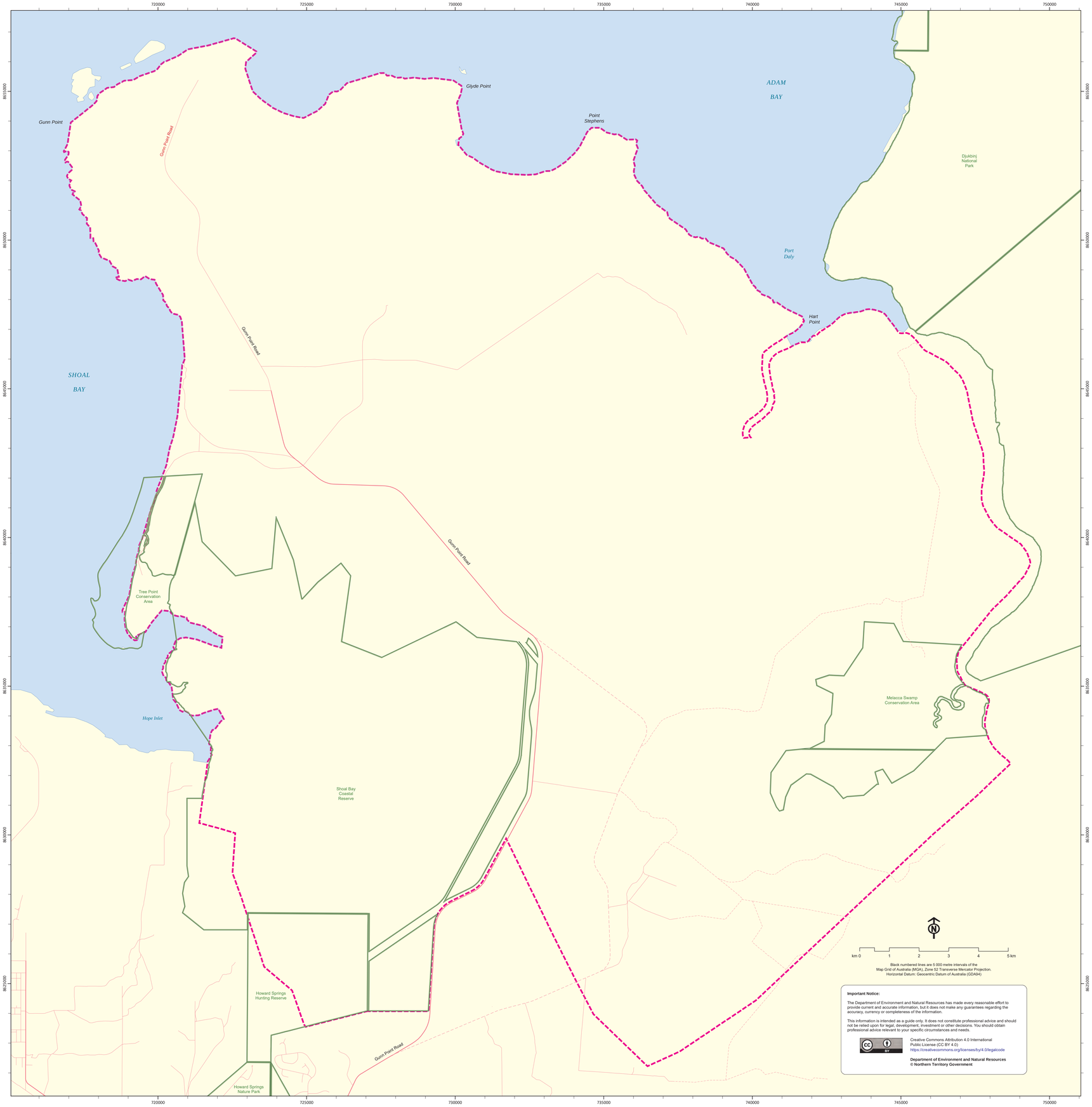


Important Notice:

The Department of Environment and Natural Resources has made every reasonable effort to provide current and accurate information, but it does not make any guarantees regarding the accuracy, currency or completeness of the information.

This information is intended as a guide only. It does not constitute professional advice and should not be relied upon for legal, development, investment or other decisions. You should obtain professional advice relevant to your specific circumstances and needs.

Mapping the Future Project - Gunn Point

The project has identified land capability, water availability and biodiversity values to support land planning and inform development potential over the Gunn Point area.

Reports and maps can be viewed from the Mapping the Future web page:
denr.nt.gov.au/DevelopmentOpportunities

- Development Potential of the Gunn Point Area (2020)
- Biodiversity Assessment of the Gunn Point Area (2020)
- Groundwater Resources of the Gunn Point Area (2020)
- Marine and Coastal Biodiversity Assessment of the Gunn Point Area (2020)
- Soil and Land Resources of the Gunn Point Area (2020)
- Soil and Land Suitability Assessment for Irrigated Agriculture in the Gunn Point Area (2017)
- Vegetation Communities of the Gunn Point Area (2020)

How to access land resource information

This land resource spatial data and other environmental information can be accessed via the Geospatial Resources webpage. See Spatial data package.

View soil site data and descriptions in the DENR web application NRmaps.nt.gov.au
Data layer: Land > Land Resources > Soils

Bibliographic reference

Easley, D., Lynch, B. and Edmeades, B. (2020).
Mapping the Future project - Gunn Point
Soil and Land Resources in the Gunn Point Area.
Technical Report 7/2020. Department of Environment and Natural Resources, Darwin, NT.

Primary datasets appended to compile new mapping

Fogarty, P.J., Lynch, B. and Wood, B. (1984)
The Land Resources of the Elizabeth, Darwin and Blackmore Rivers.
Technical Report 15/1984. Land Conservation Unit, Conservation Commission of the NT.

Hill, J.V. and Edmeades, B.J.F. (2008).
Acid Sulfate Soils of the Darwin Region.
Technical Report 9/2008D, Land and Water Division, Department of Natural Resources, Environment, the Arts and Sport, NT.

Land suitability bibliographic reference

Easey, D., Brocklehurst, P. and Emberg, J. (2017).
Agricultural Land Suitability Series, Report 7.
Soil and Land Suitability Assessment for Irrigated Agriculture in the Gunn Point Area
Technical Report 7/2017D, Department of Environment and Natural Resources, Darwin, NT.

Technical references

National Committee on Soil and Terrain (2009).
Australian Soil and Land Survey Field Handbook. Third Edition.
Canberra, Australian Collaborative Land Evaluation Program,
CSIRO Publishing, Melbourne.

Isbell, R.F. and National Committee on Soil and Terrain (2016).
The Australian Soil Classification. Second Edition.
CSIRO Publishing, Melbourne.

Data source

Land Resources: Rangelands Division, Department of Environment and Natural Resources
Cadastre/Roads/Placenames: Department of Infrastructure, Planning and Logistics
Drainage: 250k Commonwealth of Australia (Bureau of Meteorology) 2014

LAND SUITABILITY CLASSES FOR IRRIGATED AGRICULTURE

Class 1 **Suitable land with negligible limitations.**
highly productive land requiring only simple management practices to maintain sustainable production.

Class 2 **Suitable land with minor limitations**
which either physically reduce or constrain production; or require more than the simple management practices of *Class 1* land to maintain sustainable production.

Class 3 **Suitable land with moderate limitations**
which either further constrain production or require more than the management practices of *Class 2* land to maintain sustainable production

Class 4 **Marginal land that is currently unsuitable**
due to severe limitations that preclude the sustainable economic use of the land in the manner proposed. The limitations may (or may not) be surmountable over time with changes to knowledge, economics or technology potentially leading to changes in the future suitability class for this category.

Class 5 **Unsuitable land with extreme limitations**
that preclude any possibility of successful or sustainable use of the land in the manner proposed.

Land Suitability Class 4 for irrigated agriculture not in this survey

GENERAL LAND CAPABILITY CLASSES

Class 1 **HIGH - Land with minimal limitations.**
Highly productive land requiring only low management practices.
(Slope 0-1%; rock outcrop nil; soil depth >1.5 m; soil drainage rapid to well; ASS not present; erosion risk low)

Class 2 **MODERATE - Land with only moderate limitations.**
Will require minor management practices.
(Slope 1-2%; and/or rock outcrop 0-2%; and/or soil depth 0.5-1.5 m; and/or soil drainage moderate: ASS not present; and/or erosion risk minor)

Class 3 **MARGINAL - Land with severe limitations.**
Will require major management practices.
(Slope 2-3%; and/or rock outcrop 2-10%; and/or soil depth 0.25-0.5 m; and/or soil drainage imperfect; and/or low probability of ASS soil present; and/or erosion risk high)

Class 4 **NOT SUITABLE - Land with extreme limitations.**
This includes erosion risk due to steep slopes, soil depth, rocky outcrops, and poor drainage.
(Slope >3%; and/or rock outcrop >10%; and/or soil depth <0.25 m; and/or soil drainage poor to very poor; and/or high probability of ASS present; and/or erosion risk very high)

General Land Capability Class 1 not in this survey

LIMITATIONS OF USE

This map does not indicate, imply or ascertain the likelihood of groundwater availability or the granting of appropriate water extraction licensing needed to satisfy potential irrigation requirements.

For information about groundwater availability, refer to the map -
Groundwater Dependent Development Potential in the Gunn Point Area.

POTENTIAL IRRIGATED AGRICULTURAL CROPS

Irrigated group		*Individual crops assessed*
Tree crops	1	Monsoonal Tropical – Mango, Cashew, Jackfruit, Tamarind, Coconut, Dragonfruit, Bamboo, Billy Goat plum, Moringa citrifolia
	2	Rainforest Tropical and Sub-Tropical – Rambutan, Durian, Longan, Carambola, Avocado, Sapote, Soursop, etc.
	3	Tropical Citrus – Lime, Lemon, Mandarin, Pommelo, Lemonade, Grapefruit
	4	Fruit row crops – Banana, Papaya, Pineapple, Passionfruit
Row crops	5	Cucurbits – Watermelon, Honeydew melon, Rockmelon, Pumpkin, Cucumber, Asian melons, Zucchini, Squash
	6	Fruiting vegetable crops – Solanaceae (Capsicum, Chilli, Eggplant, Tomato), Okra, Snake bean, Drumstick tree
	7	Leafy vegetables and herbs – Kangkong, Amaranth, Lettuce, Chinese cabbage, Bok Choy, Pak Choy, Choy Sum, Spring onions, Basil, Coriander, Dill, Mint, Spearmint, Chives, Oregano, Lemon grass
Root crops	8	Carrot, Onion, Sweet potato, Shallots, Ginger, Turmeric, Galangal, Yam bean, Taro
Forestry	9	Sandalwood (tba)
	10	Irrigated flower crops – Cucurma, Heliconia, Ellingera, Globba, Alpinia, Zingibar

Legend

Field Soil Sites
- Soil morphology (346)
- Soil morphology and CRS (3)
- Soil morphology and laboratory analysis (22)
- Map Extent Soils Gunn Point Area, 2020
- Map Extent Land Suitability Gunn Point Area, 2017
- Land Parcels
- NT Parks and Reserves
- Aboriginal Land (NT enhanced freehold)

7a2 Land Units

Landform Class, Land Unit **
- Rises, 6
- Low Rises, 7
- Plains (uplands), 8
- Plains (lowlands), 8b
- Drainage Systems, 10
- Drainage Systems, 10b
- Swamps, 11
- Marine, 12

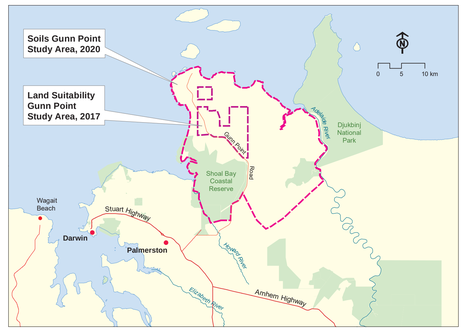
Dominant Soil Order
- Hydrosols
- Kandosols
- Rudosols

Acid Sulfate Soil Limitation Class
- Nil Probability
- Low to Nil Probability *
- High Probability

* *Note:* Low probability of ASS most likely to occur within land units 10 and 10b (<5 m AHD), adjoining the high probability land unit 12

** Scroll to pages 2 - 4
for summarised descriptions of map units (page size A4)

Study Area Location Map



Map Extent Soils Gunn Point Study Area, 2020
Map Extent Land Suitability Gunn Point Study Area, 2017
NT Parks and Reserves

Map production: March 2020. Drawing Ref: DENR20200003
C.Green, Geospatial Services, Department of Environment and Natural Resources

Mapping the Future

NORTHERN TERRITORY GOVERNMENT

Mapping the Future Project - Gunn Point

Soil and Land Resources of the Gunn Point Area

About this PDF map
Page 1 of this file is an interactive PDF map best viewed on screen using Adobe reader. If using Adobe Reader DC protected view, enable all features to see the map layers.
- Open folders in the left panel to view the individual map layers
- Users may turn layers ON or OFF
- Turn off layers above to view layers that are masked underneath
- Titles will automatically turn on to match the thematic display
- Only print one thematic display, so the titles do not merge
- To print this map, use page size A0 with no scaling

For further information, contact:

Department of Environment and Natural Resources
Mapping the Future Project
Web: denr.nt.gov.au/DevelopmentOpportunities

Rangelands Division
Ph. (08) 8999 4478
Email: rangelands@nt.gov.au
Level 3, Goyder Centre, 25 Chung Wah Terrace, Palmerston
Northern Territory

Soil and Land Resources of the Gunn Point Area, Northern Territory (2020)

LAND UNIT DESCRIPTION SUMMARY

This document should be read in conjunction with the following report:

Easey, D., Lynch, B. and Edmeades, B. (2020)
Mapping the Future Project - Gunn Point
Soil and Land Resources of the Gunn Point area, Northern Territory.
Technical Report 7/2020, Department of Environment and Natural Resources, Darwin, NT.

Metadata record - spatial data details, web links to report and maps

For further information, please contact;
Department of Environment and Natural Resources
Rangelands Division
Level 3, Goyder Centre, 25 Chung Wah Tce, Palmerston
Northern Territory
Email: rangelands@nt.gov.au
Web: soil-land-vegetation-information

Attributes: Land resource descriptions

Land Unit	*Landform Class*	*Dominant Soil*	Landform Description	*Soil Description*
6	Rises	Rudosols	Rises and short steep slopes including very gravelly lower foot-slopes above drainage areas	Very shallow, well drained, very gravelly, strongly acidic, brown, massive earths, overlying a matrix of weathered sedimentary material and partially decomposed conglomerates
7	Low Rises	Kandosols	Gently undulating low rises and gravelly pediment slopes	Moderately deep to shallow, well drained, gravelly, strongly acidic, brown, massive earths, overlying a matrix of weathered sedimentary material and partially decomposed conglomerates
8	Plains	Kandosols	Level to gently undulating upland plains	Very deep, well drained, strongly acidic, red massive or weakly structured gradational earths
8b	Plains	Kandosols	Gently undulating lowland plains	Deep, moderately well or imperfectly drained, gravelly, strongly acidic, red and brown, massive to moderately structured earths, overlying weathered ironstone and ferruginised sandstone gravels
10	Drainage Systems	Hydrosols	Open drainage lines, including seepage areas fringing incised creeks and channels	Very deep, very poorly drained, strongly acidic, non-gravelly, grey and brown structured clay soils
10b	Drainage Systems	Hydrosols	Gently sloping broad drainage floors, including open spillway depressions and alluvial plains	Deep, imperfect or poorly drained, gravelly, red or brown structured clay soils, ironstone and ferruginised sandstone gravels
11	Swamps	Hydrosols	Swamps, billabongs and closed depressions	Very deep, very poorly drained, non-gravelly, strongly acidic, hard setting, seasonally or permanently wet structured clay soils
12	Marine	Hydrosols	Dunes and beach ridges including estuarine fringes	Very deep, very poorly drained, non-gravelly, strongly acidic, moderately structured clay subsoils and deep uniform earthy sands

Landscape criteria used to assess general land capability

Land Unit	*Slope %*	*Slope Class*	*Soil Depth m*	*Soil Class*	*Drainage Class*	*Drainage*	*Surface Rock %*	*Surface Rock Class*	*Acid Sulfate*	*Sensitive Habitat*	*General Land Capability Class*
6	>3%	Excessive	<0.25 m	Very Shallow	Well	Soil may remain wet for several days after water addition	2-10%	Rocky	Nil Probability	Not Present	**4**
7	2-3%	Substantial	0.25-0.5 m	Shallow	Well	Soil may remain wet for several days after water addition	<2%	Negligible	Nil Probability	Not Present	**3**
8	1-2%	Gentle	>1.5 m	Very Deep	Well	Soil may remain wet for several days after water addition	Nil	None	Nil Probability	Not Present	**2**
8b	2-3%	Substantial	1.0 - 1.5 m	Deep	Imperfect	Soil saturation for several weeks after water addition	<2%	Negligible	Nil Probability	Not Present	**3**
10	0-1%	Level	>1.5 m	Very Deep	Very Poor	Water table remains at or near the surface for most of the year	Nil	None	Low to Nil Probability	Present	**4**
10b	1-2%	Gentle	1.0 - 1.5 m	Deep	Poor	Ponding and soil saturation for several months after	<2%	Negligible	Low to Nil Probability	Present	**4**
11	0-1%	Level	>1.5 m	Very Deep	Very Poor	Water table remains at or near the surface for most of the year	Nil	None	Nil Probability	Present	**4**
12	0-1%	Level	>1.5 m	Very Deep	Very Poor	Water table remains at or near the surface for most of the year	Nil	None	High Probability	Present	**4**

Class	*General Land Capability Description 1*	*General Land Capability Description 2*
2	Land with only moderate limitations. Will require minor management practices	Slope 1-2%; and/or rock outcrop 0-2%; and/or soil depth 0.5-1.5 m; and/or soil drainage moderate; ASS not present; and/or erosion risk minor
3	Land with severe limitations. Will require major management practices	Slope 2-3%; and/or rock outcrop 2-10%; and/or soil depth 0.25-0.5 m; and/or soil drainage imperfect; and/or low probability of ASS present; and/or erosion risk high
4	Land with extreme limitations. This includes erosion risk due to steep slopes, soil depth, rocky outcrops, and poor drainage	Slope >3%; and/or rock outcrop >10%; and/or soil depth <0.25 m; and/or soil drainage poor to very poor; and/or high probability of ASS present; and/or erosion risk very high

Agricultural Suitability Classes for a range of potential crop groups

Land Unit	*Group 1*	*Group 2*	*Group 3*	*Group 4*	*Group 5*	*Group 6*	*Group 7*	*Group 8*	*Group 9*	*Group 10*
6	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	0	**5**
7	**3**	**3**	**3**	**2**	**5**	**5**	**5**	**5**	0	**3**
8	**1**	**2**	**1**	**2**	**2**	**2**	**2**	**3**	0	**1**
8b	**3**	**3**	**3**	**3**	**5**	**5**	**5**	**5**	0	**3**
10	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	0	**5**
10b	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	0	**5**
11	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	0	**5**
12	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	0	**5**

POTENTIAL IRRIGATED AGRICULTURAL CROPS

Irrigated group		*Individual crops assessed*
Tree crops	1	Monsoonal Tropical – Mango, Cashew, Jackfruit, Tamarind, Coconut, Dragonfruit, Bamboo, Billy Goat plum, Morinda citrifolia
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	10	Irrigated flower crops – Cucurma, Heliconia, Etlingera, Globba, Alpinia, Zingibar

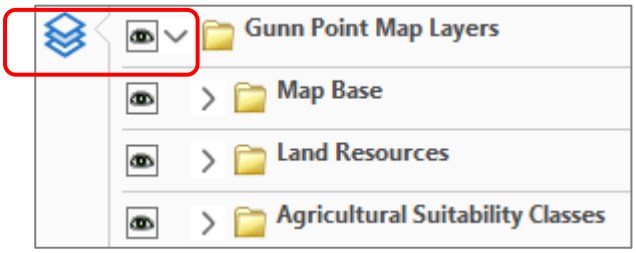
Soil and Land Resources of the Gunn Point Area – Interactive PDF Map

Interactive layers are not visible via web view. Download the PDF map to your computer.

Click here to view the map

Click to here to view Land Unit Summary Descriptions

About viewing this interactive PDF map using Adobe Reader

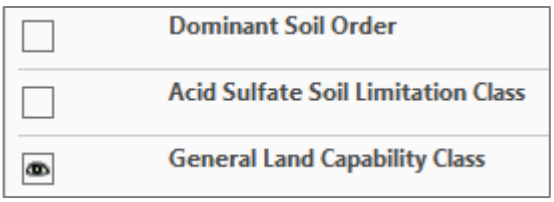


This interactive PDF map contains layers.

Using Adobe Reader, open the left panel to reveal the map layers.

Open each folder to see the individual map layers.

Show or hide each map layer.



Turn off colour filled layers above if they mask the layer below.

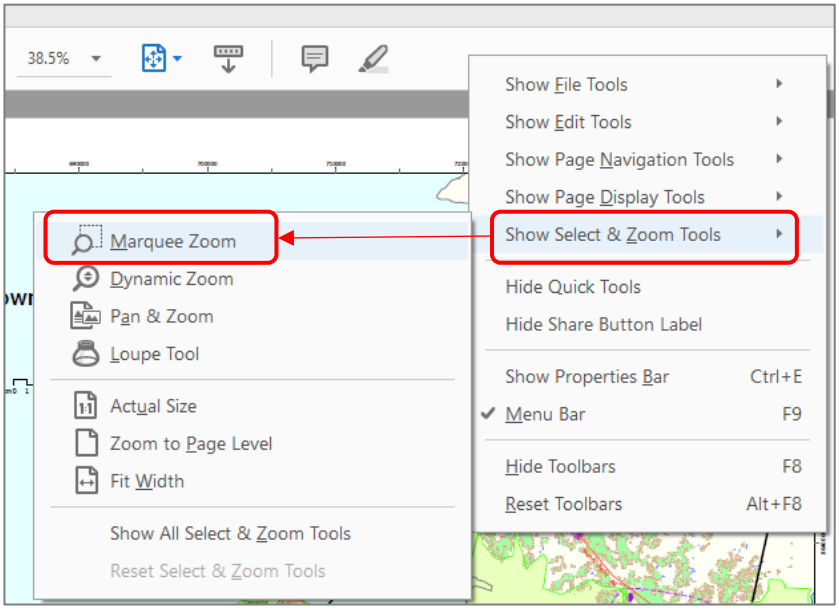
Titles will automatically display for each thematic class.

Only display one class layer as the titles will merge.

Scroll to Pages 2 - 4 to view the Land Unit Summary descriptions

Each land unit polygon is described with a large set of attributes. The page size is A4.

This summary description should be read in conjunction with the survey report.



How to add new Adobe tools

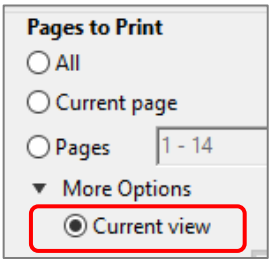
Right mouse click on the grey menu toolbar to see Adobe PDF viewing tools.

Tick the tool to add to the menu bar.

The **Marquee Zoom tool** is useful to view a small area on the map. eg zoom to the legend area.

Show Select & Zoom Tools > Marquee Zoom

To use: Click on the map and draw a rectangle to zoom to that location.



Printing

This map is best viewed on the computer screen.

The map is 110 x 79 cm. To print to a large format plotter, use page size A0 with no scaling. Only turn on one thematic class so the titles do not merge.

A smaller area on the map page may be printed using the Current View printing option.