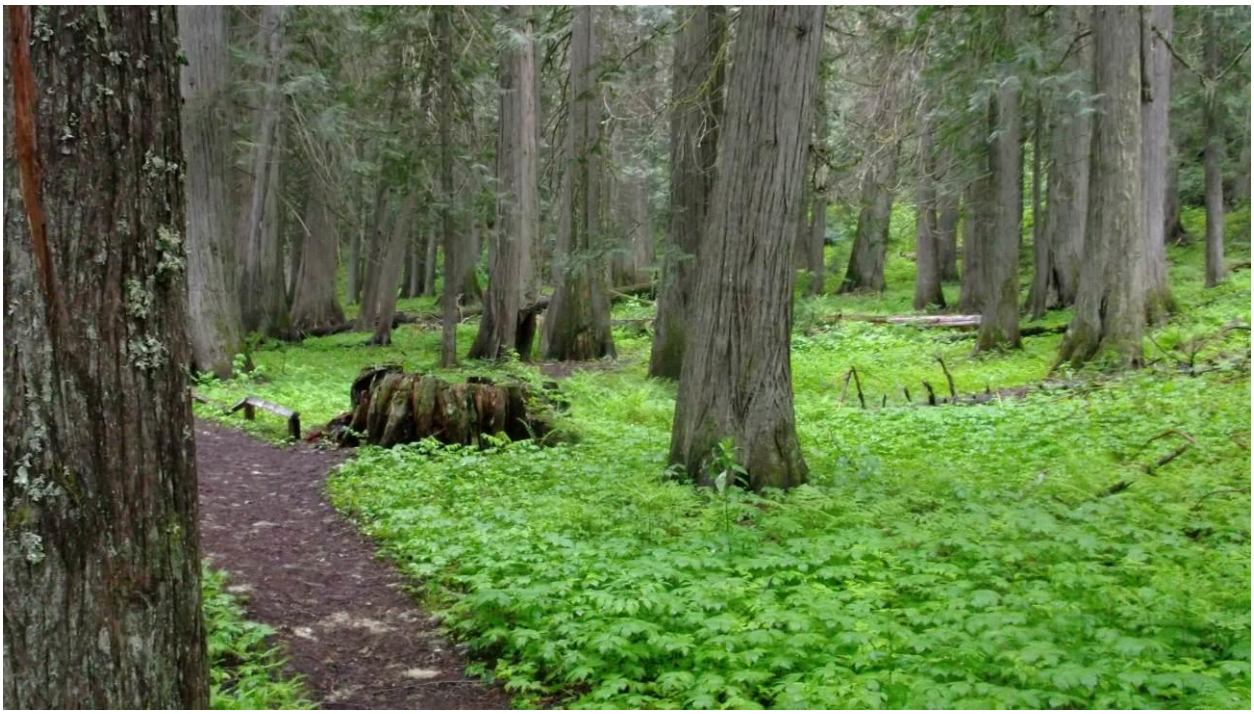
Idaho 2016 Interagency Forest Practices Water Quality Audit



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Idaho 2016 Interagency Forest Practices Water Quality Audit

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December 2016

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Acknowledgments

The 2016 Forest Practices Water Quality Audit team thanks the staff members of the Idaho Department of Lands, Idaho Department of Environmental Quality, and United States Forest Service and Bureau of Land Management who assembled the information used in selecting and locating timber sales.

We thank the foresters and supervisors who assisted with the sale visits made during this audit and the members of the public who accompanied us.

Not least, we thank our families for tolerating our long absences during a grueling field season that involved ten weeks and 19,000 miles of travel.

Planning advice for the 2016 audit was provided by the Idaho Forest Practices Act Advisory Committee. The cover photograph was taken by Hawk Stone at the DeVoto Memorial Cedar Grove near Lolo Pass on Highway 12.

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Executive Summary

The ninth quadrennial statewide Forest Practices Water Quality Audit was conducted between May and October 2016. The purpose of the audit was to assess compliance with the "Rules Pertaining to the Idaho Forest Practices Act" (IDAPA 20.02.01) under Idaho Code §38-13. The audit team included representatives from the Idaho Department of Environmental Quality (DEQ) and Idaho Department of Lands (IDL). Candidate timber sales to be audited were selected based on the following criteria:

- Harvest or road-building operations had occurred since January 2014, or would occur prior to October 2016.
- Cutting units bordered or contained at least 500 feet of a Class I (fish-bearing) stream.
- Cutting units included at least 5 cumulative acres of harvested area.

The final audit panel of 43 sites was selected randomly with the following stratifiers:

- At least 10 sites in each of four ownership categories: federal, private industrial, private nonindustrial, and state
- At least one operation in each of the 10 IDL supervisory areas
- At least one operation in each of four geographic areas of the state (north, central, southwest, east)

In an expansion of the scope of the audit, the audit also revisited 19 sites from the 2012 audit cycle, which allowed the team to assess compliance with replanting and road maintenance rules.

Overall, the audit team visited 62 timber sales, assessing 154 possible rules per site. The team observed 2,717 instances where Idaho Forest Practices Act rules were applicable, and of those, 2,620 instances where the rules were met or exceeded (96% compliance). Compared with the previous audit (DEQ 2013a), the overall compliance rate declined by 2%. Private industrial and federal timber land demonstrated the highest rates of compliance (97%), with state operations showing 96% compliance. As in previous years, the lowest rate of compliance (95%) was on private nonindustrial timber land.

In total, 35 sales were in perfect compliance with the rules. More than half of the total violations occurred on less than 10% of the sales. One particular sale, rated as unsatisfactory by IDL, was responsible for 15% of the total violations.

The most common problem was the disposal of non-biodegradable petrochemical waste. Burning grease tubes and oil buckets in slash piles is illegal under the "Rules for the Control of Air Pollution in Idaho" (IDAPA 58.01.01). The second most common problem was the failure to stabilize dirt and road materials. The third largest source of violations was the rule forbidding the use of ground-based equipment in the stream protection zone. Combined, these three rules accounted for 44% of the total observed violations.

Policy Recommendations

DEQ recommends the following rule and administrative changes:

- Increase education about petrochemical containers and trash disposal, with a goal of 90% compliance by the 2020 audit.

- Emphasize requirements in IDAPA 20.02.01.040.03c: erodible material must be stabilized by seeding, compacting, rocking, riprapping, benching, or mulching.

- Clarify when soils are considered unstable under IDAPA 20.02.01.030.03b. This rule limits the gradient of constructed skid trails.

- Encourage IDL's private forestry specialists to visit every stream crossing when they inspect a site.

1 2016 Idaho Forest Practices Water Quality Audit

The 2016 audit was conducted between May and October 2016. Staff from the Idaho Department of Environmental Quality (DEQ) and Idaho Department of Lands (IDL) visited 62 forestry operations to assess compliance with the 2014 "Rules Pertaining to the Idaho Forest Practices Act" (IDAPA 20.02.01) under Idaho Code §38-13 (Forest Practices Act [FPA]). This report contains the audit team's findings and recommendations.

1.1 Administrative Basis

The administrative basis for the 2016 audit includes the federal Clean Water Act, *Forest Practices Water Quality Management Plan for the State of Idaho* (Bauer et al. 1988), *Idaho Nonpoint Source Management Plan* (DEQ 2015), and "Memorandum of Understanding Implementing the Nonpoint Source Water Quality Program in the State of Idaho" (DEQ 2013b).

1.2 Purpose and Objectives

The purpose of the 2016 audit was to assess compliance with the 2014 "Rules Pertaining to the Idaho Forest Practices Act" (IDAPA 20.02.01), under Idaho Code §38-13 (Forest Practices Act), and to ensure that these rules are protective of water quality.

To address the first question, each FPA rule that had a bearing on water quality was identified (Appendix A). These rules were then reworded into the form of a question. These questions were then built into an electronic field form (Appendix B). At every site, each applicable question was answered. Often, rules were found to be not applicable. For example, the question "Are quarries properly drained (040.03f)" could only be answered if the sale used an on-site rock quarry, a fairly rare occurrence.

The number of affirmative answers, divided by the total number of applicable questions, was the compliance rate.

2 Rule Compliance

2.1 Assessment Scope

The audit was conducted as a statewide assessment of whether the FPA rules (IDAPA 20.02.01) are being implemented and maintained. Therefore, the recommendations are statewide in scope. No recommendations are made concerning individual timber sales.

2.2 Assessment Methods

2.2.1 Audit Team

The audit team included representatives from the IDL and DEQ. The DEQ auditor was present at every sale. The primary IDL auditor was present at every sale except for two, in which case an

alternate IDL auditor attended. For most site visits, the private, state, or federal forester or forestry specialist was present to provide background information but was not involved in rating the operation. Landowners, operators, and interested parties were invited to attend. Idaho Forest Owners Association representatives occasionally joined the audit team. A total of 102 visitors accompanied the audit team during the summer. A website, hosted by DEQ, announced audit locations and meeting places.

2.2.2 Timber Sale Selection

Candidate timber sales were selected using the following criteria:

- Harvest or road-building operations had occurred since January 2014, or would occur prior to October 2016.
- Cutting units bordered or contained at least 500 feet of a Class I (fish-bearing) stream.
- Cutting units included at least 5 cumulative acres of harvested area.

When a state or private timber sale is planned, the operator files a notification form with IDL. These forms have check boxes indicating the activities to be performed, the chosen method of slash disposal, and the presence of environmental risk factors such as steep slopes or streams.

One of the check boxes indicates the presence of a Class I stream. IDL provided copies of the notification forms for each of these sales. The Class I determination is made by the landowner and the IDL administrative staff upon submission of the notification form. To ensure the audit focused on timber harvesting activities, only forms that indicated "harvesting of forest tree species" were considered (other notification activities might include "use of chemicals" or "conversion in use").

The size of the cutting units is not recorded on the notification form. However, one of the slash management options is "The contractor attests that he will not cut an amount of timber sufficient to cause a fire risk." According to the IDL fire manager, this choice loosely correlates to 5–10 acres of cutting area. Therefore, we discarded all forms with this slash management option, leaving only the larger sales.

The audit team was left with 334 eligible state and private sales that met the above criteria.

For federal sales, DEQ contacted the regional foresters for the US Forest Service Intermountain and Northern Regions and the Bureau of Land Management state director. In collaboration with the individual forests and districts, they provided a list of 15 sales that met the above criteria.

From these 349 candidates, 43 individual sales were randomly selected for auditing using the following stratifiers:

- At least 10 sites in each of four ownership categories: federal, private industrial, private nonindustrial, and state
- At least one operation in each of the 10 IDL supervisory areas
- At least one operation in each geographic area of the state (north, central, southwest, east)

In addition, 19 sites from the 2012 audit were revisited with the purpose of assessing compliance with replanting and maintenance rules not apparent in recent sales. These sites were selected based on proximity to primary audit sites. All sites are displayed in Figure 1.

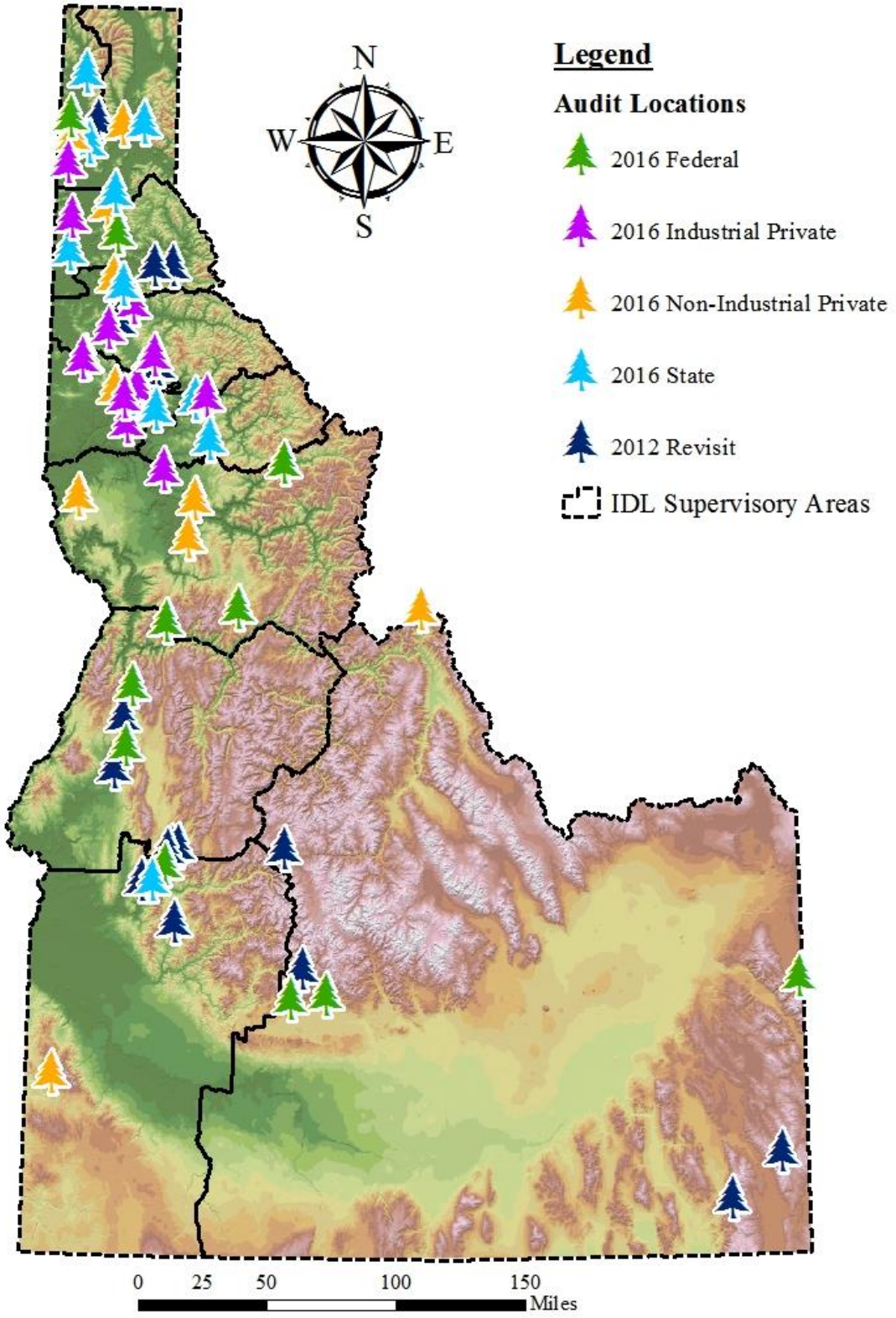

Figure 1. Locations of timber sales audited during the 2016 Idaho Forest Practices Water Quality Audit.

2.2.3 Audit Process

The audit team, along with any observers (foresters, sale administrators, and other interested parties), toured most of the cutting units within the timber sale boundaries to inspect skid trails, roads, culverts, stream crossings, slash distribution, and any erosion-control practices present. Following the inspection, the audit team convened and evaluated the sale in terms of compliance with applicable forest practices rules. In every case, both auditors were unanimous in their rating.

2.2.4 Data Assessment

Once all of the timber sale visits were completed, findings were compiled for each of the 154 individual rules audited (Appendix A). Compliance percentages for individual rules across all timber sales were calculated by dividing the number of times a rule was complied with by the total number of instances the rule was applicable. Compliance rates were also assessed across rule groups and landownership categories.

2.2.5 Quality Assurance

The audit followed a rigorous quality assurance plan, which included the following items:

1. Electronic field forms, which eliminated data transcription errors (Appendix B).
2. A duplicate audit. At one sale, the project's quality assurance officer conducted a duplicate, parallel audit. The results were compared and found to be in agreement on 99% of questions, exceeding the goal of 90% agreement.
3. A preseason "calibration audit" to ensure both auditors were familiar with the rules and agreed in their application.

2.3 Assessment Results

This section presents the audit results. The overall compliance results are reported first and are then broken down by rule group, landownership, IDL supervisory area, and by individual rule. The section concludes with discussion of these results.

2.3.1 Overall Rule Compliance

The audit team observed 2,717 instances in which the Idaho FPA rules were applicable within the 62 timber sales audited. Of these, 2,620 instances exhibited compliance, resulting in an overall compliance rate of 96%. Compared with the previous audit, the compliance rate decreased by 2%. Since 1984, rule compliance improved over the initial four audits and plateaued in 1996 at a level of 96% ± 2% (Figure 2) (DEQ 1985, 1989, 1993, 1997, 2001, 2007, 2009, 2013a).

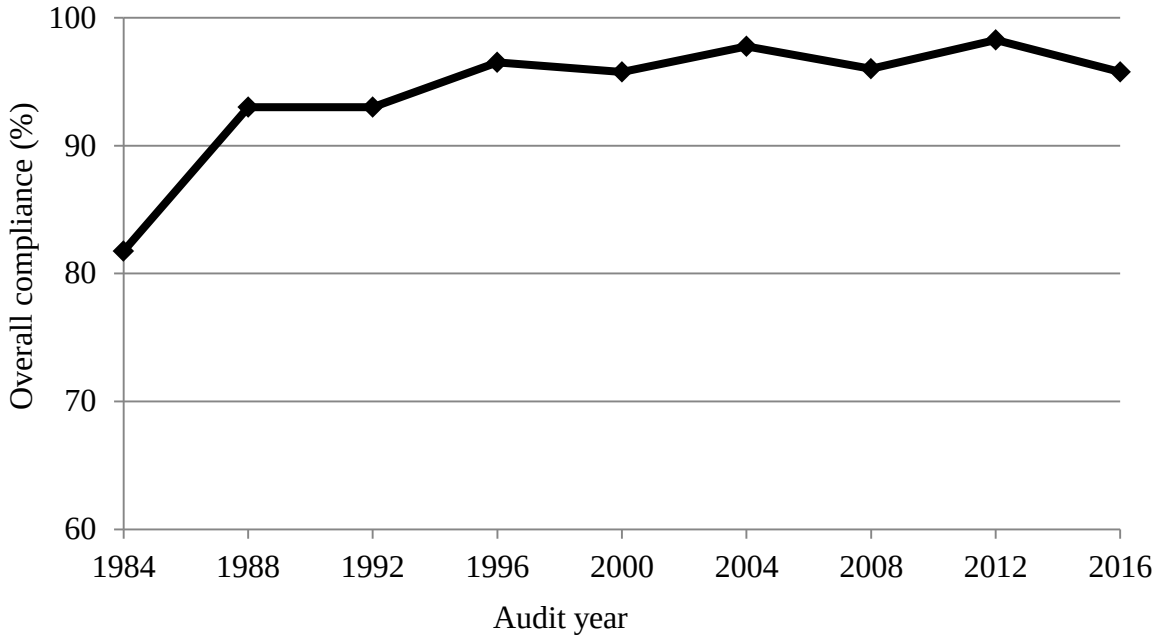

Figure 2. Average compliance rates since 1984.

This audit's 2% decrease in average compliance rates may be a function of the new audit team. It also may result from the expanded collection of rules that were audited—154 this year, compared with 82 in 2012. It may also be within the measurement error of the auditing process.

2.3.2 Compliance by Rule Group

The rules are organized into five groupings: general, harvest and stream protection, roads, stocking, and chemicals. Compliance percentages ranged between 91% and 98% across rule groups (Table 1; Figure 3). All rule groups, except for those addressing chemicals, exceeded 96% compliance. The chemical rules were complied with 91% of the time, with the violations mostly attributable to the non-biodegradable waste discarded at many sales.

Rule group 050 (residual stocking and reforestation) has not been part of these audits in previous cycles.

Table 1. Compliance rates by rule group.

IDAPA 20.02.01 Rule Group	Description	Applicable Instances	Complied	Percent
General rules (020)	Variances, permits, registrations	33	32	97%
Harvest and stream protection rules (030)	Skid trails, landings, slash, debris, shade, stream disturbance	1,123	1,096	98%
Road rules (040)	Construction, maintenance, culverts, berms, drainage	1,205	1,159	96%
Stocking rules (050)	Residual stocking, reforestation	118	116	98%
Chemical rules (060)	Chemicals and petroleum products	238	217	91%

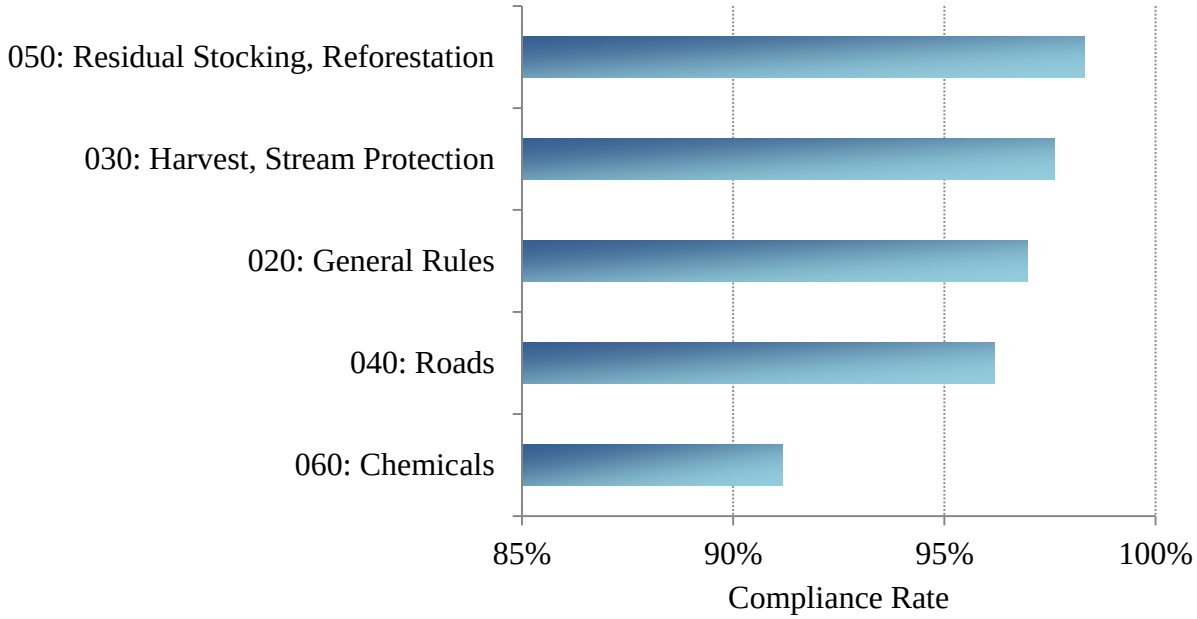

Figure 3. Compliance by rule group.

2.3.3 Compliance by Ownership

The compliance rates within each of the four landownership categories were above 95% (Table 2; Figure 4). The highest rate of compliance was in the private industrial and federal categories at 97%. The state category complied with 96% of rules, and private nonindustrial had a 95% compliance rate. All ownership categories decreased by 2–3% compared with the 2012 audit (Table 3; Figure 5).

Table 2. Summary of 2016 overall rule compliance by landownership category.

Ownership	Applicable Instances	Complied	Compliance Rate
Federal	719	696	97%
Private industrial	779	758	97%
Private nonindustrial	591	560	95%
State	628	606	96%
Overall	**2,717**	**2,620**	**96%**

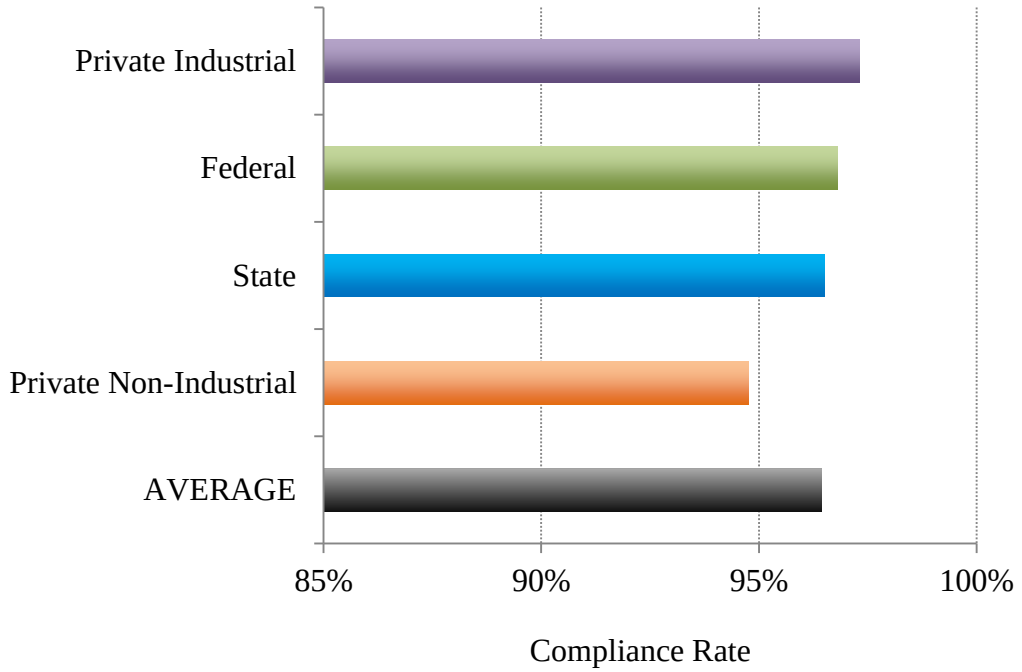

Figure 4. Compliance by ownership.

Table 3. Overall rule compliance rates by landownership category across audit years.

Year	Compliance Rate (%)				
	Federal	Private Industrial	Private Nonindustrial	State	Average
1984	96	82	82	67	**82**
1988	94	95	86	97	**93**
1992	93	96	94	89	**93**
1996	100	98	95	93	**97**
2000	98	94	95	96	**96**
2004	100	99	93	99	**98**
2008	98	96	91	99	**96**
2012	99	99	96	99	**98**
2016	97	97	95	96	**96**

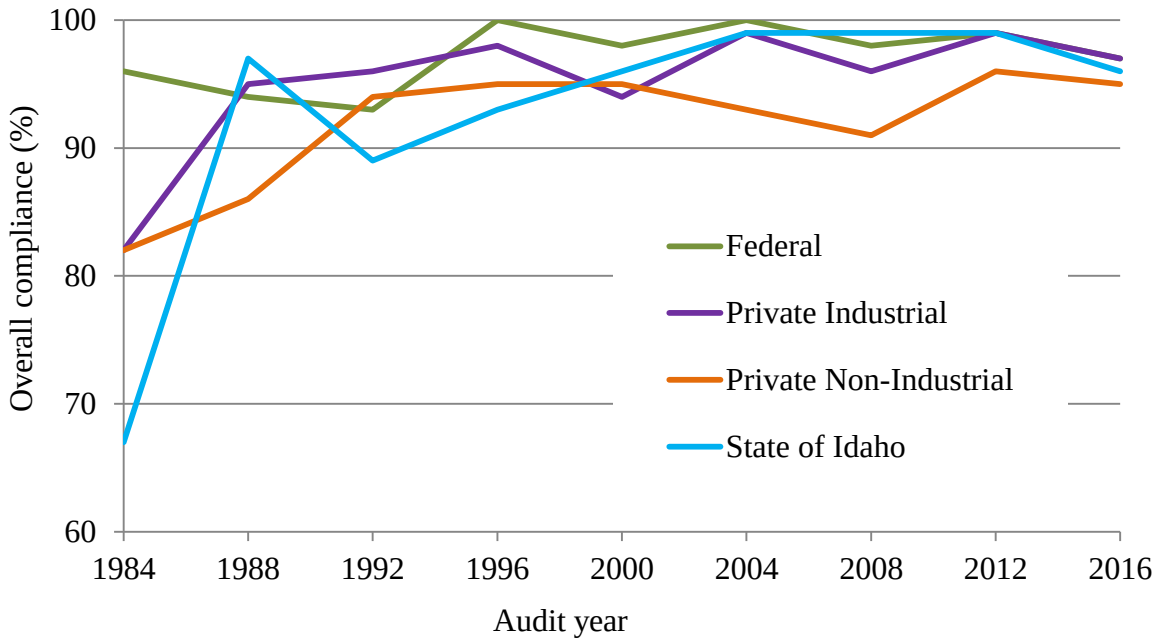

Figure 5. Overall compliance rates by landownership category across audit years.

2.3.4 Compliance by IDL Supervisory Area

The IDL area offices are responsible for ensuring compliance with FPA rules on state and private timber sales. All 10 supervisory areas exceeded 95% compliance except for the southwest area, which demonstrated 85% compliance due to a poorly performing sale and a small sample size (only four sites on state and private land). The sale in question was the worst of the season and was responsible for 15 of the southwest area's 17 violations. It received a notice of violation and an unsatisfactory rating from IDL.

2.3.5 Compliance by Individual Rule

For convenience, the rules are divided into five groups. Each summary table in this section is ordered by compliance percentage, from lowest to highest. A chart follows each rule group showing the relative compliance for each rule.

General Rules (IDAPA 20.02.01.020.01)

The audit team assessed compliance with 13 general rules. Out of 33 instances, 32 were in compliance (Table 4; Figure 6). The single violation involved using an excessively large screen size when diverting water, which could cause entrainment of fish. Five general rules were not found to be applicable during the audit season.

Table 4. Summary of compliance with general rules.

IDAPA 20.02.01 Rule	Description	Instances	Complied	Not	Percent
020.01c.iii	Water diversions screened appropriately?	1	0	1	0%
020.01a.i	Variance request made in writing?	8	8	0	100%
020.01a.ii	Variance request evaluated by IDL?	8	8	0	100%
020.01a.iii	Variance provides equal protection?	8	8	0	100%
020.01b	If fords >75' long or >25' wide, IDWR permit obtained?	1	1	0	100%
020.01b	If banks were armored, IDWR permit obtained?	1	1	0	100%
020.01b	Hazardous materials disposed of properly?	1	1	0	100%
020.01b	Was the pesticide registered for use in Idaho?	5	5	0	100%
020.01b	If bridges encroach on stream, IDWR permit obtained?	0	0	0	n/a
020.01b	If culverts >85" diameter, IDWR permit obtained?	0	0	0	n/a
020.01b	If culverts >60' in class II, IDWR permit obtained?	0	0	0	n/a
020.01b	If bridges >75' long, IDWR permit obtained?	0	0	0	n/a
020.01b	Wastewater disposed of properly?	0	0	0	n/a

Note: Idaho Department of Water Resources (IDWR)

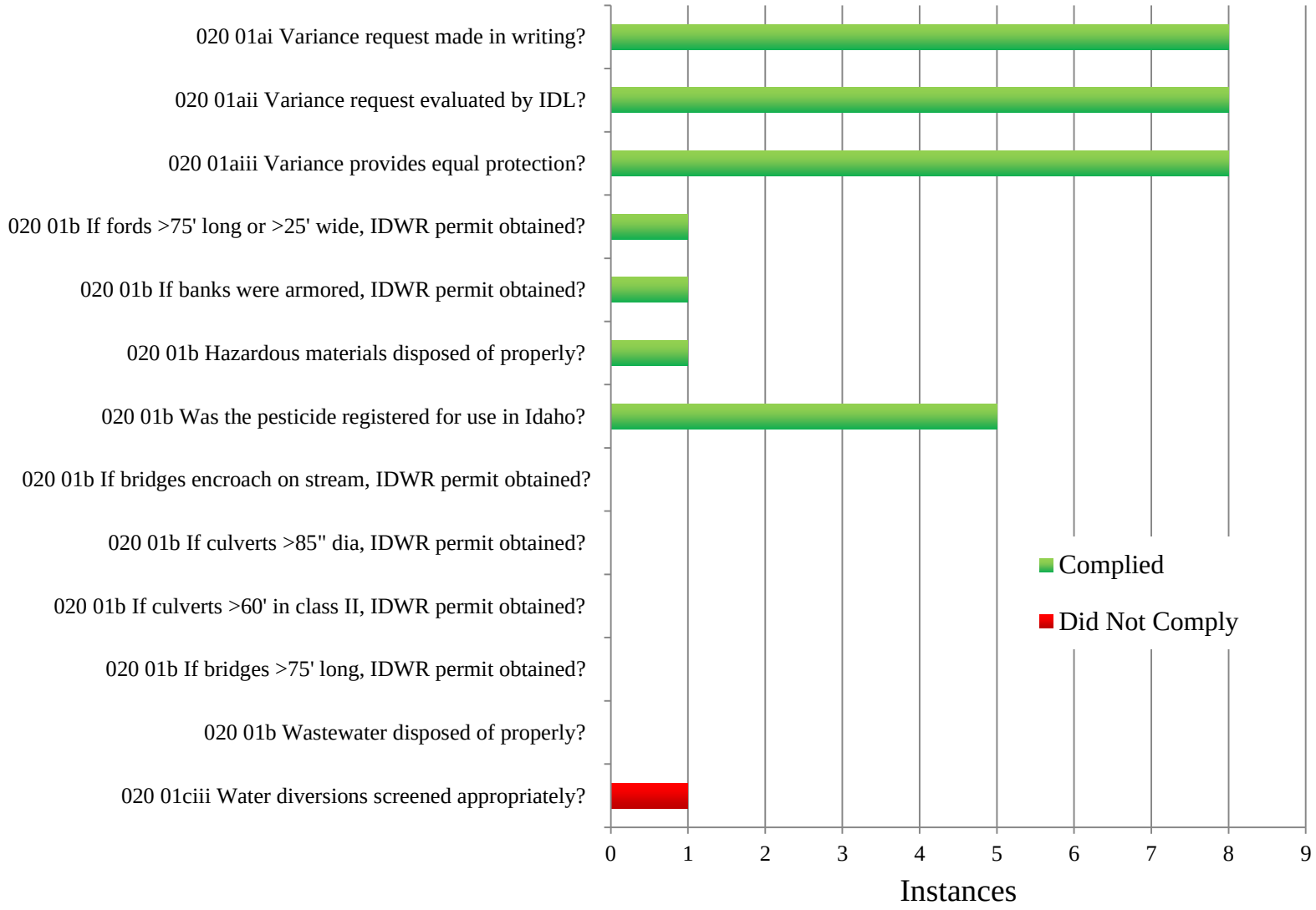

Figure 6. Summary of compliance with general rules.

Timber Harvesting and Stream Protection Rules (IDAPA 20.02.01.030)

We assessed compliance with 39 harvest and stream protection rules and observed 27 instances of noncompliance involving 14 of these rules (Table 5; Figure 7); 6 of these violations involved the stream protection zone (SPZ) equipment-exclusion rule (030.07c). We observed 4 violations of rules governing the steepness of skid trails in unstable soils (030.03b). We found four landings or skid trails located in the SPZ (030.04a), and on three occasions we found that slash had been mechanically piled in the SPZ (030.07fii).

We found a single instance of noncompliance with each of 10 other rules.

Table 5. Summary of compliance with harvest and stream protection rules.

IDAPA 20.02.01 Rule	Description	Instances	Complied	Not	Percent
030.07b	Ends of stream-crossing skid trails water barred?	6	5	1	83%
030.07c	Avoid ground-based equipment use in SPZ?	41	35	6	85%
030.03b	Skid trail gradients <30% on unstable soils?	34	30	4	88%
030.07e.iv	Felled trees left as LOD in Class I?	10	9	1	90%
030.04a	Landings and skid trails in stable areas outside of SPZ?	43	39	4	91%
030.07f.ii	Mechanical piling of slash in SPZ avoided?	42	39	3	93%
030.07d	Stream disturbance minimized during cable yarding?	20	19	1	95%
030.07e.v	Naturally down LOD remaining over Class I stream?	26	25	1	96%
030.03a	No ground-based equipment on slopes >45% near streams?	28	27	1	96%
030.07e.vi	Was non-LOD slash below OHWM removed in Class II?	34	33	1	97%
030.06b	Non-LOD harvest debris moved above OHWM in Class II?	35	34	1	97%
030.06c	Trail waste deposited only outside of SPZ?	36	35	1	97%
030.03c	Skid trails kept to minimum width and number	37	36	1	97%
030.05a	Trail drainage and stabilization adequate and current?	51	50	1	98%
030.05b	Landing drainage and stabilization adequate?	57	57	0	100%
030.04a	Landings and trails located to minimize side-casting?	43	43	0	100%
030.07e.i	Streamside shrubs, grasses and rocks remaining?	43	43	0	100%
030.04b	Size of landings minimized?	42	42	0	100%
030.07e.iv	LOD, shade and filtering maintained in SPZ?	42	42	0	100%
030.08c	Did operations avoid wet areas?	41	41	0	100%
030.03a	Did log skidding avoid causing rutting or erosion?	40	40	0	100%

IDAPA 20.02.01 Rule	Description	Instances	Complied	Not	Percent
030.07b	Avoid skidding logs through streams?	40	40	0	100%
030.03c	Skidding tractor sizes appropriate?	38	38	0	100%
030.07e.ii	Adequate shade retained in Class I streams?	37	37	0	100%
030.06a	Non-LOD harvest debris moved 5' above OHWM in Class I?	35	35	0	100%
030.07e.vi	Was non-LOD slash moved 5' above OHWM in Class I?	34	34	0	100%
030.07e.iii	Adequate stocking in Class II SPZs?	32	32	0	100%
030.04c	No loose stumps nor excessive slash in landing filler?	31	31	0	100%
030.08d	Wildlife cover available within 1/4 mile of clearcuts?	30	30	0	100%
030.06a	Trees felled away from Class I stream?	21	21	0	100%
030.07b	Stream crossings at right angles?	19	19	0	100%
030.04c	Sidecasted landings properly stabilized?	18	18	0	100%
030.07e.ii	Only one Shade Rule option implemented?	14	14	0	100%
030.07b	Temporary stream crossings removed immediately?	6	6	0	100%
030.07f.i	Were hand piles >5' from OHWM?	6	6	0	100%
030.07b	Temporary stream crossings adequate?	5	5	0	100%
030.03d	Erosion minimized during downhill yarding?	4	4	0	100%
030.07a	Lake site-specific plan for SPZ activities?	1	1	0	100%
030.07e.vii	Was riparian management variance followed?	1	1	0	100%

Notes: Stream protection zone (SPZ); large organic debris (LOD), ordinary high-water mark (OHWM)

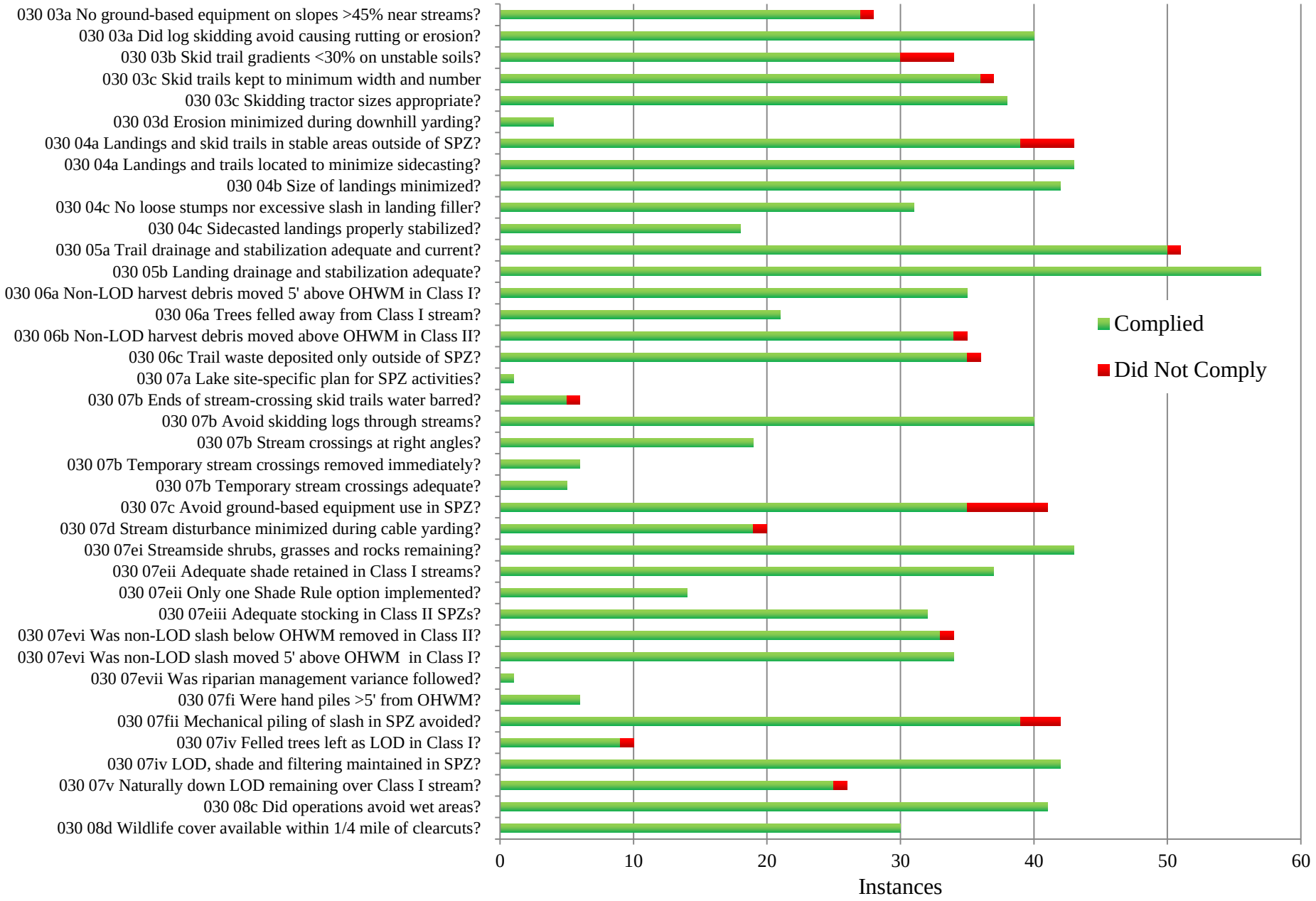

Figure 7. Summary of compliance with harvest and stream protection rules.

Road Rules (IDAPA 20.02.01.040)

We assessed compliance with 50 road rules (Table 6; Figure 8) and observed 46 instances of noncompliance. The largest source of noncompliance was related to stabilizing and disposing road debris (a total of 16 instances, incorporating rules 040.03b, 040.03c, 040.04g.vi, 040.02b and 040.04a). Road maintenance accounted for a further 16 instances, including rules 040.04b, 040.04e.i, 040.04f.ii, 040.04f.i, 040.03e, 040.04c.ii and 040.04c.iii.

We found three instances where a road was reconstructed in the SPZ without a variance (rule 040.02h) and three instances of embankment erosion (rule 040.03g).

An additional eight rules had a single instance of noncompliance.

Table 6. Summary of compliance with road rules.

IDAPA 20.02.01 Rule	Description	Instances	Complied	Not	Percent
040.04g.vi	Has bare earth been stabilized?	13	10	3	77%
040.03j	Are roads on slopes >60% full benched?	7	6	1	86%
040.03c	Have exposed erodible materials been stabilized?	35	31	4	89%
040.02b	Plan disposes of road material in stable location?	30	27	3	90%
040.03b	Road debris deposited only outside SPZ?	40	36	4	90%
040.04b	Have erosion sources been repaired?	31	28	3	90%
040.04e.i	Are all surfaces and drainage structures maintained?	31	28	3	90%
040.03g	Was embankment erosion minimized?	36	33	3	92%
040.04f.ii	Have inactive roads been blocked to vehicular traffic?	24	22	2	92%
040.02h	Plan avoids reconstruction of roads in SPZ?	39	36	3	92%
040.04f.i	Are inactive roads controlling erosion?	26	24	2	92%
040.03e	Has outslope drainage been retained and berms removed?	35	33	2	94%
040.04a	Is debris placed to avoid stream entry?	36	34	2	94%
040.02d	Are culverts planned to minimize discharge of sediment?	19	18	1	95%
040.04c.ii	Is road drainage adequate with no unnecessary berms?	39	37	2	95%
040.04c.iii	Is road surface adequately maintained?	40	38	2	95%
040.05a	Has adequate drainage been installed for winter use?	30	29	1	97%
040.02b	Plan aligns road with natural terrain features?	36	35	1	97%
040.02d	Plan includes culverts and ditches to protect roads?	36	35	1	97%
040.03d	Has road fill material been properly compacted?	36	35	1	97%

IDAPA 20.02.01 Rule	Description	Instances	Complied	Not	Percent
040.02c	Plan drains roads naturally where possible?	37	36	1	97%
040.04c.i	Are culverts and ditches functional?	38	37	1	97%
040.02a	Plan leaves vegetation between roads and streams?	40	40	0	100%
040.02a	Plan avoids road construction in SPZ?	41	41	0	100%
040.02b	Plan minimizes road width?	37	37	0	100%
040.02e.i	Do planned culverts provide fish passage?	5	5	0	100%
040.02e.ii	Are planned culverts appropriately sized?	21	21	0	100%
040.02e.iii	Are all planned culverts >12" in diameter?	23	23	0	100%
040.02g	Plan has fords cross-drained and rocked for 75'?	1	1	0	100%
040.02g	Plan avoids fords harming salmonid spawning?	2	2	0	100%
040.02g	Plan avoids fords in areas with gradient >4%?	4	4	0	100%
040.02g	Plan minimizes number of stream crossings?	32	32	0	100%
040.03a	Roads constructed according to plans?	36	36	0	100%
040.03d	Were embankments built without wood or excessive ice?	30	30	0	100%
040.03f	Are quarries properly drained?	6	6	0	100%
040.03g	Were relief culverts with gradient >1% installed?	31	31	0	100%
040.03h	Were earthwork and hauling suspended during rain?	19	19	0	100%
040.03i	Were cut-slopes reconstructed to minimize sloughing?	22	22	0	100%
040.03j	Was stream crossing fill on slopes >60% minimized?	3	3	0	100%
040.04c.iv	Was hauling minimized during wet periods?	22	22	0	100%
040.04c.v	Were surface-stabilizing materials kept out of streams?	38	38	0	100%
040.04f.iii	Are inactive bridges and culverts maintained?	17	17	0	100%
040.04g.i	Are abandoned crossings restored to original gradient?	4	4	0	100%
040.04g.i	Are abandoned drainage structures removed?	6	6	0	100%
040.04g.ii	Are abandoned road prisms uncompacted?	11	11	0	100%
040.04g.iii	Do abandoned fill slopes have long-term stability?	10	10	0	100%
040.04g.iv	Are abandoned sidehill fills stable?	8	8	0	100%
040.04g.v	Has ditch-line erosion been controlled?	8	8	0	100%
040.05b	Was surface drainage maintained during thaws?	34	34	0	100%
040.02g	Plan has fords crossing stream at right angles?	0	0	0	n/a

Notes: stream protection zone (SPZ)

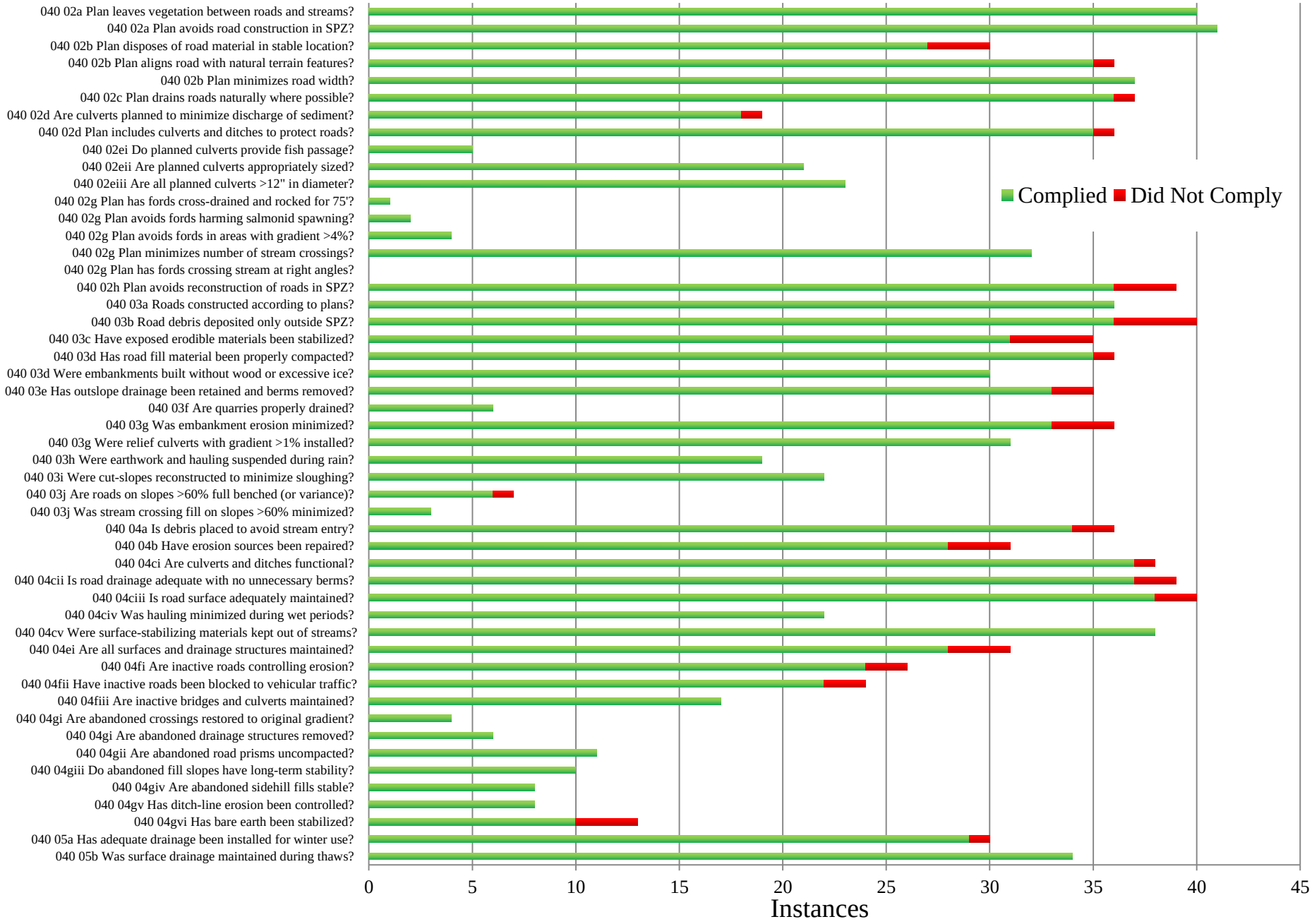

Figure 8. Summary of compliance with road rules.

Restocking and Replanting Rules (IDAPA 20.02.01.050)

We assessed compliance with 4 restocking and replanting rules (Table 7; Figure 9) and observed 2 instances of noncompliance, both of which were related to the adequacy of residual stocking. Interestingly, both of these were federal sales that had cut conifers and replanted with aspen as part of wildlife and forest health improvement projects. This laudable goal is technically out of compliance with the FPA rules, which require replanting with "acceptable species," defined as those "normally marketable in the region," which aspen are not. Nevertheless, the aspen replanting was done in accordance with the Caribou-Targhee forest plan and so is in compliance with the 2013 memorandum of understanding (DEQ 2013b). This action would require a variance if it were a state or private sale.

Table 7. Summary of compliance with restocking rules.

IDAPA 20.02.01 Rule	Description	Instances	Complied	Not	Percent
050.04	Was residual stocking or replanting adequate?	37	35	2	95%
050.02	Are leave-trees of acceptable species and quality?	41	41	0	100%
050.04	Are retained trees reasonably distributed?	39	39	0	100%
050.05b	Was replanting-exempt land protected with vegetation?	1	1	0	100%

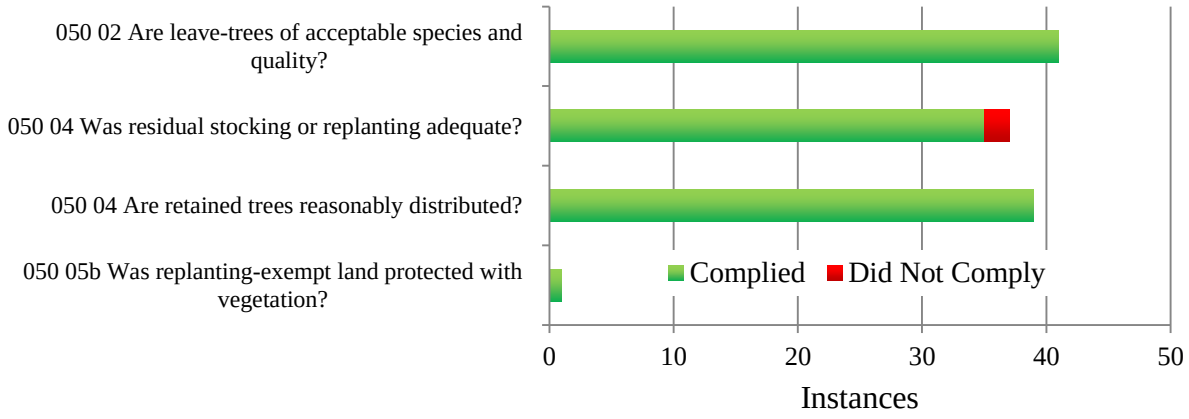

Figure 9. Summary of compliance with restocking rules.

Chemical and Petroleum Product Rules (IDAPA 20.02.01.060)

We assessed compliance with 48 chemical and petroleum product rules (Table 8; Figure 10). We observed 33 instances of noncompliance, all involving failure to remove petroleum containers or non-biodegradable waste (060.11 and 060.02c). Our practice was to forgive the first small piece of waste and only count a violation once two or more pieces were found. The most common

items of chemical waste were empty grease tubes. We did not have the opportunity to assess any fertilizer or chemical spill rules.

Table 8. Summary of compliance with chemical and petroleum product rules.

IDAPA 20.02.01 Rule	Description	Instances	Complied	Not	Percent
060.02c	Was all non-biodegradable waste properly disposed of?	42	31	11	74%
060.11	Were all chemical containers properly disposed of?	31	26	5	84%
060.11	Were all chemical containers removed?	42	37	5	88%
060.02	Are large petroleum containers stored >100' from water?	2	2	0	100%
060.02	Does impervious catchment > 110% storage volume?	2	2	0	100%
060.02a	Did fuel transfers avoid risk of spills to water?	24	24	0	100%
060.02a	Were fuel transfers attended at all times?	25	25	0	100%
060.02b	Was all petroleum equipment leak-proof?	4	4	0	100%
060.03	Did pesticide applicator have current Idaho license?	5	5	0	100%
060.04b	Were pesticides stored safely?	1	1	0	100%
060.04b	Were pesticides stored securely?	1	1	0	100%
060.05b.i	Did chemical mixing avoid risk of spills to water?	1	1	0	100%
060.05b.i	Did equipment washout avoid risk of spills to water?	1	1	0	100%
060.05b.ii	Were landings located to avoid spills to water?	5	5	0	100%
060.05b.iii	Was rinsate properly disposed of?	1	1	0	100%
060.06a	Aerial pest: 100' untreated from open water?	2	2	0	100%
060.06b	Aerial: was the device capable of immediate shut-off?	1	1	0	100%
060.08a	Hand: were chemicals applied only to specific targets?	1	1	0	100%
060.08b	Hand: were chemicals kept out of all water sources?	1	1	0	100%
060.09a	Were chemicals applied in accordance with the label?	3	3	0	100%
060.09b	Were chemicals applied at allowable rates?	3	3	0	100%
060.10a.i	Daily pesticide record - date and time?	5	5	0	100%
060.10a.ii	Daily pesticide record - owner name and address?	5	5	0	100%
060.10a.iii	Daily pesticide record - purpose?	5	5	0	100%
060.10a.iv	Daily pesticide record - contractor or pilot name?	5	5	0	100%

IDAPA 20.02.01 Rule	Description	Instances	Complied	Not	Percent
060.10a.v	Daily pesticide record - project location?	5	5	0	100%
060.10a.vi	Daily pesticide record - hourly air temperature?	5	5	0	100%
060.10a.vii	Daily pesticide record - hourly wind information?	5	5	0	100%
060.10a.viii	Daily pesticide record - details and quantities?	5	5	0	100%
060.02	If there was a spill, was IDL notified immediately?	0	0	0	n/a
060.04a	Was all chemical equipment leak-proof?	0	0	0	n/a
060.04b	Were warning notices posted for dangerous pesticides?	0	0	0	n/a
060.05a.i	Was an air gap provided during chemical mixing?	0	0	0	n/a
060.06a	Aerial fert: 50' untreated from open water?	0	0	0	n/a
060.07a	Ground pest: 25' untreated from open water?	0	0	0	n/a
060.07b	Ground fert: 10' untreated from open water?	0	0	0	n/a
060.10b.i	Daily fertilizer record - date and time?	0	0	0	n/a
060.10b.ii	Daily fertilizer record - owner name and address?	0	0	0	n/a
060.10b.iii	Daily fertilizer record - purpose?	0	0	0	n/a
060.10b.iv	Daily fertilizer record - contractor or pilot name?	0	0	0	n/a
060.10b.v	Daily fertilizer record - project location?	0	0	0	n/a
060.10b.vi	Daily fertilizer record - hourly air temperature?	0	0	0	n/a
060.10b.vii	Daily fertilizer record - hourly wind information?	0	0	0	n/a
060.10b.viii	Daily fertilizer record - details and quantities?	0	0	0	n/a
060.12a	Were spills immediately reported to IDL?	0	0	0	n/a
060.12b	Were spills immediately controlled and contained?	0	0	0	n/a
060.12c	Were spills appropriately removed?	0	0	0	n/a
060.13	Were misapplications immediately reported to IDL?	0	0	0	n/a

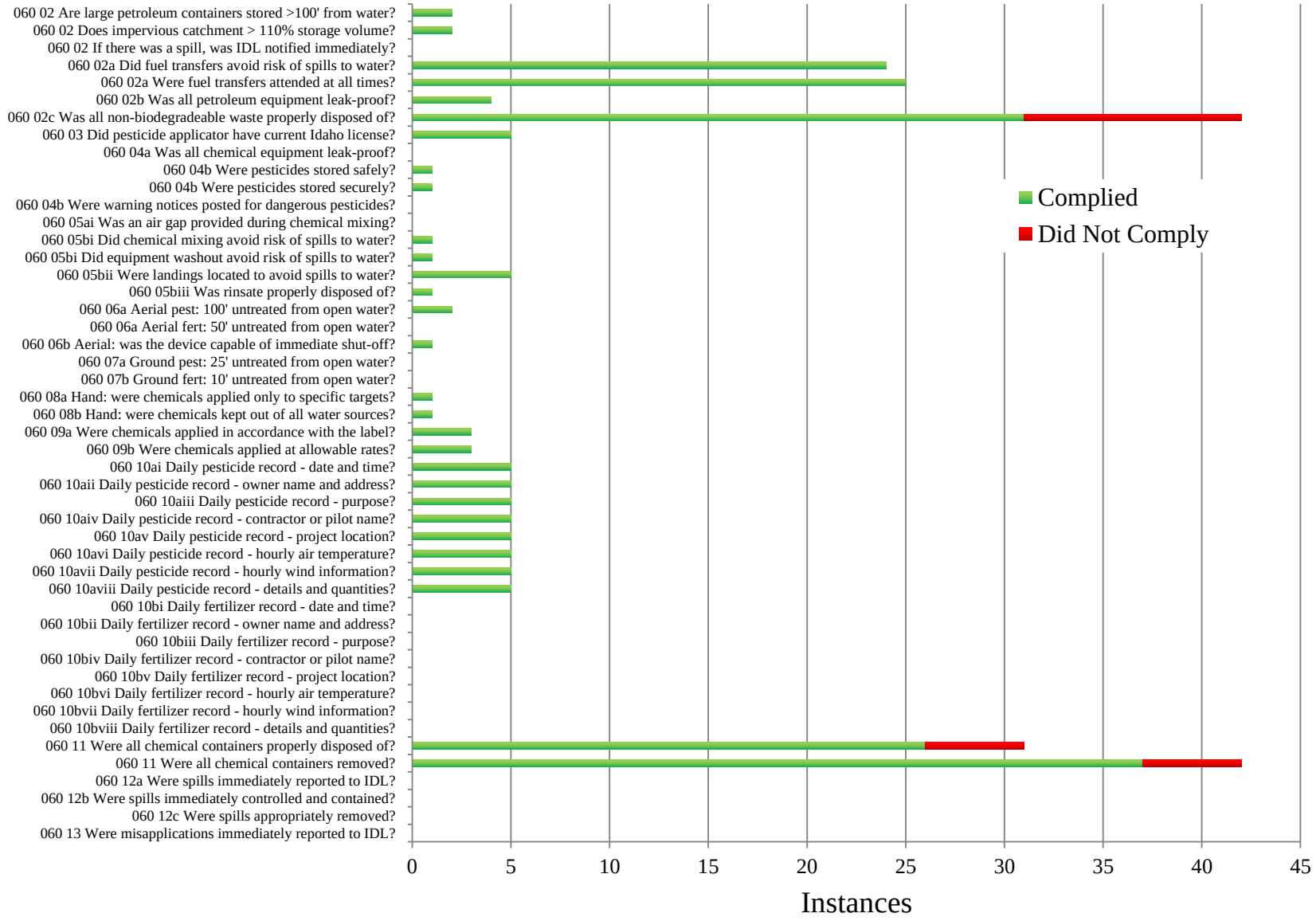

Figure 10. Summary of compliance with chemical and petroleum product rules.

2.3.6 Compliance Distribution

Instances of noncompliance with FPA rules were not spread evenly across the sites. For example, the overall compliance rate of 96% does *not* imply that most sites have a 4% noncompliance rate. In fact, most (56%) of the 62 sites visited had no violations at all.

More than half of the violations occurred at less than 10% of the sites. One site (which received an unsatisfactory rating and a notice of violation from IDL) was responsible for 15% of the season's violations (15 out of a total of 97).

Figure 11 shows how the violations were distributed across the 62 audit sites.

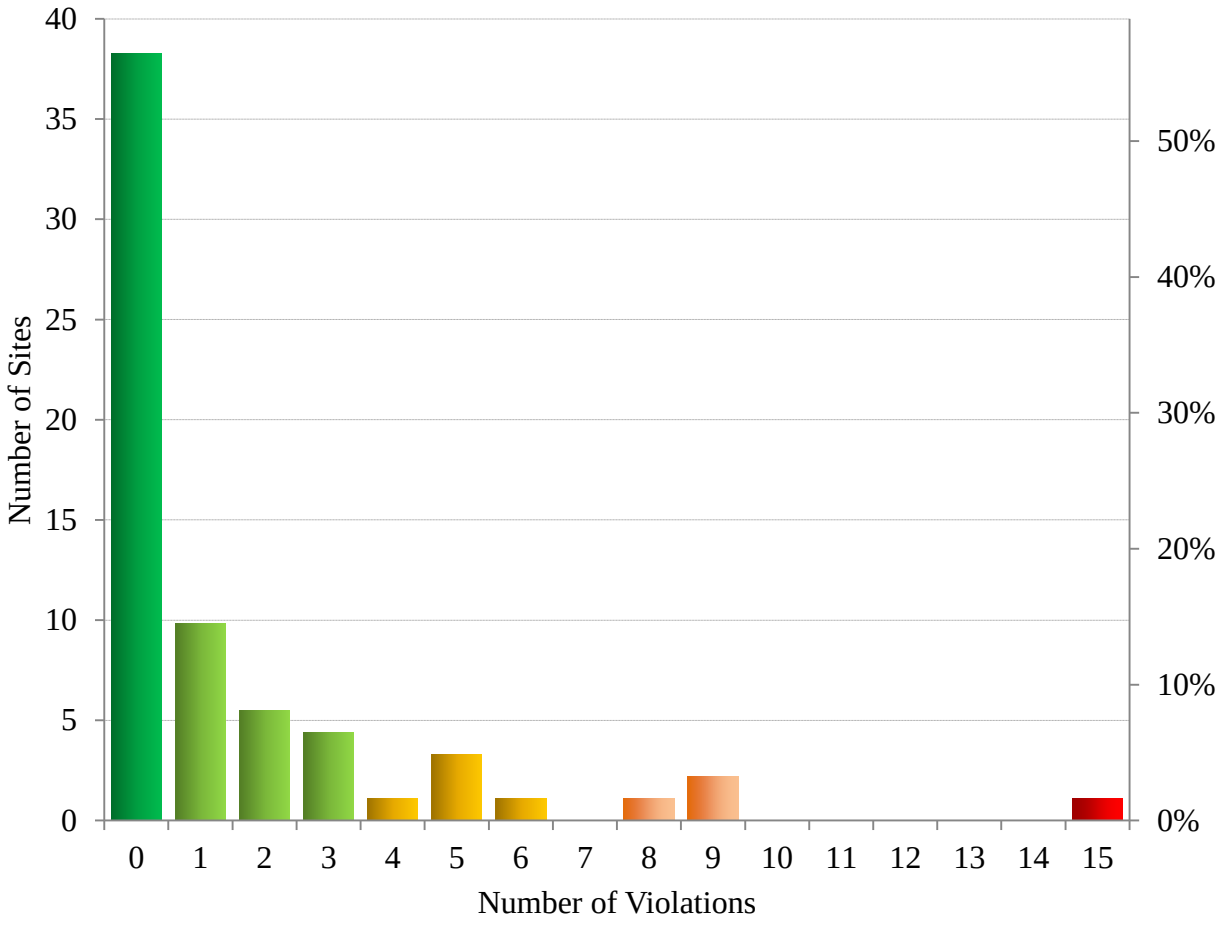

Figure 11. Distribution of compliance.

2.3.7 Results Summary

The 2016 audit data indicate that overall compliance rates remain high (>95%) across ownerships. Most of the 62 sites visited had no violations at all. Similar to previous audits, the lowest rate of compliance was found in the private nonindustrial operations.

The most common problem was the disposal of petrochemical and non-biodegradable waste. Burning grease tubes and oil buckets in slash piles is illegal under the "Rules for the Control of Air Pollution in Idaho" (IDAPA 58.01.01). This violation alone was responsible for 22% of the total observed violations.

The second most common problem was the failure to stabilize dirt and road material. The rules require erodible materials, including construction and maintenance debris, to be stabilized and placed outside of the SPZ (040.02b, 040.04a and g.vi, 040.03b and c). These rules accounted for 16% of the total observed violations.

The third most common problem was the use of ground-based equipment in the SPZ, which accounted for 6% of the total observed violations.

The new "shade rule" (030.07e.ii), audited in its present form for the first time this year, was complied with on every occasion.

2.4 Rule Effectiveness and Discussion

The erosion-control practices we observed were generally effective when properly installed and maintained. However, we observed sediment delivery to streams at 10 timber sales:

- 3 of these involved new permanent crossings, where inadequately stabilized fill was eroding directly into the stream. In these cases, immediate stabilization (seeding, compacting, rocking, riprapping, benching, or mulching) would have prevented erosion. The usual practice seems to be to stabilize the slope during the final cleanup phase of the sale, which may be too late.

- 2 involved failed temporary crossings that had been improperly removed. One of these had not been visited by IDL's private forestry specialist during his inspection of the site. It is possible that the failure could have been averted.

- 2 were caused by piles of dirt, left over from road or trail construction, eroding into the creek.

- 2 were caused by inadequate maintenance of inactive timber roads.

- 1 was caused by excessive skid trails, one of which was in the SPZ.

In general, road gravelling or rocking and installing rolling dips and water bars were observed to be effective erosion-control practices. Slash mats were probably the most effective method of controlling erosion on skid trails. These mats also serve to limit recreational access, which can cause damage to the drainage control structures.

Rule 030.03b was the source of much discussion during the audit:

> IDAPA 20.02.01.030.03b: Limit the grade of constructed skid trails on geologically unstable, saturated, or highly erodible or easily compacted soils to a maximum of thirty percent (30%).

There does not seem to be a consistent definition of which soils qualify for inclusion under this rule. Some private forestry specialists assumed all soils were unstable; others used soil maps. It is possible that all soils are "highly erodible" given the right conditions. It is recommended that IDL clarify which areas qualify for protection under this rule.

2.5 Recommendations

The audit team recommends the following:

1. Increase education about petrochemical containers and trash disposal, with a goal of achieving 90% compliance by the 2020 audit.
2. Emphasize requirements in 040.03c: erodible material must be stabilized by seeding, compacting, rocking, riprapping, benching, or mulching. This stabilization is especially important for new stream crossings, and in those cases, should be undertaken immediately upon road completion, rather than during the final cleanup phase of the sale.
3. Clarify when soils are erodible and thus when a skid trail on a slope >30% is a problem.
4. Ensure IDL's private forestry specialists visit every stream crossing when they inspect a sale.

3 References

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Idaho Code. 2016. "Forest Practices Act." Idaho Code §38-13.

IDAPA. 2016. "Rules for the Control of Air Pollution in Idaho." Idaho Administrative Code. IDAPA 58.01.01.

IDAPA. 2016. "Rules Pertaining to the Idaho Forest Practices Act." Idaho Administrative Code. IDAPA 20.02.01.

Appendix A. Idaho Forest Practices Rules Audited in 2016

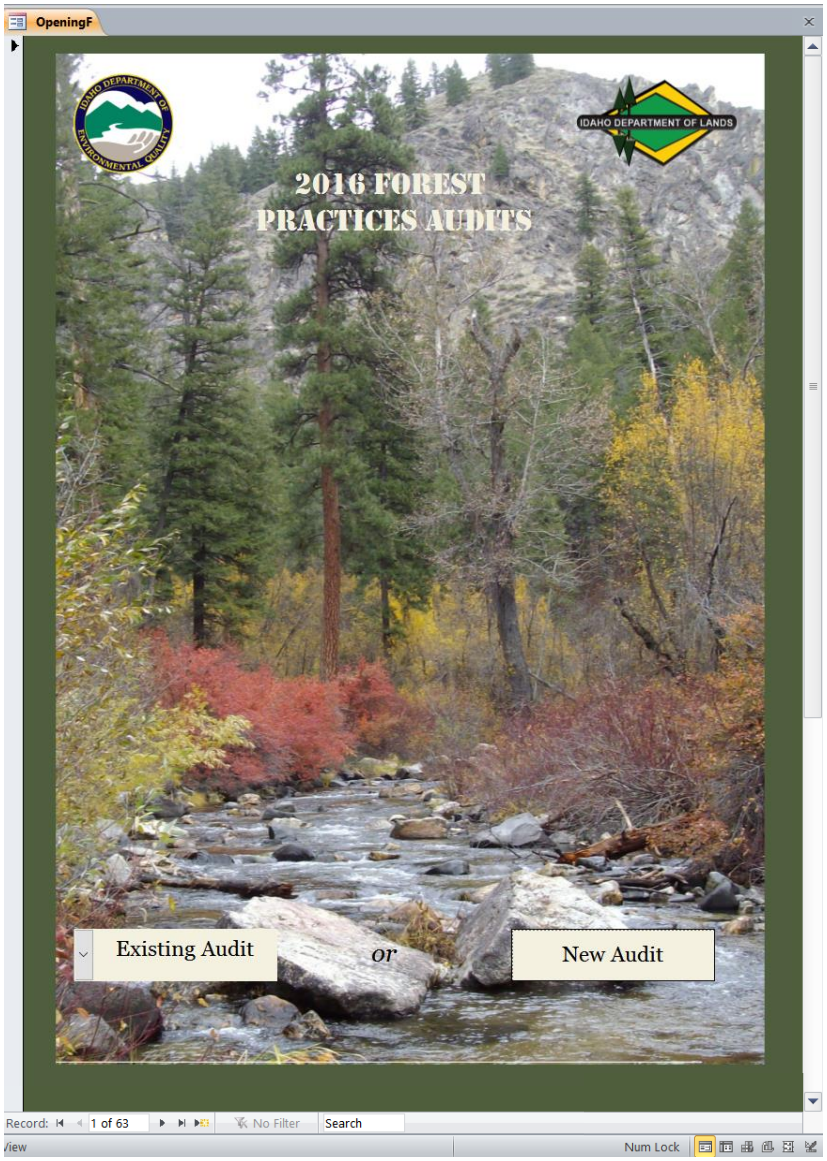
IDAPA 20.02.01 Rule	Rule Group	Description
020.01a.i	General	Variance request made in writing?
020.01a.ii	General	Variance request evaluated by IDL?
020.01a.iii	General	Variance provides equal protection?
020.01b	General	If fords >75' long or >25' wide, IDWR permit obtained?
020.01b	General	If banks were armored, IDWR permit obtained?
020.01b	General	Was the pesticide registered for use in Idaho?
020.01b	General	Hazardous materials disposed of properly?
020.01b	General	If bridges encroach on stream, IDWR permit obtained?
020.01b	General	If culverts >85" dia, IDWR permit obtained?
020.01b	General	If culverts >60' in class II, IDWR permit obtained?
020.01b	General	If bridges >75' long, IDWR permit obtained?
020.01b	General	Wastewater disposed of properly?
020.01c.iii	General	Water diversions screened appropriately?
030.03a	Harvest	No ground-based equipment on slopes >45% near streams?
030.03a	Harvest	Did log skidding avoid causing rutting or erosion?
030.03b	Harvest	Skid trail gradients <30% on unstable soils?
030.03c	Harvest	Skid trails kept to minimum width and number
030.03c	Harvest	Skidding tractor sizes appropriate?
030.03d	Harvest	Erosion minimized during downhill yarding?
030.04a	Harvest	Landings and skid trails in stable areas outside of SPZ?
030.04a	Harvest	Landings and trails located to minimize sidecasting?
030.04b	Harvest	Size of landings minimized?
030.04c	Harvest	No loose stumps nor excessive slash in landing filler?
030.04c	Harvest	Sidecasted landings properly stabilized?
030.05a	Harvest	Trail drainage and stabilization adequate and current?
030.05b	Harvest	Landing drainage and stabilization adequate?
030.06a	Harvest	Trees felled away from Class I stream?
030.06a	Harvest	Non-LOD harvest debris moved 5' above OHWM in Class I?
030.06b	Harvest	Non-LOD harvest debris moved above OHWM in Class II?
030.06c	Harvest	Trail waste deposited only outside of SPZ?
030.07a	Harvest	Lake site-specific plan for SPZ activities?
030.07b	Harvest	Ends of stream-crossing skid trails water barred?
030.07b	Harvest	Avoid skidding logs through streams?
030.07b	Harvest	Temporary stream crossings adequate?
030.07b	Harvest	Stream crossings at right angles?
030.07b	Harvest	Temporary stream crossings removed immediately?
030.07c	Harvest	Avoid ground-based equipment use in SPZ?

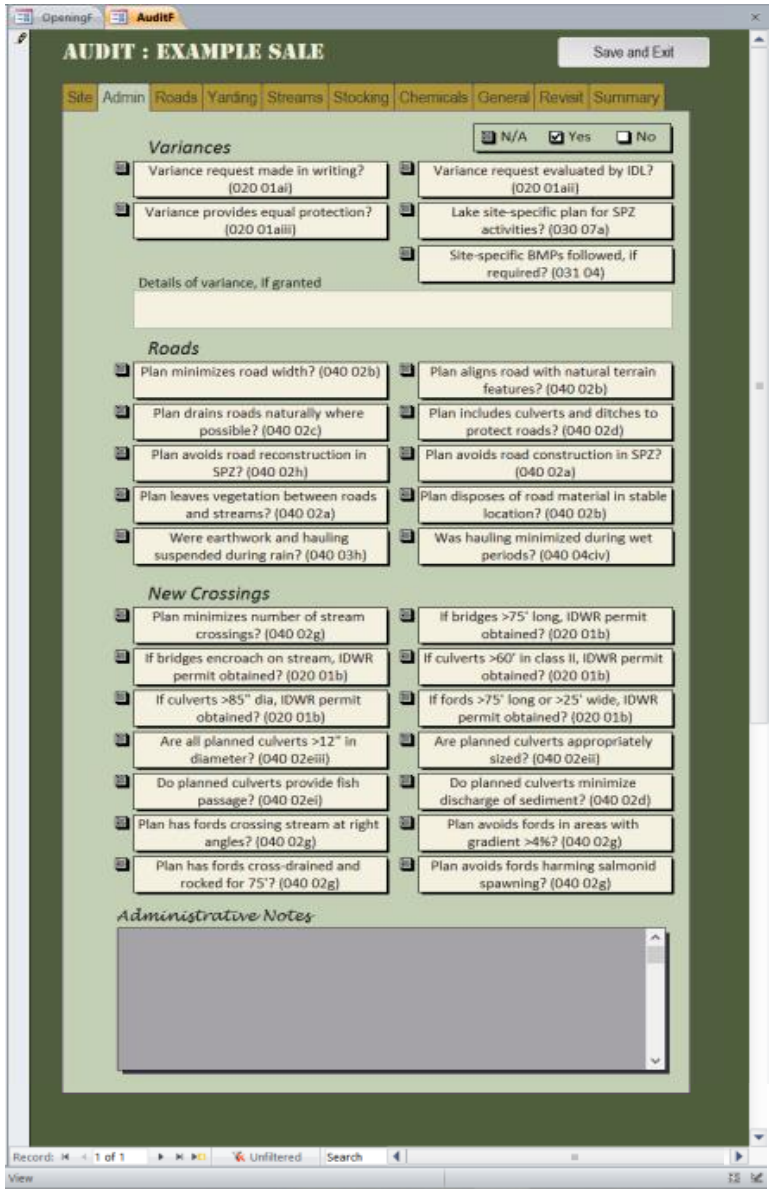
IDAPA 20.02.01 Rule	Rule Group	Description
030.07d	Harvest	Stream disturbance minimized during cable yarding?
030.07e.i	Harvest	Streamside shrubs, grasses and rocks remaining?
030.07e.ii	Harvest	Only one Shade Rule option implemented?
030.07e.ii	Harvest	Adequate shade retained in Class I streams?
030.07e.iii	Harvest	Adequate stocking in Class II SPZs?
030.07e.vi	Harvest	Was non-LOD slash below OHWM removed in Class II?
030.07e.vi	Harvest	Was non-LOD slash moved 5' above OHWM in Class I?
030.07e.vii	Harvest	Was riparian management variance followed?
030.07f.i	Harvest	Were hand piles >5' from OHWM?
030.07f.ii	Harvest	Mechanical piling of slash in SPZ avoided?
030.07e.iv	Harvest	Felled trees left as LOD in Class I?
030.07e.iv	Harvest	LOD, shade and filtering maintained in SPZ?
030.07e.v	Harvest	Naturally down LOD remaining over Class I stream?
030.08c	Harvest	Did operations avoid wet areas?
030.08d	Harvest	Wildlife cover available within 1/4 mile of clearcuts?
040.02a	Road	Plan avoids road construction in SPZ?
040.02a	Road	Plan leaves vegetation between roads and streams?
040.02b	Road	Plan disposes of road material in stable location?
040.02b	Road	Plan aligns road with natural terrain features?
040.02b	Road	Plan minimizes road width?
040.02c	Road	Plan drains roads naturally where possible?
040.02d	Road	Are culverts planned to minimize discharge of sediment?
040.02d	Road	Plan includes culverts and ditches to protect roads?
040.02e.i	Road	Do planned culverts provide fish passage?
040.02e.ii	Road	Are planned culverts appropriately sized?
040.02e.iii	Road	Are all planned culverts >12" in diameter?
040.02g	Road	Plan minimizes number of stream crossings?
040.02g	Road	Plan avoids fords in areas with gradient >4%?
040.02g	Road	Plan has fords cross-drained and rocked for 75'?
040.02g	Road	Plan avoids fords harming salmonid spawning?
040.02g	Road	Plan has fords crossing stream at right angles?
040.02h	Road	Plan avoids reconstruction of roads in SPZ?
040.03a	Road	Roads constructed according to plans?
040.03b	Road	Road debris deposited only outside SPZ?
040.03c	Road	Have exposed erodible materials been stabilized?
040.03d	Road	Has road fill material been properly compacted?
040.03d	Road	Were embankments built without wood or excessive ice?
040.03e	Road	Has outslope drainage been retained and berms removed?
040.03f	Road	Are quarries properly drained?

IDAPA 20.02.01 Rule	Rule Group	Description
040.03g	Road	Was embankment erosion minimized?
040.03g	Road	Were relief culverts with gradient >1% installed?
040.03h	Road	Were earthwork and hauling suspended during rain?
040.03i	Road	Were cut-slopes reconstructed to minimize sloughing?
040.03j	Road	Are roads on slopes >60% full benched (or variance)?
040.03j	Road	Was stream crossing fill on slopes >60% minimized?
040.04a	Road	Is debris placed to avoid stream entry?
040.04b	Road	Have erosion sources been repaired?
040.04c.i	Road	Are culverts and ditches functional?
040.04c.ii	Road	Is road drainage adequate with no unnecessary berms?
040.04c.iii	Road	Is road surface adequately maintained?
040.04c.iv	Road	Was hauling minimized during wet periods?
040.04c.v	Road	Were surface-stabilizing materials kept out of streams?
040.04e.i	Road	Are all surfaces and drainage structures maintained?
040.04f.i	Road	Are inactive roads controlling erosion?
040.04f.ii	Road	Have inactive roads been blocked to vehicular traffic?
040.04f.iii	Road	Are inactive bridges and culverts maintained?
040.04g.i	Road	Are abandoned crossings restored to original gradient?
040.04g.i	Road	Are abandoned drainage structures removed?
040.04g.ii	Road	Are abandoned road prisms uncompacted?
040.04g.iii	Road	Do abandoned fill slopes have long-term stability?
040.04g.iv	Road	Are abandoned sidehill fills stable?
040.04g.v	Road	Has ditch-line erosion been controlled?
040.04g.vi	Road	Has bare earth been stabilized?
040.05a	Road	Has adequate drainage been installed for winter use?
040.05b	Road	Was surface drainage maintained during thaws?
050.02	Replanting	Are leave-trees of acceptable species and quality?
050.04	Replanting	Was residual stocking or replanting adequate?
050.04	Replanting	Are retained trees reasonably distributed?
050.05b	Replanting	Was replanting-exempt land protected with vegetation?
060.02	Chemical	Are large petroleum containers stored >100' from water?
060.02	Chemical	Does impervious catchment > 110% storage volume?
060.02	Chemical	If there was a spill, was IDL notified immediately?
060.02a	Chemical	Were fuel transfers attended at all times?
060.02a	Chemical	Did fuel transfers avoid risk of spills to water?
060.02b	Chemical	Was all petroleum equipment leak-proof?
060.02c	Chemical	Was all non-biodegradable waste properly disposed of?
060.03	Chemical	Did pesticide applicator have current Idaho license?
060.04a	Chemical	Was all chemical equipment leak-proof?

IDAPA 20.02.01 Rule	Rule Group	Description
060.04b	Chemical	Were pesticides stored safely?
060.04b	Chemical	Were pesticides stored securely?
060.04b	Chemical	Were warning notices posted for dangerous pesticides?
060.05a.i	Chemical	Was an air gap provided during chemical mixing?
060.05b.i	Chemical	Did chemical mixing avoid risk of spills to water?
060.05b.i	Chemical	Did equipment washout avoid risk of spills to water?
060.05b.ii	Chemical	Were landings located to avoid spills to water?
060.05b.iii	Chemical	Was rinsate properly disposed of?
060.06a	Chemical	Aerial pest: 100' untreated from open water?
060.06a	Chemical	Aerial fert: 50' untreated from open water?
060.06b	Chemical	Aerial: was the device capable of immediate shut-off?
060.07a	Chemical	Ground pest: 25' untreated from open water?
060.07b	Chemical	Ground fert: 10' untreated from open water?
060.08a	Chemical	Hand: were chemicals applied only to specific targets?
060.08b	Chemical	Hand: were chemicals kept out of all water sources?
060.09a	Chemical	Were chemicals applied in accordance with the label?
060.09b	Chemical	Were chemicals applied at allowable rates?
060.10a.i	Chemical	Daily pesticide record - date and time?
060.10a.ii	Chemical	Daily pesticide record - owner name and address?
060.10a.iii	Chemical	Daily pesticide record - purpose?
060.10a.iv	Chemical	Daily pesticide record - contractor or pilot name?
060.10a.v	Chemical	Daily pesticide record - project location?
060.10a.vi	Chemical	Daily pesticide record - hourly air temperature?
060.10a.vii	Chemical	Daily pesticide record - hourly wind information?
060.10a.viii	Chemical	Daily pesticide record - details and quantities?
060.10b.i	Chemical	Daily fertilizer record - date and time?
060.10b.ii	Chemical	Daily fertilizer record - owner name and address?
060.10b.iii	Chemical	Daily fertilizer record - purpose?
060.10b.iv	Chemical	Daily fertilizer record - contractor or pilot name?
060.10b.v	Chemical	Daily fertilizer record - project location?
060.10b.vi	Chemical	Daily fertilizer record - hourly air temperature?
060.10b.vii	Chemical	Daily fertilizer record - hourly wind information?
060.10b.viii	Chemical	Daily fertilizer record - details and quantities?
060.11	Chemical	Were all chemical containers properly disposed of?
060.11	Chemical	Were all chemical containers removed?
060.12a	Chemical	Were spills immediately reported to IDL?
060.12b	Chemical	Were spills immediately controlled and contained?
060.12c	Chemical	Were spills appropriately removed?
060.13	Chemical	Were misapplications immediately reported to IDL?

Appendix B. Field Form

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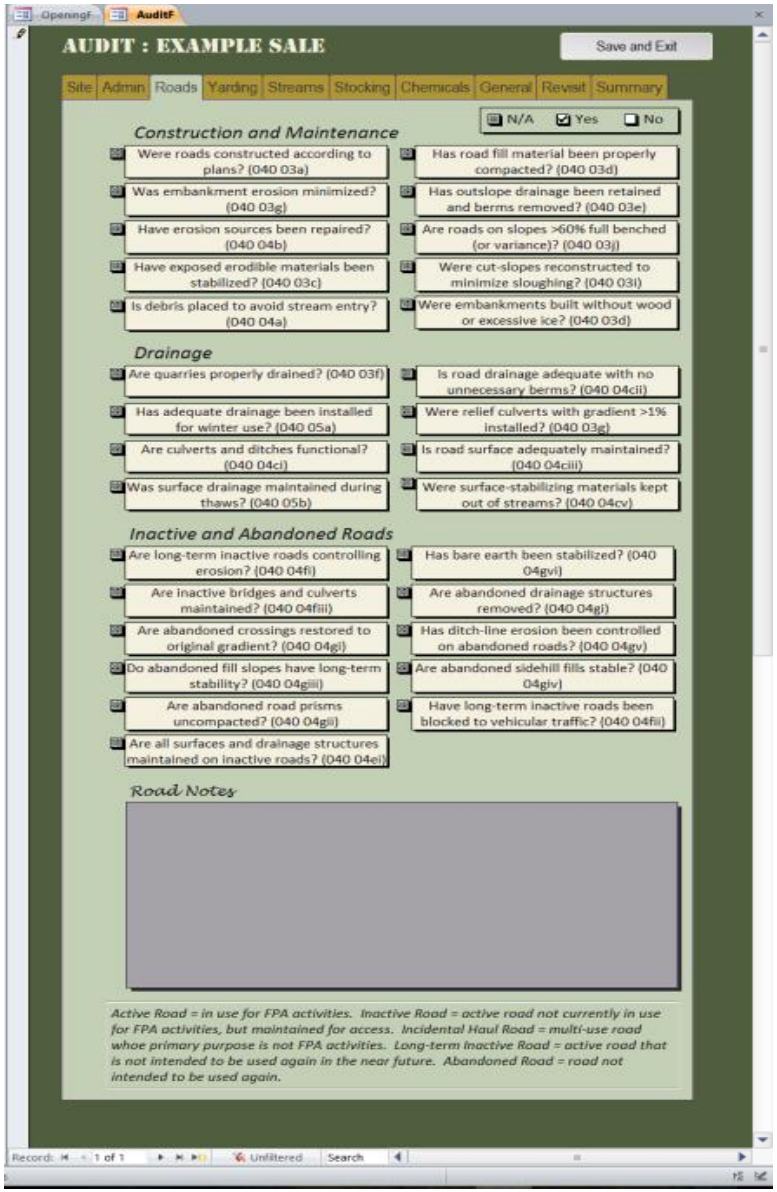
AUDIT : EXAMPLE SALE
Save and Exit
Site
Admin
Roads
Yarding
Streams
Stocking
Chemicals
General
Revisit
Summary
N/A
Yes
No
Variances
Variance request made in writing? (020 01ai)
Variance request evaluated by IDL? (020 01aii)
Variance provides equal protection? (020 01aiii)
Lake site-specific plan for SPZ activities? (030 07a)
Site-specific BMPs followed, if required? (031 04)
Details of variance, if granted
Roads
Plan minimizes road width? (040 02b)
Plan aligns road with natural terrain features? (040 02b)
Plan drains roads naturally where possible? (040 02c)
Plan includes culverts and ditches to protect roads? (040 02d)
Plan avoids road reconstruction in SPZ? (040 02h)
Plan avoids road construction in SPZ? (040 02a)
Plan leaves vegetation between roads and streams? (040 02a)
Plan disposes of road material in stable location? (040 02b)
Were earthwork and hauling suspended during rain? (040 03h)
Was hauling minimized during wet periods? (040 04civ)
New Crossings
Plan minimizes number of stream crossings? (040 02g)
If bridges >75' long, IDWR permit obtained? (020 01b)
If bridges encroach on stream, IDWR permit obtained? (020 01b)
If culverts >60' in class II, IDWR permit obtained? (020 01b)
If culverts >85" dia, IDWR permit obtained? (020 01b)
If fords >75' long or >25' wide, IDWR permit obtained? (020 01b)
Are all planned culverts >12" in diameter? (040 02eiii)
Are planned culverts appropriately sized? (040 02eii)
Do planned culverts provide fish passage? (040 02ei)
Do planned culverts minimize discharge of sediment? (040 02d)
Plan has fords crossing stream at right angles? (040 02g)
Plan avoids fords in areas with gradient >4%? (040 02g)
Plan has fords cross-drained and rocked for 75'? (040 02g)
Plan avoids fords harming salmonid spawning? (040 02g)
Administrative Notes
Record: 1 of 1
Unfiltered
Search
View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AUDIT : EXAMPLE SALE
Save and Exit
Site
Admin
Roads
Yarding
Streams
Stocking
Chemicals
General
Revisit
Summary
N/A
Yes
No
Construction and Maintenance
Were roads constructed according to plans? (040 03a)
Has road fill material been properly compacted? (040 03d)
Was embankment erosion minimized? (040 03g)
Has outslope drainage been retained and berms removed? (040 03e)
Have erosion sources been repaired? (040 04b)
Are roads on slopes >60% full benched (or variance)? (040 03j)
Have exposed erodible materials been stabilized? (040 03c)
Were cut-slopes reconstructed to minimize sloughing? (040 03l)
Is debris placed to avoid stream entry? (040 04a)
Were embankments built without wood or excessive ice? (040 03d)
Drainage
Are quarries properly drained? (040 03f)
Is road drainage adequate with no unnecessary berms? (040 04cii)
Has adequate drainage been installed for winter use? (040 05a)
Were relief culverts with gradient >1% installed? (040 03g)
Are culverts and ditches functional? (040 04ci)
Is road surface adequately maintained? (040 04ciii)
Was surface drainage maintained during thaws? (040 05b)
Were surface-stabilizing materials kept out of streams? (040 04cv)
Inactive and Abandoned Roads
Are long-term inactive roads controlling erosion? (040 04fi)
Has bare earth been stabilized? (040 04gvi)
Are inactive bridges and culverts maintained? (040 04fiii)
Are abandoned drainage structures removed? (040 04gi)
Are abandoned crossings restored to original gradient? (040 04gi)
Has ditch-line erosion been controlled on abandoned roads? (040 04gv)
Do abandoned fill slopes have long-term stability? (040 04giii)
Are abandoned sidehill fills stable? (040 04giv)
Are abandoned road prisms uncompacted? (040 04gii)
Have long-term inactive roads been blocked to vehicular traffic? (040 04fii)
Are all surfaces and drainage structures maintained on inactive roads? (040 04ei)
Road Notes
Active Road = in use for FPA activities. Inactive Road = active road not currently in use for FPA activities, but maintained for access. Incidental Haul Road = multi-use road whoe primary purpose is not FPA activities. Long-term Inactive Road = active road that is not intended to be used again in the near future. Abandoned Road = road not intended to be used again.
Record: 1 of 1
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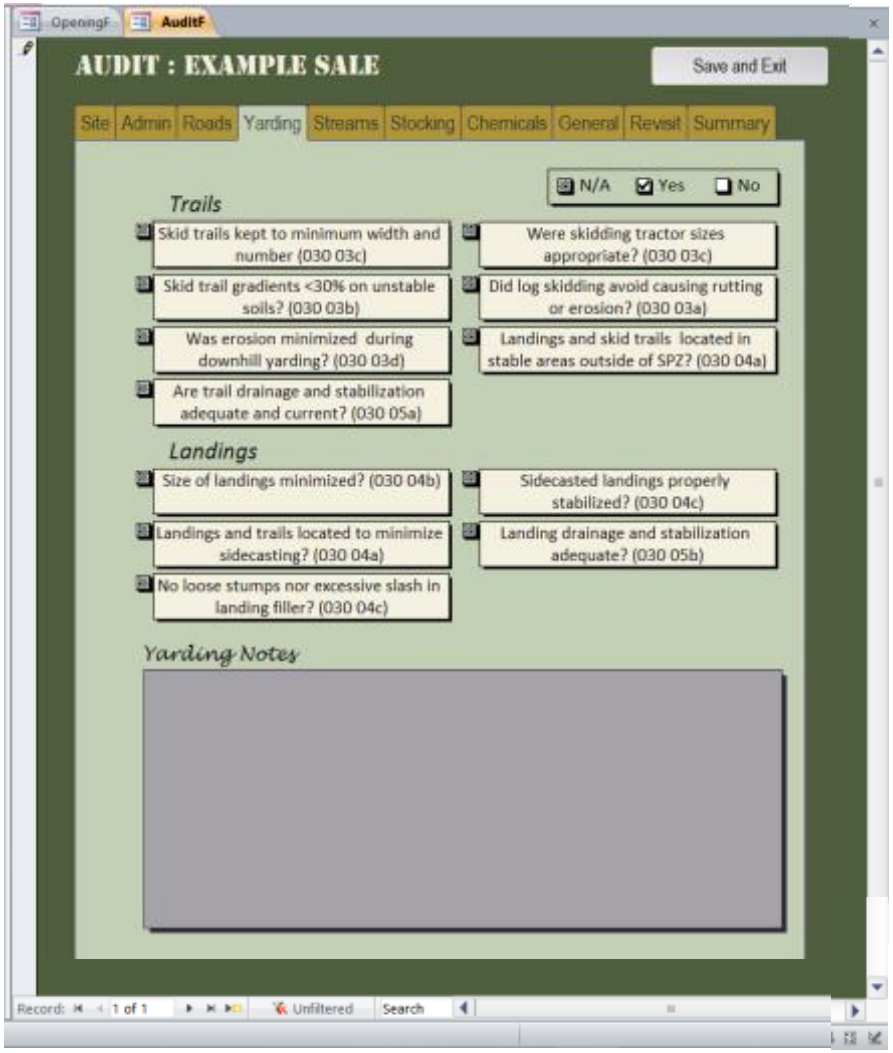
OpeningF
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Site
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Roads
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Revisit
Summary
N/A
Yes
No
Trails
Skid trails kept to minimum width and number (030 03c)
Were skidding tractor sizes appropriate? (030 03c)
Skid trail gradients <30% on unstable soils? (030 03b)
Did log skidding avoid causing rutting or erosion? (030 03a)
Was erosion minimized during downhill yarding? (030 03d)
Landings and skid trails located in stable areas outside of SPZ? (030 04a)
Are trail drainage and stabilization adequate and current? (030 05a)
Landings
Size of landings minimized? (030 04b)
Sidecasted landings properly stabilized? (030 04c)
Landings and trails located to minimize sidecasting? (030 04a)
Landing drainage and stabilization adequate? (030 05b)
No loose stumps nor excessive slash in landing filler? (030 04c)
Yarding Notes
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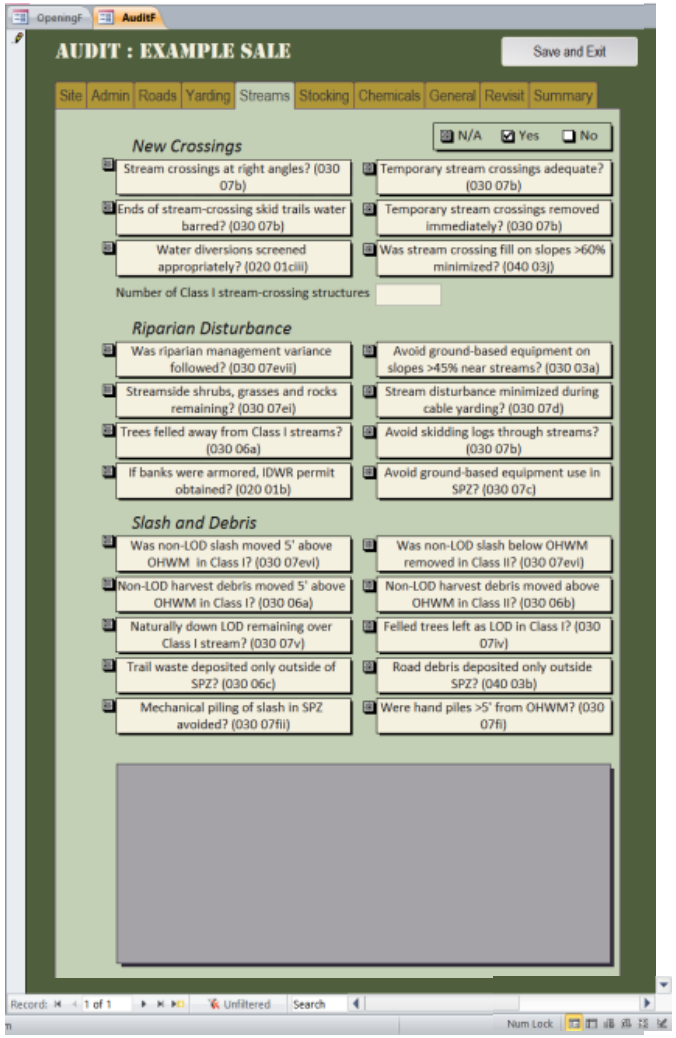
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Summary
N/A
Yes
No
New Crossings
Stream crossings at right angles? (030 07b)
Temporary stream crossings adequate? (030 07b)
Ends of stream-crossing skid trails water barred? (030 07b)
Temporary stream crossings removed immediately? (030 07b)
Water diversions screened appropriately? (020 01ciii)
Was stream crossing fill on slopes >60% minimized? (040 03j)
Number of Class I stream-crossing structures
Riparian Disturbance
Was riparian management variance followed? (030 07evii)
Avoid ground-based equipment on slopes >45% near streams? (030 03a)
Streamside shrubs, grasses and rocks remaining? (030 07ei)
Stream disturbance minimized during cable yarding? (030 07d)
Trees felled away from Class I streams? (030 06a)
Avoid skidding logs through streams? (030 07b)
If banks were armored, IDWR permit obtained? (020 01b)
Avoid ground-based equipment use in SPZ? (030 07c)
Slash and Debris
Was non-LOD slash moved 5' above OHWM in Class I? (030 07evi)
Was non-LOD slash below OHWM removed in Class II? (030 07evi)
Non-LOD harvest debris moved 5' above OHWM in Class I? (030 06a)
Non-LOD harvest debris moved above OHWM in Class II? (030 06b)
Naturally down LOD remaining over Class I stream? (030 07v)
Felled trees left as LOD in Class I? (030 07iv)
Trail waste deposited only outside of SPZ? (030 06c)
Road debris deposited only outside SPZ? (040 03b)
Mechanical piling of slash in SPZ avoided? (030 07fii)
Were hand piles >5' from OHWM? (030 07fi)
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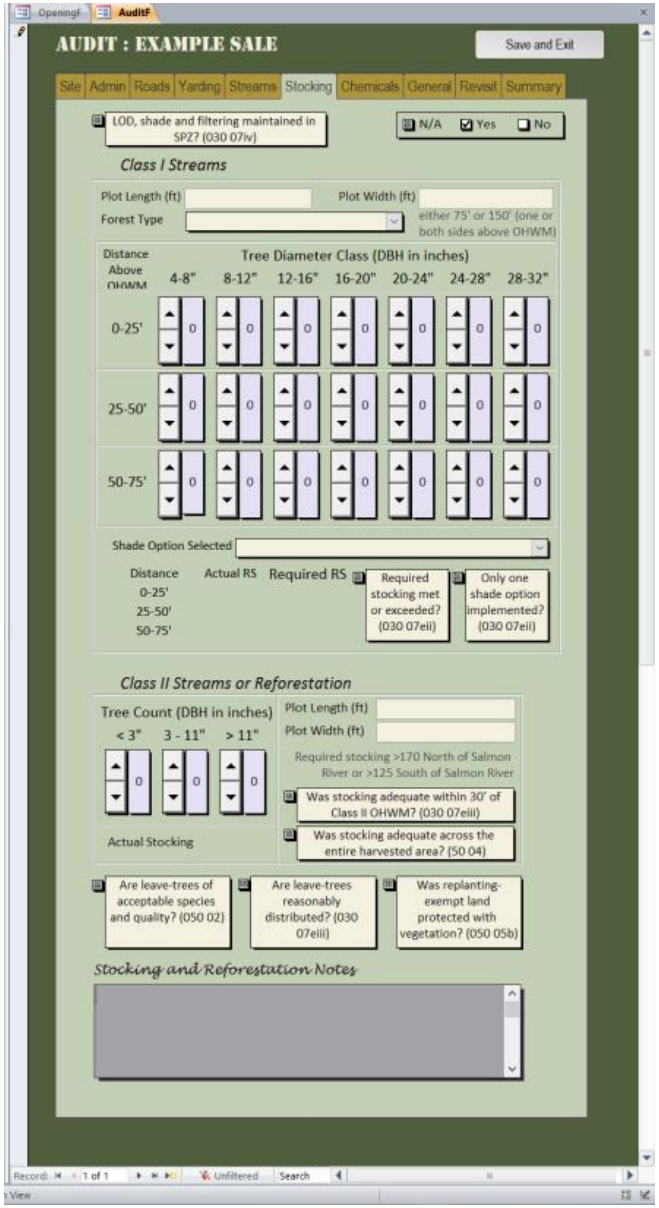
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Summary
LOD, shade and filtering maintained in SPZ? (030 07iv)
N/A
Yes
No
Class I Streams
Plot Length (ft)
Plot Width (ft)
Forest Type
either 75' or 150' (one or both sides above OHWM)
Distance Above OHWM
Tree Diameter Class (DBH in inches)
4-8"
8-12"
12-16"
16-20"
20-24"
24-28"
28-32"
0-25'
25-50'
50-75'
Shade Option Selected
Distance
Actual RS
Required RS
Required stocking met or exceeded? (030 07eii)
Only one shade option implemented? (030 07eii)
0-25'
25-50'
50-75'
Class II Streams or Reforestation
Tree Count (DBH in inches)
< 3"
3 - 11"
> 11"
Plot Length (ft)
Plot Width (ft)
Required stocking >170 North of Salmon River or >125 South of Salmon River
Was stocking adequate within 30' of Class II OHWM? (030 07eiii)
Was stocking adequate across the entire harvested area? (50 04)
Actual Stocking
Are leave-trees of acceptable species and quality? (050 02)
Are leave-trees reasonably distributed? (030 07eiii)
Was replanting-exempt land protected with vegetation? (050 05b)
Stocking and Reforestation Notes
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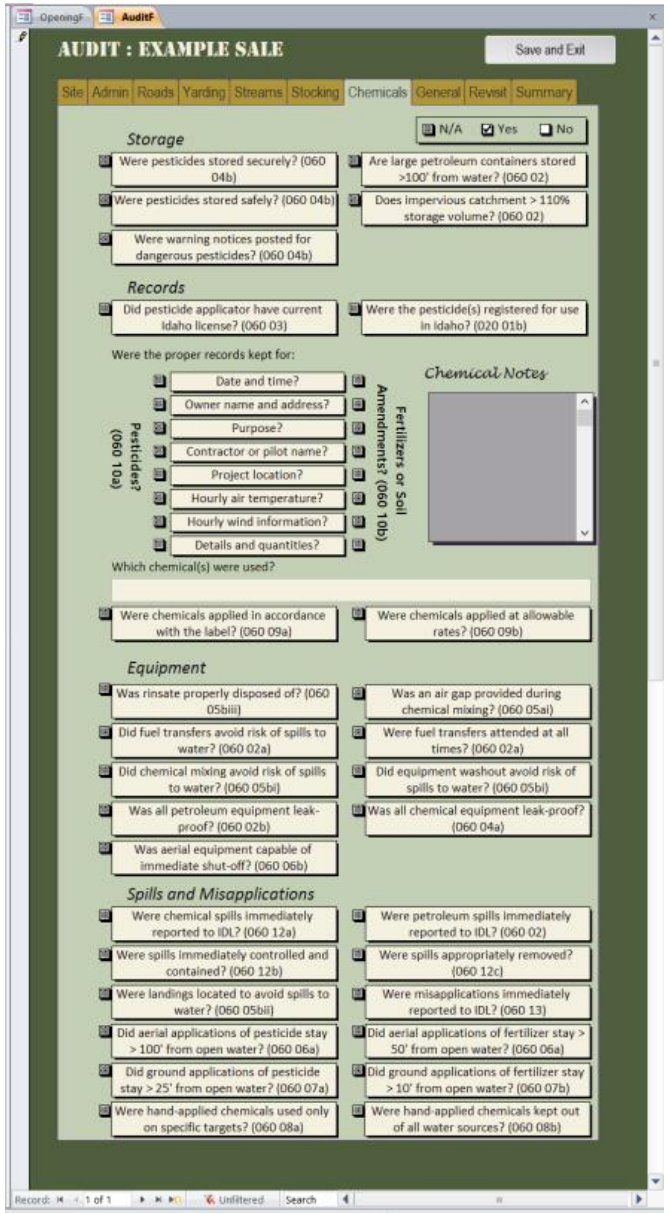
View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Stocking
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Summary
N/A
Yes
No
Storage
Were pesticides stored securely? (060 04b)
Are large petroleum containers stored >100' from water? (060 02)
Were pesticides stored safely? (060 04b)
Does impervious catchment > 110% storage volume? (060 02)
Were warning notices posted for dangerous pesticides? (060 04b)
Records
Did pesticide applicator have current Idaho license? (060 03)
Were the pesticide(s) registered for use in Idaho? (020 01b)
Were the proper records kept for:
Pesticides? (060 10a)
Fertilizers or Soil Amendments? (060 10b)
Date and time?
Owner name and address?
Purpose?
Contractor or pilot name?
Project location?
Hourly air temperature?
Hourly wind information?
Details and quantities?
Chemical Notes
Which chemical(s) were used?
Were chemicals applied in accordance with the label? (060 09a)
Were chemicals applied at allowable rates? (060 09b)
Equipment
Was rinsate properly disposed of? (060 05biii)
Was an air gap provided during chemical mixing? (060 05ai)
Did fuel transfers avoid risk of spills to water? (060 02a)
Were fuel transfers attended at all times? (060 02a)
Did chemical mixing avoid risk of spills to water? (060 05bi)
Did equipment washout avoid risk of spills to water? (060 05bi)
Was all petroleum equipment leak-proof? (060 02b)
Was all chemical equipment leak-proof? (060 04a)
Was aerial equipment capable of immediate shut-off? (060 06b)
Spills and Misapplications
Were chemical spills immediately reported to IDL? (060 12a)
Were petroleum spills immediately reported to IDL? (060 02)
Were spills immediately controlled and contained? (060 12b)
Were spills appropriately removed? (060 12c)
Were landings located to avoid spills to water? (060 05bii)
Were misapplications immediately reported to IDL? (060 13)
Did aerial applications of pesticide stay > 100' from open water? (060 06a)
Did aerial applications of fertilizer stay > 50' from open water? (060 06a)
Did ground applications of pesticide stay > 25' from open water? (060 07a)
Did ground applications of fertilizer stay > 10' from open water? (060 07b)
Were hand-applied chemicals used only on specific targets? (060 08a)
Were hand-applied chemicals kept out of all water sources? (060 08b)
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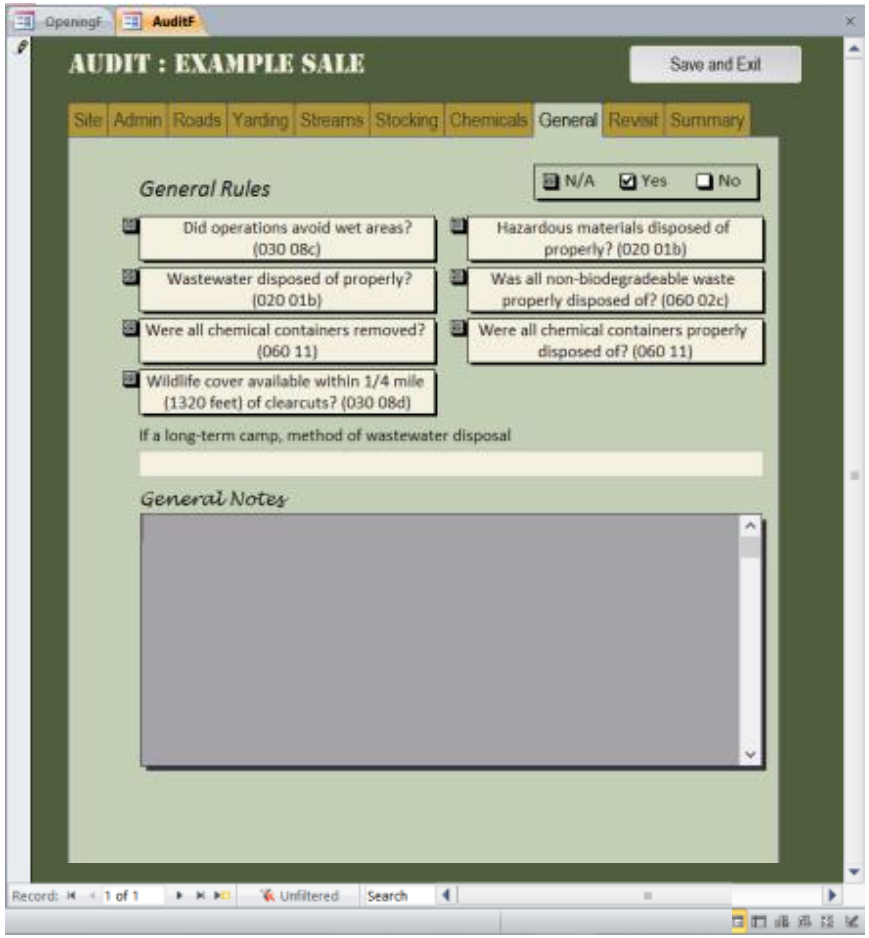
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Summary
General Rules
N/A
Yes
No
Did operations avoid wet areas? (030 08c)
Hazardous materials disposed of properly? (020 01b)
Wastewater disposed of properly? (020 01b)
Was all non-biodegradeable waste properly disposed of? (060 02c)
Were all chemical containers removed? (060 11)
Were all chemical containers properly disposed of? (060 11)
Wildlife cover available within 1/4 mile (1320 feet) of clearcuts? (030 08d)
If a long-term camp, method of wastewater disposal
General Notes
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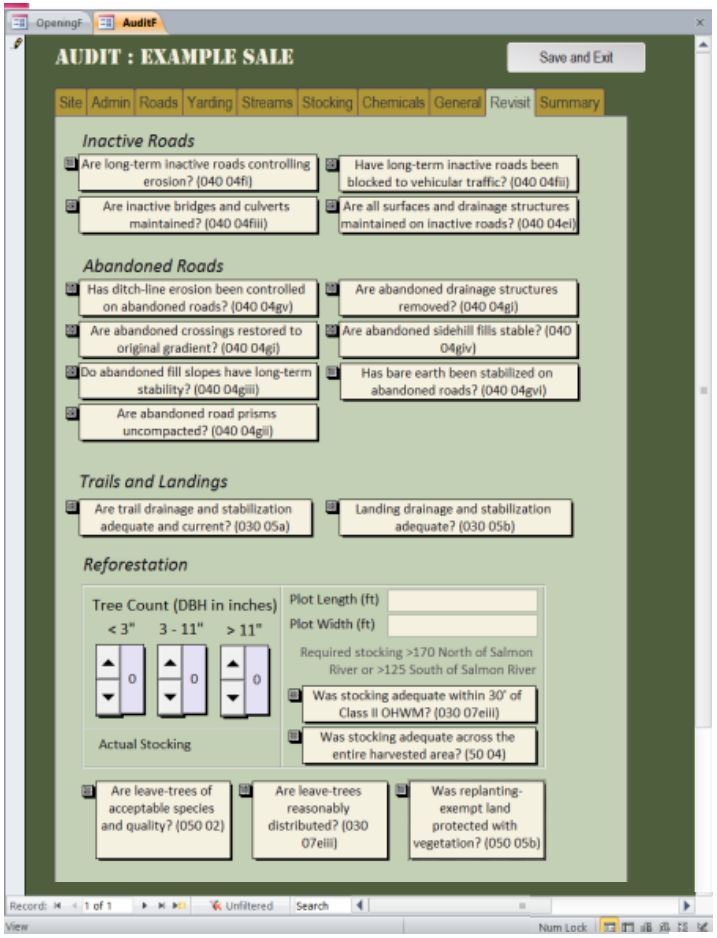
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Summary
Inactive Roads
Are long-term inactive roads controlling erosion? (040 04fi)
Have long-term inactive roads been blocked to vehicular traffic? (040 04fii)
Are inactive bridges and culverts maintained? (040 04fiii)
Are all surfaces and drainage structures maintained on inactive roads? (040 04ei)
Abandoned Roads
Has ditch-line erosion been controlled on abandoned roads? (040 04gv)
Are abandoned drainage structures removed? (040 04gi)
Are abandoned crossings restored to original gradient? (040 04gi)
Are abandoned sidehill fills stable? (040 04giv)
Do abandoned fill slopes have long-term stability? (040 04giii)
Has bare earth been stabilized on abandoned roads? (040 04gvi)
Are abandoned road prisms uncompacted? (040 04gii)
Trails and Landings
Are trail drainage and stabilization adequate and current? (030 05a)
Landing drainage and stabilization adequate? (030 05b)
Reforestation
Tree Count (DBH in inches)
< 3"
3 - 11"
> 11"
Actual Stocking
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Plot Width (ft)
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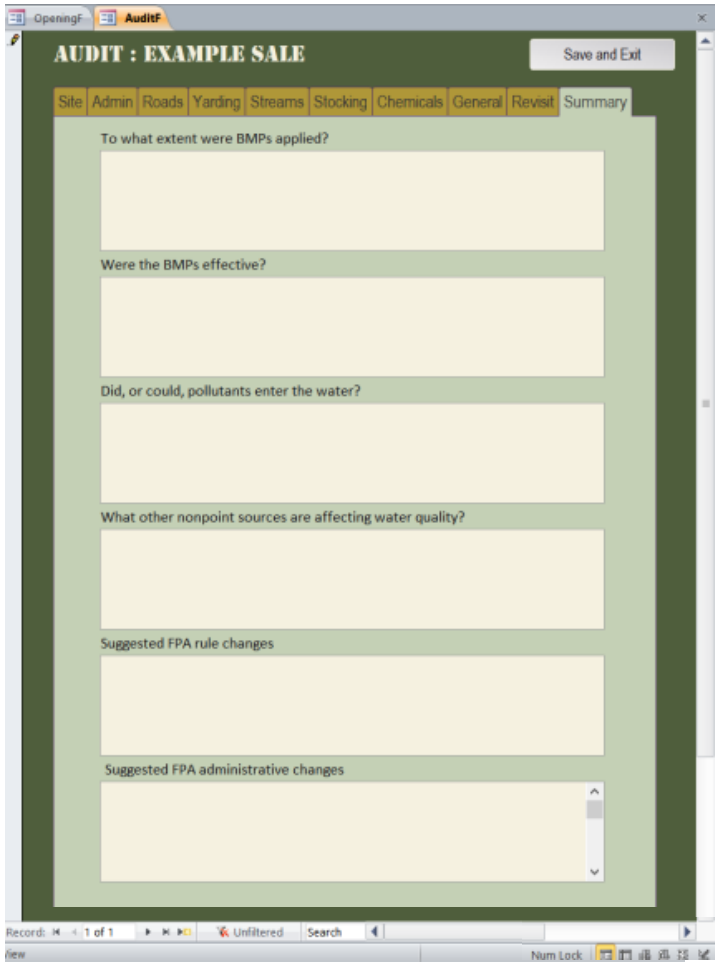
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Summary
To what extent were BMPs applied?
Were the BMPs effective?
Did, or could, pollutants enter the water?
What other nonpoint sources are affecting water quality?
Suggested FPA rule changes
Suggested FPA administrative changes
Record: 1 of 1
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