

PUBLIC PERCEPTIONS ON
THE IDEAL BALANCE
BETWEEN NATURAL
RESOURCE PROTECTION
AND USE IN THE
WESTERN USA



BACKGROUND

- West has depended on natural resource exploitation
- Agriculture, forestry, mining, etc.
- > 40% of economy of at least 6 states



THE WEST

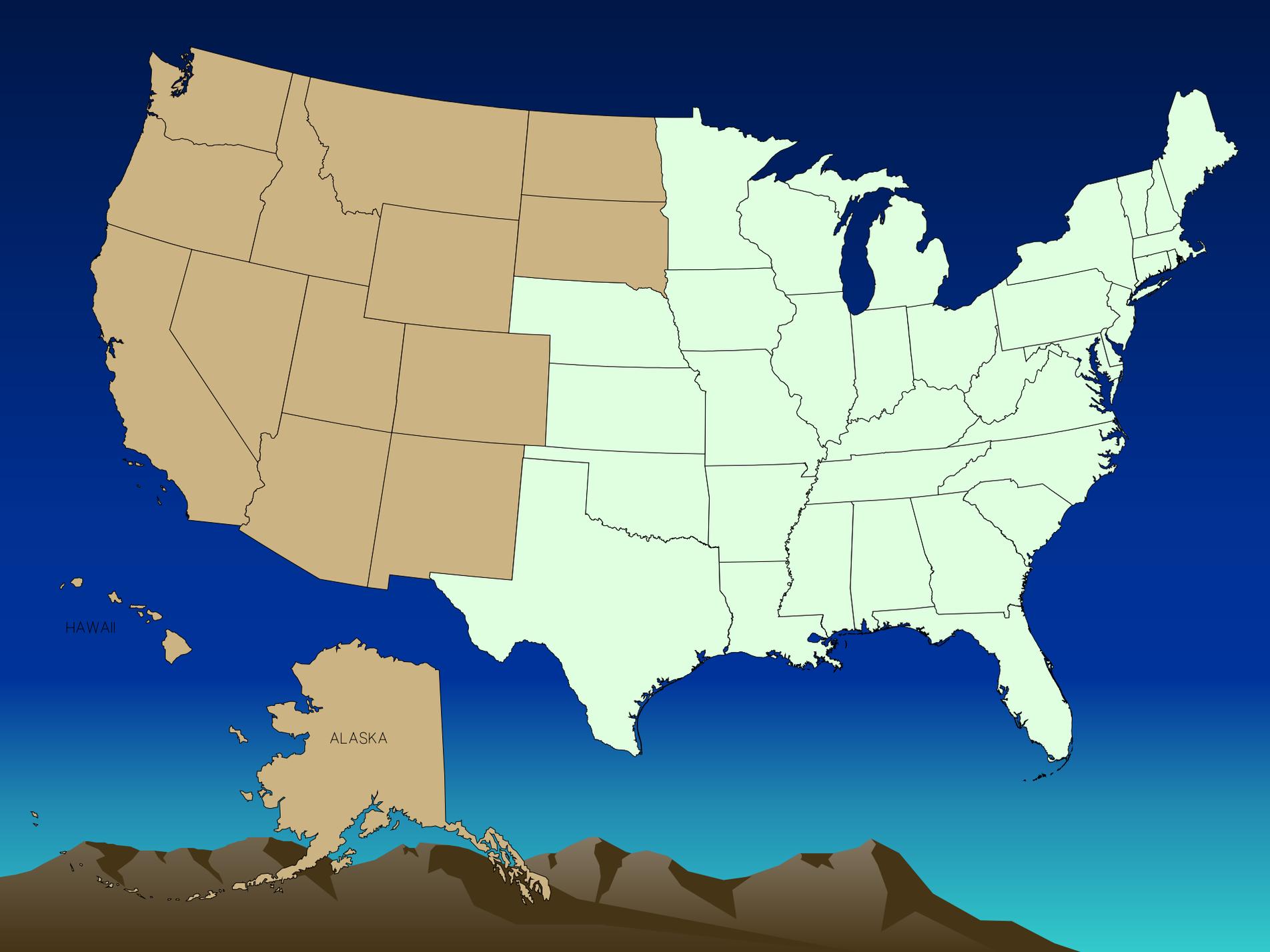
- 15 states
- 26% increase in population since 1990
- Changing demographics
 - ✓ less natural resource dependent
 - ✓ more urban



OBJECTIVE

- Determine how people in the 15 western states believe natural resource exploitation and natural resource preservation should be balanced
- Pool data from 15 individual state surveys





HAWAII

ALASKA

METHODS

- Data derived from surveys initially designed in 2002 to assess public attitudes about water issues
- Various versions of survey contained from 40 to 52 questions
- Only one question from the survey was evaluated across the West



QUESTION

Q – Place an X on the line below to show how you see the relative importance of natural resource use and natural resource protection:



**FOR TOTAL
NATURAL
RESOURCE USE**

**EQUAL
BALANCE**

**FOR TOTAL
NATURAL
RESOURCE
PROTECTION**



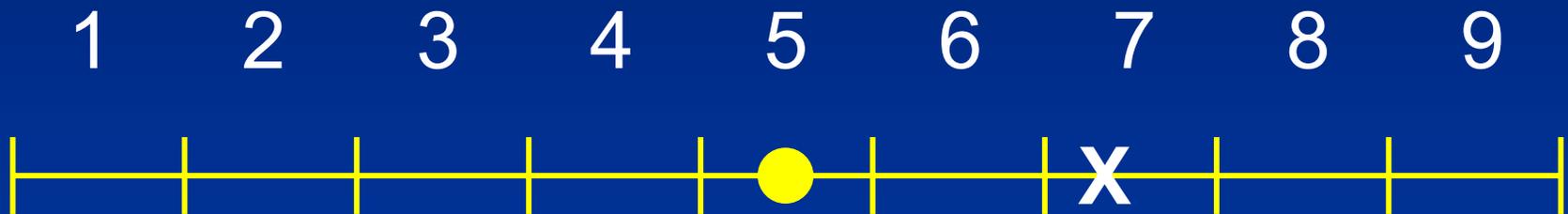
METHODS (cont.)

- Dillman survey methodology used in each state
- State responses ranged from 44.5% (CO) to 70.0% (WY)
- Total responses ranged from 120 (AK) to 988 (CA)
- Over 3,900 data points



FOR ANALYSIS

9 segments (X recorded as a 7)



DATA MANAGEMENT

- Analysis using a one-way classification ANOVA
- Classification variables:
 - ✓ Gender
 - ✓ Age
 - ✓ Education
 - ✓ Community size
 - ✓ State

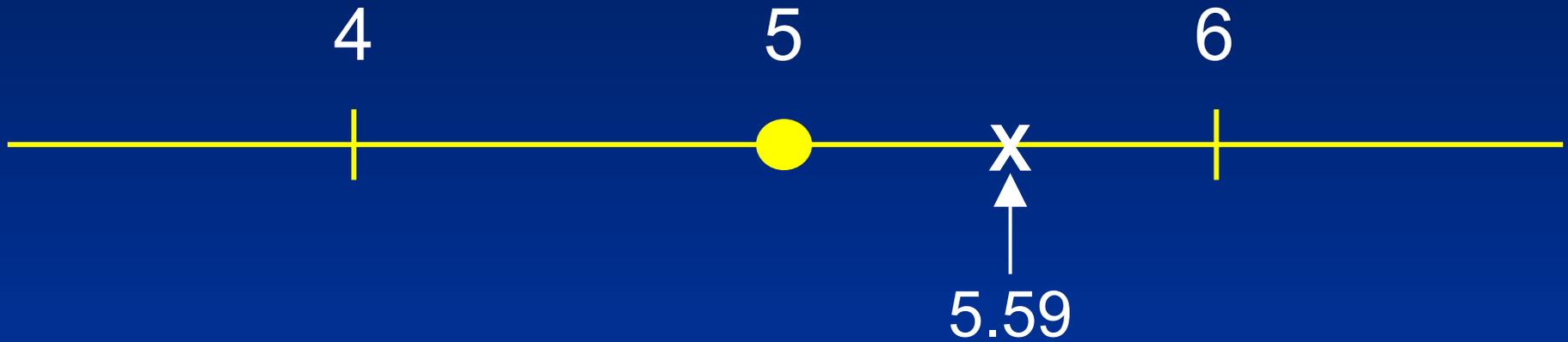


RESULTS

- Balance values — are based on how survey respondents saw their own views
- Demographic factors of:
GENDER, AGE, EDUCATION LEVEL,
COMMUNITY SIZE, and STATE OF
RESIDENCE were significant

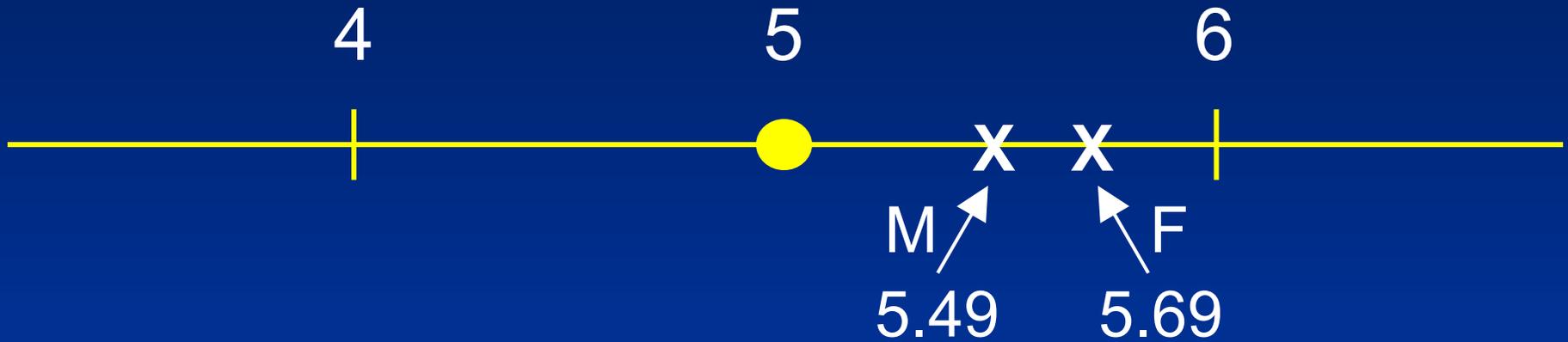


AVERAGE



$P = 0.0001$

GENDER



$P = 0.0001$

AGE

Age	Balance mean
< 30	5.68
30 – 39	5.76
40 – 49	5.74
50 – 59	5.78
60 – 69	5.37
70 +	5.20



AGE — CONTRASTS

Contrast

P value

< 30 vs > 70

0.0001**

> 70 vs < 70

0.0001**

< 50 vs > 50

0.0001**



EDUCATION

Level	Balance mean
< H.S.	5.29
H.S. diploma	5.05
Some college	5.45
College graduate	5.67
Adv. college degree	6.00



EDUCATION — CONTRASTS

Contrast	P value
H.S. grad vs College grad	0.0001**
Some college vs College grad	0.0024**
College grad vs Adv. college grad	0.0001**



COMMUNITY SIZE

Size	Balance mean
> 100,000	5.76
25,000 – 99,999	5.55
7,000 – 24,999	5.42
3,500 – 6,999	5.38
< 3,500	5.17



COMMUNITY SIZE — CONTRASTS

Contrast

P value

> 100,000 vs < 3,500

0.0001**

< 3,500 vs 3,500-24,999

0.0357**

> 100,000 vs 25,000-99,999

0.0031**



STATE OF RESIDENCE

State	Balance mean
Idaho	5.05
Wyoming	5.07
North Dakota	5.08
:	:
Washington	5.78
Montana	5.81
Colorado	5.97



STATE — CONTRASTS

Contrast	P value
Idaho vs rest	0.0017**
Idaho vs OR+WA	0.0001**
ID vs MT	0.0004**
ID vs UT	NS
ID vs WY	NS
ID vs AK	NS



SUB REGIONS

Region 8: CO, MT, ND, NM, SD, UT, WY

Region 9: AZ, CA, HI, NV

Region 10: AK, ID, OR, WA



REGIONAL CONTRASTS

Contrast

P value

Region 10 vs Region 9

NS

Region 10 vs Region 8

0.01**

Region 9 vs Region 8

NS



STATES — DEMOGRAPHICS

Red States: AK, AZ, CO, ID, MT, NV,
NM, ND, SD, UT, WY

Blue States: CA, HI, OR, WA

RED vs BLUE: $P = 0.0001^{**}$



STATES — DEMOGRAPHICS

RURAL vs URBAN STATES

Urban = > 80% of population residing in counties with populations exceeding 40,000

Alaska: no counties – rural

RURAL vs URBAN: $P = 0.0001^{**}$



STATES — DEMOGRAPHICS

LARGE vs SMALL (population)

LARGE: > 3,500,000

AZ, CA, CO, OR, WA

SMALL: < 3,500,000

AK, HI, ID, MT, NV, NM, ND, SD, UT, WY

LARGE vs SMALL: $P = 0.001^{**}$



SUMMARY

- All demographic factors affected balance values
 - ✓ Females > Males
 - ✓ Young > Old
 - ✓ More educated > Less educated
 - ✓ Larger communities > Smaller communities



SUMMARY

- State of residence important – affected balance values

Urban > Rural states

Large > Small states

Blue > Red states



SUMMARY

- As the West grows, resource protection becomes more important because it:
 - ✓ becomes more urban
 - ✓ becomes more educated
 - ✓ less natural resource dependent

