



WASHINGTON STATE DEPARTMENT OF
Natural Resources

Peter Goldmark - Commissioner of Public Lands

Forest Practices Compliance Monitoring

Biennium 2010-2011



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www.dnr.wa.gov

Scope of the Standard Sample

- August 2008 through July 2010
 - This period occurred before the publication of the last report; so, no changes due to findings of that report had been implemented when these FPAs were approved
- Field review of 196 FPAs statewide
 - More observed in Western Washington due to the proportions of FPAs submitted
 - 280 riparian prescriptions
 - 109 road construction or abandonment prescriptions
 - 47 haul routes were evaluated in 2011



Stream and Wetland Typing Emphasis Sample

- Instituted a follow-up procedure to clarify documentation of the water types on the FPA
- Reviewed Type Np, Ns and undesignated Waters, also Type B and Forested wetlands
 - On FPAs approved June 1 through September 30, 2011
 - Compared the FPA type with water/wetland physical characteristics observed by the CM review team
 - 55 typed waters or wetlands were reviewed on 37 FPAs



Table A. Forest Practices Rule Riparian Prescription Average Compliance Rates

Western Washington						
	No Entry Inner Zone	No Entry RMZ	DFC Option 1	DFC Option 2	Type Ns	Type Np
% compliant	64%	64%	43%	60%	90%	82%
Sample size	44	14	7	25	61	49
Eastern Washington						
	No Entry Inner Zone	No Entry RMZ	Type Ns	Type Np		
% compliant	78%	67%	100%	100%		
Sample size	9	3	10	19		
Statewide						
	Wetland					
% compliant	95%					
Sample size	38					



Statewide Road Construction and Abandonment

	Status of Compliance	Road activities rule compliance
Small Forest Land-owners	Percent Compliant	60%
	95% Confidence Interval	(16, 94)
	Activity Totals	5
Industrial Land-owners	Percent Compliant	88%
	95% Confidence Interval	(77, 95)
	Activity Totals	57
All Land-owner Types	Percent Compliant	85%
	95% Confidence Interval	(75, 93)
	Grand Totals	62



Non-compliance Severity Ratings

- ▶ **Major:** Evident or high potential impact such as harvest in the RMZ core zone, or cut or fill slopes directly contributing visible volumes of sediment to typed waters.
- ▶ **Moderate:** Apparent and potentially longer-term impacts to public resources such as the complete removal of outer zone RMZ trees or significant under-stocking of leave trees in the inner zone. Also, undersized culverts, cut and fill slopes and small but visible sediment plumes in typed waters.



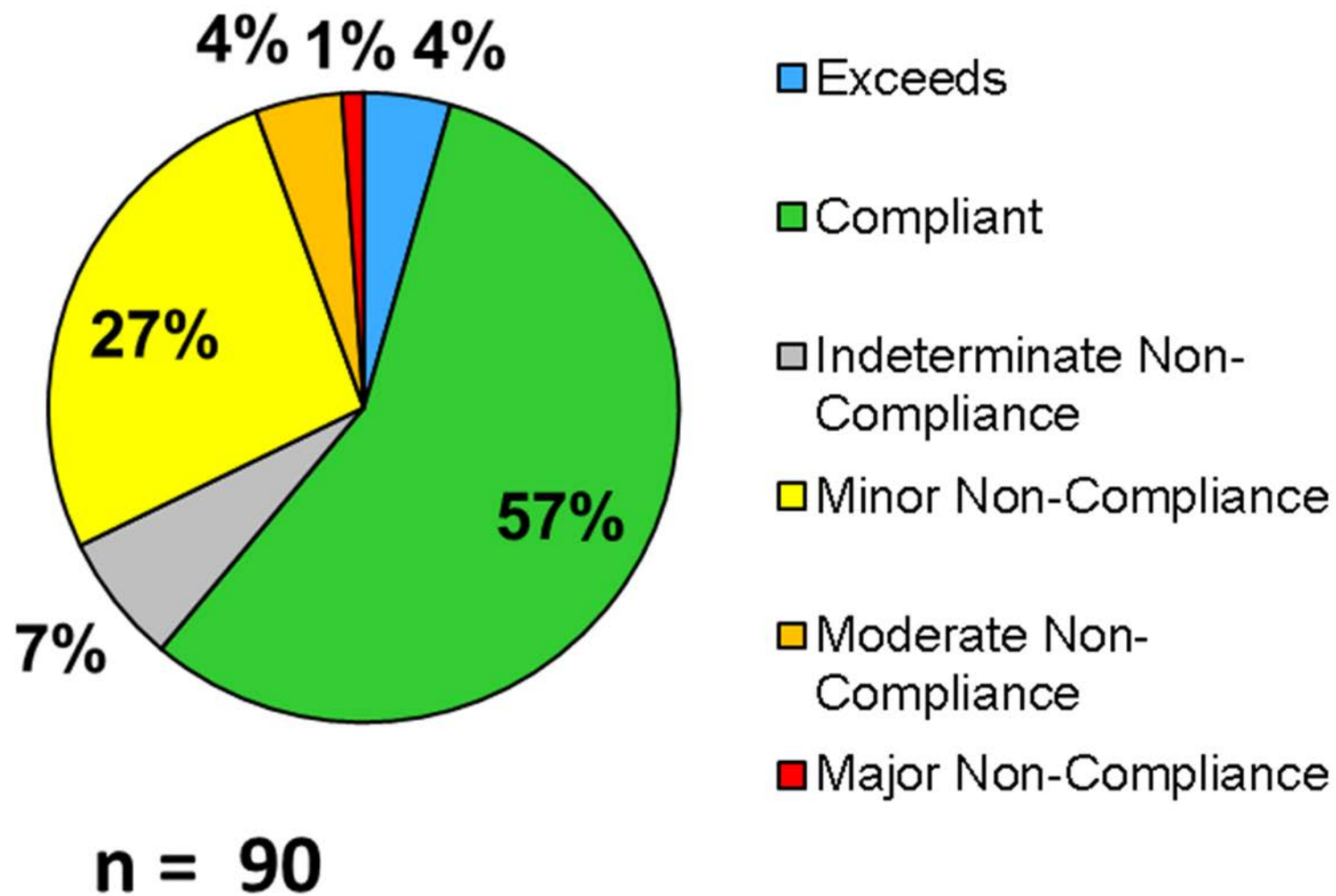
Non-Compliance Severity Ratings

- ▶ **Minor:** Minor impacts of short duration over a small area, such as a few trees harvested in the core, inner or outer zones of a Riparian Management Zone (RMZ) or evidence of small amounts of sediment having entered typed perennial waters.

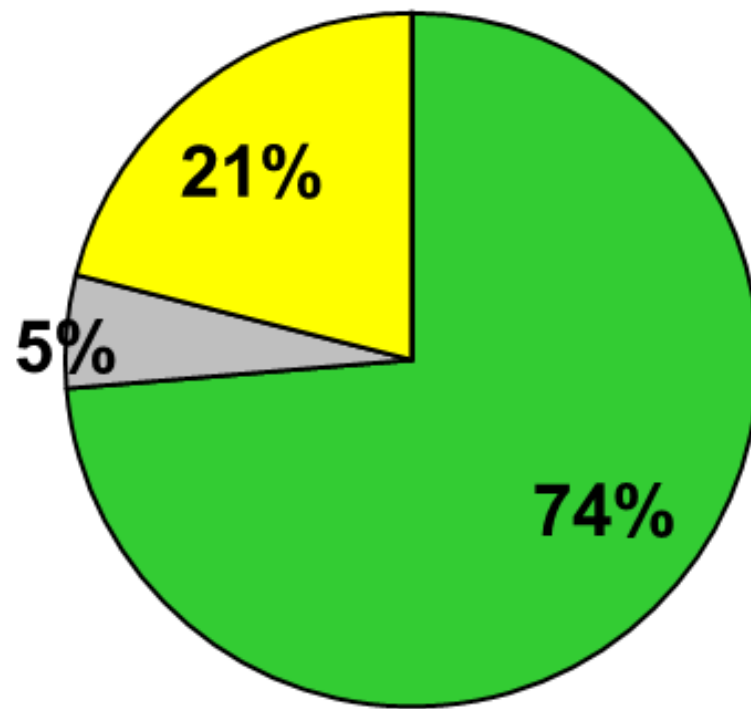
- ▶ **Indeterminate:** The review team did not have enough information to confidently assess the severity level.



Rule Compliance W WA All Type F



Rule Compliance Eastern WA All Type F

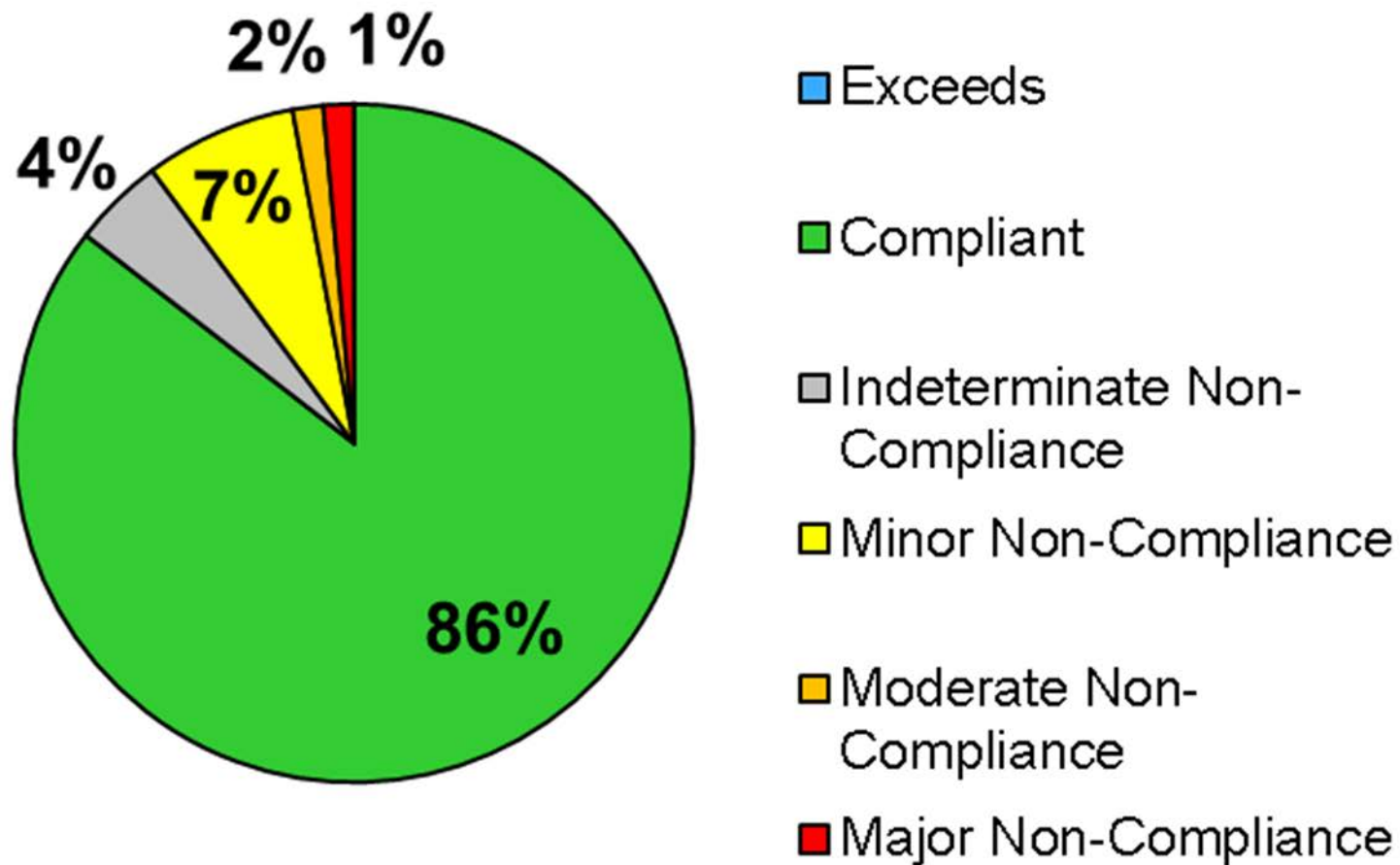


- Exceeds
- Compliant
- Indeterminate Non-Compliance
- Minor Non-Compliance
- Moderate Non-Compliance
- Major Non-Compliance

n = 19



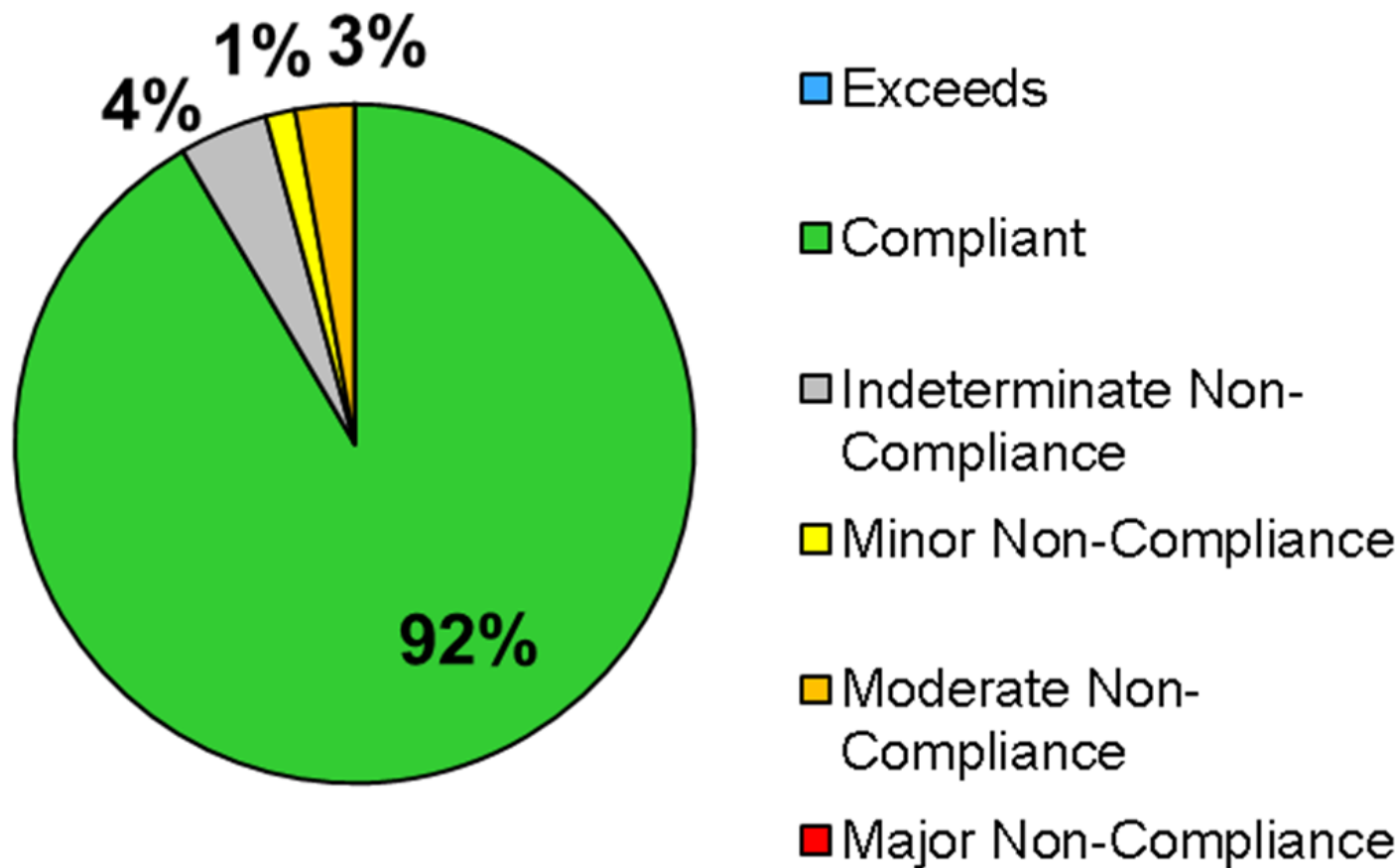
Rule Compliance Statewide Type Np



n = 69



Rule Compliance Statewide Type Ns

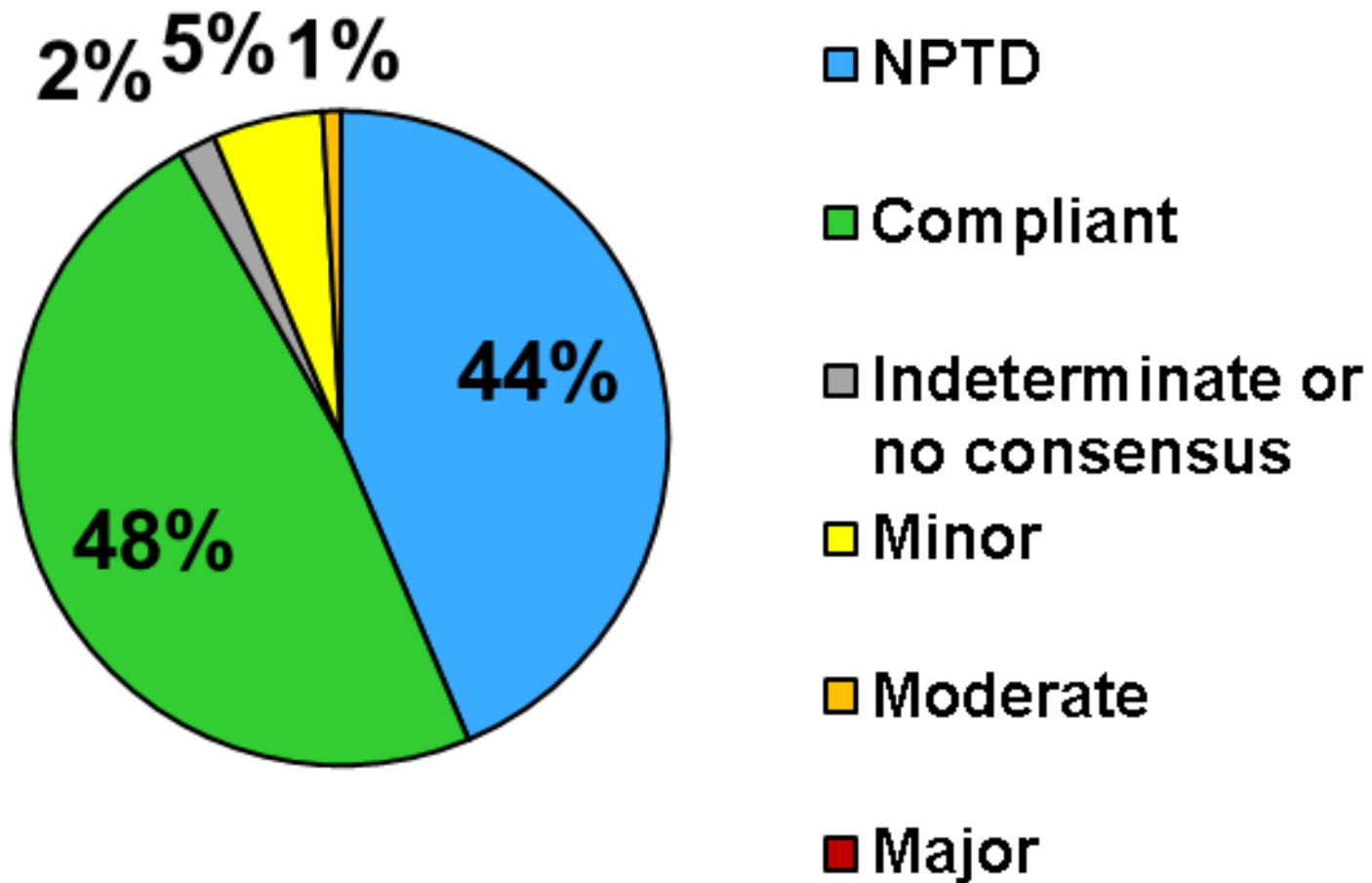


n = 71



Rule Compliance Road Activities

n = 110



Supplemental Water Information Form Review Outcomes

Water Type Appearing on FPA	Count in the Standard Sample	Count reviewed in the SWIF	Count on SWIF Correctly Classified	Number of Waters Under-classified
Ns	84	26	6	4
Np	89	30	5	21
F or S	121	23	18	0
Unmapped	0	12	0	12
Total	294	91	29	37



Water Classification Emphasis Sample

Water or Wetland as classified on the FPA	Count of Waters Sampled	Count of Waters considered to be rule based Type F waters
Ns	20	4
Np	18	6
Undifferentiated N	2	0
Water deleted by applicant	7	1
A Wetland	3 ¹	1
B Wetland	2	0
Total	55	12

¹ Includes only Type A wetlands which were not listed as Type F associated on the FPA



Haul Route Compliance Summary

No Delivery	De minimis	Low	Medium	High
89.8%	5.8%	3.7%	0.7%	0.00%
Compliant		Non-Compliant		
95.6%		4.4%		
Confidence interval				
(92%, 98%)				



Comparison with 2008-2009 Riparian Rule Compliance

	Compliance with rule							
	Western Washington				Eastern Washington		Statewide	
Combined Landowner groups	No Inner Zone	No Entry RMZ	DFC Option 1	DFC Option 2	No Inner Zone	No Entry RMZ	Type Ns	Type Np
Out of Compliance	16	5	4	10	2	1	6	9
Compliant	28	9	3	15	7	2	65	60
n	44	14	7	25	9	3	71	69
2010-2011 Percent Compliant	64%	64%	43%	60%	78%	67%	92%	87%
Out of Compliance	19	6	5	5	3	4	4	24
Compliant	29	8	5	20	9	8	79	66
Total	48	14	10	25	12	12	83	90
2008- 2009 Percent Compliant	60%	57%	50%	80%	75%	67%	95%	73%
p-value*	0.831	1.000	1.000	0.217	1.000	1.000	0.515	0.048

*Fisher's Exact Test Two-Tailed p-value on Difference between proportions



Summary points

- ▶ Fewer major and moderate severity occurrences than 2008-2009
- ▶ Haul routes demonstrate a high level of compliance
- ▶ Road construction and abandonment show good compliance
- ▶ Western Washington Type F prescriptions, especially DFC, need improvement
- ▶ Need improvement classifying low gradient stream reaches





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