



1. Application details

1.1. Permit application details

Permit application No.: 7649/1

Permit type: Area Permit

1.2. Applicant details

Applicant's name: Mrs Marilyn Joy Chambers
Mr Barry Edward Chambers

1.3. Property details

Property: Lot 2827 on Deposited Plan 255127, Bambun

Local Government: Shire of Gingin

Authority:

Localities: Bambun

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
4.9		Mechanical Removal	Establishing pasture

1.5. Decision on application

Decision on Permit Application: Refuse

Decision Date:

4 December 2018

Reasons for Decision:

The clearing permit application has been assessed against the clearing principles, planning instruments and other matters in accordance with section 51O of the *Environmental Protection Act 1986*. It has been concluded that the proposed clearing is at variance to principles (a) and (b), may be at variance to principle (d), and is not likely to be at variance to the remaining clearing principles.

The assessment identified that *Banksia* trees within the application area provide significant foraging habitat for Carnaby's cockatoo (*Calyptorhynchus latirostris*) and occurs on the highly fragmented Swan Coastal Plain. It has been determined that the proposed clearing will result in significant residual impacts to Carnaby's cockatoo foraging habitat.

The applicant was invited to provide additional advice on measures to be implemented to avoid or minimise the impacts identified, and offset any significant residual impacts using the State Government policies regarding offsets, namely; WA Environmental Offsets Policy (September 2011), WA Environmental Offsets Guidelines (August 2014) and DWER's Clearing of Native Vegetation Offsets Procedure (August 2014) which outline the assessment and decision making processes for the use of environmental offsets.

No advice has been received by DWER with respect to avoidance and mitigation measures, or an adequate offset proposal.

Given the above, the Delegated Officer has decided to refuse to grant the clearing permit.

2. Site Information

Clearing Description The applicant proposes to clear 4.9 hectares of native vegetation within Lot 2827 on Deposited Plan 255127, Bambun, for the purpose of establishing pasture.

Vegetation Description The application area is mapped as 'Yanga' complex, which is described as 'predominantly a closed scrub of *Melaleuca* species and low open forest of *Casuarina obesa* (swamp sheoak) on the flats subject to inundation. On drier sites the vegetation reflects the adjacent vegetation complexes of Bassendean and Coonambidgee (Government of Western Australia 2017).

A site inspection was conducted by officers of the Department of Water and Environmental Regulation (DWER) on 1 August 2017 (DWER 2017). During the site inspection, it was observed that the application area is reflective of drier sites within the mapped extent of the Yanga complex, and contains vegetation that is representative of the Bassendean complex-north (DWER 2017; Government of Western Australia 2017). This vegetation complex is described as a low open forest and low open woodland of *Banksia* species, *Eucalyptus todtiana* (pricklybark) to low woodland of *Melaleuca* species and sedgeland which occupy the

moister sites (Government of Western Australia 2017).

Vegetation Condition

The application area was determined to be in a degraded to good condition, described as:

- Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994); to
- Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994).

Comment

The condition and description of native vegetation within the application area was determined during a site inspection (DWER 2017).

3. Assessment of application against clearing principles

(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

Proposed clearing is at variance to this Principle

A site inspection identified that the vegetation within the application area is predominantly in good (Keighery, 1994) condition, with vegetation along the northern and western edge (adjacent to existing cleared areas) in degraded (Keighery 1994) condition.

The majority of the application area comprises a mixture of *Banksia attenuata* and *Banksia menziesii* woodland with some *Corymbia calophylla*. Scattered occurrences of *Banksia grandis*, *Banksia ilicifolia* and *Jacksonia* sp. were also identified. *Xanthorrhoea preissii* was dominant throughout the midstorey, and occurred over *Adenanthos* sp., *Calothamnus* sp., *Acacia* sp., *Hakea* sp., *Conostephium pendulum*, *Hibbertia subvaginata* and *Petrophile linearis* (DWER 2017).

According to available databases, there are three rare and 16 priority flora species recorded in the local area (10 kilometre radius of the application area). Of these, the Department of Biodiversity, Conservation and Attractions (DBCA) advised that the vegetation type within the application area provides suitable habitat for one priority 2 flora species, *Leucopogon squarrosus* subsp. *trigynus* (DBCA 2017). This species is known from 15 records, with 14 of these records located within the Shire of Gingin. DBCA advised that *Leucopogon squarrosus* subsp. *trigynus* is locally common within Yeal Nature Reserve (three kilometres southwest of the application area), and that any new records of this species would be considered significant (DBCA 2017).

The midstorey and understorey within the application area has been impacted by historic grazing and weed invasion, and no individuals of *Leucopogon* sp. were observed during the site inspection (DWER, 2017). Given this, this species has a low risk of occurring within the application area.

Four threatened ecological communities (TEC) and one priority ecological community (PEC) have been recorded in the local area (10 kilometre radius of the application area). The vegetation within the application area comprises of *Banksia* woodland dominated by *Banksia attenuata* and *Banksia menziesii* with scattered *Corymbia calophylla*. As discussed in Principle (d), the vegetation within the application area is likely to be representative of the *Banksia* Woodlands of the Swan Coastal Plain TEC. The vegetation within the application area is also likely to be representative of the Priority 3 PEC 'Swan Coastal Plain *Banksia attenuata* - *Banksia menziesii* woodlands' (DWER 2017).

DBCA advised that as the application area contains *Banksia ilicifolia*, this is also indicative of another Priority 3 PEC, '*Banksia ilicifolia* woodlands, southern Swan Coastal Plain ('community type 22')' (DBCA 2017). This *Banksia ilicifolia* woodlands, southern Swan Coastal Plain ('community type 22') PEC is also representative of the *Banksia* Woodlands of the Swan Coastal Plain TEC. DBCA advised that "*Banksia ilicifolia* is fast diminishing within the Swan Coastal Plain" (DBCA 2017).

Vegetation surveys have not been conducted to confirm the presence of a TEC or PEC, however, as discussed in Principle (d), while vegetation within the application area is in good to degraded (Keighery 1994) condition, it does not provide a linkage between native vegetation remnants, and is not likely to be a significant occurrence of the TEC or PEC (DWER 2017).

As discussed in Principle (b), of the specially protected and priority fauna recorded in the local area, the vegetation within the application area is most likely to be utilised by Carnaby's cockatoo (*Calyptorhynchus latirostris*; specially protected under the *Wildlife Conservation Act 1950* [WC Act]). As discussed in Principle (b), the application area contains significant foraging habitat for this species.

Given the potential for a TEC and Priority 3 PEC to occur, and the presence of significant foraging habitat for Carnaby's cockatoo, the proposed clearing is at variance to this Principle.

(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

Proposed clearing is at variance to this Principle

According to available databases and excluding aquatic species, 10 fauna species listed as specially protected under the WC Act and three priority fauna species have been recorded in the local area (DBCA 2007-). Of the 10 specially protected fauna, six are migratory bird species protected under international agreements.

Given the habitat type present within the application area and the absence of any wetlands or watercourses, 12 of the 13

conservation significant fauna recorded in the local area are unlikely to be dependent on habitat within the application area. The application area is most likely to be utilised by Carnaby's cockatoo, listed as endangered under both the WC Act and *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The application area is within six kilometres of a known roost site, and approximately 17 kilometres of a known nesting site for this species.

Carnaby's cockatoo is experiencing a dramatic decline due to land clearing for agriculture in regional areas and for urban development around Perth (Shah 2006). This species forages on the seeds, nuts and flowers of a large variety of plants including Proteaceous species (*Banksia*, *Hakea* and *Grevillea*), as well as *Allocasuarina* and *Eucalyptus* species, *Corymbia calophylla* and a range of introduced species (Valentine and Stock 2008).

The loss of foraging habitat, particularly within the Swan Coastal Plain, is a significant threat to Carnaby's cockatoo (Parks and Wildlife 2013). The records of foraging activity for Carnaby's cockatoo on the Swan Coastal Plain reveal that *Banksia* species account for nearly 50 per cent of the diet for this species. *Banksia* species are therefore considered an essential native food source for Carnaby's cockatoo (Shah 2006). Surveys of Carnaby's cockatoo populations and their feeding and roosting habits showed that this species uses the entire landscape of the Swan Coastal Plain, and that the Northern Region (in which the application area occurs) appears to be an important area throughout the season (Shah 2006). Noting that the application area is dominated by *Banksia* woodland, and considering the proximity to nesting and roosting sites, it is considered to provide significant foraging habitat for Carnaby's cockatoo (DWER 2017).

The recovery plan for Carnaby's cockatoo notes that habitat critical to the survival of Carnaby's cockatoo includes habitat which is required during both the breeding and non-breeding seasons (Parks and Wildlife 2013). The long-term survival of a robust population of Carnaby's cockatoos depends on the availability of suitable woodland breeding habitat and tree hollows, and foraging habitat capable of providing enough food to sustain the population (Parks and Wildlife 2013).

Black cockatoo nesting habitat is defined by the (former) Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC) as "trees of species known to support breeding within the range of the species which either have a suitable nest hollow or are or a suitable diameter at breast height (DBH) to develop a nest hollow. For most tree species, suitable DBH is 500 millimetres. For salmon gum and wandoo, suitable DBH is 300 millimetres" (DSEWPaC 2012). A site inspection of the application area found one marri tree of a suitable size that contained a hollow which may be of a suitable size for Carnaby's cockatoo nesting activities (DWER 2017).

The application area is on the edge of a large vegetated corridor that runs in a north-east to south-west direction. This is a mapped linkage within the Gnangara Groundwater System (Brown et al. 2009). The proposed clearing will not cause the fragmentation of or otherwise significantly impact the ecological linkage.

Noting that the application area provides significant foraging habitat for Carnaby's cockatoo and contains a potentially suitable nesting hollow, the proposed clearing is at variance to this Principle.

Impacts to Carnaby's cockatoo habitat would be minimised by avoiding the potential nesting tree, and minimising impacts to *Banksia* species.

(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.

Proposed clearing is not likely to be at variance to this Principle

According to available databases, three rare flora species have been recorded in the local area. These species are associated with waterbodies, winter-wet habitat, and the Muehea limestone TEC (Western Australian Herbarium 1998-). The application area does not contain suitable habitat for any of these rare flora species (DWER 2017).

Given the above, the proposed clearing is not likely to be at variance to this Principle.

(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.

Proposed clearing may be at variance to this Principle

On 16 September 2016, the Commonwealth Department of the Environment and Energy (DotEE) listed the *Banksia* Woodlands of the Swan Coastal Plain ecological community as endangered under the EPBC Act. This TEC is largely restricted to the Perth and Dandaragan subregions of the Swan Coastal Plain Interim Biogeographic Regionalisation of Australia (IBRA) bioregion, which stretches from around Jurien Bay in the north to Dunsborough in the south (Threatened Species Scientific Committee 2016). The TEC also extends into adjacent areas on the Whicher and Darling escarpments to the south and east, where pockets of the TEC may also occur (Threatened Species Scientific Committee 2016). The application area is mapped by DotEE as a 'may occur' area for the TEC. The approved conservation advice for this TEC states that "Ground-truthing (e.g. an on-ground survey) is required to verify if a particular site meets the required key diagnostic characteristics and minimum condition thresholds to be the described ecological community" (Threatened Species Scientific Committee 2016).

The canopy of the *Banksia* Woodland of the Swan Coastal Plain ecological community is most commonly dominated or co-dominated by *Banksia attenuata* and/or *Banksia menziesii*. Other *Banksia* species that may dominate include *Banksia prionotes* or *Banksia ilicifolia* (Threatened Species Scientific Committee 2016). If present, the emergent tree layer often includes *Corymbia calophylla*, *Eucalyptus marginata*, or *Eucalyptus gomphocephala*. Other trees that may be present include *Eucalyptus todtiana*, *Nuytsia floribunda*, *Allocasuarina fraseriana*, *Callitris arenaria*, *Callitris pyramidalis* and *Xylomelum occidentale* (Threatened Species Scientific Committee 2016). The understorey of the TEC typically contains a high to very high diversity of shrub and herb species that often vary from patch to patch (Threatened Species Scientific Committee 2016).

The application area contains *Banksia* woodland dominated by *Banksia attenuata* and *Banksia menziesii* with scattered *Corymbia calophylla* (DWER 2017). Vegetation within the application area has been subjected to ongoing grazing, and the midstorey and understorey was observed to contain a low to moderate diversity of *Xanthorrhoea preissii* over *Adenanthos* sp., *Calothamnus* sp., *Acacia* sp., *Hakea* sp., *Conostephium pendulum*, *Hibbertia subvaginata* and *Petrophile linearis* (DWER 2017). The application area is largely consistent with the description of the *Banksia* Woodland of the Swan Coastal Plain ecological community, however a targeted survey has not been conducted to confirm the presence of the TEC.

The approved conservation advice for this community has specified vegetation condition and size thresholds to provide guidance on whether a remnant patch retains sufficient conservation values to be considered a 'Matter of National Environmental Significance', as defined under the EPBC Act. For vegetation in excellent (Keighery, 1994) condition the minimum patch (remnant vegetation) size is 0.5 hectares, for vegetation in a very good condition the minimum patch size is one hectare and for vegetation in a good condition the minimum patch size is two hectares (Threatened Species Scientific Committee 2016). Given the majority of the 4.9 hectare application area is in good (Keighery 1994) condition, this area is likely to meet the minimum size and condition thresholds specified for the TEC. Given the continuity of soil type and landform, surrounding vegetation is also likely to be representative of the TEC, and aerial imagery indicates that surrounding vegetation is in excellent (Keighery 1994) condition. Given this information, the application area is likely to comprise the degraded edge of a larger patch of the TEC.

The approved conservation advice for the TEC describes indicators that may determine whether impacts to the TEC are likely to be significant (Threatened Species Scientific Committee 2016). Using this criteria, the application area does not appear to be a significant occurrence of the TEC, given that it:

- has been impacted by historic grazing, and has a moderate level of weed invasion;
- is not likely to be significant in maintaining the north-east to south-west ecological linkage;
- is not significant in linking other occurrences of the TEC in the local area; and
- has a reduced midstorey and understorey species richness.

Given the application area contains a moderate level of weed invasion, and fencing prevents stock within the property from impacting adjacent vegetation, the application area is not likely to be significant in providing a buffer (should adjacent native vegetation be representative of the TEC).

Given the above, the proposed clearing may be at variance to this Principle.

(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

Proposed clearing is not likely to be at variance to this Principle

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750 (Commonwealth of Australia 2001).

The local area (10 kilometre radius; 32,425 hectares) retains approximately 43 per cent (14,083 hectares) of its pre-European native vegetation. Native vegetation in the local area is highly fragmented, with only 16 per cent of remnants in the local area over 10 hectares in size. The application area is on the edge of a corridor of native vegetation that links to a large area of native vegetation to the west. Given these large areas of native vegetation, the local area is not considered to be extensively cleared.

The application area is mapped as 'Yanga Complex', which has only 16 per cent of its pre-European extent remaining (Government of Western Australia 2017). However, the site inspection found that vegetation within the application area is not representative of the 'Yanga' complex, and is instead more representative of the 'Bassendean complex-north' complex, which is mapped to the west of the application area and has approximately 72 per cent of its pre-European extent remaining on the Swan Coastal Plain (Government of Western Australia 2017).

The application area contains significant foraging habitat for Carnaby's cockatoo (DWER 2017) and may be representative of a TEC. Given this, the application area is considered to be significant as a remnant of native vegetation.

Given the local area is not considered to be extensively cleared, the proposed clearing is not likely to be at variance to this Principle.

Table 1: Remnant native vegetation extents

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Percentage of current extent in DBCA Managed Lands (%)
IBRA Bioregion*				
Swan Coastal Plain	1,501,222	578,432	39	38
Swan Coastal Plain vegetation complex **				
Yanga complex	26,177	4,250	16	2
Bassendean complex	79,057	56,555	72	39

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

Proposed clearing is not likely to be at variance to this Principle

There are no wetlands or watercourses within the application area (DWER 2017). One palusplain wetland is mapped 32 metres north-west of the application area. The site inspection did not identify any native vegetation that may be growing in association with the adjacent wetland (DWER 2017).

Given the above, the proposed clearing is not likely to be at variance to this Principle.

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

Proposed clearing is not likely to be at variance to this Principle

The Commissioner of Soil and Land Conservation (CSLC) advised that the application area is mapped as containing 'Bassendean, Gavin phase' soils, described as 'flat or gently undulating landscape; iron-humus podzols and some diatomite deposit' (CSLC 2017). A site inspection observed grey sandy soils within the application area (DWER 2017).

The CSLC advised that given the soil type present, slope, absence of waterbodies and presence of vegetation adjacent to the application area, the proposed clearing has a low risk of causing appreciable land degradation via salinity, eutrophication, wind erosion, water erosion, waterlogging or flooding (CSLC 2017).

Given the above, the proposed clearing is not likely to be at variance to this Principle.

(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.

Proposed clearing is not likely to be at variance to this Principle

There are three nature reserves within the local area (10 kilometre radius), with the closest nature reserve located three kilometres south-west of the application area. The application area is on the edge of a corridor of native vegetation connected to both Yeal Nature Reserve and Nullilla Nature Reserve. The proposed clearing will not lead to the fragmentation or a significant reduction in the width of this corridor, and is therefore not likely to impact the environmental values of any nearby conservation area.

Given the above, the proposed clearing is not likely to be at variance to this Principle.

(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.

Proposed clearing is not likely to be at variance to this Principle

A palusplain wetland (seasonally waterlogged flat) is mapped 32 metres north-west of the application area. As discussed in Principle (g), the CSLC determined that the proposed clearing is not likely to cause eutrophication (CSLC 2017). The report attached to the CSLC's advice notes that the risk of nutrient enrichment of surface and/or groundwater bodies is low due to the occurrence of pale sands on a slight rise, and the absence of waterways within the application area (CSLC 2017).

The proposed clearing is not likely to increase sedimentation within the adjacent wetland, as the risk of water erosion following the proposed clearing is low (CSLC 2017).

Groundwater salinity within the application area is mapped as 500 to 1,000 milligrams per litre total dissolved solids. The report attached to the CSLC's advice noted that there is no significant change expected in salinity levels as a result of the proposed clearing (CSLC 2017).

Given the above, the proposed clearing is not likely to be at variance to this Principle.

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

Proposed clearing is not likely to be at variance to this Principle

The soil type within the application area was observed to comprise grey sands (DWER 2017). This soil type is likely to be highly permeable to rainfall.

The CSLC advised that the proposed clearing has a low risk of causing flooding (CSLC 2017).

Given the above, the proposed clearing is not likely to be at variance to this Principle.

Planning instruments and other relevant matters.

The application area is zoned as 'rural' under the Shire of Gingin's town planning scheme. The Shire of Gingin advised that they have no objection to the proposed clearing for the purpose of establishing pasture (Shire of Gingin 2017).

The clearing permit application was advertised 11 July 2017 for a 21 day public submission period. No submissions were received in relation to this application.

The CSLC advised that the application area has a low capability for the proposed land use (CSLC 2017).

There are no Aboriginal Sites of Significance within the application area.

4. References

- Brown, P.H., Davis, R.A., Sonneman, T. and Kinloch, J. (2009) Ecological linkages proposed for the Gnangara groundwater system. Report for the Department of Environment and Conservation for the Gnangara Sustainability Strategy. Department of Environment and Conservation, Perth.
- Commissioner of Soil and Land Conservation (CSLC) advice received from the Commissioner of Soil and Land Conservation on 23 August 2017 (DWER REF: A1510090).
- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- Department of Biodiversity, Conservation and Attractions (DBCA) (2007-) NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. URL: <http://naturemap.dpaw.wa.gov.au/>. Accessed September 2017.
- Department of Biodiversity, Conservation and Attractions (DBCA) (2017) Flora advice received on 11 September 2017 (DWER REF: A1540168).
- Department of Species, Environment, Water, Population and Communities (DSEWPaC) (2012) Environment Protection and Biodiversity Conservation Act 1999 draft referral guidelines for three threatened black cockatoo species: Carnaby's cockatoo (endangered) *Calyptorhynchus latirostris*, Baudin's cockatoo (vulnerable) *Calyptorhynchus baudinii*, Forest red-tailed black cockatoo (vulnerable) *Calyptorhynchus banksii naso*. Department of Species, Environment, Water, Population and Communities.
- Department of Water and Environmental Regulation (DWER) (2017) CPS 7649/1 site inspection report. Department of Water and Environmental Regulation (DWER REF: A1511929).
- Department of Parks and Wildlife (Parks and Wildlife) (2013) Carnaby's cockatoo (*Calyptorhynchus latirostris*) Recovery Plan. Western Australian Wildlife Management Program No. 52. Department of Parks and Wildlife Locked Bag 104, Bentley Delivery Centre, Perth, WA 6983.
- Government of Western Australia (2016) 2016 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of June 2016. Western Australia, Department of Parks and Wildlife, Perth.
- Government of Western Australia (2017) 2016 South West Vegetation Complex Statistics. Current as of December 2016. WA Department of Parks and Wildlife, Perth.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Saunders, D.A. and Ingram, J.A. (1998) Twenty-eight years of monitoring a breeding population of Carnaby's cockatoo. Pacific Conservation Biology. 4: 261-270.
- Shah, B. (2006) Conservation of Carnaby's Black-Cockatoo on the Swan Coastal Plain, Western Australia. December 2006. Carnaby's Black-Cockatoo Recovery Project. Birds Australia, Western Australia.
- Shire of Gingin (2017) Advice received from the Shire of Gingin on 26 July 2017 (DWER REF: A1489499).
- Threatened Species Scientific Committee (2016). Approved Conservation Advice (incorporating listing advice) for the Banksia Woodlands of the Swan Coastal Plain Ecological Community. Canberra: Department of the Environment and Energy. Available from: <http://www.environment.gov.au/biodiversity/threatened/communities/pubs/131-conservation-advice.pdf>. In effect under the EPBC Act from 16-Sep-2016.
- Valentine, L.E. and Stock, W. (2008) Food Resources of Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*) in the Gnangara Sustainability Strategy Study Area. Edith Cowan University and Department of Environment and Conservation. December 2008.
- Western Australian Herbarium (1998-) FloraBase - The Western Australian Flora. Department of Parks and Wildlife. <http://florabase.dpaw.wa.gov.au/> (Accessed October 2017).

GIS Database:

- Aboriginal sites register system
- Carnaby's cockatoo breeding areas confirmed
- Carnaby's cockatoo roost areas (buffered) confirmed
- DBCA tenure
- Geomorphic wetlands (classification) Swan Coastal Plain
- Gnangara Mound ecological linkages
- Groundwater salinity, statewide
- Hydrography, linear
- Remnant vegetation
- SAC Bio Datasets (Accessed October 2017)