



Citizen Science and Microplastics: Engaging Communities in Ocean Health Monitoring

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Abstract

Citizen science has emerged as a powerful tool for engaging communities in environmental monitoring, particularly microplastics, discussing successful projects, methodologies, community engagement strategies, and the implications

Keywords: Citizen science; Microplastics; Ocean health

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Empowerment and advocacy

Pa c a c c c a a ac
c a , c a c a a a cac
b c a c a a
a a ac c [6].

Successful citizen science projects on microplastics

S a c c c a a
c a c , a c c
c a a .

e 5 gyres institute

5 G I a - a a a a
c a c c a . c c c
a , a a c c a a
a ca Pa c a a a a
c a a a c a c c , c b
a a a a a c a c [7].

Key achievements

Data collection: 5 G c a a a a
a a a , ab
ba a a c a c c c a ac .

Public awareness: a a a a a ab
a c ca a a a ac ,
c a ac .

e ocean conservancy's trash free seas program

Oc a C a c ' T a F S a a c a a
c c c c a a b a c c a
a a . Pa c a c c a a a a
b , c c a c , c c a [8].

Key achievements

Comprehensive database: a a a a b a a
a a a c a c a ab a c
a a c .

Community involvement: B a c a c a , a a
b c a a a c a a a
a ab ac c .

e microplastics project

M c a c P c ac c c a a c
c a c a a a
V c c a a a a a a c
a a c a c c c a .

Key achievements

Standardized methodologies: c a a c
a c c a a b a a c c , a
c a ac a .

Education and training: a a a
a c a , a a a
c c a c a b a c a [9].

Methodologies for citizen science monitoring

Sample collection

C c ca c c a a a a a
c c . :

Sampling equipment: V c a , ,
b c a a a , a ca ca
c a c c .

Sample size and location: G c a
b a a ca b a c ac
c a x ba a a , , a a [10].

Laboratory analysis

A c c , a a b a a ab a
DIY a a c a a ab :

Visual identification: V a c c a
a a a c a c a c ba , a , a
c .

Chemical analysis: M a c a , c a
F - a a (FTIR) c c , ca b
c c ca c c a c .

Data management and reporting

Da a c c b c c a ca a a a
a a a a :

Data platforms: Ma a a
a a a a , a acc b a c a b c .

Feedback and impact: P a c a bac
c b a acc a c a
c .

Challenges in citizen science for microplastics

D a b c c c , a c a

Da a c c c c a ca
c a ab x c a c a
ca a c . c -ba ac ca
a c a a a a .