

Economic and Social Impacts of Agriculture

Paul Lewin, J.D. Wulfhorst,
Scott Jensen, Neil Rimbey,
University of Idaho

Challenges in the “New” West



Purpose

- Is there value to agricultural lands beyond their development potential?
- What can we learn from studies done in Owyhee County that can benefit you wherever you live?

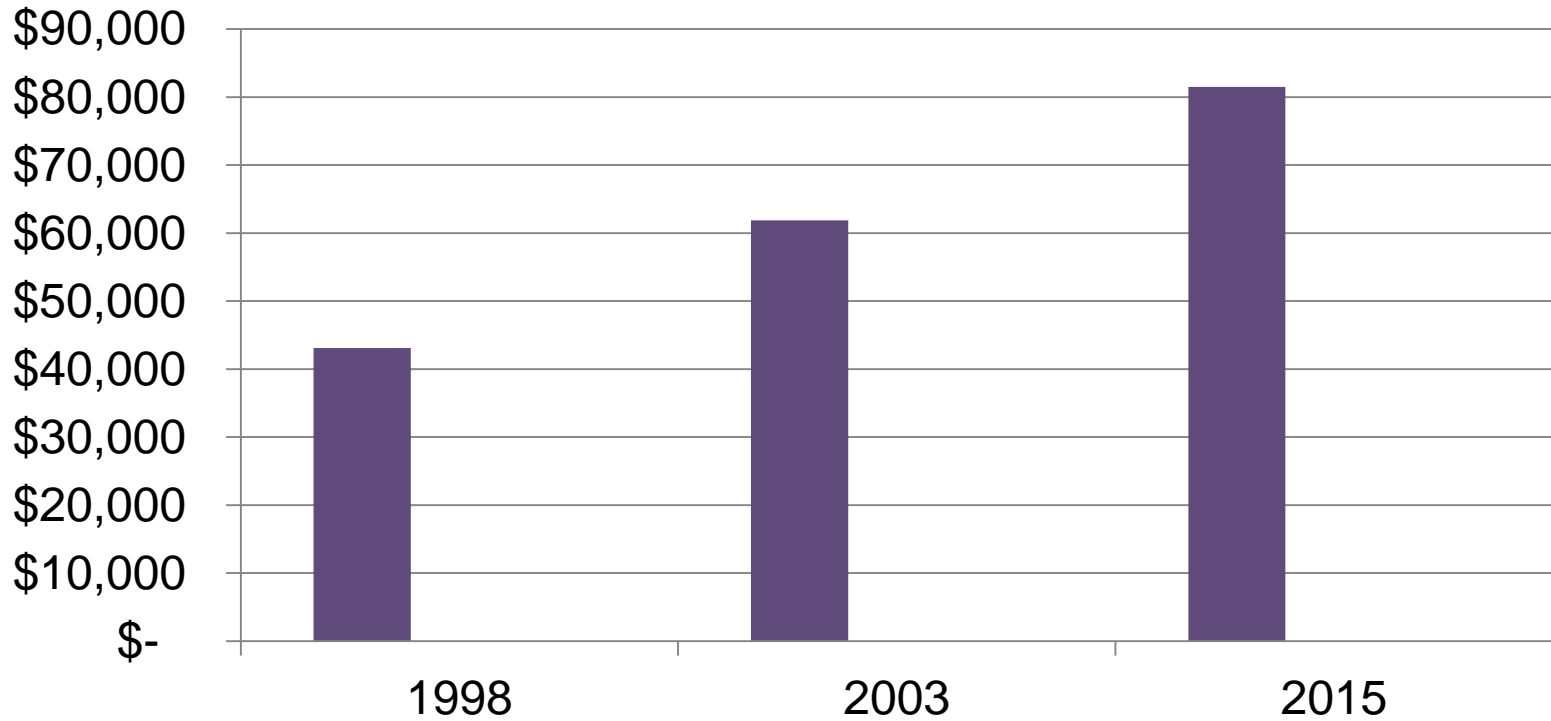
Owyhee County



UI Owyhee Soc. Econ. Studies

- 1979-80: Original Grazing EIS settlement. Strictly local and regional economic impacts.
- 1998-99: BLM RMP driven study. Social and Economic impact analysis. (Owyhee only)
- 2002-03: Another BLM RMP driven study. Social and Economic impact analysis. (Owyhee and 4 SW Idaho counties)
- 2014-16: Owyhee County Commission funded study over 3 years. Social and Economic impact analysis. (Owyhee and 4 SW Idaho counties)

UI Owyhee Studies and \$ Sources



1998 sources: Boise District Grazing Board, Bureau of Land Management, Owyhee Cattleman's Association, Owyhee County Commission

2003 source: Bureau of Land Management (ID State)

2014-16 source: Owyhee County Commission

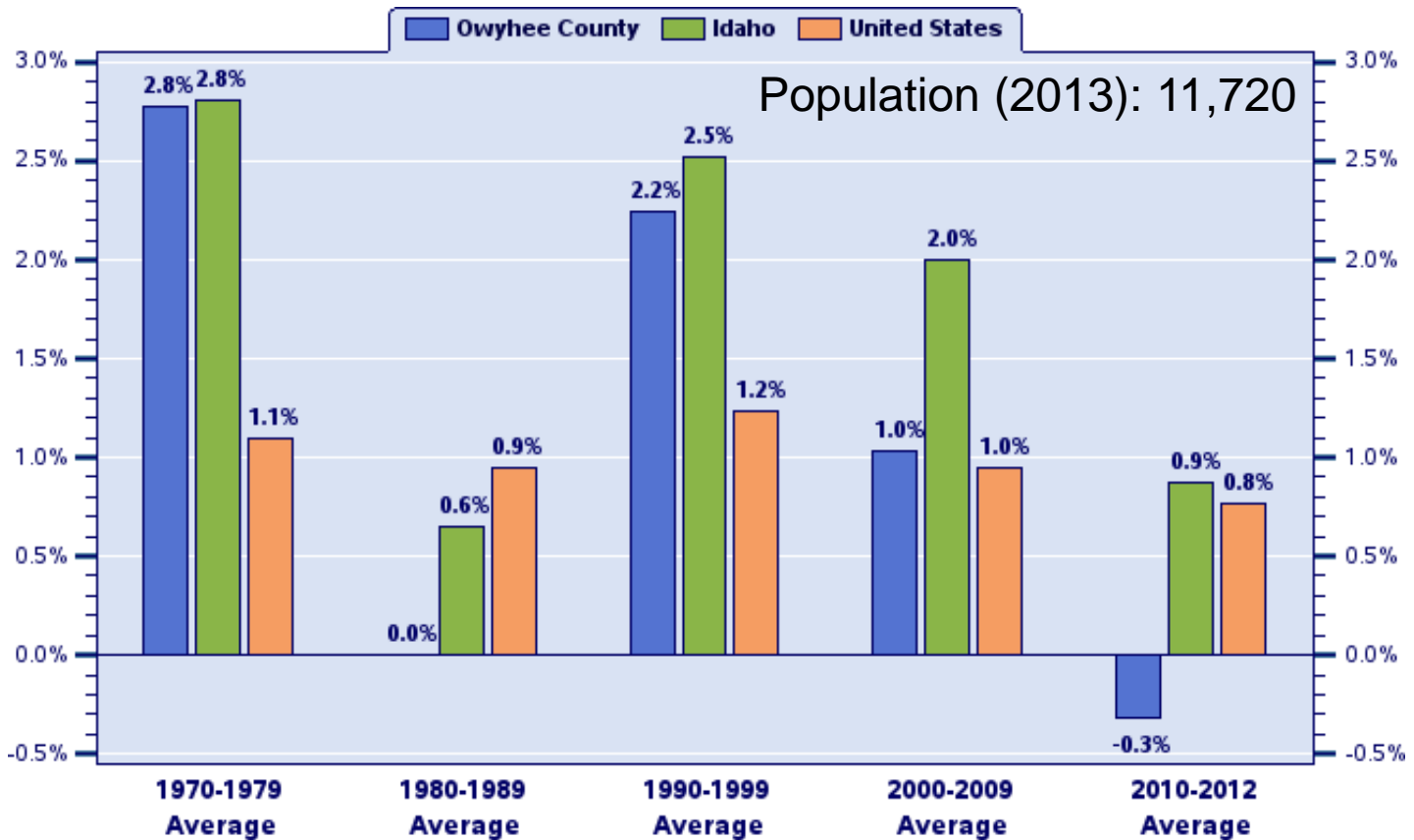
Most Current Study

- Commissioners approached UI faculty
- Needed information on impacts of decisions
- Menu options given
 - Regional economic analysis
 - Social analysis
 - Ranch level economic model

OWYHEE PEOPLE

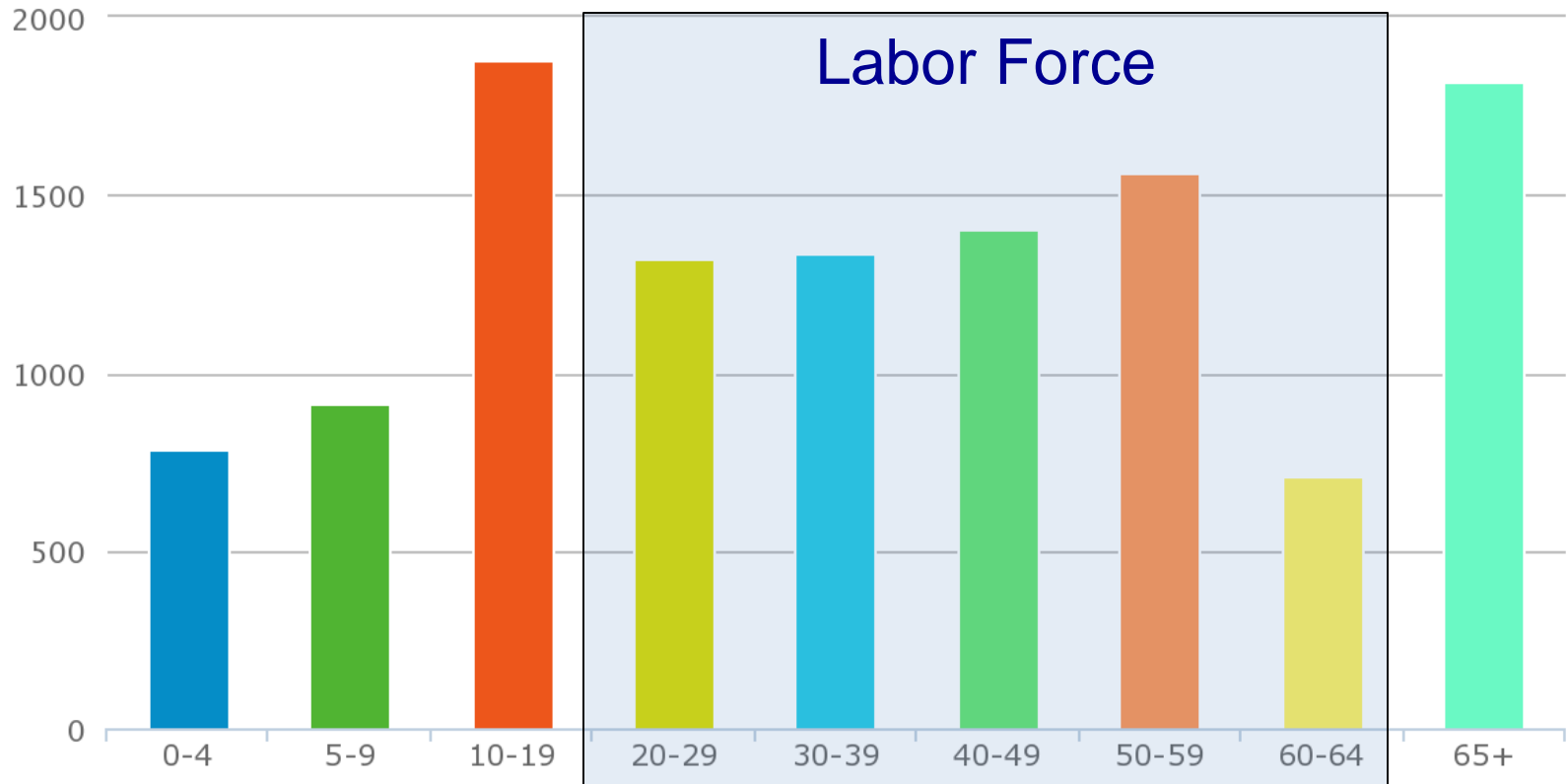
CONSUMERS, WORKERS & TAXPAYERS

Population Change

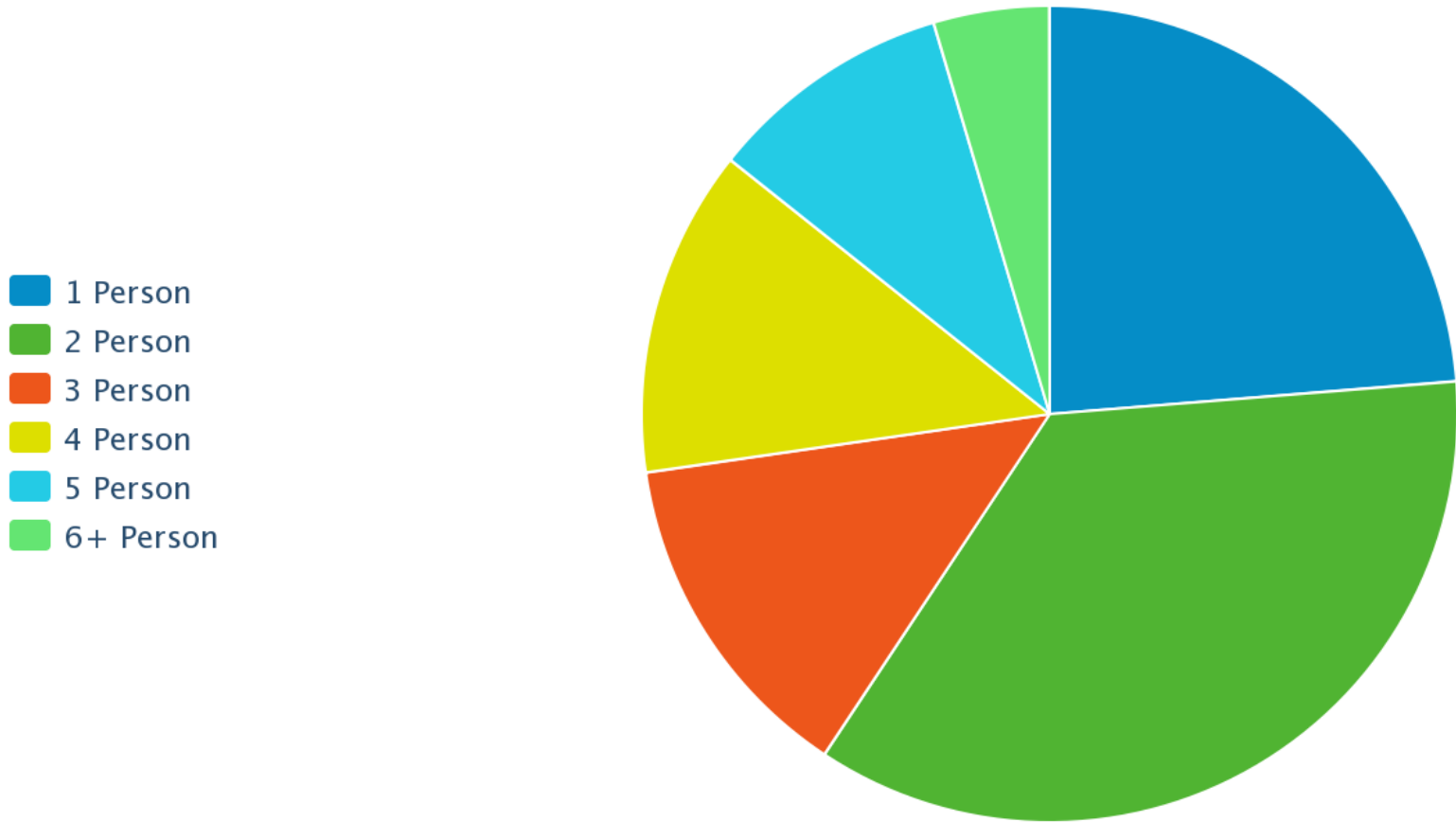


Source: Idaho.REAProject.org (7-11-2014)
Data: Regional Income Division, BEA (5-5-2014)

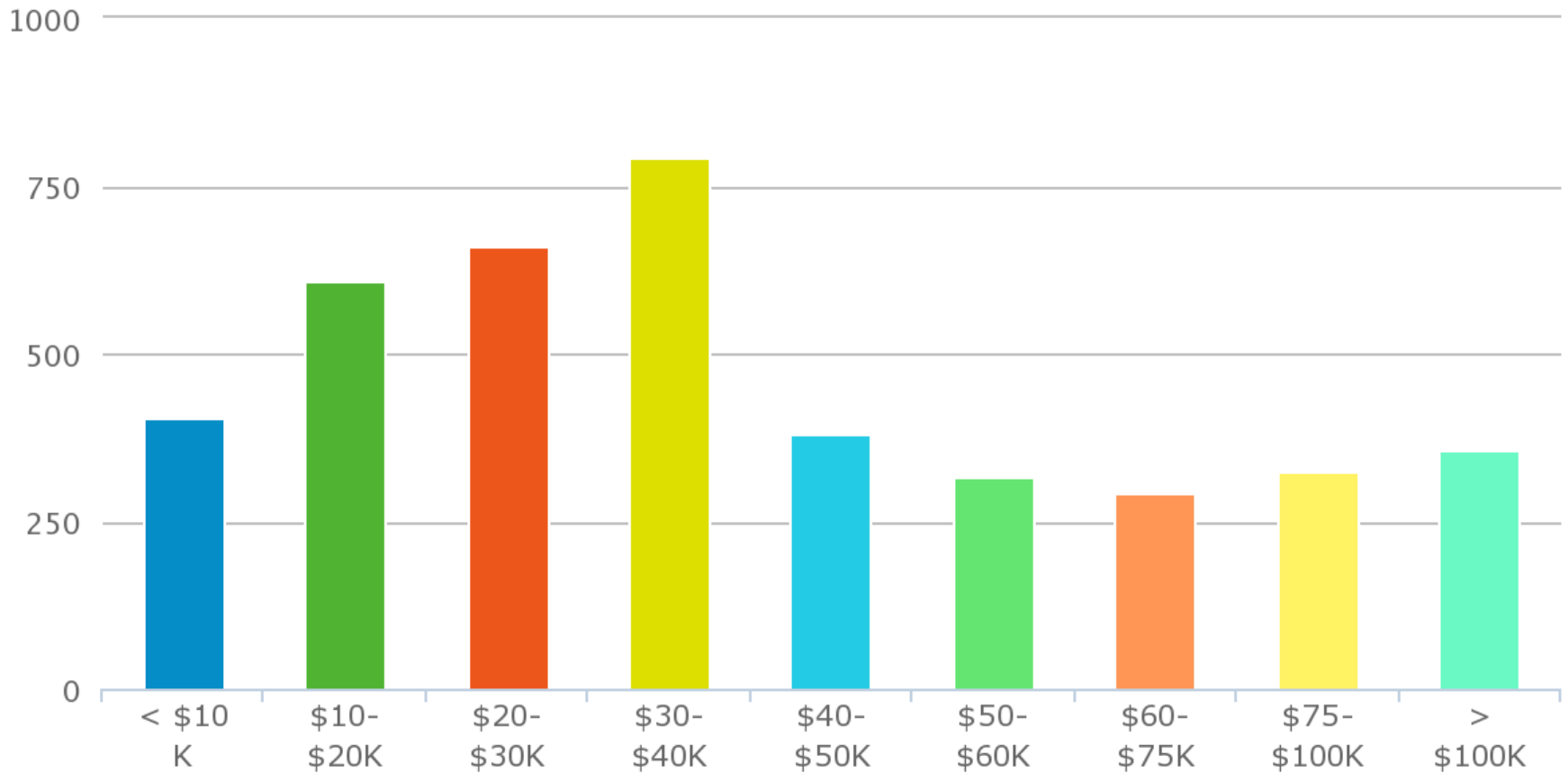
Age Distribution



Size of Households



Household Income Distribution

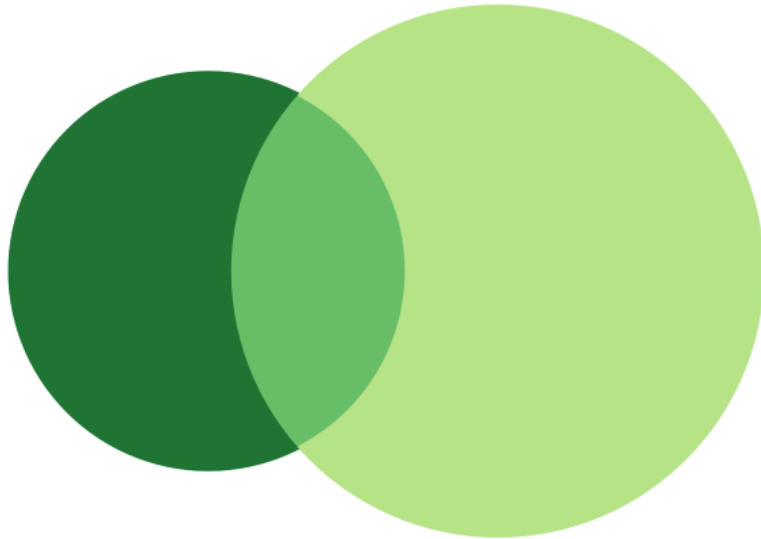


OWYHEE JOBS

INCOME, WAGES & INDUSTRIES

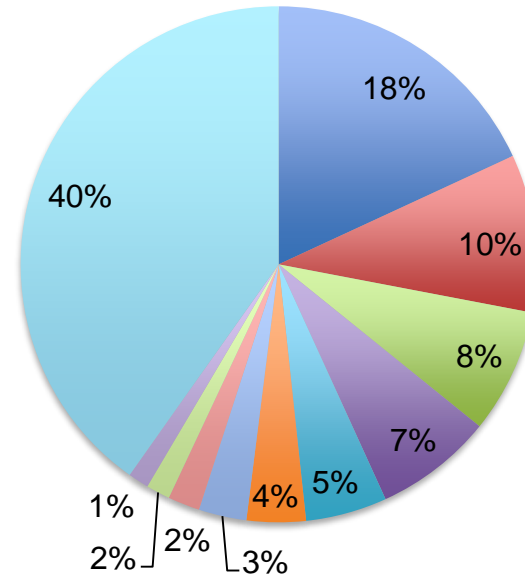
Where people work (commuting)

Inflow/Outflow Job Counts in 2011



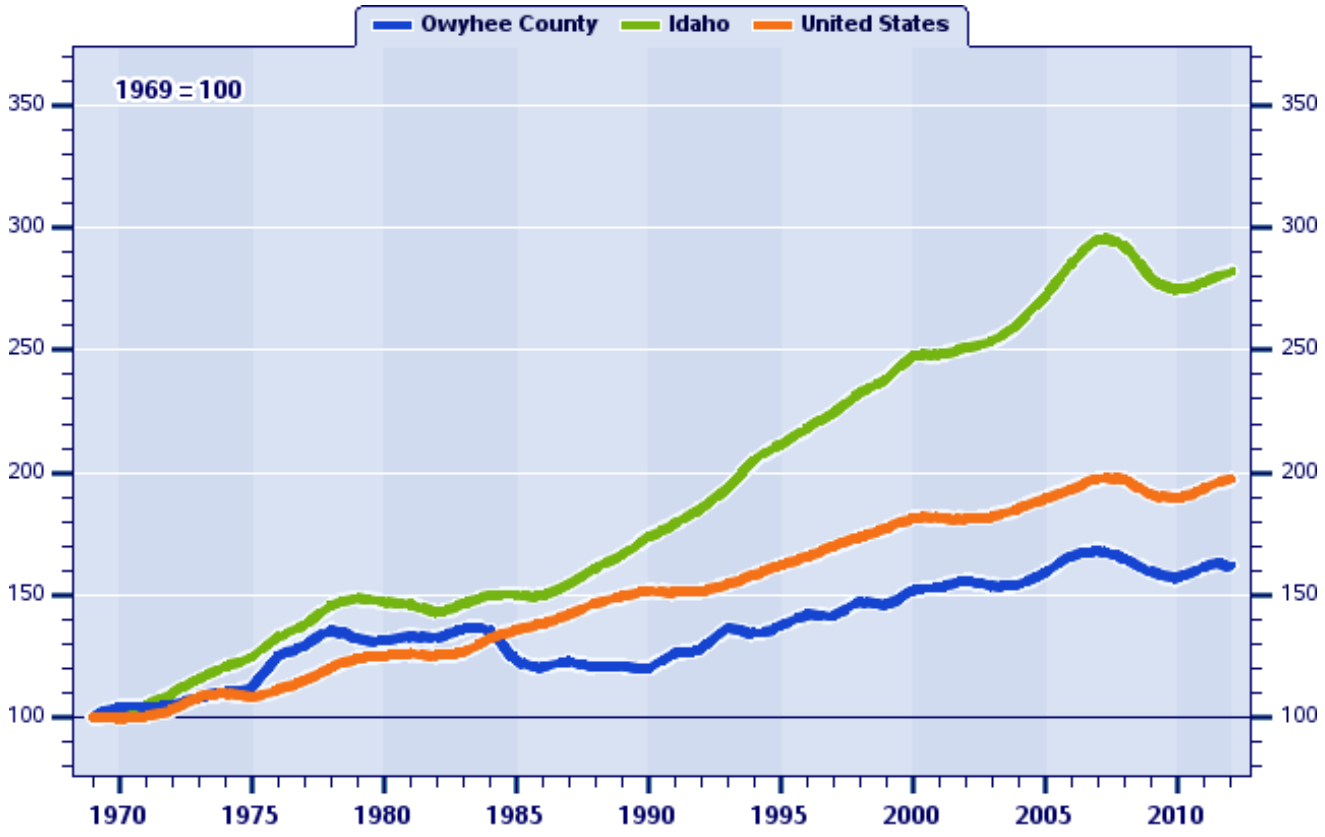
1,519	- Employed in Selection Area, Live Outside
3,374	- Live in Selection Area, Employed Outside
853	- Employed and Live in Selection Area

Where workers are employed



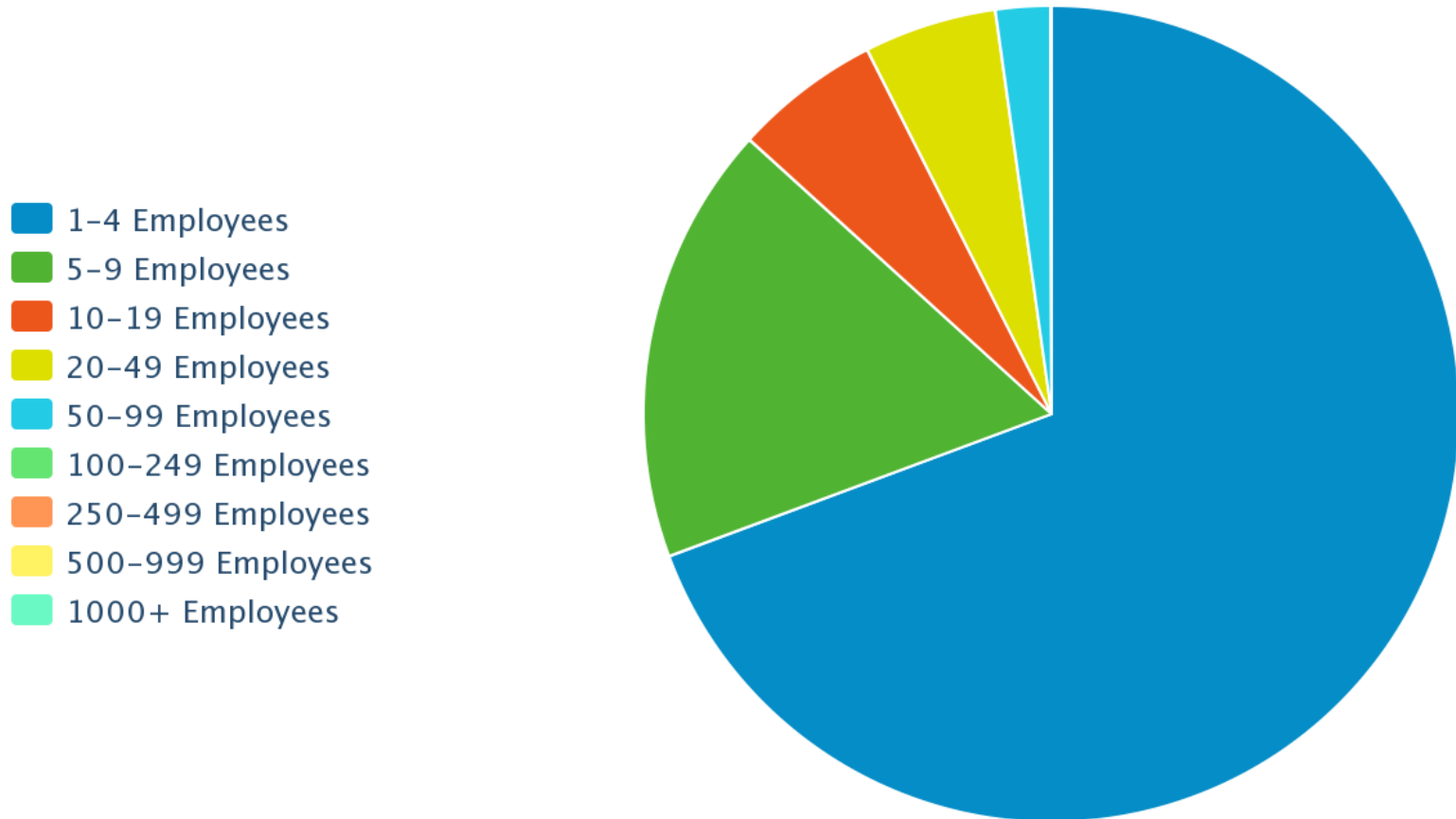
- Boise City city, ID
- Nampa city, ID
- Caldwell city, ID
- Homedale city, ID
- Meridian city, ID
- Marsing city, ID
- McCall city, ID
- Ontario city, OR
- Twin Falls city, ID
- Mountain Home city, ID
- All Other Locations

Employment Indices

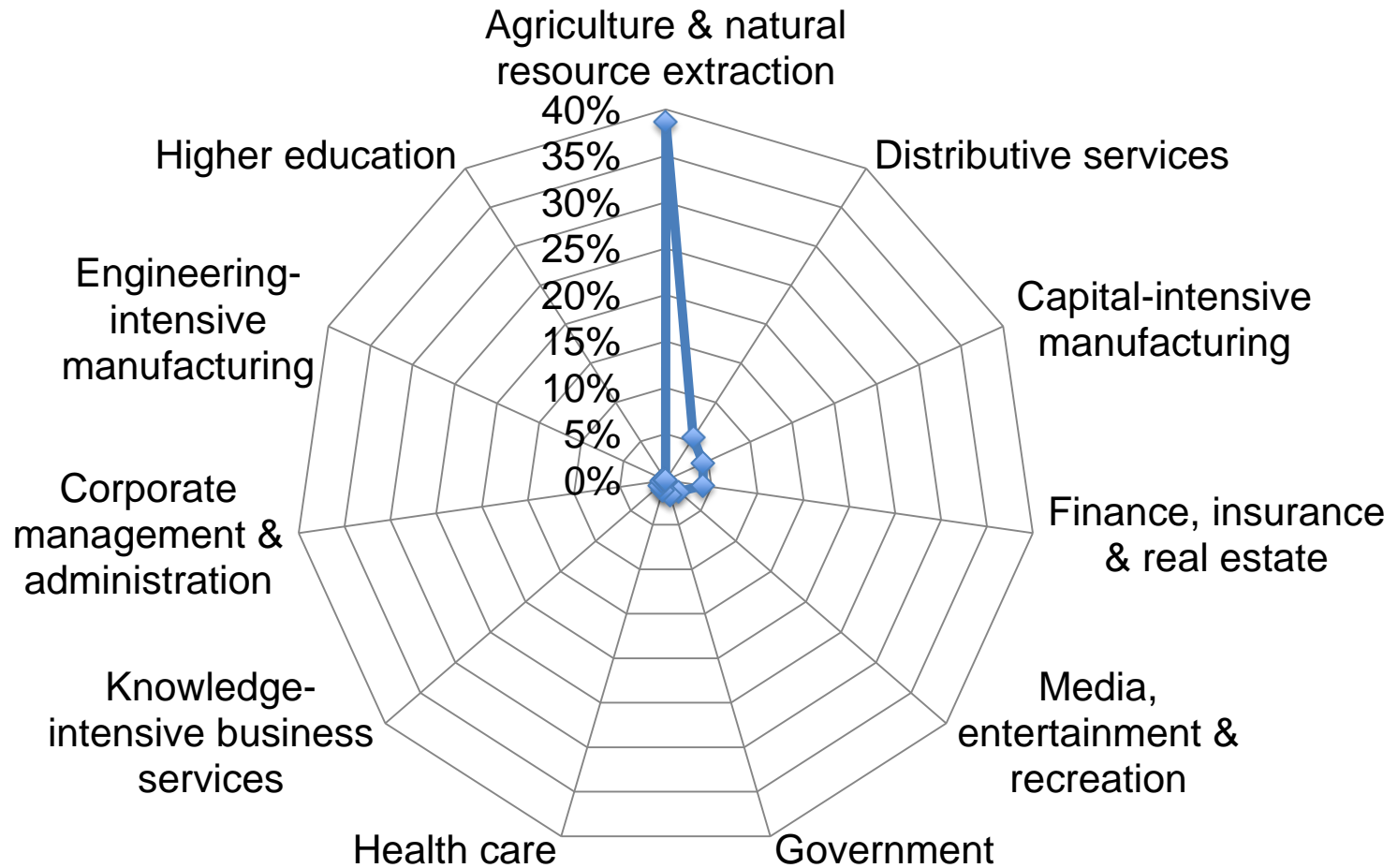


Source: Idaho.REAProject.org (7-11-2014)
Data: Regional Income Division, BEA (5-5-2014)

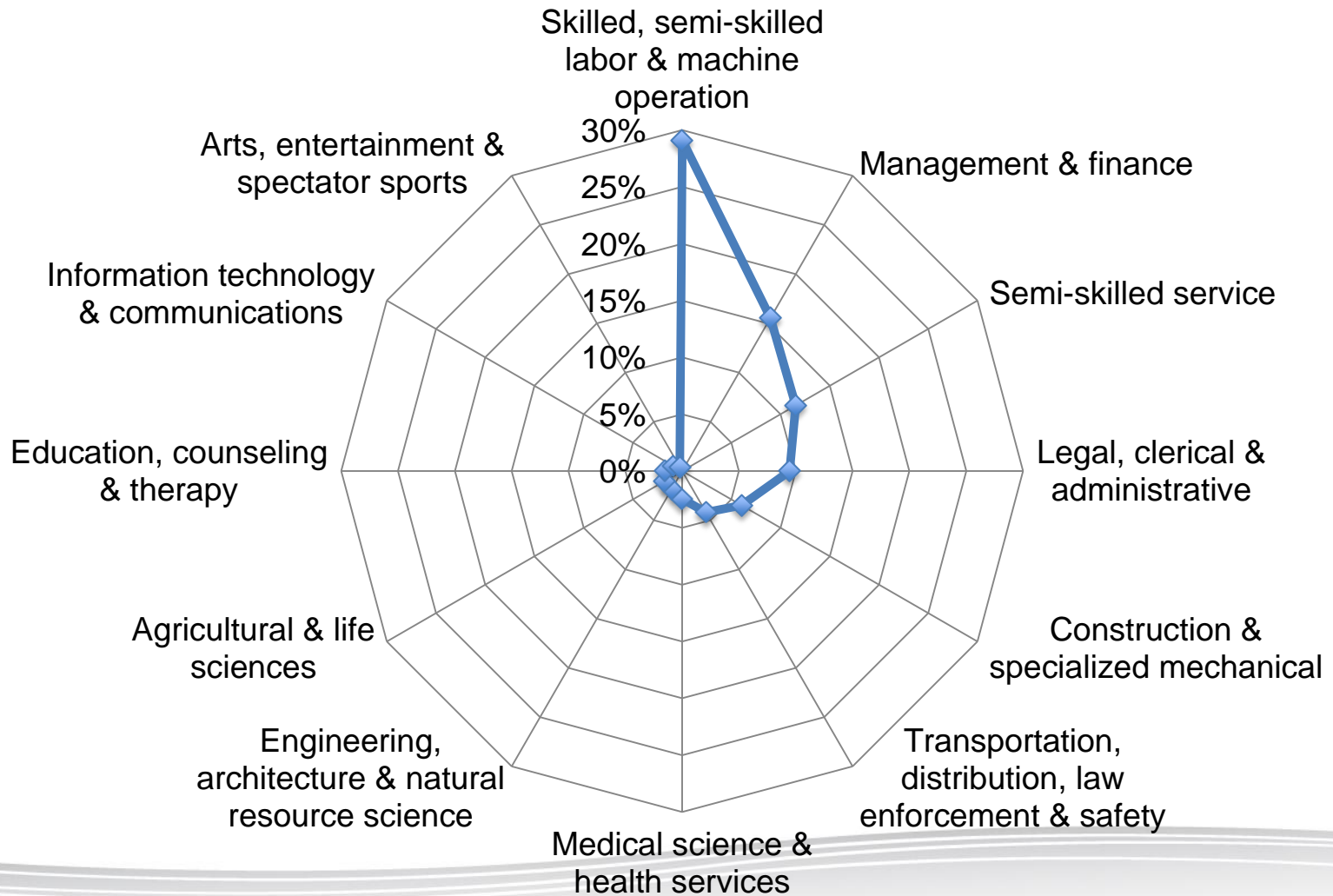
Total Establishment by Size



Industry Function Employment



Occupational Knowledge



Farm employment	18.2
Forestry, fishing, and related activities	8.3
Mining	3.1
Local government	1.8
State and local	1.4

Ex. Owyhee Co. LQ
(2012)

$$LQ = \frac{\% \text{ jobs in Ind. } A \text{ in Owyhee}}{\% \text{ jobs in Ind. } A \text{ in USA}}$$

Wholesale trade	0.8
Information	0.8
Retail trade	0.7
Other services, except public administration	0.7
Manufacturing	0.7
Arts, entertainment, and recreation	0.6
Accommodation and food services	0.6
Administrative and waste management services	0.5
State government	0.2

Cattle Industry

- Cattle industry accounts directly for:
 - 7.1% of employment;
 - 17.7% of cash receipts;
 - 9.8% of county gross product; and
 - 20.4% of exports
- Cattle industry accounts indirectly for
 - 13.7% of total employment;
 - 22.5% of total cash receipts; and
 - 16% of county gross product

AUM ECONOMIC IMPACT

There are 45,660



The total demand for forage is
547,920 AUMs



= 7.72 AUMs of public land forage

352,439 AUMs of public land forage
Dependency on public land is 64%

Economic impact of a reduction of 35,244 AUMs or (10%)

Impact Type	Jobs	Labor Income	Value Added	Output
Direct Effect	4.4	\$443,909	\$446,590	\$1,912,334
Indirect Effect	7.5	\$493,510	\$581,212	\$1,842,783
Induced Effect	2.7	\$87,234	\$170,020	\$288,839
Total Effect	14.6	\$1,024,653	\$1,197,823	\$4,043,956

ECONOMIC IMPACTS CONCLUSION

In summary...

- Owyhee has a narrow economic base
 - It concentrated in natural resource industries
 - Agriculture is the most important sector for Owyhee's economy
 - Its economy follows agriculture ups & downs
- Challenge: Broadening the industry mix & adding value to commodities
 - Increase economic resilience
- Economic model has many uses

Here you can find the report

- <http://tinyurl.com/owyheemodel>

RANCH & CROP ECONOMICS

What We Did

- Ranch- or Farm-Level
 - 4 “Producer Panels” for ranch production inputs and outputs
 - Jordan Valley area, Marsing area, Bruneau area, Three Creek Area
 - Use of U of I Crop Enterprise budgets for major agricultural crops in Owyhee County (hay, corn, silage, grain, etc.)- Used in Regional Model
- 3 Ranch budgets form the basis for profit maximizing economic models (40 year horizon, cyclic cattle prices, etc.)

Case Studies (Uses of Ranch-level Models)

- Federal grazing allotment reductions (Request from County Commissioners)
- Sage grouse management adjustments (Western Regional Research Effort)
- Invasive species impacts (UI MS Thesis on Western Juniper encroachment)

Ranch-level Economic Impacts



Photo by Digital Wildlife Images Productions,
may not be used elsewhere without permission

Torell, L.A., N.R. Rimbey, J.A. Tanaka, D.T. Taylor, J.P. Ritten, and T.K. Foulke. 2014. Ranch-level economic impacts of altering grazing policies on federal land to protect the greater sage-grouse. University of Wyoming, New Mexico State University, University of Idaho, and the Western Rural Development Center. University of Wyoming Extension Bulletin B-1258. Available online at <http://www.wyomingextension.org/publications/>.

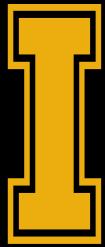
Federal Grazing and Sage-grouse

Impacts Expressed on \$/AUM Removed Basis (Annual and Planning Horizon)

	Spring	Fall	Spring & Fall	25%	50%	75%	100%
	Net Annual Income						
Average	-\$27.94	-\$22.34	-\$25.74	-\$14.01	-\$16.51	-\$20.46	-\$26.62
	Discounted Net Income						
Average	-\$271	-\$262	-\$312	-\$162	-\$195	-\$237	-\$296

Western Juniper Encroachment

	Phase I		Phase II		Phase III	
NPV	435,983		373,515		294,852	
Annual Net Income	32,009	(29,182)	25,178	(20,014)	18,674	(14,526)
Change in Net Income per AUM lost			-8.80		-10.56	
Annual Borrowing	16	(394)	79	(887)	755	(3,606)
Variable Costs	87,890	(16,137)	70,528	(13,429)	64,731	(13,380)
Forage Costs	30,661	(7,447)	26,312	(7,235)	24,350	(8,146)
BLM AUM Usage	2,031	(102)	1,317	(26)	834	(13)
Private Leased AUMs	12	(52)	34	(94)	66	(136)
Brood Cows	267	(17)	213	(25)	188	(28)
AUYs	386	(30)	311	(41)	273	(46)



University
of Idaho

SOCIAL ASSESSMEN T VALUE

J.D. WULFHORST

DEPT. OF NATURAL RESOURCES & SOCIETY

*American Planning Association – Idaho Chapter
Boise, ID ~ October 11-12, 2018*

Study Area



FIGURE 1

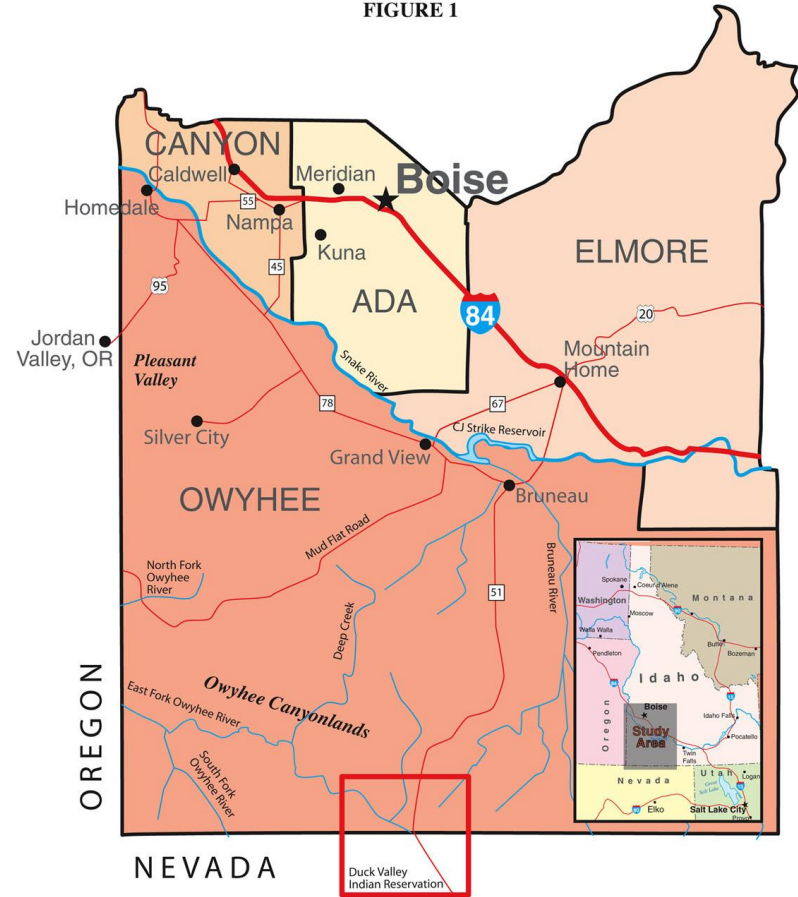


FIGURE 1. Map of Southwestern Idaho

Survey methodology

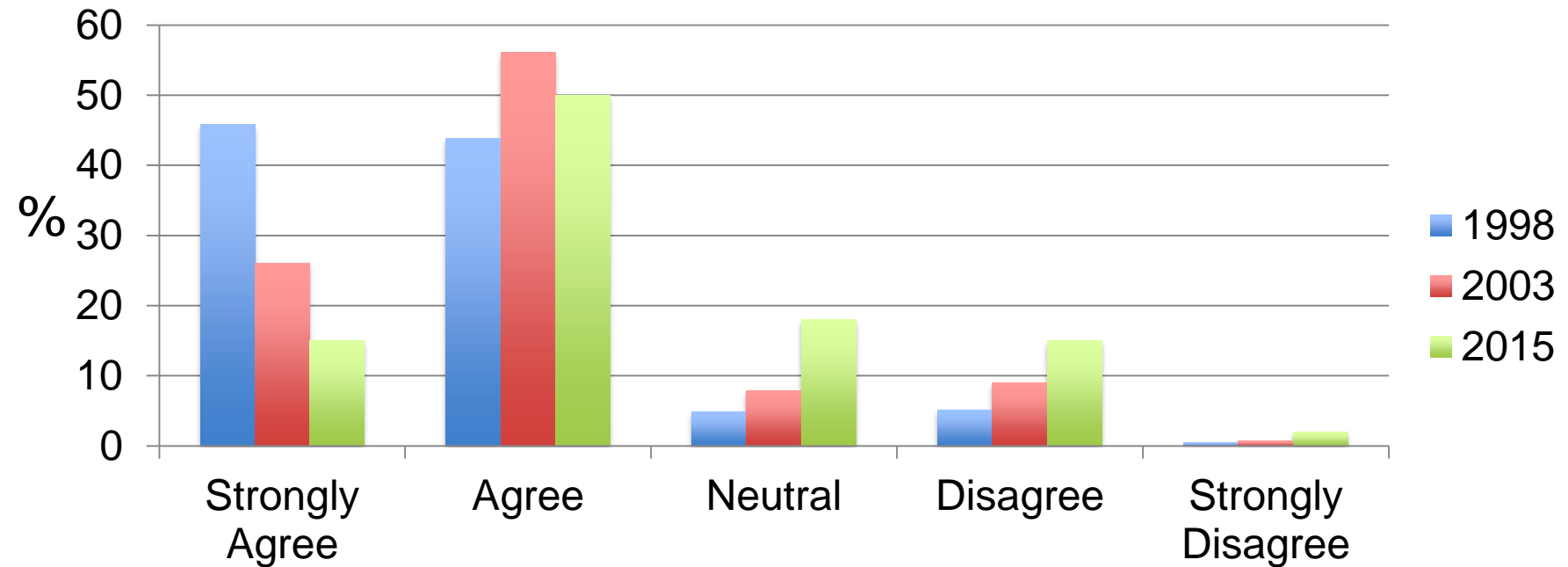
	1998-1999	2002-03	2015
Completed surveys	N = 553	N = 385	N = 669
Response rate / Cooperation rate	76%	64%	34% / 52%
Sampling frame / structure	Single-frame (LLines), simple random sample	Single-frame (LLines), simple random sample	Dual-frame, random-digit dial frame (cell & LLines) / simple random sample
Geography of sample	Owyhee County	1) Owyhee County, 2) rural & 3) urban subsamples of Ada, Canyon, Elmore Co.	1) Owyhee County, 2) rural & 3) urban subsamples of Ada, Canyon, Elmore Co.

Overview of comparative data

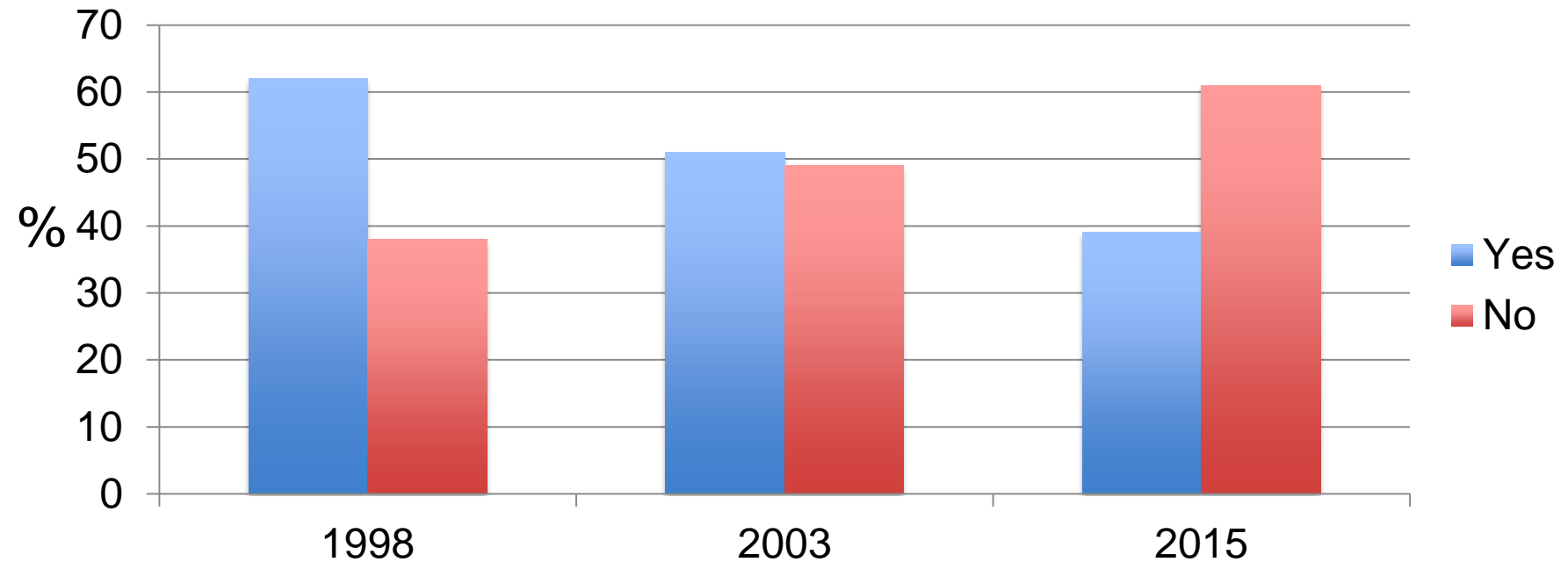
Measure	1998-99	2002-03	2015
Do any of your close friends run cattle ranches?	✓	✓	✓
Cohesion: 1) belong to community; 2) people similar	✓		✓
Cohesion: 1) loyal to community; 2) borrow / exchange favors	✓	✓	✓
Cohesion: 1) rare to visit neighbors; 2) feel connected in comm.		✓	✓
Cohesion: 1) live here gives sense of comm.	✓	✓	
NR / Public lands use: 1) enough Wild.; 2) grazing on PL; 3) wildlife protection on PL		✓	✓
ORV use on PL, Public particip. NR mtgs, recreational use		✓	✓

Cohesion example:

I feel I can borrow things and exchange favors with neighbors

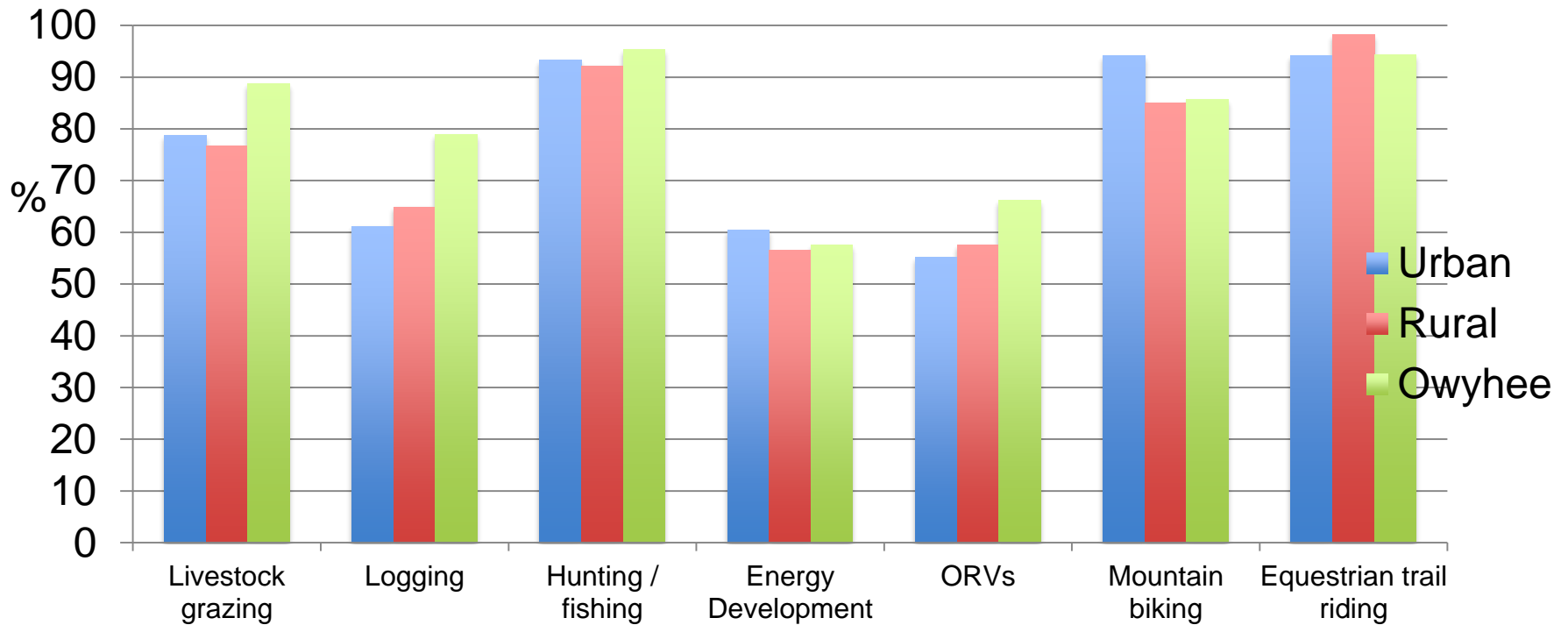


Do you have close friends that run a ranch?

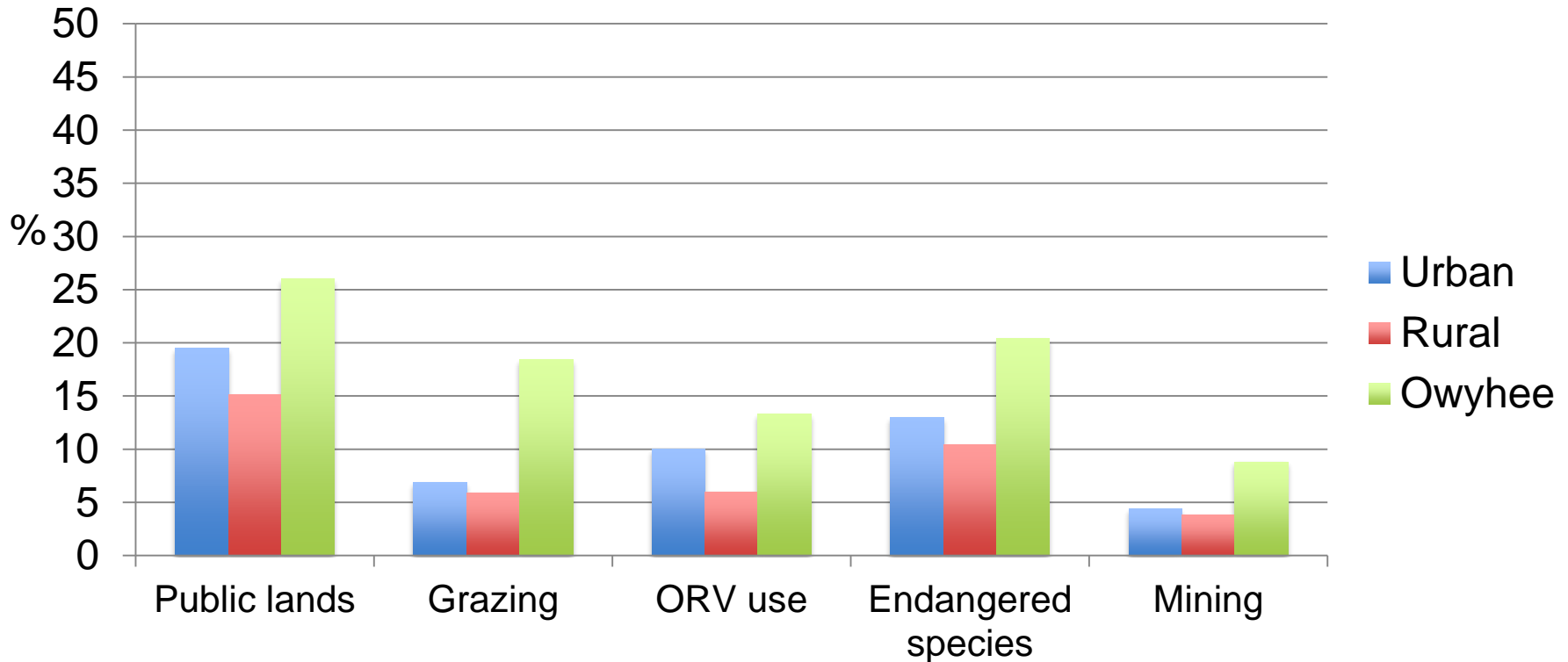


NOTE – 1998 was
Owyhee 'only'

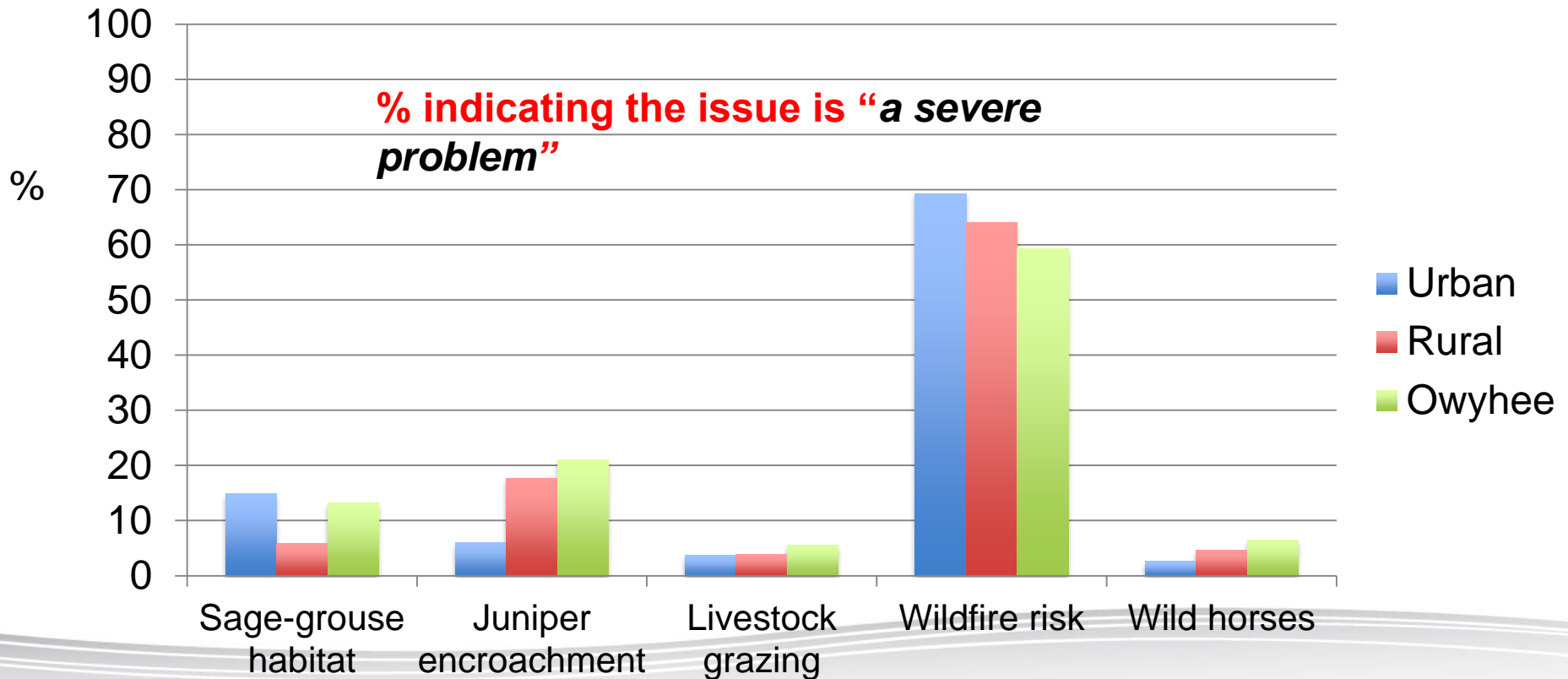
Level of approval for different public lands uses



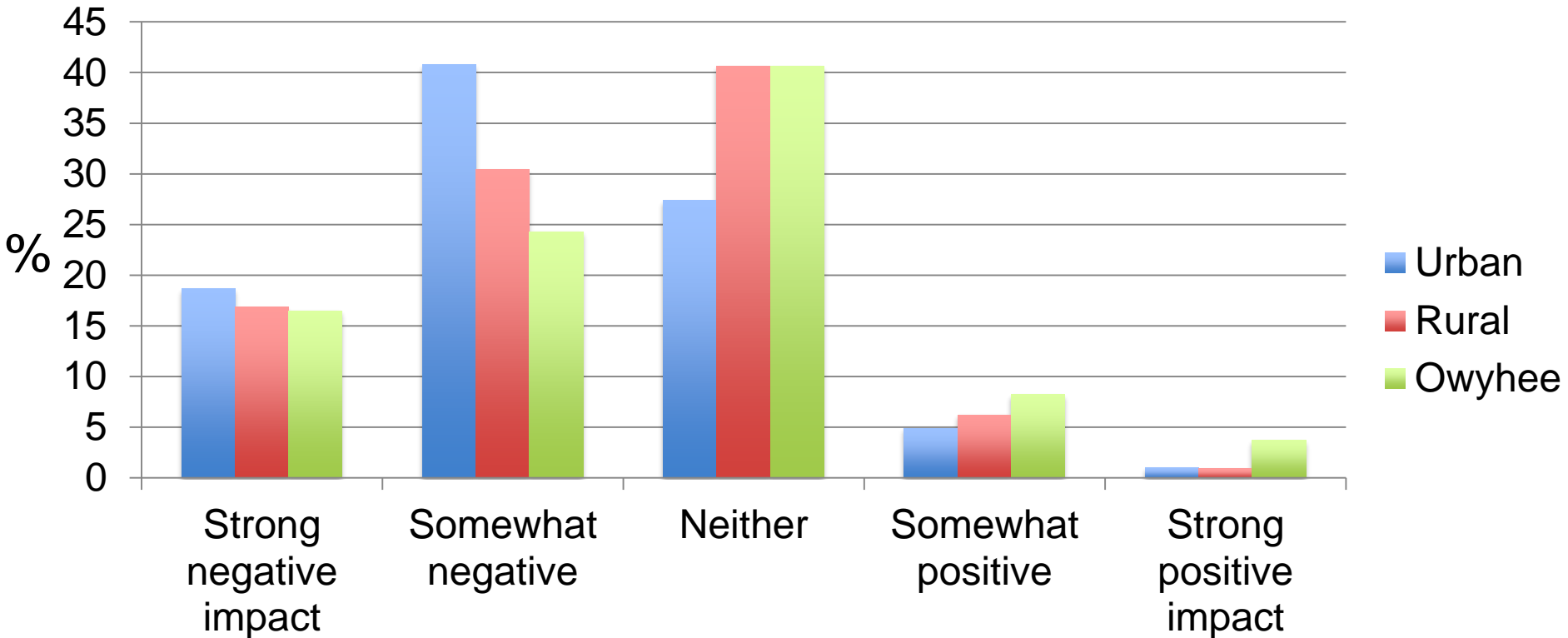
On which natural resource management issues have you participated in public meetings during the last five years...



How problematic are each of the following rangeland issues facing southwestern ID today?



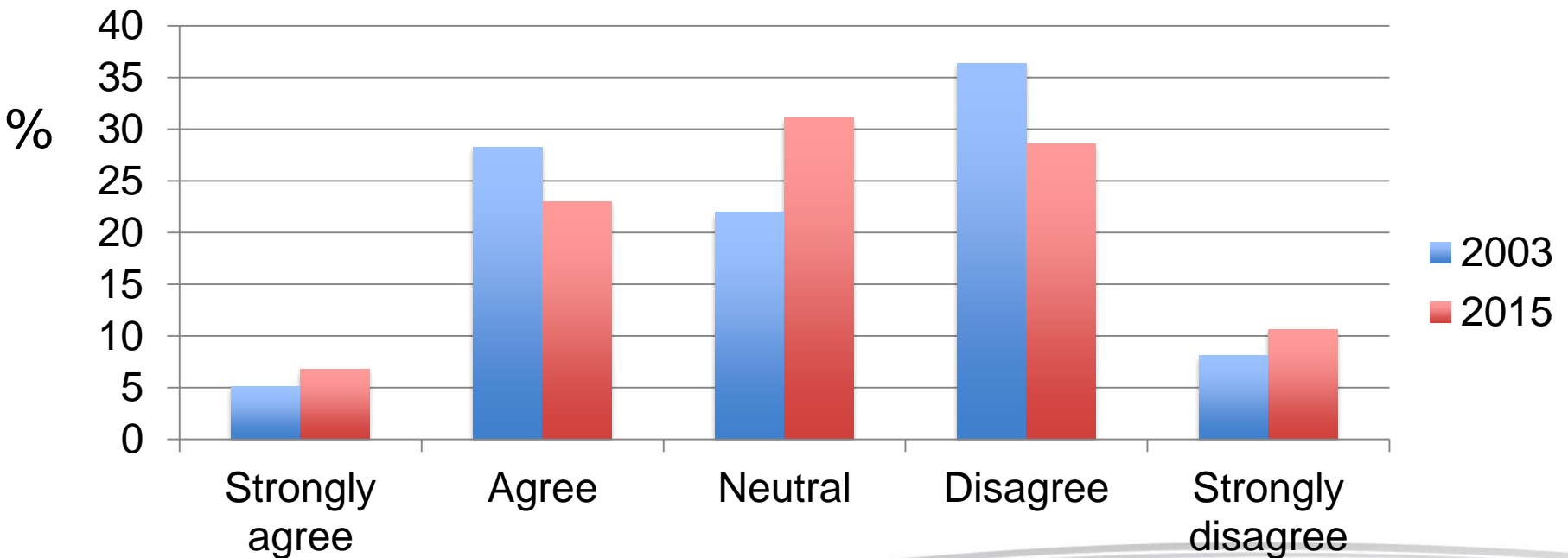
What kind of impact do you believe will occur by routing transmission & power lines through the Birds of Prey Nat'l Conservation Area?



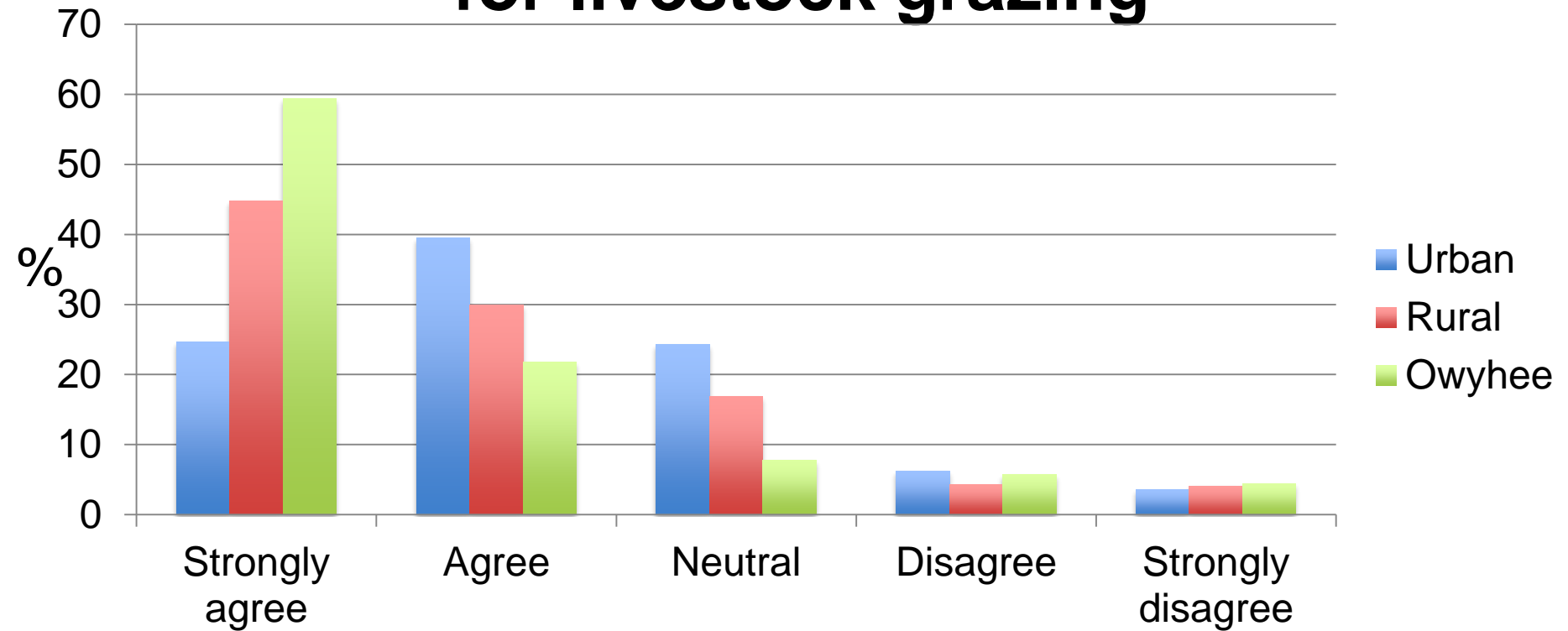
2015 Survey
Results

ORV use on public lands:

“Idaho needs more recreational opportunities for ORVs on public lands”

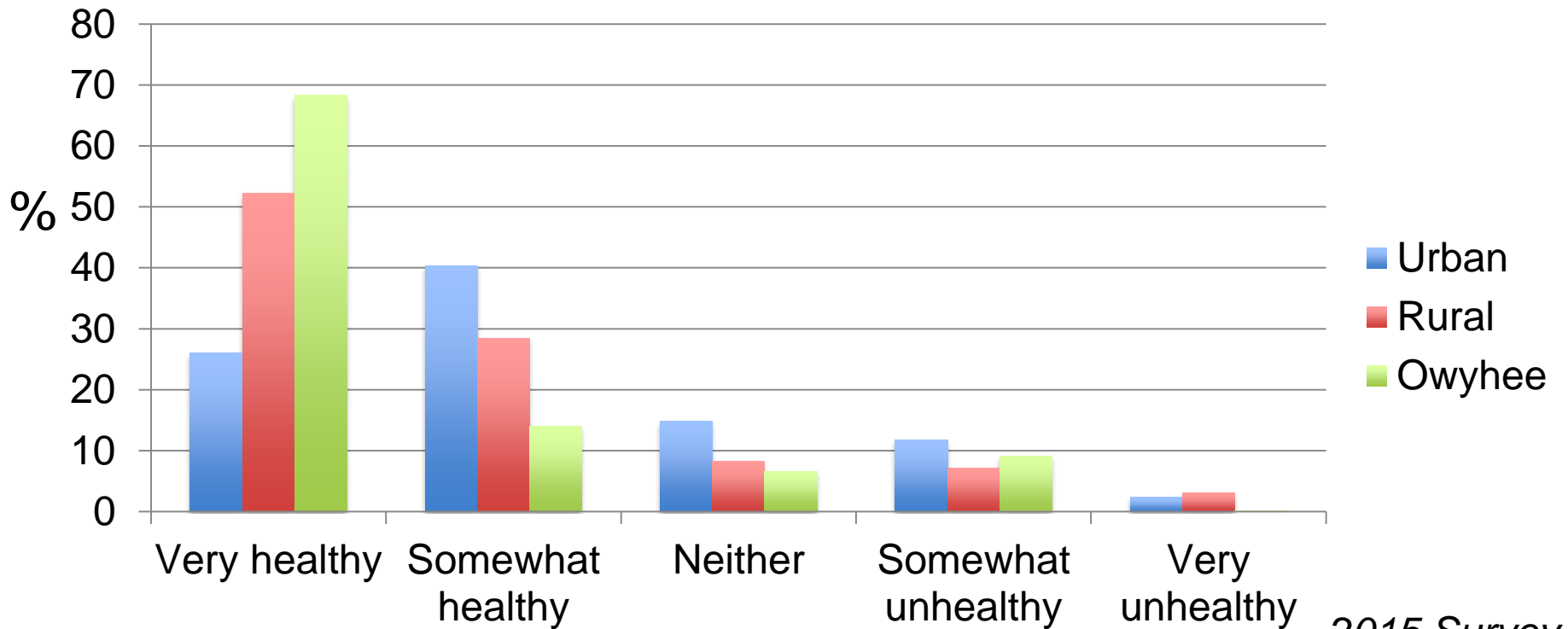


Level of agreement to use public lands for livestock grazing



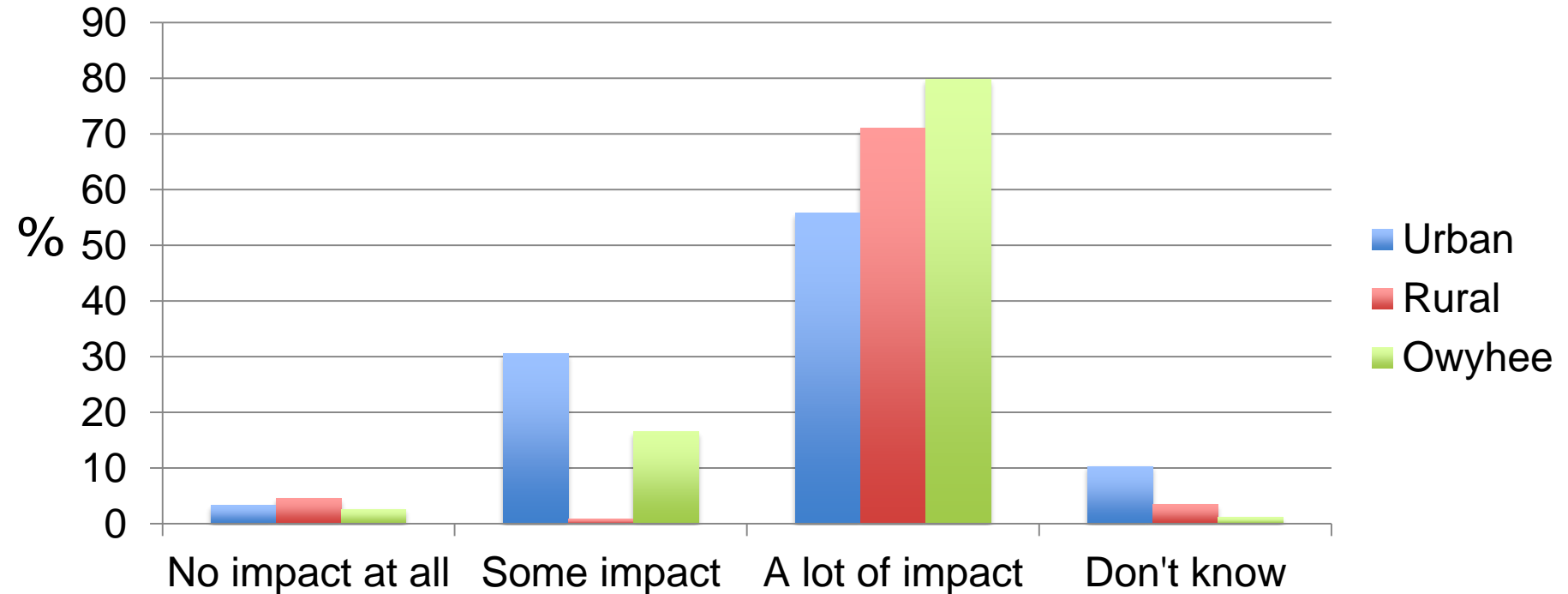
2015 Survey
Results

Do you consider livestock grazing a healthy or unhealthy component of a working landscape?



2015 Survey
Results

Degree of perceived impact from litigation that targets removal of livestock grazing on public lands will have on ranches in Owyhee county



2015 Survey
Results

Summary thoughts...

- Agricultural lands play an important role in EVERY community.
- Economic
- Social
- Other

Questions?

