Institutional Obstacles to Beaver Recolonization and Potential Climate Change Adaptation in Oregon, USA

JEFF BALDWIN
Sonoma State University
BA, MA, PhD ~ University of Oregon

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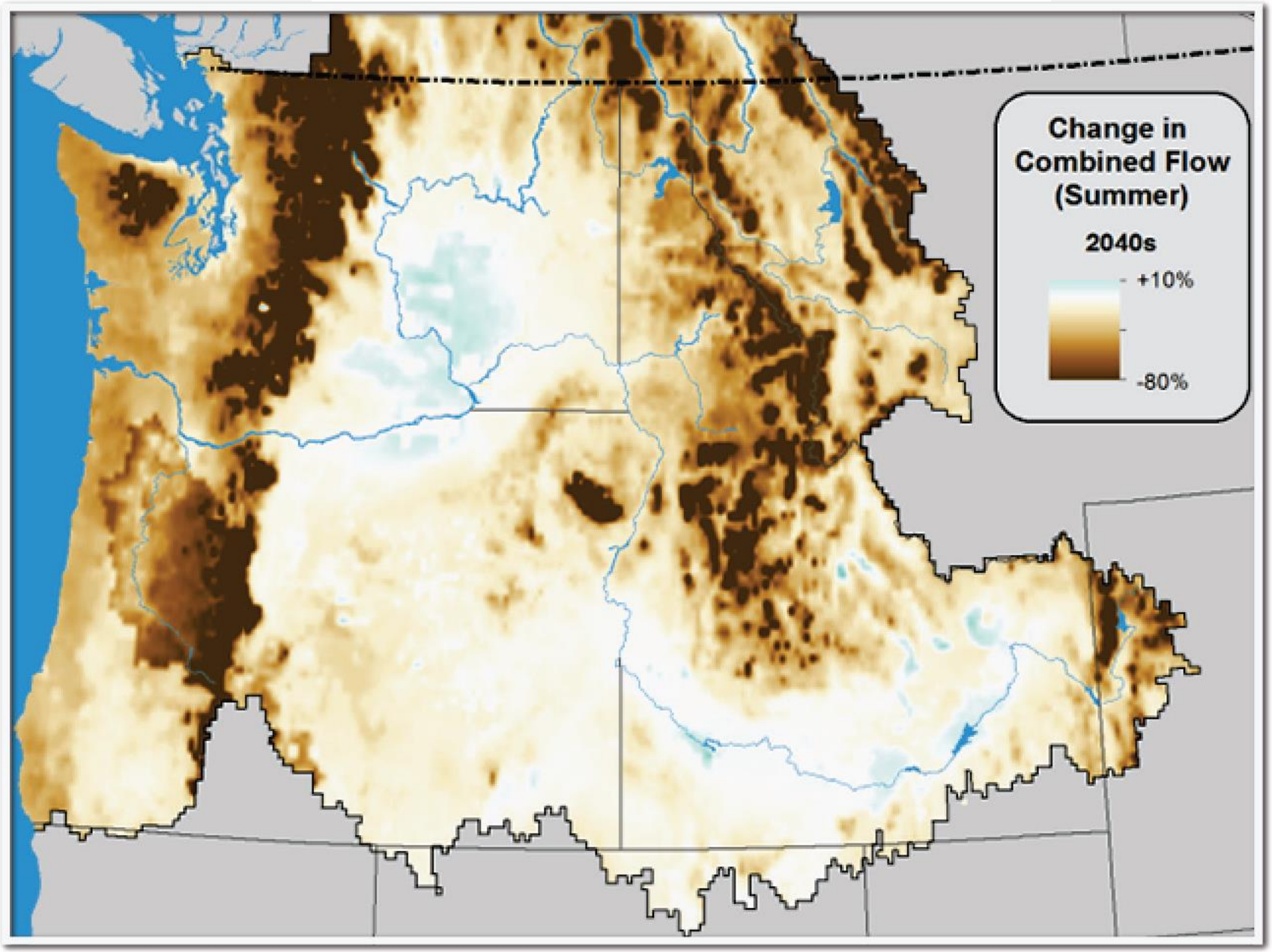
Climate change threatens our streams and the surrounding ecosystems

Summer Stream Flows in 25 Years



National Climate Change Assessment – Draft (2013)

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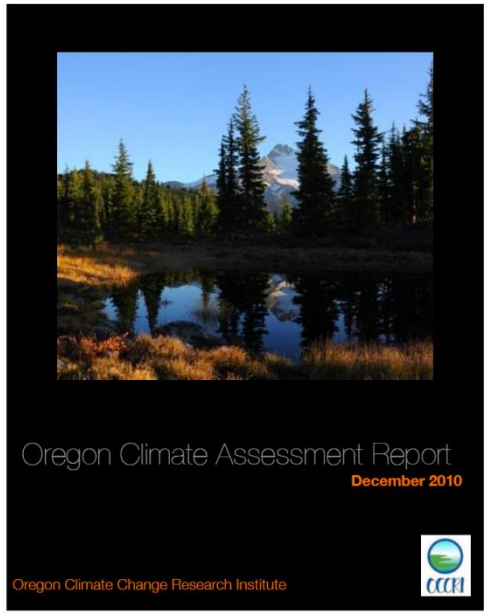
Beaver benefits (ecosystem services)

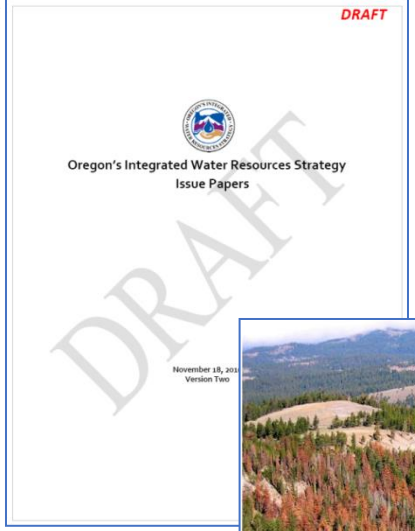
- Salmon, trout, suckers, and over 50 other threatened species are co-adapted to beaver landscapes in Oregon
- Beaver ponds charge aquifers => increase cool summer stream flows
- Beaver meadows are carbon and nitrogen sinks (climate change)
- Beaver ponds and meadows provide refugia against climate change and wildfires

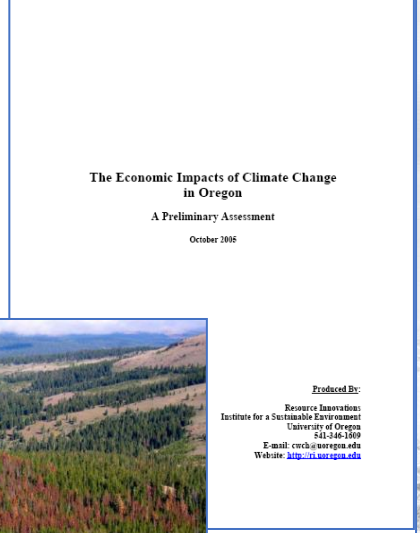
Dixon Creek, Sprague River tributary, following the 2021 Bootleg Fire

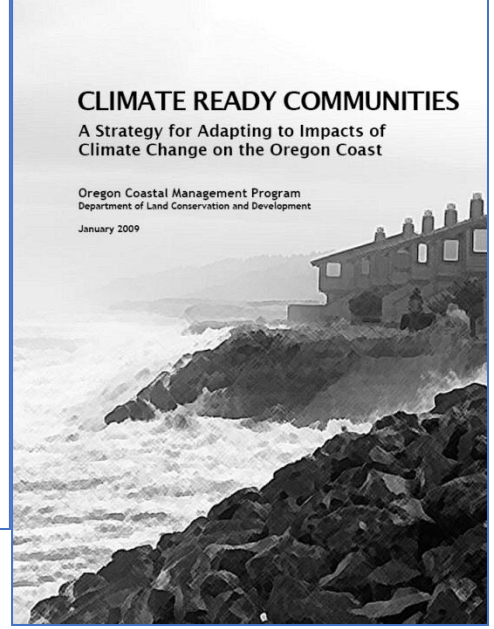
Isobel Whitcomb. Feb 7, 2022. *Scientific American*

First research question:
Is the State encouraging beaver recolonization?
It’s a low cost solution!

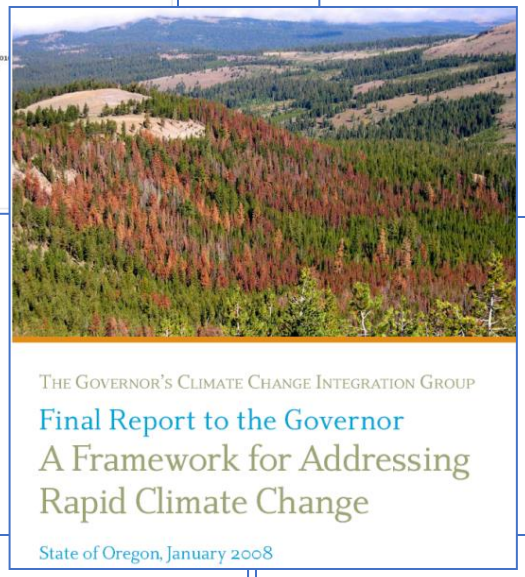




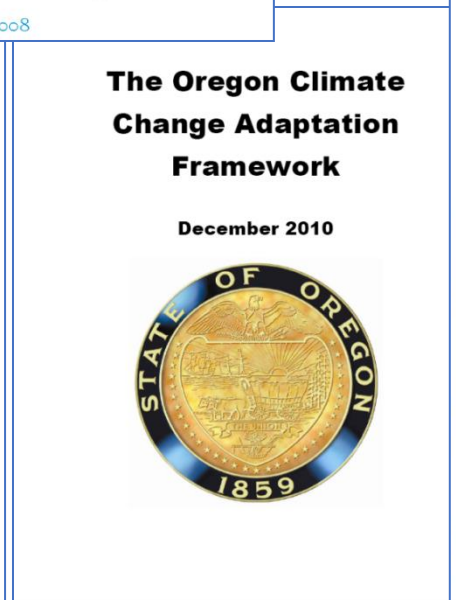


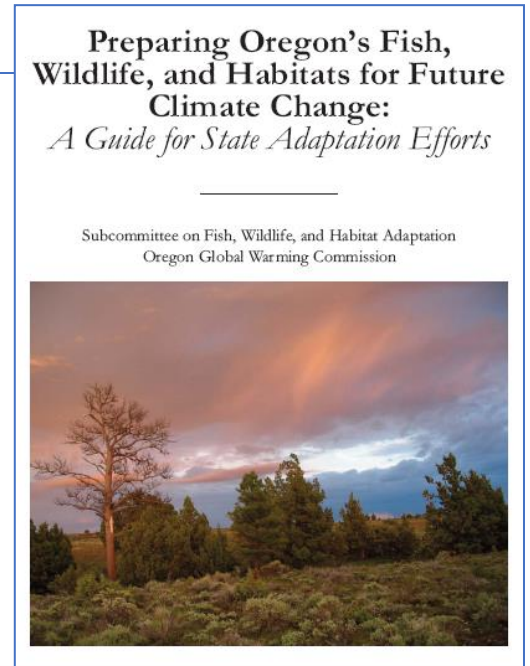


2014 => 9 reports on adaptation to climate change



Approximately 2,000 pages





Preparing Oregon's Fish, Wildlife, and Habitats for Future Climate Change:
A Guide for State Adaptation Efforts

Subcommittee on Fish, Wildlife, and Habitat Adaptation
Oregon Global Warming Commission

sidebars).[6] The effects of climate change interact with and exacerbate existing human-caused stresses to natural systems, such as habitat loss due to land use change, over-allocation of water and other natural resources, spread of invasive species, altered disturbance regimes, landscape fragmentation, and declines in air and water quality.

Because of the many complex, interrelated changes associated with climate change, 21st century fish and wildlife managers will need to adapt their management techniques and strategies. They will need to learn to cope better with uncertainty, incomplete information, and a rapidly changing environment, and they will need to find better ways to tap into existing information on climate change and its impacts. Failure to do so will lead to the permanent loss of species and ecosystems, disruptions to ecosystem services such as clean air and water and flood control, and significant declines in resource-dependent industries such as fisheries, timber, agriculture, and tourism and recreation.

Changing Forests – Climate, Land Use, and Fire

Recent evidence shows a clear link between climate change and larger and more frequent forest fires in the western United States. Researchers have found a clear increase in large wildfire activity that begins in the mid-1980s and is strongly tied to climate patterns. This increase is evident even in areas where land use changes have been minimal.

Earlier spring snowmelt, longer fire seasons, and higher spring and summer temperatures associated with global climate change are believed to exacerbate fire activity in many – but probably not all – forests. Other climate-related mechanisms may also contribute to the problem. Increased wind speeds can fuel larger and more intense fires, and in many systems the spread of invasive species can play a similar role. In many forests, past fire suppression and changes in land use will further exacerbate changing fire regimes.

Fire plays an important role in nearly all North American forests, and preventing all fire is not a beneficial or practical goal. However, changing fire regimes will likely affect fish and wildlife species, air quality, and watersheds in new and unpredictable ways. They will require land managers, policy makers, and the general public to make difficult decisions about fuel management, fire suppression, and development in fire-prone forests.

Next research question:
Why aren’t State agencies including beaver in climate adaptation efforts?

What cultural forms lead to beaver exclusion from Oregon's climate change strategies?

1) Initial interviews with 5 general wildlife management experts (ODFW and USFS)
2) Attended meetings held by the Oregon Watershed Enhancement Board, the Oregon Sustainability Board, the Oregon Global Warming Commission, and a Klamath Watershed Partnership workshop. At those meetings I interviewed 9 board members.
3) Further follow-up interviews included:

- 8 ODFW officers
- 2 of the founding members of the Beaver Advocacy Council
- 2 representatives each from Wildlife Defenders, the Oregon Climate Initiative
- 3 representatives each from the US Forest Service (USFS) and the US Bureau of Land Management (BLM)
- The wildlife management officer with the Oregon State Extension office
- Several watershed council officers

Over 40 hours of interviews

Findings

What cultural forms lead to beaver exclusion from Oregon's climate change strategies?

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Findings

Committee members: Committee reports must be *politically neutral* to be approved

ODFW wildlife managers: ODFW culture ~ Beaver already inhabit all viable habitat

ODFW does not survey beaver, they do not know where or how many Oregon has

If an ODFW officer fails to serve a user's interests, complaints can cripple their career ~ if a beaver is a nuisance, advise extermination

A History of Beaver Live Management in First Half of 20th Century

1898 – Statewide trapping ban
1917 and 1923 trapping bans lifted (partially then completely)
1931 and 1932 – trapping bans re-instituted

1930s and 40s – US Forest Service, the Bureau of Biological Survey, and the Oregon State Game Commission => re-introduced thousands of beaver (trap nuisance and relocate)
1945 – Program enlisted 590 landowners interested in hosting beaver on their property
1950 – 1,500 farmers participating

1950s - In response to trapping interests, beaver are listed as *furbearing animals*

Trapping is regulated and transparent ~ 2000/year

This was insufficient for logging/agricultural industries interested in 'extirpation' by slaughter

Oregon Furbearer Trapping and Hunting Regulations

July 1, 2010 through June 30, 2012

Trapper Education Requirement

By action of the 1985 Oregon Legislature, all trappers born after June 30, 1968, and all first-time Oregon trappers are required to complete an approved trapper education course.

The course is not required of persons trapping on land owned or leased by that person, the person's immediate family, or a person's agent who is controlling damage to livestock or agricultural crops.

The course may be completed at home. Testing will take place at Oregon Department of Fish and Wildlife (ODFW) offices throughout the state. A furtaker's license will be issued by the Salem headquarters ODFW office after the test has been successfully completed and mailed to Salem headquarters.

Course materials are available by writing or telephoning Oregon Department of Fish and Wildlife, I&E Division, 3406 Cherry Ave. NE, Salem, OR 97303, (800) 720-6339 x76002.

License Requirements

Juveniles younger than 14 years of age are not required to purchase a license, except to hunt or trap bobcat and otter. They must also register to receive a brand number through the Salem ODFW office. To trap bobcat or otter juveniles must complete the Trapper Education course.

Landowners must obtain either a furtaker's license, a hunting license for furbearers, or a free license to take furbearers on land they own and on which they reside. To receive the free license, the landowner must obtain from the Salem ODFW office, a receipt of registration for the location of such land prior to hunting or trapping furbearing mammals on that land.

Mandatory Annual Report Form

Persons who were licensed, but did not fill out and return a completed furtaker harvest report form postmarked by **April 15**, will not be issued a furbearer harvest license for the following season.

License and Tag Fees

Furtakers need only one (1) license. A Furtakers' License allows the holder to trap, hunt and pursue.
A Hunting License for Furbearers allows the holder only to hunt and pursue.
A general hunting license is not required to trap, hunt or pursue furbearers.

Resident Furtaker's License	$ 47.00	**Bobcat Record Card** (Hunting License for Furbearers or Furtakers' License required.)	$ 22.00
Nonresident Furtaker's License	$ 352.00	**River Otter Record Card** (Hunting License for Furbearers or Furtakers' License required.)	17.00
Resident Hunting License for Furbearers	$ 22.00		
Resident Juvenile Furtaker's License (Age 14-17)	$ 17.00		
Juveniles younger than 14	see license requirements above.	**Fur Dealer's License**	$ 52.00

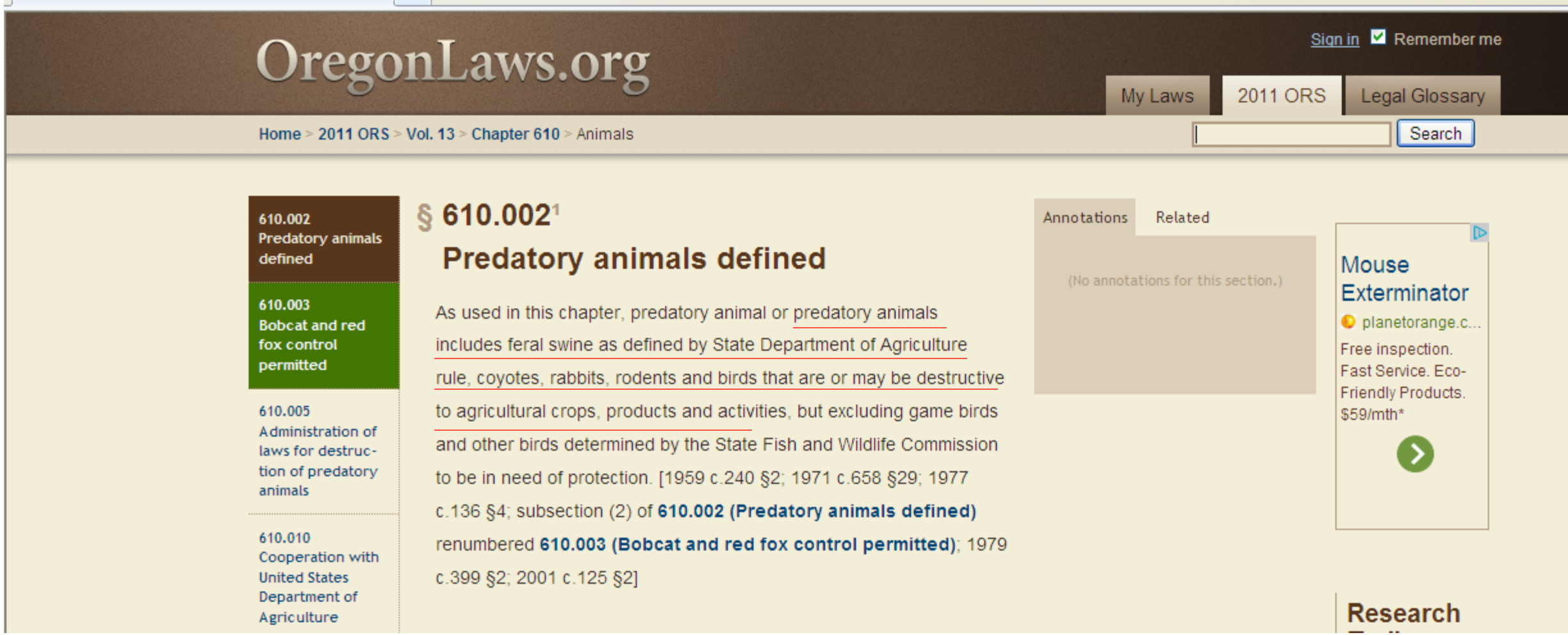
The above license and record card fees each include a $2.00 license agent fee. Further information on licenses and tags is available by writing or telephoning Oregon Department of Fish and Wildlife, Licensing Section, 3406 Cherry Ave. NE, Salem, OR 97303, (503) 947-6100.

Important Marten Harvest Information

The Department of Fish and Wildlife requests that furtakers provide the date, location of harvest and sex of all marten they take, and that all marten carcasses be turned in to the local ODFW office prior to March 1, following each season. Furtaker cooperation is critical to successful future management of this species.

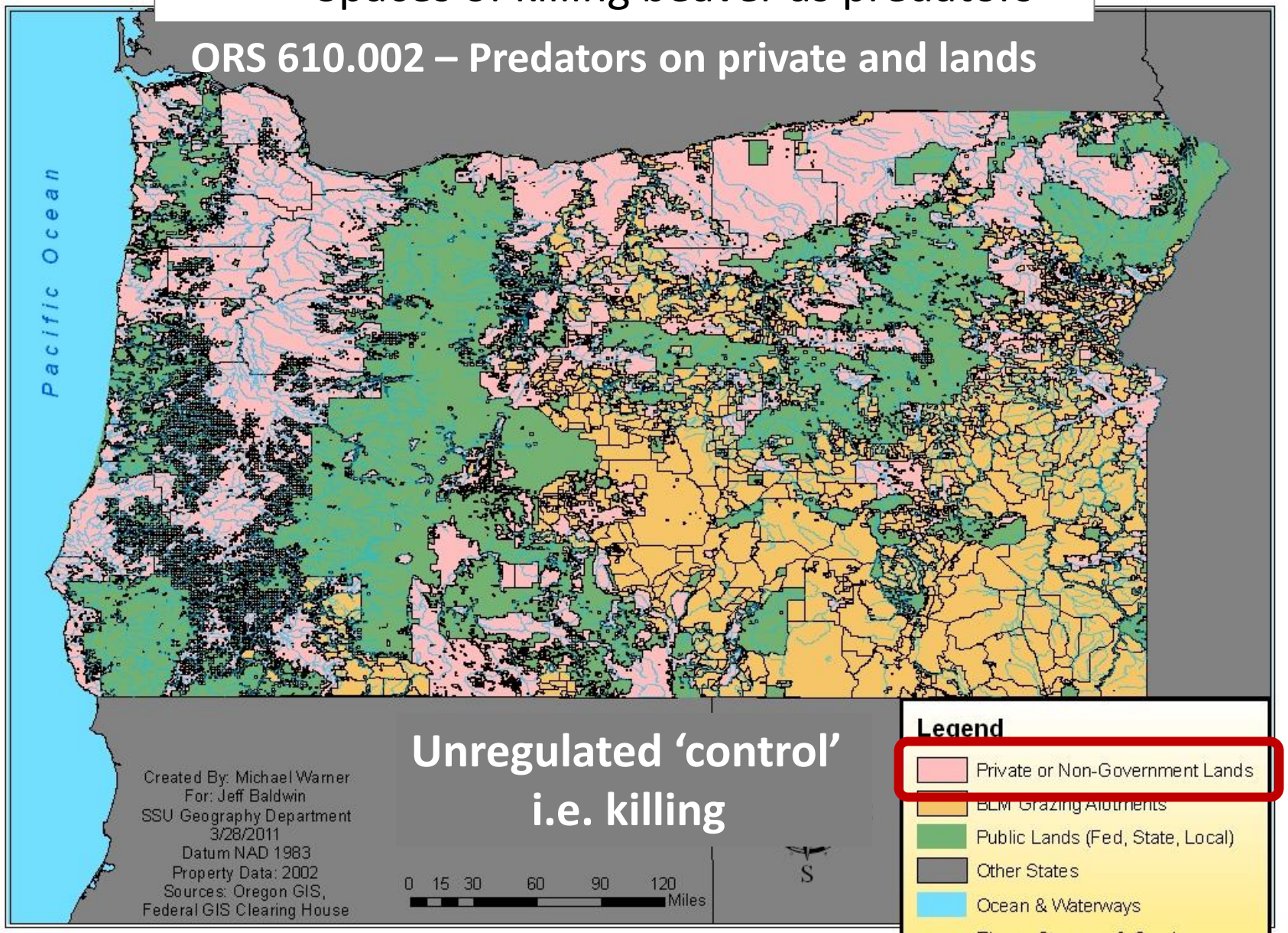
Oregon Department of Fish and Wildlife
3406 Cherry Ave. NE
Salem, OR 97303
(503) 947-6100

Please Note: Major changes are printed in italics throughout this synopsis.



BACKGROUND: Current statute (ORS 610.002) defines predatory animals to be feral swine, coyotes, rabbits, rodents, and birds that are or may be destructive to agriculture, but excluding game birds and other birds determined by the State Fish and Wildlife Commission to be in need of protection. For House Bill 3636, predatory animals also include black bear, cougar, grey wolves, and other fur-bearing mammals (beaver, bobcat, fisher, marten, mink, muskrat, otter, raccoon, red fox, and gray fox).

Spaces of killing beaver as predators



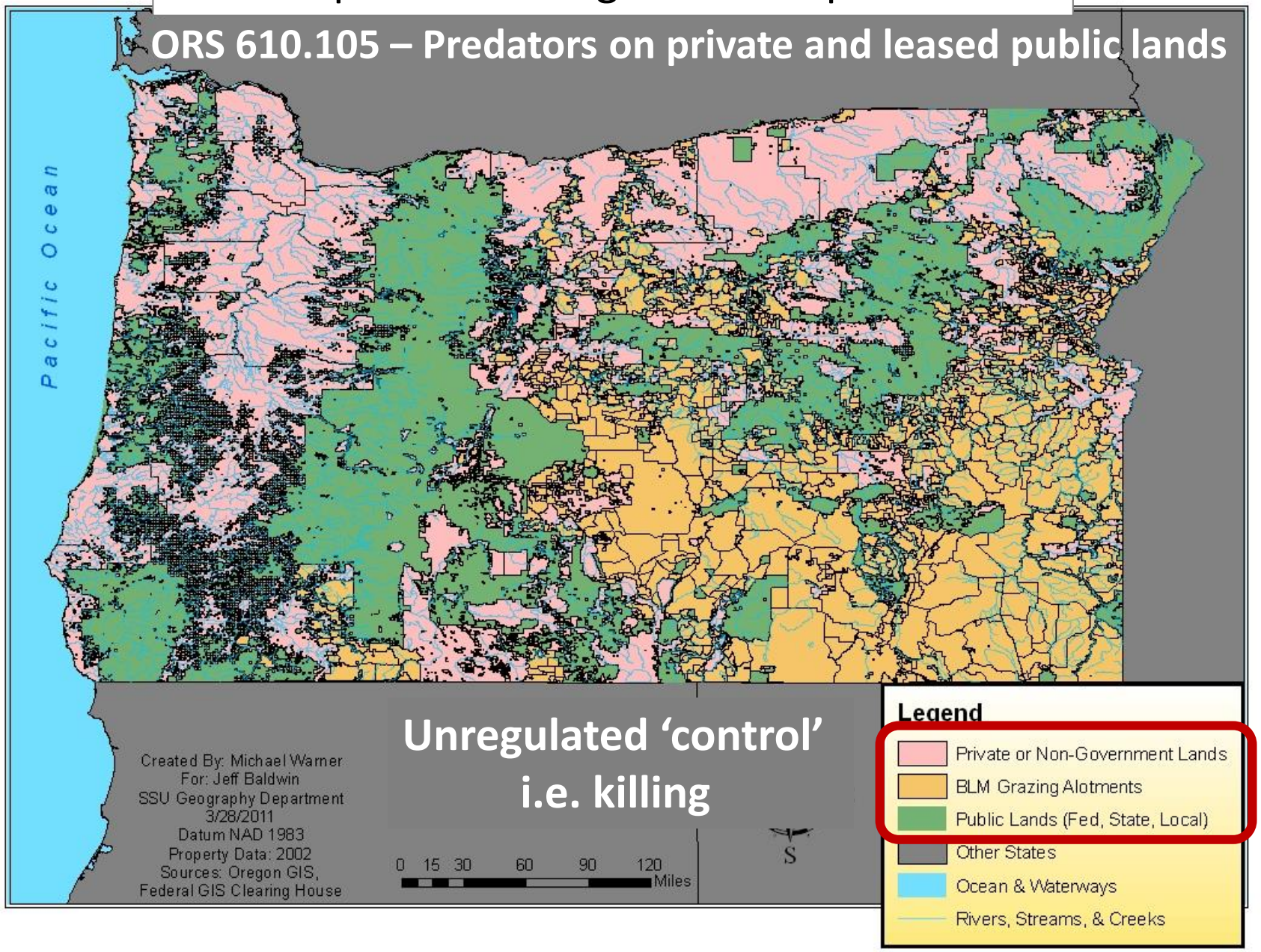
§ 610.105[1]

Authority to control noxious rodents or predatory animals

Any person owning, leasing, occupying, possessing or having charge of or dominion over any land, place, building, structure, wharf, pier or dock which is infested with ground squirrels and other noxious rodents or predatory animals, as soon as their presence comes to the knowledge of the person, may, or the agent of the person may, proceed immediately and continue in good faith to control them by poisoning, trapping or other appropriate and effective means.

[Amended by 1971 c.658 §30]

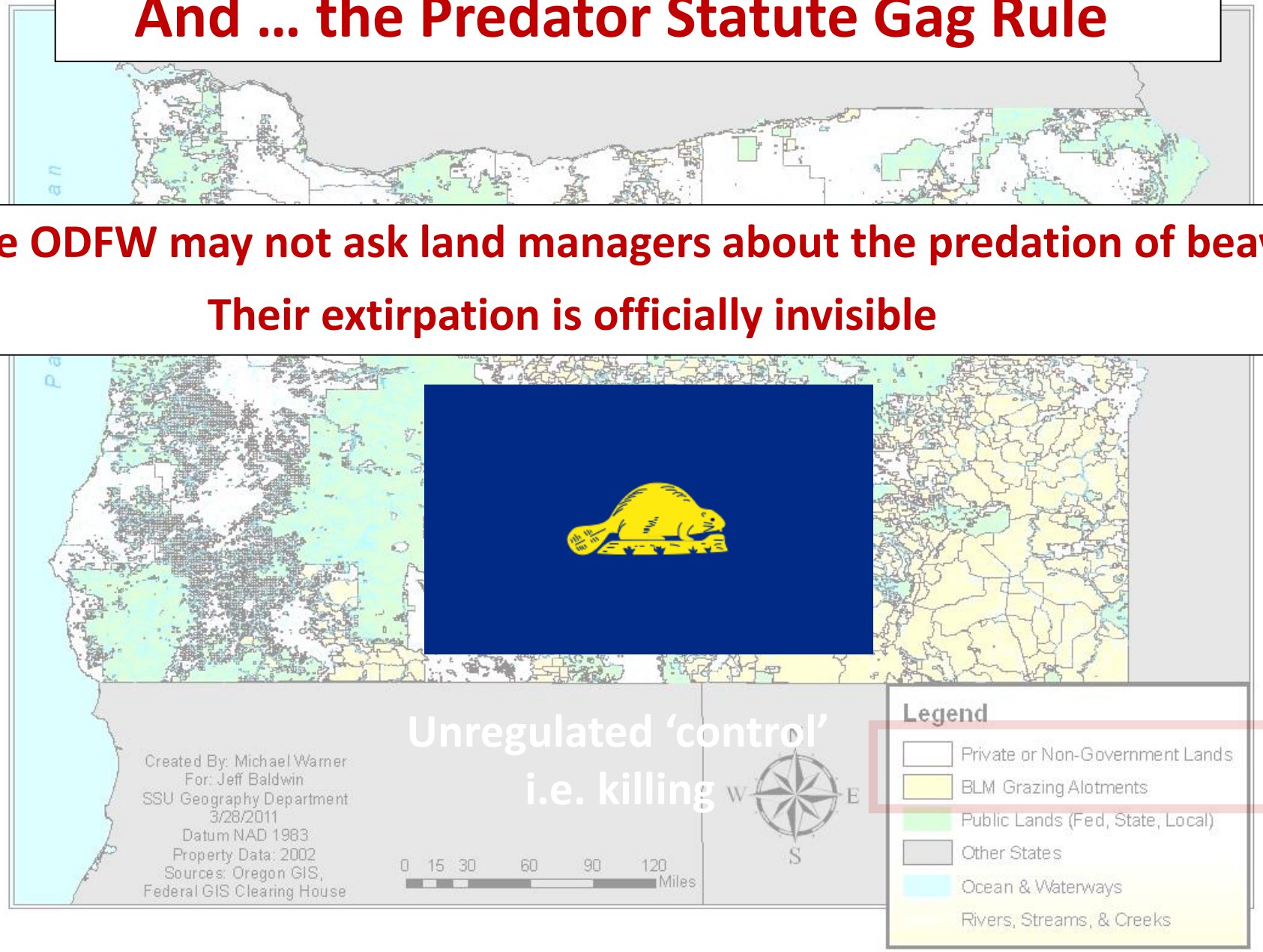
Spaces of killing beaver as predators



And … the Predator Statute Gag Rule

The ODFW may not ask land managers about the predation of beaver

Their extirpation is officially invisible



- ✓ Beaver are co-adapted keystone species
- ✓ Their potential benefits far outweigh their potential costs
- ✓ We are smarter than beaver, we can live-manage them

The predator listing makes this impossible