USING SURVEYS TO DETERMINE EDUCATIONAL PRIORITIES AND DELIVERY METHODS

SURVEYS

- ✓ **DEVELOPED A SERIES OF NEEDS ASSESSMENT SURVEYS**

- ✓ **SET BASELINE INFORMATION**

- ✓ **PRIORITIZE PROGRAMS**

- ✓ **REGIONAL BASIS**

|		
2002	**PACIFIC NORTHWEST**	**(R10)**
2003	**PACIFIC SOUTHWEST**	**(R 9)**
2004	**ROCKY MOUNTAINS**	**(R 8)**
	NEW ENGLAND	**(R 1)**
2005	**HEARTLAND**	**(R 7)**
	NEW MEXICO	
2006	**NEW YORK; NEW JERSEY**	**(R 2)**
	MID-ATLANTIC	**(R 3)**

32 states; 6 territories

2007

- **Re-survey of Region 10**

    ✓ **5-year evaluation**

SURVEYS are . . .

- ✓ **A BEST EDUCATION PRACTICE**

- ✓ **USEFUL FOR DETERMINING AUDIENCES**

- ✓ **USEFUL FOR DETERMINING AUDIENCE NEEDS**

- ✓ **A MUST FOR ASSESSING OUTREACH PROGRESS**

Water Survey Web Site

Rhode Island
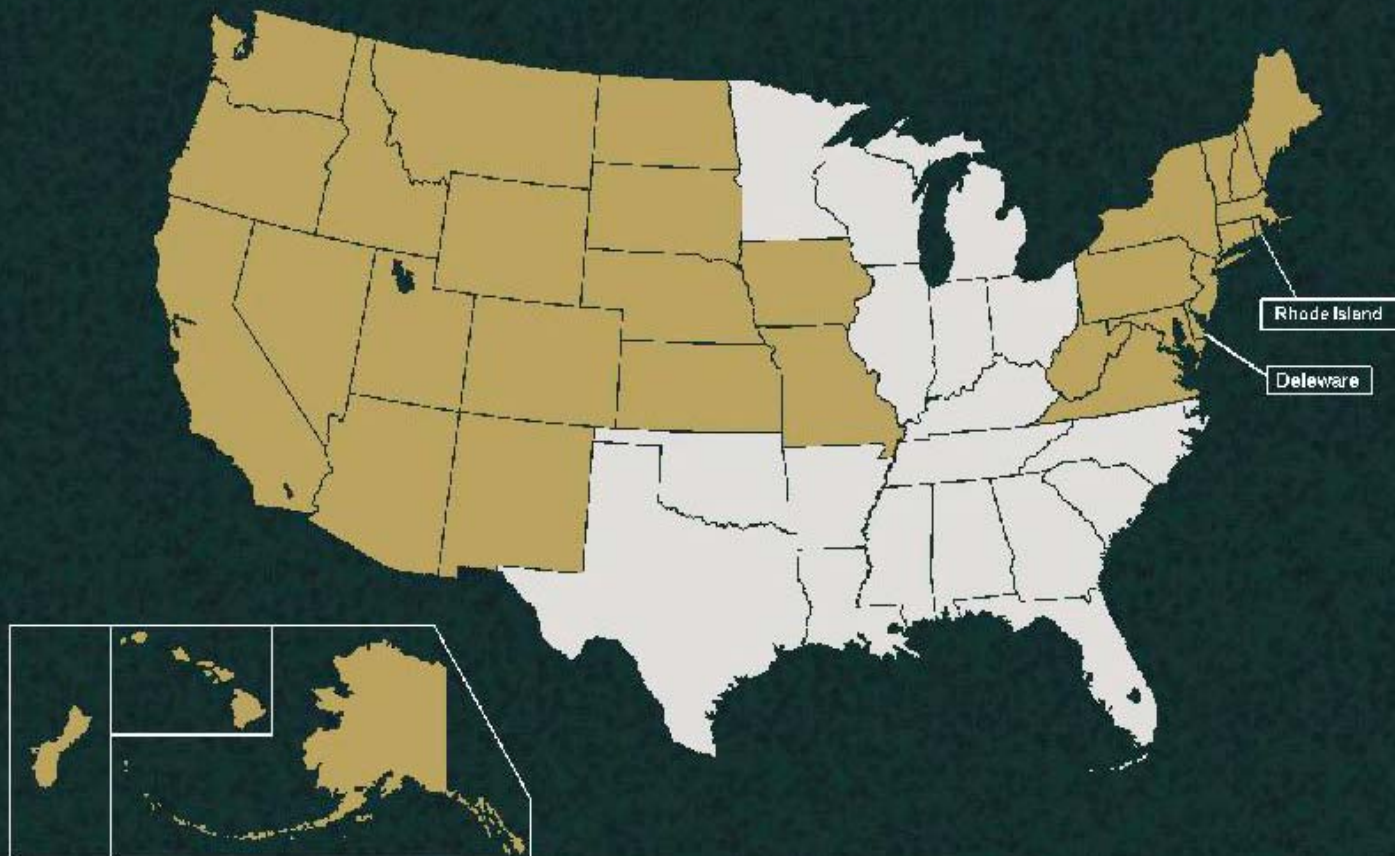
Deleware

Alaska Arizona California Colorado
Connecticut Deleware Hawaii Idaho
Iowa Kansas Maine Maryland
Massachusetts Missouri Montana Nebraska
Nevada New Hampshire New Jersey New York
New Mexico North Dakota Oregon Pacific Islands
Pennsylvania Rhode Island South Dakota Utah
Vermont Virgina Washington West Virginia
Wyoming

OBJECTIVES

1. **Design and conduct a region-wide survey to document:**
   - **public awareness**
   - **aptitudes**
   - **attitudes, and**
   - **actions toward water quality and the environment**
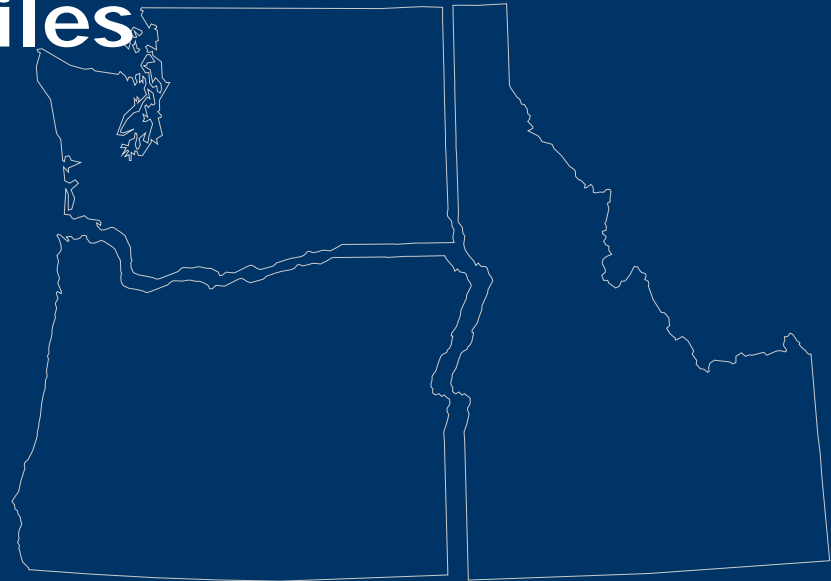2. **Set baseline data — to compare successes of future programs**

THE REGION

AK — ID — OR — WA

AREA:
- 920,600 square miles
- 26 percent of USA

POPULATION
- 11,400,000
- 4 percent of USA

SURVEY DEVELOPMENT

- **50 question survey**

- **Dillman survey approach was used**
    - **4 percent difference = significant**

- **12 stage question development process**

SURVEY SAMPLE SIZE

- **Base of 200 people per state (200 x 4) = 800 surveys**

- **Additional 25 people per each 250,000 people per state above 500,000**

AK — 625,000 = 1 x 25 = 25
ID — 1,250,000 = 3 x 25 = 75
OR — 3,500,000 = 12 x 25 = 300
WA — 5,900,000 = 22 x 25 = 550

SURVEY SAMPLE SIZE

- **Minimum sample size:**

AK	**200**	**+**	**25**	**=**	**225**
ID	**200**	**+**	**75**	**=**	**275**
OR	**200**	**+**	**300**	**=**	**500**
WA	**200**	**+**	**550**	**=**	**750**
				=	**1,750**
					surveys mailed

SURVEY DATA

State	Completed	Sample Size	Return Rate
AK	120	232	51.7%
ID	160	278	57.6%
OR	256	506	50.6%
WA	392	758	51.7%
TOTAL	928	1,774	52.3%

DEMOGRAPHIC INFORMATION

- **State**
- **Community size**
- **Time of residence in PNW**
- **Gender**
- **Age**
- **Education**
- **Occupation**
– **Sample size allows for statistical analysis**

DATA HANDLING / ANALYSIS

- **Data coded into Excel spreadsheet**
  - **14,000 pieces of data**

- **Data analyzed by SAS/SPSS**
  - **Chi-square values determined for interactions**

- **Main effects and simple interactions evaluated**

QUESTION 4

In your opinion, does the environment receive the right amount of emphasis from government and elected officials in your state?

DOES THE GOVERNMENT EMPHASIZE THE ENVIRONMENT ENOUGH?

EMPHASIS	PERCENT
NO, too much	19.0
NO, not enough	35.2
YES	33.4
Don't know	12.4

Does Government Emphasize the Environment Enough? —
BY STATE

EMPHASIS	AK	ID	OR	WA
	-------------- % --------------			
NO, too much	17	19	20	17
NO, not enough	26	31	38	39
YES	53	35	30	30
Don't know	4	15	12	13

Likelihood Ratio Chi-Square = 0.0005

Does Government Emphasize the Environment Enough? — BY GENDER

EMPHASIS	FEMALE	MALE
	------------- % -------------	
NO, too much	15	21
NO, not enough	43	31
YES	29	37
Don't know	13	11

Likelihood Ratio Chi-Square = 0.0009

Does Government Emphasize the Environment Enough? — BY EDUCATION LEVEL

EMPHASIS	EDUCATION LEVEL			
	High school	Some college	College grad.	Adv. degree
	-------------- % --------------			
NO, too much	20	18	21	14
NO, not enough	24	33	37	47
YES	29	35	35	33
Don't know	27	14	8	6

Likelihood Ratio Chi-Square = <0.0001

Does Government Emphasize the Environment Enough? — BY TIME OF RESIDENCE

EMPHASIS	TIME IN PACIFIC NW (years)			
	All life	> 10	5-9	< 5
	-------------- % --------------			
NO, too much	23	18	14	4
NO, not enough	29	38	40	50
YES	36	32	29	36
Don't know	12	12	17	10

Likelihood Ratio Chi-Square = 0.0036

Does Government Emphasize the Environment Enough? — BY COMMUNITY SIZE

EMPHASIS	>100,000	25-100,000	7-25,000	<7,000
	------------- % -------------			
NO, too much	15	15	19	27
NO, not enough	39	37	38	27
YES	34	36	36	30
Don't know	12	12	7	16

Likelihood Ratio Chi-Square = 0.0324

QUESTION 5

How important are each of the following issues to you?

- **Clean rivers**
- **Clean groundwater**
- **Clean drinking water**
- **H$_2$O for economic development**
- **Salmon**

- **Wetlands**
- **Recreation**
- **Watershed restoration**
- **Power generation**
- **Agriculture**

VERY/EXTREMELY IMPORTANT ISSUES

ISSUE	PERCENT
CLEAN DRINKING WATER	98.9
CLEAN RIVERS	93.8
CLEAN GROUND WATER	93.3
WATER FOR AGRICULTURE	83.9
WATER FOR POWER	72.3

VERY/EXTREMELY IMPORTANT ISSUES

ISSUE	PERCENT
ECONOMIC DEVELOPMENT	70.0
WETLANDS	68.9
SALMON	68.7
WATERSHED RESTORATION	68.1
RECREATION	58.0

ISSUES: Very or Extremely Important — THE GENDER GAP

ISSUE	FEMALE	MALE
	----------- % -----------	
Groundwater	96	92
Salmon	72	67
Wetlands	78	65
Watershed Restor.	71	67
Power Generation	76	70
Agriculture	87	82

ISSUES: Very or Extremely Important — THE AGE GAP

ISSUE	AGE (years)		
	< 50	50 – 69	> 69
	------------- % -------------		
Groundwater	93	94	90
Wetlands	74	67	55
Power Generation	67	75	82

ISSUES: Very or Extremely Important — LENGTH OF RESIDENCE

ISSUE	TIME IN PNW (years)			
	ALL	> 10	5-9	< 5
	------------- % -------------			
Economic Development	74	69	57	72
Salmon	60	72	75	89
Wetlands	64	72	73	83

QUESTION 10

Do you know what a watershed is?

❑ YES

❑ NO

If you answered "YES" please indicate the watershed you live in:

_____

WATERSHED I.Q.

KNOWLEDGE	PERCENT
YES	68
NO	32

Gender** ↑ male

Age** ↓ < 40

Education* ↑ more education

QUESTION 11

Have you received water quality information from the following sources?

WATER QUALITY INFORMATION SOURCES

SOURCE	% receiving information
Newspapers	68
Television	59
Environmental agencies	51
Environmental groups	46
Extension	28
Universities	25
Schools	20

Water Quality Information Sources — BY AGE

SOURCE	AGE (years)					
	<30	30-39	40-49	50-59	60-69	>69
	----------------- % -----------------					
Television	62	50	55	55	70	69
Newspapers	61	56	68	68	79	80
Extension	16	14	30	32	39	32
Env. agencies	43	41	56	49	55	60

Water Quality Information Sources — BY COMMUNITY SIZE

SOURCE	COMMUNITY SIZE			
	>100,000	25-100,000	7-25,000	<7,000
	-------------- % --------------			
Newspapers	69	70	74	57
Extension	25	23	29	42

QUESTION 13

Have you ever changed your mind about an environmental issue as a result of:

CHANGED MIND DUE TO . . .

PARAMETER	Changed mind, %
Observation	75
Conversations	59
News coverage	49
Classes/presentations	38
Financial consideration	38
Attending public meetings	27
Speech by elected official	11

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

THE WEST

- **15 states**

- **26% increase in population since 1990**

- **Changing demographics**
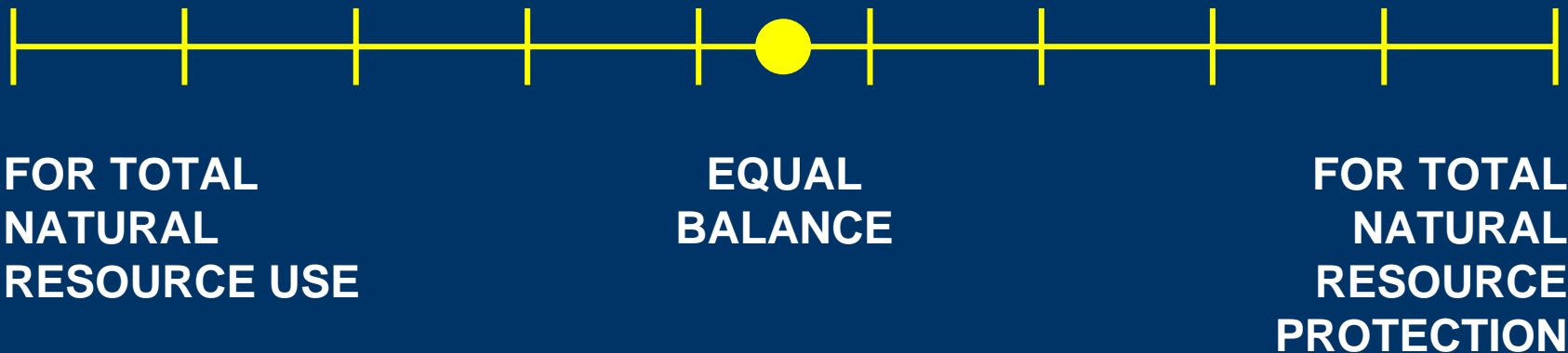 - **less natural resource dependent**
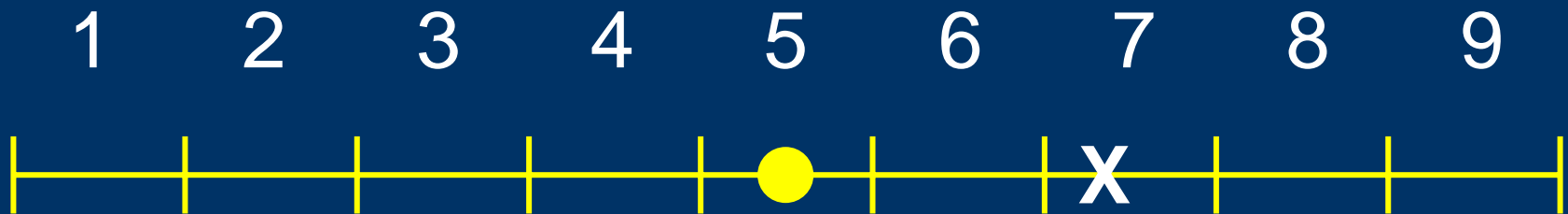 - **more urban**
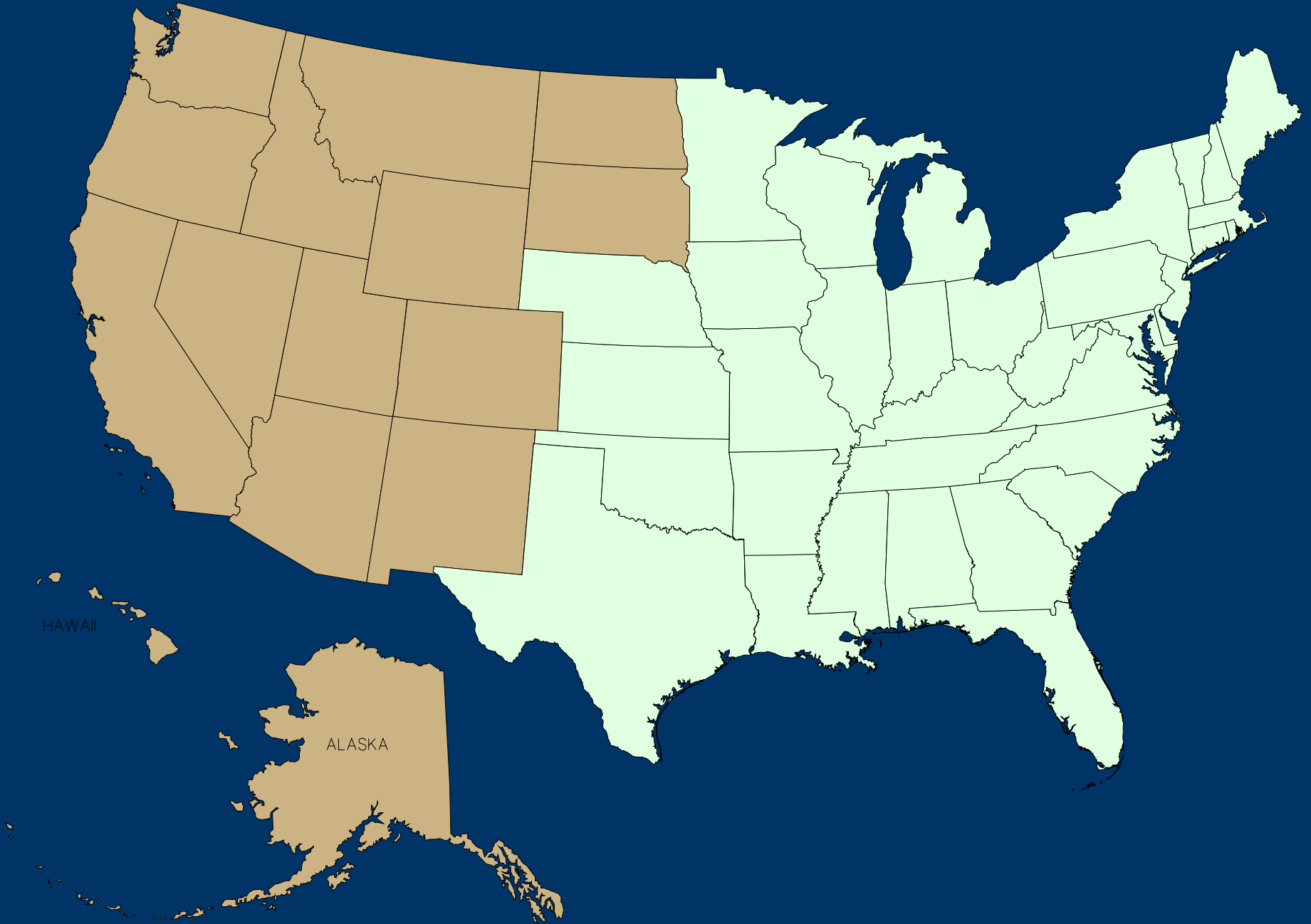
HAWAII

ALASKA

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:
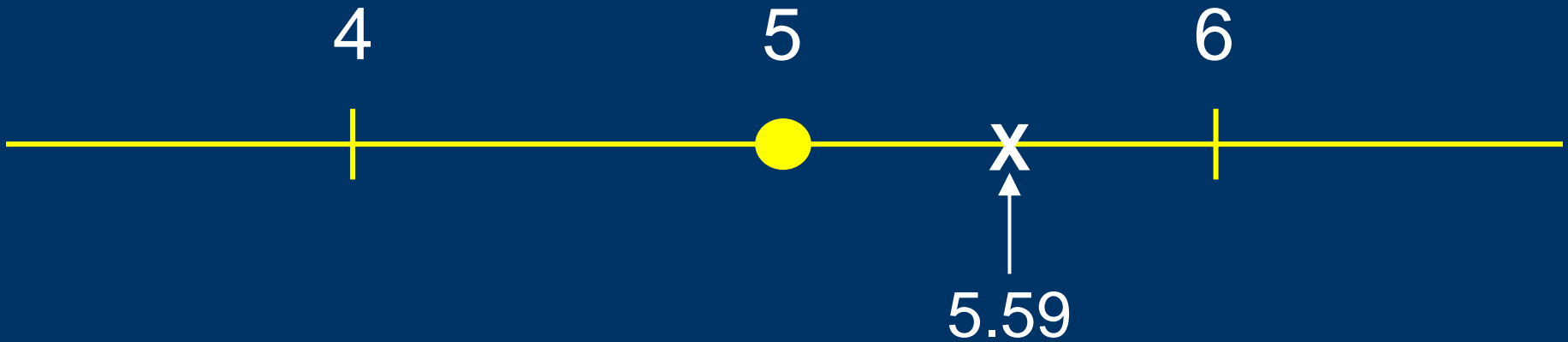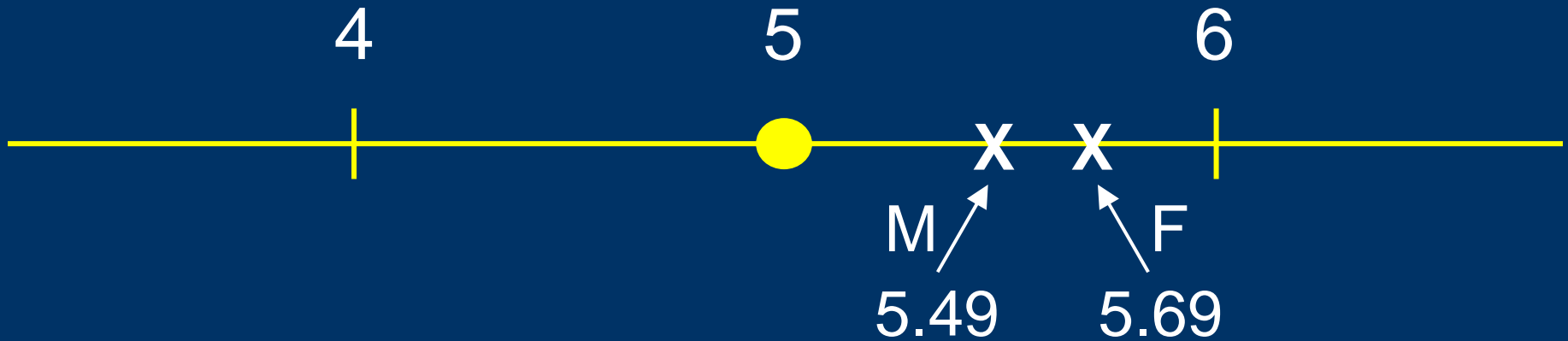

FOR TOTAL NATURAL RESOURCE USE

EQUAL BALANCE

FOR TOTAL NATURAL RESOURCE PROTECTION

FOR ANALYSIS

9 segments (X recorded as a 7)

1   2   3   4   5   6   7   8   9

GENDER

P = 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

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

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

SURVEYS

1. **Set educational priorities**

   ✓ **Watershed management**

   ✓ **Drinking water**

   ✓ **Water conservation**

SURVEYS

2. **Determine appropriate educational methodologies**

✓ **printed sheets**

✓ **newspapers**

✓ **web sites**

SURVEYS

3. **Determine policy issues**

- ✓ **Groundwater**

- ✓ **Endangered species (salmon)**

- ✓ **Water conservation**

SURVEYS

4. Establish baseline information

5. Give land grants an "IN" with other agencies

SURVEYS

6. **Allow us to measure progress at intervals**

   ✓ **5-year check-up**