COMPENDIUM OF

Wetlands (Conservation and Management) Rules, 2017, Guidelines for implementing Wetlands (Conservation and Management) Rules, 2017 and Guidelines for National Plan for Conservation of Aquatic Ecosystems

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Wetlands (Conservation and Management) Rules, 2017

रजिस्ट्री सं० डी० एल०-33004/99 REGD. NO. D. L.-33004/99

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अधिसूचना

नई दिल्ली, 26 सितम्बर, 2017

सा.का.नि. 1203(अ).—आर्द्रभूमि, जो जलीय चक्र का अत्यावश्यक भाग हैं, उच्चतर उत्पादक पारिस्थितिकी प्रणालियां हैं जो समृद्ध जैवविविधता का आधार हैं तथा हमारी समृद्ध सांस्कृतिक विरासत का भाग होने के कारण कई महत्वपूर्ण मनोरंजक, सामाजिक और सांस्कृतिक कार्यकलापों का समर्थन करते हुए जल भंडारण, जल शुद्धिकरण, बाढ़ अल्पीकरण, अपरदन नियंत्रण, भूजल का पुन:भरण, सूक्ष्म जलवायु का विनियमन, दृश्यभूमि के सौन्दर्य बोध को बढ़ाना जैसी पारिस्थितिकी प्रणाली सेवाओं की व्यापक रेंज प्रदान करता है।

और, अधिकतर आर्द्रभूमि, अपवहन और भरणस्थान, प्रदूषण (घरेलू और औद्योगिक बहि:स्राव का निस्सारण, ठोस अपशिष्टों का निपटान), जल विज्ञान संबंधी परिवर्तन (जल अपनयन और अंतर्वाह तथा बहिर्वाह परिवर्तन) के माध्यम से भूमि सुधार और अवक्रमण के कारण गंभीर रूप से संकटग्रस्त स्थिति में हैं और उनके प्राकृतिक संसाधनों के अत्यधिक दोहन के परिणामस्वरूप जैव विविधता की हानि और आर्द्रभूमि द्वारा उपलब्ध पारिस्थितिकी प्रणाली सेवाओं में विघटन हुआ है;

और, संविधान के अनुच्छेद 51क के खंड (छ) में यह बताया गया है कि भारत के प्रत्येक नागरिक का यह कर्तव्य होगा कि वह प्राकृतिक पर्यावरण की, जिसके अंतर्गत वन, झील, नदी और वन्यजीव हैं, रक्षा करे और उसका संवर्धन करे तथा प्राणिमात्र के प्रति दयाभाव रखे;

और पर्यावरण (संरक्षण) अधिनियम, 1986 पर्यावरण को संरक्षण प्रदान करने तथा उसमें सुधार लाने के लिए एक व्यापक विधान है, जिसमें अन्य बातों के साथ-साथ आर्द्रभूमि और उससे जुड़े मामले भी सम्मिलित हैं।

और, राष्ट्रीय पर्यावरण नीति, 2006 में आर्द्रभूमि द्वारा उपलब्ध पारिस्थितिकी सेवा को मान्यता दी गई है और सभी आर्द्रभूमि के लिए एक विनियामक तंत्र स्थापित करने की आवश्यकता पर बल दिया गया है, जिससे उनकी ऐसी पारिस्थितिकी स्थिति को बनाए रखा जा सके, जो अंततोगत्वा उनके एकीकृत प्रबंध में सहायक हो;

और, भारत, आर्द्रभूमि संबंधी रामसर अभिसमय का हस्ताक्षरकर्ता है, तथा अपने अधिकार क्षेत्र के भीतर सभी आर्द्रभूमियों के संरक्षण और बुद्धिमतापूर्ण उपयोग के लिए प्रतिबद्ध है।

और केन्द्रीय सरकार ने तारीख 4 दिसंबर, 2010 की सं.सा.का.नि. 951(अ) द्वारा आर्द्रभूमि (संरक्षण और प्रबंधन) नियम, 2010, प्रकाशित किए हैं;

और आर्द्रभूमि का संरक्षण और युक्तियुक्त उपयोग राज्य और राष्ट्रीय अर्थव्यवस्था को सारवान प्रत्यक्ष और अप्रत्यक्ष आर्थिक लाभ प्रदान कर सकता है तथा केन्द्रीय सरकार विभिन्न क्षेत्रों के लिए विकास आयोजना तथा निर्णय लेने की प्रक्रिया में आर्द्रभूमि जैवविविधता तथा पारिप्रणाली सेवाओं की पूर्ण शृंखला को मुख्य धारा में लाने के लिए प्रतिबद्ध है;

और, राज्य सरकारें और संघ राज्य क्षेत्र प्रशासनों को इसी प्रकार से अपने विकासात्मक कार्यक्रमों तथा आर्थिक कल्याण में आर्द्रभूमि पारिस्थितिकी प्रणाली सेवाओं और जैव विविधता संबंधी मूल्यों पर विचार करने और इस बात को संज्ञान में लेने की आवश्यकता है कि आर्द्रभूमि पारिस्थितिकी प्रणाली के दो मुख्य पारिस्थितिकी घटक भूमि और जल, भारतीय संविधान के अनुसार राज्य के विषय के रूप में सूचीबद्ध हैं;

और केन्द्रीय सरकार ने देश में आर्द्रभूमियों के प्रभावी संरक्षण और प्रबंधन के लिए आर्द्रभूमि (संरक्षण और प्रबंधन) नियम, 2010 को अधिक्रांत करना आवश्यक समझा है;

और, अब, केंद्रीय सरकार ने पर्यावरण (संरक्षण) अधिनियम, 1986 की उपधारा (1) और उपधारा (2) के खंड (v) और धारा 3 की उपधारा (3) के साथ पठित धारा 25 द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए जनसाधारण की जानकारी के लिए, जिनके उससे प्रभावित होने की संभावना है, सा.का.नि. 385 (अ) तारीख 31 मार्च, 2016 द्वारा आर्द्रभूमि (संरक्षण और प्रबंधन) नियम, 2016 का प्रारूप प्रकाशित किया था; और यह सूचना दी गई थी कि केंद्रीय सरकार द्वारा उक्त प्रारूप नियमों पर, उस तारीख से, जिसको इस राजपत्र में यथाप्रकाशित इस अधिसूचना की प्रतियां जनता को उपलब्ध करा दी जाती है, साठ दिन की अवधि की समाप्ति के पश्चात् विचार किया जाएगा;

और, केन्द्रीय सरकार को प्रारूप आर्द्रभूमि (संरक्षण और प्रबंधन) नियम, 2016 के संबंध में राज्य सरकारों, संघ राज्य क्षेत्रों राज्यों और इसके संगठनों, व्यक्तियों और सिविल समाज संगठनों से सुझाव तथा आक्षेप प्राप्त हुए हैं;

और, ऐसे आक्षेपों और सुझावों पर, जो ऊपर उल्लिखित प्रारूप नियमों के संबंध में प्राप्त हुए हैं, पर राज्य सरकारों और राज्य क्षेत्र प्रशासनों के परामर्श से केन्द्रीय सरकार द्वारा सम्यक रूप से विचार किया गया;

अत: अब, केन्द्रीय सरकार, पर्यावरण (संरक्षण) अधिनियम, 1986 की धारा 3 की उप-धारा (1) और उप-धारा (2) के खंड (v) और उप-धारा (3) के साथ पठित धारा 25 और धारा 23 द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए तथा आर्द्रभूमि (संरक्षण और प्रबंधन) नियम, 2010 को उन बातों के सिवाय अधिक्रांत करते हुए, जिन्हें ऐसे अधिक्रमण से पूर्व किया गया था या करने का लोप किया गया था, आर्द्रभूमि के संरक्षण और प्रबंधन के लिए निम्नलिखित नियम बनाती है, अर्थात्:—

1. संक्षिप्त नाम और प्रारंभ.—

(1) इन नियमों का संक्षिप्त नाम आर्द्रभूमि (संरक्षण और प्रबंध) नियम, 2017 है।

(2) ये राजपत्र में प्रकाशन की तारीख को प्रवृत्त होंगे।

2. परिभाषाएं.—

(1) इन नियमों में, जब तक कि संदर्भ से अन्यथा अपेक्षित न हो,—

(क) "अधिनियम" से पर्यावरण (संरक्षण) अधिनियम, 1986 अभिप्रेत है;

(ख) "प्राधिकरण" से यथास्थिति राज्य आर्द्रभूमि प्राधिकरण या संघ राज्य क्षेत्र आर्द्रभूमि प्रधिकरण, अभिप्रेत है;

(ग) "समिति" से नियम 6 में निर्दिष्ट राष्ट्रीय आर्द्रभूमि समिति अभिप्रेत है;

(घ) "पारिस्थितिकीय गुण" से पारिस्थितिकी प्रणाली घटकों, प्रक्रियाओं तथा सेवाओं का ऐसा संकलन अभिप्रेत है जो आर्द्रभूमियों की विशिष्टता चित्रित करता है;

(ङ) "एकीकृत प्रबंधन योजना" से कोई ऐसा दस्तावेज अभिप्रेत है जिसमें आर्द्रभूमि का युक्तियुक्त उपयोग के लिए कार्यनीतियों और कार्रवाइयों का वर्णन किया गया है तथा इस योजना में स्थल प्रबंधन के उद्देश्य; उद्देश्यों को प्राप्त करने के लिए अपेक्षित प्रबंधन कार्रवाइयां, वे घटक, जो विभिन्न स्थल विशिष्टताओं को प्रभावित करते हैं, या प्रभावित कर सकते हैं; पारिस्थितिकीय स्वरूप में परिवर्तनों का पता लगाने के लिए और प्रबंधन की प्रभाविता के मापन के लिए अपेक्षित मानीटरी और कार्यान्वयन प्रबंधन कार्यान्वयन के लिए संसाधन सम्मिलित हैं;

(च) "रामसर अभिसमय" से 1971 में ईरान के रामसर में हस्ताक्षरित आर्द्रभूमि संबंधी अभिसमय अभिप्रेत है;

(छ) "आर्द्रभूमि से कोई क्षेत्र या कच्छ पंक, पीटभूमि या जल; प्राकृतिक या कृत्रिम, स्थायी या अस्थायी, जल जो ठहरा है या बहते, ताजे, खारे या लवणीय, जिसके अंतर्गत समुद्री जल का जिसकी गहराई ज्वार की स्थिति छह मीटर से अधिक की न हो अभिप्रेत है, परंतु इसमें नदी जल मार्ग, धान के खेत, पेयजल प्रयोजनार्थ विशिष्ट रूप से मानव निर्मित जल निकाय/जलाशय, मत्स्यपालन, नमक उत्पादन और सिंचाई प्रयोजनों के लिए विशिष्ट रूप से निर्मित संरचनाएं सम्मिलित नहीं हैं;

(ज) "आर्द्रभूमि परिसर" से दो या दो से अधिक पारिस्थितिकीय और जलीय समीपस्थ आर्द्रभूमियां तथा जिनमें उनसे जुड़े नाले/वाहिकाएं सम्मिलित हो सकती हैं, अभिप्रेत हैं;

(झ) "आर्द्रभूमियों का युक्तियुक्त उपयोग" से सतत विकास के संदर्भ में पारिप्रणाली दृष्टिकोण के माध्यम से प्राप्त पारिस्थितिकीय गुणों का रख-रखाव अभिप्रेत है;

(ञ) "प्रभावित जोन" से आर्द्रभूमि या आर्द्रभूमि परिसर के आवाह-क्षेत्र का वह भाग जिस पर विकासात्मक कार्यकलापों के कारण पारिप्रणाली ढांचे, तथा पारिप्रणाली सेवाओं में प्रतिकूल परिवर्तन पड़ता है।

(2) उन सभी शब्दों और पदों के, जो इन नियमों में प्रयुक्त हैं और परिभाषित नहीं है, किंतु अधिनियम में परिभाषित है, वही अर्थ होंगे जो उनके उस अधिनियम में हैं।

3. नियमों का लागू होना.—ये नियम निम्नलिखित आर्द्रभूमियों या आर्द्रभूमि परिसरों को लागू होंगे, अर्थात्:-

(क) रामसर अभिसमय के अधीन 'अंतरराष्ट्रीय महत्व की आर्द्रभूमि' के रूप में वर्गीकृत आर्द्रभूमियां;

(ख) केन्द्रीय सरकार, राज्य सरकार और संघ राज्य क्षेत्र प्रशासन द्वारा यथा अधिसूचित आर्द्रभूमियां।

परंतु ये नियम समय-समय पर यथा संशोधित भारतीय वन अधिनियम, 1927, वन्यजीव (संरक्षण) अधिनियम, 1972, वन (संरक्षण) अधिनियम, 1980, राज्य वन अधिनियम तथा तटीय विनियमन जोन अधिसूचना, 2011 के अंतर्गत आने वाले क्षेत्रों में पड़ने वाली आर्द्रभूमियों को लागू नहीं होंगे।

4. आर्द्रभूमियों में क्रियाकलापों पर निर्बंधन.—(1) आर्द्रभूमि का संरक्षण और प्रबंध, आर्द्रभूमि प्राधिकरण द्वारा यथा अवधारित 'युक्तियुक्त उपयोग' के सिद्धांत के अनुसार किया जाएगा।

(2) आर्द्रभूमि के भीतर, निम्नलिखित क्रियाकलापों को प्रतिषिद्ध किया जाएगा, अर्थात्:-

(i) किसी भी किस्म के अतिक्रमण सहित गैर-आर्द्रभूमि उपयोग हेतु परिवर्तन;

(ii) किसी उद्योग को स्थापित करना और विद्यमान उद्योगों का विस्तार करना;

(iii) निर्माण और विध्वंस अपशिष्ट प्रबंधन नियम, 2016 के अंतर्गत आने वाले निर्माण और विध्वंस अपशिष्ट का विनिर्माण या हथालन या भंडारण या निपटान; परिसंकटमय रसायन के विनिर्माण, भंडारण और आयात नियम, 1989 या परिसंकटमय सूक्ष्म जीवों आनुवंशिक रूप से निर्मित जीवों या कोशिकाओं का उपयोग, आयात, निर्यात और भंडारण संबंधी नियम, 1989 या परिसंकटमय अपशिष्ट (प्रबंधन, हथालन और सीमापारीय संचलन) नियम 2008 के अंतर्गत आने वाले परिसंकटमय पदार्थ; ई-अपशिष्ट (प्रबंधन) नियम, 2016 के अंतर्गत आने वाला ई-अपशिष्ट;

(iv) ठोस अपशिष्ट का पाटन;

उद्योगों, शहरों, कस्बों, गांवों और अन्य मानव बस्तियों से अशोधित अपशिष्ट और बहिस्रावों का निस्सारण;

(v) किसी स्थायी प्रकृति का किसी निर्माण सिवाय नाव घाटों के, पचास मीटर के भीतर इन नियमों के प्रारंभ की तारीख से पिछले दस वर्षों में प्रेक्षित बाढ़ के औसतन उच्च स्तर से गणना की जाएगी; और

(vi) अवैध शिकार।

परंतु केन्द्रीय सरकार प्राधिकरण की सिफारिश पर किसी कार्यकलाप के विलोपन के लिए राज्य सरकार या संघ राज्य क्षेत्र प्रशासन से प्राप्त प्रस्तावों पर विचार कर सकेगी।

5. आर्द्रभूमि प्राधिकरण.—(1) केन्द्रीय सरकार, प्रत्येक राज्य में राज्य आर्द्रभूमि प्राधिकरण का गठन करेगी जिसमें निम्नलिखित सदस्य होंगे, अर्थात्:-

(i) राज्य सरकार के पर्यावरण/वन विभाग का भारसाधक मंत्री या आर्द्रभूमि के विषय से संबंधित कार्य कर रहे भारसाधक मंत्री - अध्यक्ष;

(ii) राज्य का मुख्य सचिव या समतुल्य अपर मुख्य सचिव – उपाध्यक्ष;

(iii) पर्यावरण विभाग का भारसाधक सचिव – पदेन सदस्य;

(iv) वन विभाग का भारसाधक सचिव – पदेन सदस्य;

(v) शहरी विकास विभाग का भारसाधक सचिव – पदेन सदस्य;

(vi) ग्रामीण विकास विभाग का भारसाधक सचिव – पदेन सदस्य;

(vii) जल संसाधन विभाग का भारसाधक सचिव – पदेन सदस्य;

(viii) मत्स्यकी विभाग का भारसाधक सचिव – पदेन सदस्य;

(ix) सिंचाई और बाढ़ नियंत्रण विभाग का भारसाधक सचिव – पदेन सदस्य;

(x) पर्यटन विभाग का भारसाधक सचिव – पदेन सदस्य;

(xi) राजस्व विभाग का भारसाधक सचिव – पदेन सदस्य;

(xii) निदेशक, सुदूर संवेदी केन्द्र – पदेन सदस्य;

(xiii) मुख्य वन्यजीव वार्डन – पदेन सदस्य;

(xiv) सदस्य सचिव, राज्य जैवविविधता बोर्ड – पदेन सदस्य;

(xv) सदस्य सचिव, राज्य प्रदूषण नियंत्रण बोर्ड – पदेन सदस्य;

(xvi) पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय के क्षेत्रीय कार्यालय का अपर प्रधान मुख्य संरक्षक – पदेन सदस्य;

(xvii) आर्द्रभूमि पारिस्थितिकी, जल विज्ञान, मत्स्यकी, भू-दृश्य योजना और सामाजिक-आर्थिक क्षेत्र में से प्रत्येक का एक विशेषज्ञ जिसे राज्य सरकार द्वारा नामनिर्दिष्ट किया जाए; और

(xviii) पर्यावरण/वन विभाग या आर्द्रभूमियों से संबंधित विभाग में अपर सचिव/ संयुक्त सचिव/निदेशक - सदस्य सचिव।

(2) केन्द्रीय सरकार, प्रत्येक राज्य क्षेत्र के लिए संघ राज्य क्षेत्र आर्द्रभूमि प्राधिकरण का गठन करेगी जिसमें निम्नलिखित सदस्य होंगे, अर्थात्:-

(i) संघ राज्य क्षेत्र का प्रशासक या मुख्य सचिव – अध्यक्ष;

(ii) पर्यावरण विभाग का भारसाधक सचिव – उपाध्यक्ष;

(iii) वन विभाग का भारसाधक सचिव – पदेन सदस्य;

(iv) शहरी विकास विभाग का भारसाधक सचिव – पदेन सदस्य;

(v) ग्रामीण विकास विभाग का भारसाधक सचिव – पदेन सदस्य;

(vi) जल संसाधन विभाग का भारसाधक सचिव - पदेन सदस्य;

(vii) मत्स्यकी विभाग का भारसाधक सचिव - पदेन सदस्य;

(viii) सिंचाई और बाढ़ नियंत्रण विभाग का भारसाधक सचिव - पदेन सदस्य;

(ix) पर्यटन विभाग का भारसाधक सचिव - पदेन सदस्य;

(x) राजस्व विभाग का भारसाधक सचिव - पदेन सदस्य;

(xi) निदेशक, सुदूर संवेदी केन्द्र - पदेन सदस्य;

(xii) सदस्य सचिव, संघ राज्य क्षेत्र प्रदूषण नियंत्रण समिति - पदेन सदस्य;

(xiii) सदस्य सचिव, संघ राज्य क्षेत्र जैव-विविधता बोर्ड - पदेन सदस्य;

(xiv) मुख्य वन्यजीव वार्डन - पदेन सदस्य;

(xv) पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय के क्षेत्रीय कार्यालय के अपर प्रधान मुख्य वन संरक्षक - पदेन सदस्य;

(xvi) आर्द्रभूमि पारिस्थितिकी, जल-विज्ञान, मत्स्यकी, भू-दृश्य योजना और सामाजिक-आर्थिक क्षेत्रों से एक-एक विशेषज्ञ जिसे संघ राज्य क्षेत्र प्रशासन द्वारा नामनिर्दिष्ट किया जाए; और

(xvii) पर्यावरण/वन विभाग या आर्द्रभूमि हथालन विभाग में अपर सचिव/संयुक्त सचिव/निदेशक - सदस्य सचिव।

(3) राज्य आर्द्रभूमि प्राधिकरण या संघ राज्य क्षेत्र आर्द्रभूमि प्राधिकरण, तीन से अधिक, यदि अपेक्षित हों, अन्य सदस्यों, का सह-चयन, कर सकेंगे।

(4) राज्य आर्द्रभूमि प्राधिकरण या संघ राज्य क्षेत्र आर्द्रभूमि प्राधिकरण, निम्नलिखित शक्तियों का प्रयोग करेगा और निम्नलिखित कृत्यों का पालन करेगा, अर्थात् :—

(क) इन नियमों के प्रकाशन की तारीख से तीन मास के भीतर राज्य या संघ राज्य क्षेत्र की सभी आर्द्रभूमियों की सूची तैयार करना;

(ख) इन नियमों के प्रकाशन की तारीख से छह मास के भीतर अधिसूचित की जाने वाली आर्द्रभूमियों की सूची तैयार करना; अन्य समंगत राज्य अधिनियमों के अधीन तैयार/अधिसूचित आर्द्रभूमियों की किसी विद्यमान सूची को संज्ञान में लेना;

(ग) इन नियमों के अधीन विनियमन हेतु उनके संक्षिप्त दस्तावेज़ों के आधार पर अभिज्ञान आर्द्रभूमियों की संस्तुति करना;

(घ) इन नियमों के प्रकाशन की तारीख से एक वर्ष की अवधि के भीतर सभी आर्द्रभूमियों की व्यापक डिज़ीटल सूची तैयार करना और उक्त प्रयोजन से केन्द्रीय सरकार द्वारा विकसित की जाने वाले डेडीकेटिड वेब पोर्टल पर इसे अपलोड करना; और इस सूची को प्रत्येक दस वर्ष में अद्यतन किया जाएगा;

(ङ) अधिसूचित आर्द्रभूमियों के भीतर विनियमित और अनुज्ञात किए जाने वाले कार्यकलापों और उनके प्रभाव क्षेत्र की विस्तृत सूची विकसित करना;

(च) विनिर्दिष्ट आर्द्रभूमियों के लिए प्रतिषिद्ध कार्यकलापों की सूची में बढ़ोतरी, यदि कोई हो, की सिफारिश करना;

(छ) आर्द्रभूमियों की अधिकारिता के भीतर उनके संरक्षण और युक्तियुक्त उपयोग के लिए कार्यनीतियां पारिभाषित करना; यदि पारिस्थितिक प्रणाली के कार्यकलापों (जल भण्डारण, भू-जल संभरण, बाढ़-प्रतिरोधक जैसे) और मूल्य (मनोरंजन और सांस्कृतिक जैसे) का अनुरक्षण किया जाता है या उसमें अभिवृद्धि की जाती है; तो इन पारिस्थितिक प्रणाली को प्रबंधित करने के लिए एक सिद्धांत, जो संरक्षण के साथ संगत वहनीय उपयोगों को समावेशित करता है (जैसे जीवन-निर्वाह स्तर हेतु मछली पकड़ना या जलीय वनस्पति की पैदावार करना) का विवेकपूर्ण उपयोग करना;

(ज) प्रत्येक अधिसूचित आर्द्रभूमियों के लिए एकीकृत प्रबंधन योजना का पुनर्विलोकन करना (केन्द्रीय सरकार के समन्वयन से सीमा-पारीय आर्द्रभूमियों सहित), और इन योजनाओं के भीतर आर्द्रभूमियों, जो पारिस्थितिकीय स्वरूप के अनुकूल हैं, के पारम्परिक उपयोगों को जारी रखना और उसमें समर्थन देने पर विचार करना;

(झ) उन मामलों में, जहां अधिसूचित आर्द्रभूमियों या आर्द्रभूमि परिसरों की सीमा के भीतर भूमि क्षेत्र का निजी भू-धारण अधिकार है, उन्हें बढ़ावा देने के लिए कार्यकलापों के माध्यम से पारिस्थितिकीय स्वरूप को बनाये रखने के लिए कार्यतंत्रों हेतु सिफारिश करना;

(ञ) विद्यमान राज्य/संघ राज्य क्षेत्र स्तर की विकास योजनाओं और कार्यक्रमों के साथ प्रबंध योजना के कार्यान्वयन के अभिसरण के लिए कार्यतंत्रों की पहचान करना;

(ट) इन नियमों और अन्य सुसंगत अधिनियमों, नियमों और विनियमों का प्रवर्तन सुनिश्चित करना और अर्द्ध-वार्षिक आधार पर (प्रत्येक कैलेन्डर वर्ष के जून और दिसम्बर पर) एक सूचना तंत्र के माध्यम से ऐसी अधिसूचित आर्द्रभूमियों की स्थिति पर संबंधित राज्य सरकार या संघ राज्य क्षेत्र प्रशासन या केन्द्रीय सरकार को सूचना देना;

(ठ) विभिन्न संगत विभागों और अन्य संबंधित अभिकरणों के माध्यम से युक्तियुक्त उपयोग के सिद्धांत के आधार पर एकीकृत प्रबंधन योजनाओं के क्रियान्वयन का समन्वयन करना;

(ड) राज्य या संघ राज्य क्षेत्र प्रशासन के भीतर सभी आर्द्रभूमि विनिर्दिष्ट प्राधिकरणों के लिए नोडल प्राधिकरण के रूप में कार्य करना;

(ढ) संबंधित क्रियान्वयन अभिकरणों को आर्द्रभूमियों के संरक्षण और सतत प्रबंधन हेतु आवश्यक निदेश जारी करना;

(ण) आर्द्रभूमियों के मूल्यों और क्रियाकलापों के संबंध में पणधारियों और स्थानीय समुदायों के बीच जागरूकता के संवर्धन हेतु उपाय करना; और

(त) स्वप्रेरणा से या राज्य सरकार या संघ राज्य क्षेत्र प्रशासन द्वारा यथानिर्दिष्ट अन्य मामले पर सलाह देना।

(5) राज्य सरकार या संघ राज्य क्षेत्र प्रशासन का संबंधित विभाग, प्राधिकरण के लिए नोडल विभाग और सचिवालय के रूप में सभी आवश्यक सहायता प्रदान करेगा और कार्य करेगा।

(6) प्राधिकरण, इन नियमों के प्रकाशन के नब्बे दिन के भीतर :

(क) संक्षिप्त दस्तावेज़ों और प्रबंध योजनाओं का पुनर्विलोकन करने तथा आर्द्रभूमि प्राधिकरण द्वारा निर्दिष्ट किसी तकनीकी विषय पर सलाह देने के लिए एक तकनीकी समिति का, और

(ख) जनता द्वारा प्राधिकरण को की गई शिकायतों की सुनवाई करने और उन्हें अग्रेषित करने के लिए एक कार्यतंत्र उपलब्ध कराने हेतु चार सदस्यों से मिलकर बनी एक शिकायत समिति का गठन करेगा।

(7) उप-नियम (6) में निर्दिष्ट समितियां अपने कृत्यों के निष्पादन के लिए प्रत्येक तिमाही में कम से कम एक बार बैठक करेंगी ।

(8) प्राधिकरण की वर्ष में कम से कम तीन बार बैठक होगी।

(9) राज्य सरकार या संघ राज्य क्षेत्र प्रशासन द्वारा नामनिर्दिष्ट प्राधिकरण के गैर-अधिकारिक सदस्यों का कार्यकाल अधिकतम तीन वर्ष की अवधि का होगा।

6. राष्ट्रीय आर्द्रभूमि समिति का गठन.—(1) केन्द्रीय सरकार, एक राष्ट्रीय आर्द्रभूमि समिति का गठन करेगी, जिसमें निम्नलिखित सदस्य होंगे, अर्थात् :—

(i) सचिव, पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय, भारत सरकार – अध्यक्ष;

(ii) आर्द्रभूमि संबंधी कार्य देख रहे विशेष सचिव या अपर सचिव, पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय, भारत सरकार – उपाध्यक्ष;

(iii) अपर महानिदेशक, वन्यजीव, पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय, भारत सरकार – पदेन सदस्य;

(iv) आर्द्रभूमियों संबंधी कार्य देख रहे सलाहकार या संयुक्त सचिव, पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय – पदेन सदस्य;

(v) संयुक्त सचिव, पर्यटन मंत्रालय, भारत सरकार – पदेन सदस्य;

(vi) संयुक्त सचिव, जल संसाधन, नदी विकास और गंगा संरक्षण मंत्रालय, भारत सरकार – पदेन सदस्य;

(vii) संयुक्त सचिव, कृषि और किसान कल्याण मंत्रालय, भारत सरकार – पदेन सदस्य;

(viii) संयुक्त सचिव, सामाजिक न्याय और अधिकारिता मंत्रालय भारत सरकार – पदेन सदस्य;

(ix) संयुक्त सचिव, शहरी विकास मंत्रालय, भारत सरकार - पदेन सदस्य;

(x) संयुक्त सचिव, ग्रामीण विकास मंत्रालय, भारत सरकार - पदेन सदस्य;

(xi) अध्यक्ष, केन्द्रीय प्रदूषण नियंत्रण बोर्ड - पदेन सदस्य;

(xii) निदेशक, भारतीय प्राणि सर्वेक्षण या वैज्ञानिक एफ - पदेन सदस्य;

(xiii) निदेशक, भारतीय वनस्पति सर्वेक्षण या वैज्ञानिक एफ - पदेन सदस्य;

(xiv) निदेशक, अंतरिक्ष अनुप्रयुक्ति केंद्र, अहमदाबाद या वैज्ञानिक एफ - पदेन सदस्य;

(xv) सदस्य केन्द्रीय जल आयोग - पदेन सदस्य;

(xvi) सलाहकार, नीति आयोग - पदेन सदस्य;

(xvii) राज्य सरकार या संघ राज्यक्षेत्र प्रशासन के तीन प्रतिनिधि, चक्रानुक्रम आधार पर, प्रत्येक दो वर्ष के कार्यकाल के लिए;

(xviii) आर्द्र भूमि पारिस्थितिकी, जल विज्ञान, मत्स्यकी क्षेत्र, भू-दृश्य योजना और सामाजिक अर्थशास्त्र के क्षेत्रों में से प्रत्येक का एक-एक विशेषज्ञ; और

(xix) आर्द्रभूमि से संबंधित कार्य करने वाले निदेशक/अपर निदेशक/संयुक्त निदेशक, पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय - सदस्य सचिव।

(2) राष्ट्रीय आर्द्रभूमि समिति, यदि अपेक्षित हो, तीन से अनधिक अन्य सदस्यों को सहयोजित कर सकेगी।

(3) राष्ट्रीय आर्द्रभूमि समिति निम्नलिखित कृत्यों का पालन करेगी, अर्थात्:—

(क) आर्द्रभूमियों के संरक्षण तथा बुद्धिमत्तापूर्ण उपयोग के लिए समुचित नीतियों और कार्रवाई सम्बन्धी कार्यक्रमों के विषय में केंद्रीय सरकार को सलाह देना;

(ख) आर्द्रभूमियों के एकीकृत प्रबंधन के लिए बुद्धिमत्तापूर्ण उपयोग के सिद्धान्त पर आधारित मानदंड और मार्गदर्शक सिद्धांत तैयार करना;

(ग) प्राधिकरण द्वारा इन नियमों के क्रियान्वयन की निगरानी करना;

(घ) नियम 4 के उप नियम (2) में यथानिर्दिष्ट प्रतिषेधित क्रियाकलापों के लिए राज्य सरकारों या संघ राज्य क्षेत्र प्रशासनों से प्राप्त पुनरीक्षित प्रस्तावों के संबंध में केन्द्रीय सरकार को सलाह देना;

(ङ.) रामसर अभिसमय के अधीन अंतर्राष्ट्रीय महत्व की आर्द्रभूमियों को अभिहित किये जाने की सिफारिश करना;

(च) अधिसूचित किये जाने के लिए सीमापार आर्द्रभूमियों की सिफारिश करना;

(छ) रामसर स्थलों और सीमापार आर्द्रभूमियों के एकीकृत प्रबंध की प्रगति का पुनर्विलोकन करना;

(ज) आर्द्रभूमियों से संबंधित मुद्दों पर अंतर्राष्ट्रीय अभिकरणों के समन्वय के संबंध में सलाह देना; और

(झ) किसी अन्य मामले पर स्वप्रेरणा से सलाह देना या केंद्रीय सरकार को निर्दिष्ट करना।

(4) समिति के गैर-सरकारी सदस्यों को कार्यकाल तीन वर्ष से अनधिक का नहीं होगा।

(5) समिति प्रत्येक छह मास में कम से कम एक बार बैठक करेगी।

7. **राज्य सरकारों और संघ राज्य क्षेत्र प्रशासनों को शक्तियों और कार्यों का प्रत्यायोजन.**—(1) राज्य सरकार या संघ राज्य क्षेत्र प्रशासन का सम्बद्ध विभाग इन नियमों के प्रकाशन की तारीख से एक वर्ष की अवधि के भीतर अधिसूचित किये जाने हेतु अभिज्ञात प्रत्येक आर्द्रभूमि के लिए एक संक्षिप्त दस्तावेज तैयार करेगा, जिसमें निम्नलिखित का उपबंध होगा:—

(क) निर्देशांकों सहित यथार्थ डिजिटल मानचित्रों द्वारा समर्थित और जमीनी सत्यापन द्वारा विधिमान्य आर्द्रभूमि का सीमांकन;

(ख) इसके प्रभाव क्षेत्र का सीमांकन और डिजिटल मानचित्र में संकेतित उसका भूमि उपयोग और आच्छादित भूमि क्षेत्र;

(ग) पारिस्थितिक-स्वरूप का विवरण;

(घ) पूर्वत: विद्यमान अधिकारों तथा विशेषाधिकारों का लेखा;

(ङ.) आर्द्रभूमि तथा इसके प्रभाव क्षेत्र के भीतर अनुज्ञप्त स्थल-विशिष्ट क्रियाकलाप की सूची;

(च) आर्द्रभूमि और उसके प्रभाव क्षेत्र के भीतर विनियमित किये जाने वाले स्थल-विशिष्ट क्रियाकलापों की सूची; और

(छ) विनियमों के प्रवर्तन की रीति;

(2) प्राधिकरण, संक्षिप्त दस्तावेज के आधार पर, आर्द्रभूमियों को अधिसूचित किये जाने के लिए राज्य सरकार या संघ राज्यक्षेत्र प्रशासन को सिफारिश करेगा।

(3) राज्य सरकार या संघ राज्य क्षेत्र प्रशासन संबंधित और प्रभावित व्यक्तियों से प्राप्त आक्षेपों, यदि कोई हों, पर विचार करने के पश्चात् प्राधिकरण द्वारा की गयी सिफारिश की तारीख से दो सौ चालीस दिन से अनधिक की अवधि के भीतर राजपत्र में आर्द्रभूमियों को अधिसूचित करेगी।

(4) (क) केन्द्रीय सरकार सीमा-पार आर्द्रभूमियों के मामले में, संक्षिप्त दस्तावेज, जिसमें उप-नियम (1) में यथा सूचीबद्ध सूचना दी गई हो, को तैयार करने में संबद्ध राज्य सरकार और संघ राज्यक्षेत्र प्रशासनों के साथ समन्वय करेगी।

(ख) संक्षिप्त दस्तावेज के आधार पर, राष्ट्रीय आर्द्रभूमि समिति आर्द्रभूमि को अधिसूचित किये जाने के लिए केन्द्रीय सरकार को सिफारिशें करेगी।

(ग) केन्द्रीय सरकार संबद्ध और प्रभावित व्यक्तियों से प्राप्त आक्षेपों, यदि कोई हों, पर विचार करने के पश्चात् समिति द्वारा की गई सिफारिश की तारीख से दो सौ चालीस दिन से अनधिक की अवधि के भीतर आर्द्रभूमियों को राजपत्र में अधिसूचित करेगी।

(5) (क) केंद्रीय सरकार आर्द्रभूमियों से संबंधित सूचना के लिए एक समर्पित वेब पोर्टल का सृजन करेगी।

(ख) केंद्रीय सरकार, राज्य सरकार और संघ राज्य क्षेत्र प्रशासन अपनी अधिकारिता में की आर्द्रभूमियों के विषय में, सभी संबंधित सूचना अपलोड करेगी।

[फा. सं. जे-22012/78/2003-सीएस(डब्ल्यू) पार्ट.V]

डॉ. ए. दुरैसामी, वैज्ञानिक 'जी'

MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

NOTIFICATION

New Delhi, the 26th September, 2017

G.S.R. 1203(E).—Whereas the wetlands, vital parts of the hydrological cycle, are highly productive ecosystems which support rich biodiversity and provide a wide range of ecosystem services such as water storage, water purification, flood mitigation, erosion control, aquifer recharge, microclimate regulation, aesthetic enhancement of landscapes while simultaneously supporting many significant recreational, social and cultural activities, being part of our rich cultural heritage;

And whereas many wetlands are threatened by reclamation and degradation through drainage and landfill, pollution (discharge of domestic and industrial effluents, disposal of solid wastes), hydrological alteration (water withdrawal and changes in inflow and outflow), over-exploitation of their natural resources resulting in loss of biodiversity and disruption in ecosystem services provided by wetlands;

And whereas clause (g) of article 51A of the Constitution stipulates that it shall be the duty of every citizen of India to protect and improve the natural environment including forests, lakes, rivers and wildlife and to have compassion for living creatures;

And whereas the Environment (Protection) Act, 1986 is a comprehensive legislation to provide protection and improvement of the environment, including *inter-alia*, wetlands, and for matters connected therewith;

And whereas the National Environment Policy, 2006 recognises the ecosystem services provided by wetlands and emphasizes the need to set up a regulatory mechanism for all wetlands so as to maintain their ecological character, and ultimately support their integrated management;

And whereas India is a signatory to the Ramsar Convention on Wetlands and is committed to conservation and wise use of all wetlands within its territory;

And whereas the Central Government has published the Wetlands (Conservation and Management) Rules, 2010, vide number G.S.R. 951(E), dated the 4th December, 2010;

And whereas conservation and wise use of wetlands can provide substantial direct and indirect economic benefits to state and national economy, and thereby the Central Government stands committed to mainstreaming full range of wetland biodiversity and ecosystem services in development planning and decision making for various sectors;

And whereas the State Governments and Union Territory Administrations need to take into account wetland ecosystem services and biodiversity values likewise within their developmental programming and economic well-being, also taking into cognizance that land and water, two major ecological constituents of wetland ecosystems, are enlisted as State subjects as per the Constitution;

And whereas the Central Government considered it necessary to supersede the Wetlands (Conservation and Management) Rules, 2010 for effective conservation and management of wetlands in the country;

And whereas the Central Government had, in exercise of the powers conferred by section 25, read with sub-section (1) and clause (v) of sub-section (2) and sub-section (3) of section 3 of the Environment (Protection) Act, 1986, published the draft Wetlands (Conservation and Management) Rules, 2016, vide number G.S.R. 385 (E) dated 31st March, 2016 for information of the public likely to be affected thereby; and notice was given that the said draft rules would be taken into consideration by the Central Government after expiry of a period of sixty days from the date on which copies of the Gazette notification is made available to the public;

And whereas the Central Government has received the suggestions and objections from the State Governments, Union Territories and its organisations, individuals and civil society organisations on the draft Wetlands (Conservation and Management) Rules, 2016;

And whereas the suggestions and objections received in response to the above mentioned draft rules have been duly considered by the Central Government in consultation with State Governments and Union Territory Administrations.

Now, therefore, in exercise of the powers conferred by section 25, read with sub-section (1) and clause (v) of sub-section (2) and sub-section (3) of section 3 and section 23 of the Environment (Protection) Act, 1986 and in supersession of the Wetlands (Conservation and Management) Rules, 2010, except as respects things done or omitted to be done before such supersession, the Central Government hereby makes the following rules for conservation and management of wetlands, namely:—

1. Short title and commencement.—

(1) These rules may be called the Wetlands (Conservation and Management) Rules, 2017.

(2) These shall come into force from the date of their publication in the Official Gazette.

2. Definitions.—

(1) In these rules, unless the context otherwise requires,-

(a) "Act" means the Environment (Protection) Act, 1986;

(b) "Authority" means the State Wetlands Authority or Union Territory Wetlands Authority, as the case may be;

(c) "Committee" means the National Wetlands Committee referred to in rule 6;

(d) "ecological character" means the sum of ecosystem components, processes and services that characterise the wetlands;

(e) "integrated management plan" means a document which describes strategies and actions for achieving wise use of the wetland and the plan shall include objectives of site management; management actions required to achieve the objectives; factors that affect, or may affect, the various site features; monitoring requirements for detecting changes in ecological character and for measuring the effectiveness of management; and resources for management implementation;

(f) "Ramsar Convention" means the Convention on Wetlands signed at Ramsar, Iran in 1971;

(g) "wetland" means an area of marsh, fen, peatland or water; whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six meters, but does not include river channels, paddy fields, human-made water bodies/tanks specifically constructed for drinking water purposes and structures specifically constructed for aquaculture, salt production, recreation and irrigation purposes;

(h) "wetlands complexes" means two or more ecologically and hydrologically contiguous wetlands and may include their connecting channels/ducts;

(i) "wise use of wetlands" means maintenance of their ecological character, achieved through implementation of ecosystem approach within the context of sustainable development;

(j) "zone of influence" means that part of the catchment area of the wetland or wetland complex, developmental activities in which induce adverse changes in ecosystem structure, and ecosystem services.

(2) The words and expressions used in these rules and not defined, but defined in the Act, shall have the meanings assigned to them in the Act.

3. Applicability of rules.—These rules shall apply to the following wetlands or wetlands complexes, namely:—

(a) wetlands categorised as 'wetlands of international importance' under the Ramsar Convention;

(b) wetlands as notified by the Central Government, State Government and Union Territory Administration:

Provided that these rules shall not apply to the wetlands falling in areas covered under the Indian Forest Act, 1927, the Wild Life (Protection) Act, 1972, the Forest (Conservation) Act, 1980, the State Forest Acts, and the Coastal Regulation Zone Notification, 2011 as amended from time to time.

4. Restrictions of activities in wetlands.—(1) The wetlands shall be conserved and managed in accordance with the principle of 'wise use' as determined by the Wetlands Authority.

(2) The following activities shall be prohibited within the wetlands, namely,-

(i) conversion for non-wetland uses including encroachment of any kind;

(ii) setting up of any industry and expansion of existing industries;

(iii) manufacture or handling or storage or disposal of construction and demolition waste covered under the Construction and Demolition Waste Management Rules, 2016; hazardous substances covered under the Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 or the Rules for Manufacture, Use, Import, Export and Storage of Hazardous Micro-organisms Genetically engineered organisms or cells, 1989 or the Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008; electronic waste covered under the E-Waste (Management) Rules, 2016;

(iv) solid waste dumping;

(v) discharge of untreated wastes and effluents from industries, cities, towns, villages and other human settlements;

(vi) any construction of a permanent nature except for boat jetties within fifty metres from the mean high flood level observed in the past ten years calculated from the date of commencement of these rules; and,

(vii) poaching.

Provided that the Central Government may consider proposals from the State Government or Union Territory Administration for omitting any of the activities on the recommendation of the Authority.

5. Wetlands Authorities.—(1) The Central Government hereby constitutes the State Wetlands Authority in each State with the following members, namely:—

(i) Minister In-charge of the Department of Environment/Forests of the State Government or Minister In-charge of the Department handling wetlands - Chairperson;

(ii) Chief Secretary of the State or Additional Chief Secretary equivalent - Vice Chairperson;

(iii) Secretary in-charge of the Department of Environment - Member *ex-officio*;

(iv) Secretary in-charge of the Department of Forests - Member *ex-officio*;

(v) Secretary in-charge of the Department of Urban Development - Member *ex-officio*;

(vi) Secretary in-charge of the Department of Rural Development - Member *ex-officio*;

(vii) Secretary in-charge of the Department of Water Resources - Member *ex-officio*;

(viii) Secretary in-charge of the Department of Fisheries - Member *ex-officio*;

(ix) Secretary in-charge of the Department of Irrigation and Flood Control - Member *ex-officio*;

(x) Secretary in-charge of the Department of Tourism - Member *ex-officio*;

(xi) Secretary in-charge of the Department of Revenue - Member *ex-officio*;

(xii) Director, State Remote Sensing Centre - Member *ex-officio*;

(xiii) Chief Wildlife Warden - Member *ex-officio*;

(xiv) Member Secretary, State Biodiversity Board - Member *ex-officio*;

(xv) Member Secretary, State Pollution Control Board - Member *ex-officio*;

(xvi) Additional Principal Chief Conservator of Forests of the Regional Office of Ministry of Environment, Forest and Climate Change - Member *ex-officio*;

(xvii) One expert each in the fields of wetland ecology, hydrology, fisheries, landscape planning and socio-economics to be nominated by the State Government; and

(xviii) Additional Secretary/Joint Secretary/Director in the Department of Environment/Forests or Department handling wetlands - Member Secretary.

(2) The Central Government hereby constitutes the Union Territory Wetlands Authority for each Union Territory with the following members, namely:—

(i) Administrator or Chief Secretary of the Union Territory - Chairperson;

(ii) Secretary in-charge of the Department of Environment - Vice Chairperson;

(iii) Secretary in-charge of the Department of Forests - Member *ex-officio*;

(iv) Secretary in-charge of the Department of Urban Development - Member *ex-officio*;

(v) Secretary in-charge of the Department of Rural Development - Member *ex-officio*;

(vi) Secretary in-charge of the Department of Water Resources - Member *ex-officio*;

(vii) Secretary in-charge of the Department of Fisheries - Member *ex-officio*;

(viii) Secretary in-charge of the Department of Irrigation and Flood Control - Member *ex-officio*;

(ix) Secretary in-charge of the Department of Tourism - Member *ex-officio*;

(x) Secretary in-charge of the Departments of Revenue - Member *ex-officio*;

(xi) Director, Remote Sensing Centre - Member *ex-officio;*

(xii) Member Secretary, Union Territory Pollution Control Committee - Member *ex-officio*;

(xiii) Member Secretary, Biodiversity Board of the UT - Member *ex-officio*;

(xiv) Chief Wildlife Warden - Member *ex-officio*;

(xv) Additional Principal Chief Conservator of Forests of the Regional Office of Ministry of Environment, Forest and Climate Change- Member *ex-officio*;

(xvi) One expert each in the fields of wetland ecology, hydrology, fisheries, landscape planning and socio-economics to be nominated by the Union Territory Administration; and

(xvii) Additional Secretary/Joint Secretary/Director in the Department of Environment/Forests or Department handling wetlands - Member Secretary.

(3) The State Wetlands Authority or Union Territory Wetlands Authority may co-opt other members, not exceeding three in number, if required.

(4) The State Wetlands Authority or Union Territory Wetlands Authority shall exercise the following powers and perform the following functions, namely:-

(a) prepare a list of all wetlands of the State or Union Territory within three months from the date of publication of these rules;

(b) prepare a list of wetlands to be notified, within six months from the date of publication of these rules; taking into cognizance any existing list of wetlands prepared/notified under other relevant State Acts;

(c) recommend identified wetlands, based on their Brief Documents, for regulation under these rules;

(d) prepare a comprehensive digital inventory of all wetlands within a period of one year from the date of publication of these rules and upload the same on a dedicated web portal to be developed by the Central Government for the said purpose; the inventory to be updated every ten years;

(e) develop a comprehensive list of activities to be regulated and permitted within the notified wetlands and their zone of influence;

(f) recommend additions, if any, to the list of prohibited activities for specific wetlands;

(g) define strategies for conservation and wise use of wetlands within their jurisdiction; wise use being a principle for managing these ecosystems which incorporates sustainable uses (such as capture fisheries at subsistence level or harvest of aquatic plants) as being compatible with conservation, if ecosystem functions (such as water storage, groundwater recharge, flood buffering) and values (such as recreation and cultural) are maintained or enhanced;

(h) review integrated management plan for each of the notified wetlands (including trans-boundary wetlands in coordination with Central Government), and within these plans consider continuation and support to traditional uses of wetlands which are harmonized with ecological character;

(i) in cases wherein lands within boundary of notified wetlands or wetlands complex have private tenancy rights, recommend mechanisms for maintenance of ecological character through promotional activities;

(j) identify mechanisms for convergence of implementation of the management plan with the existing State/Union Territory level development plans and programmes;

(k) ensure enforcement of these rules and other relevant Acts, rules and regulations and on half-yearly basis (June and December of each calendar year) inform the concerned State Government or Union Territory Administration or Central Government on the status of such notified wetlands through a reporting mechanism;

(l) coordinate implementation of integrated management plans based on wise use principle through various line departments and other concerned agencies;

(m) function as nodal authority for all wetland specific authorities within the State or Union Territory Administration;

(n) issue necessary directions for conservation and sustainable management of wetlands to the respective implementing agencies;

(o) undertake measures for enhancing awareness within stakeholders and local communities on values and functions of wetlands; and

(p) Advise on any other matter *suo-motu*, or as referred by the State Government/Union Territory Administration.

(5) The concerned Department of the State Government or Union Territory shall provide all necessary support and act as nodal Department and Secretariat to the Authority.

(6) The Authority shall, within ninety days of publication of these rules, shall constitute,—

(a) a technical committee to review brief documents, management plans and advise on any technical matter referred by the Wetland Authority; and

(b) a grievance committee consisting of four members to provide a mechanism for hearing and forwarding the grievances raised by public to the Authority;

(7) The Committees referred to in sub-rule (6) shall meet at least once in every quarter to perform their functions.

(8) The Authority shall meet at least thrice in a year.

(9) The term of non-official members of the Authority nominated by State Government or Union Territory Administration, shall be for a period not exceeding three years.

6. Constitution of National Wetlands Committee.—(1) The Central Government, hereby constitutes the National Wetlands Committee with the following members, namely:—

(i) Secretary, Ministry of Environment, Forest and Climate Change, Government of India - Chairperson;

(ii) Special Secretary or Additional Secretary dealing with wetlands, Ministry of Environment, Forest and Climate Change, Government of India-Vice Chairperson;

(iii) Additional Director General, Wildlife, Ministry of Environment, Forest and Climate Change, Government of India - Member *ex-officio*;

(iv) Adviser or Joint Secretary dealing with wetlands, Ministry of Environment, Forest and Climate Change - Member *ex-officio*;

(v) Joint Secretary, Ministry of Tourism, Government of India- Member *ex-officio*;

(vi) Joint Secretary , Ministry of Water Resources, River Development and Ganga Rejuvenation, Government of India- Member *ex-officio*;

(vii) Joint Secretary, Ministry of Agriculture and Farmers Welfare, Government of India- Member *ex-officio*;

(viii) Joint Secretary, Ministry of Social Justice and Empowerment, Government of India- Member *ex-officio*;

(ix) Joint Secretary, Ministry of Urban Development, Government of India- Member *ex-officio*;

(x) Joint Secretary, Ministry of Rural Development, Government of India- Member *ex-officio*;

(xi) The Chairman, Central Pollution Control Board - Member *ex-officio*;

(xii) Director, Zoological Survey of India or Scientist F- Member *ex-officio*;

(xiii) Director, Botanical Survey of India or Scientist F- Member *ex-officio*;

(xiv) Director, Space Application Centre, Ahmedabad or Scientist F- Member *ex-officio*;

(xv) Member, Central Water Commission - Member *ex-officio*;

(xvi) Adviser, Niti Aayog - Member *ex-officio*;

(xvii) Three representatives of State Government or Union Territory Administration on a rotational basis for a tenure of two years each;

(xviii) One expert each in the fields of wetland ecology, hydrology, fisheries, landscape planning & socio-economics; and

(xix) Director/Additional Director/Joint Director dealing with wetlands, Ministry of Environment, Forest and Climate Change - Member Secretary.

(2) The National Wetlands Committee may co-opt other members, not exceeding three in number, if required.

(3) The National Wetlands Committee shall perform the following functions, namely:-

(a) advise the Central Government on appropriate policies and action programmes for conservation and wise use of wetlands;

(b) evolve norms and guidelines for integrated management of wetlands based on wise use principle;

(c) monitor implementation of these rules by the Authority;

(d) advise the Central Government on proposals received from State Governments or Union Territory Administrations for omission of the prohibited activities as referred in sub-rule (2) of rule 4;

(e) recommend designation of wetlands of international importance under Ramsar Convention;

(f) recommend trans-boundary wetlands for notification;

(g) review progress of integrated management of Ramsar sites and transboundary wetlands;

(h) advise on collaboration with international agencies on issues related to wetlands; and

(i) advise on any other matter *suo-moto*, or as referred by the Central Government.

(4) The tenure of non-official members of the Committee shall not exceed three years.

(5) The Committee shall meet at least once in every six months.

7. Delegation of powers and functions to the State Governments and Union Territory Administrations.— (1) The concerned Department of the State Government or Union Territory Administration shall, within a period of one year from the date of publication of these rules, prepare a Brief Document for each of the wetland identified for notification, providing:—

(a) demarcation of wetland boundary supported by accurate digital maps with coordinates and validated by ground truthing;

(b) demarcation of its zone of influence and land use and land cover thereof indicated in a digital map;

(c) ecological character description;

(d) account of pre-existing rights and privileges;

(e) list of site-specific activities to be permitted within the wetland and its zone of influence;

(f) list of site specific activities to be regulated within the wetland and its zone of influence; and

(g) modalities for enforcement of regulation;

(2) Based on the Brief Document, the Authority shall make recommendations to the State Government or Union Territory Administration for notifying the wetlands.

(3) The State Government or Union Territory Administration shall, after considering the objections, if any, from the concerned and affected persons, notify the wetlands in the Official Gazette, within a period not exceeding 240 days from the date of recommendation by the Authority.

(4) (a) In case of trans-boundary wetlands, the Central Government shall coordinate with concerned State Governments and Union Territory Administrations to prepare the Brief Document containing information as listed in sub-rule (1).

(b) Based on the Brief Document, the National Wetlands Committee shall make recommendations to the Central Government for notification of the wetland.

(c) The Central Government shall, after considering the objections, if any, from the concerned and affected persons, notify the wetlands in the Official Gazette, within a period not exceeding 240 days from the date of recommendation by the Committee.

(5) (a) The Central Government shall create a dedicated web portal for information relating to wetlands.

(b) The Central Government, State Government and Union Territory Administration shall upload all relevant information and documents pertaining to wetlands in their jurisdiction.

[F. No. J-22012/78/2003-CS (W) Pt. V]

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Guidelines for implementing Wetlands (Conservation and Management) Rules, 2017

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Wetlands (Conservation and Management) Rules, 2017

MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE
GOVERNMENT OF INDIA

2020

Contents

I. Guidelines Purpose and Scope

1. The Ministry of Environment, Forest and Climate Change (MoEF&CC) has notified **Wetlands (Conservation and Management) Rules, 2017** (hereinafter **Wetlands Rules**) under the provisions of the Environment (Protection) Act, 1986 as regulatory framework for conservation and management of wetlands in India. These guidelines have been drafted to support the State Governments / Union Territory (UT) Administrations in the implementation of the Rules by providing guidance on:

   a) Preparing a list of wetlands in the State / UT
   b) Identifying wetlands for notification under Wetlands (Conservation and Management) Rules, 2017
   c) Delineating wetlands, wetlands complexes and zone of influence
   d) Preparation of Brief Document
   e) Determining 'wise use' and ecological character
   f) Developing a list of activities to be regulated and permitted
   g) Developing an Integrated Management Plan
   h) Constitution and operational matters of the Wetlands Authorities
   i) Overlapping provisions.

2. These guidelines were drafted by a committee constituted by the MoEF&CC vide OM dated August 10, 2018. The committee comprised Mr U.A.Vora (former CCF Wildlife, Government of Gujarat), Dr Arvind Kumar (President, India Water Foundation), Dr B.C. Jha (Former Director (Wetlands), Central Inland Fisheries Research Institute), Dr P. S. N. Rao (Director, School of Planning and Architecture), Dr Afroz Ahmad (Member, Environment and Rehabilitation, Narmada Control Authority) and Dr Ritesh Kumar (Director, Wetlands International South Asia). The committee met on five occasions at MoEF&CC, New Delhi for the said purpose, and submitted final version of the guidelines to the Ministry on December 5, 2018. The draft guidelines were subsequently sent for comments to all State Governments / UT Administrations, and have been finalized after due consideration of the comments received. The Committee immensely benefitted from the discussions held with Ms Manju Pandey (Joint Secretary). The Committee also acknowledges the support received from Ms Rita Khanna (Scientist 'F'), Dr M. Ramesh (Scientist 'E'), Mr Chandan Singh (Scientist 'D'), Dr Anu Chetal (Research Assistant) and Ms Pallavi Mukherjee (Research Assistant) during the guidelines preparation process.

II. Wetlands to be regulated

3. The provisions of Wetlands Rules apply to:

   a) Wetlands designated by the Government of India to the List of Wetlands of International Importance under the provisions of the Convention on Wetlands (Ramsar Convention). [Ref. Rule 3 (a) of Wetlands Rule]
   b) Wetlands notified under the rules by the Central Government, State Government and UT Administration. [Ref. Rule 3 (b) of Wetlands Rule]

4. All wetlands, irrespective of their location, size, ownership, biodiversity, or ecosystem services values, can be notified under the Wetlands Rules, except:

   a) River channels;
   b) Paddy fields;
   c) Human-made waterbodies specifically constructed for drinking water purposes;
   d) Human-made waterbodies specifically constructed for aquaculture purposes;
   e) Human-made waterbodies specifically constructed for salt production purposes;
   f) Human-made waterbodies specifically constructed for recreation purposes;
   g) Human-made waterbodies specifically constructed for irrigation purposes;
   h) Wetlands falling within areas covered under the Indian Forest Act, 1927; Forest (Conservation) Act, 1980; State Forest Acts and amendments thereof;
   i) Wetlands falling within areas covered under the Wildlife (Protection) Act, 1972 and amendments thereof;
   j) Wetlands falling within areas covered under the Coastal Regulation Zone Notification, 2011 and amendments thereof.

   [Ref. Rule 2 (g) and Rule 3 of Wetlands Rules]

5. Human-made wetlands are defined as wetlands that are planned, designed and operated to meet a specific purpose (such as providing water for irrigation, producing fish through culture operations, producing salt, recreation, preventing salinity intrusion, flood control etc.). Only those human-made wetlands that have been built for purposes, mentioned at paras 4c) – 4g) above, are excluded from notification under these Rules.

6. Natural wetlands, partly or wholly used for purposes as mentioned at 4c) – 4g), attract the provisions of the Wetlands Rules.

7. Wetlands designated as Ramsar Sites may be notified under the Rules as per the process mentioned in paragraphs 57-65, even when partly or wholly overlapping with areas covered under the Indian Forest Act, 1927; Forest (Conservation) Act, 1980; State Forest Acts and amendments thereof; Wildlife (Protection) Act, 1972 and amendments thereof; Coastal Regulation Zone Notification, 2011 and amendments thereof. Regulations for parts of wetlands overlapping with 4h-4j (supra) will, however, be as per the corresponding regulatory framework. Ramsar site areas, not covered under any of the overlapping laws and rules, will attract the provisions of the Wetlands Rules (Refer illustration 1 below).

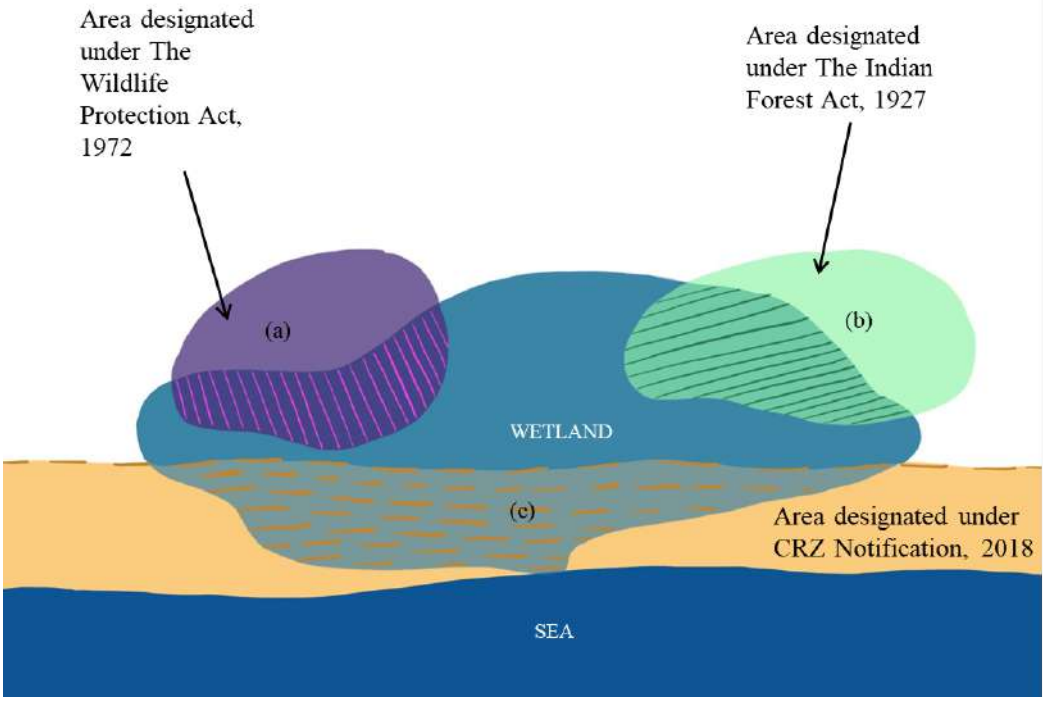

Illustration 1: Using the Wetlands Rules to fill in the gaps in situations of multiple regulations in a Ramsar Site. In the situation above, wildlife sanctuary (indicated as a) and a reserved forest (indicated as b) partly overlap with the Ramsar Site boundary. Being a coastal wetland, a part (indicated as c) also falls under Coastal Regulation Zone. In such cases, it is recommended that the entire Ramsar Site, inclusive of overlapping areas, is delineated and notified under the Wetlands Rules. The overlapping areas shall continue to be regulated as per respective Acts and Rules, and the remaining area may be regulated as per the provisions contained in Wetlands Rules. Similar approach can be taken even for wetlands that have not been designated as Ramsar Site.

8. For wetlands falling within the criteria 3 (b) (supra), the exclusions mentioned at para 4 a) – 4j) shall apply only in cases wherein the entire wetland falls under the said category. In cases wherein areas falling within para 4 a) – 4 j) form a part of larger wetland or wetlands complex, and exclusion may result in impeded ecological contiguity and connectivity, such areas may be included within the boundary of wetland being notified. Regulations within the boundaries of areas mentioned at para 4 h) – 4 j) will, however, be as per the corresponding regulatory frameworks (Refer Illustration 1 and 2).

9. Though Protected Areas and areas falling within the purview of Coastal Zone Regulation have been excluded from notification under the Wetlands Rules, management of such wetlands may benefit through the application of 'wise use' approach (within the framework of existing laws and rules) as outlined in Section VII of these guidelines.

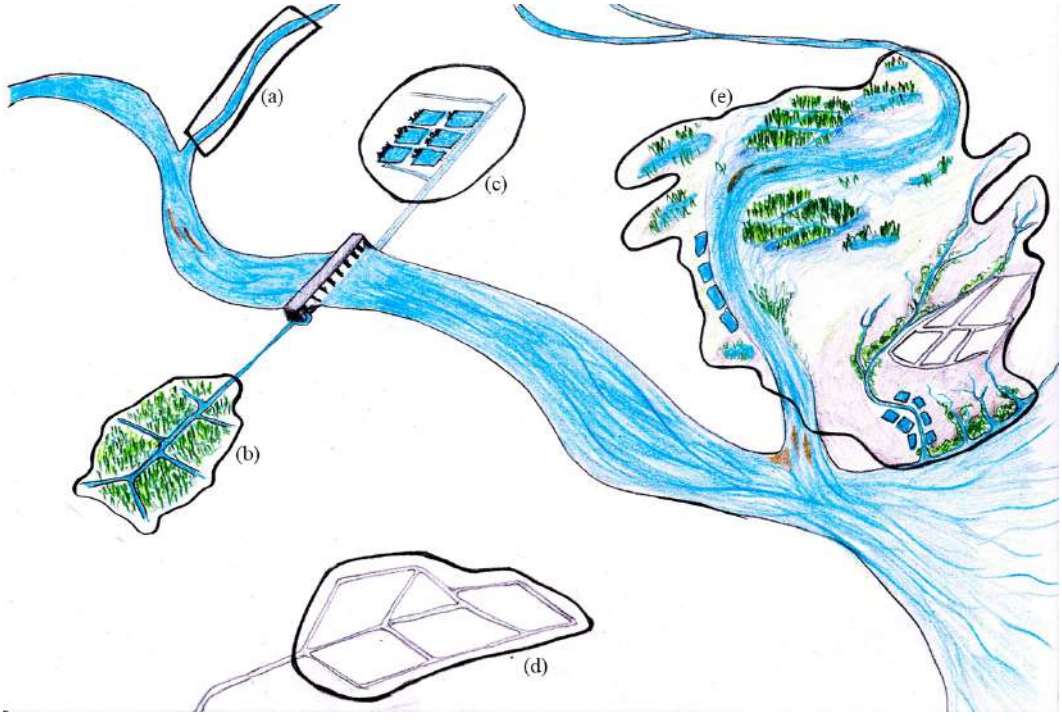

Illustration 2: Considering river stretch and human-made wetlands for notification. In situations when the entire wetland, to be notified, is a river stretch [indicated as (a)], paddy fields [indicated as (b)], human-made wetland waterbodies for irrigation [indicated as (c)], and human-made waterbodies created for aquaculture purposes [indicated as (d)], these may not be notified under the Wetlands Rules. However, in cases as in (e), wherein river channels, paddy fields, and human-made wetlands such as aquaculture areas form a part of a larger wetland or wetland complex, and excluding such area may fragment the wetland regime, the area to be notified may include river channels, paddy fields or any other human-made wetland.

10. Should the State Governments/UT Administrations be desirous, any wetland, even if included within the list of wetlands excluded from notification under Wetlands Rules, may be notified under the relevant state laws. In this regard, the approach/mechanism outlined in Wetlands Rules and these guidelines may be suitably adopted.

III. Wetlands Authorities

11. As per Rule 5 of Wetlands Rules, 2017 the Wetlands Authorities within States and UTs are deemed as constituted with the following members:

    a) Minister In-charge of the Department of Environment/Forests of the State Government or Minister In charge of the Department handling wetlands - Chairperson;(Administrator or Chief Secretary of the UT – Chairperson in the case of UT);
    b) Chief Secretary of the State or Additional Chief Secretary equivalent - Vice Chairperson;
    c) Secretary in-charge of the Department of Environment - Member ex-officio; (Vice-Chairperson in the case of UT)
    d) Secretary in-charge of the Department of Forests - Member ex-officio;
    e) Secretary in-charge of the Department of Urban Development - Member ex-officio;

f) Secretary in-charge of the Department of Rural Development - Member ex-officio;
g) Secretary in-charge of the Department of Water Resources - Member ex-officio;
h) Secretary in-charge of the Department of Fisheries - Member ex-officio;
i) Secretary in-charge of the Department of Irrigation and Flood Control - Member ex-officio;
j) Secretary in-charge of the Department of Tourism - Member ex-officio;
k) Secretary in-charge of the Department of Revenue - Member ex-officio;
l) Director, State Remote Sensing Centre - Member ex-officio;
m) Chief Wildlife Warden - Member ex-officio;
n) Member Secretary, State/UT Biodiversity Board - Member ex-officio;
o) Member Secretary, State Pollution Control Board/UT Pollution Control Committee - Member ex-officio;
p) Additional Principal Chief Conservator of Forests of the Regional Office of Ministry of Environment, Forest and Climate Change - Member ex-officio;
q) One expert each in the fields of wetland ecology, hydrology, fisheries, landscape planning and socioeconomics to be nominated by the State Government / UT Administration
r) Additional Secretary/Joint Secretary/Director in the Department of Environment/Forests or Department handling wetlands - Member Secretary

12. The Department of Environment / Forests or Department handling wetlands shall designate one expert each in the following fields for a period not exceeding three years: [Ref. Rule 5 (2) (xvi) of Wetlands Rules]

a) Wetlands ecology
b) Hydrology
c) Fisheries
d) Landscape planning
e) Socioeconomics

13. The Wetlands Authority may co-opt other members, not exceeding three in number. It is recommended that at least one member may be drawn from civil society to enable stakeholder representation.

14. The Authority shall exercise following powers and perform the following functions:

a) Prepare a list of all wetlands of the State or UT within three months from the date of publication of these rules;
b) Prepare a list of wetlands to be notified, within six months from the date of publication of these Rules, taking into cognizance any existing list of wetlands prepared/notified under other relevant State Acts;
c) Recommend identified wetlands, based on their Brief Documents, for regulation under these rules;
d) Prepare a comprehensive digital inventory of all wetlands within one year from the date of publication of these rules and upload the same on a dedicated web portal, to be developed by the Central Government for the said purpose; the inventory ought to be updated every ten years;
e) Develop a comprehensive list of activities, to be regulated and permitted within the notified wetlands and their zone of influence;
f) Recommend additions, if any, to the list of prohibited activities for specific wetlands;
g) Define strategies for conservation and wise use of wetlands within their jurisdiction;
h) Review Integrated Management Plan for each of the notified wetlands (including trans-boundary wetlands in coordination with Central Government), and within these plans to

consider continuation and support to traditional uses of wetlands that are harmonized with ecological character;

i) Recommend mechanisms for maintenance of ecological character through promotional activities for land within the boundary of notified wetlands or wetlands complex have private tenancy rights,;
j) Identify mechanisms for convergence of implementation of the management plan with the existing State/UT level development plans and programmes;
k) Ensure enforcement of these rules and other relevant Acts, rules and regulations and on a half-yearly basis (June and December of each calendar year) inform the concerned State Government or UT Administration or Central Government on the status of such notified wetlands through a reporting mechanism;
l) Coordinate implementation of Integrated Management Plans based on wise use principle through various line departments and other concerned agencies;
m) Function as a nodal authority for all wetland-specific authorities within the State or UT Administration;
n) Issue necessary directions for the conservation and sustainable management of wetlands to the respective implementing agencies.
o) Undertake measures for enhancing awareness within stakeholders and local communities on values and functions of wetlands; and
p) Advise on any other matter suo-motu, or as referred by the State Government/UT Administration.

[Ref. Rule 5 (4) of Wetlands Rules]

15. The State Government or UT Administration shall designate a department as nodal department for wetlands. Such department shall provide all necessary support and act as Secretariat to the Authority. The State Governments / UT Administrations may allocate sufficient budget and human resources to ensure smooth functioning of the Authority and conduct of its various activities. The Authority and the nodal department may identify a professional institute(s)/organization(s) that would assist them in their various functions such as preparing a list of wetlands, Brief Documents for notification etc.

16. The Authority shall meet at least thrice in a year. State Government / UT Administration may decide an appropriate quorum, not less than half of the members. Minutes of meetings of the Authority may be placed in the public domain within a period not exceeding two weeks from the day on which meeting has been convened. [Ref. Rule 5 (2) (8) of Wetlands Rules]

17. Each Wetlands Authority shall constitute:

    a) Technical Committee to review Brief Documents, Management Plans and advise on any technical matter referred by the Wetlands Authority; and,
    b) Grievance Committee, consisting of four members, to provide a mechanism for hearing and forwarding the grievances raised by the public to the Authority.

    [Ref. Rule 5 (6)(b) of Wetlands Rules]

18. The composition of these committees may be decided by the concerned State / UT Wetlands Authority. Meetings of these committees shall be held **at least once every quarter**, and proceedings presented in the next meeting of the Authority.

19. The Wetlands Authority may empower the Grievance Committee to redress grievances at the local level and to recommend to the Authority for the finality of decisions. The State Government

/ UT Administration may consider appointing at least one member with a legal background in the Grievance Committee. [Ref. Rule 5(6)(b) of Wetlands Rules]

20. State or UT level Wetlands Authorities constituted before notification of Wetlands Rules, shall be deemed dissolved for the purpose of these Rules.

21. State / UT Wetlands Authorities shall serve as nodal authority for authorities / agencies created for specific wetlands. Management plans and notifications pertaining to the specific wetland shall be subject to approval and endorsement of the State / UT Wetlands Authority. Administrative matters, however, may continue to be dealt by the nodal department specified within the constitution of the wetlands specific authority.

IV. Preparing a list of wetlands

22. The State / UT Wetlands Authorities are expected to prepare a list of wetlands within the boundaries of their respective States / UTs. This list should be comprehensive, and not just focus on wetlands that qualify for notification under these Rules. Therefore, it is recommended that the list is developed based on wetlands definition of the Ramsar Convention (to which India is a Contracting Party).

    22.1 The Convention, ratified by Government of India, defines wetlands as 'areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which, at low tides, does not exceed six meters'. In addition, to protect coherent sites, Article 2.1 of the Convention provides that 'wetlands may include riparian and coastal zones adjacent to the wetlands, and islands or bodies of marine water deeper than six meters at low tide lying within the wetlands.'

23. The National Wetlands Atlas prepared by Space Application Center under the National Wetlands Inventory and Assessment project, and available at https://vedas.sac.gov.in/vedas/downloads/atlas/Wetlands/NWIA_National_atlas.pdf has spatial data on wetlands for each State and UT.

    23.1 The GIS data has already been made available by the Wetlands Division of the MoEF&CC to the representatives of the State Governments / UT Administrations during the regional consultation workshops held during 2016-18.

    23.2 Wetlands Authority may seek the assistance of District Administration to validate the information provided in the Atlas. Existing land records may also be considered while developing the list of wetlands.

    23.3 The final list of wetlands/wetland complexes may be prepared under the following heading:

    a) Wetland Name
    b) Geographical coordinates (latitude and longitude of the centre of the wetland)
    c) Wetland type (inland and coastal) and sub-type (natural or human-made)
    d) District(s) within which the wetland is located
    e) Approximate area of the wetland
    f) Whether the wetland falls within the category of regulated wetlands as per Wetlands Rules.

A format for compiling the list of wetlands is at **Annex 1**. This list may also contain trans-boundary wetlands (at the end) with additional details such as the bordering State/UT under which wetland is falling along with corresponding area.

24. In addition to the National Wetlands Atlas, it may also be helpful to consider the list of wetlands studied and described by various agencies, including revenue records (particularly areas recorded as any of the wetlands types such as ponds, lake, *talab, sarovar* etc.). The States/UTs may seek the assistance of State Remote Sensing Agencies and local experts for preparing such wetland inventory expeditiously. State Governments/ UT Administrations are also encouraged to make use of satellite images available at National Remote Sensing Center's Geo-platform Bhuvan, accessible at http://bhuvan.nrsc.gov.in/data /download/index.php.

V. Delineating wetlands

25. After the wetlands have been identified for notifications under the Wetlands Rules, the next step involves delineation of each of these wetlands (or wetlands complexes) and their zone of influence.

26. For delineating wetlands, it is essential to be aware of the distinguishing characteristics of these ecosystems. Wetlands arise when inundation by water produces soil dominated by anaerobic processes, which in turn forces the biota, particularly rooted plants to adapt to flooding. Wetlands, thus, have the following general distinguishing characteristics:

    a) Permanent or periodic inundation or saturated soils throughout the year or during parts of the year
    b) Presence of macrophytes adapted to wet conditions (also known as hydrophytes)
    c) Soil that are saturated or flooded long enough favouring development of anaerobic conditions

27. Water creates wetlands. The biological composition of wetlands, from fish to migrating waterbirds, depends on the ways water moves within a wetland. The amplitude and frequency of water level fluctuations are probably the most critical factors affecting the composition and functioning of wetlands. Hydrological regimes may, therefore, be used as the primary delineation characteristics for defining wetland boundary.

28. Wetlands boundary can be derived as the outer envelope of the maximum area under inundation, the area covered by hydrophytes, or saturation of soil near the surface during a normal monsoon year. The boundary should be such that during a normal monsoon year, the entire area is inundated for at least 15 days, or the soil is saturated roughly within one foot from the surface. It may be pertinent to exclude areas that are only intermittently inundated in the case of high floods (such as one in 100-year floods) or extreme events (such as storm surges of extreme intensity).

29. Where two or more wetlands exist with a high degree on hydrological connectivity (for example, wetlands connected during monsoon), or ecological connectivity (sharing waterbird habitats or located on migratory fish pathways), these can be delineated as a single complex. In such cases, non-wetland areas may be included within the boundary of the complex to ensure connectivity and continuity. The connotation of wetland throughout this document includes wetlands complex, as may be the case.

30. For each wetland and wetlands complex, a map should be prepared using a Geographical Information System (WGS84 datum and UTM (Universal Transverse Mercator) projection) and adopting professional cartographic standards. Essential features to be included in the map are as follows:

    a) Wetland boundary
    b) The boundary of settlements located within and around the wetland
    c) Connecting drainages, inflows and outflows
    d) Main roads and railway (if any)
    e) Major landmarks

31. Recommended scale for producing the wetlands maps is as follows:

Wetland / Wetlands complex area	Recommended scale
Below 100 ha	1: 4000
Between 100 – 500 ha	1: 10,000
Between 500- 4000 ha	1: 25,000
4000 ha and above	1: 50,000

These scales have been recommended on the basis of spatial data available for preparing wetlands maps and details that may be extracted for management planning and monitoring decisions. Resources at 2 LISS IV data that may be used for preparing map of wetlands below 100 ha renders an approximate scale of 1:4000. Even larger wetlands can be mapped using finer resolution data. However, for expedience and cost effectiveness, a lower scale may be sufficient for meeting management needs.

VI. Delineating zone of influence

32. For each wetland to be notified, a zone of influence is to be defined. The zone of influence of a wetland is an area, developmental activities wherein are likely to induce adverse changes in wetland ecosystem structure and (ecological) functioning.

33. The boundary of the zone of influence may be defined with due consideration to local hydrology and nature of land use. For wetlands with a well-defined surface drainage system, its directly and freely draining basin should be delineated as the zone of influence. This can be done using a suitable digital elevation model data and validated using toposheets. The basin should encompass all direct inflow as well as outflow areas. The river basin atlas of India (available at http://www.india-wris.nrsc.gov.in/wrpinfo/ index.php?title=WRIS_Publications) may be used to support the delineation.

34. For wetlands with diffused drainage and where the slope is too gentle leading to large basin area, the zone of influence can be delineated on the basis of features that are likely to influence wetland functioning adversely. These could be based on the outer periphery of adjoining settlements, or peripheral agricultural fields that drain directly into the wetland.

35. A map should be prepared to indicate the following elements in a Geographical Information System (WGS84 datum and UTM projection) and adopting professional cartographic standards:

    a) Zone of influence
    b) Wetland boundary

c) Connecting drainages, inflows and outflows
d) Main roads and railway (if any)
e) Major landmarks

36. The recommended scale at which the map of the zone of influence is to be produced is as follows:

Area of zone of influence	Recommended mapping scale
Below 100 ha	1: 4000
Between 100 and 500 ha	1: 10,000
More than 500 ha	1: 50,000

VII. Wetlands wise use and ecological character

37. Management of notified wetlands is recommended to be based on 'wise use' approach. Human beings and their use of resources form an essential component of wetland ecosystem dynamics. The 'wise use' approach recognises that restricting wetland loss and degradation requires incorporation of linkages between people and wetlands. The wise use principle emphasises that human use of these ecosystems on a sustainable basis is compatible with conservation.

38. Ramsar Convention defines the 'wise use' of wetlands as "the maintenance of their ecological character, achieved through the implementation of ecosystem approaches, within the context of sustainable development". Ecosystem approach requires consideration of the complex relationship between various ecosystem elements and promotion of integrated management of land, water and living resources. Wise use, through an emphasis on sustainable development, calls for resource use patterns which can ensure that human dependence on wetlands can be maintained not only in the present but also in the future. Seen in totality, wise use is about maintaining and enhancing wetland values and functions to ensure the maintenance of the flow of benefits from wetlands (their ecosystem services) from an inter-generational equity point of view.

39. Ecological character is "the combination of ecosystem components, processes and services that typify the wetland at a given point in time". Ecosystem components are living (biotic) and non-living (abiotic) constituents of the wetland ecosystem. These include:

a. Geomorphic setting (landscape, catchment, river basin);
b. Climate (precipitation, wind, temperature, evaporation, humidity);
c. Physical setting (area, boundaries, topography, shape, bathymetry, habitat type and connectivity);
d. Water regime (inflow, outflow, balance, surface-groundwater interactions, inundation regime, tidal regime, quality);
e. Wetland Soil (texture, chemical and biological properties);
f. Biota (Plant and animal communities)

40. Ecosystem processes occur between organisms and within and between populations and communities, including interactions with the non-living environment that result in an existing ecosystem state and bring about changes in ecosystems over time. These include: Physical processes (water stratification, mixing, sedimentation, erosion); Energy – nutrient dynamics (primary production, nutrient cycling, carbon cycling, decomposition, oxidation-reduction);

Processes that maintain animal and plant population (recruitment, migration); and Species interaction (Competition, predation, succession, herbivory).

41. Ecosystem services are benefits obtained by humans from ecosystems, categorized as: Provisioning (fisheries, use of aquatic vegetation for economic propose, wetland agriculture, biochemical products); Regulating (maintenance of hydrological regimes) and Cultural (recreation and tourism, spiritual, scientific and educational value). Supporting services are included within ecosystem processes.

42. A wetland use is not 'wise-use' if:

    a. The intervention leads to adverse changes in ecosystem components and processes, such as:

        i. Reduction in water flowing into the wetlands
        ii. Reduction in the area under inundation, or changes in inundation regime
        iii. Reduction and alteration of natural shoreline
        iv. Fragmentation of wetlands into small patches of water
        v. Reduction in water holding capacity
        vi. Degradation of water quality
        vii. Reduction in diversity of native species
        viii. Introduction or emergence of invasive species
        ix. Decline in wetlands resources, such as fish, aquatic plants, and water

    b. The intervention enhances some ecosystem services (such as food production values) while diminishing other ecosystem services (such as the ability of wetlands to moderate wetlands regime).

43. Some examples of wetlands uses that may not be 'wise-use' are as follows:

Type of wetland	Intervention	Ecosystem services likely to be enhanced	Ecosystem services likely to be diminished
Lagoon	Prawn aquaculture by creating enclosures within the lagoon area	• Food provision • Livelihoods for wetlands dependent communities	• Water regime moderation • Flood buffering
Lake	Impounding water by regulating outflows	Increased water availability for human use	• Ability to moderate floods
Marsh	Construction of road connecting settlements located on the periphery	Transport	• Hydrological regime moderation • Flood buffering • Aesthetics
Urban lake	Concretization of shoreline for beatification	• Aesthetic value • Tourism and recreational benefits	• Ability to accommodate monsoon flows • Habitat values

44. In several cases, the impact on ecosystem structure and functions, or tradeoffs in ecosystem services may not be immediately apparent. It is, therefore, recommended that the 'precautionary

approach' is adopted to ensure that wetlands conservation is prioritized in the case of information uncertainty.

VIII. Prohibited activities in a notified wetland

45. The following activities are prohibited within notified wetlands:

    a. Conversion for non-wetland uses including encroachment of any kind;
    b. Setting up of any industry and expansion of existing industries;
    c. Manufacture or handling or storage or disposal of construction and demolition waste covered under the Construction and Demolition Waste Management Rules, 2016; hazardous substances covered under the Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 or the Rules for the Manufacture, Use, Import, Export and Storage of Hazardous Microorganisms/Genetically Engineered Organisms or cells, 1989 or the Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008; electronic waste covered under the E-Waste (Management) Rules, 2016;
    d. Solid waste dumping;
    e. Discharge of untreated wastes and effluents from industries, cities, towns, villages and other human settlements;
    f. Any construction of a permanent nature except for boat jetties within fifty metres from the mean high flood level observed in the past ten years calculated from the date of commencement of these rules; and,
    g. Poaching.
    [Ref. Rule 4 (2) of Wetlands Rules]

46. State/UT Wetlands Authority, based on consideration of site-specific conditions, may consider expanding the list of prohibited activities for a notified wetland (or wetlands complex). This should be specified as such within the notification for specific wetland (or wetlands complex).

47. Permission for carrying out any activity included within the list of prohibited activities [as per Rule 4(2) of Wetlands Rules], within a notified wetland can only be given by the MoEF&CC. A specific request needs to be made by the State Government based on the recommendation of Wetlands Authority specifying:

    a) Activity for which permission is sought;
    b) Justification thereof;
    c) The premise on which the activity is not considered detrimental to the wetland's ecological character; &
    d) Supporting evidence-base (such as an expert report, EIA, mitigating measures proposed to be undertaken etc.)

IX. Developing a list of activities, to be regulated in a notified wetland:

48. Activities within a notified wetland and its zone of influence, which when contained within a specific threshold or area, are not likely to induce an adverse change in wetlands ecological character may be placed under the 'regulated' category. Such activities should be notified within the notification for a specific wetland (wetlands complex).

49. Following activities, when regulated, are not likely to induce an adverse change in wetlands:

    a) Subsistence level biomass harvesting (including traditional practices);

b) Sustainable culture fisheries practices (in private lands);
c) Plying of non-motorized boats;
d) Desilting, in case where wetlands inflow regimes and water-holding capacity are impacted by siltation (note that 'deepening' activities are not the same as 'desilting'); &
e) Construction of temporary nature

50. Each activity, however, would need to be considered on a case to case basis keeping in mind the ecological character of wetland or wetlands complex. A generic listing of a set of activities for all wetlands of the State / UT may not be feasible or desirable. For example, releasing treated sewage may not be advisable for high altitude wetlands that have slow decomposition rates.

51. For each regulated activity, it may be desirable to set a threshold limit beyond which the activity may be prohibited. The thresholds can be in the form of a spatial limit (such as areas wherein capture fishing may be carried), temporal limits (such as observing closed season), ecological condition (such as maintenance of a water quality parameter within a prescribed range), number of people (such as number of tourists permitted to visit the wetland on a given day), land use (such as prohibiting use of intermittently inundated area for permanent agriculture, or construction of enclosure), or any relevant dimension. Some examples of thresholds are:

Activity (Indicative List)	Aspect on which threshold can be specified
a) Subsistence level biomass harvesting (including traditional practices)	• Number of people that can be permitted to harvest biomass within the wetlands • Type of harvesting gears (mesh size) and crafts • Area wherein harvesting is permitted
b) Releasing of treated sewage	Water quality parameters (such as): • Dissolved Oxygen, • Biological Oxygen Demand • Chemical Oxygen Demand • Concentration of heavy metals • Coliforms
c) Sustainable culture-based fisheries practices	• Area wherein culture-based fisheries is permitted • Stocking density • Water quality
d) Plying of non-motorized boats	• Area wherein plying is permitted • Number of boats
e) Desilting, in cases where wetlands inflow regimes and water holding capacity are impacted by siltation	• Area wherein desilting can be carried out
f) Noise Pollution	• Limiting below level suited for waterbird habitat
g) Washing and bathing activities	• Use of detergent
h) Construction of temporary nature	• Area wherein temporary constructions can be carried out

	• The period for which such structure can be maintained inside the notified wetlands
i) Change in landuse pattern within the zone of influence	• Land use does not alter the hydrological regime or interrupt species interactions (such as bird migration pathways)

52. The Wetlands Authority shall be responsible for enforcing the regulations, through enforcement machinery of the concerned State Government / UT Administration.

X. Developing a list of activities permitted in a notified wetland

53. Activities aligned with the 'wise use' of wetland may be permitted within the wetland (wetlands complex) or its zone of influence. The following activities are likely to be aligned with the 'wise use' approach:

a) Ecological rehabilitation and rewilding of nature ;
b) Wetlands inventory, assessment and monitoring;
c) Research;
d) Communication, environmental education and participation activities;
e) Management planning;
f) Habitat management and conservation of wetland-dependent species;
g) Community-based ecotourism (with minimum construction activities);
h) Harvesting of wetlands products within regenerative capacity; and,
i) Integrating wetlands as nature-based solutions for climate change mitigation and adaptation.

54. Permitted activities may need to be identified considering the ecological character of each wetland to be notified. It is likely that an activity may be benign for one wetland, yet would need regulation for others. For example, ecotourism may not be desirable for all wetlands.

XI. Registration of wetlands

55. It is advised that the State/UT governments may ascertain whether the respective wetland has been registered appropriately in the land revenue records. If the wetland has not been registered as yet, necessary steps may be taken early. This would help in ensuring that the usage of wetland is not altered in future through encroachment, illegal claim of ownership etc.

XII. Account of pre-existing rights and privileges in a notified wetland

56. Each wetland is likely to be associated with a range of pre-existing rights and privileges, and it must be ensured that such rights and privileges are aligned with the 'wise use' approach. 'Privilege' is defined here as a special entitlement granted to restricted group or persons, on a conditional basis and can be revoked. 'Rights', on the other hand, may be irrevocable and inherently held by a human being. Thus, a fish lease granted in certain wetlands by the Department of Fisheries can be considered as a privilege. Privilege can also be customary and traditional (for example, the use of traditional fishing techniques, buffalo wallowing, elephant bathing, the source of drinking water for bovines, etc.). Parking a houseboat against a lease right to clean environment are examples of rights.

57. For assessing the consequence of a pre-existing right or privilege on a wetland, it may be important to consider their implication on wetland ecological character. The privilege of fishing granted along a migratory route can lead to an adverse change in fish stocks. Similarly, the disposal of untreated sewage by houseboat in a wetland can lead to pollution. Thus, such privileges are not aligned with 'wise use'. On the other hand, in many cases, the subsistence level harvest of macrophytes may help in keeping species invasion in check and therefore aligned with ecosystem health. Such considerations may need to be made while deciding whether a wetland use is to be regulated or permitted.

XIII. Notifying wetlands

58. For each wetland proposed to be notified, a 'Brief Document' containing the following information needs to be prepared:

    a) Demarcation of wetland boundary, supported by accurate digital maps with coordinates and validated by ground truthing;
    b) Demarcation of its zone of influence alongwith land use and land cover thereof indicated in a digital map;
    c) Ecological character description;
    d) Account of pre-existing rights and privileges;
    e) List of site-specific activities, to be permitted within the wetland and its zone of influence;
    f) List of site-specific activities, to be regulated within the wetland and its zone of influence; and,
    g) Modalities for enforcement of regulation.

    A format for preparing the Brief Document is at **Annex 2**.

59. The nodal department, designated by the State Government/UT Administration for wetlands, shall be responsible for preparing the Brief Documents.

60. In the case of transboundary wetlands, the respective State Governments/UT Administration may initiate the process of preparation of a common Brief Document and submit the same to MoEF&CC. If required, MoEF&CC shall coordinate with the concerned State Governments/UT Administrations for preparation of the Brief Document and addressing relevant issues. The Ministry will further process Brief Document as per process laid under Rule 7(4) of Wetlands Rules, 2017.

61. All Brief Documents shall be placed for approval of the Wetlands Authority. The Authority may endorse the Brief Document for notification to the concerned State Government / UT Administration.

62. The State Government / UT Administration shall issue a draft notification indicating the wetland (wetlands complex) to be covered under the Wetlands Rules. The notification should contain:

    a) Description of the wetland (wetlands complex) boundary along with its map
    b) Description of the zone of influence along with a map
    c) List of activities prohibited within the wetland (wetlands complex) and its zone of influence
    d) List of activities regulated within the wetland (wetlands complex) and its zone of influence
    e) List of activities permitted within the wetland (wetlands complex) and its zone of influence
    f) Name and contact details of the nodal person, who is to be contacted for seeking permission to undertake regulated activities.

A format for notification is at **Annex 3.**

63. Each draft notification shall be placed for public consultation for sixty days.

64. The State Government after considering objections from the concerned and affected persons shall publish the final notification within a period not exceeding 240 days from the date of **draft notification**.

65. MoEF&CC shall issue the draft and final notification for transboundary wetlands.

66. All Ramsar Sites, deemed covered under these Rules, shall also be notified as per the process laid out in paragraphs 57-64. This is proposed to ensure that the site boundaries are properly delineated and the knowledge about the same is available in public domain. It is adused that the information in the 'Brief Document' may be consistent with Ramsar Site Information Sheet (RSIS), submitted to the Ramsar Convention during site designation or RSIS updated thereafter.

XIV. Integrated Management Plan

67. Wetlands are one of the most embedded and interlinked ecosystems with human livelihoods and well-being. A balanced management approach, addressing biodiversity conservation values while providing for sustainable utilisation in a way compatible with the maintenance of natural properties of the ecosystem, needs to be adopted for these ecosystems. It is, therefore, recommended that management of each notified wetland (is guided by an "Integrated Management Plan". The plan refers to a document which describes strategies and actions for achieving 'wise use' of the wetland and includes objectives of site management; management actions required to achieve the objectives; factors that affect, or may affect, various site features; monitoring requirements for detecting changes in ecological character and for measuring the effectiveness of management; and resources for management implementation. Besides identifying resources, a management plan serves several important functions including generating baseline information, communication with stakeholders and ensuring compliance with regulatory frameworks and policy commitments.

68. While it is recognized that each wetland has its own distinctive ecological and hydrological features and thereby distinctive management needs, the following broad planning principles need to be kept in mind while formulating integrated management plans:

- **Integrated planning:** Aquatic and terrestrial ecosystems are intimately linked by the process of the water flowing through them. Every land use decision has a consequence on water availability. Delineating a basin or a coastal zone enables demarcation of a distinct hydrological unit which is the natural integration of all hydrological processes within its boundary and therefore an ideal and rational unit for soil, water and bio-resources conservation and management.Thus, management planning for wetlands should not be restricted to a defined administrative boundary, but rather take into account wider planning and management context of the basin or coastal zone within which the site is located.

  The process of development and implementation of management plans for wetlands often needs to be accompanied by governance improvements at basin and coastal zone level. Such an approach underpins Integrated Lake Basin Management framework that calls for

achieving 'sustainable management of wetlands through gradual, continuous and holistic improvement of basin governance, including sustained efforts for integration of institutional responsibilities, policy directions, stakeholder participation, scientific and traditional knowledge, technological possibilities, and funding prospects and constraints.

Achieving close relationship between planning and governance is critical, considering multiple stakeholder and sectoral interests which underlie and, to a large extent, structure wetland biodiversity and ecosystem service values, and the need to secure people's involvement and participation in basin-scale management for considerably long periods of time.

Reflection upon the following six pillars of basin-scale governance may thus be useful:

- Institutions: Development of effective organisations and governance frameworks
- Policies: Setting broad directions and specific rules
- Participation: Expanding the circle of involvement
- Technology: Possibilities and limitations
- Information: Pursuing sources of knowledge and wisdom, and
- Finance: Seeking sustainable sources at the appropriate level

- **Use of diagnostic approaches for defining management approach and actions:** Given the uniqueness associated with each wetland, it is important that 'one size fit all' approach is replaced with a diagnostic approach, wherein the ecological, hydrological, socioeconomic and institutional features are comprehensively assessed and trends therein determined to be able to spell out management objectives and actions clearly.
- **Adaptable management:** Wetlands are influenced by a range of drivers and pressures that act at multiple spatial, temporal and political scales. Their management plan, therefore, needs to be accommodative of uncertainties and challenges. This can be achieved by using an adaptable management approach that allows for suitable modification of management based on continuous site monitoring and assessment of new information.
- **Stakeholder participation:** The condition of any wetland is an outcome of actions by a range of stakeholders, which are linked to the ecosystem in a number of ways. Management planning, therefore, needs to recognise these linkages, and build a mechanism for participation of stakeholders in design, review and implementation processes.
- **Governance:** Being located at the interface of land and water, wetlands are influenced by a range of developmental activities that take place within their direct and indirect basins and coastal zones. Institutional arrangements for managing wetlands need to be such that they are capable of integrating activities across multiple sectors (such as agriculture, water resources, forests, rural development, urban development, forests and wildlife and others), and balancing the needs of a group of diverse stakeholders while ensuring that ecological integrity of these fragile ecosystems is not adversely affected.
  In the above context, association of entities or individuals as 'Wetland Mitras' can encourage stakeholder participation and overall governance.

69. An integrated wetlands management plan can be developed in the following steps, thus enabling a systematic diagnosis of wetlands features and their governing factors to arrive at management objectives and activities.

Step 1	Preamble	Concise policy statement describing the rationale for the application of human, technical and financial resources for the wetland management
Step 2	Description of wetland features	Collation and synthesis of data to describe: wetland location and extent, catchment, hydrological regimes, biodiversity, ecosystem services, socioeconomic and livelihoods
Step 3	Evaluation of wetland features	Based on the description of features, identification of priority wetland features that need to be maintained, and key threats that adversely affect these features
Step 4	Institutional arrangements	• Provide an overview of the current institutional arrangements in the context of wetlands management; • Discuss why the current institutional arrangements are insufficient in ensuring wetlands conservation and wise use; • Propose institutional arrangement for wetland management, with specific focus on: a) Nodal Agency b) Role of various departments and agencies and coordination mechanism, and c) Role of civil society and communities. • Develop an organogram for management plan implementation. • Regulatory regime specifying activities prohibited within wetlands, activities to be regulated within wetlands and zone of influence and regulation thresholds and activities permitted
Step 5	Setting Management Objectives	• Provide a statement of the overall goal that the management plan seeks to achieve; • Summarize the ecological and economic benefits that are expected from management plan implementation; • Enlist specific objectives; • Describe strategy(ies) for achieving each of the management objectives; • Provide a strategy for implementing regulatory regime – including list of activities liable to be prohibited, regulated and permitted within the wetland (wetlands complex)
Step 6	Monitoring and Evaluation Plan	• Present an overview of monitoring the wetland, and management plan implementation; • Describe monitoring parameters, the frequency of monitoring and the agency that will be responsible for monitoring; • Describe how coordination between different monitoring agencies will be achieved; • Discuss the infrastructure and human resource requirement for implementing the management plan. (As far as possible, include local universities, research organizations and NGOs in wetlands monitoring); • Discuss the frequency in which reporting shall be done and the responsible agency; Discuss how the monitoring outcomes will be used to adapt management
Step 7	Action Plan	Listing of management components and specific activities to achieve management objectives. For each activity,

		implementation location, prioritisation, implementing agency and timeline should be specified.
Step 8	Budget	Assessment of financial resources required for implementing the management plan and sources of funds.

A description of each step and format for the compilation of integrated management plan is at **Annex 4.**

70. **The management plans should be presented to the Wetlands Authority. The implementation shall begin only after receiving their endorsement. Management plans for Ramsar Sites and transboundary wetlands shall also be reviewed and endorsed by the MoEF&CC.**

71. The diagnostic management planning process, as described above, may also be used to guide management of wetlands excluded from notification under Wetlands Rules.

XV. Violations and penal provisions

72. The Wetlands Authorities are entrusted with the responsibility of ensuring enforcement of Wetlands Rules and other relevant Acts, Rules and Regulations. Provisions of the relevant Central and State Government Acts are applicable.

73. All prohibited and regulated activities beyond their thresholds, if taken up within the wetlands and its zone of influence, shall be deemed violations under the Wetlands Rules.

74. The violations of the Wetlands Rules shall attract the penal provisions as per the Environment (Protection) Act, 1986.

75. Complaints may need to be filed in the case of violations. In exercise of powers conferred under clause (a) of section 19, the Central-Government has authorised the officers and authorities listed, in the Table (p. 238) vide S.O. 394 (E) published in the Gazette No. 185 dated 16-4-87, S.O. 237(E) published in Gazette No. 171 dated 29-3-89 and S.O. 656(E) published in the Gazette No. 519 dated 21-8-89, and amendments thereafter, if any.

76. The Authority should evolve a mechanism for continuous watch and ward of wetlands within their jurisdiction. At the local level, the concerned Gram Panchayat and Urban Local Body may be entrusted with watch and ward in association with any body constituted by the State Wetlands Authority, such as a Wetlands Management Unit for a specific Wetland. At District levels, the responsibility may be entrusted to the DDO/CDO (District/Chief Development Officer)/CEO (Chief Executive Officer)/ Chief Programme Officer of the Wetland level body, such as a Wetlands Management Unit.

77. The State Governments should proactively ensure incorporation of wetlands within land records.

78. The Wetlands Authority shall report the status of notified wetlands on half yearly basis to the State Government/UT Administration and Central Government (recommended proforma at Annex 5).

XVI. Portal for information sharing

79. The MoEF&CC has created a web-portal for sharing information regarding implementation of Wetlands Rules. The portal may be accessed at MoEFCC website. The Central Government, State Government and UT Administration are required to upload all relevant information and documents pertaining to wetlands in their jurisdiction. State Governments / UT Administrations are encouraged to develop their own portals and hyperlink the same to the national portal. The State Governments and UT Administrations are also encouraged to upload other project documents and publications to enable sharing and exchanging good practices related to wetlands management in general, and implementation of regulatory framework in particular.

Annexes

Annex 1: Format for compiling list of wetlands

S. No.	Wetland Name	Geographical coordinates	District (s) in which the wetland is located	Village	Wetlands type	Wetlands sub-type	Area (ha)	Khasra or Survey numbers	Whether falls within category of regulated wetlands as per Wetlands Rules
		(latitude and longitude of the centre of the wetlands)			(inland or coastal)	(natural or human-made)			
Total no. of wetlands: Total no. of wetlands to be regulated/notified under Wetlands Rules:									

Annex 2: Format for preparing Brief Document

State / Union Territory: _____

Name and address of person(s) compiling this information_____

Section 1: Identification, Location and Jurisdiction

1.1 Name of the Wetland (Alternative names, including in local language should be given in parenthesis after official name)

_____

1.2 Name of the Village(s) , Tehsil(s), Municipal area (s)

_____

1.3 Name of the District(s) in which wetland complex is located

_____

1.4 Geographical coordinates (Latitude and Longitude, to degree, minutes and second)

Latitude: From _____ to _____

Longitude: From _____ to _____

1.5 Name of the Department / Agency which has jurisdiction over the wetland / wetlands complex

_____

Section 2: Site Characteristics

2.1 Area of wetland / wetlands category (ha) _____

2.2 Wetland type (Please tick appropriate categories and sub-categories)

Category	Subcategory
❒ Natural (Inland)	❒ Permanent lakes ❒ Seasonal/ intermittent lakes ❒ Permanent streams/ creeks ❒ Seasonal/ intermittent streams/ creeks ❒ Oxbow ❒ River floodplain ❒ Permanent freshwater marshes ❒ Seasonal/ intermittent freshwater marshes ❒ Shrub-dominated wetlands ❒ Tree-dominated wetlands ❒ Geothermal wetlands ❒ Karst and other subterranean hydrological systems

❒ Natural (Coastal)	❒ Coastal lagoon ❒ Estuary ❒ Intertidal mud, sand or salt flats ❒ Mangroves ❒ Coral reefs
❒ Human-made	❒ Aquaculture pond ❒ Tank ❒ Saltpan ❒ Dam / Reservoir

2.3 Depth (m) Average _____ Maximum _____

2.4 Elevation (m above mean sea level)_____ m

2.5 Water regimes

a) Main source of water (tick all applicable)

❒ Rainfall ❒ Groundwater ❒ Catchment runoff ❒ Direct / indirect inflow from river

❒ Others, please specify_____

b) Water permanence

❒ Mostly permanent ❒ Mostly intermittent

c) Destination of water from wetland

❒ Feeds groundwater ❒ To downstream catchment ❒ To river ❒ To sea

d) Water pH

❒ Acid (< 5.5) ❒ Circumneutral (5.5 – 7.4) ❒ Alkaline (> 7.4)

❒ Not known

e) Water salinity

❒ Fresh (< 0.5 g/l) ❒ Brackish (0.5 – 30 g/l)) ❒ Euhaline (30- 40 g/l)

❒ Hypersaline (>40g/l) ❒ Not known

f) Nutrient in water

❒ Eutrophic ❒ Mesotrophic ❒ Oligotrophic

❒ Not known

2.6 Climatic setting

a) Annual Rainfall /Snowfall(mm) _____

b) Temperature (°C) Minimum _____ Maximum _____

c) Humidity (%) Minimum _____ Maximum _____

2.7 Area of zone of influence (in ha) _____ [Ref. paras 32-34 of the guidelines on wetlands]

2.8 Major land use within zone of influence (provide as approximate % of catchment area)

Forests _____%

Plantation _____%

Agriculture _____%

Settlements (Rural) _____%

Settlements (Urban) _____%

Industrial _____%

2.9 Map of wetland complex and zone of influence

(To be enclosed as Annex I and II to this proposal)

Section 3: Biodiversity

3.1 Notable plant species present in wetland

_____

3.2 Notable animal species present in wetland

_____

3.3 Species of conservation significance (rare, endangered, threatened, endemic species)

_____

3.4 Major plant invasive alien species

_____

3.5 Major animal invasive alien species

_____

Section 4: Ecosystem services

Importance	Relevant for the site (please tick yes or no)	If Yes, Details (upto 50 words for each category)
Source of drinking water for people living and around	❒Yes ❒No	
Source of water for agriculture	❒Yes ❒No	
Fisheries	❒Yes ❒No	
Cultivation of aquatic food plants	❒Yes ❒No	
For buffalo wallowing and use of domesticated animals	❒Yes ❒No	
Medicinal plants	❒Yes ❒No	
Is a recreational site	❒Yes ❒No	
Buffering communities from extreme events as floods and storms	❒Yes ❒No	
Groundwater recharge	❒Yes ❒No	
Water purification	❒Yes ❒No	
Acts as a sink for sediments	❒Yes ❒No	
Has significant cultural and religious values	❒Yes ❒No	
Is a site for recreation and tourism	❒Yes ❒No	
Supports noteworthy plants species	❒Yes ❒No	
Supports noteworthy animal species	❒Yes ❒No	
Site of high congregation of migratory water birds	❒Yes ❒No	
Supports life cycle of fish or amphibians	❒Yes ❒No	
Mining	❒Yes ❒No	
Any other, please list		

Section 5: Pre-Existing Rights and Privileges

Nature of right and privilege	Relevant for the site (please tick yes or no)	Does this negatively impact the wetland's ecological health?	Brief description (upto 50 words for each category)
Community Fishing (without any lease or permission from government department)	❒Yes ❒No	❒Yes ❒No ❒Not assessed	
Fishing under lease from government department	❒Yes ❒No	❒Yes ❒No ❒Not assessed	
Harvest of plants (without any lease or permission from government department)	❒Yes ❒No	❒Yes ❒No ❒Not assessed	
Harvest of plants under lease from government department	❒Yes ❒No	❒Yes ❒No ❒Not assessed	
Agriculture or horticulture within wetland	❒Yes ❒No	❒Yes ❒No ❒Not assessed	
Grazing	❒Yes ❒No	❒Yes ❒No ❒Not assessed	
Religious practices	❒Yes ❒No	❒Yes ❒No ❒Not assessed	
Withdrawal of water for domestic use	❒Yes ❒No	❒Yes ❒No ❒Not assessed	
Withdrawal of water for agriculture or fisheries	❒Yes ❒No	❒Yes ❒No ❒Not assessed	
Bathing or wallowing of domestic animals	❒Yes ❒No	❒Yes ❒No ❒Not assessed	
Plying of boats	❒Yes ❒No	❒Yes ❒No ❒Not assessed	
Any other, please list here	❒Yes ❒No	❒Yes ❒No ❒Not assessed	

Section 6: Present and Potential Threats

Threat	Degree	Present or Potential	Additional information, if any
Changes in water inflow and outflow	❒High❒Medium ❒Low	❒Present ❒Potential	
Pollution	❒High ❒Medium ❒Low	❒Present ❒Potential	
Unsustainable harvest of biological resources	❒High ❒Medium ❒Low	❒Present ❒Potential	
Mining	❒High ❒Medium ❒Low	❒Present ❒Potential	
Siltation	❒High ❒Medium ❒Low	❒Present ❒Potential	
Encroachment	❒High ❒Medium ❒Low	❒Present ❒Potential	
Spread of invasive species	❒High ❒Medium ❒Low	❒Present ❒Potential	
Any other, please list	❒High ❒Medium ❒Low	❒Present ❒Potential	

Section 7: Activities Proposed to be Prohibited (other than those listed in Rule 4(2) of Wetland Rules and Regulated

Activity	Whether prohibited or regulated	Regulation within wetlands or zone of influence	If regulated, indicate the level of regulation (in terms of people, restricted area or any other)	Name of department / agency responsible for regulation / prohibition	Additional information, if any
Withdrawal of water / impoundment/diversion or any other hydrological intervention		❒ Wetland / Wetlands complex boundary ❒ Zone of influence			
Harvesting of resources (living / non-living)		❒ Wetland / Wetlands complex boundary ❒ Zone of influence			
Grazing		❒ Wetland / Wetlands complex boundary ❒ Zone of influence			
Discharge of treated sewage/ effluent / wastewater		❒ Wetland / Wetlands complex boundary ❒ Zone of influence			

Construction of boat jetties, and facilities for temporary use , as pontoon bridges		❒ Wetland / Wetlands complex boundary ❒ Zone of influence			
Aquaculture, agriculture and horticulture activities within the wetland boundaries.		❒ Wetland / Wetlands complex boundary ❒ Zone of influence			
Any other, please list		❒ Wetland / Wetlands complex boundary ❒ Zone of influence			

Section 8: Activities Proposed to be permitted

Activity	Place a tick mark if relevant	Within wetlands or zone of influence	Additional information, if any
	❒	❒ Wetland / Wetlands complex boundary ❒ Zone of influence	
	❒	❒ Wetland / Wetlands complex boundary ❒ Zone of influence	
	❒	❒ Wetland / Wetlands complex boundary ❒ Zone of influence	
	❒	❒ Wetland / Wetlands complex boundary ❒ Zone of influence	
	❒	❒ Wetland / Wetlands complex boundary ❒ Zone of influence	
	❒	❒ Wetland / Wetlands complex boundary ❒ Zone of influence	
		❒ Wetland / Wetlands complex boundary ❒ Zone of influence	

Section 9: Listing of Available Scientific Resources Used

_____

_____

_____

_____

CHECKLIST

- ❒ Responsible agency has been clearly identified and details of contact person included
- ❒ Wetland/ wetlands complex boundary has been delineated using GIS and firmed up by adequate ground truthing
- ❒ Wetland/ wetlands complex map has been provided at required scale
- ❒ Zone of influence has been delineated and included in wetland map or a separate map
- ❒ Wetland zone of influence is sufficient to manage all activities
- ❒ Site's importance have been listed, and for major categories, justification is provided
- ❒ Site's biodiversity values are listed, and for major categories, justification is provided
- ❒ List of pre-existing rights and privileges is provided
- ❒ Consistency or inconsistency of pre-existing rights and privileges is indicated to be best of available knowledge
- ❒ Threats to site are listed, and for major categories details are provided
- ❒ Activities prohibited, other than those listed in Rule 4(2) have been mentioned
- ❒ List of activities to be regulated within wetlands and zone of influence is provided
- ❒ List of activities to be permitted is provided

Annex 3: Format for draft notification of wetlands under Wetlands (Conservation and Management) Rules, 2017

Government of [State / Union Territory / India]

[Date]

S.O._____ The draft of the notification, which the [name of the issuing entity] proposes to issue in exercise of the powers conferred under rule 7 of the Wetlands (Conservation and Management) Rules 2017 read with Environment (Protection) Act, 1986 (29 of 1986), is hereby published for the information of the persons likely to be concerned or affected thereby; and notice is hereby given that the said draft notification shall be taken into consideration on or after the expiry of a period of sixty days from the date on which copies of the Gazette of ..... containing this notification are made available to the public;

Any person interested in making any objection or suggestion on the proposals contained in the draft notification may forward the same in writing, for consideration of the [State Government / UT Administration / MoEFCC, GoI], within the period so specified to the [insert designation and address], or at email address,.....

Draft Notification

1. WHEREAS, the ..... wetland / wetland complex, situated in ..... village(s), tehsil(s), district(s) of state of ..... , is considered to be critically significant for its ecosystem services and biodiversity values for the local communities and society at large;

2. AND WHEREAS, it is considered that for sustaining these values, the ecological character of wetland ecosystem needs to be maintained by regulating developmental activities within the wetland as well as within its zone of influence;

3. NOW THEREFORE, the [State Government, UT Administration / Government of India] declares that the said wetlands shall be covered under the provisions of Wetlands (Conservation and Management) Rules, 2017.

4. The extent of the wetland /wetland complex and its zone of influence is described in **Schedule I** of this notification;

5. Activities prohibited within the wetland and its zone of influence are listed in **Schedule II** of this notification. Such prohibitions shall not apply for areas designated under other Acts and Rules, and listed at para 1.2 (a), (b) and (c) of Schedule I. Relevant provisions of respective Acts and Rules shall apply in such areas.

6. Activities regulated within the wetland and its zone of influence, i.e. permitted only with permission of [State Government, UT Administration / Government of India] are listed in **Schedule III** of this notification. Request for permissions can be made to the [Designation, contact address and email]. Such regulations shall not apply for areas designated under other Acts and Rules, and listed at para 1.2 a), b) and c) of Schedule I. Relevant provisions of respective Acts and Rules shall apply in such areas.

7. Activities permitted within the wetland and its zone of influence are listed in **Schedule IV** of this notification. Such permissions however shall not apply for areas designated under other Acts and Rules, and listed at para 1.2 (a), (b) and (c) of Schedule 1. Relevant provisions of respective Acts and Rules shall apply in such areas.

8. The [State / UT Wetlands Authority] and the Ministry of Environment, Forest and Climate Change shall monitor the enforcement of the provisions of this notification.

By order

.....

Schedule 1: Location and Extent of Wetland / Wetlands Complex and its Zone of Influence

1.1 Wetland / wetlands complex

The wetland / wetlands complex, as delineated, extends within an area of .....ha within the geographical coordinates as under:

Extremity	North	South	West	East
Latitude				
Longitude				

The map of wetland / wetlands complex boundary is at **Map 1(a).**

1.2 Boundary of area already designated under provisions of other Acts and Rules

The wetland / wetland complex boundary includes an area of ..... ha designated under other Acts and Rules, with the geographical coordinates as under:

1.2 (a) Area designated under Indian Forest Act, 1927; Forest (Conservation) Act, 1980; State Forest Acts and amendments thereof

Extremity	North	South	West	East
Latitude				
Longitude				

1.2 (b) Area designated under Wildlife (Protection) Act, 1972 and amendments thereof

Extremity	North	South	West	East
Latitude				
Longitude				

1.2 (c) Area designated under the Coastal Regulation Zone Notification, 2011 and amendments thereof.

Extremity	North	South	West	East
Latitude				
Longitude				

The above areas should be clearly demarcated on the map of wetland / wetlands complex boundary i.e. **Map 1(a).**

1.3 Zone of influence

The geographical coordinates of the zone of influence span an area of ..... ha within the geographical coordinates as under:

Extremity	North	South	West	East
Latitude				
Longitude				

The map of zone of influence of the wetland is at **Map 1(b).**

1.4 List of revenue villages / municipal areas falling fully or partly within the wetland is as under:

[Insert list]
1.5 List of revenue villages / municipal areas falling fully or partly within the zone of influence is as under:
[Insert list]

Schedule II: List of activities prohibited within wetland/ wetlands complex boundary

a) Conversion for non-wetland uses including encroachment of any kind;
b) Setting up of any industry and expansion of existing industries;
c) Manufacture or/and handling or/and storage or/and disposal of construction and demolition waste covered under the Construction and Demolition Waste Management Rules, 2016; hazardous substances covered under the Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 or the Rules for Manufacture, Use, Import, Export and Storage of Hazardous Micro-organisms Genetically engineered organisms or cells, 1989 or the Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008; electronic waste covered under the E-Waste (Management) Rules, 2016;
d) Solid waste dumping;
e) Discharge of untreated wastes and effluents from industries, cities, towns, villages and other human settlements;
f) Any construction of a permanent nature except for boat jetties within fifty metres from the mean high flood level observed in the past ten years calculated from the date of commencement of these rules; and,
g) Poaching.

[Other activities, likely to have an adverse impact on the ecosystem to be inserted from the Brief Document]

Schedule III: List of activities regulated within the boundary of wetlands / wetlands complex and its zone of influence and for which prior approval of [State Government/ UT Administration/MoEF&CC] is required to be obtained

Activity	Restrictions	
	Within the boundary of wetland / wetlands complex	Within the zone of influence
[Insert from brief document]	[Insert from Brief Document]	[Insert from Brief Document]

Schedule IV: List of activities permitted within the boundary of wetlands / wetlands complex and its zone of influence

Activity	Levels and types not requiring permission	
	Within the boundary of wetland / wetlands complex	Within the zone of influence
[Insert from brief document]	[Insert from Brief Document]	[Insert from Brief Document]

Annex 4: Steps and format for developing Integrated Management Plan

1. Wetlands provide wide-ranging ecosystem services that support human well-being in a number of ways. Numerous plant and animal species depend on wetlands during different parts of their life-cycle. In order to ensure that wetlands continue to provide their ecosystem services and support biodiversity, it is essential that a well-defined strategy and actions are identified for their conservation and wise use. An Integrated Management Plan reflects a common understanding between various stakeholders on the management purpose, significant threats and constraints limiting conservation and wise use, opportunities and specific actions for addressing these threats, and mainstreaming wetlands within the wider developmental planning.

2. The Integrated Management Plan is formulated to serve the following purposes:

   - Identify the objectives of wetland management;
   - Identify the factors that affect or may affect the wetland;
   - Resolve conflicts between various stakeholders having an interest in the wetland;
   - Define monitoring requirements and research needs;
   - Help obtain financial resources for managing the wetland;
   - Enable communication between different wetland managers, organizations and stakeholders;
   - Ensure compliance with extant laws and regulation; and,
   - Demonstrate that management is effective and efficient

3. Systematic diagnosis of various wetlands features and factors influencing these features is essential to arrive at management objectives and actions. The following eight steps are recommended for developing an Integrated Management Plan:

Step 1: Preamble

4. The process for management planning must begin with an exercise of setting up an overarching preamble describing the rationale for application of human, technical and financial resources for the wetland. This is a concise policy statement that expresses the commitment of the State Government/ UT Administration for integrated management. The preamble can be developed on the basis of:

   - Importance of the wetland for the state / UT
   - Ways in which the wetlands conservation and wise use will contribute to conservation and developmental goals
   - Alignment with sectoral policies, directives and planning frameworks

Step 2: Description of wetland features

5. This step entails collation and synthesis of existing information on various site features so as to provide a basis for the identification of management objectives. A generic listing of management information needs and data requirements are presented in Table 1.

Table 1: Information Required for Description of Wetlands Features

Wetland feature	Management information needs	Data requirement
Wetland type and extent	▪ Location ▪ Wetland type ▪ Wetland area ▪ Significant inter-annual changes in the wetland ▪ Major changes in the wetland extent in the last 20 – 30 years (if available)	▪ Geographical coordinates ▪ Land use and land cover data for the wetland (at least for two seasons, pre and post-monsoon) ▪ Historical map of the wetland (can be developed from the Survey of India toposheets) (if available)
Catchment/ Drainage Basin	▪ Direct and indirect catchment of the wetland ▪ Geological and geomorphological characteristics that have led to the formation of the wetland ▪ Present land use and land cover of the catchment and their implication for wetland ▪ Major developmental activities in the catchment and their impacts on the wetland	▪ Geology and geomorphology ▪ Topography ▪ Drainage pattern ▪ Soil types ▪ Climate setting ▪ Land use and land cover change
Hydrological regimes	▪ Major sources of water inflow and outflow from the wetland ▪ Major sources of sediments into the wetland ▪ Inundation regime ▪ Trends in water holding capacity and factors for the decline ▪ Water quality and pollution status ▪ Water use pattern within the wetland catchment and implication for wetland	▪ Water inflow, outflow and balance ▪ Inundation pattern ▪ Sedimentation ▪ Groundwater ▪ Water quality ▪ Water use within the basin
Biodiversity	▪ Species richness ▪ Role of the wetland in the life-cycle of migratory species ▪ Invasive species and major contributing factors ▪ Major changes in species richness and habitat and factors thereof	▪ Species richness and diversity ▪ Biological significance of habitats ▪ Risk of species invasion

Ecosystem Services	▪ Key ecological and hydrological characteristics required for the sustained provision of ecosystem services ▪ Ecosystem services trade-offs	▪ Provisioning services(direct wetland products, eg: food, fibre, water) ▪ Regulating services (the ability of an ecosystem to regulate hydrological regimes, influence micro-climate, reduce disaster risk, groundwater recharge) ▪ Cultural services (recreational values, cultural and religious norms and beliefs related to wetlands) ▪ Supporting services (Primary production and other ecosystem functions which enable wetlands to deliver all above ecosystem services)
Socioeconomics and livelihoods	▪ Extent of dependence on wetlands for livelihoods ▪ Status of community infrastructure (such as water and sanitation) and implication for wetlands ▪ Livelihood vulnerability and relationship with changes in wetland resources ▪ Resource use conflicts ▪ Major shifts in livelihoods and implications for wetlands	▪ Demographic features of communities living in and around ▪ The contribution of wetland to income and employment ▪ Community resource use and management practices

6. Attention should be paid to the robustness of data and associated uncertainties thereof. It is recommended that the data on-site features and linked metadata are, to the extent possible, maintained in a spatial format to enable updation at a later stage as more information becomes available through monitoring programmes. The step should also include identification of data gaps.

Step 3: Evaluation of wetland features

7. This step entails an evaluation of information on status and trends on wetlands features (conducted in the previous step) to identify:

   a) Key wetland features that should be a priority for management planning
   b) Natural variability within these features, including describing thresholds, if any
   c) Threats that limit (or potentially limit) maintenance of wetlands features in the desirable state

8. Evaluation of wetland features can be done on the basis of criteria such as:

   - Naturalness
   - Rarity
   - Criticality for ecosystem functioning
   - Socioeconomic importance
   - Requirement under the extant regulatory regime

9. The evaluation process will lead to narrowing down of the list of wetland features, for which threats may be identified. The management plan is a response to these threats. Through this process, it is

ensured that the plan does not merely focus on symptoms (for example, poor water quality) but on the root causes (in this case, ineffective sewage management in wetland catchments).

Step 4: Defining an institutional arrangement for wetland management

10. The purpose of this step is to evaluate whether existing institutional arrangements are sufficient and effective in addressing the threats to wetlands. Based on the gaps identified, an institutional arrangement for implementation of the management plan is developed.

11. This step includes:

    a) Enlisting of government departments having programmes which impact (or have the potential to impact) wetlands features or threats on these features;
    b) An analysis of laws and regulation related to wetland, access and use of wetland resources, biodiversity or any dimension;
    c) Ownership, rights and privileges pertaining to wetlands;
    d) Analysis of the role of CSOs and communities in wetlands management, with particular reference to their views, rights and capacities; and,
    e) Gaps and challenges.

12. Based on the analysis, an institutional arrangement for wetlands management should be developed, clearly stating:

    a) The nodal agency responsible for managing wetlands
    b) Role of different government departments and mechanisms for inter-departmental coordination
    c) Role of CSOs and communities

13. In line with the requirements of Wetlands (Conservation and Management) Rules, 2017, the following should be specified:
    a) Activities prohibited within the boundary of wetlands;
    b) Activities to be regulated within wetlands and zone of influence and regulation thresholds; and,
    c) Activities permitted.

Step *5*: Setting management objectives

14. This step involves the identification of site management objectives that need to be met so as to ensure that site features are maintained or improved. The management objectives may address the threats identified in the previous step, and issues relating to maintenance of wetland in a desired healthy state.

15. While defining objectives, the following may be considered:

    a) **Measurability** – The objectives must be measurable so as to enable reporting on progress towards meeting them (for example, reducing silt load from the wetland catchment by xx %)
    b) **Achievability** – The objectives must be achievable at least in the medium or long term. An objective that cannot be achieved can lead to an overall loss of sense of direction and misallocation of resources (for example, completely preventing nutrient enrichment in a wetland located in the intensive agricultural landscape is an unachievable objective, a much better proposition would be to reduce the current rate by xx%).

c) **Indicative of purpose and not the process** – The objectives should not be prescriptively stating the way the objective should be achieved. It should ideally reflect the purpose of management (for example – afforestation in xxx ha is not an objective but a way to reduce siltation. Focusing just on afforestation then limits the use of other options for reducing siltation in a wetland).

Step 6: Developing a monitoring and evaluation plan

16. This section aims at outlining a monitoring and evaluation plan to enable assessment of overall management effectiveness and identify needs for mid-term correction.

Performance indicators

17. For each of management objectives, a set of performance indicators should be identified.

Table 2: Performance Indicators

Wetland feature	Management objective	Performance Indicator	Means of measurement
Area	Maintain wetland area	Wetland area which has not been altered for non-wetland usages	Area estimated from analysis of remote sensing images and ground truthing
Catchments	Reduction in silt load from catchment	Silt load	Monitoring pilot watersheds
Hydrological regimes	Reduce pollution	Biological Oxygen Demand, Chemical Oxygen Demand or any other water quality parameter assessed against a threshold	Water quality monitoring
	Enhance hydrological connectivity within wetlands complex	Area of wetland complex inundated during high floods period	Analysis of remote sensing data, and hydrological surveys
Biodiversity	Maintain and enhance habitat of waterbirds	Area of wetland used by waterbirds	Physical survey
	Reduce area under invasive macrophyte	Area under invasive macrophyte	Analysis of remote sensing images and ground truthing
	Maintain fish species richness	Fish species richness	Sampling

Socioeconomics	Reduce use of harmful fishing practices	Number of destructive fishing gear used in the wetland	Survey
	Reduce direct dependence of communities on capture fisheries	Reduction in % of income derived from wetland	Socioeconomic surveys

18. For each performance indicator, a baseline value at the beginning of management plan implementation may be specified. These values should be tracked over the course of management plan implementation to assess whether management objectives are being met.

Monitoring mechanism

19. Besides setting up performance indicators for the management plan, it is also essential to set up a monitoring system for the wetland to be able to assess changes in ecosystem condition over a period of time.

20. A generic listing of monitoring parameter, method and frequency is presented in the Table 3 below. Parameters marked with a single asterisk (*) sign are relevant for all wetlands and must from a part of the monitoring system. In addition to these, parameters marked with a double asterisk (**) are relevant for wetlands located in urban and peri-urban areas. Other parameters may be included based on the assessment of relevance and wetland contexts.

21. Photographic documentation (before, during and after management intervention) may also be maintained as part of monitoring process. Aquatic drones/ buoy- based sensor induced transmission for online data updating may be used for large wetlands, which will further help in enriching the management practices.

Table 3: Parameters for wetlands monitoring

Wetland feature	Monitoring parameter	Monitoring method	Recommended Frequency
Wetland extent	• Wetland area*	Remote sensing and ground truthing	Once in a year
	• Land use and land cover within the wetland area	Remote sensing and ground truthing	Once in a year
	• Connectivity with other adjoining wetlands, river / streams, coastal zone	Remote sensing and ground truthing	Once in a year

Wetland Catchment	• Climate	Data from the nearest weather station	Monthly
	• Land use and Land Cover*	Remote sensing and ground truthing	Once in 3 years
	• Total sediment yield	Stream gauging station	Monthly
	• Total nutrient yield	Stream gauging station	Monthly
Hydrological regimes	• Water inflow and outflow*	Stream gauging station	Monthly
	• Waterholding capacity	Bathymetric survey	Once in 5 years
	• Peak inundation	Remote sensing and ground truthing	Once in 2 years
	• Dissolved Oxygen, Biological Oxygen Demand *	Data from water quality sampling stations	Atleast monthly
	• Chemical Oxygen Demand **	Data from water quality sampling stations	Atleast monthly
	• Number of point sources discharging untreated sewage into the wetland **	Surveys	Once a year
Biodiversity and Habitat	• Population of major wetland dependent species groups (such as waterbirds, mammals etc.)*	Mid-winter counts	Once a year
	• Habitat use by key species	Physical surveys	Once a year
	• Number of migratory species using the wetland as a habitat	Physical surveys	Once a year
	• Area under invasive macrophyte**	Physical surveys	Once a year
Ecosystem Services	• Annual Fish yield	Sampling	Monthly samples collated into an annual estimate

	• Number of tourists	Surveys	Monthly samples collated into an annual estimate
	• Volume of surface water abstracted from wetland	Hydrographic surveys	Monthly samples collated into an annual estimate
	• Volume of groundwater recharged	Hydrographic surveys	Once a year
	• Proportion of floodwaters stored in the wetland	Hydrographic surveys	Once a year
	• Use of wetland for research and education	Surveys	Annual estimate
Livelihoods	• Population living around the wetland*	Surveys	Once every three years
	• Population depending on wetlands for livelihoods	Surveys	Once every three years
	• Number of households around the wetland using safe sanitation practices	Surveys	Once every three years
	• Participation of communities in wetlands management	Surveys	Once every three years

Note: (i) The frequency, as above, is advisable for wetlands above 100 **ha** and is indicative in nature. The Wetland Authority may suitably modify based on logistics involved.

(ii) For wetlands less than say 100 ha, the frequency may be appropriately **divided**.

Step 7 – Developing an action plan

22. The last stage of the management planning process includes defining the action plan, or specific interventions that address the identified management objectives. A generic listing of activities is presented in Table 4. The projects need to be defined very clearly to ensure good implementation. While identifying activities for management of wetlands, the following must be kept in mind:

a) Ecosystem-based interventions should be promoted as far as possible
b) Engineering interventions in wetlands should be taken up in a limited manner, with impact assessments conducted for all major works
c) Operations and maintenance of all structural works should be included in project design

d) Participation of local communities should be included to the extent possible

Table 4: Generic listing of activities for management of wetlands

Management Plan component	Activities	Key considerations
Boundary delineation and demarcation	Boundary mapping and delineation	Site boundaries should be established with reference to inundation regimes, soil conditions and vegetation types. Landscape connectivity should also be taken into account when wetlands exist in patches. All activities should be completed within the first year.
	Removal of encroachments	Boundaries should be notified and legally protected wherever possible. All activities should be completed within the first year.
	Shoreline management	Mostly required for wetlands in urban and peri-urban setting. For stabilizing bunds of wetlands, naturalization of slopes using vegetative measures should be preferred. Development of promenade for urban lakes can be included based on an evaluation of natural drainage and shoreline ecosystem niches.
Catchment conservation	Afforestation and aided regeneration	Catchment conservation plans should be developed at watershed scales and based on Joint Forest Management approaches. Native species should be used for forestry operations. Pilot watershed should be periodically monitored to assess changes in soil moisture regimes. Livelihood interventions for catchment communities aimed at reducing dependence on wood as an energy source should be included as appropriate.
	Small scale engineering measures (gully plugging, check dams, gabion structures etc.)	Community participation in design, implementation and post-project maintenance of structures should be ensured.
Water management	Selective dredging and desilting to improve hydrological connectivity	Dredging to be used only selectively, and be based on assessments of bathymetric profile and species interactions. For inflowing channels, dredging ca be used to improve water inflow.
	Interception, diversion and	Mostly recommended for wetlands in the urban and peri-urban setting.

Management Plan component	Activities	Key considerations
	treatment of point sources of pollution	Provision of comprehensive sanitation and safe drinking water coverage to communities living around the wetlands may be ensured. Engineering (STPs) as well as biological options (constructed wetlands) should be evaluated for application. Planning for Operation and Maintenance expenses should be included for all engineering structures.
	Construction and operation of hydraulic structures for maintenance of water regimes and flood control	For each significant structure, environmental impact assessments should be carried out prior to construction.
	Balancing water allocation for human and ecological purposes	Environmental flows for wetlands, hydrological regimes of which are affected by hydraulic structures, should be assessed and implemented in consultation in water managers
Biodiversity conservation	Habitat evaluation and improvement	Until specifically desired, plantation of terrestrial plant species in wetlands should be avoided.
	Improvement and maintenance of migratory routes	Community groups should be involved in habitat monitoring and maintenance of migratory routes
	Maintenance of breeding and spawning grounds for key species	Community groups should be involved in the maintenance of breeding and spawning grounds
	Management of invasive species	A mix of mechanical and biological methods for controlling species invasion should be used. For plant invasives, economic utilization along with physical removal should be included.
Sustainable resource development and livelihood improvement	Microenterprise development for reducing dependence on wetland resources for livelihoods	Identification of micro-enterprise development options should be based on an assessment of community livelihoods, capacities, resources and market linkages.
	Sustainable fisheries development	Only capture based fisheries techniques should be promoted in natural wetlands

Management Plan component	Activities	Key considerations
		Options for improving culture fisheries in areas around wetlands may be included to reduce dependence on capture fisheries
	Sustainable agriculture development	Organic farming practices in immediate catchments should be included to minimize nutrient enrichment in wetland.
Institutional development	Setting regulatory regimes	Site regulation should be harmonized with national and State level regulations. Local customary self-regulation which supports maintenance of conservation values should be promoted
	Development of monitoring and evaluation system	Comprehensive monitoring and evaluation mechanism for hydrological, ecological, socio-economic and institutional features should be made a part of the management system Involvement of stakeholders in monitoring should be encouraged.
	Communication and Outreach	Increasing awareness on values and functions of wetland should be made an integral part of the management plan. The use of television, print, electronic and social media for awareness generation and outreach may be included as appropriate. Developing and disseminating dos and donts in wetlands for general public may also be considered.
	Research	For each site, key research areas to support management needs should be identified and included in the management plan

Step 8: Developing budget and financing plan

23. A complete costing of the Integrated Management Plan item wise may be done for the entire tenure of the plan using the existing norms of the State and central government, as may be the case. Year wise requirement of funds for various items of work/ activities, band PERT charts for the works/activities should be prepared. Summary of Cost Estimates and year-wise breakup of the requirement of funds may be presented in the formats given below:

Table 5: Summary of budget

S. No.	Management Plan component	Budget

Table 6: Year wise breakup of requirement of funds

S. No.	Activity	Funds Required in Yr I	Funds Required in Yr II	Funds Required in Yr III	Funds Required in Yr IV	Funds Required in Yr V	Total

Table 7: year wise breakup of requirement of funds

S. No.	Total Budget	Funds from Central Government Scheme (Scheme Name)	Funds from State Government (Scheme Name)	Funds from other donors(Project and donor name)	Funds from private sector(Name of the agency)	Funds available from convergence sources	Funds required to be raised
	(a)	(b)	©	(d)	(e)	(f)= (b) +(c) +(d) + (e)	(g) = (a)-(f)

Format for compiling Integrated Management Plan

24. The management plan should have a cover sheet with the following information:

- Wetland Name
- Wetland Area (in ha)
- Location: (District(s), State / UT)
- Area of the direct catchment (in ha)
- Name of the nodal agency for management plan implementation
- Management plan period
- Date on which approval of State / UT Wetland Authority was obtained
- Total budget
- Total funds available from convergence sources

25. The management plan may be compiled in the following eight chapters:

Chapter heading	Sub-headings	Explanation	Reference to Management Planning Steps
1. Introduction	1.1 Rationale for management planning	Describe the importance of wetland, ways in which wetlands conservation and wise use will contribute to state conservation and development goals and alignment with state and central government policies, directives and planning frameworks	Step 1
	1.2 Terms of reference	Enlist the overall terms of reference for the management plan	Step 1
	1.3 Approach and Method	Provide an overview of approach (ways in which the recommended steps have been used) Describe the data sources and research carried out for management planning if any	Step 1
2. Description of wetlands features	Description of wetland features • Location and extent • Wetland catchments • Hydrological regimes • Biodiversity • Ecosystem Services • Socioeconomics and livelihoods	Describe wetland features. As far as possible, present the data in maps.	Step 2
3. Evaluation of wetlands features	Evaluation • Priority wetland features that need to be maintained and thresholds thereof • Threats	From the wetlands features described in the previous section, enlist the priority wetlands features. Describe the threats that adversely affect the priority wetland features.	Step 3

Chapter heading	Sub-headings	Explanation	Reference to Management Planning Steps
4. Institutional arrangements	4.1 Review of existing arrangements • Key organizations and programmes • Rules and regulations • Role of civil society and community based organizations	Provide an overview of the current institutional arrangements in the context of wetlands management	Step 4
	4.2 Gaps	Discuss why the current institutional arrangements are insufficient in ensuring wetlands conservation and wise use.	Step 4
	4.3 Proposed arrangements for wetland management	Propose institutional arrangement for wetland management, which specific focus on a) nodal agency, b) role of various departments and agencies and coordination mechanism, and c) the role of civil society and communities. Develop an organogram for management plan implementation.	Step 4
5. Setting Management Objectives	5.1 Goal and purpose	Provide a statement of the overall goal that the management plan seeks to achieve	Step 5
	5.2 Benefits (ecological as well as societal)	Summarize the ecological and economic benefits that are expected from management plan implementation	
	5.3 Management objectives	Enlist the specific objectives	Step 5
	5.4 Strategies	Describe strategy(ies) for achieving each of the management objectives	Step 5
6. Monitoring and evaluation plan	6.1 Monitoring strategy	Present an overview of monitoring the wetland, and management plan implementation	Step 6
	6.2 Monitoring parameters, frequency and responsibility	Describe the monitoring parameters, the frequency of monitoring and the agency that will be responsible for monitoring	Step 6

Chapter heading	Sub-headings	Explanation	Reference to Management Planning Steps
	6.3 Institutional design	Describe how coordination between different monitoring agencies will be achieved.	Step 6
	6.4 Infrastructure and human resources design	Discuss the infrastructure and human resource requirement for implementing the management plan as far as possible, including local universities, research organizations and NGOs in wetlands monitoring	Step 6
	6.5 Reporting	Discuss the frequency in which reporting shall be done and the responsible agency.	Step 6
	6.6 Review and adaptation	Discuss how the monitoring outcomes will be used to adapt management	Step 6
7. Developing an Action Plan	7.1 Component wise activities linked with management objectives	Generic listing of activities indicating: • What will be done? • Where will the activity be done? • What is the priority for the activity?	Step 7.1
	7.2 Components for consideration for support under National Plan for Conservation of Aquatic Ecosystems (NPCA)	For all activities eligible for support under NPCA indicate: • Why is the activity important? • How will the activity be • implemented? (include intermediate steps, technical specifications and relevant drawings, as may be the case) • Where will the activity be implemented? • Who will implement the activity? • What are the quantitative targets to be met?	Step 7.2

Chapter heading	Sub-headings	Explanation	Reference to Management Planning Steps
8. Budget and activity phasing	8.1 Activity linked budget	Present a summary budget in line with Table 5 Provide details of funding available from convergence sources in line with Table 6 Provide detailed budget for NPCA in line with Table 7	Step 8
	8 2 Time planning	Present a monthly Gantt Chart for management plan implementation	Step 8

Checklist for submission of Integrated Management Plan

- Approved by the State Govt./ UT Administration/ State Wetlands Authority/ UT Wetlands Authority (minutes of meeting to be enclosed)
- Forwarding letter states –commitment of the State Government/ UT for providing their share of budget (supporting document indicating concurrence to be enclosed)
- Integrated Management Plan has a cover sheet providing details on Wetland, catchment area, implementing agency, total budget and fund requested from NPCA
- Brief Document is enclosed with the management plan (as per Annex V)
- Wetlands map is provided in a standard GIS format
- Map of zone of influence in provided in a standard GIS format.
- Management plan is aligned with recommended format of eight chapters
- All activities proposed to be funded by the NPCA fall within the list of core and non-core activities
- Necessary drawings and technical specification for major activities is provided.
- Core activities have been allocated not less than 75% of the budget
- Non- core activities have been allocated not more than 25% of the budget
- Budget has been prepared with reference to an approved Schedule of Rates

Annex 5: Format for reporting status of notified wetlands

1. Wetlands / Wetlands Complex Name:	Report Date: Reporting Officer:

2. Wetlands status

2.1 Area: current- ; in notification -

2.2 Water inflow and outflow (attach data in an **annex**)

2.3 Water quality (attach data in an **annex**)

2.4 Status of major threats

(such as encroachment, linear infrastructure development, destructive fishing practices, untreated sewage discharge, solid and liquid waste dumping, dumping of hazardous waste, invasive species, habitat modification / destruction/alteration or any other that has or may induce an adverse change in wetland ecological character)

3. Status of enforcement of the regulatory regime

Activity regulated	Whether regulation complied with?	Violation if any?	Where has the violation been reported?	Action taken

4. Implementation of the management plan

Management Plan Component and Activity Planned for the period	Progress of implementation during the period	Nodal agency	Remarks (successes and challenges)

Guidelines for National Plan for Conservation of Aquatic Ecosystems

Guidelines

National Plan for Conservation of Aquatic Ecosystems (NPCA)

Ministry of Environment, Forest and Climate Change
Government of India

April 2019

List of Photographs

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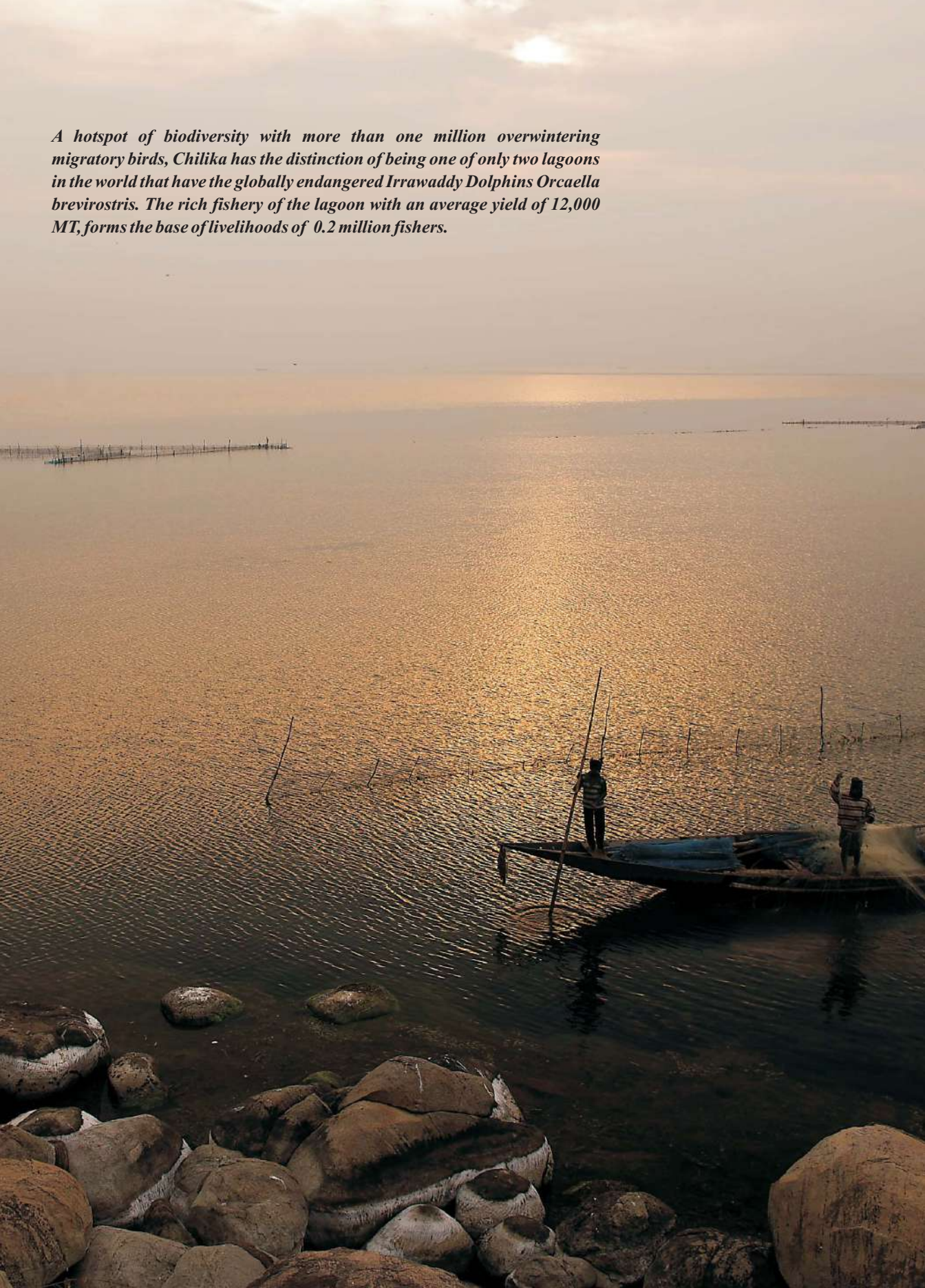
Content

Abbreviations

a.m.s.l.	above mean sea level
CSR	Corporate Social Responsibility
DC/ DM	District Collector/ District Magistrate
DPR	Detailed Project Report
DRDA	District Rural Development Agency
GoI	Government of India
ha	Hectare
IMP	Integrated Management Plan
MAP	Management Action Plan
MLA	Member of Legislative Assembly
MoEF&CC	Ministry of Environment, Forest and Climate Change
MP	Member of Parliament
NLCP	National Lake Conservation Plan
NPCA	National Plan for Conservation of Aquatic Ecosystems
NRCD	National River Conservation Directorate
NWCP	National Wetlands Conservation Programme
SWA	State Wetlands Authority (State Nodal Agency)
UT	Union Territory



A hotspot of biodiversity with more than one million overwintering migratory birds, Chilika has the distinction of being one of only two lagoons in the world that have the globally endangered Irrawaddy Dolphins Orcaella brevirostris. The rich fishery of the lagoon with an average yield of 12,000 MT, forms the base of livelihoods of 0.2 million fishers.

1 Guidelines Purpose and Scope

India, owing to wide variations in rainfall, hydrology, physiography, geomorphology and climate, is bestowed with a rich diversity of wetlands, which play a significant role in providing ecological and economic security through their wide ranging ecosystem services and biodiversity values. In these Guidelines Aquatic Ecosystems refer to wetlands including lakes

Notwithstanding the high level of dependence, wetlands have been stressed by a range of anthropogenic and non-anthropogenic pressures, such as conversion for alternate usages, land use change, fragmentation of natural water regimes, pollution, siltation, species invasion, over harvesting of natural resources, unsustainable tourism and climate change.

India is committed to conservation of wetlands. The Indian Constitution, in its Article 51-A(g) stipulates that "it shall be the duty of every citizen of India to protect and improve the natural environment including forests, lakes, rivers and wildlife and to have compassion for living creatures. The MoEF&CC, at its inception in 1985, identified wetland conservation and sustainable management as one of its important programming themes. India's assent to the Ramsar Convention in September 1982 provided an important backdrop to this decision. The Ministry established the National Wetlands Conservation Programme (NWCP) in 1986 to provide the overarching policy framework and financial assistance to the State Governments for implementation of site management plans. In 2001, the National Lake Conservation Plan (NLCP) was introduced to address pollution issues in urban and semi-urban environments through interception, diversion and treatment of pollution load entering lakes. Priority sites under the two schemes have been identified based on specific criteria laid under the two schemes. As on February 2019, over 180 sites have been prioritized for conservation and restoration. The Ministry has also designated 27 wetlands as being of international significance under the Ramsar Convention.

The conservation and wise use of wetlands figure significantly in various policy commitments. The National Environment Policy of 2006 identifies wetlands as components of 'freshwater resources' and recommends integration in developmental planning, management based on prudent use strategies, promotion of ecotourism and implementation of a regulatory framework.

Healthy catchment is essential for sustaining wetland ecosystem health

Wetlands also figure significantly in 3 of the 12 National Biodiversity Targets, framed by the MoEF&CC in line with the Convention on Biological Diversity's Strategic Plan 2011-2020. Wetlands have direct reference in Target 3 (Strategies for reducing rate of degradation, fragmentation and loss of natural habitats are finalized and actions put in place by 2020), Target 6 (ecologically representative areas on land and in inland waters, as well as coastal and marine zones, especially those of particular importance for species, biodiversity and ecosystem services, are conserved effectively and equitably), and Target 8 (by 2020, ecosystem services, especially those related to water, human health and livelihoods and well-being are enumerated and measures to safeguard them are identified). These targets will guide investment and resource allocation for biodiversity conservation at the national level, and therefore bear high significance for wetlands. The National Water Policy (2012) recommends adoption of a basin approach for water resources management, and identifies conservation of river corridors, water bodies and associated ecosystems as an important action area.

Wetlands are also essential for human well-being, economic security and climate change mitigation and adaptation. The multiple benefits provided by wetlands are essential in achieving Sustainable Development Goals (Fig 1).

In February 2013, considering the need for a common approach to the conservation and management of wetlands and urban and peri-urban lakes, the Union Cabinet decided to merge the two schemes into a unified scheme entitled 'National Plan for Conservation of Aquatic Ecosystems' (NPCA) to enable the application of uniform policy and guidelines and promote an integrated and multi-disciplinary approach with a common regulatory framework.

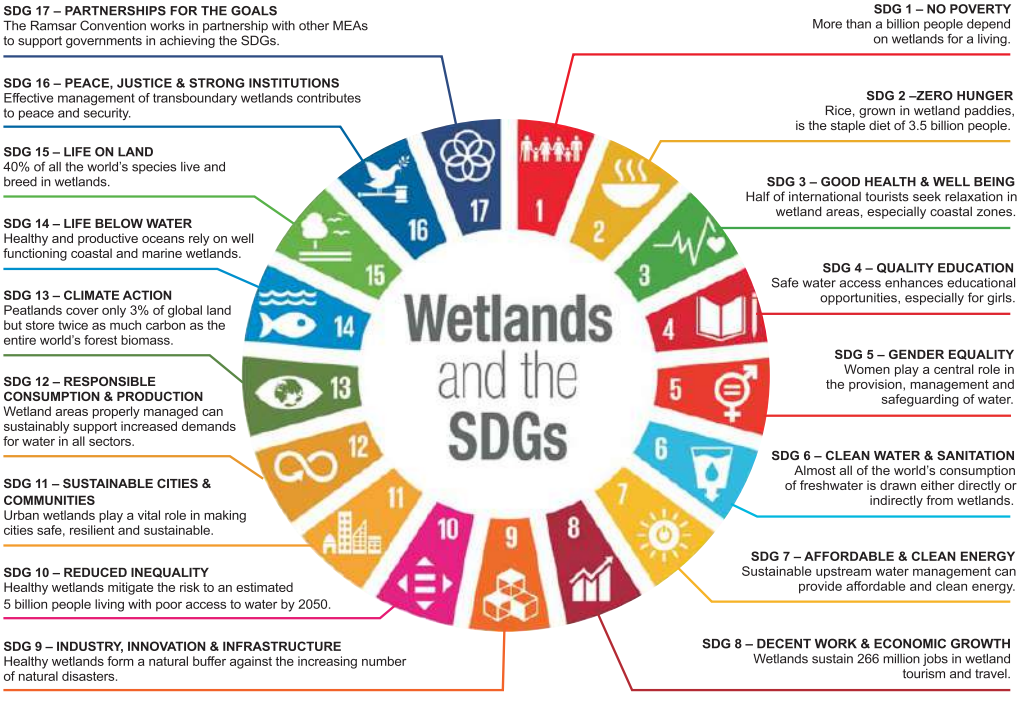


Figure 1: Wetlands and Sustainable Development Goals

(Source: Scaling up wetland conservation, wise use and restoration to achieve the Sustainable Development Goals, July 2018, www.ramsar.org)

The NPCA envisages halting and reversing the continued degradation and loss of wetlands in the country and ensuring their conservation and integrated management by promoting a cross sectoral planning and decision making. The programme mandates a shift from the sectoral approaches adopted till date for management of these ecosystems, and instead focuses on mainstreaming their full range of biodiversity and ecosystem services into development programmes being pursued at national and state / UT levels.

These guidelines outline an implementation framework for NPCA, and build on a critical evaluation of implementation experiences of the NWCP and NLCP thus far.

The basic features that have been kept in mind while preparing these guidelines are:

- Collaborative effort between Central Government and State Governments, particularly ownership and stewardship of wetlands resources by the later, is crucial to overall sustainability of restoration and management efforts.
- Effective institutional structures need to be created within the States and UTs to ensure cross sectoral decision making for wetlands. This is also mandated by the Wetlands (Conservation and Management) Rules, 2017.
- Mainstreaming wetlands in State level policy and decision making by building convergence with ongoing developmental sector investments is an important pathway to address anthropogenic threats on wetlands (Annexure-I).
- Management of wetlands need to be based on a diagnostic evaluation of their ecological, hydrological, socioeconomic and institutional features, and factors governing these features to arrive at an action plan suited to specific context. Participation of stakeholders as well as experts are key enablers to such a process.
- Wetlands need to be integrated with water resources management to ensure that land and water use decisions within catchments and coastal zones do not adversely impact these ecosystems, rather are able to apply wetland ecosystem services values synergistically to achieve water, food and climate security solutions.
- These guidelines supersede the Guidelines for NLCP (issued in May 2008) and Guidelines for Conservation and Management of Wetlands (issued in June 2009).

Part of floodplain wetlands of Manipur River, Loktak is the largest source of fish, edible plants and freshwater for the state of Manipur. Floating mats of vegetation, locally called phumdi are its characteristic feature. Globally endangered Brow-antlered Deer Rucervus eldii eldii inhabits Keibul Lamjao, a floating national park forming the wetland's southern part.

2 Managing Wetlands

2.1 Extent of Wetlands in India

The Himalayas are interspersed with a number of glacial lakes, swamps, and floodplain marshes spread across Jammu and Kashmir, Uttarakhand, Himachal Pradesh, Sikkim and Assam, several of which are the headwaters of major rivers. The alluvial plains of River Ganga and Brahmaputra have extensive riverine wetland formations as floodplains and oxbows known variously as maun, beel, chaur, jheel and pat in different parts of the country. These sustain highly productive agriculture and fisheries, besides acting as natural flood defence for communities. In arid and semi-arid zones of the peninsular and western India, several water bodies have been constructed to support domestic water and irrigation needs. The arid zone spanning Rajasthan and Gujarat has vast saline flats, monsoon fed freshwater lakes as well as salt lakes (for example, Sambhar, Pachpadra, Deedwana and Lukransar). The Peninsular Deccan region is studded with man-made lakes providing water for various human needs. Several of these also act as good habitats for water birds (e.g., Varthur, Rachenahalli and Amruthalli Lakes in Bangalore, and Kolleru in Andhra Pradesh). Several urban agglomerations such as metropolitan area of Hyderabad and Ahmedabad have strikingly high number of human-made lakes (over 400 and 600 in numbers, respectively). The narrow plains of the east and the west coasts are dotted with lagoons, backwaters, mangroves, coral reefs and salt lakes.

As per the National Wetlands Atlas, published by Space Applications Centre, Ahmedabad, India has 15.26 million ha area under wetlands, roughly equal to 4.6% of its land area. Of this, inland wetlands constitute 69.22% (10.56 million ha). Nearly 12% of the inland wetland area is in the form of lakes and ponds (including those less than 2.25 ha).

2.2 Importance of Wetlands: Ecosystem Services and Biodiversity

Wetlands are lifelines of the society. They provide vital support to human well-being through their wide ranging ecosystem services and biodiversity values. As these ecosystems degrade or are adversely altered, the water cycle, and the interlinked carbon and nutrient cycles are also adversely altered, leading

Wetlands support habitat for numerous species

to water, food and climate insecurity, and loss of biodiversity. Some of the major ecosystem services provided by wetlands are:

- Water storage;
- Support livelihoods by providing food, water and fiber;
- Regulation of water regimes and stream flows;
- Ground water recharge;
- Water purification;
- Nutrient recycling;
- Buffer shorelines from erosion;
- Buffer communities against floods, droughts, cyclones and wave surges;
- Support a variety of life forms through extensive food webs;
- Habitat to diverse flora and fauna, including resident and migratory species;
- Habitat for migratory species such as waterbirds and fish;
- Provide recreational opportunities;
- Integral part of cultural identities;
- Enhance landscape aesthetics; and,
- Stabilize local climate.
- The ability of a wetland to provide the aforementioned ecosystem services and support biodiversity is dependent on local conditions, geomorphic settings and linked livelihood systems.

2.3 Major Threats and Impacts

Wetlands are subject to a number of threats emanating from anthropogenic and non-anthropogenic drivers and pressures. Some of the major threats to these ecosystems are:

- Fragmentation of hydrological regime;
- Siltation;
- Pollution;
- Encroachment and land reclamation;
- Species invasion including alien species;
- Unregulated recreation and tourism;
- Over-harvesting of resources; and,
- Climate change.

Degradation of wetlands affects biodiversity and human well-being in a number of ways, as is evident from following examples:

- Changes in water regimes of Loktak Lake, a floodplain wetland complex of Manipur River, in order to withdraw water for hydropower generation has led to enhanced peripheral flooding, near complete decimation of migratory fisheries and rapid degradation of habitat of globally endangered ungulate species - Brow Antlered Deer (Rucervus eldii) or Sangai for which the wetland is the only known natural habitat.
- Conversion of marshes associated with Wular Lake for agriculture and afforestation has reduced the capacity of the wetland system to regulate the flow regime leading to increased floods and droughts.
- Enhancement of permanent agriculture has adversely affected the livelihoods of over 15,000 fishermen living around Kanwar Jheel in North Bihar. Agriculture in turn has been impacted by lowering of ground water levels

Wetlands support food security by providing fish and aquatic plants

and flooding attributed to the shrinkage in wetland area.

- Reclamation of urban lakes in Bangalore and Chennai is one of the major factors leading to increased urban flooding.
- Agriculture in the backwaters of Vembanad-Kol has often created distress to the farmers and also caused irreversible changes to the wetland habitat.

2.4 Management Gaps and Challenges

Following gaps and challenges have limited effectiveness of interventions made for conservation and management of wetlands:

2.4.1 Sectoral Approaches

The full range of wetland ecosystem services and biological diversity values are rarely integrated in sectoral developmental plans, impeding their ecological and hydrological functioning and leading to stakeholder conflicts. In most States, wetlands are not recognized as a unique land use category and these are often clubbed with 'wastelands' meant to be used for alternate developmental purposes. Sectoral approach also results due to multiple departments pursuing different objectives (for example, water resources department aiming at enhancing water holding capacity, fisheries department at enhancing fish production, tourism department at developing tourist potential) with disparate outcomes related to wetlands, and often working for cross-purposes.

2.4.2 Partial Approach to Implementation of Management Plans

The management plans for wetlands are mostly formulated, financed and implemented on annual cycles, and in several cases, these are not based on comprehensive landscape scale management plans. Most of the plans are therefore prescriptive in nature, and do not address the root causes of degradation (e.g., change in hydrological regimes, pollution or loss of biodiversity). Post project sustainability strategies are also not worked out. Only in a few States/UTs, allocation has been made for wetlands within their budgets, and wherever such allocations are made, it is mostly for establishment expenses and not for supporting restoration. Similarly, though NLCP was implemented on a cost-sharing basis, the operation and maintenance of urban and peri-urban lakes by the respective State Government departments is marginal.

2.4.3 Weak cross – Sectoral Governance

Integrated management of wetlands requires cross-sectoral institutional arrangements. This was envisaged to be achieved through creation of dedicated authorities responsible for developing management plans, site monitoring and evaluation and implementation through line departments. However, only a few States have been able to designate specific authorities. Further, only in few cases, these authorities have regulatory backing. The Wetlands (Conservation and Management) Rules, 2017 has constituted State/UT Wetlands

Urban wetlands are natural infrastructure treating wastewater and enhancing landscape aesthetics

Authorities as the nodal policy making and regulating bodies for wetlands within their jurisdiction.

2.4.4 Insufficient Capacity for Integrated Management

Review of management plans submitted to the Ministry indicates lack of knowledge and experience in the formulation of management plans addressing the full range of drivers of ecosystem degradation. Equally significant is the lack of training and capacity building opportunities for the site managers.

2.4.5 Limited Research Management Interface

Management of wetlands calls for continuous research inputs to address the drivers of change. However, research has not been given due importance in case of most of the wetlands. Much of the research is focused on structural elements of wetlands (limnology, biodiversity) with very limited emphasis on functional aspects such as ecosystem services and community livelihoods.

2.4.6 Impact of Climate Change

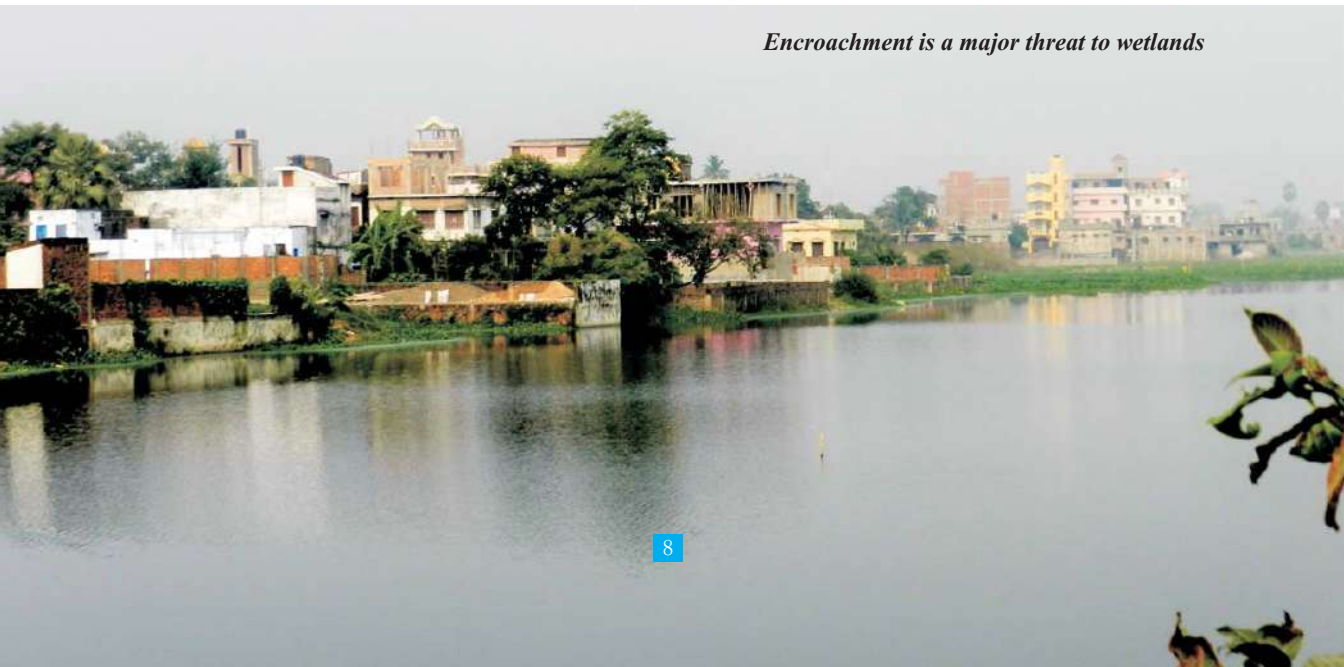
The sea level rise is expected to adversely affect the coastal wetlands; some of them might disappear; several others would experience changes to their morphology, water balance, salinity levels and biodiversity. The mudflats and coral reefs could be considerably affected by sea level rise. The high altitude wetlands would suffer due to problems associated with the reduction in the thickness and area of glaciers. The variation in precipitation pattern would have its impact on wetland ecosystems and their wise use. Therefore, there is a need to plan for the future considering the climate change and its impact on wetlands.

The NPCA is designed to address the aforementioned gaps through focus on integrated wetland management in relation to their drainage basins, strengthening institutional arrangements and governance mechanisms, enhancing capacity and improving knowledge base and developing decision support system.

2.5 The need for integrated management

Wetlands are one of the most embedded and interlinked ecosystems with human livelihoods and well-being. A balanced management approach addressing biodiversity conservation values while providing for sustainable utilization in a way compatible with maintenance of natural properties of the ecosystem needs to be adopted for these ecosystems. This forms the core philosophy of 'wise use', which is "maintenance of ecological character within the context of sustainable development, and achieved through

Encroachment is a major threat to wetlands



implementation of ecosystem approaches." This approach builds on the critical linkages that exist between people and sustainable development of aquatic ecosystems; and encourages community engagement and transparency in negotiating trade-offs and determining equitable outcomes for conservation.

The NPCA therefore recommends that management of each wetland is guided by an "integrated management plan" (IMP). The plan refers to a document which describes strategies and actions for achieving wise use of the wetland and includes objectives of site management; management actions required to achieve the objectives; factors that affect, or may affect, the various site features; monitoring requirements for detecting changes in ecological character and for measuring the effectiveness of management; and resources for management implementation.

While it is recognized that each site has its own distinctive ecological and hydrological features and thereby distinctive management needs, the following broad planning principles need to be kept in mind while formulating IMP:

- Integrated planning: Aquatic and terrestrial ecosystems are intimately linked by the process of the water flowing through them. Every land use decision has a consequence on water availability. Management planning for wetlands should not be restricted to a defined administrative boundary, but rather take into account wider planning and management context of the basin or coastal zone within which the site is located. Delineating a basin or a coastal zone enables demarcation of a distinct hydrological unit which is the natural integration of all hydrological processes within its boundary and therefore an ideal and rational unit for soil, water and bio-resources conservation and management.
- Use of diagnostic approaches for defining management approach and actions: Given the uniqueness associated with each wetland, it is important that 'one size fit all' approach is replaced with a diagnostic approach, wherein the ecological, hydrological, socioeconomic and institutional features are comprehensively assessed and trends therein determined to be able to spell out management objectives and actions clearly.
- Adaptable management: Wetlands are influenced by a range of drivers and pressures that act at multiple spatial, temporal and political scales. Their management plan, therefore, needs to be prepared to be accommodative of uncertainties and challenges. This can be achieved by using an adaptable management approach, which allows for suitable modification of management based on continuous site monitoring and assessment of new information. In several instances, the ability of future to sustain human use cannot be determined off-hand due to lack of information. In such circumstances, as is the practice in other spheres of ecosystem management, use of precautionary principle is recommended. This means that lack of full scientific uncertainty should not be used as a reason to postpone measures to prevent ecological degradation. With more data collected from the field as part of implementation of management action plan, better understanding of the system can be achieved and appropriate models developed.
- Stakeholder participation: The condition of any wetland is an outcome of actions by a range of stakeholders, which are linked to the ecosystem in a number of ways. Management planning therefore needs to recognize these linkages, and build a mechanism for participation of stakeholders in design, review and implementation processes.
- Governance: Being located at the interface of land and water, wetlands are influenced by a range of developmental activities which take place within their direct and indirect basins and coastal zones. Institutional arrangements for managing aquatic ecosystems need to be such that they are capable of integrating activities across multiple sectors (such as agriculture, water resources, forests, rural development , urban development, forests and wildlife and others), and balancing the needs of a group of diverse stakeholders while ensuring that ecological integrity of these fragile ecosystems is not adversely affected. This need can be best served by designating wetland authorities within States and UTs to serve as a distinct regulatory, planning and policy making body for conservation, restoration and sustainable management of its wetlands. This is also mandated by Wetlands (Conservation and Management) Rules, 2017.

Kolleru, a natural flood-balancing reservoir between the deltas of River Krishna and Godavari, is a habitat of over 200 birds. It was once famed for a breeding colony of Spot-billed or Grey Pelican Pelecanus philippensis. Recently, Greylag Goose Anser anser, not sighted in Deccan and South India thus far, was spotted here.

3 National Plan for Conservation of Aquatic Ecosystems

3.1 Scheme coverage

Wetlands include an area of marsh, fen, peatland or water; whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six meters. Conservation and management of mangroves and coral reefs shall continue to be guided by the Centrally Sponsored Scheme entitled Conservation and Management of Mangroves and Coral Reefs.

3.2 Goal and Purpose

The goal of NPCA is to develop and maintain a network of healthy wetlands which contribute to human well-being through their diverse ecosystem services, as well as sustain diversity and populations of wetland-dependent species.

The purpose is to mainstream full range of wetlands biodiversity and ecosystem services within developmental plans and programmes at various levels.

3.3 Objectives

The NPCA aims to provide an integrated and scientific framework for conservation and sustainable management of wetlands in the country. The specific objectives of the plan are:

- Developing policy guidelines for conservation and sustainable management of wetlands;
- Supporting, promoting and strengthening conservation of prioritized wetlands through integrated management;
- Facilitating the development of a national inventory, and setting up an information decision support system for the management of wetlands;
- Strengthening the capacity of wetlands managers and stakeholders for effective management of wetlands; and
- Strengthening the implementation of international commitments related to wetlands.

3.4 Strategy

The NPCA promotes the leadership and stewardship of States / UT administrations for conservation and management of wetlands, with the MoEF&CC providing facilitation in terms of setting policy directions, supporting creation of linkages with developmental sectors, strengthening research-management interface and building capacity of site managers and other stakeholders. The vision on integration within the NPCA is guided by the following strategies:

3.4.1 Integrated Management

Investment for the conservation of wetlands shall be on the basis of integrated management plans which secure ecosystem functioning for sustained provision of ecosystem services as well as maintenance of biodiversity. These plans will serve to integrate wetlands into sectoral developmental planning within associated catchment and coastal zones. This is in difference to present single function investment to integrated and sustainable development considering asset management planning, drainage management planning and land use planning and control.

Since the objective is to conserve a wetland and protect it from stresses and resultant degradation, it is necessary to determine the state and condition of the wetland. Baseline information needs to be therefore gathered, the areas and degree of degradation need to be determined, the causes need to be identified and measures that would restore the wetlands to the desired state need to be designed and implemented. Besides these interventions, the wetland is to be managed so that it is sustained in a sound ecological health, retains biodiversity and provides the expected ecosystem services in an efficient and effective manner.

3.4.2 Funds convergence

Funding for implementation of restoration plans will be largely through developmental sector programmes (from public as well as private sources) which have a bearing on wetlands functioning, and provide an opportunity for supporting integrated management. NPCA shall only provide the core funding required to trigger and support integrated management for prioritized wetlands.

3.4.3 Cross-Sectoral Governance

State Government / UT administration will need to put in place a nodal State / UT level authority for planning, policy making and integrated management of aquatic ecosystems in their jurisdiction. These authorities will have representation of all sectors concerned with aquatic ecosystem functioning and will also ensure support of concerned State Governments, Urban local bodies and NGO's political, technical and administrative leadership within the respective State/UT. The Wetlands (Conservation and Management) Rules, 2017 have constituted State Wetlands Authorities to ensure cross-sectoral governance and stakeholder participation.

3.5 Financial Support from Central Government

State Governments / UT administrations can seek financial assistance under NPCA for integrated management of wetlands. Financing shall be done on the basis of integrated management plans. The MoEF&CC will bear the cost of activities funded by it as per prevalent policy of Central Government to State/UTs/Special/North – Eastern state.

Each integrated management plan will identify a comprehensive set of activities that will need to be implemented to conserve and sustainably manage wetlands. The action plan must be evaluated against existing funding opportunities within conservation and / or development sector schemes of the Central/State Government Ministries and agencies and private sector (a suggestive list is given in Annexure I). The activities which do not have any alternate source of funding, and fall within the list of core and non-core activities can be considered for financial support under NPCA (Annexure II). Overall, the core activities shall be allocated higher weightage, and be allocated 75% of the budget. The non-core activities may receive maximum 25% of the overall allocation..

In addition, the MoEF&CC will implement the following activities to enhance management effectiveness of aquatic ecosystems in the country:

3.5.1 National inventory and decision support system for conservation and management of wetlands

The Ministry shall facilitate development of national inventory on wetlands to assist State Governments / Union Territory Administrations in:

(a) Identifying wetland locations and extent;

(b) Assess spatial and temporal changes in wetlands extent;

(c) Prioritize wetlands by overlaying with layers on water regimes, land use and land cover and high conservation values sites.

3.5.2 Research projects with regional / thematic relevance to support conservation and management of wetlands

The Ministry shall make available a list of priority research themes to support conservation and management of wetlands, and keeping in view MoEF&CC's existing guidelines. The MoEF&CC shall set up a process for seeking inputs of State Governments/ UT Administrations in identifying the priority research topics and organizations to implement the research.

3.5.3 Regional and national capacity building programmes to improve management effectiveness of wetlands

The MoEF&CC shall do a capacity building needs assessment based on which training workshops and other hand-holding mechanisms shall be implemented.

3.6 Institutional arrangements

The Institutional arrangements at National and State/UT levels are provided below:

3.6.1 National Level

The MoEF&CC is responsible for overall coordination of NPCA. NPCA is implemented by designated division of the Ministry. Its specific functioning include the followings:

- Providing national policy framework for conservation and sustainable management of wetlands;
- Providing financial assistance (on cost sharing basis) for implementation of activities identified in the integrated management plans;
- Providing need based advice to the State Governments / UT Administration in leveraging funds from various central government ministries and departments;
- Providing detailed guidelines and technical know-how for wetlands restoration and management;
- Funding, supporting and conducting capacity building and training programmes;
- Financing research and capacity development to support integrated management of wetlands;
- Periodic evaluation of interventions made under the programme and suggesting mid-course corrections including evaluation of management plans;
- Facilitating the development of a national inventory, and setting up an information decision support system for the management of wetlands; and,
- Communication and outreach on wetlands.

3.5.1.2 National Wetlands Committee

The National Wetlands Committee (NWC), constituted under the provisions of the Wetlands (Conservation and Management) Rules, 2017 shall be the nodal advisory body for NPCA. The composition and functions of NWC are laid down in the said Rules (Annexure III).

3.6.2 State Government / UT Administration

The primary responsibility for the conservation and sustainable management of wetlands will be with the State Governments/UT Administration. The Wetlands Authorities within States / UTs, created as per provisions of Wetlands (Conservation and Management) Rules, 2017 will be nodal agency for all matters concerned with implementation of NPCA. The composition and functions of State/UT Wetlands Authority are laid down in the said Rules (Annexure III).

3.7 Implementation Strategy

NPCA envisages creating a network of well-conserved and sustainably managed wetlands which support biodiversity and provide their full range of ecosystem services on long term basis. The implementation strategy to achieve the above is as follows:

(a) Proactive engagement of State Governments and UT Administrations to ensure that a representative set of wetlands are identified for management. Emphasis shall be placed on wetlands which are located outside protected area network, and highly vulnerable to various anthropogenic pressures.

(b) Capacity development and handholding support would be provided by the Ministry by holding regional and national capacity building programmes for strengthening the capacity of wetlands managers and stakeholders for effective management of wetlands.

Bhitarkanika, one of the most diverse mangrove swamps, is famed for its Saltwater crocodile Crocodylus porosus. It is bordered by Gahirmatha Beach, which is the largest known nesting site of the Olive Ridley turtles Lepidochelys olivacea in the world. The marshes and dense mangroves buffer communities living in and around from the impact of tropical storms and cyclones.

4 Conditions and Process for Inclusion

4.1 Inclusion of Wetlands under NPCA

The Government of India has been implementing the National Plan for Conservation of Aquatic Eco-system (NPCA) in close collaboration with the State Governments/UT Administrations wherein wetlands are identified/ prioritized as a prerequisite for being considered for financial support.

Inclusion of a wetland under the NPCA shall be an indication that:

(a) The State Government and the MoEF&CC recognize the significance of the wetland in terms of biodiversity values and contribution to societal well-being through wide ranging ecosystem services

(b) The wetland requires proactive management to be in place to secure its biodiversity and ecosystem services values

(c) The State Government, recognizing the significance of wetland, is willing to demarcate the wetland boundary, designate a dedicated nodal agency for management, develop an integrated management plan, and contribute in financial terms towards implementation of management plan

(d) The MoEF&CC, in recognition of the significance of wetland is willing to consider providing financial and technical support towards implementation of an integrated management plan

4.2 Inclusion Criteria

Any proposal sent through State Government/ Union Territory Administration/ State Wetlands Authority/UT Wetlands Authority shall be considered for financial support under NPCA.

For all wetlands, the following criteria shall apply:

Wetlands located with urban, peri-urban and semi-urban areas

- Wetland holds some water throughout the year and with peak inundation area equivalent or greater than 5 ha; and,
- Wetland is highly degraded and cannot be put to its traditional use due to pollution resulting from discharge of domestic and /or industrial wastewater, municipal solid waste or other non-point sources of pollution. Designated best use criteria for surface waters as recommended by CPCB is provided in Annexure IV.

Wetlands located in high altitude areas (with elevations greater than 2,500 m a.m.s.l)

- Wetland has an area of 5 ha and above

Wetlands located below 2,500 m a.m.s.l elevation

- Wetland or wetland cluster has a peak inundation area of 100 ha and above, and meets atleast one of the following criteria:
- Is representative, rare or unique example of natural or nearly natural wetland in a biogeographic zone;
- Supports vulnerable, endangered or critically endangered species; or threatened ecological communities (as evaluated through IUCN Red List or any other national list);
- Supports plant and/or animal species at a critical stage in their life cycle, or provides refuge during adverse conditions;
- Supports populations of plant/ or animal species important for maintaining the biological diversity of a particular biogeographic region;

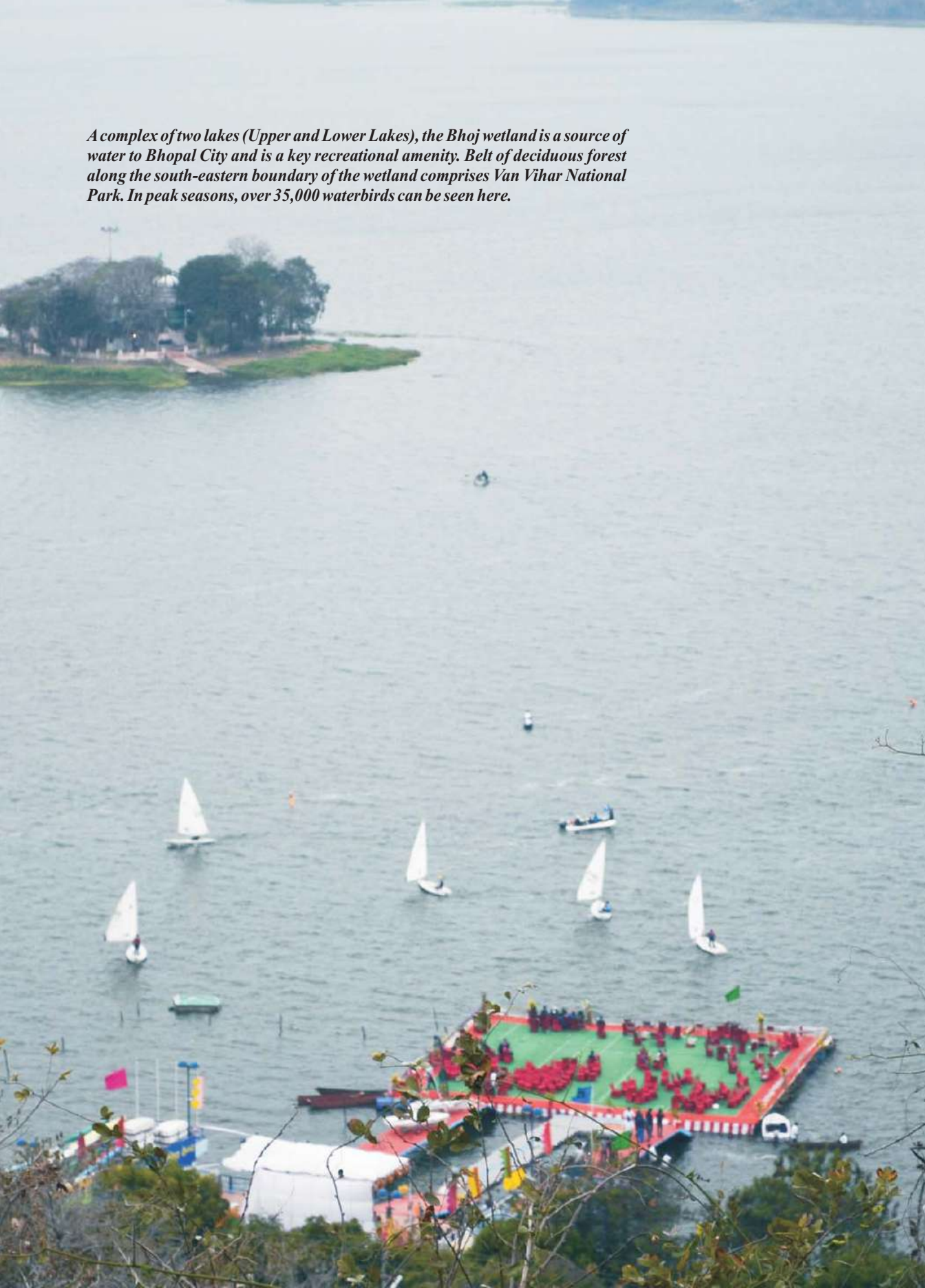
- Regularly supports 20,000 or more waterbirds;
- Regularly supports 1% of individuals in a population of one species or sub-species of waterbirds or is an important breeding site for rare/migratory bird species;
- Is an important source of food for fishes, spawning ground, nursery and /or migration path on which fish stocks/ either within the wetlands or elsewhere depend;
- Provides important hydrological functions as a source of water, regulates hydrological extremes, recharges groundwater, buffers floods and purifies water;
- Is an important source of livelihoods for communities living in and around it;
- Is of significant cultural/ religious / recreation value.

Wetlands smaller than the above mentioned area thresholds may be considered by the Central Government on recommendation of the State/UT Wetland Authority.

4.3 Inclusion process

For wetlands which fulfil the criteria set above, a Brief Document (Annexure V) may be considered by the concerned State Government / Union Territory Administration.

An undertaking by the State Government to provide commitment for State share of the cost of implementation of integrated management plan should also be provided. Such undertaking should also indicate the justification for identification of the wetland and it's significance.



A complex of two lakes (Upper and Lower Lakes), the Bhoj wetland is a source of water to Bhopal City and is a key recreational amenity. Belt of deciduous forest along the south-eastern boundary of the wetland comprises Van Vihar National Park. In peak seasons, over 35,000 waterbirds can be seen here.

5 Steps for Submission of Proposals for Financial Support

State Governments / UT Administrations can apply for funds for management of wetlands in following steps:

Step 1: Submission of proposal for inclusion of site for funding under NPCA

A proposal for inclusion of a wetland under NPCA along with Brief Document should be forwarded through the State govt./ Union Territory Administration/State Wetlands Authority/ UT Wetlands Authority with an undertaking to provide their share of cost of implementation of IMP by State Government.

For wetlands attracting the Wetlands Rules, 2017, the Brief Document should have been prepared and submitted to State/UT Wetlands Authority for notification under 2017 Rules. A documentary evidence in this regard is also required to be submitted.

Step 2: Formulation of Integrated Management Plan

- Upon approval of inclusion of site under the NPCA, the State Government/ Union Territory Administration/ State Wetlands Authority/UT Wetlands Authority will be required to submit an IMP in accordance with the steps and format given at Annexure VI, The Integrated Management Plan for the site outlining specific activities for integrated management is the most important component of NPCA. The IMP is envisaged to be a document with multiple functions, including identification of resource requirement, generating baseline information, communication with stakeholders and ensuring compliance with regulatory frameworks and policy commitments, identification of the nature of degradation of the aquatic ecosystems, sources of degradation, the measures that need to be taken to conserve and restore the wetlands, the design of these measures, the cost estimates and the expected outcome;
- Each wetland has its distinct characteristics, and thereby it is important that their site management needs are identified using a diagnostic method based on critical evaluation of status and trends of site's ecological, hydrological, socio-economic and institutional features;
- It is recommended that IMPs may be prepared by engaging expert agencies and in full consultation with the stakeholders, particularly dependent communities. The State Governments / UT Administration shall commission such agency at their behest;
- IMP should contain a detailed action plan, including year wise list of activities proposed to be carried out, costs, and sources of funding. All existing funding sources from Central and State Governments and private sectors under which financial support for the said activity can be accessed should be identified;
- Time frame for implementation of IMP should commensurate with the complexity of site, and be sufficient to bring about significant positive change in ecosystem features. In most cases, a time frame of 3 – 6 years is expected.
- All IMPs should categorically list specific ecological, hydrological, socioeconomic and institutional indicators, periodic measurement of which shall indicate progress made in achieving management plan goal and objectives. Provisions for measuring and reporting on these performance indicators should be made within the IMP.
- A checklist for submission of IMP is provided at Annexure VII

Step 3: Integrated Management Plan finalization and execution of agreements

- The IMP will be appraised by independent appraisal agencies for funding support.
- A tripartite MoU between Government of India, State Government / UT Administration and agency identified for implementation of IMP will be signed containing agreements on sharing of costs, timely implementation of IMPs, and post project sustainability. This MoU will be the basis of providing grants to State Governments /UT Administrations (Annexure VIII).
- All management, operation and maintenance expenses shall be part of IMP and costs thereon shall be borne entirely by State Government / UT Administrationfor which additional resources will have to be demonstrably raised and committed to operations and maintenance. If there is a cost overrun in a project because of delay, inflation or any other reasons, the same shall be born by the State/ UT Government. The contribution of Government of India shall be limited only to the amount initially agreed to in the Administrative Approval and Expenditure Sanction Order.

Annexes

Annexure I: Suggestive list of Central and State Government schemes which can support implementation of NPCA projects

Name of Scheme	Areas for convergence	Implementing Ministry
Atal mission for rejuvenation and urban transformation (AMRUT)	Enhancing amenity value of cities by creating and upgrading green spaces, parks and recreation centres, sewage facilities	Ministry of Urban Development
Heritage City Development and Augmentation Yojana (HRIDAY)	Holistic development of services like such as water supply, sanitation, roads, etc.	
Smart Cities Mission	Area-based development for improvement, renewal and greenfield development.	
Different Schemes	Green	Ministry of Panchayati Raj
National Afforestation Programme	Catchment conservation	Ministry of Environment, Forest and Climate Change
Green India Mission	Catchment conservation	
National Action Programme to Combat Desertification	Assessment and mapping of land degradation, Drought Preparedness and Mitigation in the Context of Climate Change	
National Afforestation and Eco-Development Board (NAEB)	Ecological restoration and eco-development activities	
National Coastal Management Programme	Conserve and protect coastal stretches and to promote Sustainable development	
National Mission on Himalayan Studies	Conservation of Himalayan Ecosystem and sustainable development	
Repair, Renovation and Restoration of Water Bodies	Restoration of aquatic ecosystems used as sources of drinking water	Ministry of Water Resources, River Development & Ganga Rejuvenation
Natural Resources Management, Rainfed Farming System, Horticulture, Integrated Nutrient Management	Sustainable agriculture	Ministry of Agriculture and Farmers Welfare & Department of Animal Husbandry, Dairying and Fisheries (DADF)
National Scheme on "Welfare of Fishermen" and "Development of Inland Fisheries"	Sustainable fisheries development	
Swachh Bharat Mission (SBM)	Development of sanitation infrastructure to improve water quality of Urban and Rural Ecosystems.	Ministry of Urban Development & Ministry of Drinking Water and Sanitation
National Mission on Pilgrimage Rejuvenation and Spiritual Augmentation Drive (PRASAD)	Beautify and improve amenities and infrastructure at major pilgrimage sites in the country	Ministry of Tourism
State Government schemes on fisheries, agriculture, forestry, wildlife protection, irrigation development etc	Various components of DPR	Various State Governments and Their Ministries Concerned.

Annexure II: Core and non-core activities corresponding to management action plan components

Management Plan Components	Core Activities	Non-core activities
Wetland boundary delineation and demarcation	• Wetlands boundary survey and mapping • Wetlands demarcation using geotagged pillars	• Fending of wetlands boundary • Development of promenade for urban wetlands
Catchment conservation	• Afforestation and aided regeneration within direct catchments • Small scale engineering structures (such as gully plugging, check dams, gabion structures, silt traps) • Monitoring pilot watersheds to assess degree of reduction in siltation and improvement of moisture regimes	• Large engineering structures within wetlands direct or indirect catchment
Water management	• Assessment of water requirements of wetlands and aligning operational rules for hydraulic structures for achieving the desired regime. • Dredging of critically silted up wetlands areas based on consideration of bathymetric profiles and impacts on ecosystem components and processes. • Dredging of inflowing channels to improve water availability in the wetland • Constructed wetlands to treat pollution from diffuse sources • Construction of Sewage Treatment Plants	• Procurement of machinery • Construction of toilets and bathing ghats • Operation and maintenance expenses
Biodiversity conservation and habitat management	• Assessment of habitat quality and species interactions • Population assessment of wetlands dependent species • Enforcement of regulation • Animal disease surveillance • Regulating species invasion by biological and habitat manipulation • Economic use of harvested biomass of invasive species	• Construction of rescue centers • Mechanical removal of invasive species biomass
Sustainable resource development and livelihood improvement	• Sustainable capture fisheries within carrying capacity of the wetland • Wetlands vegetation based micro-enterprise • Community based eco-tourism linked with wetlands • Conservation of cultural heritage linked with wetlands • Micro-enterprise development for wetlands dependent communities to diversify livelihoods	• Aquaculture • Promotion of organic agriculture in wetlands catchments • Promotion of water efficient agriculture systems in wetlands catchments • Promotion of ornamental fisheries based culture • Development of fish nurseries and seed banks • Development of tourism related infrastructure

Management Plan Components	Core Activities	Non-core activities
		• Development of water, sanitation and health infrastructure for wetland communities • Micro-enterprise development for communities not-directly dependent on wetlands
Institutional development	• Wetlands monitoring and assessment • Research addressing specific wetlands management needs • Construction of wetlands interpretation center • Organization of World Wetlands Day and other events to enhance appreciation of wetlands values and functions • Publication of Ecosystem Health Report Cards or any other assessment of wetlands condition	• Construction of laboratories • Refurbishing of existing wetlands interpretation centers • Infrastructure development for Wetlands Authorities • Meetings of State Wetlands Authority

Annexure III: Wetlands (Conservation and Management) Rules, 2017

MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE NOTIFICATION

New Delhi, the 26th September, 2017

G.S.R. 1203(E).—Whereas the wetlands, vital parts of the hydrological cycle, are highly productive ecosystems which support rich biodiversity and provide a wide range of ecosystem services such as water storage, water purification, flood mitigation, erosion control, aquifer recharge, microclimate regulation, aesthetic enhancement of landscapes while simultaneously supporting many significant recreational, social and cultural activities, being part of our rich cultural heritage;

And whereas many wetlands are threatened by reclamation and degradation through drainage and landfill, pollution (discharge of domestic and industrial effluents, disposal of solid wastes), hydrological alteration (water withdrawal and changes in inflow and outflow), over-exploitation of their natural resources resulting in loss of biodiversity and disruption in ecosystem services provided by wetlands;

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And whereas clause (g) of article 51A of the Constitution stipulates that it shall be the duty of every citizen of India to protect and improve the natural environment including forests, lakes, rivers and wildlife and to have compassion for living creatures;

And whereas the Environment (Protection) Act, 1986 is a comprehensive legislation to provide protection and improvement of the environment, including inter-alia, wetlands, and for matters connected therewith;

And whereas the National Environment Policy, 2006 recognises the ecosystem services provided by wetlands and emphasizes the need to set up a regulatory mechanism for all wetlands so as to maintain their ecological character, and ultimately support their integrated management;

And whereas India is a signatory to the Ramsar Convention on Wetlands and is committed to conservation and wise use of all wetlands within its territory;

And whereas the Central Government has published the Wetlands (Conservation and Management) Rules, 2010, vide number G.S.R. 951(E), dated the 4th December, 2010;

And whereas conservation and wise use of wetlands can provide substantial direct and indirect economic benefits to state and national economy, and thereby the Central Government stands committed to mainstreaming full range of wetland biodiversity and ecosystem services in development planning and decision making for various sectors;

And whereas the State Governments and Union Territory Administrations need to take into account wetland ecosystem services and biodiversity values likewise within their developmental programming and economic well-being, also taking into cognizance that land and water, two major ecological constituents of wetland ecosystems, are enlisted as State subjects as per the Constitution;

And whereas the Central Government considered it necessary to supersede the Wetlands (Conservation and Management) Rules, 2010 for effective conservation and management of wetlands in the country;

And whereas the Central Government had, in exercise of the powers conferred by section 25, read with subsection (1) and clause (v) of sub-section (2) and sub-section (3) of section 3 of the Environment (Protection) Act, 1986, published the draft Wetlands (Conservation and Management) Rules, 2016, vide number G.S.R. 385 (E) dated 31st March, 2016 for information of the public likely to be affected thereby; and notice was given that the said draft rules would be taken into consideration by the Central Government after expiry of a period of sixty days from the date on which copies of the Gazette notification is made available to the public;

And whereas the Central Government has received the suggestions and objections from the State Governments, Union Territories and its organisations, individuals and civil society organisations on the draft Wetlands (Conservation and Management) Rules, 2016;

And whereas the suggestions and objections received in response to the above mentioned draft rules have been duly considered by the Central Government in consultation with State Governments and Union Territory Administrations.

Now, therefore, in exercise of the powers conferred by section 25, read with sub-section (1) and clause (v) of sub-section (2) and sub-section (3) of section 3 and section 23 of the Environment (Protection) Act, 1986 and in supersession of the Wetlands (Conservation and Management) Rules, 2010, except as respects things done or omitted to be done before such supersession, the Central Government hereby makes the following rules for conservation and management of wetlands, namely:—

1. Short title and commencement.—

(1) These rules may be called the Wetlands (Conservation and Management) Rules, 2017.

(2) These shall come into force from the date of their publication in the Official Gazette.

2. Definitions.—

(1) In these rules, unless the context otherwise requires,-

(a) "Act" means the Environment (Protection) Act, 1986;

(b) "Authority" means the State Wetlands Authority or Union Territory Wetlands Authority, as the case may be;

(c) "Committee" means the National Wetlands Committee referred to in rule 6;

(d) "ecological character" means the sum of ecosystem components, processes and services that characterise the wetlands;

(e) "integrated management plan" means a document which describes strategies and actions for achieving wise use of the wetland and the plan shall include objectives of site management; management actions required to achieve the objectives; factors that affect, or may affect, the various site features; monitoring requirements for detecting changes in ecological character and for measuring the effectiveness of management; and resources for management implementation;

(f) "Ramsar Convention" means the Convention on Wetlands signed at Ramsar, Iran in 1971;

(g) "wetland" means an area of marsh, fen, peatland or water; whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six meters, but does not include river channels, paddy fields, human-made water bodies/tanks specifically constructed for drinking

water purposes and structures specifically constructed for aquaculture, salt production, recreation and irrigation purposes;

(h) "wetlands complexes" means two or more ecologically and hydrologically contiguous wetlands and may include their connecting channels/ducts;

(i) "wise use of wetlands" means maintenance of their ecological character, achieved through implementation of ecosystem approach within the context of sustainable development;

(j) "zone of influence" means that part of the catchment area of the wetland or wetland complex, developmental activities in which induce adverse changes in ecosystem structure, and ecosystem services.

(2) The words and expressions used in these rules and not defined, but defined in the Act, shall have the meanings assigned to them in the Act.

3. Applicability of rules.— These rules shall apply to the following wetlands or wetlands complexes, namely:—

(a) wetlands categorised as 'wetlands of international importance' under the Ramsar Convention;

(b) wetlands as notified by the Central Government, State Government and Union Territory Administration:

Provided that these rules shall not apply to the wetlands falling in areas covered under the Indian Forest Act, 1927, the Wild Life (Protection) Act, 1972, the Forest (Conservation) Act, 1980, the State Forest Acts, and the Coastal Regulation Zone Notification, 2011 as amended from time to time.

4. Restrictions of activities in wetlands.—

(1) The wetlands shall be conserved and managed in accordance with the principle of 'wise use' as determined by the Wetlands Authority.

(2) The following activities shall be prohibited within the wetlands, namely,-

(i) conversion for non-wetland uses including encroachment of any kind;

(ii) setting up of any industry and expansion of existing industries;

(iii) manufacture or handling or storage or disposal of construction and demolition waste covered under the Construction and Demolition Waste Management Rules, 2016; hazardous substances covered under the Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 or the Rules for Manufacture, Use, Import, Export and Storage of Hazardous Micro-organisms Genetically engineered organisms or cells, 1989 or the Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008; electronic waste covered under the E-Waste (Management) Rules, 2016;

(iv) solid waste dumping;

(v) discharge of untreated wastes and effluents from industries, cities, towns, villages and other human settlements;

(vi) any construction of a permanent nature except for boat jetties within fifty metres from the mean high flood level observed in the past ten years calculated from the date of commencement of these rules; and,

(vii) poaching.

Provided that the Central Government may consider proposals from the State Government or UnionTerritory Administration for omitting any of the activities on the recommendation of the Authority.

5. Wetlands Authorities.—

(1) The Central Government hereby constitutes the State Wetlands Authority in each State with the following members, namely:—

(i) Minister In-charge of the Department of Environment/Forests of the State Government or Minister Incharge of the Department handling wetlands - Chairperson;
(ii) Chief Secretary of the State or Additional Chief Secretary equivalent - Vice Chairperson;
(iii) Secretary in-charge of the Department of Environment - Member ex-officio;
(iv) Secretary in-charge of the Department of Forests - Member ex-officio;
(v) Secretary in-charge of the Department of Urban Development - Member ex-officio;
(vi) Secretary in-charge of the Department of Rural Development - Member ex-officio;
(vii) Secretary in-charge of the Department of Water Resources - Member ex-officio;
(viii) Secretary in-charge of the Department of Fisheries - Member ex-officio;
(ix) Secretary in-charge of the Department of Irrigation and Flood Control - Member ex-officio;
(x) Secretary in-charge of the Department of Tourism - Member ex-officio;
(xi) Secretary in-charge of the Department of Revenue - Member ex-officio;
(xii) Director, State Remote Sensing Centre - Member ex-officio;
(xiii) Chief Wildlife Warden - Member ex-officio;
(xiv) Member Secretary, State Biodiversity Board - Member ex-officio;
(xv) Member Secretary, State Pollution Control Board - Member ex-officio;
(xvi) Additional Principal Chief Conservator of Forests of the Regional Office of Ministry of Environment, Forest and Climate Change - Member ex-officio;
(xvii) One expert each in the fields of wetland ecology, hydrology, fisheries, landscape planning and socioeconomics to be nominated by the State Government; and
(xviii) Additional Secretary/Joint Secretary/Director in the Department of Environment/Forests or Department handling wetlands - Member Secretary.

(2) The Central Government hereby constitutes the Union Territory Wetlands Authority for each Union Territory with the following members, namely:—

(i) Administrator or Chief Secretary of the Union Territory - Chairperson;
(ii) Secretary in-charge of the Department of Environment - Vice Chairperson;
(iii) Secretary in-charge of the Department of Forests - Member ex-officio;
(iv) Secretary in-charge of the Department of Urban Development - Member ex-officio;
(v) Secretary in-charge of the Department of Rural Development - Member ex-officio;
(vi) Secretary in-charge of the Department of Water Resources - Member ex-officio;
(vii) Secretary in-charge of the Department of Fisheries - Member ex-officio;
(viii) Secretary in-charge of the Department of Irrigation and Flood Control - Member ex-officio;

(ix) Secretary in-charge of the Department of Tourism - Member ex-officio;

(x) Secretary in-charge of the Departments of Revenue - Member ex-officio;

(xi) Director, Remote Sensing Centre - Member ex-officio;

(xii) Member Secretary, Union Territory Pollution Control Committee - Member ex-officio;

(xiii) Member Secretary, Biodiversity Board of the UT - Member ex-officio;

(xiv) Chief Wildlife Warden - Member ex-officio;

(xv) Additional Principal Chief Conservator of Forests of the Regional Office of Ministry of Environment, Forest and Climate Change- Member ex-officio;

(xvi) One expert each in the fields of wetland ecology, hydrology, fisheries, landscape planning and socioeconomics to be nominated by the Union Territory Administration; and

(xvii) Additional Secretary/Joint Secretary/Director in the Department of Environment/Forests or Department handling wetlands - Member Secretary.

(3) The State Wetlands Authority or Union Territory Wetlands Authority may co-opt other members, not exceeding three in number, if required.

(4) The State Wetlands Authority or Union Territory Wetlands Authority shall exercise the following powers and perform the following functions, namely:-

(a) prepare a list of all wetlands of the State or Union Territory within three months from the date of publication of these rules;

(b) prepare a list of wetlands to be notified, within six months from the date of publication of these rules; taking into cognizance any existing list of wetlands prepared/notified under other relevant State Acts;

(c) recommend identified wetlands, based on their brief documents, for regulation under these rules;

(d) prepare a comprehensive digital inventory of all wetlands within a period of one year from the date of publication of these rules and upload the same on a dedicated web portal to be developed by the Central Government for the said purpose; the inventory to be updated every ten years;

(e) develop a comprehensive list of activities to be regulated and permitted within the notified wetlands and their zone of influence;

(f) recommend additions, if any, to the list of prohibited activities for specific wetlands;

(g) define strategies for conservation and wise use of wetlands within their jurisdiction; wise use being a principle for managing these ecosystems which incorporates sustainable uses (such as capture fisheries at subsistence level or harvest of aquatic plants) as being compatible with conservation, if ecosystem functions (such as water storage, groundwater recharge, flood buffering) and values (such as recreation and cultural) are maintained or enhanced;

(h) review integrated management plan for each of the notified wetlands (including trans-boundary wetlands in coordination with Central Government), and within these plans consider continuation and support to traditional uses of wetlands which are harmonized with ecological character;

(i) in cases wherein lands within boundary of notified wetlands or wetlands complex have private tenancy rights, recommend mechanisms for maintenance of ecological character through promotional activities;

(j) identify mechanisms for convergence of implementation of the management plan with the existing State/Union Territory level development plans and programmes;

(k) ensure enforcement of these rules and other relevant Acts, rules and regulations and on half-yearly basis (June and December of each calendar year) inform the concerned State Government or

Union Territory Administration or Central Government on the status of such notified wetlands through a reporting mechanism;

(l) coordinate implementation of integrated management plans based on wise use principle through various line departments and other concerned agencies;

(m) function as nodal authority for all wetland specific authorities within the State or Union Territory Administration;

(n) issue necessary directions for conservation and sustainable management of wetlands to the respective implementing agencies;

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(o) undertake measures for enhancing awareness within stakeholders and local communities on values and functions of wetlands; and

(p) Advise on any other matter suo-motu, or as referred by the State Government/Union Territory Administration.

(5) The concerned Department of the State Government or Union Territory shall provide all necessary support and act as nodal Department and Secretariat to the Authority.

(6) The Authority shall, within ninety days of publication of these rules, shall constitute,—

(a) a technical committee to review brief documents, management plans and advise on any technical matter referred by the Wetland Authority; and

(b) a grievance committee consisting of four members to provide a mechanism for hearing and forwarding the grievances raised by public to the Authority;

(7) The Committees referred to in sub-rule (6) shall meet at least once in every quarter to perform their functions.

(8) The Authority shall meet at least thrice in a year.

(9) The term of non-official members of the Authority nominated by State Government or Union Territory Administration, shall be for a period not exceeding three years.

6. Constitution of National Wetlands Committee.—

(1) The Central Government, hereby constitutes the National Wetlands Committee with the following members, namely:—

(i) Secretary, Ministry of Environment, Forest and Climate Change, Government of India - Chairperson;

(ii) Special Secretary or Additional Secretary dealing with wetlands, Ministry of Environment, Forest and Climate Change, Government of India-Vice Chairperson;

(iii) Additional Director General, Wildlife, Ministry of Environment, Forest and Climate Change, Government of India - Member ex-officio;

(iv) Adviser or Joint Secretary dealing with wetlands, Ministry of Environment, Forest and Climate Change - Member ex-officio;

(v) Joint Secretary, Ministry of Tourism, Government of India- Member ex-officio;

(vi) Joint Secretary, Ministry of Water Resources, River Development and Ganga Rejuvenation, Government of India- Member ex-officio;

(vii) Joint Secretary, Ministry of Agriculture and Farmers Welfare, Government of India- Member exofficio;

(viii) Joint Secretary, Ministry of Social Justice and Empowerment, Government of India- Member exofficio;

(ix) Joint Secretary, Ministry of Urban Development, Government of India- Member ex-officio;

(x) Joint Secretary, Ministry of Rural Development, Government of India- Member ex-officio;

(xi) The Chairman, Central Pollution Control Board - Member ex-officio;

(xii) Director, Zoological Survey of India or Scientist F- Member ex-officio;

(xiii) Director, Botanical Survey of India or Scientist F- Member ex-officio;

(xiv) Director, Space Application Centre, Ahmedabad or Scientist F- Member ex-officio;

(xv) Member, Central Water Commission - Member ex-officio;

(xvi) Adviser, Niti Aayog - Member ex-officio;

(xvii) Three representatives of State Government or Union Territory Administration on a rotational basis for a tenure of two years each;

(xviii) One expert each in the fields of wetland ecology, hydrology, fisheries, landscape planning & socioeconomics; and

(xix) Director/Additional Director/Joint Director dealing with wetlands, Ministry of Environment, Forest and Climate Change - Member Secretary.

(2) The National Wetlands Committee may co-opt other members, not exceeding three in number, if required.

(3) The National Wetlands Committee shall perform the following functions, namely:-

(a) advise the Central Government on appropriate policies and action programmes for conservation and wise use of wetlands;

(b) evolve norms and guidelines for integrated management of wetlands based on wise use principle;

(c) monitor implementation of these rules by the Authority;

(d) advise the Central Government on proposals received from State Governments or Union Territory Administrations for omission of the prohibited activities as referred in sub-rule (2) of rule 4;

(e) recommend designation of wetlands of international importance under Ramsar Convention;

(f) recommend trans-boundary wetlands for notification;

(g) review progress of integrated management of Ramsar sites and transboundary wetlands;

(h) advise on collaboration with international agencies on issues related to wetlands; and

(i) advise on any other matter suo-moto, or as referred by the Central Government.

(4) The tenure of non-official members of the Committee shall not exceed three years.

(5) The Committee shall meet at least once in every six months.

7. Delegation of powers and functions to the State Governments and Union Territory Administrations.—

(1) The concerned Department of the State Government or Union Territory Administration shall, within a period of one year from the date of publication of these rules, prepare a Brief Document for each of the wetland identified for notification, providing:—

(a) demarcation of wetland boundary supported by accurate digital maps with coordinates and validated by ground truthing;

(b) demarcation of its zone of influence and land use and land cover thereof indicated in a digital map;

(c) ecological character description;

(d) account of pre-existing rights and privileges;

(e) list of site-specific activities to be permitted within the wetland and its zone of influence;

(f) list of site specific activities to be regulated within the wetland and its zone of influence; and

(g) modalities for enforcement of regulation;

(2) Based on the Brief Document, the Authority shall make recommendations to the State Government or Union Territory Administration for notifying the wetlands.

(3) The State Government or Union Territory Administration shall, after considering the objections, if any, from the concerned and affected persons, notify the wetlands in the Official Gazette, within a period not exceeding 240 days from the date of recommendation by the Authority.

(4) (a) In case of trans-boundary wetlands, the Central Government shall coordinate with concerned State Governments and Union Territory Administrations to prepare the Brief Document containing information as listed in sub-rule (1).

(b) Based on the Brief Document, the National Wetlands Committee shall make recommendations to the Central Government for notification of the wetland.

(c) The Central Government shall, after considering the objections, if any, from the concerned and affected persons, notify the wetlands in the Official Gazette, within a period not exceeding 240 days from the date of recommendation by the Committee.

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(5) (a) The Central Government shall create a dedicated web portal for information relating to wetlands.

(b) The Central Government, State Government and Union Territory Administration shall upload all relevant information and documents pertaining to wetlands in their jurisdiction.

[F. No. J-22012/78/2003-CS (W) Pt. V]

Dr. A. DURAISAMY, Scientist 'G'

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Annexure IV: Designated Best Use Criteria for Surface Waters as Recommended by CPCB

Designated Best Use	Class of Criteria	Criteria
Drinking Water Source without conventional treatment but after disinfection	A	1. Total Coliforms Organism MPN/100ml Shall be 50 of less 2. pH between 6.5 and 8.5 3. Dissolved Oxygen 6mg/l or more 4. Biochemical Oxygen Demand 5 days 20^0C 2mg/l of less
Outdoor bathing (Organised)	B	1. Fecal Coliforms organism MPN/100 ml shall be 500 or less 2. pH between 6.5 and 8.5 3. Dissolved Oxygen Demand 5 mg/l or more 4. Biochemical Oxygen Demand 5 days 20^0C 3 mg/l or less
Drinking water source after conventional treatment and disinfection	C	1. Total coliforms organism MPN/100 ml shall be 5000 or less 2. pH between 6 to 9 3. Dissolved oxygen 4 mg/l or more 4. Biochemical Oxygen Demand 5 days 20^0C 3mg/l or less
Propagation of Wild life and Fisheries	D	1. pH between 6.5 to 8.5 2. Dissolved Oxygen 4mg/l or more 3. Free Ammonia (as N) 1.2 mg/l or less
Irrigation, Industrial Cooling, Controlled Waste disposal	E	1. pH between6.0 to 8.5 2. Electrical Conductivity at 250C micro mhos/cm Max 2250 3. Sodium absorption Ratio Max 26 4. Boron Max 2 mg/l
	Below E	Not Meeting A, B, C, D, & E Criteria

Annexure V: Format for preparing brief document

State / Union Territory: _____

Name and address of person(s) compiling this information _____

Section 1: Identification, Location and Jurisdiction

1.1 Name of the Wetland (Alternative names, including in local language should be given in parenthesis after official name)

_____

1.2 Name of the Village(s) , Tehsil(s), Municipal area (s)

_____

1.3 Name of the District(s) in which wetland complex is located

_____

1.4 Geographical coordinates (Latitude and Longitude, to degree, minutes and second)

Latitude: From _____ to _____

Longitude: From _____ to _____

1.5 Name of the Department / Agency which has jurisdiction over the wetland / wetlands complex

_____

Section 2: Site Characteristics

2.1 Area of wetland / wetlands category (ha) _____

Wetland type (Please tick appropriate categories and sub-categories)

Category	Subcategory
☐ **Natural (Inland)**	☐ Permanent lakes
	☐ Seasonal/ intermittent lakes
	☐ Permanent streams/ creeks
	☐ Seasonal/ intermittent streams/ creeks
	☐ Oxbow
	☐ River floodplain
	☐ Permanent freshwater marshes
	☐ Seasonal/ intermittent freshwater marshes
	☐ Shrub-dominated wetlands
	☐ Tree-dominated wetlands
	☐ Geothermal wetlands
	☐ Karst and other subterranean hydrological systems

Category	Subcategory
☐ Natural (Coastal)	☐ Coastal lagoon ☐ Estuary ☐ Intertidal mud, sand or salt flats ☐ Mangroves ☐ Coral reefs
☐ Human-made	☐ Aquaculture pond ☐ Tank ☐ Saltpan ☐ Dam / Reservoir

2.2 Depth (m) Average _____ Maximum _____

2.3 Elevation (m above mean sea level)_____ m

2.4 Water regimes

a) Main source of water (tick all applicable)

☐ Rainfall ☐ Groundwater
☐ Catchment runoff ☐ Direct / indirect inflow from river

Others, please specify_____

b) Water permanence

☐ Mostly permanent ☐ Mostly intermittent

c) Destination of water from wetland

☐ Feeds groundwater ☐ To downstream catchment
☐ To river ☐ To sea

d) Water pH

☐ Acid (< 5.5) ☐ Circumneutral (5.5 – 7.4)
☐ Alkaline (> 7.4) ☐ Not known

e) Water salinity

☐ Fresh (< 0.5 g/l) ☐ Brackish (0.5 – 30 g/l))
☐ Euhaline (30- 40 g/l) ☐ Hypersaline (>40g/l)
☐ Not known

f) Nutrient in water

☐ Eutrophic ☐ Mesotrophic
☐ Oligotrophic ☐ Not known

2.5 Climatic setting

a) Annual Rainfall /Snowfall(mm) _____

b) Temperature (°C) Minimum _____ Maximum _____

c) Humidity (%) Minimum _____ Maximum _____

2.5 Area of zone of influence (in ha) _____

2.6 Major land use within zone of influence (provide as approximate % of catchment area)

Forests _____%

Plantation _____%

Agriculture _____%

Settlements (Rural) _____%

Settlements (Urban) _____%

Industrial _____%

2.7 Map of wetland complex and zone of influence
(To be enclosed as Annex I and II to this proposal)

Section 3: Biodiversity

3.1 Notable plant species present in wetland

_____

3.2 Notable animal species present in wetland

_____

3.3 Species of conservation significance (rare, endangered, threatened, endemic species)

_____

3.4 Major plant invasive alien species

_____

3.5 Major animal invasive alien species

_____

Section 4: Ecosystem services

Importance	Relevant for the site (please tick yes or no)	If Yes, Details (upto 50 words for each category)
Source of drinking water for people living and around	☐ Yes ☐ No	
Source of water for agriculture	☐ Yes ☐ No	
Fisheries	☐ Yes ☐ No	
Cultivation of aquatic food plants	☐ Yes ☐ No	
For buffalo wallowing and use of domesticated animals	☐ Yes ☐ No	
Medicinal plants	☐ Yes ☐ No	
Is a recreational site	☐ Yes ☐ No	
Buffering communities from extreme events as floods and storms	☐ Yes ☐ No	
Groundwater recharge	☐ Yes ☐ No	
Water purification	☐ Yes ☐ No	
Acts as a sink for sediments	☐ Yes ☐ No	
Has significant cultural and religious values	☐ Yes ☐ No	
Is a site for recreation and tourism	☐ Yes ☐ No	

Importance	Relevant for the site (please tick yes or no)	If Yes, Details (upto 50 words for each category)
Supports noteworthy plants species	☐ Yes ☐ No	
Supports noteworthy animal species	☐ Yes ☐ No	
Site of high congregation of migratory water birds	☐ Yes ☐ No	
Supports life cycle of fish or amphibians	☐ Yes ☐ No	
Mining	☐ Yes ☐ No	
Any other, please list		

Section 5: Pre-Existing Rights and Privileges

Nature of right and privilege	Relevant for the site (please tick yes or no)	Does this negatively impact the wetland's ecological health?	Brief description (upto 50 words for each category)
Community Fishing (without any lease or permission from government department)	☐ Yes ☐ No	☐ Yes ☐ No ☐ Not assessed	
Fishing under lease from government department	☐ Yes ☐ No	☐ Yes ☐ No ☐ Not assessed	
Harvest of plants (without any lease or permission from government department)	☐ Yes ☐ No	☐ Yes ☐ No ☐ Not assessed	
Harvest of plants under lease from government department	☐ Yes ☐ No	☐ Yes ☐ No ☐ Not assessed	
Agriculture or horticulture within wetland	☐ Yes ☐ No	☐ Yes ☐ No ☐ Not assessed	
Grazing	☐ Yes ☐ No	☐ Yes ☐ No ☐ Not assessed	

Nature of right and privilege	Relevant for the site (please tick yes or no)	Does this negatively impact the wetland's ecological health?	Brief description (upto 50 words for each category)
Religious practices	☐ Yes ☐ No	☐ Yes ☐ No ☐ Not assessed	
Withdrawal of water for domestic use	☐ Yes ☐ No	☐ Yes ☐ No ☐ Not assessed	
Withdrawal of water for agriculture or fisheries	☐ Yes ☐ No	☐ Yes ☐ No ☐ Not assessed	
Bathing or wallowing of domestic animals	☐ Yes ☐ No	☐ Yes ☐ No ☐ Not assessed	
Plying of boats	☐ Yes ☐ No	☐ Yes ☐ No ☐ Not assessed	
Any other, please list here	☐ Yes ☐ No	☐ Yes ☐ No ☐ Not assessed	

Section 6: Present and Potential Threats

Threat	Degree	Present or Potential	Additional information, if any
Changes in water inflow and outflow	☐ High ☐ Medium ☐ Low	☐ Present ☐ Potential	
Pollution	☐ High ☐ Medium ☐ Low	☐ Present ☐ Potential	
Unsustainable harvest of biological resources	☐ High ☐ Medium ☐ Low	☐ Present ☐ Potential	
Mining	☐ High ☐ Medium ☐ Low	☐ Present ☐ Potential	
Siltation	☐ High ☐ Medium ☐ Low	☐ Present ☐ Potential	
Encroachment	☐ High ☐ Medium ☐ Low	☐ Present ☐ Potential	

Threat	Degree	Present or Potential	Additional information, if any
Spread of invasive species	☐ High ☐ Medium ☐ Low	☐ Present ☐ Potential	
Any other, please list	☐ High ☐ Medium ☐ Low	☐ Present ☐ Potential	

Section 7: Activities Proposed to be prohibited (other than those listed in Rule 4(2) of Wetlands Rules)

Activity	Prohibited within wetlands or zone of influence	Details of specific area wherein activity is prohibited	Name of department / agency responsible for regulation	Additional information, if any
	☐ Wetland / Wetlands complex boundary ☐ Zone of influence			

Section 8: Activities Proposed to be regulated

Activity	Place a tick mark if relevant	Regulation within wetlands or zone of influence	Level of regulation (in terms of people, restricted area or any other)	Name of department / agency responsible for regulation	Additional information, if any
Withdrawal of water / impoundment/diversion or any other hydrological intervention	☐	☐ Wetland / Wetlands complex boundary ☐ Zone of influence			
Harvesting of resources (living / non-living)	☐	☐ Wetland / Wetlands complex boundary ☐ Zone of influence			
Grazing	☐	☐ Wetland / Wetlands complex boundary ☐ Zone of influence			

Activity	Place a tick mark if relevant	Regulation within wetlands or zone of influence	Level of regulation (in terms of people, restricted area or any other)	Name of department / agency responsible for regulation	Additional information , if any
Discharge of treated sewage/ effluent / wastewater	☐	☐ Wetland / Wetlands complex boundary ☐ Zone of influence			
Construction of boat jetties, and facilities for temporary use , as pontoon bridges	☐	☐ Wetland / Wetlands complex boundary ☐ Zone of influence			
Aquaculture, agriculture and horticulture activities within the wetland boundaries.	☐	☐ Wetland / Wetlands complex boundary ☐ Zone of influence			
Any other, please list	☐	☐ Wetland / Wetlands complex boundary ☐ Zone of influence			

Section 9: Activities Proposed to be permitted

Activity	Place a tick mark if relevant	Within wetlands or zone of influence	Additional information, if any
	☐	☐ Wetland / Wetlands complex boundary ☐ Zone of influence	
	☐	☐ Wetland / Wetlands complex boundary ☐ Zone of influence	
	☐	☐ Wetland / Wetlands complex boundary ☐ Zone of influence	

Activity	Place a tick mark if relevant	Within wetlands or zone of influence	Additional information, if any
	☐	☐ Wetland / Wetlands complex boundary ☐ Zone of influence	
	☐	☐ Wetland / Wetlands complex boundary ☐ Zone of influence	
	☐	☐ Wetland / Wetlands complex boundary ☐ Zone of influence	
	☐	☐ Wetland / Wetlands complex boundary ☐ Zone of influence	

Section 10: Listing of Available Scientific Resources Used

_____

_____

_____

_____

CHECKLIST

☐ Responsible agency has been clearly identified and details of contact person included
☐ Wetland/ wetlands complex boundary has been delineated using GIS and firmed up by adequate ground truthing
☐ Wetland/ wetlands complex map has been provided at required scale
☐ Zone of influence has been delineated and included in wetland map or a separate map
☐ Wetland zone of influence is sufficient to manage all activities
☐ Site's importance have been listed, and for major categories, justification is provided
☐ Site's biodiversity values are listed, and for major categories, justification is provided
☐ List of pre-existing rights and privileges is provided
☐ Consistency or inconsistency of pre-existing rights and privileges is indicated to be best of available knowledge
☐ Threats to site are listed, and for major categories details are provided
☐ Activities prohibited, beyond those already listed in Rule 4(2) have been mentioned
☐ List of activities to be regulated within wetlands and zone of influence is provided
☐ List of activities to be permitted is provided

Annexure VI: Guidelines for Preparation of Integrated Management Plans

Wetlands provide wide-ranging ecosystem services which support human well-being in a number of ways. Numerous plant and animal species depend on wetlands during different parts of their life-cycle. In order to ensure that wetlands continue to provide their ecosystem services and support biodiversity, it is essential that a well-defined strategy and actions are identified for their conservation and wise use. An integrated management plan reflects a common understanding between various stakeholders on the management purpose, significant threats and constraints limiting conservation and wise use, opportunities and specific actions for addressing these threats, and mainstreaming wetlands within the wider developmental planning.

The integrated management plan is formulated to serve the following purposes:

- Identify the objectives of wetland management
- Identify the factors that affect or may affect the wetland
- Resolve conflicts between various stakeholders having an interest in the wetland
- Define monitoring requirements and research needs
- Help obtain financial resources for managing the wetland
- Enable communication between different wetland managers, organizations and stakeholders
- Ensure compliance with extant laws and regulation
- Demonstrate that management is effective and efficient

Systematic diagnosis of various wetlands features and factors influencing these features is essential to arrive at management objectives and actions. The following eight steps are recommended for developing an integrated management plan:

Step 1: Preamble

The process for management planning must begin with an exercise of setting up an overarching preamble describing the rationale for application of human, technical and financial resources for the wetland. This is a concise policy statement that expresses the commitment of the State Government/UT Administration for integrated management. The preamble can be developed on the basis of:

- Importance of the wetland for the state / UT
- Ways in which the wetlands conservation and wise use will contribute to conservation and developmental goals
- Alignment with sectoral policies, directives and planning frameworks

Step 2: Description of wetland features

This step entails collation and synthesis of existing information on various site features so as to provide a basis for the identification of management objectives. A generic listing of management information needs and data requirements are presented in Table 1.

Table 1: Information Required for Description of Wetlands Features

Wetland feature	Management information needs	Data requirement
Wetland type and extent	• Location • Wetland type • Wetland area • Significant inter-annual changes in the wetland • Major changes in the wetland extent in the last 20 – 30 years	• Geographical coordinates • Land use and land cover data for the wetland (at least for two seasons, pre and post-monsoon) • Historical map of the wetland (can be developed from the Survey of India toposheets)
Catchment/ Drainage Basin	• Direct and indirect catchment of the wetland • Geological and geomorphological characteristics that have led to the formation of the wetland • Present land use and land cover of the catchment and their implication for wetland • Major developmental activities in the catchment and their impacts on the wetland	• Geology and geomorphology • Topography • Drainage pattern • Soil types • Climate setting • Land use and land cover change
Hydrological regimes	• Major sources of water inflow and outflow from the wetland • Major sources of sediments into the wetland • Inundation regime • Trends in water holding capacity and factors for the decline • Water quality and pollution status • Water use pattern within the wetland catchment and implication for wetland	• Water inflow, outflow and balance • Inundation pattern • Sedimentation • Groundwater • Water quality • Water use within the basin
Biodiversity	• Species richness • Role of the wetland in the life-cycle of migratory species • Invasive species and major contributing factors • Major changes in species richness and habitat and factors thereof	• Species richness and diversity • Biological significance of habitats • Risk of species invasion
Ecosystem Services	• Key ecological and hydrological characteristics required for the sustained provision of ecosystem services • Ecosystem services trade-offs	• Provisioning services(direct wetland products,eg: food, fibre, water) • Regulating services (the ability of an ecosystem to regulate hydrological regimes, influence micro-climate, reduce disaster risk, groundwater recharge) • Cultural services (recreational values, cultural and religious norms and beliefs related to wetlands) • Supporting services (Primary production and other ecosystem functions which enable wetlands to deliver all above ecosystem services)
Socioeconomics and livelihoods	• Extent of dependence on wetlands for livelihoods • Status of community infrastructure (such as water and sanitation) and implication for wetlands • Livelihood vulnerability and relationship with changes in wetland resources • Resource use conflicts • Major shifts in livelihoods and implications for wetlands	• Demographic features of communities living in and around • The contribution of wetland to income and employment • Community resource use and management practices

Attention should be paid to the robustness of data and associated uncertainties thereof. It is recommended that the data on-site features and linked metadata are, to the extent possible, maintained in a spatial format to enable updation at a later stage as more information becomes available through monitoring programmes. The step should also include identification of data gaps.

Step 3: Evaluation of wetland features

This step entails an evaluation of information on status and trends on wetlands features (conducted in the previous step) to identify:

a) Key wetland features that should be a priority for management planning
b) Natural variability within these features, including describing thresholds, if any
c) Threats that limit (or potentially limit) maintenance of wetlands features in the desirable state

Evaluation of wetland features can be done on the basis of criteria such as:

- Naturalness
- Rarity
- Criticality for ecosystem functioning
- Socioeconomic importance
- Requirement under the extant regulatory regime

The evaluation process will lead to narrowing down of the list of wetland features, for which threats may be identified. The management plan is a response to these threats. Through this process, it is ensured that the plan does not merely focus on symptoms (for example, poor water quality) but on the root causes (in this case, ineffective sewage management in wetland catchments).

Step 4: Defining an institutional arrangement for wetland management

The purpose of this step is to evaluate whether existing institutional arrangements are sufficient and effective in addressing the threats to wetlands. Based on the gaps identified, an institutional arrangement for implementation of the management plan is developed.

This step includes:

a) Enlisting of government departments having programmes which impact (or have the potential to impact) wetlands features or threats on these features
b) An analysis of laws and regulation related to wetland, access and use of wetland resources, biodiversity or any dimension
c) Ownership, rights and privileges pertaining to wetlands

d) Analysis of the role of CSOs and communities in wetlands management, with particular reference to their views, rights and capacities

e) Gaps and challenges

Based on the analysis, an institutional arrangement for wetlands management should be developed, clearly stating:

a) The nodal agency responsible for managing wetlands

b) Role of different government departments and mechanisms for inter-departmental coordination

c) Role of CSOs and communities

Step 5: Setting management objective

This step involves the identification of site management objectives that need to be met so as to ensure that site features are maintained or improved. The management objectives must be capable of addressing the threats identified in the previous step, and ensuring maintenance of wetland in a desired healthy State. While defining objectives, the following must be considered:

a) Measurable – the objectives must be measurable so as to enable reporting on progress towards meeting them (for example, reducing silt load from the wetland catchment by xx %)

Achievable – the objectives must be achievable at least in the medium or long term. An objective that cannot be achieved can lead to an overall loss of sense of direction and misallocation of resources (for example, completely preventing nutrient enrichment in a wetland located in the intensive agricultural landscape is an unachievable objective, a much better proposition would be to reduce the current rate by xx%).

Indicative of purpose and not the process – the objectives should not be prescriptively stating the way the objective should be achieved. It should ideally reflect the purpose of management (for example – afforestation in xxx ha is not an objective but a way to reduce siltation. Focusing just on afforestation then limits the use of other options for reducingsiltation in a wetland). The processes are generally used to define the action plan for the management objective.

Step 6: Developing a monitoring and evaluation plan

This section aims at outlining a monitoring and evaluation plan to enable assessment of overall management effectiveness and identify needs for mid-term correction.

For each of management objectives, a set of performance indicators should be identified. The performance indicators provide evidence on the condition of one or a set of features (Table 2). When the full range of performance indicators for all the management objectives have been identified, it is useful to combine them into a monitoring plan to enable systematic capture of the monitoring outcomes and use in informing the planning process. Some examples are provided below:

Table 2: Performance Indicators

Wetland feature	Management objective	Performance Indicator	Means of measurement
Area	Maintain wetland area	Wetland area which has not been altered for non-wetland usages	Area estimated from analysis of remote sensing images and ground truthing
Catchments	Reduction in silt load from catchment	Silt load	Monitoring pilot watersheds
Hydrological regimes	Reduce pollution	Biological Oxygen Demand, Chemical Oxygen Demand or any other water quality parameter assessed against a threshold	Water quality monitoring
	Enhance hydrological connectivity within wetlands complex	Area of wetland complex inundated during high floods period	Analysis of remote sensing data, and hydrological surveys
Biodiversity	Maintain and enhance habitat of waterbirds	Area of wetland used by waterbirds	Physical survey
	Reduce area under invasive macrophyte	Area under invasive macrophyte	Analysis of remote sensing images and ground truthing
	Maintain fish species richness	Fish species richness	Sampling
Socioeconomics	Reduce use of harmful fishing practices	Number of destructive fishing gear used in the wetland	Survey
	Reduce direct dependence of communities on capture fisheries	Reduction in % of income derived from wetland	Socioeconomic surveys

For each performance indicator, a baseline value at the beginning of management plan implementation may be specified. These values should be tracked over the course of management plan implementation to assess whether management objectives are being met.

Besides setting up performance indicators for the management plan, it is also essential to set up a monitoring system for the wetland in order to be able to assess changes in ecosystem condition over a period of time. A generic listing of monitoring parameter, method and frequency is presented in the Table below. Parameters marked with a singleasterisk (*) sign are relevant for all wetlands and must from a part of the monitoring system. In addition to these, parameters marked with a double asterisk (**) are relevant for wetlands located in urban and peri-urban areas. Other parameters may be included based on the assessment of relevance and wetland contexts.

Table 3: Parameters for wetlands monitoring

Wetland feature	Monitoring parameter	Monitoring method	Frequency
Wetland extent	• Wetland area*	Remote sensing and ground truthing	Once in a year
	• Land use and land cover within the wetland area	Remote sensing and ground truthing	Once in a year
	• Connectivity with other adjoining wetlands, river / streams, coastal zone	Remote sensing and ground truthing	Once in a year
Wetland Catchment	• Climate	Data from the nearest weather station	Atleast monthly
	• Land use and Land Cover*	Remote sensing and ground truthing	Once in 3 years
	• Total sediment yield	Stream gauging station	Monthly
	• Total nutrient yield	Stream gauging station	Monthly
Hydrological regimes	• Water inflow and outflow*	Stream gauging station	Monthly
	• Waterholding capacity	Bathymetric survey	Once in 5 years
	• Peak inundation	Remote sensing and ground truthing	Once in 2 years
	• Dissolved Oxygen, Biological Oxygen Demand *	Data from water quality sampling stations	Atleast monthly
	• Chemical Oxygen Demand **	Data from water quality sampling stations	Atleast monthly
	• Number of point sources discharging untreated sewage into the wetland **	Surveys	Once a year
Biodiversity and Habitat	• Population of majorwetland dependent species groups (such as waterbirds, mammals etc.)*	Mid-winter counts	Once a year
	• Habitat use by key species	Physical surveys	Once a year
	• Number of migratory species using the wetland as a habitat	Physical surveys	Once a year
	• Area under invasive macrophyte**	Physical surveys	Once a year
Ecosystem Services	• Annual Fish yield	Sampling	Monthly samples collated into an annual estimate
	• Number of tourists	Surveys	Monthly samples collated into an annual estimate
	• Volume of surface water abstracted from wetland	Hydrographic surveys	Monthly samples collated into an annual estimate
	• Volume of groundwater recharged	Hydrographic surveys	Once a year

Wetland feature	Monitoring parameter	Monitoring method	Frequency
	• Proportion of floodwaters stored in the wetland	Hydrographic surveys	Once a year
	• Use of wetland for research and education	Surveys	Annual estimate
Livelihoods	• Population living around the wetland*	Surveys	Once every three years
	• Population depending on wetlands for livelihoods	Surveys	Once every three years
	• Number of households around the wetland using safe sanitation practices	Surveys	Once every three years
	• Participation of communities in wetlands management	Surveys	Once every three years

Step 7 – Developing an action plan

The last stage of the management planning process includes defining the action plan, or specific interventions that address the identified management objectives. The action plan should be developed in two steps. The first step should be a comprehensive listing of activities which are required to be implemented. In the second stage, the activities should be filtered with reference to core and non-core activities prescribed under NPCA, and detailed further.

7.1 Preparing a comprehensive list of activities

A generic listing of activities that may be required for integrated management of wetlands is presented in Table 3. Each activity should have a short description indicating why the activity is required, where is the activity to be implemented, and what is the implementation priority. Following must be kept in mind:

(a) Ecosystem-based interventions should be promoted as far as possible

(b) Engineering interventions in wetlands should be taken up in a limited manner, with impact assessments conducted for all major works

(c) Operations and maintenance of all structural works should be included in project design Participation of local communities should be included to the extent possible

Table 4: Generic listing of activities for management of wetlands

Management Plan component	Activities	Key considerations
Boundary delineation and demarcation	Boundary mapping and delineation	Site boundaries should be established with reference to inundation regimes, soil conditions and vegetation types. Landscape connectivity should also be taken into account when aquatic ecosystems exist in patches. All activities should be completed within the first year.
	Removal of encroachments	Boundaries should be notified and legally protected wherever possible. All activities should be completed within the first year.
	Shoreline management	Mostly required for wetlands in urban and peri-urban setting. For stabilizing bunds of wetlands, naturalization of slopes using vegetative measures should be preferred. Development of promenade for urban lakes can be included based on an evaluation of natural drainage and shoreline ecosystem niches.
Catchment conservation	Afforestation and aided regeneration	Catchment conservation plans should be developed at watershed scales and based on Joint Forest Management approaches. Only native species should be used for forestry operations. Pilot watershed should be periodically monitored to assess changes in soil moisture regimes. Livelihood interventions for catchment communities aimed at reducing dependence on wood as an energy source should be included as appropriate.
	Small scale engineering measures (gully plugging, check dams, gabion structures etc.)	Community participation in design, implementation and post-project maintenance of structures should be ensured.
Water management	Selective dredging and desilting to improve hydrological connectivity	Dredging to be used only selectively, and be based on assessments of bathymetric profile and species interactions. For inflowing channels, dredging ca be used to improve water inflow.
	Interception, diversion and treatment of point sources of pollution	Mostly recommended for wetlands in the urban and peri-urban setting. Provision of comprehensive sanitation and safe drinking water coverage to communities living around the aquatic ecosystem should be ensured. Engineering (STPs) as well as biological options (constructed wetlands) should be evaluated for application.Planning for Operation and Maintenance expenses should be included for all engineering structures.
	Construction and operation of hydraulic structures for maintenance of water regimes and flood control	For each significant structure, detailed environmental impact assessments should be carried out prior to construction.
	Balancing water allocation for human and ecological purposes	Environmental flows for wetlands, hydrological regimes of which are affected by hydraulic structures, should be assessed and implemented in consultation in water managers
Biodiversity conservation	Habitat evaluation and improvement	Until specifically desired, plantation of terrestrial plant species in wetlands should be avoided.
	Improvement and maintenance of migratory routes	Community groups should be involved in habitat monitoring and maintenance of migratory routes

Management Plan component	Activities	Key considerations
	Maintenance of breeding and spawning grounds for key species	Community groups should be involved in the maintenance of breeding and spawning grounds
	Management of invasive species	A mix of mechanical and biological methods for controlling species invasion should be used. For plant invasives, economic utilization alongwith physical removal should be included.
Sustainable resource development and livelihood improvement	Microenterprise development for reducing dependence on wetlands resources for livelihoods	Identification of micro-enterprise development options should be based on an assessment of community livelihoods, capacities, resources and market linkages.
	Sustainable fisheries development	Only capture based fisheries techniques should be promoted in natural wetlands Options for improving culture fisheries in areas around wetlands may be included to reduce dependence on capture fisheries
	Sustainable agriculture development	Organic farming practices in immediate catchments should be included to minimize nutrient enrichment in wetland.
Institutional development	Setting regulatory regimes	Site regulation should be harmonized with national and State level regulations. Local customary self-regulation which supports maintenance of conservation values should be promoted
	Development of monitoring and evaluation system	Comprehensive monitoring and evaluation mechanism for hydrological, ecological, socio-economic and institutional features should be made a part of the management system Involvement of stakeholders in monitoring should be encouraged.
	Communication and Outreach	Increasing awareness on values and functions of wetland should be made an integral part of the management plan
	Research	For each site, key research areas to support management needs should be identified and included in the management plan

7.2 Preparing an action plan for NPCA support

From the generic list compiled under the previous steps, activities which fall within the list of core and non-core activities covered under the NPCA should be filtered out and elaborated. Following details should be included:

- Why is the activity important?
- How will the activity be implemented? (include intermediate steps, technical specifications and relevant drawings, as may be the case)
- Where will the activity be implemented?
- Who will implement the activity?
- What are the quantitative targets to be met?

Step 8: Developing budget and financing plan

A complete costing of the Integrated Management Plan item wise should be done for the entire tenure of the plan using the existing norms of the State and central government, as may be the case. Year wise requirement of funds for various items of work/ activities, bar and PERT charts for the works/activities should be prepared. For each of the activity, an analysis of complementarity with ongoing development or conservation sector schemes should be done to assess the extent of funding that can be generated through convergence with these schemes. Opportunities for private sector participation should also be identified. Summary of Cost Estimates and year-wise breakup of the requirement of funds may be presented in the formats given below:

Table 5: Summary of budget

S. No	Management Plan component	Budget

Once the total budget has been prepared, a mapping of funds available from various government schemes, international and national donors and private sector may be presented in the following format.

Table 6: Analysis of convergence funding

Activity	Total Budget	Funds from Central Government Scheme (Scheme Name)	Funds from State Government (Scheme Name)	Funds from other donors (Project and donor name)	Funds from private sector (Name of the agency)	Funds available from convergence sources	Funds required to be raised
	(a)	(b)	(c)	(d)	(e)	(f) = (b) + (c) + (d) + (e)	(g) = (a) -(f)

The management plan proposed to be covered under NPCA should be detailed in the Table 7. For each costs item, the relevant basis or schedule of rates may be referenced. Funds requirement should be spread across the entire management plan implementation duration. It may be noted that core funds may be allocated not less than 75% of the budget, and non-core upto 25% of the budget.

Table 7: Yearwise breakup of requirement of funds required from NPCA

S.No	Activity	Funds Required in Yr I	Funds Required in Yr II	Funds Required in Yr III	Funds Required in Yr IV	Funds Required in Yr V	Total

Format for compiling Integrated Management Plan

The management plan should have a cover sheet with the following information:

- Wetland Name
- Wetland Area (in ha)
- Location: (District(s), State / UT)
- Area of the direct catchment (in ha)
- Name of the nodal agency for management plan implementation
- Management plan period
- Date on which approval of State / UT Wetland Authority was obtained
- Total budget
- Total funds available from convergence sources
- Funds requested from the MoEFCC

The management plan may be compiled in the following eight chapters:

Chapter heading	Sub-headings	Explanation	Reference to Management Planning Steps
1. Introduction	1.1 Rationale for management planning	Describe the importance of wetland, ways in which wetlands conservation and wise use will contribute to state conservation and development goals and alignment with state and central government policies, directives and planning frameworks	Step 1
	1.2 Terms of reference	Enlist the overall terms of reference for the management plan	Step 1
	1.3 Approach and Method	Provide an overview of approach (ways in which the recommended steps have been used) Describe the data sources and research carried out for management planning if any	Step 1
2. Description of wetlands features	2.1 Description of wetland features • Location and extent • Wetland catchments • Hydrological regimes • Biodiversity • Ecosystem Services • Socioeconomics and livelihoods	Describe wetland features. As far as possible, present the data in maps.	Step 2

Chapter heading	Sub-headings	Explanation	Reference to Management Planning Steps
3. Evaluation of wetlands features	3.1 Evaluation • Priority wetland features that need to be maintained and thresholds thereof • Threats	From the wetlands features described in the previous section, enlist the priority wetlands features. Describe the threats that adversely affect the priory wetland features.	Step 3
4. Institutional arrangements	4.1 Review of existing arrangements • Key organizations and programmes • Rules and regulations • Role of civil society and community based organizations	Provide an overview of the current institutional arrangements in the context of wetlands management	Step 4
	4.2 Gaps	Discuss why the current institutional arrangements are insufficient in ensuring wetlands conservation and wise use.	Step 4
	4.3 Proposed arrangements for wetland management	Propose institutional arrangement for wetland management, which specific focus on a) nodal agency, b) role of various departments and agencies and coordination mechanism, and c) the role of civil society and communities. Develop an organogram for management plan implementation.	Step 4
5. Setting Management Objectives	5.1 Goal and purpose	Provide a statement of the overall goal that the management plan seeks to achieve	Step 5
	5.2 Benefits (ecological as well as societal)	Summarize the ecological and economic benefits that are expected from management plan implementation	
	5.3 Management objectives	Enlist the specific objectives	Step 5
	5.4 Strategies	Describe strategy(ies) for achieving each of the management objectives	Step 5
6. Monitoring and evaluation plan	6.1 Monitoring strategy	Present an overview of monitoring the wetland, and management plan implementation	Step 6
	6.2 Monitoring parameters, frequency and responsibility	Describe the monitoring parameters, the frequency of monitoring and the agency that will be responsible for monitoring	Step 6

Chapter heading	Sub-headings	Explanation	Reference to Management Planning Steps
	6.3 Institutional design	Describe how coordination between different monitoring agencies will be achieved.	Step 6
	6.4 Infrastructure and human resources design	Discuss the infrastructure and human resource requirement for implementing the management plan. As far as possible, including local universities, research organizations and NGOs in wetlands monitoring	Step 6
	6.5 Reporting	Discuss the frequency in which reporting shall be done and the responsible agency.	Step 6
	6.6 Review and adaptation	Discuss how the monitoring outcomes will be used to adapt management	Step 6
7. Developing an Action Plan	7.1 Component wise activities linked with management objectives	Generic listing of activities indicating: • What will be done? • Where will the activity be done? • What is the priority for the activity?	Step 7.1
	7.2 Components for consideration for support under NPCA	For all activities eligible for support under NPCA inicate: • Why is the activity important? • How will the activity be implemented? (include intermediate steps, technical specifications and relevant drawings, as may be the case) • Where will the activity be implemented? • Who will implement the activity? • What are the quantitative targets to be met?	Step 7.2
8. Budget and activity phasing	8.1 Activity linked budget	Present a summary budget in line with Table 5 Provide details of funding available from convergence sources in line with Table 6 Provide detailed budget for NPCA in line with Table 7	Step 8
	8 2 Time planning	Present a monthly Gantt Chart for management plan implementation	Step 8

Annexure VII: Checklist for submission of integrated management plan

- ☐ Approved by the State govt./UT Administration / State Wetlands Authority / UT Wetlands Authority (minutes of meeting to be enclosed)
- ☐ Forwarding letter states commitment of the State Government / UT for providing their share of budget (supporting document indicating concurrence to be enclosed)
- ☐ Integrated management plan has a cover sheet providing details on wetland, catchment area, implementing agency, total budget and fund requested from NPCA
- ☐ Brief document is enclosed with the management plan (as per Annex V)
- ☐ Wetlands map is provided in a standard GIS format
- ☐ Map of Zone of influence in provided in a standard GIS format
- ☐ Management plan is aligned with recommended format of eight chapters
- ☐ All activities proposed to be funded by NPCA fall within the list of core and non-core activities
- ☐ Necessary drawings and technical specification for major activities is provided
- ☐ Core activities have been allocated not less than 75% of the budget
- ☐ Non- core activities have been allocated not more than 25% of the budget
- ☐ Budget has been prepared with reference to an approved Schedule of Rates

Annexure VIII: Format for Tripartite Memorandum of Understanding for implementation of Integrated Management Plans

(to be signed on Rs. 100/- Non Judicial Stamp Paper)

MEMORANDUM OF UNDERSTANDING (MOU)

Between

THE MINISTRY OF ENVIRONMENT, FOREST & CLIMATE CHANGE, GOVERNMENT OF INDIA

THE STATE GOVERNMENT OF MAHARASHTRA

And

THE IMPLEMENTING AGENCY (IA) –

This MoU provides a framework of commitments by concerned stakeholders not only for successful implementation of the project, on '_____' (project name) at _____ (name of place), but also for proper Operation and Maintenance (O&M) of the assets created. This agreement lays down the conditions, which the State Government and the Implementing Agency will undertake on the basis of the financial support provided by Government of India through the Ministry of Environment, Forest & Climate Change (MoEF&CC).

THIS AGREEMENT is made on this _____day of ___ (month), ___ (year) between the Government of India, through the MoEF&CC,

and

The State Government of Maharashtra through its _____ (Name of the Department)

and

_____ (name of Implementing Agency), the Implementing Agency (IA).

WHEREAS

The MoEF&CC will provide financial support to the State Government in their efforts for '_____' (project name) at _____ (name of place), under their jurisdiction.

The _____ has committed to provide the State's share of the capital cost of the project

NOW THE PARTIES WITNESSED AS FOLLOWS:

1. MoEF&CC shall release the first installment of Rs. _____ (__% of Central Share) of grant to the State Government/UT Administration upon signing of the MoU and when the corresponding State Share is deposited by (IA) in a separate account and a proof is submitted in this regard to the Ministry.
2. The release of further installments of funds will be performance based, and will depend on submission of physical and financial progress reports and proper Utilization Certificates as well as on fulfillment of conditions as set out in Administrative Approval & Expenditure Sanction (AA&ES) and the first installment.

3. MoEF&CC shall release subsequent installments of grant to the State Government after the corresponding State Share is deposited by (IA) and a proof is submitted in this regard to the Ministry.
4. The (IA) will bear 40% of the cost of the project or their share as decided from time to time. (IA) (O&M Agency) shall bear the costs for full O&M and also responsible to carry out O&M after implementation of the project.
5. The State Government will also ensure commitment from (IA) (O&M Agency) to take over the assets of the project on completion of project.119
6. The State Government will constitute a Project Review Committee headed by the Secretary of the Nodal Department for reviewing the progress of the project on quarterly basis. A representative of MoEF&CC will be a member of this Committee.
7. (IA) will coordinate with ULBs (Urban Local Bodies) as well as other agencies to ensure synergy between programs like Jawaharlal Nehru National Urban Renewal Mission / Urban Infrastructure Development Scheme for Small and Medium Towns and approved components under the NPCA (National Plan for Conservation of Aquatic Eco-systems).
8. The State Government and the (IA) will be responsible for implementing, monitoring and reporting under the project.
9. The State Government shall be responsible for necessary coordination mechanism between the IA and ULBs.
10. The State Government will ensure that the Physical Progress, Expenditure Reports and Utilization Certificates are furnished by the IA to MoEF&CC on a quarterly basis. In case the IA fails to submit such a report, further installment of GoI's share may be withheld, until such submission.
11. MoEF&CC or any agency nominated by it, may undertake periodic site visits to ascertain the progress of the project and compliance of the conditions in the AA&ES and release of installments.
12. The State Government and the IA shall institute mechanism to ensure timely completion of the project.
13. The State Government will provide certification of completion of the project works.
14. In case of dispute between the parties, the matter will be resolved through mutual discussion.
15. In case of any breach regarding the terms and conditions of the MoU, MoEF&CC shall be entitled to withhold release of subsequent installments of the grant.
16. The funds routed through MoU mechanism will be liable to statutory audit by the Controller and Auditor General of India.
17. This MoU will be effective from the date of signing and would remain operative unless terminated by parties concerned by mutual consent.

SIGNATORIES

For Government of India, through Joint Secretary, Ministry of Environment, Forest & Climate Change

Name & Designation

For State Government, through State Secretary of Nodal Department

Name & Designation

For Implementing Agency, through Commissioner, _____ Municipal Corporation/other bodies

Name & Designation

For Further Information
Tamil Nadu State Wetland Authority
O/o Principal Chief Conservator of Forests, Panagal Maaligai, Saidapet, Chennai - 600 015
E-mail : tnswa18@gmail.com