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Nota di contenuto	1. Introduction -- 2. Overexploitation by fisheries -- 3. Aquaculture and crowding -- 4. Endocrine disruption -- 5. Hypoxia and anoxia -- 6. pH and precipitation -- 7. Temperature and sex ratio -- 8. Climate change and differentiation -- 9. Conservation -- 10. Differentiation and conclusions.
Sommario/riassunto	Fish constitute an important natural renewable resource and any reduction in their ability to propagate as a result of human interference may have significant socioeconomic consequences. The negative effect of human activity on sex differentiation and reproductive output in fish is so diverse that it has been difficult to encompass it in a single book. This book serves as the first attempt to do so. Unlike in mammals, the expression of a host of sex differentiation genes in fish is mostly controlled by environmental factors. Not surprisingly, environmental sex differentiation is ubiquitous in fish. Overexploitation by capture fisheries does not disrupt sex differentiation but crowding in aqua-farms does, by reducing accessibility to food supply. Some of the man-made chemicals routinely used worldwide mimic endogenous

hormones. For example endosulfan, which is widely used in developing countries, disrupts endogenous hormones and feminizes fish. For the first time, this book views endocrine disruption from the point of labile early life and non-labile adult stages. It shows that sex can irreversibly be reversed, when exposed to endocrine disrupting chemicals (EDCs) during early labile stages but reversibly impairs reproductive output on exposure to EDCs during non-labile adult stage. A consequence of climate change, elevated temperature, and declining oxygen and pH levels is that it masculinises genetic female fish. Fish display a remarkable ability to postpone the labile period. Besides postponement, some primary and tertiary gonochores have two distinct labile periods amenable to temperature and hormonal manipulations. Hermaphrodites have retained the period until the end of the adult stage and are capable of sex change/reversal more than once in both male and female directions.