

Efficiencies and Effectiveness Workgroup

Introduction

Continual evaluation of the effectiveness and efficiency of the components within the Division of Forestry Fire Program is essential to ensure program delivery is at the optimal level to provide protection for human life, property and natural resources from wildfire.

Inputs considered in this report were garnered from DNR surveys of Technicians, Team Leaders, Rangers and other Foresters. Moderated sessions as well as an on-line survey were used. In addition, input was sought from partner organizations including USFS, MN and MI DNR's, USFWS and fire departments.

To assist in the development of recommendations and explore several programmatic areas this workgroup assessed the following:

- Processes and procedures within the entire Fire Program other than those identified as not in the scope of the broader assessment
- Other agencies such as the Forest Service, Fish and Wildlife Service in addition to other state Fire Programs.
- The role of forest management in reducing fire risk
- Statutes, policies and agreements relating to the Fire Program
- Technological developments and their potential to positively affect operational effectiveness and efficiency

Team Charge

Provide recommendations on how current processes, procedures, statutes, policies and agreements would need to change to improve program effectiveness and efficiency.

Summary of Recommendations

- Support legislative change to allow Forester rangers citation authority for the burning of illegal materials
- Work to phase out the use of burn barrels
- Investigate and implement appropriate standardized GPS equipment
- Allow rangers the option of laptops as their issued computers
- Continue to develop cooperative relationships with local fire departments that include sharing of resources
- Actively support the efforts of Air Management and Solid Waste Programs to eliminate outdoor burning of household debris.
- Eliminate the EFW program and move to a "blackout period" system of regulating outdoor household debris burning.
- Review and update the Individual Forest Fire Report Handbook, look for opportunities to consolidate reports, and provide information on the need and use of data being collected
- Develop a mechanism to allow situation reports, Friday conference calls and other information to be accessed more readily

- Better communicate Bureau Fire Staff itinerary's during fire season
- Develop voluntary BMP's that limit fuel/cover types and reduce continuity of high risk types on the landscape.
- Convene meeting between a vertical cross-section of DNR, USFS and USFWS fire control to define and clarify command structures, identify and establish participation in each others' IMT, develop guidelines and procedures for cooperation during incidents, identification of joint training, and utilization of federal personnel in the Command Center
- Develop guidance on fire response, staffing, billing and co-op activity guidelines in relation to our partnership with Fire Departments
- Meet with Emergency Management organizations to clarify respective roles and explore areas of cooperation
- Recruit local governments to assist in public education on fire and emergency response issues

Objectives for Efficiency and Effectiveness work group.

1. Work closely with the other WG's as items filter up that affect or directly relate to their assignment.
2. Evaluate and recommend changes to policies, procedures, statutes, and agreements pertaining to the Fire Program. In part, question the status quo and ask is what we do worth it.
3. Evaluate the application of operational procedures between DNR Division of Forestry Regions, Areas and Teams such as call back etc.
4. Evaluate and recommend how forest management can assist in reducing fire risk

Objective 1: Work closely with the other WG's as items filter up that affect or directly relate to their assignment.

This objective was largely met through the sharing of information to other workgroups from surveys and discussions within the E&E Workgroup meetings.

Objective 2: Evaluate and recommend changes to policies, procedures, statutes, and agreements pertaining to the Fire Program. In part, question the status quo and ask is what we do worth it.

Much of the E&E Workgroup time was spent in this particular objective and is where most of the recommendations will occur.

Components Considered

A. Partnerships

Recommendations below are based on the most frequently expressed concerns in the four partnership categories of (1) federal agencies, (2) fire departments, (3) local governments and (4) other DNR programs.

- **Federal Agencies:** Survey responses addressing the DNR/Federal Agency partnership were very positive for fire line-level activities, but indicated a need for more cooperation and understanding at the top levels.
 - Clearer understanding of existing relationships will lead to better and more efficient use of each other's expertise and resources.
 - More clearly defined (or understood) chains of command and channels of communication will contribute to quicker response and reduced confusion over respective roles and responsibilities.
 - Selected shared training and staffing will increase the efficiency and effectiveness of large incident management.

Recommendations:

Convene meeting between a vertical cross-sections of DNR, USFS and USFWS fire control organizations to:

- Define and clarify command structures of respective organizations and protocols for cooperation and partnership.
 - Identify and establish opportunities for participating in each other's IMT training and mobilizations.
 - Develop guidelines and procedures for cooperation on each other's fires, including participation in debriefings.
 - Identify joint training opportunities to enhance cooperation and effectiveness on large incidents.
 - Include federal agency personnel in the Command Center during large incidents to facilitate the ordering and movement of federal resources.
- **Fire Departments:** Responses from both external and internal surveys indicated high regard for the DNR/VFD relationships. These have been nurtured well at the Area/FRU level and prove very effective.
 - Across the state there needs to be substantial flexibility in how DNR interacts with VFDs, due to levels of experience, resources and staffing.
 - VFD/DNR relationships should be guided by sideboards.
 - DNR staffing guidelines and their impact on VFDs need to be clarified.
 - Training of VFDs needs to continue as it addresses new technologies and bolsters a smooth working relationship between DNR and the VFDs.

Recommendations:

- Co-op and Suppression Specialists to solicit input from Area Fire Staff and develop draft guidance for Bureau approval on fire response, staffing, billing and co-op activity guidelines.

- **Local governments:** Survey results were neither critical nor complimentary of DNR relationships with local government units. Most addressed education and enlisting local governments to assist in more aspects of the fire program.
 - Greater coordination and understanding with Counties could lead to joint dispatching or better understanding of local practices
 - Education and training of local cooperators will lead to better incident management cooperation.
 - Local governments can be used in education and training efforts

Recommendations:

- Rangers and/or Team Leaders and/or Area Leaders to meet with Emergency Management organizations to clarify respective roles, explore areas of cooperation and develop (or clarify) procedures for responding to incidents.
 - Rangers to recruit local governments to assist in public education on fire and emergency response issues.
- **Other DNR Programs:** Responses were constructive and aimed at identifying unused resources and increasing training in some areas.
 - A need was expressed to improve the level of fluidity, understanding and communications between Dispatch Groups and the Command Center as large incidents develop.
 - DNR Land Division and others have resources that could be trained and enlisted to fill resource needs.
 - Clarification in the fire program of the Bureau Director/Section Chief/Regional Forester/Area Forester-DG continuum would help in managing large incidents and resource movements.

Recommendations:

- Bureau to develop and sponsor training for Regional Leaders, Area Leaders and Dispatchers to address and practice joint functions as incidents increase in complexity.
- Bureau should draft proposal for utilizing available Land Division resources more effectively in fire. Proposal would be taken by Paul DeLong to Director of Division of Land for buy-in and implementation.

B. Technology

- **GPS and GIS technology**

In truck GPS navigation systems (Garmin, TomTom, etc.)

GPS navigations systems can help units navigate to a fire location and may be particularly helpful for personnel unfamiliar with the area where they are working. Units are available for under \$100..... less than the cost of a backcan. It may be

appropriate to investigate and recommend a “standard” GPS navigation unit if this option is pursued. Another option is continue with or expand (i.e.: type 4 engines) the current use of the Garmin 76 units.

Real time GPS tracking units on fire equipment

GPS tracking of fire equipment has potentially positive safety and effectiveness implications. Tracking could be done at various levels (i.e.: statewide, dispatch group, incident, Type 6/7 engine). A variety of units are available and compatibility with GIS systems would be desirable.

Recommendations: Investigate and implement appropriate standardized GPS equipment as budgetary constraints allow. Based on a cost/benefit relationship, navigation systems should be a priority. Continue to reassess GPS technology on a periodic basis and update as needed.

- **Computers and Internet**

Utilize laptop computers in type 6/7 engines

Computers in engines could be useful for several applications. One of the most commonly cited applications is GIS and air photo use for fire control. The laptop could also be an integral tool if GPS tracking devices were used on suppression units.

Recommendations: Develop, maintain, and update (periodic and/or as needed) a web based statewide situation report.

Allow rangers the option of laptops as their issued computers. Consider issuing the laptop as a standard ranger computer as technology develops and/or if GPS tracking is utilized in the future.

- **Thermal Imaging**

Utilize thermal imaging devices for wildland fire control

Based on survey information, there is a great deal of interest in thermal imaging equipment for wildland fire control. Although there are other potential applications, the most common use would be for mop-up. Many local fire departments currently utilize thermal imaging technology, mainly for structural fire applications. Thermal imaging technology continues to develop and is becoming more affordable. However, at this point acquiring units on a broad basis is likely to be cost prohibitive.

Recommendations: Continue to develop cooperative relationships with local fire departments that include sharing of resources such as thermal imaging cameras on an as needed basis. As budgetary concerns allow and if unit prices continue to decrease, consider the limited purchase of thermal imaging units.

C. Reporting

It was determined there would be some efficiencies gained by evaluating the reporting system and requirements within the fire program. Like other reporting requirements within the Division, feedback questioned the usefulness and need for all the reporting that is currently required. There may also be other gains in looking at our web based systems and a consolidation of reports.

Recommendation(s):

- Review and update the Individual Forest Fire Report Handbook. This would allow the handbook to be more aligned with the newer electronic report. Specific items of interest included consideration of a further breakdown of structures and adding an unknown category to the fire cause information chapter. In addition, develop connectivity between various fire handbooks, manual codes, policies, procedures, etc., so only one master reference is needed to address all aspects of the fire program.
- Create integrated web-based accomplishment reporting system that will automatically populate data from other reports. (Fire Report data will automatically input to Fire Accomplishment Report, etc.). System should be usable by all managers for creation of custom reports.
- Within the next six months Bureau of Protection will identify opportunities to detail our reporting requirements and further explain the need and use of the data collected.

D. Communication

The general feeling was the Division does fairly well with communications but it was recognized improvements could be made especially at times of increased fire danger. A couple of themes that arose were around the idea of communicating resource needs more broadly and quickly in addition to the communication being more fluid from top to bottom and across.

Recommendation(s):

- Create a web based statewide fire information site similar to the NIFC Situation Report. The creation of a statewide fire information site could keep local units informed of events, conditions, and issues on a statewide basis. The site should be updated on a periodic and/or as needed basis. Friday updates heading into the weekend would be desirable during fire season.

- Better communicate Bureau Fire staff itinerary's through the Dispatch group during fire season.
- Utilize newer technologies such as live meeting to share information more broadly and quickly across Teams, Areas, Regions and statewide.

E. Statutes

➤ Burning of Illegal Materials

Currently, Forester Rangers do not have citation authority to cite an individual who is burning materials that are not allowed by the burning permit system (i.e. Tires, shingles, plastics, etc.). The current process is to refer these cases to Air Quality, who may or may not issue a follow-up letter. In recent years, a larger percentage of fires are being caused by people burning these items, which not only presents a health and safety issue for DNR personnel and fire departments responding, but also to the nearby residences. Also, suppression efforts can take longer and more equipment needed to extinguish these fires. The only incentive for a person not to continue to burn these items is the cost of the suppression efforts, which is zero in some cases if no DNR personnel or equipment is involved. This item has been presented before the legislature the past two years, but has not been enacted.

Recommendation:

Continue to support passage of this enforcement in the legislature to change the statutes that apply to burning regulations and continue to educate individuals about what can and cannot be burned within the permit system. Work with Conservation Wardens to identify individuals who continue to burn these materials, as they might be using areas that would be considered illegal dump sites.

➤ USE OF BURN BARRELS:

Historically, burn barrels have been used statewide and their use has been regulated by the burning permit system. Individuals would obtain a permit that allowed them to burn certain materials, same as if they were burning a debris pile, for after 6 PM. Often times, items that are being burned in the barrels are household garbage, plastics and other items that are not allowed to be burned with their current burn permit. Most, if not all, of these items can either be recycled or can be disposed of through garbage pick up or dropped off at landfills. Also, fires are still caused by burn barrels, either by burning outside of the permitted times or by holdovers from the previous day's fire.

1. **Status quo.** Continue to allow the use of burn barrels and continue to allow the issuance of burn permits.
2. **Limited use.** Only allow the use of burn barrels during certain times of the year when the fire danger is low. Permits for burn barrels would not be allowed during the high fire danger dates.
3. **Eliminate the use of burn barrels.** Remove the use of burn barrels from the permitting system. Recycling and garbage disposal of items commonly burned are the proper way to dispose of these items, not by burning them.

Recommendations:

Work to phase out the use of burn barrels in protection areas and encourage non-protected areas to do the same. Continue to promote where these household items should be recycled or disposed of. Change burning statuses to eventually remove the use of burn barrels from the burning permit system.

F. Debris Burning and EFW Program

Background

Residential Burning – Current System

- Written Permit- Daily Check in system (online or by toll free phone #)
- One Permit per year
- Must be able to present copy of burn permit if requested
- Utilizes a traditional EFW delivery system
- No Legal description listed on permit
- Maintains an annual contact with permittees
- Permittee has a written reference (Ex. listing material that can and can't be burned)
- Much more convenient than the old 3-day permit system
- General trend is that many fewer permits are being issued versus “3 day permits”
- Fire Managers can easily change restrictions daily
- Permits are free

Special Permits

- *Generally* Short Duration (up to a couple of weeks)
- Size to trigger writing a special permit varies around the state (1 acre in the north/ 10 acre south)
- May require that heavy equipment (tractor, bobcat, excavator, etc) remains on site
- Utilizes an existing form
- Includes legal description on permit
- Permits are free and issued primarily by DNR fire control staff or DNR special EFW's in other programs such as WM or Lands.

Historical Changes in EFW Force

- EFW program is over 100 years old. Over 300 EFW's in 33 counties by 1908. They predate the establishment of DNR ranger stations and the forest fire ranger force started in 1911.
- Original EFW's were primarily individuals that were the first contacts for the public to report forest fires.
- EFW's were central to the suppression effort in addition to writing burning permits. EFW's were in leadership positions on the fireline.
- EFW program started at a time when most people did not have telephones, cars, or electricity.
- Over time the bulk of permit writing has shifted to businesses that are EFW's rather than individuals at their homes.
- There is no longer an expectation that EFW's will be part of the fire suppression effort. In fact, most EFW's are not qualified to be part of suppression operations.
- Today, EFW's exist primarily to provide permits and information on burning laws. Quality and accuracy of information provided by EFW's varies by individual.
- Number of permits being issued by EFW's has drastically decreased with the implementation of phone and on-line check-in systems.
- In 2010, virtually all people have phones, cars, and electricity. Large segments of the population are rapidly adopting on-line technology.

Evaluation of the Need to Burn in Current Society

When the burning permit system and current burning regulations were put in place, much of the information and outreach about backyard composting as well as the infrastructure for disposal of unwanted yard waste at Town and County landfills was not in place. In addition, none of the current recycling centers for paper, glass, or plastics were in existence. Today, the ability to recycle these materials in Wisconsin is virtually universal with opportunities to drop these materials off curbside or at a Town or County facility. With more counties being regularly included in air quality watches or advisories each year, outdoor burning in the face of clearly healthier alternatives for the community seems increasingly hard to justify. With household debris burning the cause of approximately 50% of Wisconsin wildfires, any shift from outdoor burning to composting and recycling can only help to prevent additional wildfires in Wisconsin.

DNR Forestry should actively support the efforts of the Air Management and Solid Waste programs to eliminate outdoor burning of compostable and/or recyclable materials. The recent passing of the indoor smoking ban in workplaces shows the recognition of the public health impacts of individual actions. DNR Forestry should continue to support other legitimate forms of outdoor burning such as prescribed burns for silvicultural, wildlife and hazard mitigation purposes.

Recommendations in priority order:

1. Eliminate outdoor debris burning entirely. Special permits for prescribed burns, land clearing, etc., would still be issued by ranger stations as they are now. This recommendation would most align Division of Forestry with other DNR function's goals (Air Mgt and Solid Waste.)

2. If debris burning is not eliminated, abolish current EFW and burn permit system and replace it with a “black-out period” method to regulate debris burning.
 3. If debris burning under the EFW system is maintained, then E&E group recommends that only ALIS vendors be EFW’s in order to fully automate the burn permit system.
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In the absence of a ban on outdoor burning, the committee explored a range of alternatives to address in the Burning Permit and EFW programs in developing the above recommendations

ALTERNATIVE A: Discontinue burning permit system entirely: Burning regulations are in administrative code stating in organized DNR protection areas that open burning is allowed from 6pm-6am except Sundays and legal holidays. It is an individual responsibility to follow the law. People are expected to follow the vast majority of laws without being forced to get a yearly reminder of what the law is. Special burning permits could still be issued for the same purposes that they are issued now such as large prescribed burns. Open burning would remain in effect until the State issued a proclamation that burning was shut off due to severe fire danger through media blitzes. This system is utilized in California and Oregon. This is the same premise as that of many Wisconsin county and town oak wilt ordinances that state trees shall not be pruned during high risk dates unless you obtain a special permit to do so. **This is the method that Wisconsin DNR currently uses to implement emergency regulations to stop all forms of burning during extreme conditions.** For burning in Wisconsin this would mean a person could automatically burn during allowed hours until the DNR announcement that burning was suspended until further notice (4-8 week no burn period during peak fire season.) Burning outside those hours/dates would require a special permit.

As a secondary benefit local composting programs may see increased usage if people want to remove leaves and brush from properties during no burn period.

Pros: No need to maintain EFW force or annual burn permit system. Significant cost and time savings to DNR. Least regulatory impact to landowner since no need to get permit unless burning outside of legal limits. System is flexible enough to be implemented statewide as conditions change across the state. Wisconsin DNR already has the template set for this system as it is basically the same process used to implement emergency regulations on an area by area basis. Retaining special permits would still allow for fire use such as prescribed burns, land clearing operations, etc.

Cons: Prevention value of burning permit would be lost if public no longer required to get one. This loss may be offset by fact that burning would not be occurring during highest risk time period. Declaring a 4-8 week no burn period during peak fire season may bring a negative public reaction as a perceived taking of individual freedom. There

is a risk of decreased public awareness of burning regulations for period when people are allowed to burn.

ALTERNATIVE B: Keep Status Quo in the EFW and Burning Permit system:

The current system of required burning permits issued through EFW's has been in place for over a century with just periodic updates to the permit form. Even the new call-in or online check-in process still requires that a written burning permit be issued by an EFW.

Pros: DNR assured that legal burners are getting timely information on burning regulations and conditions. DNR gets information on demographics and timing of burning activity.

Cons: DNR now maintains current EFW force and online and call-in functions. EFW force now writing many fewer permits, but costs to maintain current EFW force do not change. Inconsistency in quality/accuracy of information being given out by individual EFW's. Public inconvenience/complaint of especially home based EFW's not being around when public comes to get permit.

ALTERNATIVE C: Change Burn Permit System to automated phone system.

If the requirement of a written, signed burning permit were dropped, it would be possible that the entire annual burning permit system could be automated so that a landowner could call in to verify that burning has not been suspended and then be given a confirmation number to write down to prove that the call was made. The 1-800 number could be listed just like the Digger's Hotline system.

Pros: The system is already in place and utilized by landowners. No need to maintain EFW force and written burn permit system. Significant cost and time savings to DNR by no longer maintaining EFW force. DNR still able to regulate permits based on burning conditions. Virtually all residents have phone service of some kind or can easily access a phone to utilize system.

Cons: Possibly some loss of prevention value in not seeing EFW signs on the landscape. Still some cost in 1-800 per minute charges.

ALTERNATIVE D: Change Burn Permit System to an all online system.

An online burning permit could be issued via the DNR website where a landowner could download their own burning permit and sign it. On days when the landowner wanted to burn they would again reference the website to see if permits were valid for the day

Pros: The DNR website and permit application is already in place. With a small programming charge it could be implemented immediately. Once the programming is in place, the cost to issue permits is free. No need to maintain EFW force and written burn

permit system. Significant cost and time savings to DNR. DNR still able to regulate permits based on burning conditions.

Cons: Possibly some loss of prevention value in not seeing EFW signs on the landscape. Significant percentage of population does not own computers or are not computer literate. These people would have to ask for help from others in order to get and verify permit status, no longer burn, or decide to burn illegally if there is not an alternative method of getting a permit.

ALTERNATIVE E: Keep status quo burning permit system utilizing ALIS vendors as the EFW force.

A new DNR customer service initiative utilizes 4 permanent DNR customer service staff as trainers for all of the A.L.I.S (Automated License Issuance System) vendors in the state. Making all A.L.I.S. vendors EFW's would be a way to continue to issue written burning permits more efficiently. DNR trainers routinely visiting the vendors would provide consistent training to the people issuing the permits. Current cost of issuing a license is \$1.33 with \$.83 going to the vendor for supplies and computer support costs and \$.50 going to the store that actually sells the license. The Division of Forestry could decide to cover the cost internally or charge the public a fee to cover the cost of issuing a burning permit. This alternative may be cost neutral if all of the current costs in staff time, miles, supplies, banquets, etc., are carefully analyzed. In fact, one ranger station estimates the actual cost of supporting burn permits in the FRU to be \$1.49/permit. Approximately 60,000 individual burning permits were issued in 2008.

Pros: A.L.I.S. vendors are located across the entire State and are already at places the public are used to going to get DNR licenses. A DNR staff support network already exists to support these vendors through CAES Division. DNR Forestry would no longer need to maintain a separate permit issuing network of independent EFW's. The fire prevention message of going to an EFW would be maintained by utilizing ALIS vendors. The public would be better served going to these recognized DNR agents that are in public places and provide regular hours than continuing to utilize home based EFW's that provide an inconsistent message and may or may not be there when the public comes to get a permit.

Cons: There may be some short term resentment by some EFW's who would no longer be able to remain EFW's. Charging for burning permits would be a new thing for the public and may meet some resistance. However, the cost of a permit at less than \$1.50 can not be considered cost prohibitive. Forestry could decide to absorb this cost or a portion of it by redirecting budget savings from no longer directly maintaining the EFW force.

Objective 3: Evaluate the application of operational procedures between DNR Division of Forestry Regions, Areas and Teams such as call back etc.

E&E Workgroup discussed this objective and determined that the workgroups Command & Control and Suppression and Detection would largely cover this objective. This workgroup has been reviewing the information from the other workgroups in addition to passing along information and ideas to them.

Objective 4: Evaluate and recommend how forest management can assist in reducing fire risk.

Through increased awareness and use of fuel management and manipulation alternatives, fire hazard may be reduced, thus improving efficiency and effectiveness.

- Ideas to limit fuel/cover types that cause risk and reduce continuity of high risk types on the landscape:
 - Fire/fuel breaks – implement, logically placed, irregular shapes
 - Slash reduction/dispersal/elimination
 - Encourage biomass/whole tree/bio-fuel harvesting
 - Develop BMP's to reduce risk – a separate guideline or incorporate into an existing handbook
 - Promote grass/barrens types easily managed via prescribed fire
 - Implement fuel modification guidelines on State, County and tax law lands
 - Provide monetary incentives to reduce fuel hazard through MFL, other tax credits, or cost-sharing of practices (This is an idea that would require changes in statutes and/or administrative codes and a funding source)
 - Incorporate recommendations into MFL template and transfer plans, as well as non-tax law stewardship plans:
 - Specific recommendations may include– interior strips without trees as breaks, floating (rotation) fuel breaks, mixed species plantations, varied plantation configurations, WUI concepts, reduce fuel ladders, salvage harvesting, avoid harvest operations during the spring break-up/fire season, etc.
 - Utilize prescribed burning more to reduce hazards
 - Improved cooperation among partners – county, industry, fire departments
 - Include fire prone property inspection at time of MFL or Stewardship plans (This is an idea that would require Consultant and DNR Forester training and input from the Fire Prevention Specialist Team)
 - Incorporate into appropriate sections of DNR Property Master Plans and County Forest 15 year plans (ex. – Chapter 600 Protection, Section 605 Fire Control in 15 year plans).
 - Incorporate recommendations into appropriate DNR Silvicultural Handbook chapters in “Management Alternatives” sections for utilization in all planning and management prescription alternatives (tax law, County, State, Stewardship, and non-tax law)

Recommendations:

- Develop voluntary BMP's to reduce risk and incorporate into appropriate existing handbooks. The BMP's could be developed by an ad hoc group consisting of members from the Fire Management, Prevention and Silviculture Specialist Teams or other experts. Incorporating into existing handbooks (Silviculture, Prescribed Burn, FMG's) would be more feasible than the cost associated with development of a stand-alone BMP book.
- Incorporate recommendations and BMP's into MFL template and transfer plans, as well as non-tax law stewardship plans. Once BMP's are developed

they could be incorporated into the revised MFL template that will need to be further refined for use with WisFIRS.

- Implement BMP's on State, County and tax law lands as soon as possible after development. This may require additional training of staff and consultants that work on those properties.

Changes in Investments

Since this workgroup mainly dealt with procedures and policies we did not explore to any great extent changes in investments.