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THE PROTECTION OF NATURE RESERVES UNDER THE PARKS AND TREES ACT – A DEEP DIVE

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Abstract:

The approval by the National Parks Board in 2016 for a site investigation in the Central Catchment Nature Reserve for feasibility studies for a Mass Rapid Transit tunnel under the surface of the reserve; and the subsequent decision by the Government in 2019 to go ahead with the tunnel, have raised two important legal questions: what is the scope of activities that may be permitted in a nature reserve; and what is the depth to which nature reserves are protected under the *Parks and Trees Act*? These are important questions because future subterranean developments in the nature reserves cannot be ruled out, and such developments must be guided by a clear understanding of what is and is not permitted under the Act. This note hopes to contribute to a discussion of the legal questions through an examination of the relevant statutory provisions, and where appropriate, their legislative history.

Key Words: Parks and Trees Act; National Parks Board; Cross Island Line; nature reserve; subterranean development

In the face of relentless pressure and improving capability to develop Singapore's subterranean space to meet its ever-growing needs and wants, the government has left no stone unturned, and has now started to turn our attention below the surface of the nature reserves. Since the 1950s, successive legislatures have sought to protect land designated as nature reserves for statutory purposes.[2] It is hoped that this short note will contribute to a clearer understanding of the provisions in the Parks and Trees Act ("PTA")[3] relating to the protection of nature reserves so that they may be given their intended efficacy even as the pressure to develop the nature reserves continues or even intensifies.

What are Nature Reserves?

Section 7(2) of the PTA provides that,

> The areas designated in Part II of the Schedule [in the Act] are set aside as nature reserves.

One area designated in Part II of the Schedule as a nature reserve is "all those pieces of land" known as the Central Catchment Nature Reserve ("CCNR"). The CCNR is Singapore's largest

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[2] In fact, even before 1951, some of these reserves had previously received protection as reserved forests under the *Forest Ordinance* (Ordinance 12 of 1908).

[3] Cap 216, 2006 Rev Ed.

nature reserves and is home to some of Singapore's richest forests in terms of biodiversity and rare forest types.[4]

Section 7(3) of the PTA further provides that national parks and nature reserves are set aside for all or any of the following purposes:

> (a) the propagation, protection and conservation of the trees, plants, animals and other organisms of Singapore, whether indigenous or otherwise;
>
> (b) the study, research and preservation of objects and places of aesthetic, historical or scientific interest;
>
> (c) the study, research and dissemination of knowledge in botany, horticulture, biotechnology, or natural and local history; and
>
> (d) recreational and educational use by the public.

Importantly, s 3 of the PTA makes it clear that, "[t]his Act shall bind the Government except that nothing in this Act shall render the Government liable to prosecution for an offence".

Site Investigation ("SI") Works

In 2013, the government proposed a new 50 km Mass Rapid Transit ("MRT") line passing through the CCNR.[5] This was followed, in 2016, by the Land Transport Authority's ("LTA") announcement of its plan to carry out SI works involving the drilling of boreholes in the CCNR for soil samples, to "provide detailed information on the underground soil conditions" for the possible alignment of an MRT tunnel under the surface of the CCNR.[6]

Sixteen boreholes, each 10 cm in diameter would be drilled to a depth of between 50 and 80 metres along existing trails so as to avoid to affecting vegetation, to extract vertical columns of soil samples. The mitigation measures were considered to reduce the potential impacts to low as reasonably practicable. These impacts were expected to be *moderate* (after mitigation measures) on the few parts of the nature reserve where these works were to take place, including impacts on surface water and groundwater resources; noise impacts; and impacts on ecology and biodiversity, including disturbance to vegetation, disturbance to wildlife behaviour, noise and vibration, and disturbance of aquatic habitats.[7] An impact of moderate

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[4] National Parks Board, "Central Catchment Nature Reserve", <https://www.nparks.gov.sg/gardens-parks-and-nature/parks-and-nature-reserves/central-catchment-nature-reserve>.

[5] Nicole Chang, "6 years in the making: How the Cross Island Line's direct route was decided" (4 December 2019) *channelnewsasia* <https://www.channelnewsasia.com/news/singapore/cross-island-lane-mrt-final-route-crl-nature-reserve-timeline-12152762>.

[6] Land Transport Authority, "Site Investigations to Study Two Alignment Options for the CRL", (8 June 2016), <https://www.lta.gov.sg/content/ltagov/en/newsroom/2016/6/2/site-investigations-to-study-two-alignment-options-for-the-crl.html>.

[7] Land Transport Authority, "LTA Gazettes Environmental Impact Assessment (Phase 1) Report for Cross Island Line" (5 February 2016), <https://www.lta.gov.sg/content/ltagov/en/newsroom/2016/2/2/lta-gazettes-environmental-impact-assessment-phase-1-report-for-cross-island-line.html>; and Land Transport Authority, *Environmental Impact Assessment on Central Catchment Nature Reserve for the Proposed Cross*

significance means that the impact magnitude is considered to be within applicable standards; and falls somewhere in the range below which the impact is minor,[8] up to a level that might be just short of breaching a legal limit.[9]

NParks' Approval

At the same time, the National Parks Board ("NParks") announced it had given its approval for the SI works.[10] The approval was given in view of the "series of stringent safeguards, and comprehensive and substantive mitigation measures that will be put in place to limit the impact of the site investigation works on the ecology and biodiversity of the CCNR". NParks announced that it was satisfied inter alia that the magnitude of residual impact in most areas where the SI work would be carried out would be "small" if stringent conditions and comprehensive mitigation measures proposed in the environmental assessment ("EIA") and post-EIA document are strictly adhered to; and more elaborate safeguards had been put in place to limit potentially higher impact of SI work in a few localised places around the forest stream systems and off-trail forested areas. Full compliance of all the mitigation measures will ensure that any potential residual impact of SI work remains limited and short-term.[11]

The approval raises an important question of law about the legal limits of such approval from NParks.

It is an offence under s 8(3) of the PTA for anyone (including the government, which pursuant to s 3 of the PTA, is bound by the provisions of the Act) to carry out the activities under s 8(1) in a national park or nature reserve *without the approval of the* Commissioner of Parks and Recreation ("Commissioner").[12] These activities are:

> (a) cut, collect or displace any tree or plant or any part thereof;
>
> (b) affix, set up or erect any sign, shrine, altar, religious object, shelter, structure or building;
>
> (c) clear, break up, dig or cultivate any land;

Island Line – Site Investigation Environmental Impact Assessment Report, Executive Summary (2016), Ch 3, <https://www.lta.gov.sg/content/dam/ltaweb/corp/PublicTransport/files/Final%20SI%20EIA%20Executive%20Summary.pdf>.

[8] According to Land Transport Authority, *Environmental Impact Assessment on Central Catchment Nature Reserve for the Proposed Cross Island Line – Site Investigation Environmental Impact Assessment Report, Volume I* (2016), p 4-7, <https://www.lta.gov.sg/content/dam/ltaweb/corp/PublicTransport/files/Final%20SI%20EIA%20Volume%20I.pdf>, an impact of *minor* significance is one where the impact is of noticeable effect, but its magnitude is sufficiently small and/or the resource/receptor is of low sensitivity/vulnerability/importance.

[9] Land Transport Authority, *Environmental Impact Assessment on Central Catchment Nature Reserve for the Proposed Cross Island Line – Site Investigation Environmental Impact Assessment Report, Volume I* (2016), p 4-7, <https://www.lta.gov.sg/content/dam/ltaweb/corp/PublicTransport/files/Final%20SI%20EIA%20Volume%20I.pdf>.

[10] National Parks Board, "Site Investigation Works Approved to Proceed" (8 June 2016), <https://www.nparks.gov.sg/news/2016/6/site-investigation-works-approved-to-proceed>.

[11] National Parks Board, "Site Investigation Works Approved to Proceed" (8 June 2016), <https://www.nparks.gov.sg/news/2016/6/site-investigation-works-approved-to-proceed>.

[12] The Commissioner is an officer of NParks and is appointed under s 4(1) of the PTA.

(d) use or occupy any building, vehicle, boat or other property of the Board; and

(e) wilfully drop or deposit any dirt, sand, earth, gravel, clay, loam, manure, refuse, sawdust, shavings, stone, straw or any other matter or thing from outside the national park or nature reserve.

Similarly, the contravention of s 9(1) is an offence under s 9(4). Section 9(1) subjects certain activities carried out in a nature reserve to the approval of the Commissioner, namely:

(a) capture, displace or feed any animal;

(b) disturb or take the nest of any animal;

(c) collect, remove or wilfully displace any other organism;

(d) use any animal, firearm, explosive, net, trap, hunting device or instrument or means whatever for the purpose of capturing any animal; or

(e) carry or have in the person's possession any explosive, net, trap or hunting device.

Section 12(3) empowers the Commissioner to approve certain activities in national parks or nature reserves that are listed in, with or without conditions.

Before the Commissioner exercises his power of approval under s 12(3), it is implied that he must at least take into consideration the statutory purposes for which national parks and nature reserves are set aside and not approve that conflict with these purposes. *Arguably*, activities whose purpose or purposes fall outside the statutory purposes would be beyond the scope of the Commissioner's power under s 12(3). *A fortiori*, the Commissioner would also not be able to approve activities that are adverse to the statutory purposes. The SI works were not carried out for any of the statutory purposes. Furthermore, as NParks had noted in their approval, "any such site investigation work, *even with stringent mitigation measures*, can add on to the cumulative impact of the many other ongoing activities within the nature reserves and lead to the deterioration of the nature reserves over time".[13]

While the Commissioner has the power to approve the activities in sections 8(1) and 9(1), his approval does not extend to activities that contravene sections 8(2), 9(2), or 10(1).

Section 8(2) provides that,

No person shall carry out any activity within any national park or nature reserve which he knows or ought reasonably to know causes or may cause alteration, damage or destruction to any property, tree or plant within the national park or nature reserve;

and s 9(2) provides that,

[13] National Parks Board, "Site Investigation Works Approved to Proceed" (8 June 2016), <https://www.nparks.gov.sg/news/2016/6/site-investigation-works-approved-to-proceed>. Emphasis added.

> No person shall carry out any activity within any national park or nature reserve which he knows or ought reasonably to know causes or may cause injury to, or the death of, any animal or any other organism within the national park or nature reserve.

Section 10(1) provides that,

> No person shall wilfully or negligently destroy, damage or deface any object of zoological, botanical, geological, ethnological, scientific or aesthetic interest within any national park or nature reserve.

The legislative history of these provisions serves to confirm this interpretation. At the outset, when nature reserves were established under the *Nature Reserves Ordinance* ("NRO")[14] in 1951, the Chairman of the Board of Management, which managed the nature reserves, could only give permission for the taking of plants or animals from the nature reserve for study, teaching, or research. However, there was no provision for the Chairman to permit certain prohibited activities, including the destruction or damage a tree or plant, or killing or injuring of an animal, in a nature reserve;[15] or to permit the wilful or negligent destruction, damage, or defacement of an object of zoological botanical geological, ethnological or other scientific or aesthetic interest or value.[16]

In the next iteration of the nature reserves provisions, when the NRO was repealed and the nature reserves provisions were re-enacted in the then *National Parks Act* in 1990 ("NPA 1990")[17], the destruction or damage of a plant, tree or animal; or killing or injuring of an animal in a national park or nature reserve was prohibited unless permitted by the NParks;[18] however, the wilful or negligent destruction, damage, or defacement of any object of zoological, botanical, geological, scientific or aesthetic interest within a nature reserve was prohibited and could not be permitted.[19] This arrangement was maintained when the NPA 1990 was repealed and re-enacted in 1996 to merge the Parks and Recreation Department ("PRD") with NParks.[20]

In the third and current iteration of the nature reserves provisions under the PTA, activities within any national park or nature reserve which is known or ought reasonably to be known will or may cause destruction or damage of a plant or tree; or injury or death of an animal or organism within a national park or nature reserve, are prohibited outright. This is contrasted with other activities that are prohibited in a national park or nature reserve unless permitted by the Commissioner, as explained above.[21] Thus, with each iteration, consideration had been given to whether an activity may be permitted with approval or simply cannot be permitted.

The EIA on the SI works considered that the potential impacts of the works (before mitigation measures) on ecology and biodiversity included damage to overhead foliage and vegetation

[14] Ordinance 14 of 1951.
[15] NRO, s 9.
[16] NRO, s 10.
[17] Act 10 of 1990.
[18] NPA 1990, s 9(1)(h).
[19] NPA 1990, s 41.
[20] *National Parks Act 1996* (Act 20 of 1996) ("NPA 1996"), sections 24 and 25.
[21] PTA, sections 8 and 9.

on either side of existing trails within the CCNR and accidental roadkill of wildlife from mobilisation and demobilisation of rigs for rotary borehole works,[22] damage to vegetation on the ground, including aquatic plants, and crushing of small animals from trampling by movement of personnel and small vehicles during preliminary investigations, the Mackintosh probes, and rotary borehole works,[23] injury to fish from sedimentation of streams from run-off,[24] and collisions with wildlife and vegetation during mobilisation of rigs and daily movement of small vehicles,[25] but did not address whether each potential impact was expected to be entirely avoided or minimised to the point where sections 8(2) and 9(2) of the PTA would not be contravened as a result of recommended mitigation measures. It also did not address the question of whether the works would damage any object of geological interest.

In this regard, the EIA had, when referred to the PTA as a statutory requirement when recommending mitigation measures in respect of "vegetation disturbance from drilling equipment mobilisation", and rightly recommended that,

> [n]o damage to overhanging vegetation permitted, however should be tied back (where possible) to reduce any disturbance. Should there be overhanging obstruction which cannot be temporarily tied back, the Contractor should contact NParks to determine if an alternative approach can be taken.[26]

For the recommended mitigation measures in respect of the other potential impacts, the EIA drew reference to numerous regulatory standards, such as those in the *Environmental*

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[22] Land Transport Authority, *Environmental Impact Assessment on Central Catchment Nature Reserve for the Proposed Cross Island Line – Site Investigation Environmental Impact Assessment Report, Volume III* (2016), p 6-21, <https://www.lta.gov.sg/content/dam/ltaweb/corp/PublicTransport/files/Final%20SI%20EIA%20Volume%20III.pdf>.

[23] Land Transport Authority, *Environmental Impact Assessment on Central Catchment Nature Reserve for the Proposed Cross Island Line – Site Investigation Environmental Impact Assessment Report, Volume III* (2016), pp 6-19, 6-20, 6-22, 6-24, 6-26, 6-29, 6-32, and 6-34, <https://www.lta.gov.sg/content/dam/ltaweb/corp/PublicTransport/files/Final%20SI%20EIA%20Volume%20III.pdf>.

[24] Land Transport Authority, *Environmental Impact Assessment on Central Catchment Nature Reserve for the Proposed Cross Island Line – Site Investigation Environmental Impact Assessment Report, Volume III* (2016), p 6-33, <https://www.lta.gov.sg/content/dam/ltaweb/corp/PublicTransport/files/Final%20SI%20EIA%20Volume%20III.pdf>.

[25] Land Transport Authority, *Environmental Impact Assessment on Central Catchment Nature Reserve for the Proposed Cross Island Line – Site Investigation Environmental Impact Assessment Report, Volume III* (2016), p 6-55, <https://www.lta.gov.sg/content/dam/ltaweb/corp/PublicTransport/files/Final%20SI%20EIA%20Volume%20III.pdf>.

[26] Land Transport Authority, *Environmental Impact Assessment on Central Catchment Nature Reserve for the Proposed Cross Island Line – Site Investigation Environmental Impact Assessment Report, Volume III* (2016), Table 7.1, <https://www.lta.gov.sg/content/dam/ltaweb/corp/PublicTransport/files/Final%20SI%20EIA%20Volume%20III.pdf>.

Protection and Management Act,[27] *Sewerage and Drainage Act*,[28] *Public Utilities Act*,[29] and *Wild Animals and Birds Act*,[30] and their subsidiary legislation; but not the PTA. The EIA also did not consider whether there were any objects of geological or scientific interest in the CCNR that might be damaged by the works.

Similarly, while NParks considered in its approval that the residual impacts in most areas of the SI works would be small and potentially higher in some localised areas, NParks did not express any view on whether any of these impacts, such as disturbance to vegetation or disturbance to aquatic habitats,[31] would alter, damage or destroy any property, tree or plant;[32] or injure or kill any animal or any other organism[33] within the CCNR.[34] Neither did it express any view on whether the works would damage any object of zoological, botanical, geological, ethnological, scientific or aesthetic interest in the CCNR.

It is therefore difficult to draw conclusions from the EIA and NParks' approval whether, based on the known potential impacts at the time the SI works were carried out or what could reasonably have been known at the time, the works contravened sections 8(2), 9(2). Equally, it difficult to draw conclusions about whether there are any objects of geological interest in the CCNR, and if so whether any such objects were damaged in contravention of s 10(1).

Alignment Decision

Three years later, on 4 December 2019, the Ministry of Transport announced that the Government had decided to build and run a 2-km stretch of the Cross Island MRT line in the vicinity of the CCNR "70 metres deep under the CCNR"[35] instead of skirting the alignment around the CCNR. According to the Government, in reaching this decision, the Government had considered various factors, including "the concerns expressed by all stakeholders[36] and

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[27] Cap 94A, 2002 Rev Ed.
[28] Cap 294, 2001 Rev Ed.
[29] Cap 261, 2002 Rev Ed.
[30] Cap 351, 2000 Rev Ed.
[31] Land Transport Authority, "LTA Gazettes Environmental Impact Assessment (Phase 1) Report for Cross Island Line" (5 February 2016), <https://www.lta.gov.sg/content/ltagov/en/newsroom/2016/2/2/lta-gazettes-environmental-impact-assessment-phase-1-report-for-cross-island-line.html>; and Land Transport Authority, *Environmental Impact Assessment on Central Catchment Nature Reserve for the Proposed Cross Island Line – Site Investigation Environmental Impact Assessment Report, Executive Summary* (2016), Ch 3, <https://www.lta.gov.sg/content/dam/ltaweb/corp/PublicTransport/files/Final%20SI%20EIA%20Executive%20Summary.pdf>.
[32] PTA s 8(2).
[33] An "organism" is defined in the PTA as,

> (a) a genetic structure that is capable of replicating itself, whether that structure comprises all or only part of an entity, and whether it comprises all or only part of the total genetic structure of an entity; or
> (b) a reproductive cell or developmental stage of an entity referred to in paragraph (a).

[34] PTA s 9(2).
[35] Ministry of Transport, "Cross Island Line to Run 70 metres Under Central Catchment Nature Reserve", News Release (4 December 2019), <https://www.mot.gov.sg/news-centre/news/detail/cross-island-line-to-run-70-metres-under-central-catchment-nature-reserve>.
[36] The two main stakeholder groups are the residents from some 216 landed property homes who may have to live with noise disturbance from construction work at their doorstep or the compulsory acquisition of their properties if the MRT tunnel skirts the CCNR; and nature groups who object to the MRT tunnel passing directly

the findings of the comprehensive two-phased Environmental Impact Assessment (EIA), which was shared with the public in 2016 and 2019".[37]

Apart from the impacts at the fringe outside the CCNR, which will have an indirect impact on the CCNR, ground borne vibration from tunnelling works under the surface of the CCNR at shallower portions of the tunnelling (assessed to be negligible in significance after implementation of mitigation measures). The significance of impact to surface water, ground water, and ecology and biodiversity from excessive ground settlement of the land under the surface during tunnelling is assessed to moderate because its likelihood is considered unlikely. Once in operation, the tunnel is not expected to have any direct impact on the CCNR.[38]

The Government also explained the benefits of the direct alignment option:

> a) Reduction in commuting time by approximately 6 minutes per commuter per trip as compared to the skirting alignment;
> b) Lower public transport fares by about 15% on average due to a shorter and more direct route, made possible under the current distance-based fares;
> c) Reduction in construction costs by approximately $2 billion for taxpayers; and
> d) In the longer term, it is a more environmentally-friendly option as the direct alignment has a lower energy consumption.[39]

Impacts and benefits aside, the decision also raises an important legal question – how far under the surface does the designation and protection of a nature reserve extend to? Would the construction and operation of an MRT tunnel passing 70 metres under the surface of a nature reserve still be subject to the nature reserve provisions of the PTA? The government's decision did indicate whether it considered the decision is consistent with the nature reserve provisions, but presumably, it did not consider that these provisions apply at the depth at which the tunnel will be passing under the surface of the nature reserve.

"Area" or "Land"?

While a nature reserve is an "area" designated in Part II of the Schedule, which arguably connotes that only surface areas are designated as nature reserves, Part II of the Schedule actually describes these areas as made up of "pieces of land". Looking at the legislative history

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under the surface of the CCNR. are not letting up in opposing the proposal for the future Cross Island Line to skirt the Central Catchment Nature Reserve. See Kenneth Cheng, "Through Nature Reserve or Around? Residents, Nature Groups Stick to Guns on Cross Island Line Paths", (6 September 2019) *Today,* <https://www.todayonline.com/singapore/through-nature-reserve-or-around-residents-nature-groups-stick-guns-cross-island-line>.

[37] Ministry of Transport, "Cross Island Line to Run 70 metres Under Central Catchment Nature Reserve", News Release (4 December 2019), <https://www.mot.gov.sg/news-centre/news/detail/cross-island-line-to-run-70-metres-under-central-catchment-nature-reserve>.

[38] Land Transport Authority, *Environmental Impact Assessment on Central Catchment Nature Reserve for the Proposed Cross Island Line, Non-Technical Summary* (2019), Ch 3, <https://www.lta.gov.sg/content/dam/ltagov/upcoming_projects/rail_expansion/CrossIslandLine/PDF/EIA%20Report%20Summary.pdf>.

[39] Ministry of Transport, "Cross Island Line to Run 70 metres Under Central Catchment Nature Reserve", News Release (4 December 2019), <https://www.mot.gov.sg/news-centre/news/detail/cross-island-line-to-run-70-metres-under-central-catchment-nature-reserve>.

of the statutory foundation of nature reserves, the then NRO designated "land" rather than "areas" as nature reserves; indeed, right up to 1990, s 3(2) of the NPA 1990 continued to provide that,

> The *lands* designated in Part II of the First Schedule are hereby declared as nature reserves.[40]

It was only when the PTA was enacted in 2005, and the nature reserve provision were re-enacted in this Act that the designation took its current form of describing nature reserves as "areas" designated in the Schedule while referring to "pieces of land" in the Schedule itself. No explanation for this change in terminology was given during the Minister's speech to move the enactment of the PTA, so presumably there was no intention to change the law in spite of the change of terminology.

What is "Land"?

"Land" is not defined in the PTA, so we turn to its ordinary meaning as our legislators and courts would have understood it. At common law, the term "land" is sometimes explained by reference to the legal maxim, *cuius est solum eius est usque ad coelum et ad inferos* – he who owns land owns everything up to the sky and down to the centre of the earth.

The maxim was recently partly endorsed by the UK Supreme Court in *Bocardo SA v Star Energy UK Onshore Ltd & anor (Secretary of State for Energy and Climate Change intervening)*.[41] In that case, the first defendant had acquired a petroleum production licence, issued by the Secretary of State for Energy, to bore, search for and get oil in a naturally occurring reservoir of petroleum and natural gas beneath land in Surrey. The oil reservoir extended beneath the claimant's land, and the first defendant's predecessors had bored three pipelines between 800 and 2,800 feet (24 and 853 metres) beneath the claimant's land from neighbouring land to extract the oil and collect it from wellheads on neighbouring land. Property in the petroleum existing in its natural condition in strata in Great Britain was vested by legislation in the Crown. The trial judge also found that the drilling and installation caused no harm to the claimant's land and the claimant did not suffer any interference with its use or enjoyment of its land.

Nevertheless, the Justices of the Supreme Court agreed with the High Court and Court of Appeal, and unanimously held that the first defendant was liable to the claimant for trespass to land. The Supreme Court also held that *cuius est solum eius est usque ad coelum et ad inferos* encapsulated a proposition of English law which had commanded general acceptance. Although it had ceased to apply to the use of airspace above a height which might interfere with the ordinary use of the land, the owner of the surface is still the owner of the strata beneath it unless there has been an alienation of it by a conveyance at common law or by statute to someone else. That said, the court also accepted that obviously, there would be some stopping point beyond which physical features such as pressure and temperature rendered the concept of ownership of the strata meaningless to argue about. The wells in the

[40] Emphasis added.
[41] [2011] 1 AC 380.

case involved depths that were far from being so deep as to reach this point, and the fact that the strata could be worked at those depths pointed to the opposite conclusion.[42]

As noted by the UK Supreme Court, the common law position on the subterranean ownership of land is subject to qualification by legislation. In this regard, a key statutory that bears closer examination is s 3B of the *State Lands Act* ("**SLA**").[43] The section provides that:

> 3B(1) To avoid doubt, it is declared that for all purposes, any land includes only so much of the subterranean space as is reasonably necessary for the use and enjoyment of the land, being —
>
> (a) such depth of subterranean space as is specified in the State title for that land; or
>
> (b) if no such depth is specified, subterranean space to -30.000 metres from the Singapore Height Datum.
>
> (2) To avoid doubt, nothing in this section derogates from —
>
> (a) any reservation, by or under this Act or other written law, in favour of the State —
>
> (i) to all mines and minerals, mineral oil, natural gas, stone, clay, sand, gravel, and other natural deposits; or
>
> (ii) to enter upon any land and to search for and take any minerals, mineral oil, natural gas, stone, clay, sand, gravel, and other natural deposits which may be found in or below the land;
>
> (b) any condition implied (by or under this Act or other written law) in any State title for any land with respect to opening of or working any mines or quarries, or digging for minerals, mineral oil, natural gas, stone, laterite, clay, sand, gravel, and other natural deposits; or
>
> (c) any rule of law or written law relating to ownership of any column of space above any defined parcel of the surface of the earth.
>
> (3) Any reference in any written law other than this Act to so much of the subterranean space below any land as is reasonably necessary for the use and enjoyment of the land is a reference to —
>
> (a) such depth of subterranean space as is specified in the State title for that land; or
>
> (b) if no such depth is specified, subterranean space to -30.000 metres from the Singapore Height Datum.

Section 3B(1) thus clarifies that for all purposes, any land includes only so much of the subterranean space as is reasonably necessary for the use and enjoyment of the land. It also implies that the subterranean space that is deeper than what is reasonably necessary for the use and enjoyment of the land continues to belong to the State.

On the face of it, this clarification is intended to apply to all purposes. However, a closer reading reveals that s 3B is only intended to apply to land which has been alienated or disposed of under the SLA by State title. "State title" is defined in the Act as "any grant, any

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[42] [2011] 1 AC 380, [26]-[27].

[43] Cap 314, 1996 Revised Edition.

grant in fee simple or estate in perpetuity, or any State lease (of whatever tenure) whenever issued or granted by or on behalf of the Crown, the State or the East India Company".

To read s 3B in its proper context, the long title of the SLA is "[a]n Act to "regulate the alienation and occupation of State lands". Section 3 of the Act empowers the President to make rules for the disposal and temporary occupation of State lands; and s 3A deals with the modes of how State lands may be alienated or disposed of under the SLA:

> (a) as a parcel of the surface earth, so much of the subterranean space below and so much of the column of airspace above the surface as is reasonably necessary for the use and enjoyment thereof;
>
> (b) as a parcel of airspace or subterranean space, whether or not held apart from the surface of the earth; or
>
> (c) only down to such depth below the surface earth as the President may by order direct.

Thus, a contextual interpretation of s 3B also confirms it is intended to apply to clarify for State land that is alienated or disposed of under the SLA by State title under s 3A, and not to State-owned land generally.

Support for this construction can further be found in the speech of the Senior Minister of State for Law who introduced the amendment of the SLA by inserting s 3B in 2015 when introducing the Second Reading of the *State Lands (Amendment) Bill*[44] that,

> To enable Singapore to put underground space to more productive use, it is necessary to update the legislative framework to clarify the ownership of underground space. Presently, the boundaries of land ownership are clearly marked out for surface land, but not so for underground space. This is unsurprising, because our existing laws were developed at a time when extensive underground development was not contemplated.
>
> For this reason, Mr Deputy Speaker, the State Lands (Amendment) Bill 2015 amends the State Lands Act to clarify the ownership of underground space. I will now cover the key provisions in the Bill.
>
> Under our current laws, a landowner owns the underground space to a depth that is reasonably necessary for the use and enjoyment of surface land. However, there is no clarity as to what such depth is. Clause 4 of the Bill clarifies that the amount of underground space which is reasonably necessary for the use and enjoyment of one's property, and which the landowner correspondingly owns, is to 30 metres under the Singapore Height Datum (SHD), unless otherwise specified in the terms of the State lease.
>
> Landowners will continue to have ample and sufficient underground space to build the basements for their developments. To provide a point of comparison, the Orchard ION building has four basement levels, which extend to only about 10 metres below the SHD. The deepest basement in Singapore, at Fusionopolis, is 15 metres below the SHD. The amendments clarify that reasonable use extends to 30 metres below the SHD.
>
> Landowners' existing use of their land will not be affected. Other than being able to continue building their basements to the necessary depths, the amendments ensure that the surface landowner will continue to have a right to sink his piles to the depths necessary to provide support for his surface development, including depths within the State-owned stratum. This is provided for in clause 4 of the

[44] Bill 6 of 2015.

> Bill. A consequential amendment to the State Lands Encroachments Act will be made to clarify that a person who exercises such rights under the easement of support will not be considered to be encroaching on State land.[45]

The amendment of the SLA was thus aimed at clarifying the bottom limit of the underground space of land alienated or disposed by the State to other persons. As far as the State is concerned, its own ownership of land was not intended to be affected by this amendment.

How Deep is a Nature Reserve?

What then does this mean for the land known as the CCNR that is designated as nature reserve and set aside for the statutory purposes under the PTA? The land has not been alienated or disposed of under the SLA and is not comprised in any State title. Instead, it is set aside as a nature reserve under the PTA, and although nature reserves are controlled, administered, and managed by NParks pursuant to the NPBA,[46] and subject to the trust-like provisions of the PTA,[47] they are not occupied by NParks and remain State-owned land. There is nothing to suggest that when the Legislative Council dedicated, set aside, and reserved land as nature reserves in the NRO in 1951; or when Parliament set aside land as nature reserves in the PTA in 2005, they intended to protect anything short of the full extent of the land as owned by the State within the designated boundaries of these nature reserves.

Indeed, one of the primary motivations for the enactment of the NRO to establish nature reserve for the permanent protection from exploitation including granite quarrying "in the whole of the central area of the island including Bukit Timah Forest Reserve, the Quarry areas adjacent to the Reserve and the Municipal Catchment Areas",[48] leading inter alia to the prohibition in the NRO of prospecting, mining, quarrying, or removal of soil, sand, laterite, clay or any earth substances in nature reserve.[49] Thus, for the purpose of the PTA, it was likely to be contemplated that "land" refer to its common law conception as this has not been modified by statutory provision.

This interpretation would also be consistent with one of the purposes for which national parks and nature reserves is set aside is the "study, research and preservation of objects and places of aesthetic, historical or scientific interest".[50] Arguably, the subterranean space in the nature reserves would be of such interest.

It is therefore submitted that the protection conferred on nature reserves under the PTA extends below for the entire depth of the State-owned land beneath the surface of the reserve, up to the point where physical features such as pressure and temperature renders the concept of protection of nature reserves meaningless to argue about.

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[45] Singapore Parl Debates; Vol 93, State Lands (Amendment) Bill; [13 March 2015] (Indranee Rajah, Senior Minister of State for Law).
[46] NPBA, s 6(1)(a).
[47] See Joseph Chun, "Reclaiming the Public Trust in Singapore", (2005) *Singapore Academy of Law Journal* 17: 717, at 740-743.
[48] See "No 6 of 1951, Final Report of the Select Committee on Granite Quarries and Nature Reserves", *Proceedings of the First Legislative Council, Colony of Singapore*, 4th Session, 1951, p C23.
[49] NRO, s 8.
[50] PTA, s 7(3)(b).

Even at 70 metres, the tunnel is from being so deep as to reach this point, and *will* thus be within the subterranean boundaries of the CCNR, and be subject to the provisions of the PTA that protect the nature reserves.

The Legal Way Forward

Ministerial Exemption?

The Minister has a power under s 58 of the PTA to exempt any person, thing, premises, or works from *any* provisions of the Act. Although the Minister for National Development has not done so, could he have exempted from the provision of the PTA, the LTA, its SI works, the MRT tunnel, or the space under the CCNR which the MRT tunnel passes through from the provisions of the PTA?

It is submitted that s 58 does not give the Minister the power to exempt any person or works from the nature reserves provisions of the Act. To construe otherwise would be anomalous with the scope of s 62 of the PTA, which empowers the Minister to order the alteration of the boundary of a national park or nature reserve subject to his prior consultation of the NParks, and presenting the order to Parliament for info immediately after making the order. This leads to an anomaly because Parliament could not have intended to require the Minister to present any order to redraw the boundary of a national park or nature reserve to Parliament, and at the same time empower the Minister to exempt any person or works from the protection of national parks and nature reserves without any reference to Parliament. Therefore, to read the power in s 58 literally as a power that extends over the national park and nature reserves protection provisions is an unreasonable interpretation.

An examination of the legislative history of the PTA and s 58 in particular suggests that Parliament did not intend the Minister's power to exempt under s 58 to have such a wide application.[51] This power was introduced in 1987 as an amendment to the original *Parks and Trees Act* ("PTA 1975") originally enacted in 1975. The amendment sought to give the Minister and the then PRD flexibility in managing the public parks including the Singapore Botanic Gardens (which at the time was managed by the PRD), and the tree conservation areas.[52]

At the time, nature reserves were established and protected under the NRO and managed by the Board of Management. The Ordinance did not give the Board or a Minister any power of exemption of any provision in the Ordinance; and the power to revoke the designation or redraw the boundary of a nature reserve was vested in Parliament itself. However, in 1988, Parliament's power under the then *Nature Reserves Act* (renamed from the NRO) from to revoke the designation or amend the boundaries of nature reserves was delegated to the Minister, for the administrative convenience of regularising these changes as soon as possible, subject to the safeguard that the Minister must consult the Nature Reserves Board

[51] For a fuller examination of the legislative of the provisions relating to the protection of nature reserves, see Joseph Chun and Lye Lin Heng, *Environmental Law in Singapore* (Academy Publishing, 2019), pp 616-619.
[52] Singapore Parl Debates; Vol 49, Sitting No 11; Col 1165; [26 March 1987] (Lee Boon Yang, Minister of State for National Development).

before doing so. The Minister also announced in Parliament at the time of the delegation of this power that Parliament would be kept informed of these changes.[53]

The nature reserves provisions and newly created national parks provisions were subsequently enacted under the NPA 1990, and the nature reserves and national parks were also put under the management of NParks with the establishment of NParks under NPA 1990. NParks was a merger between the Nature Reserves Board and the Botanic Gardens Division of the Parks and Recreation Department and had responsibility over the nature reserves and the newly established 'national parks'. A further safeguard was added at the time in respect of the Minister's power to revoke the designation or alter the boundaries of national parks or nature reserves. Aside from consulting NParks (the successor of the Nature Reserves Board ("NRB")), the Minister was also formally required to present any order to amend the schedule to Parliament for information as soon as possible.

The cautiousness of Parliament in fettering the Minister's power to make an order to override Parliament's designation of nature reserves represent Parliament's seriousness of purpose in committing to set aside land for the statutory purposes set out in the Act. The safeguards require the Minister to consult NParks before making an order. Presumably (the PTA is silent on this), NParks will then advise the Minister on the significance of such an order, not only on the area concerned, but also on the remaining areas still designated as national parks and nature reserve, in terms of the statutory purposes. If the Minister decides to go ahead to make his order, Parliament will have the chance to scrutinise it as the Minister must present the order for altering the boundaries of a national park or nature reserve to Parliament as soon as possible after the order is made. Naturally, Members of Parliament would or should want to know why the Minister has made the order, what advice NParks has given the Minister, and the basis on which it gave the advice. Indeed, going by past practice, whenever the Minister sought Parliamentary resolution to modify the boundary of a nature reserve, he would also inform Parliament of his justification as well as the views of the NRB. Section 58 has none of these safeguards and was enacted to facilitate the routine maintenance of public parks by contractors, and should not be interpreted in a way that thwarts the safeguards that Parliament had carefully laid out in s 62 has enacted to protect national parks and nature reserves for the statutory purposes.

AS mentioned earlier, the NPA 1990 was subsequently repealed and re-enacted as the current NPA 1996 in 1996 to merge the Parks and Recreation Department with NParks. The nature reserves provisions were re-enacted in the NPA 1996.

When the PTA 1975 was repealed and the current PTA was re-enacted in 2005, the national parks and nature reserves provisions were moved out of the NPA 1996 and introduced in the PTA. As the then Minister explained, the purpose of that re-enactment was to streamline both Acts so that the regulatory functions of NParks came under the PTA while the corporate functions were retained in the NPA 1996 (subsequently renamed the *National Parks Board Act* ("NPBA")[54]). The Minister did not seek any extension of the power of exemption to cover the national park and nature reserves provisions, and it does not appear to be Parliament's

[53] Singapore Parl Debates; Vol 50, Sitting No 21; Col 1760; [30 March 1988] (S Dhanabalan, Minister for National Development).
[54] Cap 198A, 2012 Rev Ed.

intention to give the Minister such either, not least without similar safeguards to those that apply for revoking the designation or modifying the boundaries of the national parks or nature reserves under s 62 of the PTA.

It is therefore submitted that s 58 was not intended to be used on the nature reserves provisions and the Minister could not have granted a s 58 exemption to the LTA to carry out SI works; or to allow an MRT tunnel to be constructed or operate under the CCNR.

Amendment of PTA or PTA Schedule

In order for the MRT tunnel to be built and run under the CCNR, the PTA will either need to be amended to reduce the depth of "land" set aside as nature reserves; or the Minister can by order, amend the vertical boundary of the CCNR pursuant to s 62 to accommodate the tunnel. Either way, the Parliament will have an opportunity – and duty – to consider whether the safeguards in the PTA for protecting the health and integrity of our nature reserves should be upheld or make way for the tunnel and possibly other future subterranean developments in the reserves. If the Minister chooses the s 62 route, he would need to first consult NParks, before publishing an order in the Government Gazette to amend the boundary of the CCNR. The order must then be presented to Parliament as soon as possible after publication.[55] These are serious and drastic options and should not be taken lightly or as a matter of expedience, and rightly so because they reflect the seriousness of purpose of setting aside land as nature reserves. The government – and Parliament – would need to be convinced of the pressing need to build and operate the MRT tunnel within the CCNR.

The legislature, past and present, has understood the importance of designating land as nature reserves, and legally committing to save them for specified purposes and protect them from activities therein that detract from such purposes. Without strict safeguards to save nature reserves for these purposes and protect them from such activities, it would be left to mere political will not to dip into these reserves from time to time for other needs and wants, until eventually the nature reserves become so degraded they are no longer worth protecting. Properly understood and applied, the PTA ensures, inter alia, that nature reserves are managed for the statutory purposes; that animals, organisms, and plants in nature reserves are protected from injury and death, damage and destruction caused by activities therein; and objects of zoological, botanical, geological, ethnological, scientific, or aesthetic interest are not wilfully or negligently damaged. The safeguards are not absolute or permanent; they allow the Minister to revoke the designation of a nature reserve or parts thereof, to free them from the shackles of the nature reserve regulatory regime. What the PTA does not provide for is putting a nature reserve to a purpose outside of what it is set aside for, or allowing prohibited activities in it, while retaining the designation of the reserve. In my view, it was sensible of the PTA to avoid such a halfway measure which would have facilitated the degrading of the nature reserves through what a Nature Society council member described as "death by a thousand cuts".[56]

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[55] PTA, s 62.

[56] Neo Chai Chin, "LTA Releases Environmental Impact Assessment Report on Cross Island MRT Line", (19 February 2016) *Today*, <https://www.todayonline.com/singapore/lta-releases-environmental-impact-assessment-report-cross-island-mrt-line>.

Over the years, parts of the nature reserves have been taken up for activities which do not further their statutory purposes.[57] Parliament has also on a number of occasions considered discussed actual and proposed activities in the nature reserves such as granite quarrying,[58] prawn ponds,[59] roads,[60] power stations,[61] wharves,[62] industrial expansion,[63] public parks,[64] sewage treatment works,[65] golf courses,[66] water storage facilities,[67] and sports events.[68] Apart from cases where a nature reserve or part thereof had its designation revoked in accordance with the NRO or PTA, there has been little discussion about the scope and operation of the PTA provisions relating to nature reserves. The decision to convert part of the CCNR into an MRT tunnel increases the likelihood for other subterranean developments and their associated activities in the nature reserve to follow in future. It is hoped that this paper will stimulate a further and fuller discussion and appreciation for the legal protection of nature reserves, whether in Parliament, in public discourse, or within and between government agencies, when developments in nature reserves such as these are promoted.

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[57] See Centre for Living Liveable Cities and National Parks Board, *Biodiversity: Nature Conservation in the Greening of Singapore* (Cengage Learning Asia Pte Ltd), pp 14 to 17, <https://www.clc.gov.sg/docs/default-source/urban-systems-studies/uss-biodiversity.pdf>.

[58] "No 6 of 1951, Final Report of the Select Committee on Granite Quarries and Nature Reserves", *Proceedings of the First Legislative Council, Colony of Singapore*, 4th Session, 1951, p C23.

[59] Singapore Parl Debates; Vol 4, Sitting No 6; Col 2847; [4 December 1957] (J M Jumabhoy, Minister for Commerce and Industry); and Singapore Parl Debates; Vol 6, Sitting No 6; Col 472; [16 July 1958] (J M Jumabhoy, Minister for Commerce and Industry).

[60] Singapore Parl Debates; Vol 9, Sitting No 3; Col 1850; [26 January 1959] (Abdul Hamid Bin Haji Jumat, Minister for Local Government, Lands and Housing).

[61] Singapore Parl Debates; Vol 20, Sitting No 3; Col 164; [8 April 1963] (Tan Kia Gan, Minister for National Development).

[62] Singapore Parl Debates; Vol 25, Sitting No 2; Col 87; [21 April 1966] (Othman Bin Wok, Minister for Culture and Social Affairs).

[63] Singapore Parl Debates; Vol 28, Sitting No 1; Col 23; [3 December 1968] (E W Barker, Minister for Law and National Development).

[64] Singapore Parl Debates; Vol 31, Sitting No 2; Col 64; [30 July 1971] (E W Barker, Minister for Law and National Development).

[65] Singapore Parl Debates; Vol 32, Sitting No 24; Col 1361; [30 November 1973] (E W Barker, Minister for Law and National Development).

[66] Singapore Parl Debates; Vol 60, Sitting No 2; Col 103; [31 July 1992] (S Dhanabalan, Minister for National Development).

[67] Singapore Parl Debates; Vol 69, Sitting No 6; Col 965; [4 September 1998] (Lim Hng Kiang, Minister for National Development).

[68] Singapore Parl Debates; Vol 90, Sports Event in Nature Reserve; [21 October 2013] (Khaw Boon Wan, Minister for National Development).