

**EIGHT ECOLOGICAL PROFESSIONS**  
**Stanley Dodson**

**ECOLOGICAL SCIENTIST – RESEARCH DESIGN**

**Goal:** To understand how nature works.

**Characteristic Activities**

- Does **Systematic Classification** of things or ideas.
- *Finds pattern* in nature
- Uses quantitative tools – experiments, models, statistics, hypothesis, quantitative observation.
- Uses logical arguments.
- **TESTS** opinions and assumptions, hypotheses.
- Interprets data
- Communicates new results

**Distinguishing Characteristics**

- Avoids controversy in society – wants to be objective
- Creative
- Has alternative hypotheses– won't give a straight answer
- Obtrusive – manipulates nature

**Data**

- Sacred (it is wrong to make up or change data)

**Teaching**

- Focused on understanding nature

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**ENVIRONMENTALIST -- ENVIRONMENTAL SCIENCE**

**Goal:** To have particular environmental policy implemented.

**Characteristic Activities**

- *Takes action* in the political arena.
- Uses scientific information to support a social agenda and to develop environmental policy.
- Uses examples, case studies & results of models to make a point about policy.
- Communicates using government reports and public media.

**Distinguishing Characteristics**

- Embraces controversy in society.
- Values social skills such as persuasion and negotiation.
- Tends to have a definite point of view on a given ecological topic.
- Avoids math and hypothesis testing.

**Data**

- Information is used to make a point.
- Scientific data is preferred but not essential.

**Teaching**

- Lectures, but tends not to do formal teaching.

## CONSERVATIONISTS – ENVIRONMENTAL PROTECTION & CONSERVATION

Goal: To preserve biological species, and usually, their habitat.

### Characteristic Activities

- Manage habitats.
- Restore and rehabilitate habitats.
- Raise funds to buy and maintain habitat.
- Practice public education.
- Interact with invasive species.
- Interact with zoos.
- Organize volunteers

### Distinguishing Characteristics

Care strongly about non-human species.

### Data

- Must be practical, as in ways of designing preserves, or managing species.

### Teaching

- Public education about the value of biodiversity.

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## NATURALIST -- NATURAL HISTORY

Goal: To know the name and behavior of everything in nature.

### Characteristic Activities

- *Observes nature*
- Collects things, may work in a museum
- Practices phenology

### Distinguishing Characteristics

- *Love to Observe nature*
- Non-intrusive in nature.
- Knows names, life histories, behaviors, habitats of organisms.

### Data

- Non-quantitative, in the form of names and narratives

### Teaching

- Teaches by example, mentoring
- Leads field trips
- Tells stories, narratives

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## TECHNICIAN – TECHNOLOGY

Goal: To gather data in the best way possible.

### Characteristic Activity

- Collecting data
- Adjusting and maintaining equipment
- Reporting results

### Distinguishing Characteristics

- *Does it the right way*
- Enjoys routine replication
- Dependable
- Admires latest technology

### Data

- Sacred
- Precise
- Accurate

### Teaching

- Trains others in techniques

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## TEACHER

Goal: To bring children into an appreciation of nature.

### Characteristic Activity

- *Teaches in a structured or formal manner*
- The teacher has often studied teaching

### Distinguishing Characteristics

- Understands cognitive development
- Develops curriculum and educational activities
- Participates in outreach programs, often in informal settings (nature centers, state or national parks)

### Data

- Emphasis on content or facts – essentially science sound bites
- Students are not developmentally ready for much quantitative work
- Too much data gets in the way of teaching

### Teaching:

- Teaches toward appreciating nature, stewardship, and the human-nature connection.

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## MANAGER -- ENVIRONMENTAL RESOURCE MANAGER

**Goal:** To maintain a complex organization for the use of natural resources.

### Characteristic Activities

- *Uses policy (laws) to manage resources*
- **Interacts with stakeholders: private business, environmentalists, government, the public**
- **Directs technicians, naturalists, and law enforcement personnel**
- **Asks advice of scientists**
- **Relies on established practices**

### Distinguishing Characteristics

- **Leader or manager**

### Data

- **Scientific data is sometimes used.**
- **Tradition is an important source of data.**

### Teaching

- **Hires others to teach, usually environmental educators.**

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## ENVIRONMENTAL EDUCATOR – ENVIRONMENTAL EDUCATION

**Goal:** To bring people into intimate contact with exciting and challenging aspects of nature.

### Characteristic Activities

- **Hiking, rafting, rock climbing, angling.**

### Distinguishing Characteristics

- **Athletic.**
- **Intense knowledge of local climate and topography.**

### Data

- **Specific knowledge can increase chances of survival and avoidance of injury.**

### Teaching

- **Learning by doing; experiential learning.**

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## PRACTICE QUESTION:

A national park supervisor asks you how you are going to monitor lakes. You answer: "it depends on what you need to know"

Your answer indicates that you are a(n):

0. Naturalist
1. Scientist
2. Environmentalist
3. Technician
4. Teacher/Environmental Educator
5. Manager