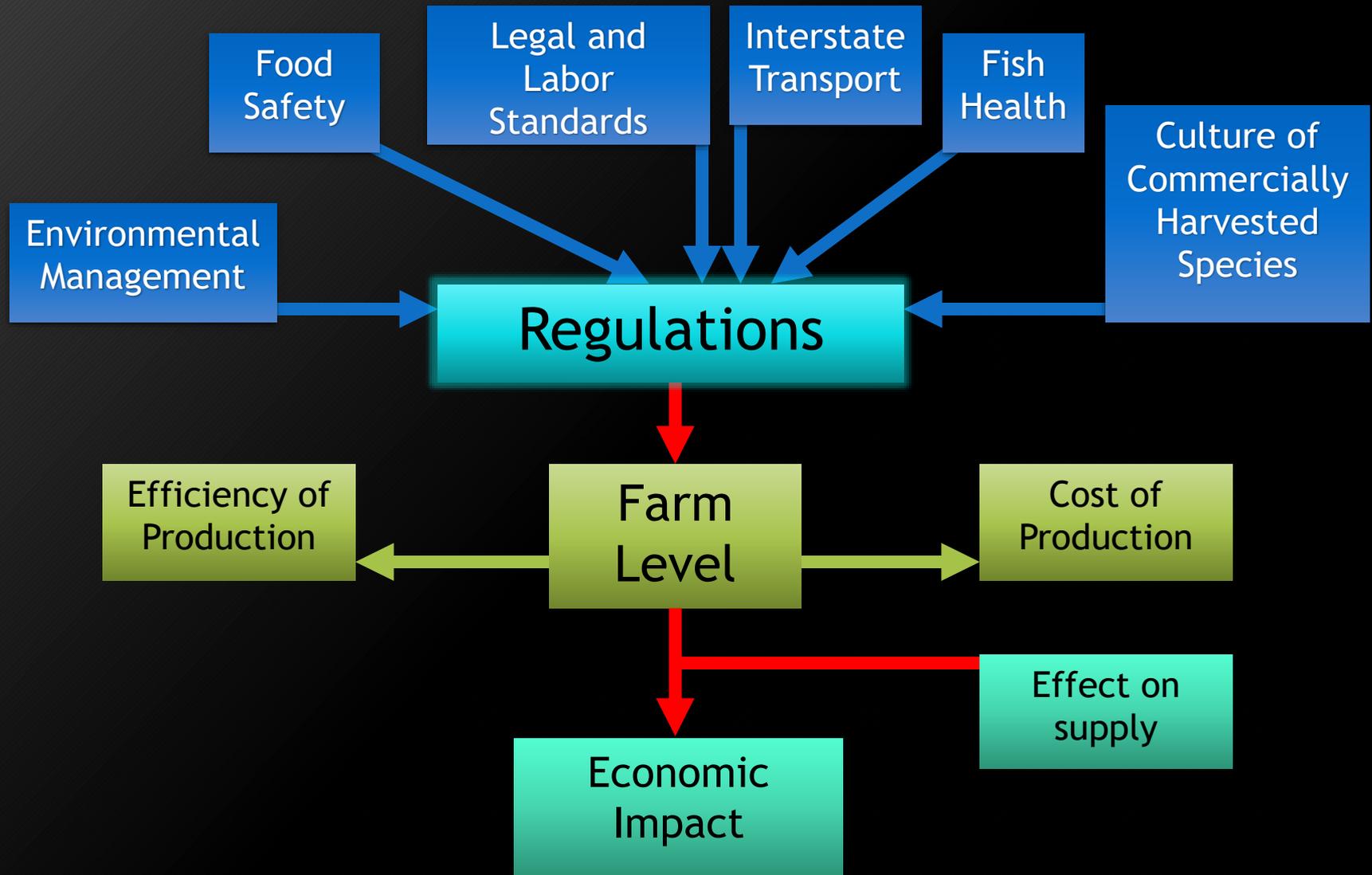


# Justification

- We were approached by individuals working to streamline regulations asking for data on compliance costs
- Need to capture and publicize the magnitude of regulatory costs



# Conceptual Framework



# Baitfish/Sportfish Survey: Regulatory Costs

- Alabama
- Arkansas
- Florida
- Illinois
- Kansas
- Louisiana
- New York
- North Carolina
- Ohio
- Pennsylvania
- Texas
- Virginia
- Wisconsin



**74% of U.S. production**

# Types of Results

- Farm Characteristics
- Number of Regulations and Renewals
- Average Regulatory Costs
- Regulatory Cost Breakdown
- Regulatory Cost and Farm Size
- Cost by Regulatory Category



# The Cost of Regulations

## Number of Regulations and Renewals

State / Group	State versus federal permits/licenses			
	Total number of regulations identified	Average number of permits/licenses per state	Average number of federal permits/licenses	Average renewal frequency
Alabama	10	3	0	4
Arkansas	305	9	2	20
New York	2	3	0	5
North Carolina	8	0	0	1
Ohio	45	3	0	32
Pennsylvania	24	3	1	5
Wisconsin	43	10	1	17
Other	7	7	1	11
<b>National</b>	<b>498</b>	<b>8</b>	<b>1</b>	<b>15</b>
Large farms (>202 ha)	251	11	2	15
Medium farm (202 ha to 20 ha)	103	5	2	2
Small farms (<20 ha)	144	4	0	17

**498 Regulations**

**79% State**

**13 Renewals/Year**

**As many as 203/farm**

# The Cost of Regulations

## Average Regulatory Cost per Farm

State	Average regulatory cost per farm	Average regulatory cost per acre	Estimated regulatory cost per state	Regulatory cost as percent of total (production + marketing) costs
Alabama	\$30,716	\$449	\$184,306	7%
Arkansas	\$260,171	\$418	\$7,284,781	18%
New York	\$29,948	\$2,253	\$239,586	61%
North Carolina	\$57,425	\$1,618	\$1,700,918	52%
Ohio	\$40,966	\$7,096	\$1,474,569	23%
Pennsylvania	\$35,741	\$6,192	\$679,075	40%
Wisconsin	\$379,629	\$13,942	\$2,657,401	37%
Other states	\$63,558	\$2,418	\$1,542,342	12%
<b>National</b>	<b>\$148,554</b>	<b>\$2,953</b>	<b>\$12,027,128</b>	<b>25%</b>

**\$148,554 / Farm**

**\$2,953 / ac**

25% of Total Costs  
& prevent expansion to benefit  
from economies of scale.

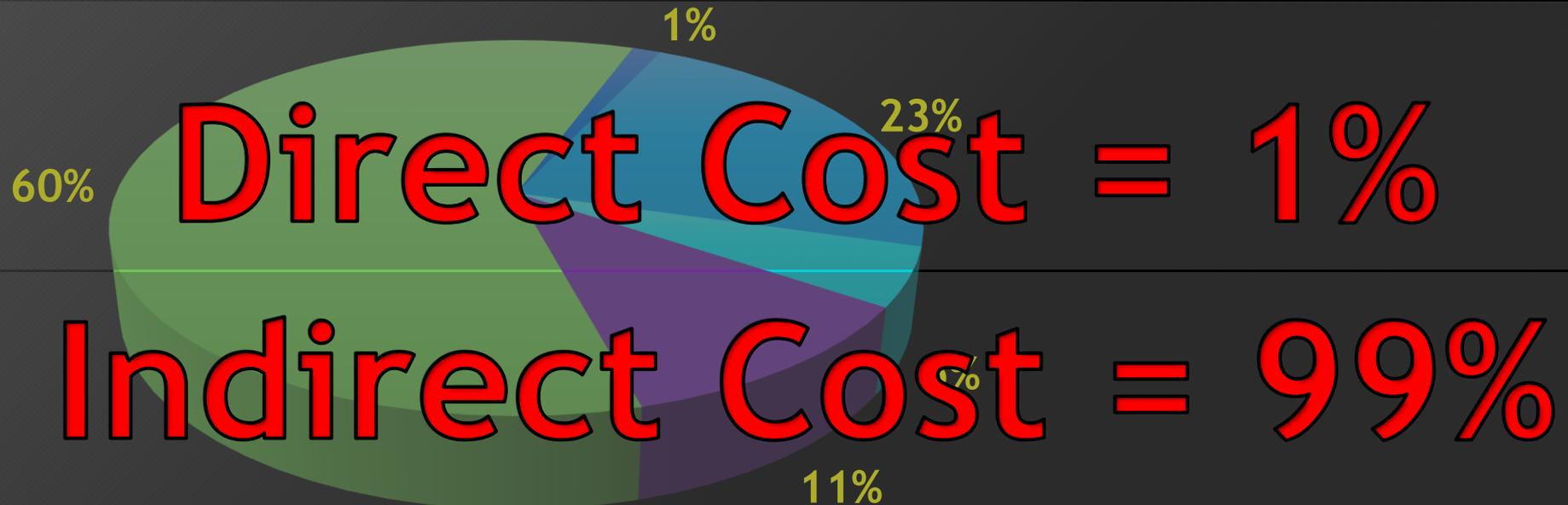
How Much is Due to  
Regulations?

# Estimated Annual Regulatory Cost to the Baitfish/Sportfish Industry

**\$12.1 million  
per year**

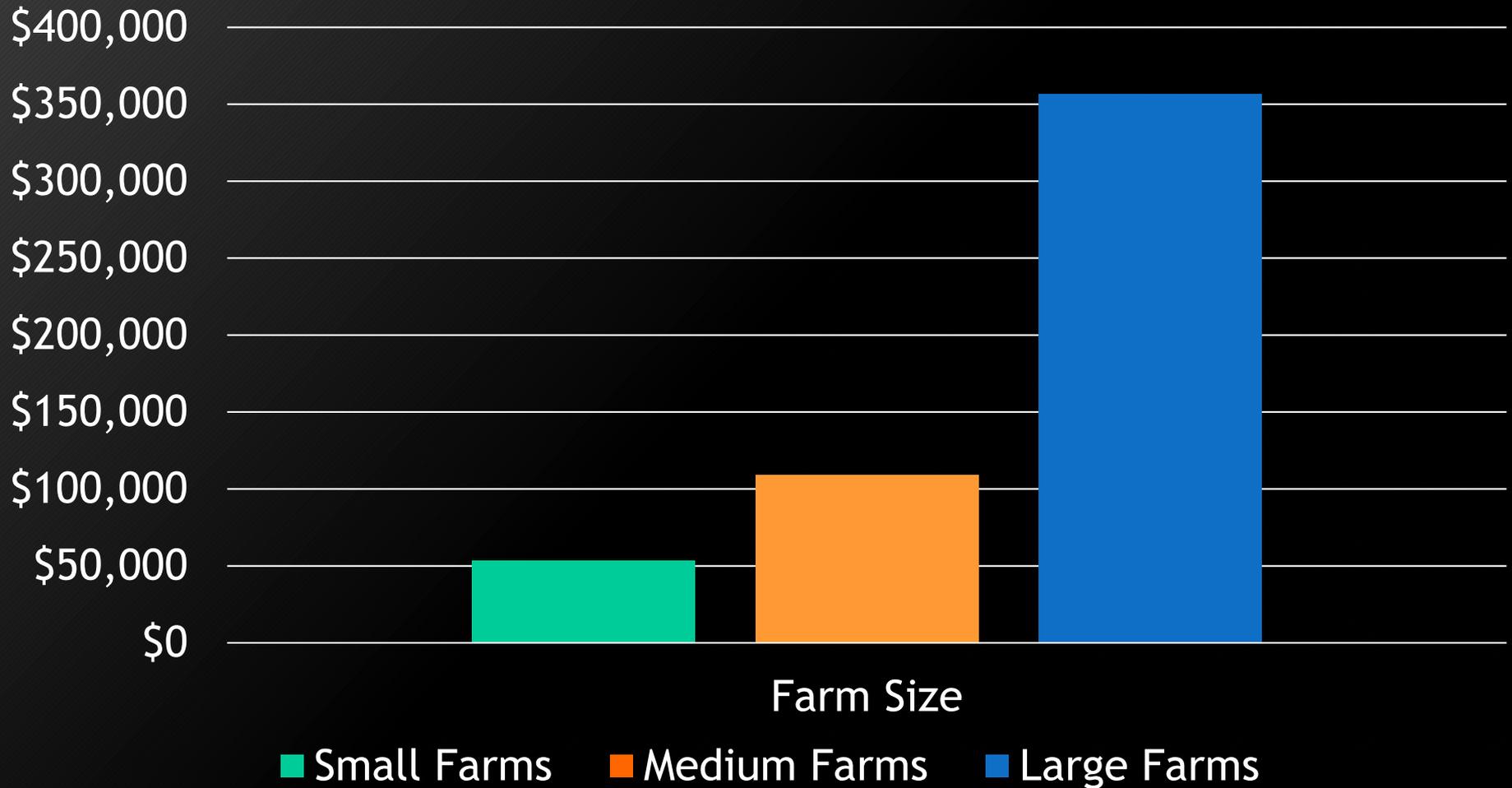
**Adjusted by Volume of Production**

# What types of costs due regulations create?

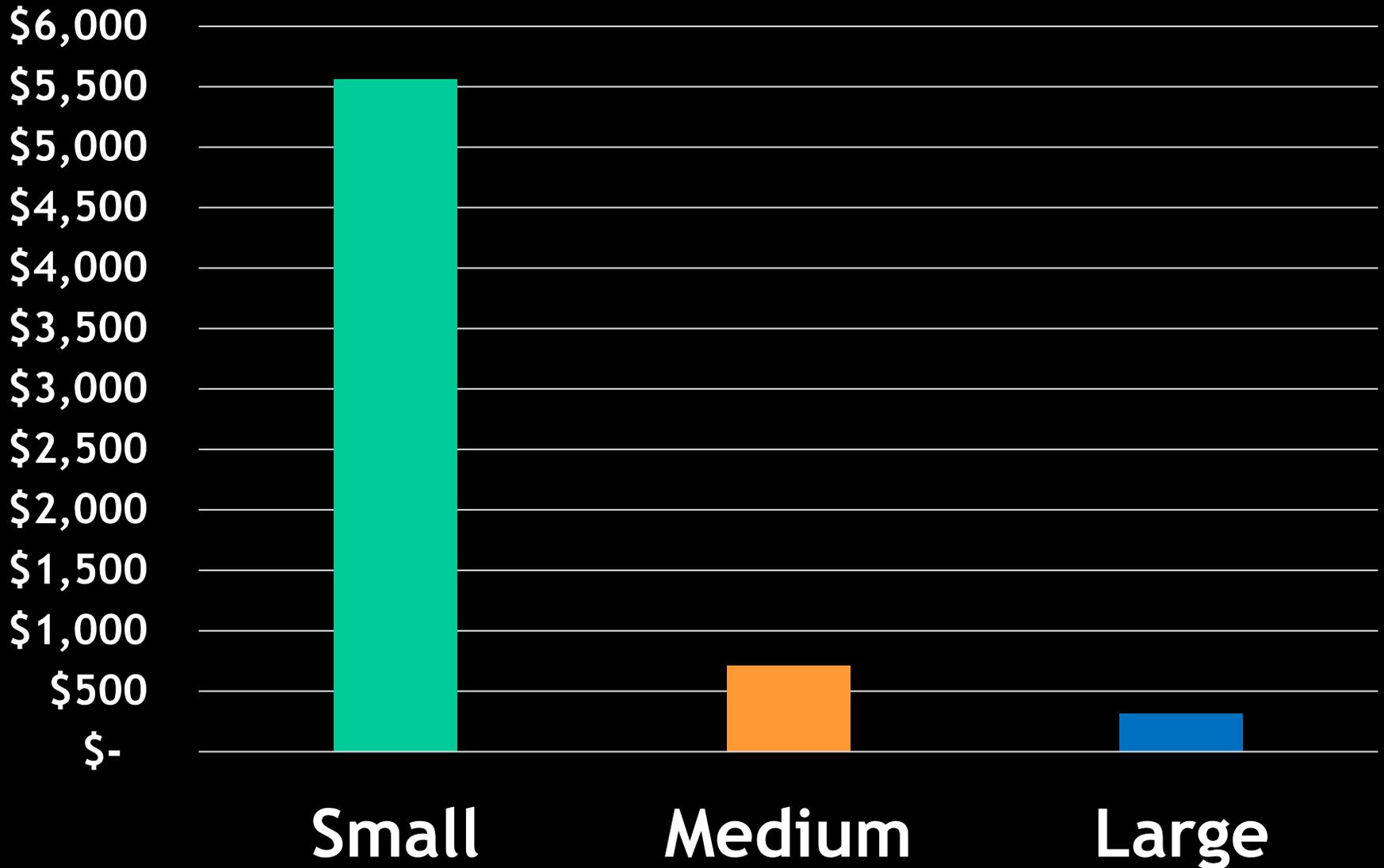


- Permits & Licenses
- Changes due to Regulations
- Fish Health
- Manpower
- Foregone Sales

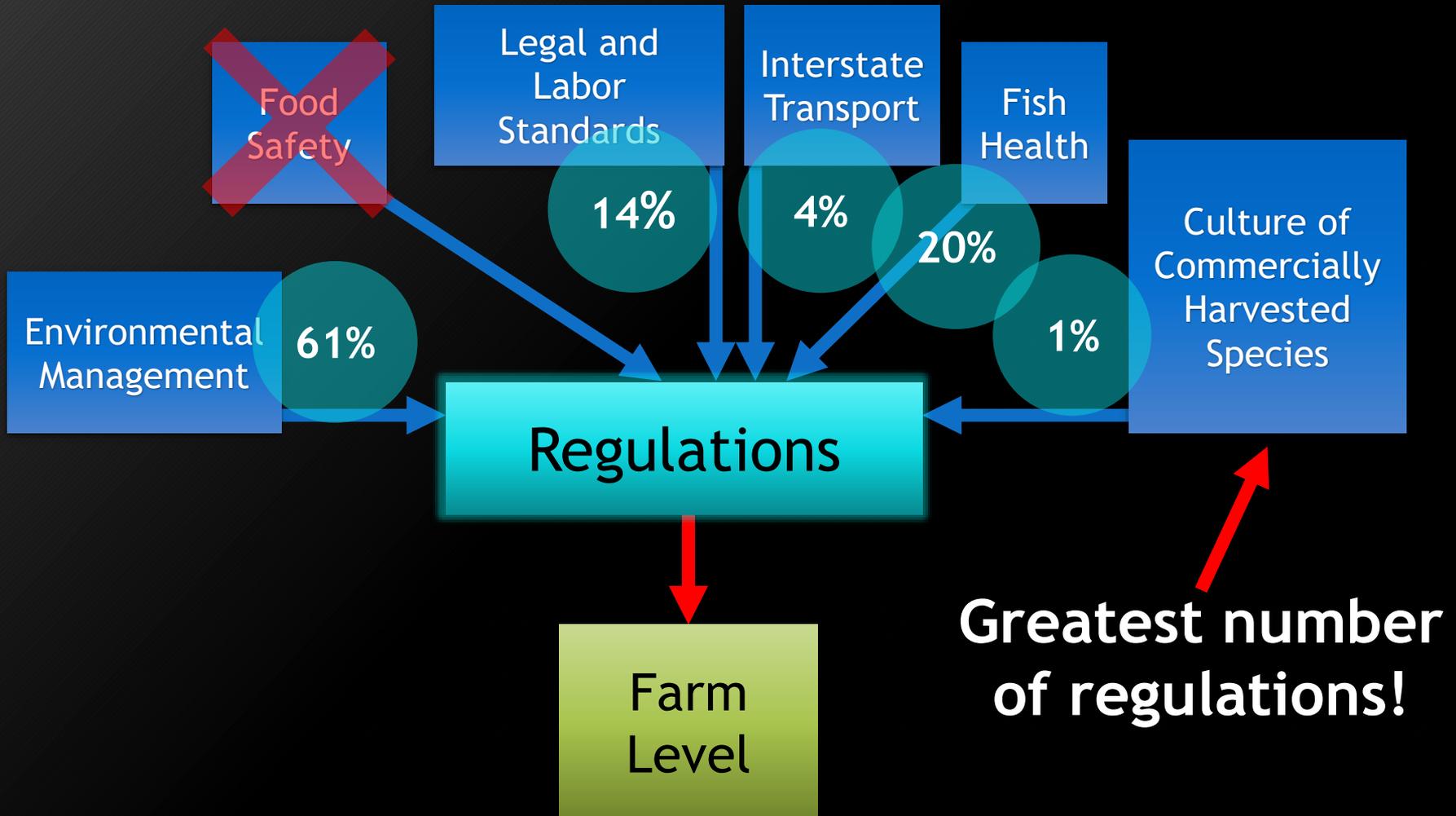
# Average Cost Per Farm by Farm Size



# Average cost of regulations per acre by farm size



# Cost by Regulatory Category

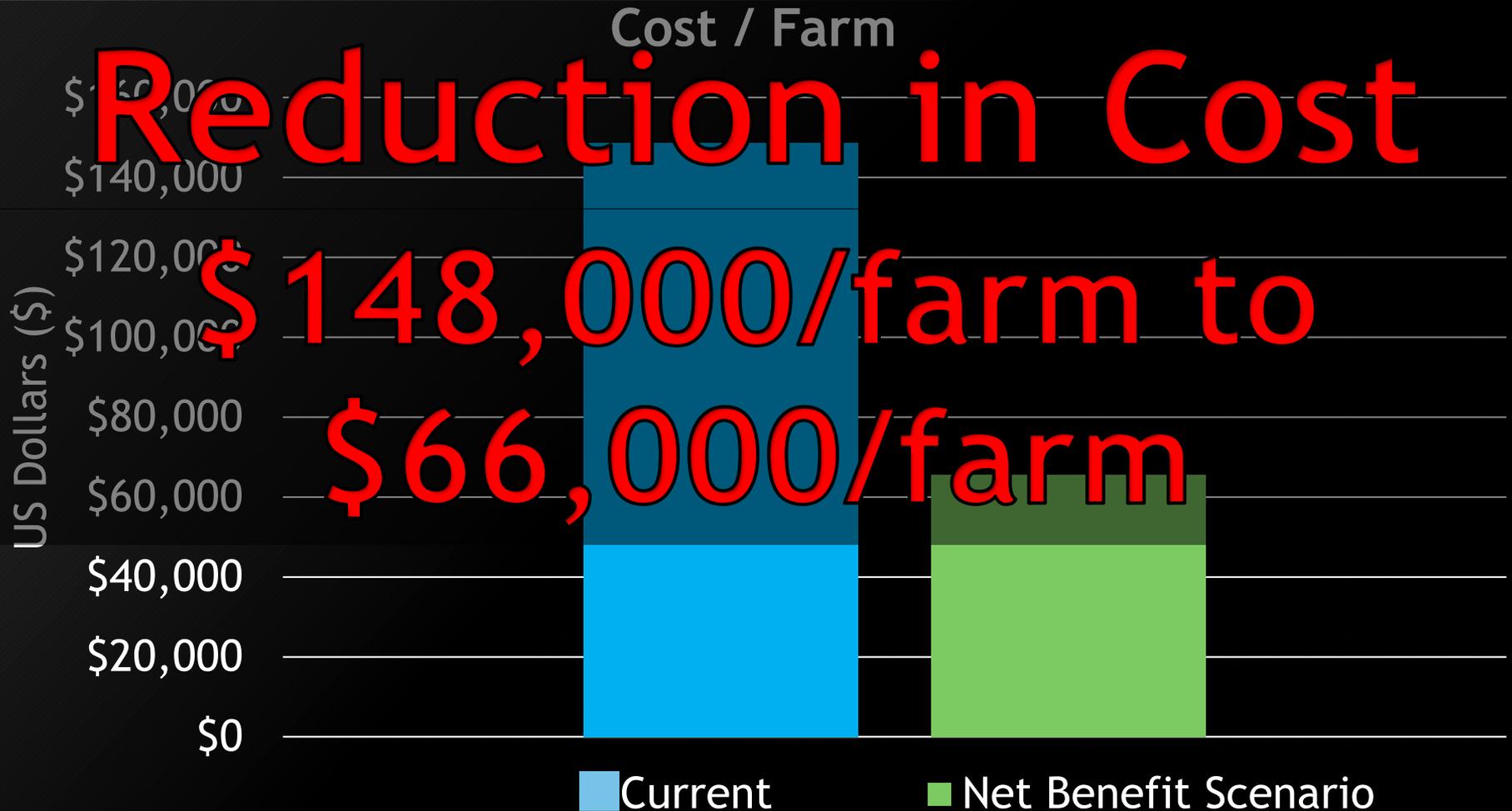


# Is a Study Like This Useful?

## Example:

- For baitfish/sportfish industry, fish health regulations are frustrating and costly.
  - Economic Effect of a Voluntary Uniform CAHPS Program
    - 8 Scenarios developed to model potential changes and effects
    - Study results pointed to opportunities to reduce costs.
- 

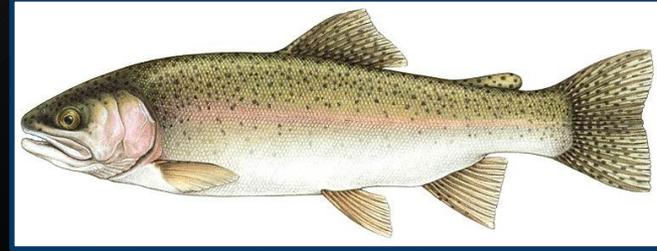
# CAHPS Program & Baitfish/Sportfish: Net Benefit Scenario



# Is a Study Like This Useful?

## Example:

- Results being presented widely, especially in venues w/regulators of import to baitfish/sportfish farms.
- Comments heard from regulators to date:
  - “I had no idea it was costing that much...”
  - “I didn’t know it was taking up so much of their time...”
  - “No wonder they are unhappy with us...”



# Trout Farming Costs:

How Much is Due to  
Regulations?

We are working to find out.

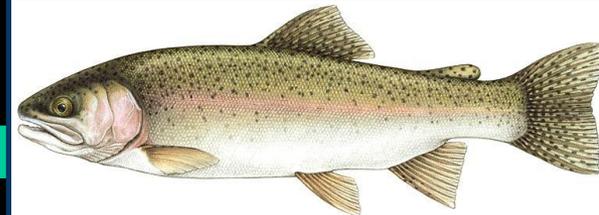
# The Economic Impact of Regulations on Shellfish and Trout Aquaculture Growth in the Western United States



**Carole Engle, Gary Fornshell, Fred Conte,  
Bill Hanshumaker, Bobbi Hudson,  
Jonathan van Senten, Michael Schwarz**



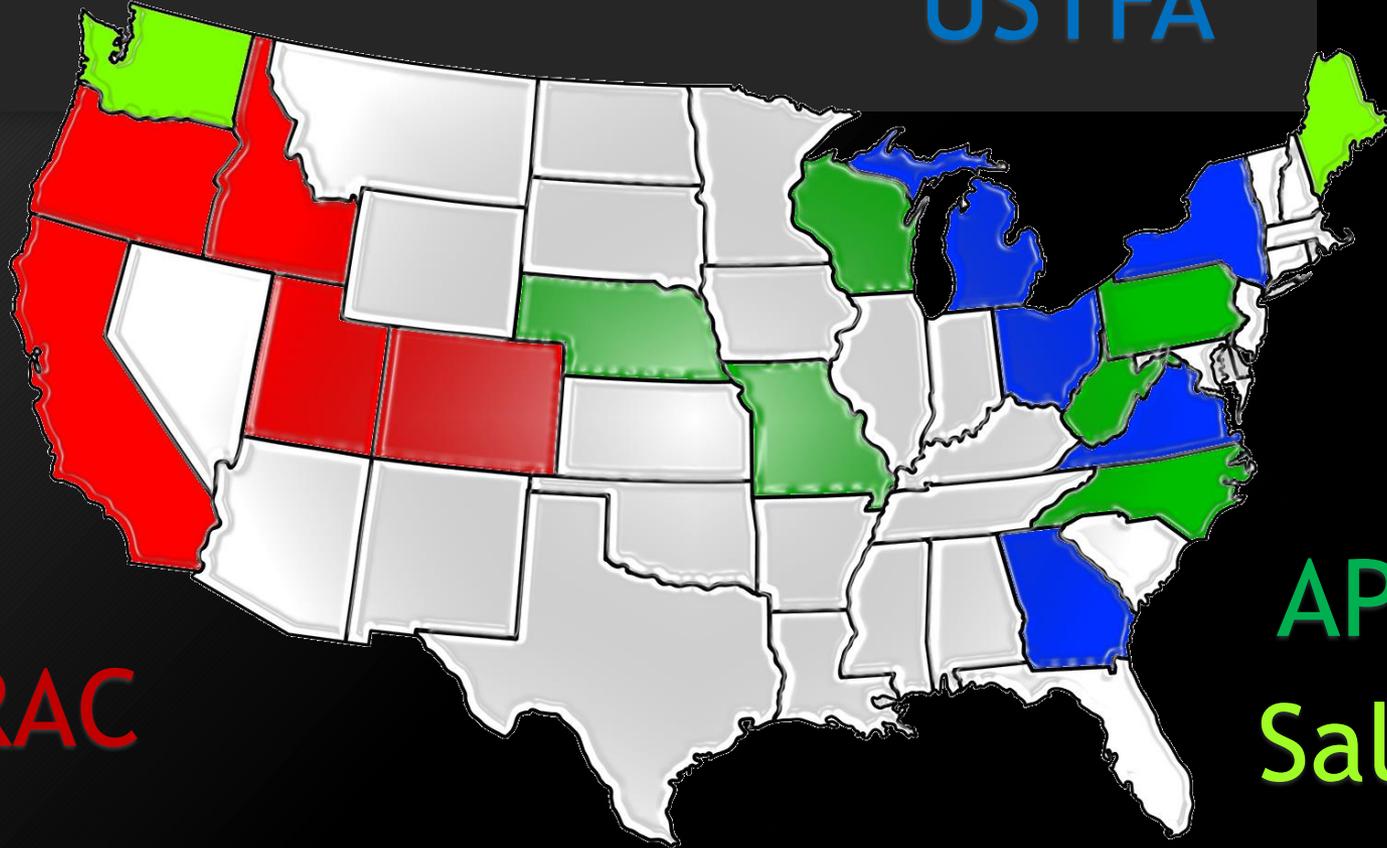
**Industry Advisor:  
Bill Dewey**



## Objectives:

1. Develop detailed information on **regulations** for which trout growers must comply;
2. Estimate **total costs** of regulations faced by trout farmers;
3. **Disseminate project results** broadly to industry associations and aquaculture research & extension specialists for use in discussions with policy makers.

USTFA



WRAC

APHIS  
Salmon

~99% of value of trout sold nationally &  
~87% of the farms nationally

# Now a national survey for trout.

## WRAC

- California
- Colorado
- Idaho
- Oregon
- Utah
- Washington

## APHIS

- Missouri
- Nebraska
- North Carolina
- Pennsylvania
- West Virginia
- Wisconsin

## USTFA

- Georgia
- Michigan
- New York
- Ohio
- Virginia

# Deliverable Outputs:

- Final reports
- Fact sheets
  - National
  - Western-region trout
  - Individual states (where enough observations for confidentiality)
- At least 1 refereed article
- Ms submitted to Fisheries
- PowerPoint presentations
- Webinar(s)

# Special Acknowledgment



A special thank you to all of the producers who participated for their time and for trusting us to maintain the confidentiality of their data.

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- Dr. Nathan Stone
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- ▶ Mr. Andrew Jarret
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- ▶ Kansas Aquaculture Association
- ▶ Dr. Michael Schwarz
- ▶ Dr. Chris Weeks
- ▶ Mr. Charlie Conklin
- ▶ Dr. Robert Smith

# Questions and Comments



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