

Metadata

Title	Netley-Libau Marsh Reports
	Abstract
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Related Resource Name

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Relationship to this publication

Online Resource

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Data and Resources

URL	https://lwbin-dev.ad.umanitoba.ca/data/dataset/5d9ba1e8-61e5-496e-b568-edf0435733cd/resource/9348284c-5021-4ff1-a820-374c17f939bf/download/netley-libau-phase-ii.2-report.pdf
Name	Water and Vegetation Cover in Netley-Libau Marsh 1990 – 2013. Phase II Report: A time series analysis based on landsat imagery
Description	<p>Netley-Libau Marsh, the largest coastal wetland adjoining Lake Winnipeg, has been mapped by aerial photography in the past (Grosshans et al 2004; Verbiwski 1986), indicating a trend of vegetation loss, but a lack of historic aerial photography has limited mapping efforts to sporadic intervals. Satellite imagery, though of a coarser spatial resolution, has the advantage of high temporal and spectral resolution. Using Landsat images and a methodology developed in an earlier phase of this study (Watchorn 2014), a time series of classified vegetation cover maps was produced for twelve years between 1990 and 2013. Water cover maps were produced for another eight years within this interval, resulting in a time series representing 20 years of this 23-year period. This time series allowed for an investigation into relationships between the extent and distribution of Netley's vegetation community to underlying hydrological factors on adjoining Lake Winnipeg and the Red River, which can be used to guide future marsh remediation measures. The analysis of this time series indicates that the long-term trend of vegetation loss in Netley-Libau Marsh has not been steady, nor has it been unidirectional. Observed vegetation change – both loss and gain – was characterised by sudden dramatic changes disrupting periods of relative stasis. Lake Winnipeg water level was identified as the major factor responsible for shifting the balance between emergent wetland vegetation and open water. Periods of low water as short as one year had dramatic and persistent effects on emergent vegetation cover, particularly in smaller lakes. Regenerated emergent vegetation was less persistent in the large Netley Lake, suggesting that marsh bathymetry is dynamic. This study also identified that Lake Winnipeg water level and Red River flow are both contributing factors which influence the extent of wet meadows around Netley-Libau Marsh. Decreased river discharges and lake levels were correlated with increasing use of these regions as hayed or cultivated land. Finally, the interpretation of the cover map time series indicates the connectivity between the marsh lakes and Lake Winnipeg has varied and is presently increasing.</p>
Format	PDF
Resource Category	documents

URL	
Name	An Analysis of Digital Wetland Vegetation Map Coverages. Produced Based on Aerial Photography and Satellite Imagry Netley-Libau Marsh, 2001
Description	
Format	PDF
Resource Category	documents

Related Datasets

Title	High resolution images of Netley-Libau Marsh
URL	https://lwbin-dev.ad.umanitoba.ca/data/dataset/hires-netlib