

Minutes: FRPA Effectiveness Monitoring Working Group Teleconference Monday, October 28, 2019 from 9:30-noon

Present: Joel Nudelman, DOF; Neil Stichert, USFS; Nic Nichols, ADFG; Greg Albrecht, ADFG; Kate Kanouse, ADFG; Chris Stark, BOF; Julianne Thompson, USFS; Jim Tuttle, Sealaska; Jeremy Douse, DOF; Alison Arians, DOF

Couldn't attend, but minutes sent to them: Mark Minnillo, ADFG; Gretchen Pikul, DEC; Trent Liebich, USFWS

Introductions, Review Agenda

Everyone approved the agenda. Alison noted that this working group meeting hasn't been held for seven years, and changes or additions to the format or content are welcome.

Funding Opportunities for 2020

Challenge Cost-Share Grants, Joel Nudelman, DOF. New avenue for DOF, related to Eff Mon. Usually we use them with USFS for young growth inventory work, road maintenance, road agreements that will benefit multiple users. Made a proposal for a road condition survey a few weeks ago, and submitted to USFS to be funded under Challenge program, where we would pay a % and the USFS would pay a larger %. Don't know what that would be, or if it will be funded, but Michael Shephard with USFS was optimistic. Road Conditions Survey on east Icy Bay Chugach Corp. ownership, on east side of Icy Bay. It's an area that was harvested where, when they did the road closure in 1999 and 2000, they were allowed to leave the log stringer bridges. Interested to see how that looks after so many years. Will be interested to see how they have worn, and what those stream crossings look like after so much time.

Haven't done RCS surveys in a while, but funding sources have usually been through Sustainable Salmon Funding, and our own funding, and the old Forest Land Enhancement grants. Will report back later.

Kate: Happy to hear about this. Great opportunity. Have been thinking about this for a while.

Other funding sources?

Neil: Question for the group: AK SSF funding—have general fund salary \$ been used for match? For Habitat and Division of Forestry to provide the match?

Joel: in the past we have used match from our own funding sources. That is possible, but our GF for forestry is a lot more limited than it was back then. In the past, a lot of our FRPA work was funded through EPA. Then it evolved from state funding. Now our funding for the whole program is funded through timber receipts. Any compliance or effectiveness monitoring is based on timber receipts, and we'd have to use that as match. It's possible, but it's harder because we're stretched very thin. Our staffing for resource foresters is less than half of what it was pre-2015, and now in SE we have two vacant positions. If we had full staffing we'd have five, and we used to have ten in years past. We are running a much thinner crew than we're used to.

Neil: Limiting factor is non-federal match, so thinking about what could be used in the future.

FRPA Compliance Monitoring

BMP score sheets, Joel Nudelman, DOF. We report on FRPA compliance annually, where resource foresters conduct these inspections as part of our own timber sale administration, as well as on private, muni and trust lands. Primary goal is to make sure BMPs are followed to protect fish and water quality. Funding sources: we used to get a lot of federal money, but now we get no federal funds. We also used to receive Alaska Clean Water Act (ACWA) funding, but now we don't get state funding either. It's all funded by timber sale receipts, and is part of the cost of doing business. In 2019, we did 58 inspections on state lands, 20 on private, muni and trust lands. All the inspections were followed up with a report and score sheet. ADFG was in attendance on many of the inspections. DEC used to come along on field visits, but their budget cuts have kept them from attending. They review the notifications that come up before the inspections.

Summary of all our inspections. Average scores for Regions, broken down by category. Average between 1-5. Yellow highlights show a deficiency. We started these in 2003. This summary originated in 2002 Effectiveness Monitoring meeting. DEC suggested that the individual reports are good, but no way to quantify the overall compliance that we were finding in the field, so Mike Curran did a rough draft of tallying the compliance score sheets, ran it through the BOF, then resource foresters offered suggestions, and came up with this system. Has worked pretty well for us. When we first started these, we did them just on a few inspections, but now we do them on ALL our inspections, so we see the full range of compliance. Over the years, RI has been pretty good. You can see where the deficiencies are for RII and RIII. We do trainings every year with different operators, to make sure they know what is expected. Give them a full understanding of the FRPA. We also train our foresters to make sure they are familiar with what needs to be inspected.

Purple book—describes in detail each BMP, and what constitutes a 1-5 rating.

Joel: Is the purple book online? Check and report back.

Alison: Yes, the purple book IS online, at

<http://forestry.alaska.gov/forestpractices#training>

Regulations and Best Management Practices

...The Division of Forestry has published a booklet called [Implementing Best Management Practices for Timber Harvest Operations](#) (PDF) that is used to ensure compliance with the Forest Resources and Practices Act and Regulations.

You can also find the direct link here:

<http://forestry.alaska.gov/Assets/pdfs/forestpractices/2017%20update%20FRPA%20fieldbook-FINAL.pdf>

FRPA Effectiveness Monitoring Updates

Julianne: Thanks, Joel, for sending out the updated compliance monitoring report. It's been a while since we've have these meetings, and I haven't seen them in some time. Will share it with my colleagues, and it will be helpful, especially in mixed ownership watersheds.

Updates: On National Forest lands, we have different and sometimes more stringent policies that we follow, but there are some relevant effectiveness monitoring efforts. I should've sent things out prior to this meeting, but I'll send them out after the meeting. We do have work on fish passage, culverts, bridge surveys, buffer windthrow, and BMP implementation and effectiveness monitoring since 2012. We use a different rating system, but I can provide results, including Chugach National Forest summary information that I can provide.

We may also have some soil monitoring information that might be relevant. Dennis Landwehr, USFS, out of Ketchikan has been monitoring soil disturbance, related to heavy equipment.

Neil: when is next BMP monitoring report coming out?

Julianne: Summary of 2018 report will be out very soon. I have just a few final edits. Will send that to the group.

2020 Effectiveness Monitoring Priorities

Windthrow in SE Alaska, Greg Albrecht, ADFG. Has given a couple of presentations on the idea of evaluating windthrow to riparian buffers on state and private lands.

Note: Greg's presentation can be found on the Board of Forestry website, here:

<http://forestry.alaska.gov/alaskaboardforestry/>, under:

Presentations to the Board of Forestry

1. [Windthrow Prediction in Timber Harvest Riparian Buffers in Southeast Alaska, Update and Discussion: Greg Albrecht, ADFG Habitat, August 28, 2019](#)
2. [Windthrow in Southeast Alaska, ADFG Habitat, April 3, 2019](#)

Today I'll share a summary of what I've gotten accomplished and what I will work on next.

- Develop a simple tool to evaluate potential for catastrophic windthrow in buffers that can be used in the FRPA inspection process.
- Based on Rollerson's work, Wind Exposure Index. Tool that is simple to use. Identify prevailing storm winds, and then based on what direction your buffer is located to that wind (parallel or perpendicular), you get a different number. 4-5 are high risk. Also includes the concept of fetch from a clearcut, which lets the wind speed up. The model takes into account orientation & fetch.
- Goal: Identify the most vulnerable sections or buffers in a proposed clearcut, where there might be catastrophic windthrow. Discuss the potential risk with landowner during FRPA review process to implement any measures that could reduce that risk. Could choose to adjust orientation, leave low merch timber, etc.
- To date, our GIS analyst Jason Graham made a tool for ARC GIS where you can draw in your stream and proposed clearcut. It will calculate WEI. Throws a highlight on the buffers that are perpendicular and obliquely perpendicular, adds fetch. Needs some adjustment, and we haven't yet made all the fixes.
- Could share that with everyone involved—DOF, landowners, so we are all looking at the same thing on our screen.
- Also looked at some data from USFS on Prince of Wales Island, basically surveys of riparian buffers on class 1, 2, 3 streams that were harvested from 2000-2006. Documentation of how many trees are still standing—percentage of blowdown. I looked

at 98 of those areas, and I did find a pretty good correlation between WEI class and the percentage of buffer that blew down. Teased out those with fetch greater than 50m, and that did increase the % of blowdown. This was a preliminary look. Not sure if there was anything done to limit the effects. On the whole, looks like a good correlation.

- Next steps: Work the bugs out of the GIS tool, and look at more existing data from USFS outside POW area, and to look harder at the POW data, too. Look for private and state land. Continue to test the approach.
- Work with DOF, BOF, landowners, and see if it's worth working into the review process. At first it could be part of review informally, when we're both looking at DPOs. Would be a discussion with the landowner. Try a few things out, then monitor it. First thing would be to look at more of the existing data to test the model to see how well it would predict the blowdown.

Questions:

Chris Stark: Implied that the wind speed picks up when it goes across the clearcuts, correct? What causes that?

Greg: Maybe I need to rethink my statement. As wind crests a hill, it can accelerate. Maybe the more relevant point is that the wind is able to hit the trees more directly when there is a large fetch, rather than be directed over the top where there is short fetch.

Chris Stark: About Ongoing Research: I think there is a lot of climate data sets which include water temperature. They are related to FRPA effectiveness, but they aren't part of what we think of. Water temperature is a good tool for evaluation of effectiveness. I think there are a lot of people recording stream temperature. The fish care about what temperature it is.

Road Condition Surveys, Joel Nudelman, DOF. We've done RCS in the past when we had more funding and staffing. RCS have been cyclical due to staffing and funding. In 2003-08 we were active reviewing road systems for large SE operations. Concentrating on lower elevation streams, because of the most likelihood of fish passage issues. A lot of help from ADFG with those. Detailed culvert measurements on all fish culverts. Over the years, 2003-2008, surveyed 1000 miles of road, found 109 culverts, of which 82% rated 3-4. (Ratings are 1-4, 4 being fully in compliance.) In 2012-14, surveyed all the forest roads in the Kenai Borough, including Peninsula, Kachemak Bay, Port Graham, Seldovia and Tyonek. All forest roads within Kenai Peninsula Borough. We found 48 total fish culverts, and the ratings not as good as in SE. Only 46% were 3&4. There is a lot of need for corrective action on pipes. In 2017, we closed a state road, based on those surveys; we got funding from SSF to close the road and pulled culverts to open up fish habitat. Also replaced a low-rated culvert there. Other, more recent RCS work in SE: in 2017 we surveyed 2.5 miles in Wrangell on a legacy USFS road that had multiple fish passage issues. This was preliminary work prior to Pat Creek stream restoration project. From the survey we had enough ammunition to pull all those pipes and put that road to bed.

Priority list of topics from USFS, Julianne Thompson, USFS. Hopefully some of these will be projects we can work on together.

- Closed (stored/inactive) roads: erosion monitoring, efficacy of road closure methods at minimizing erosion & sediment transport, stream diversions, etc. This would match up with inactive roads through FRPA filter. Our current BMP monitoring evaluates both compliance and effectiveness for water quality. One thing that has come up, over the past few years,

when we have stored roads, is that the efficacy of the methods to store roads have been variable, especially when we have allowed continued traffic by OHV across water bars. We have the whole spectrum—from limited measures to full removal of all structures and water barring, that is only allowing foot traffic. Those tend to be more effective for water quality and fish passage. We will continue to evaluate this on USFS lands, using national procedures that we have in place. Don't know how much crossover it would have on state and private land. We continue to get pushback from the public from what they see as closed roads that limit access for subsistence and firewood. Delicate balance for limited budget for road maintenance, and providing access for small communities in SE. We have pressure to leave roads open, so it's important to make sure we follow through.

- Invasive plant species control, detection, and mitigation. This is not a robustly funded project, but we have had some success in maintaining control and decreasing weeds on isolated road systems or in wilderness. The best we can do is maintain that effort, and evaluate rock pits, for example, to keep further spread. Often roads in mixed ownership, in state and private ownership. Could be opportunity to cooperate and coordinate efforts to detect weeds and minimize spread of weeds.
- Stream buffer windfirmness: Buffer windthrow has been and is being studied, with an emphasis in the future on measures to predict windthrow risk and minimize windthrow. Very interesting to hear Greg's project. Haven't seen the PPT. This is a really natural project to partner with you. [Alison has sent PPT to Julianne, Neil & Jim.] This tool sounds like it would be useful for it to use on all lands. It's really timely. As you know, we have a backlog of data that we are evaluating. We need to move ahead and figure out where to take our effort next.
- Management of young growth riparian/floodplain stands. My understanding of the work that's been done to develop the state standards has been focused on old growth harvest. Now we're seeing a lot more active management of young growth. There are a lot of questions about whether the same practices apply for protection of riparian buffers, etc. Pursue partnership with our research group, and continue discussion there. I don't know of anything relevant that would drive a change in terms of riparian conservation, but I thought it would be worth bringing up.

FRPA regulation for culverts and water crossings, Neil Stichert, USFS. (Previously with USFWS for 17 years) This is a great time for all of us to reconvene and think about common needs. For the following list, I'm drawing from 2015 interagency fish passage meeting: state and federal partners. Monitoring, restoration. Summary list and action items:

1. Research action item: need to learn more about fish ecology, resident fish, habitat requirements as it pertains to fish passage, accommodate fish passage. Progress: Don't know of a lot of work that has occurred. In SE AK, some monitoring. In Southcentral, ADFG has done some work in Buddy Creek in Mat-Su.
2. Assessment matrix: ADFG and USFS share a similar analysis/evaluation matrix. Have established that in 1999-2000, and has been used since. Provides a commonality for discussion of efficacy of passage. Progress: Don't know of anything from USFS or ADFG. Have used existing matrices, and share a lot already.

3. Outreach effort to public and private landowners, including progress we've made to date, and remediation through all of our efforts. Progress: USFWS efforts: published two articles, one in AK Business Monthly (June 2018), to daylight the issue with industry. Also quite a few social media clips on efficacy of replacing culverts, and video of fish navigating our roads.
4. Pilot prioritization effort. DNR, ADFG, USFS have authorities. Work independently. Look at water crossings database in a webinar, invite interagency folks. Progress: Well-executed effort led by Heidi Lombard, including Trout Unlimited, TNC in the region. Prioritized Staney Creek Watershed. 38 watersheds were discussed. Used a collective approach, and USFS moved forward with stewardship contracts, engineering funding to mediate those sites.
5. Fish passage design methods. Get a handle on an approach that is commonly understood, updated, and able to be communicated effectively. Many design methods out there, and criteria published by NMFS, as well as technical guidance from ADFG and DOT. Need to publish standards. Progress: An effort kicks off tomorrow, by USFWS, led by Heather Hanson, who drafted a set of guidelines. There will be a webinar tomorrow in Anchorage to get interagency clarification and perspective.
6. Policy: Clear document for fish passage authorities, Corps of Engineers.
7. Informing permit review.
8. Mitigation.
9. Fish passage monitoring. Progress--Tongass: ongoing monitoring. 10-15 sites per year. Annual effort.

Happy to say about ¾ of the priorities have made progress.

A lot of common authorities. Have seen a lot of good progress on federal lands and partners.

Another important topic is to evaluate FRPA regulations for culverts and water crossings compared to more modern aquatic organism passage guidelines for fish bearing streams. Joel did a great job reviewing RCS past practice, including Pat Creek effort. Moving forward, there has been quite a bit of challenge trying to evaluate it with adjacent USFS and ADFG data. The protocol has been driven by FRPA rating, and 1-4. It hasn't yielded enough information where you can look at the data and the photos in the ADFG database. There has been some collective effort between Joel and Julianne Dougherty, but it's not showing up on ADFG maps. It would be great to have a common platform that should be a basic requirement.

Joel: I agree that we should have our data displayed on fish mapper. I talked with Julianne about that as well as the programmers. I'm hoping that we can make that happen in the next year. I've mentioned that with the Challenge Cost Share grant. As far as not being able to compare it—I don't see it as a problem, as long as end users can click the structure, can see the different surveys that were done on the structure. Can compare it to red/green/gray. Can use the pipes that had a rating of 2-3 that was called a red pipe. We should be able to see them together, and they can still be evaluated.

Neil: Julianne Dougherty told me she was having problems with it—some efficiencies needed. It's been difficult, trying to ingest that data. Hard to do prioritizations or proposals from that data. It's just a comment, from this data. It may not apply with East Icy Bay, since they are mostly bridges. USFS could be one of the leads on this project.

Joel: At the end of this meeting, when Alison has the priorities, we can discuss. I'd like to move forward to be able to display the data. Even if it's a different type of window. The information is still there to see whether it's a problem culvert.

List of topics on reforestation standards in Regions II and III, Jeremy Douse, DOF. Was on the implementation group for the Science & Technical Committee's work on reforestation in Regions II and III in 2014. There is a whole website of recommendations, but I'm just bringing up the very high and high priority items.

- Systematic testing of non-native species over a full rotation to determine potential benefits and risks, with a focus on species that are known to be capable of naturalizing in Regions II and III. Siberian larch & pine plantations are all over Alaska, planted by John Alden. This is in relation to a changing climate, to see how non-native species would do with assisted migration to keep up with reforestation standards. Would be good to pick up this research again.
- Recommend a systematic review to document forest regeneration that has occurred on harvest areas in relation to local site conditions and forest management practices. This would be similar to the study done by Miho Morimoto in the Fairbanks area. Priorities for studies are the Copper Basin, Mat-Su, Kenai, and Tok-Delta areas, as well as more remote areas with a history of harvesting.
- Determine optimum mechanical site preparation methods when heavy grass competition is present or predicted. Implementation group came up with this priority, separate from Science & Technical Group.
- Long-term, stand- and landscape-level monitoring of various harvest treatments and responses to insect infestations, including adaptive management options for mimicking landscape patterns of natural wildland fires. Larger harvest units that resemble wildfire with pockets of unharvested trees. Larger units are limited by market demand, though.
- Assess/predict future growth and yield of spruce and hardwood stands, including different site preparation and reforestation methods. The growth model may address this.

Questions:

Joel: Have read though some John Alden's work. Incredible. Is he still alive?

Jeremy: He's alive, but pretty old. He's been back in the office recently trying to organize his work, but he could use some help.

Joel: Would hate to see that work get lost. Reforestation is such a big issue everywhere but in SE. Changing climate—no other work similar to that that I've seen. Hope that gets carried on.

Julianne: Can Alison explain to the group what is the outcome of this meeting? In the old days there were actually funds.

Alison: Statutory requirement to report research priorities to the Board of Forestry, but could also help us work together, whether or not we identify sources of funding.

Julianne: Useful call to hear from each other.

2020 Effectiveness Monitoring Proposals

- Road Condition Surveys, Joel Nudelman, DOF.
- Windthrow in SE Alaska, Greg Albrecht, ADFG.

- Reforestation: Variant for FVS Forest Vegetation. Monitoring silvicultural prescriptions. Might address the goal of Assess/predict future growth and yield of spruce and hardwood stands. Already happening. Jeremy Douse, DOF.
- Reforestation: non-native species. Would be really valuable going forward with climate change. Jeremy Douse, DOF.
- Reforestation: Site preparation techniques. Jeremy Douse, DOF
- Fish passage mapping, Neil Stichert, USFS; Joel Nudelman, DOF.

PRIORITIZATION

Group reluctant to prioritize one type of work over another, since important in different regions.

Jim Tuttle: Sealaska prioritizes RCS, and fish passage mapping.

Neil: Common interest in windthrow—endorse that. Swan Lake fire—if Fire folks have Sentinel data—could conduct monitoring through that. Joint need for continued evaluation.

Fish passage: We should have an interagency call with ADFG Habitat, Sport fish, USFS, USFWS. Talk to each other. ArcGIS platform. Get folks aligned and thinking about making progress. RCS data. Ingesting DOF data into Mapper so it has people & data attached to it.

Evaluating culverts using USFS and ADFG standards. Where these sites are governed by FRPA, there is some uncertainty. Need to do the comparison, and see if they need to be more streamlined, or made more consistent.

Matrix of authorities.

Comparison of evaluation methods. Protocols.

Looking to future RCS projects to reduce redundancy.

Joel: Our system works really well for doing the culvert measurements. I would have a hard time readjusting that to fit the ADFG because their system takes all day to measure a culvert. I think the information we get from our surveys—looking at pool depth, culvert sizing, condition of pipe, % blocked. We've got a system, so that we can do it quickly in about a hour or 1.5 hours. It works well. I would have a problem changing our system, and ADFG has been with us when we're measuring culverts, and is OK with it.

Mapper:

Kate: Clarification from Joel: uncertain about what we need to be providing. Are we putting together a research project? What are the outcomes? Are we on the right track?

Joel: Thinking of this in terms of priorities for projects... not sure how to answer that.

Kate: If we're talking about FRPA and fish passage, FRPA is pretty minimal in terms of requirements, but we also have Title 16 fish passage permits. I'm questioning whether this is meeting the goals of this meeting.

Joel: Forestry roads are different than usual roads. Definitely a lower standard from public roads, though there is some crossover. Some forest roads end up evolving into public roads. Most are temporary. Not a lot of fish culverts even out there. Those legacy pipes have been out there for many years, predating FRPA fish passage standards from 1990. Newer roads come under Title 16 permit, in many cases they are temporary, and if they are going to be longer term, they will be bridges. I don't know that it makes sense to make the two systems talk to each other for

installation for culverts. FRPA protocols, or more stringent protocols. Tying them together for evaluating, don't quite see the need for that.

Alison: It would be good to be able to display them—click on a culvert on Mapper to show them.

Joel: That's doable—to put that information on the map, including all the data we took. Could be able to display.

Kate: Adding data to Mapper: are we able to cull the dataset for structures that are existing? Or throw everything you've got into the mapper?

Joel: All the data that we collected on the Kenai is in Mapper, just not being displayed. Ryan Snow set up a template for us, including information that's not part of what Gillian collects (BMPs and pipe installation). You can see the measurements that caused it to be a 2 instead of a 4. Entered into the template that ADFG developed. Not sure why it's not displaying. Information is in there, and most of the culverts on the Kenai (only ones entered in template) pre-date the fish passage standards. The roads were not built with that in mind. It will be evident to someone looking for it. If USFWS wants to look at these things for stream restoration projects, that would be a good source. For SE, we have all that information on our survey cards, and there are only 109 culverts—would just need transferring into the templates. Could also add SE information there, too.

Neil: don't know what "temporary" road is. Not all of these roads are truly temporary.

Stream buffer windfirmness: buffer windthrow has been and is being studied, emphasis in future on measures to predict windthrow risk and minimize windthrow.

11:30 Working Group Recommendations for 2020/FY 2021

All the high priority projects are worthy to work on. No need to prioritize one over the other, since they apply to different regions.

12:00 Adjourn. Next meeting?

Julianne: encourage the group to meet every 6 months (though she is retiring in December). Good to check in more regularly on these topics. Helpful to get interagency work, to keep in touch.

Chris Stark: Would be interested in having this every 6 months. I wouldn't get wrapped around money. Ideas come first, then money will follow.

Neil: Good observation. Julianne's position will be refilled. What do you want to get out of this interaction?

Greg: Willing to attend. Will provide updates on windthrow. Check-in first through email, then a short call. Alison can nudge people along, making sure people are moving along.

Kate: Sounds good. In 6 months, Greg could maybe have used the buffer analysis in a DPO review by them.

Jim Tuttle: Agree.

Jeremy: Agree.

Alison will contact the group to schedule the meeting in 5 months, in late March, to have another meeting for 6 months from now, in late April.

TABLE 1: RECOMMENDATIONS FOR 2020/FY 2021

Research topic	Priority	Est. FY 2021 cost	Lead	Notes
Road Condition Survey: East Icy Bay	High	?	Joel Nudelman	Working on Challenge Cost Share Grant from USFS.
Windthrow in SE Alaska	High	?	Greg Albrecht	Has developed model and will continue to refine it using existing data. Will use model at first as voluntary with landowners.
Reforestation: assess/predict future growth and yield of spruce and hardwood stands		?	Jeremy Douse	Already happening with variant for FVS, monitoring silvicultural prescriptions.
Reforestation: non-native species	High	?	Jeremy Douse/John Alden	No project proposed now, but John could use some help to keep from losing the valuable information that could be gathered from his plantations.
Reforestation: Site preparation techniques	High	?	Jeremy Douse	No project currently proposed, but many areas in Region II and III struggle with tree competition with grass regrowth after harvest.
Fish passage mapping	High	?	Joel Nudelman/Neil Stichert	Getting DOF information into the GIS Mapper that USFS and ADFG use for fish passage through culverts