



US006119630A

United States Patent [19]

[11] Patent Number: **6,119,630**

Lobsiger et al.

[45] Date of Patent: **Sep. 19, 2000**

[54] **INSTALLATION FOR IN SITU MONITORING THE QUALITY OF HABITAT OF AQUATIC ORGANISMS**

4,723,511	2/1988	Solman et al. .
4,744,331	5/1988	Whiffin .
4,888,703	12/1989	Baba et al. .
5,140,855	8/1992	Gruber .
5,222,458	6/1993	Pippy .
5,469,144	11/1995	Gradzki et al. .

[75] Inventors: **Ulrich Lobsiger**, Halifax; **Joan L. Manuel**, Lantz, both of Canada

FOREIGN PATENT DOCUMENTS

[73] Assignee: **3042015 Nova Scotia Limited**, Halifax, Canada

2186001 9/1995 Canada .

[21] Appl. No.: **09/082,599**

Primary Examiner—Peter M. Poon

Assistant Examiner—Yvonne R. Abbott

[22] Filed: **May 21, 1998**

Attorney, Agent, or Firm—Mario D. Theriault

[30] Foreign Application Priority Data

[57] ABSTRACT

May 26, 1997 [CA] Canada 2206103

An installation for in situ monitoring the quality of a habitat of aquatic organisms with minimal disturbance to the aquatic organisms. In a first aspect of the present invention, the monitoring installation uses invertebrate sentinel species such as mussels, clams, oysters and scallops. The monitoring installation comprises broadly, a buoy; a mooring and a monitoring apparatus comprising; a framework having an upper end connected to the buoy and a lower end connected to the mooring. There is also provided a camera attached to the framework. The camera is adapted for underwater operation and has image data generating and transmitting capabilities for transmitting a number of images to a remote receiver. A support structure is detachably mounted to the framework and has rotary retainers for movably supporting one or more socks of mollusks in front of the camera.

[51] **Int. Cl.⁷** **A01K 61/00**

[52] **U.S. Cl.** **119/238; 119/421**

[58] **Field of Search** 119/238, 239, 119/240, 421; 340/850; 390/25, 26, 27, 28, 29

[56] References Cited

U.S. PATENT DOCUMENTS

3,017,817	1/1962	Sampson .	
3,261,274	7/1966	Smith .	
3,324,239	6/1967	Jacobson .	
3,738,248	6/1973	Fish et al. .	
3,750,547	8/1973	Walthier et al.	396/25
4,626,992	12/1986	Greaves et al. .	

20 Claims, 6 Drawing Sheets

