

Abstract:

Scientific information is an important aspect of sound watershed management. In collaborative watershed management many kinds of information are brought in by different stakeholders to make decisions. In New Zealand, collaborative water management committees have been operating since 2009.

In this study, we examine an increase in the inclusion of scientific information for the Selwyn-Waihora water council's decision-making processes and try to explain this increase with correlating factors. Watershed management comes with a host of competing interests and problems as governing bodies attempt to reconcile economic and ecological issues. We analyzed how the behavior of Selwyn-Waihora Zone Committee (SWZC) in particular, has changed over time as they moved from creating policy to providing budgetary approval for citizen led ecologic projects. Observing the SWZC in New Zealand has provided insight into how council behavior changes as they are initially created, establish policy, then move to providing budget approval.

Introduction:

Watershed management requires using different kinds of information taken from different sources. When first formed, management committees are primarily focused on establishing goals, policy, and regulations. As time progresses their focus primarily shifts to executive decision making.

Our question is: **How does the inclusion of Scientific information change over time?**

Methods:

- We used document analysis, analyzing meeting minutes across three watershed management groups. Multiple coders read the meeting minutes from these groups and apply predetermined codes to categorize the information used or discussed in each meeting.
- This included the sum of presentations per meeting and a concurrent analysis of when scientific information was mentioned.
- 24 different yes/no codes were used to categorize the information from each meeting. Coded information ranged from: Is it scientific information? Is it a budgetary discussion? Is there disagreement between council members? Is there community input? Are scientific journals used as a source?
- Our team coded 32 different meeting minutes, with 114 different meetings successfully coded by all three teams. This information allows us to categorize meetings and their contents by different characteristics to perform qualitative analysis.

Meetings and Results

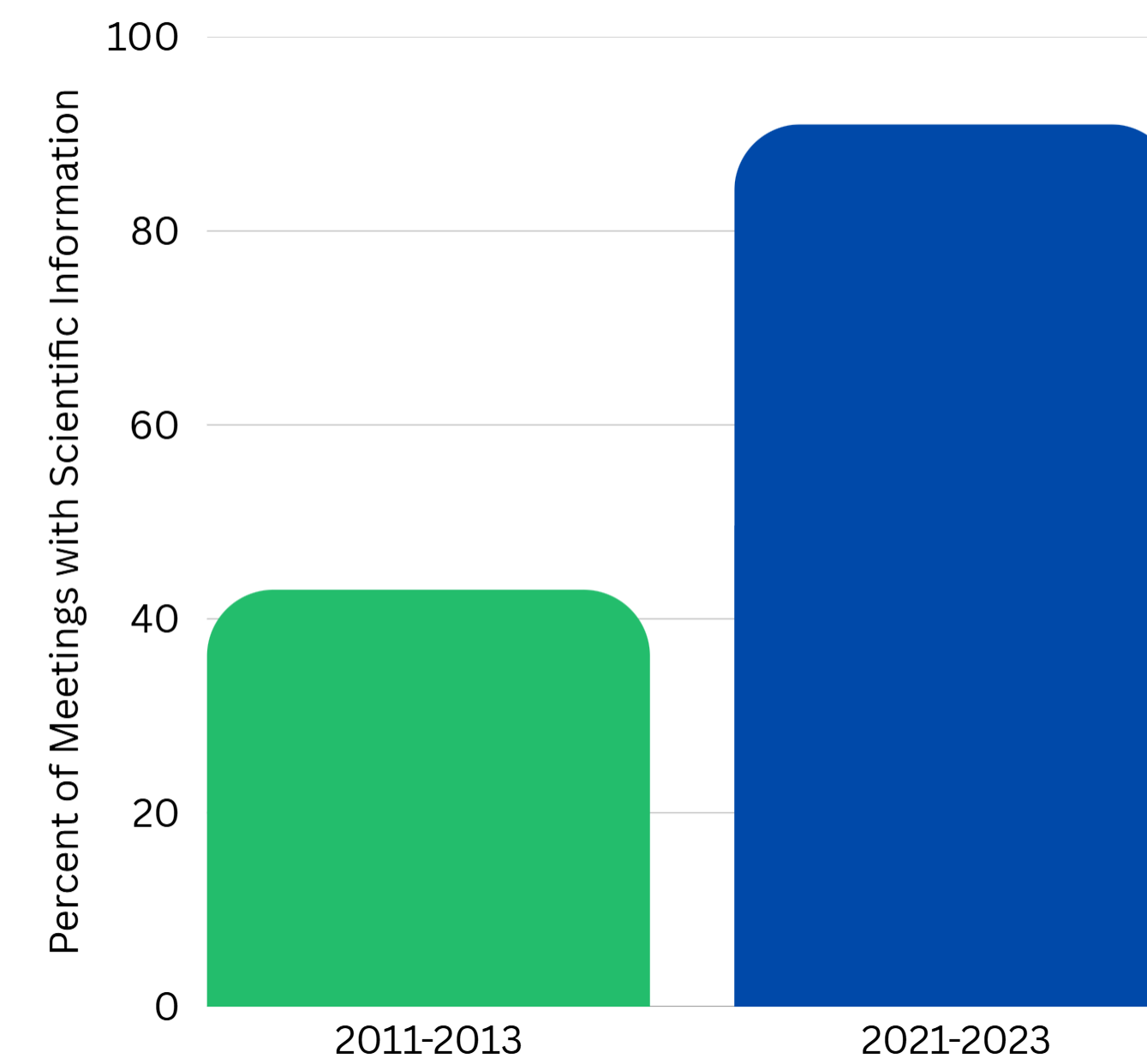


Fig 1. Meetings with Scientific Information Comparison

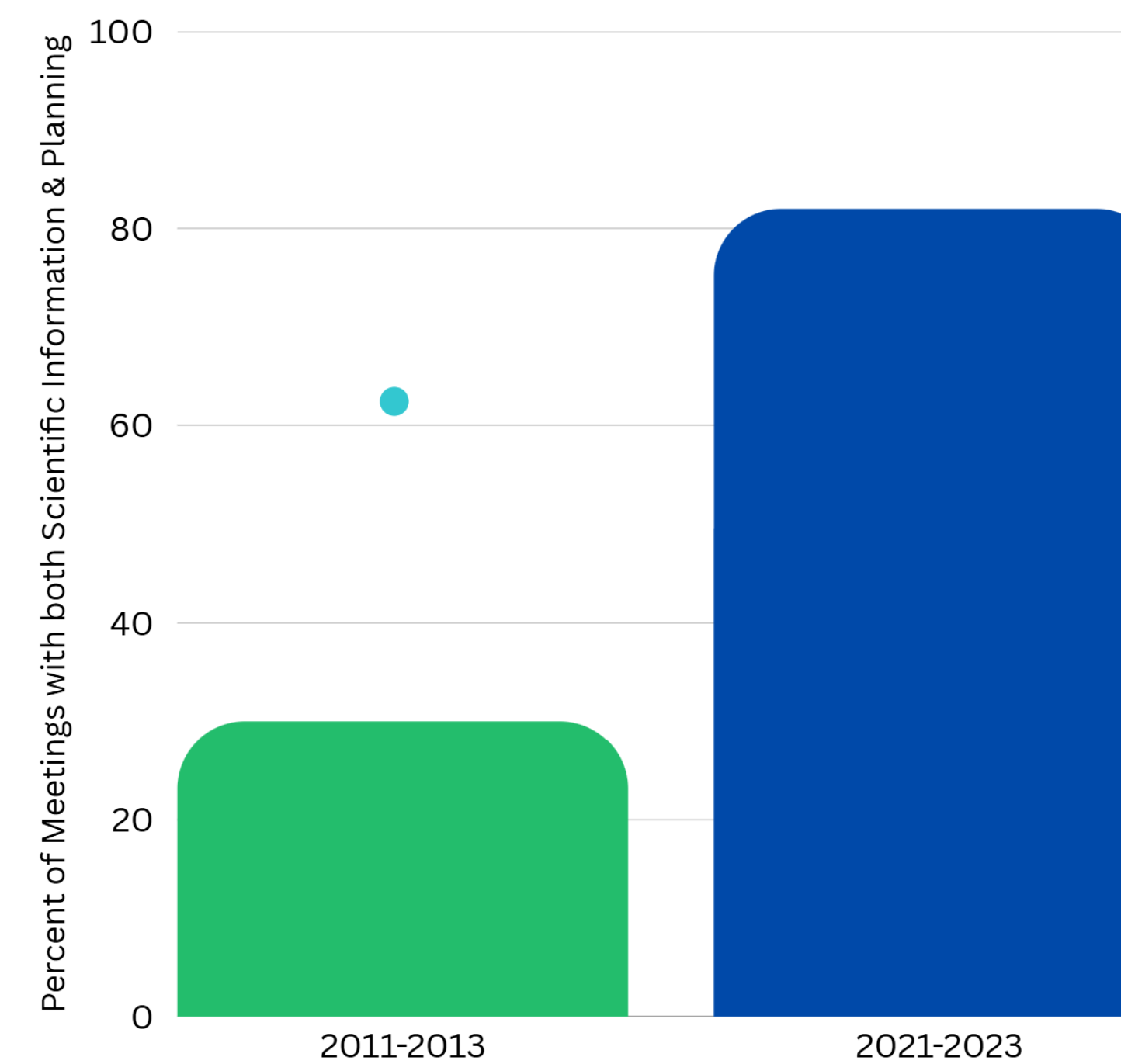


Fig 2. Planning Meetings w/ Scientific Information Comparison

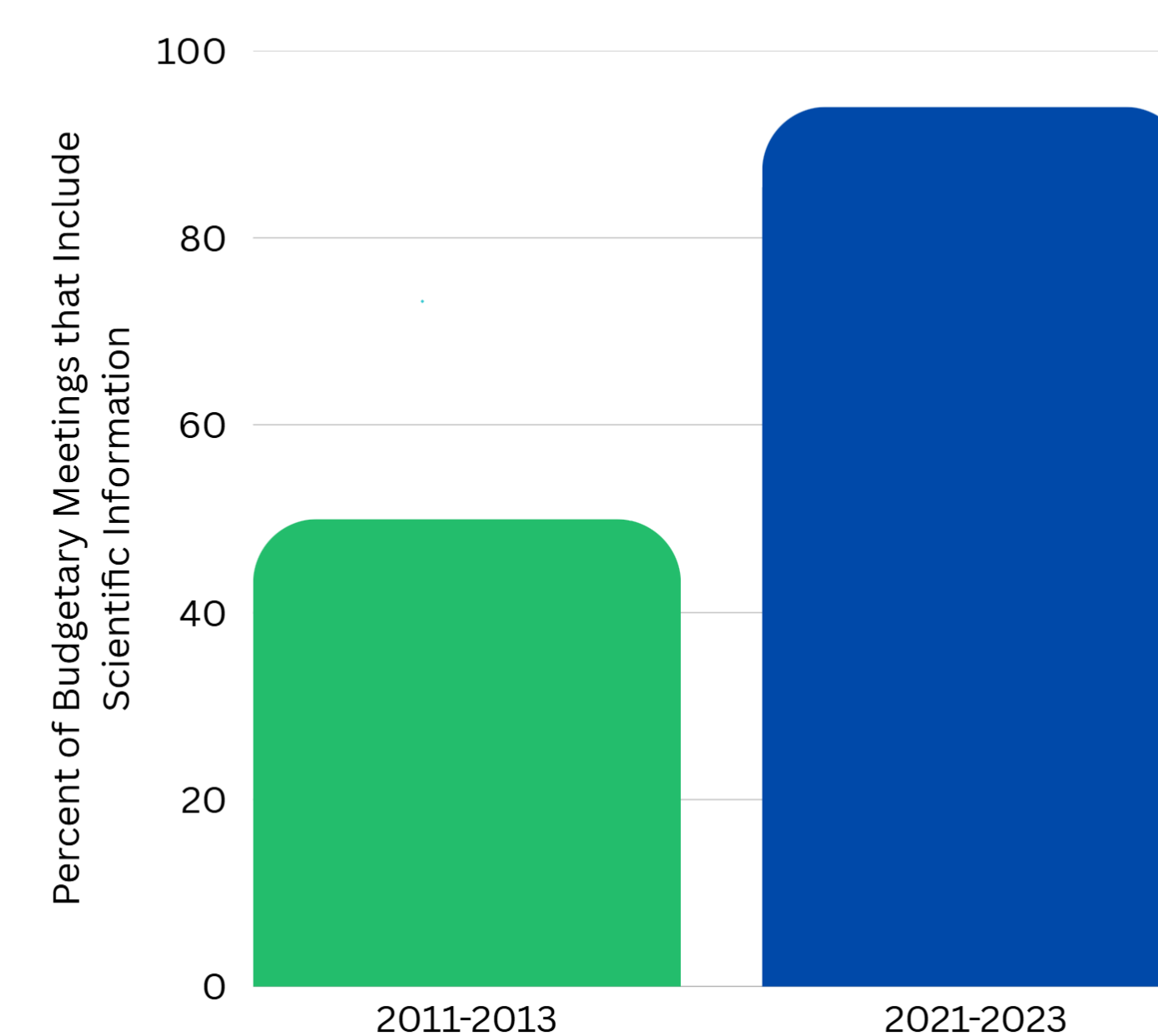


Fig 3. Budgetary Meetings w/ Scientific Information Comparison

Results:

- ❖ **Figure 1** shows that scientific information becomes much more relevant in the years following council creation.
 - ❖ Percent of meetings that used scientific information, **2011-2013**:
 - ❖ Selwyn Waihora: 43%
 - ❖ Percent of meetings that used scientific information, **2021-2023**:
 - ❖ Selwyn Waihora: 91%
- ❖ **Figure 2** shows a slight decrease in scientific information mentioned when the topic is planning or advisory:
 - ❖ **2011-2013**:
 - ❖ Selwyn Waihora: 70% planning presentations had no scientific information
 - ❖ **2021-2023**:
 - ❖ Selwyn Waihora: 18% planning presentations had no scientific information
- ❖ **Figure 3** shows a correlation between budget discussions and involvement of scientific information. Over time, scientific information was more likely to occur when budget discussions took place.
 - ❖ **2011-2013**:
 - ❖ Selwyn Waihora: 50%
 - ❖ **2021-2023**:
 - ❖ Selwyn Waihora: 93%

Discussion:

Overall, there has been an increase of usage of scientific information in most areas of discussion in the Selwyn Waihora Zone Committee, especially in budgetary discussions; including scientific information in budget discussions creates relevance and legitimacy. Justification for spending money on projects likely encouraged the usage of scientific information to obtain funding.

In comparison, projects that did not use scientific information to justify funding had a 1 in 3 chance of being approved- which further shows the relevance of scientific information in policy discussions.

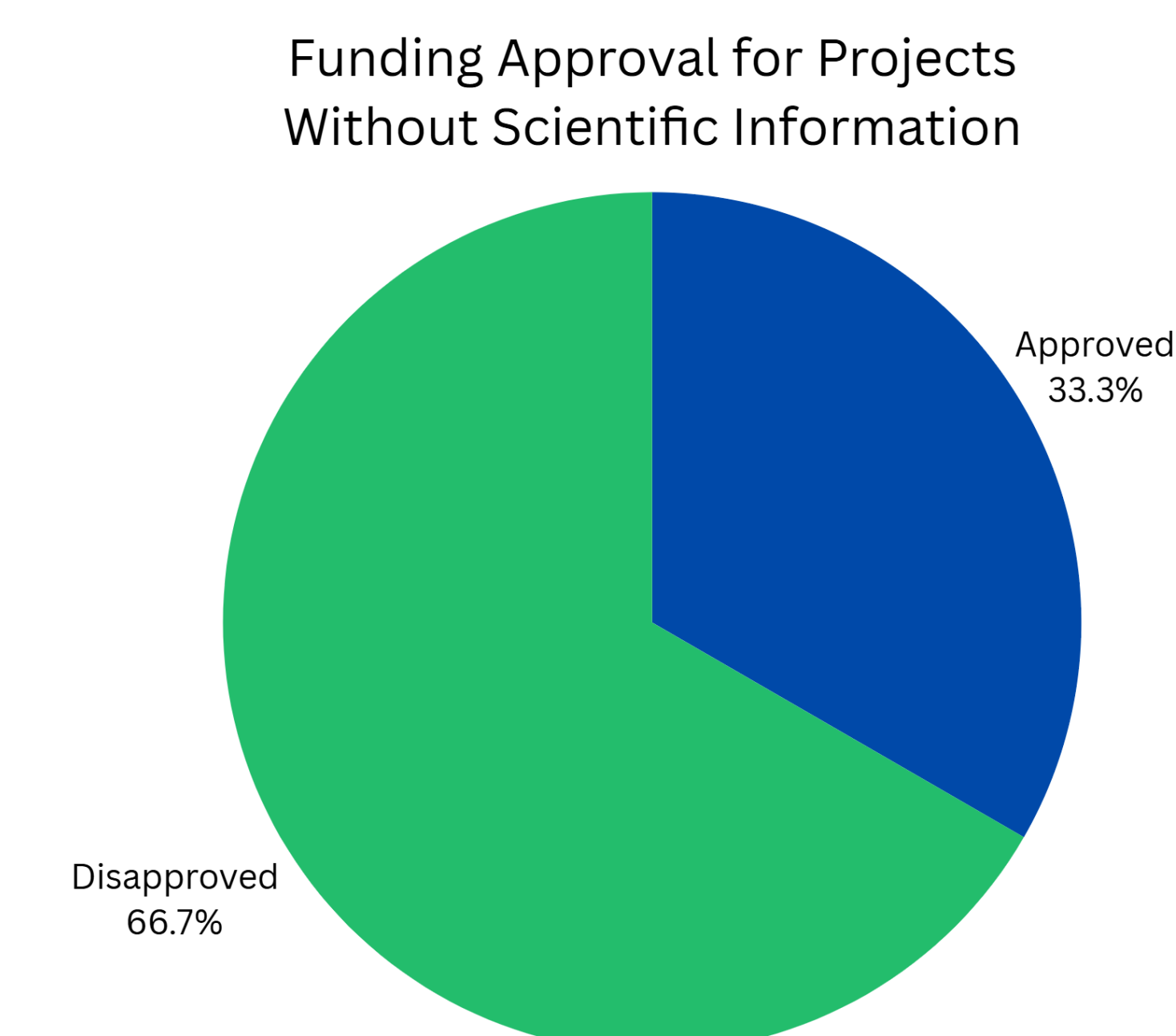


Fig 4. Funding approval for projects without scientific information

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