DEPARTMENT OF NATURAL RESOURCES

Minnesota Statewide AIS Advisory Committee (SAISAC)

October 24, 2019 *Meeting Minutes MN DNR Sauk Rapids Office, Sauk Rapids, MN*

Members Present: Norman Baer, Justine Dauphinais, James Johnson, Kelsey Taylor, Tera Guetter, Eric Johnson, Chris DuBose, Mary Alverson
 Members Absent: Jim Boettcher, Jaime Jost, Barb Halbakken Fischburg, Paul Hamilton, Donovan Strong, John Deurr, Roger Imdieke
 Ex-officio Members Present: Doug Jensen, Nicole Lalum, Nick Phelps
 Ex-officio Members Absent: Amy McGovern
 DNR Staff Present: Heidi Wolf, Phil Hunsicker, Tina Fitzgerald, Jan Shaw Wolff
 Guest (via SKYPE): Ryan Wersal

Chair J. Johnson called the meeting to order at 10:02 a.m.

Motion to approve agenda by N. Baer and second by J. Dauphinais. Motion approved unanimously.

Motion to approve Meeting Minutes of August 22, 2019 by J. Dauphinais and second by K. Taylor. Motion approved unanimously.

Meeting Summary:

- Committee members shared their experiences attending the MAISRC Showcase event held on September 18. Well worth their time. Excellent learning opportunity. Would like to see some of the presentations given again at future Committee meetings.
- Committee members who participated in the field trip to view nonnative *Phragmites* sites agreed that it was a great hands-on way to learn about *Phragmites*: how to identify it in the field and become familiar with current methods of management.
- Committee viewed a presentation by R. Wersal of Minnesota State Mankato and T. Guetter of the Pelican River Watershed District on flowering rush. The Committee learned about their long history of research and management efforts to deal with flowering rush in the Detroit Lakes area. It took a lot of research to better understand the plant before they found management success, which has been substantial. R. Wersal also informed the Committee of his more recent research on starry stonewort.

Motions & Actionable Items:

• During the next Committee meeting on December 5th, one topic of conversation should be a review of the Committee By-laws/Charter to address issues of member absences, voting for Chair and Vice-Chair in

December or January, and the possibility of having a list of approved "standby" candidates to replace those members who vacate their seats before the end of their terms. Other items on the December agenda should be the following: Departing Committee members whose terms expire at the end of 2019 will be asked to share their desires for the Committee as it moves forward; do they have recommendations for priorities? Also, the Committee will discuss the format of their 2019 Annual Report.

• J. Dauphinais will draft a letter about Committee recommendations concerning the reclassification of nonnative *Phragmites*. She will share the letter on Basecamp for comments/suggested edits by Committee members. Then, the letter will be sent to the DNR Commissioner as a recommendation by the Committee.

Committee Member Updates

For this and future meetings, members were asked to only share updates directly relevant to the Committee's roles and responsibilities.

- D. Jensen: AIS outreach April 1 through October they held 46 events reaching 13,485 people. Made possible due to partnerships with the 1854 Treaty Authority, Fond du Lac, DNR Enforcement, and the watercraft inspection program. Surrender event with Animal Allies had 70 people and 5 animals rehomed. That is 580 animals rehomed so far. Habitattitude website soft launched. SAH website graphic enhancements underway. Assisting with planning the Great Lakes Panel meeting in Ann Arbor in Nov. Twin Ponds goldfish control project in Duluth. Working on securing DNR permits. Minnesota Invasive Species Advisory Council (MISAC) will revise the state plan using moderate level of revision. Last updated in 2009. Subcommittee will do this work. Updates will impact this group. Aquatic plant and aquatic animal risk assessments completed. H. Wolf says the state plan is used for receiving federal funding. N. Phelps asks if it is used for other things. H. Wolf says it is very broad, it guides DNR's program, and it is used for receiving other grants too. T. Guetter asks, is it robust enough? For example if you were applying for a big research grant. H. Wolf and D. Jensen say yes.
- N. Baer: no updates, but has a question about the Committee chair elections and if it could be done in
 December rather than in January. It is mentioned that if that were the case, new members wouldn't have a
 vote since they don't start until January at the earliest; but why does that matter, they won't know people
 anyways. H. Wolf says usually people that want to be on the Committee are connected and already know
 other members. She suggested the Committee update their By-laws/Charter if they want to make this change.
 T. Guetter suggests that if the current Chair is finishing up their term on the Committee, the Committee could
 vote to name a temporary Chair for the January meeting until the new Chair is officially elected. She also says
 that speaking of By-laws, some seats are currently filled, but have remained vacant due to absences and there
 are voices that should have been heard. Could something be added in the By-laws that if a member misses a
 certain number of meetings, they are out? D. Jensen is on the Great Lakes Aquarium board and they just
 updated their By-laws. He will share for reference. H. Wolf says we will have to check back with the
 Commissioner's Office. There could be a short list of "standby" people that could join if needed. Members
 agree to add this as an agenda topic for the next meeting.
- **N. Lalum:** Working with Otter Tail County on the Governor's Fishing Opener. Spencer McGrew is on the planning team and he is the county AIS coordinator. They are putting that local AIS Prevention lens on it, which is great.
- M. Alverson: Nothing new. They authorized seaplanes into Colorado. Previously not allowed because of AIS. Seaplane operators are proactive in AIS prevention. She worked with April Rust of the MN DNR to create a training, which is mandatory for their members. Signs about moving AIS were made and are present at all Recorders: T. Fitzgerald and P. Hunsicker
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seaplane bases. Pilots, in general, are a conscientious group of people. Plus, seaplanes don't typically stay in the water, they are generally stored on dry land and the floats are always pumped. Members discussed best management practices for AIS prevention with regards to seaplanes.

Committee Member Updates Continued

- **C. Dubose:** Owed the Committee a letter (supporting re-classifying non-native *Phragmites* by DNR), but got a lot of push back locally, mostly due to funding. He apologized for the delay. He would like to add it to a future agenda. Doing non-native *Phragmites* control. They are seeing a lot of fast growth. The sewer plant got a permit to reapply sludge into ponds that have invasive *Phragmites*.
 - A question is posed as to where the DNR is concerning the listing process for non-native *Phragmites*. H. Wolf explains that the Minnesota AIS Research Center (MAISRC) researchers gave DNR data, then they had a meeting with Minnesota Pollution Control Agency (MPCA) and Minnesota Department of Agriculture (MDA). MDA permits for transport and MPCA permits for land application. DNR was surprised this was allowed (because of seeds). There are some permit restrictions, but those didn't have anything to do with preventing the spread of non-native *Phragmites*. DNR wanted to create best management practices (BMPs), but in the meantime, MPCA refused to give the permits. Julia (MAISRC researcher) checked on land application sites and no Phragmites is growing there. BMPs are in the permit now; for example, they have to keep it away from water, bury it deep, and have it be in row crops. Landfilling is much more expensive, and land applying is more environmentally friendly, but we want to make sure they aren't planting non-native Phragmites. If regulations change, agencies will work with the wastewater treatment companies and help with transition. C. Dubose would like to see the BMPs because he will be more involved with the sewer commission and those recommendations would be helpful. Underlying economic issues. He just got back from Ohio and was amazed at how much non-native Phragmites was there. One Watershed, One Plan for the Lower St. Croix to be finalized mid-2020. Goldfish in one pond potentially spreading to another lake. Trying to prevent that spread. C. DuBose asks if priority will be given to companies that land apply. H. Wolf says we aren't seeing it spread because of land application. There are many options and we will be working with them in partnership.
- **K. Taylor:** Focusing on decontaminations they did it for spearing and netting season in spring; now doing it for ricing and duck hunting in the fall, but this is harder because hunters are more spread out. For duck hunting, they can't start the decon unit because it is too loud. They are using a gravity system instead, which is quieter and seems to be working fine.
- E. Johnson: Posted wetland restoration work in Voyagers on Basecamp, there is a new project lead. They secured funding to run the program for another 3 or 4 years. Contact him for more information. All hybrid/invasive cattail management. Drowning them out seems to work the best. Water levels go up and down naturally, so if they cut at the right time, it works really well.
- J. Dauphinais: Coon Creek non-native *Phragmites* treatment at 14 of 14 sites. Social media blitz about looking for zebra mussels while taking out docks and lifts. Volunteer zebra mussel spotter program 80 citizens reporting in every month, 80% response rate at first and now 50% response rate this 3rd year still a good record.
- **N. Phelps:** MAISRC launched 10 new projects this summer sign up for email updates. Understanding the economic impacts (Eurasian watermilfoil specifically) based on presence, absence, and abundance. Going through prioritization for Request for Proposals to be released in January. MAISRC has shifted the cycle 6

months to take advantage of 2 field seasons. Priorities from this Committee remained there for this year. Identifying alternatives for wastewater treatment plants to replace non-native *Phragmites* will be added.

- J. Johnson: No updates.
- **T. Guetter**: Their second year of treating 60+ acres in mixed stands of flowering rush and bulrush and the results are phenomenal. They were able to do the curly-leaf pondweed treatment partially with Diquat. Good native plant diversity came back. Related to the zebra mussel effects on the food chain, they helped the MN DNR and MAISRC collect zooplankton for that study. The District's internal study involved a summer intern collecting zooplankton on non-infested lakes so they have pre-infestation data if needed. Finalized the Readiness Response Plan for Starry Stonewort, Hydrilla, Hybrid/Eurasian Water Milfoil with Dr. Ryan Wersal. Will update the plan every year. Dam removal impacting common carp movement. There are pros and cons. Climate change and changing precipitation patterns which affect lake levels and nutrient loading. ZM's increase in water clarity, etc, however we are still using the same nutrient loading models. Is there new modeling for lake ecosystems? **N. Phelps** says they are trying to understand the tipping point related to carp. Clarity does not necessarily mean quality. **T. Guetter** would like advice on getting the message out. **J. Johnson** says he talks with lake groups and tells them to "think of your lake as a mobile" in that if you change one thing, everything shifts to a new equilibrium.
- **D. Jensen:** Open window to submit comments about the Minnesota Sea Grant Program. November 12 deadline. Having their national site review the following week. Any support would be greatly appreciated.

DNR Updates

- **H. Wolf** says the watercraft inspection program filmed videos for their training that are Minnesota-centric, instead of using western state videos, which have worked fine, but weren't 100% appropriate for Minnesota inspections.
- **T. Fitzgerald r**eviews the two-day AIS Behavior Change Design Workshop.
 - There were 67 participants with 44 people from 33 counties, 7 statewide partners, and 16 DNR staff. We reviewed Community-Based Social Marketing (CBSM) and behavior change theories, reviewed the DNR's CBSM project results, and then spent most of the time in small groups with each focused on a single behavior and audience. Ten small groups focused on removing barriers, promoting motivators, commitments, communications, and social norms. Finally, each group developed a behavior change strategy "prototype" and presented it to the whole group. A report will be available shortly. DNR will develop and administer grants to local organizations to design/pilot strategies next year.
 - D. Jensen attended and shared some take homes. There was a lot of local knowledge and openness.
 The statement that showing how much change has happened is a more powerful motivator than just showing overall change.
 - **T. Guetter** stated their area were some of the first communities trying to address AIS behaviors and it was easier to get people to implement the easier "low hanging fruit" behaviors, but frustrating to get the public to adopt more effective preventative behaviors. There is a difference between knowledge and acting on that knowledge and at the workshop the blood drive example was used and facts about blood donation (most people think donating blood is a good idea, but very few donate). She said there was discussion of decontamination units and not getting the numbers of users/decontamination that we should be getting (high capital outlay/labor). Also, barriers to decontamination or cleaning for night anglers, how are they supposed to see plants in the dark at the accesses?

- **N. Phelps** asks, what about evaluation? **T. Fitzgerald** says they can use the completed survey results as baseline and DNR will require evaluation as part of the grant program by counties?.
- **H. Wolf** says applications are open for seats on this Committee! Looking for a diversity of people and ideas.
- **N. Baer** asks about the surcharge increase and use of funds. **H. Wolf** says we get appropriated a certain chunk. It's by fiscal year.

Debrief of Committee Member Experiences at MAISRC Showcase

- **N. Phelps** says it was the biggest one ever with 300 people in attendance. Open to ideas for future Showcases if you have them.
- M. Alverson says it was excellent. It was her first time. Really liked Carli Wagner's presentation. She learned a lot.
- K. Taylor says it was all of her staffs' first time. It was great and well done.
- J. Dauphinais has been to all of them. Interesting study about the willingness to pay, a three-part study. An inperson at the accesses survey, a direct mail with private lakeshore owners, and a random mail survey. She would like to see presentation from them here for the Committee.
- **N. Phelps** says all presentations are online. **J. Johnson** says the abstract book was helpful. Good range of topics.
- Members briefly discussed their meeting with DNR Commissioner Strommen in August. J. Johnson says we need to have more specific items to discuss with her the next time we meet. She said expert testimony would be one additional role this Committee could play. She wants to target groups that typically haven't been contacted by DNR in the past.

Debrief of Committee Field Trip to View Nonnative Phragmites Sites

- J. Johnson says it was a great resource for county-level stuff.
- **N. Baer** says the non-native *Phragmites* stand without seed heads was interesting. Would that be an option for wastewater treatment plants? **J. Dauphinais** checked with Julia about that and she said it probably has to do with site conditions.
- J. Johnson said they visited an outpost CD3 station on Weaver Lake (smaller unit with just a few tools) and he invited the lake association president to speak to the group. The association's perspective was valuable. They wanted to do something at the boat ramp. They initially found out through a presentation by Tony Brough (Hennepin County AIS coordinator). They placed the station on the way out, not on the way in. Incoming wouldn't be used as much. This way, they are not just protecting their own lake they are protecting all lakes. One time purchase with little maintenance. \$15,000. More up front cost, but long term availability.
- J. Dauphinais adds that for the use of the county AIS Prevention Aid, she found their perspective interesting using it for infrastructure instead of short-term investments like staff.
- J. Dauphinais shares one more update. PLM (contractor) said they have stopped the use of glyphosate because of public perception; but the bid her organization put out required them to follow the MAISRC protocols, which calls for 3 types of herbicide, including glyphosate.

Presentation by Ryan Wersal and Tera Guetter

Research and Management of Flowering Rush and Starry Stonewort

Recorders: T. Fitzgerald and P. Hunsicker

- **R. Wersal** worked with Dr. John Madsen at Minnesota State Mankato and followed him to Mississippi State. Met **T. Guetter** and got involved in her work with flowering rush. Now teaching at Minnesota State Mankato, where he first met Dr. Madsen.
- **T. Guetter** shows a map of flowering rush locations. Hundreds of acres located in the near shore littoral zone.
- Becker County has 412 lakes.

Flowering Rush Control Project Presentation Continued

- Pelican River Watershed District was the first watershed district to be incorporated due to water quality issues.
- 1960's they received \$250,000 grant to deal with invasives? in an effort to remove phosphorous for water quality reasons. Did not work.
- Flowering rush first discovered in Curfman Lake in 1970's. Continued to spread despite management efforts.
- Used harvesters in the district. 2-4d was used, but not effective. Lots of complaints from "you forgot me" to "I'm upset with harvested plants floating around in the lake." Very frustrating.
- 1990's lake-wide study. Harvesting preferred over herbicides. Worked with Steve McComas.
- Early 2000's, flowering rush was growing faster and spreading. Questions about effectiveness of harvester. Was it a vector of spread?
- Did test plots of herbicide. Glyphosate, 2-4d, etc. Little long term efficacy. Back in the spring.
- Tried hand wicking individual plants. Didn't work.
- Imazypyr test in 2005. Applied and saw some improvement. Tried larger scale in 8 feet of water. Needed to let the plant grow above the water surface to treat effectively. Property owners had to wait for that to happen. Covering city beaches and that was city's bread and butter. Loss of those beaches meant loss of city's main attraction for tourism and amenity for residents.
- Real issue is you have to get at it in its submerged form, according to Dr. Madsen.
- "Crush the Rush" campaign began.
- Obviously, problem was more complex than originally thought. Water level, water flows, plant phenology, propagation. All needed to be understood.
- Did literature searches via internet. Not a lot out there. **T. Guetter** contacted other states (Idaho, Montana, Michigan, Florida, Washington, and Wisconsin) Also saw John Madsen's name a lot (originally from MN). He was at Miss. State. He said they needed to involve Army Corps, AERF, DNR, etc. Do tank studies to learn about the plant to find out what could work.
- Systemic herbicides were ruled out. Contact herbicides (Diquat, endothall, flumioxazin) were our path.
- Did ecology and phenology studies and coordinated with Concordia College. Did 1000's of core samples.
- Looking for a chink in their armor. What herbicide and when should it be applied?
- R. Wersal: Two different types of flowering rush non-sexual and sexual. If you disturb plant, buds break off and sprout in new area. As you remove plant, you can break rhizome and each piece can help spread it. Realized that a successful strategy needed to target bud production and spread.
- Did transects to do biomass samples height, density, bud density, etc. It really likes shoreline habitat: 0 to 6 feet in depth. Often grows mixed in with hardstem bulrush.
- Plant height increases with water depth, but emergent height went down. Continually growing from bottom. Water depth plays significant rule. Less density as depth increases. Fewer buds produced in deeper water.

- Weaknesses: look at biomass and starch for energy. Can't wait until August for treatment. May, June, and July are optimal times for treatment. Bud production peaks in August and November. If you can prevent plant from getting rhizome bud density in August, then we can begin to win the battle.
- Height peaks in July and August. Need plant out of water for Imazapyr to work. Missing translocation pieceinterface between above water and below water.
- Did dye applications to look at movement of treatment due to flows in lake. What is residence time? Can begin to rule out some products that dissipate or move quickly.

Flowering Rush Control Project Presentation Continued

- Lots of flow in lakes.
- Used Diquat and endothall. Endothall treatments didn't work. Recommended that submersed treatments be done with Diquat. Seeing reduction of bud density and decrease in above and below ground biomass.
- Needed more non-target data before they went to larger applications. How does it affect hardstem bulrush? Found no differences in bulrush biomass in treated areas as compared with non-treated areas with bulrush.
- Two applications of Diquat/year decreases flowering rush. One treatment maintains current plant densities. No treatment meant increased plant density.
- Revisited harvest control. Can it be effective? Not effective. Four clippings or more to equal one Diquat treatment. Same for biomass and bud density. Clipping would require significant funds to do the number of clippings necessary to have an impact.
- Looked at suction harvesting option, hand pulling option, bottom barriers, shading by using dyes, drawdown plus herbicide, etc. Not viable.
- Who pays? Lake association or Lake Improvement District (LID), or watershed district according to DNR letter to lake association.
- Diquat is now recognized as best treatment option for flowering rush. Use it as sparingly as possible to not create resistance using adaptive management strategies. Scale of treatment based on how much growth.
 From not doing any treatments to one annual treatment or can apply up to two annual treatments depending on density of growth.
- \$1 million needed. Some help from DNR with management grants. Established district wide special assessments. City of Detroit Lakes passed referendum for food and beverage tax to contribute to flowering rush. People were willing to pay to protect their most significant economic asset their lakes.
- Need to focus on bud density. Need to treat on a lake-wide basis. If you have 10 acres, you can't just treat 7 acres of it. Comparison is that we didn't get eradication of polio by treating just a couple of states. We did mass treatments on a grand scale. That same principle applies to flowering rush, too.
- Integrated pest management. Study the problem and utilize the best tools. Goals should be to manage below an intrusive threshold that is determined by stakeholders of the resource. Be adaptable.
- No harvesters. Inject Diquat in water and do not spray it on the above water vegetation. In Idaho, they don't use Diquat because of potential impacts to salmon. Instead, they did a significant drawdown of the lake, followed by bare ground herbicides with soil residual.
- Starry stonewort research by **R. Wersal**. Lots of work on ecology and mapping by U of M. Still an opportunity to be successful in MN. Working closely with DNR.
- Forms dense mats and nothing else can grow underneath. It is an ecological engineer; it changes the environment.
- Long-term bulbil reduction is key to effective management.

- Make changes based on management data. Something that used to be effective may become less effective in the long-term. Get it early and get it often. Look at delivery method (sub-surface, drop-lines, granular). Try and get it down below the canopy.
- Quantitatively monitoring is key. Has there been a significant reduction?
- Can an Integrated Pest Management approach be implemented? Using it on Lake Koronis algaecide, weed harvesting, and suction harvesting.
- Need to attack it at the right time.
- J. Dauphinais asks about efficacy of ProcellaCOR on flowering rush. R. Wersal has not seen it used in the literature. Might have some success to reduce biomass, but not for the long-term.
- **D. Jensen** asks if anyone is using drop-line method. Used in California for Eurasian watermilfoil and curly leaf pondweed. Use a cyclone spreader. For starry stonewort, efficacy data is coming out of Koronis. Some granular info from SeaPro. Some data exists in company report forms. None in the literature about granular applications.
- C. Dubose: How much assessment per property owner in Detroit Lakes for the flowering rush costs? \$250 \$300 per year, according to T. Guetter. District wide assessment is just \$6-7 dollars per parcel. Happy to pay to protect their lakes/economy.
- **T. Guetter**: Should we be doing something else with regards to starry stonewort? **R. Wersal** says the tools we have are effective. Copper is effective. Need to work out timing of application for best results. Starry stonewort does not like to grow in captivity for studies. To study it in a lake instead of treating makes the problem that much harder. Look at Michigan, Wisconsin and Indiana. Don't wait and see what happens.
- J. Wolff: Are bulrush populations affected by the treatments? No, according to T. Guetter, bulrush is NOT affected by the submergent herbicide treatments (foliar application/above water application WILL damage bulrush) and in-lake research noted an increase in bulrush density after the flowering rush treatments. Fisheries folks were happy. There was no evidence from the years of stem counts that bulrush keeps flowering rush from reestablishing. Falsehood.
- J. Johnson: What conditions favor flowering rush? Same as bulrush habitat.
- J. Dauphinais: Great to have Minnesota State Mankato on board. What does your appointment look like?
- **R. Wersal** says his research is based on what he did at Miss. State. Plant distribution based on sediment characteristics. Looking at another non-native bulrush. Heavy teaching appointment. 2 grad students hungry to do research. It is a tenure track position. **J. Dauphinais** offered Committee's support if he needs it.
- J. Johnson: How do you fit with MAISRC? Will coordinate/collaborate with them. Will look at MAISRC proposals and possibly implement. Also will look elsewhere for funding opportunities.

Review of Action Items

- Next meeting of the Committee is Thursday, December 5. Discussions should include By-laws/Charter changes on election timing, absences, how it fits with Commissioner's office. Check with other advisory committees and if they have dealt with these issues.
- By December 5, we won't have names of new people chosen for the Committee.
- J. Dauphinais: Can Committee make a recommendation about re-classifying *Phragmites* status and submit to DNR? Yes. Pros and cons of voluntary treatments versus mandatory/required. Prohibited versus restricted. Good discussion for Committee.
- **T. Guetter**: Major barrier is funding if change in status.

- **P. Hunsicker** says that \$1 million has been quoted by sewage treatment facilities as the cost to transition to something else. Could we do it for less? Probably yes, according to **H. Wolf**.
- **N. Phelps** says Clean Water Fund would be appropriate for *Phragmites* treatment/removal costs. **H. Wolf** asks if Committee wants to write a letter to Clean Water Fund.
- Should Committee do a verbal vote versus a letter? J. Dauphinais asks if anyone is against elevating status of *Phragmites*. No show of hands. T. Guetter says Committee should request that the DNR elevate status of *Phragmites* to the prohibited invasive species list with goal of eradicating *Phragmites* from state. At the Minnesota Department of Agriculture (MDA), we want it listed as a prohibited "control" species on the noxious weed list. J. Dauphinais adds that state should also provide funding for its eradication/control/management. J. Dauphinais will write letter on behalf of the Committee to send to DNR Commissioner Strommen. Timeline for decision is early December. N. Phelps suggests cc Commissioner of Agriculture and the Clean Water Council Committee Chair.
- **N. Phelps** asks who else is on Noxious Weed Advisory Committee. DNR has one vote.
- J. Wolff suggests funding come from multiple sources and not just Clean Water Fund.
- J. Johnson suggests at the next meeting, we collect a wish list from departing members. Also a By-laws review. Annual report discussion based on Committee work plan. Make available for new members in Jan. Usually give out at Roundtable in January. Is Wright County still an issue? Update by H. Wolf. Presentation by Gretchen Hansen on spiny waterflea impacts to MN game fish. January Wendy Crowell to talk with group. Carli Wagner can also come. January is time to look at priorities for year. Also legislative priorities. February or March, D. Jensen can talk about bait study.

Adjournment at 3:02 p.m.

Next meeting will be Thursday December 5, 2019 at the DNR Sauk Rapids office. On the draft agenda is a review of the Committee Charter and a discussion of the format of the Committee's 2019 Annual Report.