#### BEFORE AN INDEPENDENT HEARINGS PANEL OF THE WAIKATO REGIONAL COUNCIL

	REGIONAL PLAN CHANGE 1 WAIKATO AND WAIPA RIVER CATCHMENTS
	SERVICES LIMITED in respect of PROPOSED WAIKATO
	submission by WATERCARE
IN THE MATTER	of a submission and further
AND	
IN THE MATTER	of the Resource Management Act 1991

#### STATEMENT OF EVIDENCE OF MARK DOUGLAS BOURNE

#### 1. **INTRODUCTION**

#### **Role and experience**

- 1.1 My full name is Mark Douglas Bourne. I am the Head of Servicing and Consents at Watercare Services Limited ("Watercare"). In that role, I oversee infrastructure servicing strategy, consenting processes for all of Watercare's operations and projects, ensuring compliance with Watercare's resource consents and Watercare's engagement in policy formation.
- 1.2 I have been employed by Watercare and its predecessor organisations for 30 years and have held a very wide variety of roles, including infrastructure planning, trade waste and operations management. This has included responsibility for the operation of Auckland's wastewater treatment plants, major wastewater network components and municipal water supply.
- 1.3 I hold a Diploma in Business and New Zealand Certificate in Engineering NZCE (Civil).

#### Purpose and scope of evidence

1.4 Proposed Waikato Regional Plan Change 1 Waikato and Waipa River Catchments (together referred to as "PC1") to the Waikato Regional Plan have been promulgated by the Waikato Regional Council ("WRC") to give effect to the National Policy Statement - Freshwater Management ("NPS-FM") and the Vision and Strategy for the Waikato River ("Vision and Strategy"), which was developed pursuant to the Waikato-Tainui Raupatu Claims (Waikato River) Settlement Act 2010 ("the Settlement Act").

- 1.5 Watercare is supportive of PPC1 insofar as it seeks to:
  - Reduce the amount of contaminants entering the Waikato River from the Waikato and Waipā catchments;
  - (b) Has been developed to achieve the Vision and Strategy; and
  - (c) Give effect to the NPS-FM.
- 1.6 **However, Watercare's position is t**hat PC1 has a number of shortcomings that need to be addressed. Watercare's primary submission on PC1 addressed a broad range of issues and we also lodged a comprehensive further submission supporting or opposing a number of primary submissions.
- 1.7 This statement of evidence is presented on behalf of Watercare in support of that submission and further submission, primarily in its capacity as Auckland's municipal water and wastewater supplier and the supplier of bulk water and wastewater services to Waikato District Council ("WDC") in the Northern Waikato.
- My involvement in the PC1 process to date includes attendance at four Collaborative Stakeholders Group ("CSG") meetings as a representative of the Water Industry.
- 1.9 Specifically, this evidence will:
  - (a) Provide an overview of Watercare, including its responsibilities with regard to water supply and the collection, treatment and discharge of treated wastewater and the statutory and strategic framework within which Watercare is required to operate (Section 3);
  - (b) Outline Watercare's interests, responsibilities and assets in the Waikato Region (Section 4); and
  - (c) **Outline Watercare's support for the Vision and Strategy and the** company's position on PC1 (Section 5).
- 1.10 A summary of my evidence is set out in Section 2.

### 2. SUMMARY OF EVIDENCE

#### Watercare Services Limited

- 2.1 Watercare is a council-controlled organisation ("CCO") which is responsible for providing essential water and wastewater services to existing and future communities in Auckland and townships in the northern Waikato District. As a CCO, Watercare has a range of functions and responsibilities under the Local Government (Auckland Council) Act 2009 and the Local Government Act 2002, including a requirement to prepare and comply with a statement of corporate intent, prepare an asset management plan, etc.
- 2.2 Watercare has an overriding obligation to "exhibit a sense of social and environmental responsibility by having regard to the interests of the community in which it operates." Watercare's mission, as set out in our SOI, is to provide safe, reliable and efficient water and wastewater services. The company's vision is to be "trusted by our communities for exceptional performance every day."
- 2.3 Two drivers are of fundamental importance to the position Watercare has adopted on PC1 are:
  - (a) The requirement to plan to meet the water supply and wastewater requirements for the population growth projected not only by Auckland Council but also in Waikato District (growth in the townships of Buckland, Patumahoe, Tuakau and Pokeno); and
  - (b) Meeting the vision, objectives and policies included in Auckland and Waikato planning instruments, in particular the Vision and Strategy for the Waikato River.

#### Watercare's assets and interests in the Waikato Region

- 2.4 Watercare has significant assets and interests in the Waikato Region including:
  - (a) A bulk supply agreement with WDC for the provision of water and wastewater services to Pokeno and Tuakau within the Waikato District, including provision of bulk treated drinking water and the treatment of bulk wastewater.- The scope of these services may be increased in the future.
  - (b) The Pukekohe WWTP which receives and treats wastewater from Pukekohe, Patumahoe, Buckland, Pokeno and Tuakau. Watercare's Asset

Management Plan 2016-2036 ("AMP") includes \$143M for upgrading the existing WWTP to an Enhanced MBR + UV treatment process, and \$59M for a new wastewater pipeline from Pukekohe Township to the WWTP. These projects represent a major capital investment for Watercare.

- (c) The Waikato Water Treatment Plant and associated consent to take up to 175,000m<sup>3</sup>/day of water take from the Waikato River at Tuakau. Watercare has applied to take a further 200,000 m<sup>3</sup>/day.Two large water supply dams at the head waters of the Mangatawhiri and Mangatangi rivers which supply the Ardmore Water Treatment Plant.
- 2.5 Given the level of this investment, and to provide certainty for future investment and growth in the serviced area in both Auckland and North Waikato, it is important for Watercare to have long term certainty about its ability to remain compliant and obtain future consents for the discharge of wastewater treated to a high standard.

# Watercare's position on PC1

- 2.6 Watercare is supportive of PC1 insofar as it seeks to:
  - Reduce the amount of contaminants entering the Waikato River from the Waikato and Waipā catchments;
  - (b) Has been developed to achieve the Vision and Strategy; and
  - (c) Give effect to the NPS-FM.
- 2.7 However, Watercare's position is that PC1 has a number of shortcomings that need to be addressed.
- 2.8 There are several aspects of PC1 that, in Watercare's view, may not satisfy the requirements of the Resource Management Act 1991 ("RMA") or represent the most appropriate means of achieving the purpose of the Act or give effect to the NPS FM, the National Policy Statement on Urban Development Capacity and Waikato Regional Policy Statement ("RPS").
- 2.9 Our key concerns can be summarised as follows:
  - (a) It is not necessary to include values in PC1 as the only requirement in the NPS Freshwater is for the values to be identified for the purpose of enabling objectives to be formulated relevant to those values. The values

identified in PC1 lack clarity and may result in confusion or unnecessary information requirements. The values should therefore be deleted and, if not deleted, amended to recognise the importance of both existing and future municipal water supply and wastewater infrastructure and associated discharges.

(b) PC1 does not make adequate provision in its objectives for existing municipal water and wastewater infrastructure and future water and wastewater infrastructure to support growth. To that extent, PC1 does not adequately give effect to the NPS Development and the equivalent provisions of the Waikato RPS.

Amendments are therefore required to the objectives to ensure that PC1 recognises the importance of existing and future regionally significant water supply and wastewater infrastructure and associated discharges.

- (c) The objectives of PC1 do not adequately recognise the assimilative capacity of the Waikato and Waipa Rivers and the importance of that with respect to dilution of discharges from wastewater treatment plants. A new objective is required in that regard.
- (d) There are number of shortcomings with the water quality targets, including:
  - (i) The short and long term water quality targets / limits for ammonia are unrealistically low at numerous locations – lower than required by Attribute State A in the NPS Freshwater and lower than required by the ANZECC (2000) Guidelines. Even a best available technology treatment plant would not achieve the target / limit after reasonable mixing.
  - (ii) The long term water quality targets included in PC1 do not reflect a gradual deterioration of water quality down the rivers arising from cumulative effects of discharges. Instead they would result in a stepped decrease in water quality with significant steps between some areas.
  - (iii) There is nothing in the short term or long term water quality targets / limits recognising variation between summer and winter seasons.

- 2.10 In summary, Watercare's position is that PC 1 needs to be amended to address these concerns. Mr Scrafton addresses the proposed amendments and the reasons for them in his evidence.
- 2.11 We also consider that amendments are required to Objectives 1 and 3 to assist with the overall workability of PPC 1, to remove ambiguities and avoid disputes over interpretation, and to improve clarity.

# 3. WATERCARE SERVICES LIMITED - OVERVIEW

- 3.1 Watercare is a council-**controlled organisation ("CCO") which is 100% owned by** Auckland Council. The company is responsible for the provision of essential municipal water and wastewater services to existing (approximately 1.4 million people in Auckland at present) and future urban communities in Auckland and in the northern part of the Waikato District.
- 3.2 The company owns and operates \$8.4 billion of water and wastewater infrastructure assets, making it New Zealand's largest water and wastewater company.

# Watercare's statutory and strategic framework

3.3 Watercare's primary statutory obligation is set out in section 57(1)(a) of the Local Government (Auckland Council) Act 2009 ("LGACA"), which requires Watercare, as an "Auckland water organisation" (as that term is defined in section 4 of the LGACA) to:

"...manage its operations efficiently with a view to keeping the overall costs of water supply and wastewater services to its customers (collectively) at the minimum levels consistent with the effective conduct of its undertakings and the maintenance of the long term integrity of its assets."

- 3.4 The principal objective of a CCO<sup>1</sup> is to:
  - "(a) Achieve the objectives of its shareholders, both commercial and non-commercial, as specified in the statement of intent; and
  - (b) Be a good employer; and
  - (c) Exhibit a sense of social and environmental responsibility by having regard to the interests of the community in which it operates and by endeavouring to accommodate or encourage these when able to do so."

<sup>&</sup>lt;sup>1</sup> Section 59 LGA.

- 3.5 Watercare is required by the LGACA to give effect to the relevant aspects of the Auckland Council's Long Term Plan and to act consistently with other plans and strategies of Auckland Council.
- 3.6 As a CCO, the Local Government Act 2002 ("LGA") requires Watercare to produce and comply with a **statement of intent (**"SOI") in consultation with the Auckland Council as its sole shareholder. Watercare's SOI for the 2018-2021 period is **attached** as **Appendix A.** Watercare's mission, as set out in that SOI is to provide safe, reliable and efficient water and wastewater services. The company's vision is to be:

# "Trusted by our communities for exceptional performance every day."

- 3.7 All decisions in relation to the operation of Watercare must be made in accordance with Watercare's SOI and its constitution<sup>2</sup>. Watercare's SOI sets out:
  - Watercare's obligations and commitments and the objective, nature and scope of activities to be undertaken; and
  - (b) Performance targets, how it intends to meet those, and the measures by which Auckland Council can assess Watercare's performance.
- 3.8 Watercare's strategic objectives, as set out in section 4 of the SOI, are:

Customer Focus - To fulfil our vision of providing exceptional service, we strive to understand our customers and stakeholders and engage with them in a meaningful way;

Business Excellence - For Watercare, the drivers underpinning business excellence are the recruitment and retention of the right people, ensuring their health and wellbeing, and the implementation of smart processes and fit-for purpose technology;

Financial Responsibility - Every dollar Watercare spends has an impact on the price our customers pay for services. We are obliged to be an efficient, minimum-cost provider with due consideration for long-term asset investment; and

Fully Sustainable - Watercare's business is intrinsically linked to the natural environment and significantly impacts the communities in which we operate. Integrating sustainability into everything we do is key to our role as a trusted community and Iwi partner.

3.9 Each year Watercare prepares an Asset Management Plan to show how the business will operate, maintain and renew existing water and wastewater assets

<sup>&</sup>lt;sup>2</sup> Section 60 LGA.

to meet demand as growth occurs and as the assets reach the end of their economic life.

# **Other drivers**

- 3.10 In addition to Watercare's statutory obligations and its obligations under its SOI, there are a number of other drivers that will influence the development of future Watercare projects. These include:
  - (a) The requirement to give effect to the relevant aspects of Auckland Council's Long Term Plan and to act consistently with other specified plans and strategies of the Council. Watercare must plan to meet the wastewater requirements for the population growth projected by Auckland Council and via its bulk wastewater customer contract Waikato District Council (growth in the Buckland, Patumahoe, Tuakau and Pokeno areas)
  - (b) Meeting the vision, objectives and policies included in Auckland Council, Waikato District Council ("WDC") and Waikato Regional Council ("WRC") planning instruments, in particular the Vision and Strategy for the Waikato River (Schedule 2 of the Waikato-Tainui Raupatu Claims (Waikato River) Settlement Act 2010)).
- 3.11 These drivers are of fundamental importance to the position Watercare has adopted on PC1 and I return to them in the next two sections of my evidence.

#### Wastewater assets

- 3.12 Watercare is responsible for the provision of wastewater services to the Auckland region, and the parts of the Waikato District that historically were part of the former Franklin District Council.
- 3.13 Watercare operates eighteen wastewater treatment facilities across the Auckland and Waikato regions. This includes:
  - Metropolitan plants at Rosedale, Army Bay and Mangere that service the North Shore, Hibiscus Coast and Auckland Isthmus;
  - (b) A number of smaller non-metropolitan treatment plants servicing communities at Pukekohe, Beachlands, Waiuku, Clarks Beach, Owhanake, Kingseat, Bombay, Kawakawa Bay, Warkworth, Omaha,

Snells Beach/Algies Bay, Waiwera, Denehurst, Helensville and Wellsford; and

- (c) Wastewater system comprising over 8000km of pipelines and associated pump stations and storage tanks.
- 3.14 Watercare is committed to ensuring a consistent approach to all its customers and either presently treats or intends to treat wastewater to a high standard, appropriate for the various receiving environments, for all the communities it serves, both non-metropolitan and metropolitan.

#### Watercare's water supply system

#### 3.15 Watercare's water supply system comprises:

- (a) Fifteen water treatment plants which range in capacity from 60m3/day to 350,000m3/day;
- (b) Eleven water supply dams, 26 bores and springs and four river sources;
- (c) Over 9000km of water pipelines, 93 pump stations and 85 reservoirs.
- 3.16 Watercare is committed to ensuring a consistent approach to service delivery to all of our customers and intends to provide the same high quality of treated water to the non-metropolitan communities as the metropolitan area. Watercare will pursue the most appropriate water supply solution for the relevant community.

#### Approach to engagement with mana whenua

- 3.17 Watercare recognises the importance of maintaining an open transparent approach in all aspects of our operations. As part of its core mission, Watercare has a very strong commitment to engaging with mana whenua and the community in respect of its activities. Our approach is to engage early and often and this engagement does not end with the granting of a resource consent or the conclusion of a project. In Auckland, Watercare supports the Mana Whenua Kaitiaki Forum to facilitate ongoing engagement.
- 3.18 As a demonstration of its commitment to the engagement with mana whenua generally and specifically the Mana Whenua Kaitiaki Forum, Watercare has a full time Poutiaki, Tikanga Māori (Principal Advisor).

- 3.19 Watercare has in addition to the regional approach developed and maintained individual relationships with iwi. In particular, Watercare has relationship agreements with Waikato-Tainui, Te Taniwha o Waikato (Cluster of 9 Marae from Rangiriri to Te Pūaha o Waikato (Port Waikato), Ngāti Te Ata, Ngāti Paoa, Te Uri o Hau Te Ākitai Waiohua. These agreements are high level documents intended to be of an enduring nature and engagement that transcends any particular application or project.
- 3.20 In the course of engaging in relation to the Pukekohe WWTP consent renewals, we engaged extensively with the nine marae in the area via a relationship agreement whereby the marae engage with us collectively as Te Taniwha o Waikato.

#### 4. WATERCARE'S INTERESTS AND ASSETS IN THE WAIKATO REGION

4.1 Watercare has a range of assets and interests in the Waikato Region which give rise to **the company's particular interest in PC1 objectives, policies and methods** (including rules) that will affect the provision of, and day-to-day operation and maintenance of, bulk and local water and wastewater infrastructure in the Waikato District. This section provides a broad overview of those interests and assets.

#### Bulk supply agreement with Waikato District Council

- 4.2 Watercare and WDC have had a close working relationship since the integration of Auckland Council in November 2010, when Pukekohe Wastewater Treatment Plant ("WWTP") was vested in Watercare, which assumed responsibility for its operation. At this time, Tuakau and Pokeno transitioned from being part of Franklin District to becoming part of Waikato District. An agreement was reached between Watercare and WDC whereby Watercare continued to receive wastewater flows from Tuakau.
- 4.3 In 2014, a 30 year agreement was entered into which responded to the growth in Tuakau and the provision of services to Pokeno, providing volume and established quality limits appropriate for the capability of the WWTP and consent at that time. The volume limits specified in the 2014 agreement will be reviewed over time, thus providing for continued growth in WDC's area of service. Discussions about an enhanced relationship extending the current services provided by Watercare to WDC are underway.

#### Pukekohe Wastewater Treatment Plant

- 4.4 Watercare's Pukekohe WWTP is located in the Waikato Region. It receives and treats wastewater from Pukekohe, Patumahoe, Buckland, Pokeno and Tuakau. These contributing catchments are subject to growth that is anticipated under both Auckland Council and WDC / WRC planning documents. This anticipated growth is from a population of approximately 27,500 in 2015 through to 82,200 in 2051.
- 4.5 The Pokeno area falls within the Waikato District and is currently undergoing significant residential, commercial and industrial growth. This population growth will be accompanied by a significant increase in business and trade waste discharges.
- 4.6 Suitable treatment prior to discharge of wastewater is essential for maintaining public health. The ability to continue the discharge of treated wastewater from the Pukekohe WWTP is vital for the wellbeing of the communities within the catchment area of the plant, both currently and in the future, as these communities change and grow. The economic, social and cultural wellbeing of these communities and the surrounding area is inextricably linked with the ability of Watercare to appropriately treat and dispose of the wastewater from residential, commercial and industrial premises.
- 4.7 Pukekohe WWTP was recently re-consented and is the subject of a major project whereby the plant is being upgraded so that treated wastewater discharge will be treated to a very high standard using the best available wastewater treatment technology (enhanced MBR + UV), which results in significantly better quality discharge than at present. This solution was developed in partnership with Te Taniwha o Waikato.
- 4.8 Watercare's Asset Management Plan 2016-2036 ("AMP") includes \$143M for upgrading the existing WWTP to an Enhanced MBR + UV treatment process and \$59M for a new wastewater pipeline from Pukekohe Township to the WWTP. These projects represent a major capital investment for Watercare.

#### Municipal water supply take and Waikato Water Treatment Plant

4.9 Since 1996, Watercare has had an allocation to take 150,000 m<sup>3</sup>/day from the Waikato River for the purpose of municipal supply to its customers. Recently a further consent was granted to allow an additional 25,000 m<sup>3</sup>/day under certain river flow conditions. Auckland's population is forecast to grow by another one

million people over the next 30 years. This is a significant increase on the 1.4 million people currently connected to Watercare's water and wastewater networks.

4.10 Watercare has applied to take a further 200,000 m<sup>3</sup>/day.

# Water supply dams

4.11 The Mangatawhiri and Upper Mangatangi dams in the Hunua Ranges are Watercare's two largest water supply dams. Both are located in the Waikato Region on land owned by Auckland Council.

# Waikato RiverCare

- 4.12 Watercare is committed to improvement of the Waikato River catchment beyond its two treatment plants in the Waikato. Since 2006, Watercare has voluntarily sponsored Waikato RiverCare in their restoration works to enhance the quality of the Waikato River. Works involve riparian planting and fencing to reduce run-off and river bank erosion. This long term partnership was bolstered in February 2017 with an agreement to provide a further \$200,000 to Waikato RiverCare over the next four years, a significant increase from the previous \$10,000 per year commitment.
- 4.13 Furthermore, Watercare exercises land management at the Pukekohe WWTP and the Waikato Water Treatment Plant at an annual cost of approximately \$65,000 and \$50,000 respectively per plant. The land management activities involve grounds maintenance, flora and fauna pest control and excluding stock access to the waterways and river.

# 5. WATERCARE'S POSITION ON THE VISION AND STRATEGY FOR THE WAIKATO RIVER AND PC1

5.1 The Waikato River has been significantly degraded by the effects of activities. The Vision and Strategy for the Waikato River sets a clear direction for the restoration and protection of the Waikato River. The Vision refers to:

> "...a future where a healthy Waikato River sustains abundant life and prosperous communities who, in turn, are all responsible for restoring and protecting the health and wellbeing of the Waikato River, and all it embraces, for generations to come".

5.2 Watercare is strongly supportive of the Vision and Strategy, not only because better water quality reduces costs associated with the treatment of raw water at Tuakau but also because it is a central plank of our relationship with Waikato-Tainui and Ngati te Ata.

5.3 The Vision and Strategy for the Waikato River was therefore a key driver behind the Pukekohe Wastewater Scheme (the Pukekohe WWTP and Trunk Sewer Upgrade Project). The capital budget of \$202M set aside in the 2016-2036 AMP for this scheme represents a major capital investment to respond to the Vision and Strategy for the Waikato River by adopting the best practicable option to reduce the environmental effects of our operations.

# Watercare position on PC1

- 5.4 As noted at the outset, Watercare is supportive of PPC1 insofar as it seeks to:
  - Reduce the amount of contaminants entering the Waikato River from the Waikato and Waipā catchments;
  - (b) Has been developed to achieve the Vision and Strategy; and
  - (c) Give effect to the NPS-FM.

#### 5.5 However, there are several aspects of PPC1 that in Watercare's view do not:

- (a) Meet the requirements of the Resource Management Act 1991 ("RMA");
- (b) Represent the most appropriate means of achieving the purpose of the RMA; or
- (c) "Give effect to" the NPS FM", the National Policy Statement on Urban Development Capacity ("NPS Development") and the Waikato RPS.
- 5.6 I will leave it to Mr Hall to address scientific issues and Mr Scrafton to address planning matters and the specific relief we seek. However, by way of broad overview Watercare's key concerns and the key propositions the company's case will be seeking to establish are as follows.

#### No need for and lack of clarity in PC1 values

5.7 A wide range of values are identified in PC1. However, it is not necessary to include values in PC1 as the only requirement in the NPS Freshwater is for the values to be identified for the purpose of enabling objectives to be formulated relevant to those values.

5.8 The values identified in PC1 lack clarity and there is a risk that they could be considered in the consenting process, leading to confusion or unnecessary information requirements. The values should therefore be deleted, or, if not deleted, amended to adequately recognise the importance of both existing and future municipal water supply and wastewater infrastructure and associated discharges.

#### Better provision needed for water and wastewater infrastructure

5.9 The objectives of PC1 do not make adequate provision for existing municipal water and wastewater infrastructure and future water and wastewater infrastructure to support growth. To that extent, PC1 does not adequately give effect to the NPS Development and the equivalent provisions of the Waikato RPS. Mr Scrafton has therefore recommended a new objective regarding recognising the importance of existing and future regionally significant infrastructure.

#### Inadequate provision to recognise assimilative capacity

5.10 The assimilative capacity of the Waikato and Waipa Rivers is referred to in the use values in PC1, including with respect to diluting municipal wastewater treatment plant discharges. However, no similar recognition is contained in the objectives or policies of PC1. Mr Scrafton has therefore recommended a new objective to recognise the assimilative capacity of the rivers.

#### Shortcomings in the water quality targets

- 5.11 We consider that there are a number of shortcomings with the water quality targets, including:
  - (a) The short and long term water quality targets / limits for ammonia are unrealistically low at numerous locations – lower than required by Attribute State A in the NPS Freshwater and lower than required by the ANZECC (2000) Guidelines. As a result, even a best available technology treatment plant (such as Pukekohe WWTP will be once it has been upgraded) would not achieve the targets / limits after reasonable mixing; indeed, such a plant would not go close to meeting these targets / limits at the end of pipe. The short and long term water quality targets / limits for ammonia therefore need to be amended so that they are realistic.

- (b) The long term water quality targets included in PC1 do not reflect a gradual deterioration of water quality over the length of the two rivers as a result of the cumulative effects of discharges. Instead, they would result in a stepped decrease in water quality with significant steps between some areas. The long term water quality targets should therefore be amended to reflect a gradual deterioration rather than a stepped increase.
- (c) There is nothing in the short term or long term water quality targets / limits that recognise the variation in seasonal effects of treated wastewater discharges between summer and winter seasons due to greater flows during winter that are available to dilute contaminants compared to the summer low flows and the differing algal growth rates in the Waikato River between summer and winter.
- 5.12 PPC 1 therefore needs to be amended to address these concerns.
- 5.13 In addition, Objectives 1 and 3 need to be redrafted to assist with the overall workability of PC 1, to remove ambiguities and avoid disputes over interpretation, and to improve clarity. These are addressed in Mr Scrafton's evidence.

# Mark Bourne 15 February 2019