Source: Unknown (Creativecommons)

Aktuelle wissenschaftliche Diskurse und Ergebnisse I

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Professur für wertebasierte Waldökonomie

Hochschule
für nachhaltige Entwicklung
Eberswalde

Ablauf

Ziel:

- Aktuelle, wissenschaftliche Diskurse zum Thema sozialökologisches Waldmanagement zu verstehen und kritisch zu reflektieren

Format:

- Wöchentliche Seminare
- Jede Woche werden zwei Artikel, Studien, Berichte oder Projekte gewidmet
- Ca. 2 Artikel pro Session. 30 Minuten Referat + ca. 1 Stunde Diskussion pro Artikel
- Note: 70% Referat, Diskussion anleiten, 30% Beteiligung an den Diskussionen an den anderen Tagen

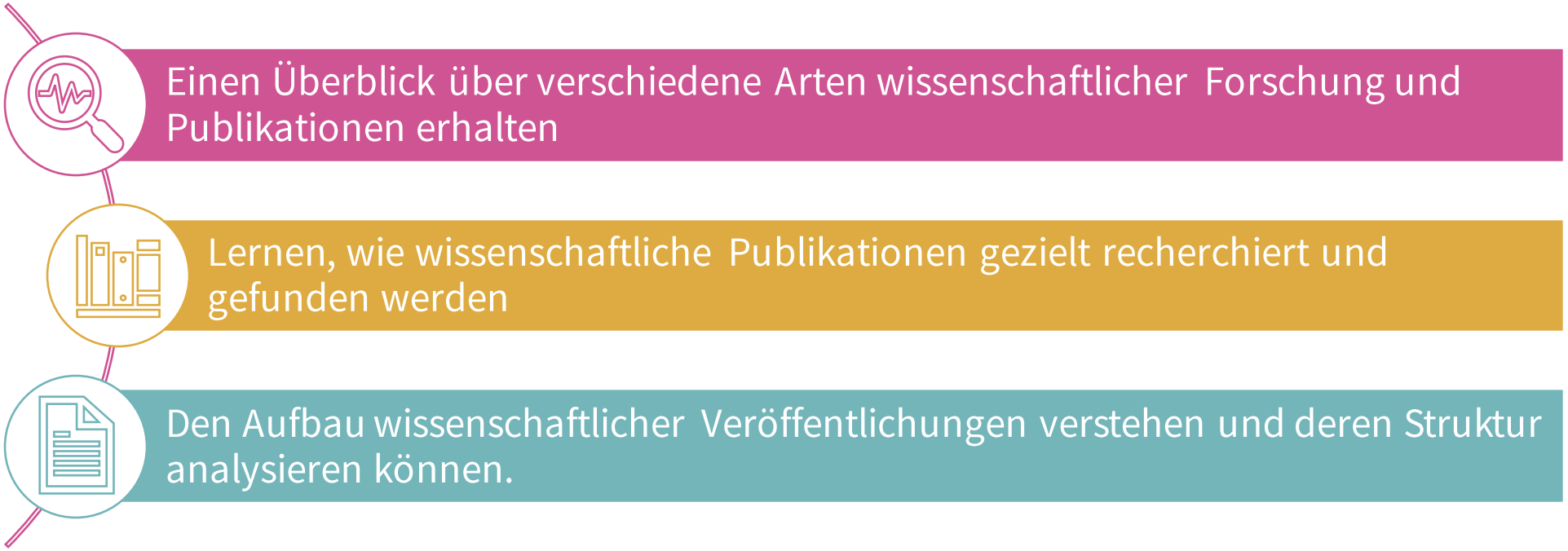
	Wochentag	Datum	Uhrzeit
1	Mi	26.03	9:30-12:30
2	Mi	02.04	9:30-12:30
3	Mi	09.04	9:30-12:30
4	Do	10.04	9:30-12:30
5	Mi	16.04	9:30-12:30
6	Mi	14.05	9:30-12:30
7	Mi	04.06	9:30-12:30
8	Mi	25.06	9:30-12:30
9	Mi	02.07	9:30-12:30

Ablauf

	Wochentag	Datum	Thema	Literatur
1	Mi	26.03	Vorlesung (Daniel, mit Katharina)	Einführung in das wissenschaftliche Arbeiten
2	Mi	02.04	Ökologie (mit Katharina)	Höwler et al. (2024) Engel et al. (2025)
3	Mi	09.04	Politik und Ökonomie	Creutzburg (2022) Bloise et al (2024)
4	Do	10.04	Holz und Erträge	Wang & Haller (2024) Lovric et al. (2025)
5	Mi	16.04	Bioökonomie (ggf. Katharina)	Garcia et al. (2025) Hetemäki et al. (2024)
6	Mi	14.05	Kommunikation	Riemann (2025) Mäder et al. (2025)
7	Mi	04.06	Rückepferde	Timofte und Enescu (2019) Brieger et al. (2021)
8	Mi	25.06	Sozialökologische Ansätze (mit Pierre, Katharina)	Wohlleben & Ibisch (2023, S. 303-357) Brietzke et al. (2025)
9	Mi	02.07	Sozioökonomische Analysen	Stockmann et al. (2024) Garms et al. (2023) Topanotti et al. (2024)

Einführung in das wissenschaftliche Arbeiten und Schreiben

Ziele



Grundlagenforschung vs. angewandte Forschung

Grundlagenforschung

- Überprüfung von Theorien steht im Vordergrund
- Vergrößerung des Wissenstandes
- Trägt langfristig zur Problemlösung (auch praktische Probleme)
- Z.B. wie versorgt sich ein Baum mit Wasser?

Angewandte Forschung

- Theoriebildung, -Ablehnung, oder – Befürwortung weniger wichtig
- Kontextbedingte Erklärungen, um spezielle Probleme zu lösen
- Z.B. wie gehen Wälder in Norddeutschland mit Trockenstress um?

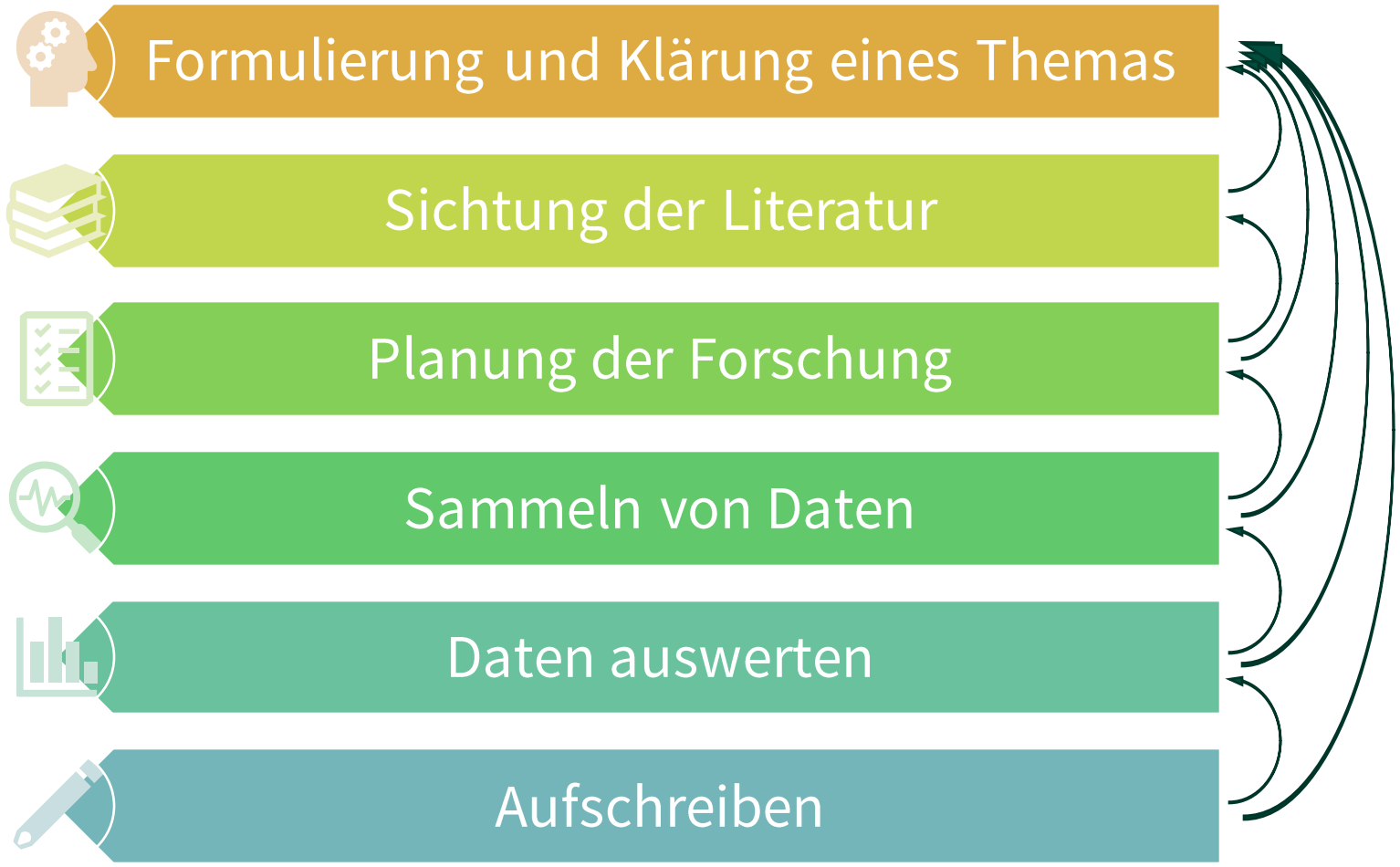
Quelle: https://www.pro-test-deutschland.de/wp-content/uploads/forschung_Grundlagen.png

Arten der Forschung

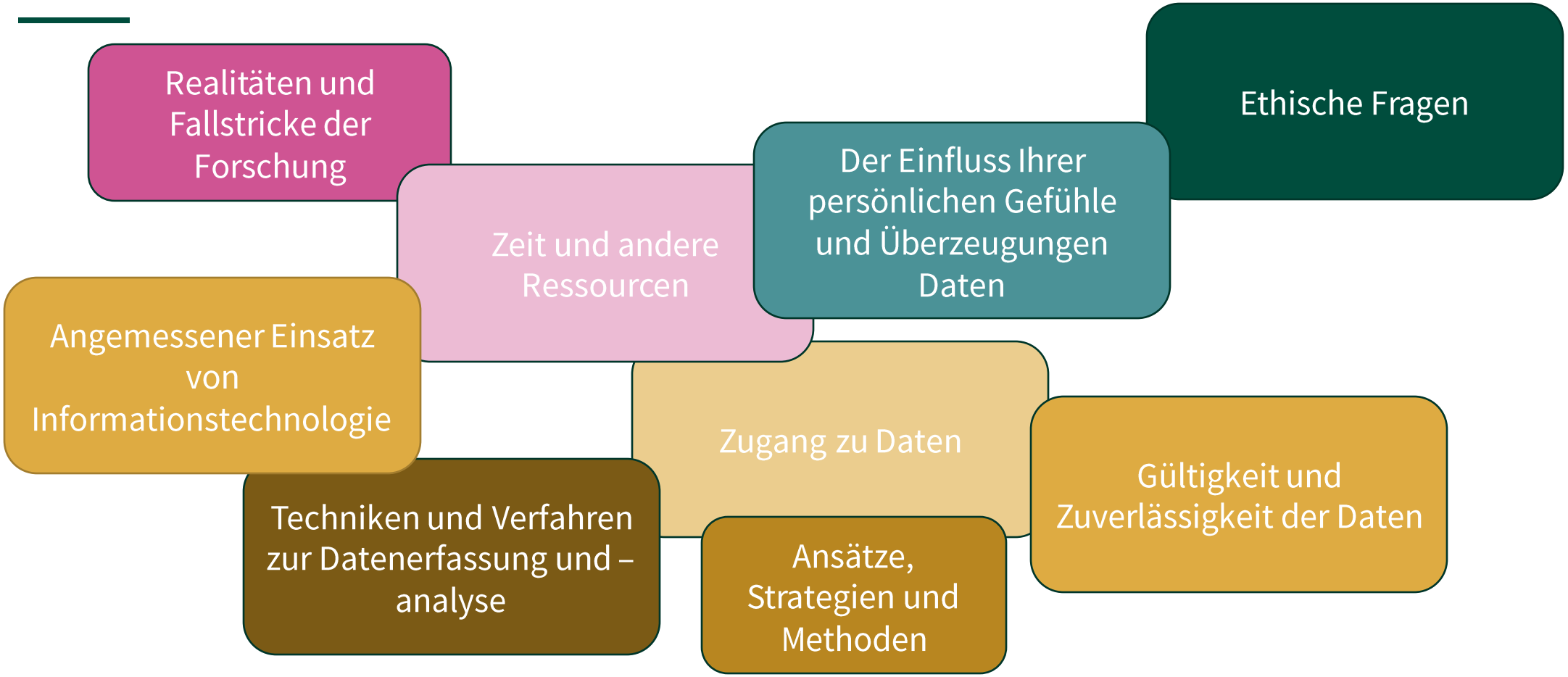
	Ziele	Beispielfragen	Daten
Explorativ	Strukturierung und Verständnis eines weitgehend unbekannten Untersuchungsthemas	Welche Faktoren könnten für den Übergang zu einer sozialökologischen Waldbewirtschaftung wichtig sein?	Interviews, Fokusgruppen, Umfragen
Beschreibend	die Untersuchung des Zusammenhangs zwischen relevanten Variablen oder die Erstellung einer Vorhersage	Welcher Zusammenhang besteht zwischen der Vernetzung der Wälder und der Häufigkeit von Vögeln?	Beobachtungen, Geokarten, usw.
Kausal	Identifizierung von Ursache-Wirkungs-Beziehungen	Führt eine größere Baumvielfalt zu stabileren Waldökosystemen?	Experimente, Beobachtungen

Was ist eine Forschungsfrage?

Schritte des Forschungsprozess

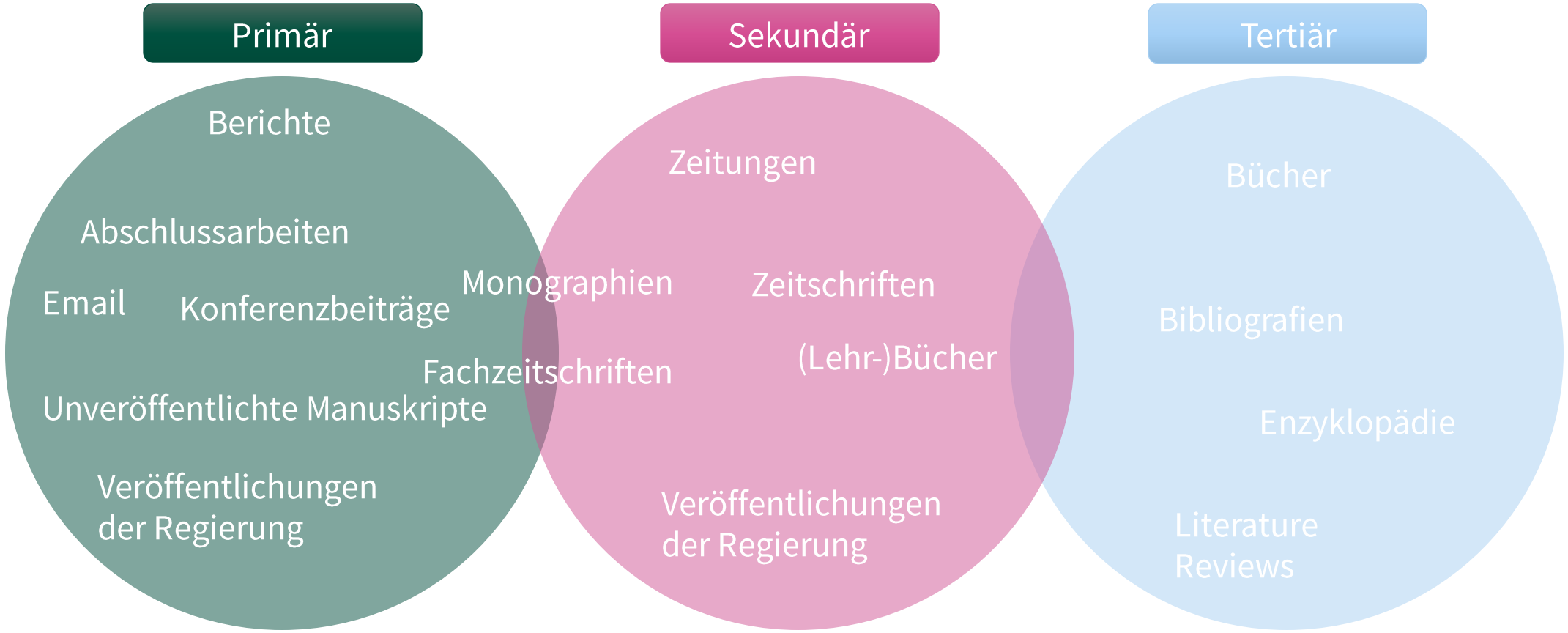


Weitere Faktoren des Forschungsprozesses



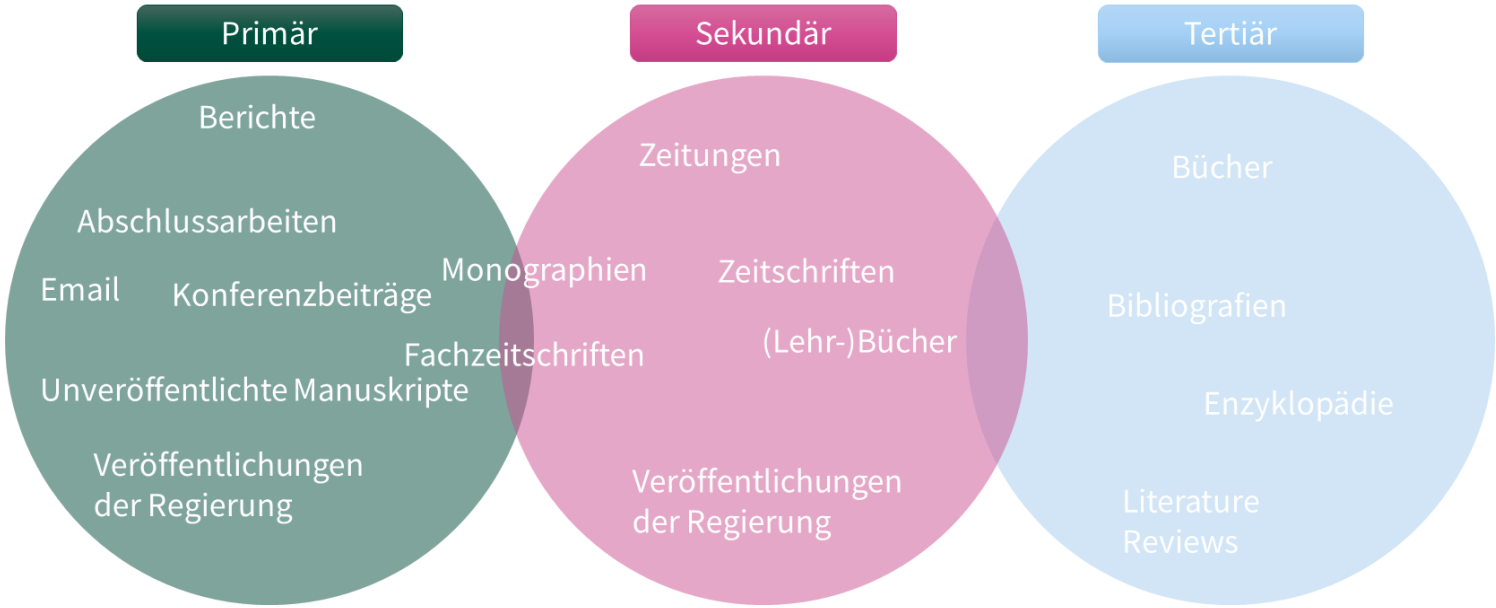
Was hat Literatur mit der Forschung zu tun?

Arten der (wissenschaftlichen) Literatur



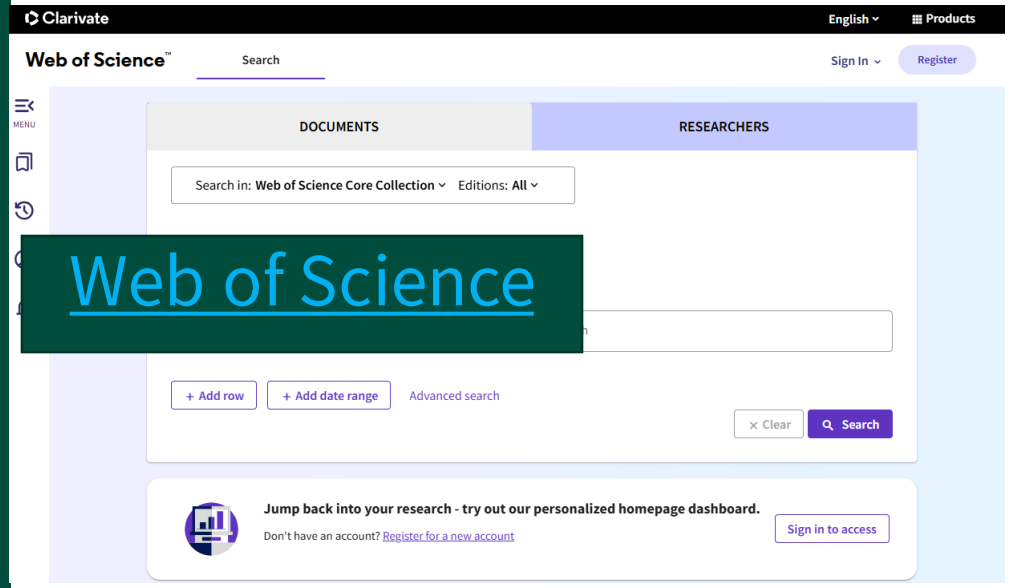
Arten der (wissenschaftlichen) Literatur

1. Welche Literatur soll man in einer Abschlussarbeit zitieren?
2. Soll man (Lehr-)Bücher zitieren?
3. Sind Literature Reviews geringer zu bewerten als Lehrbücher?



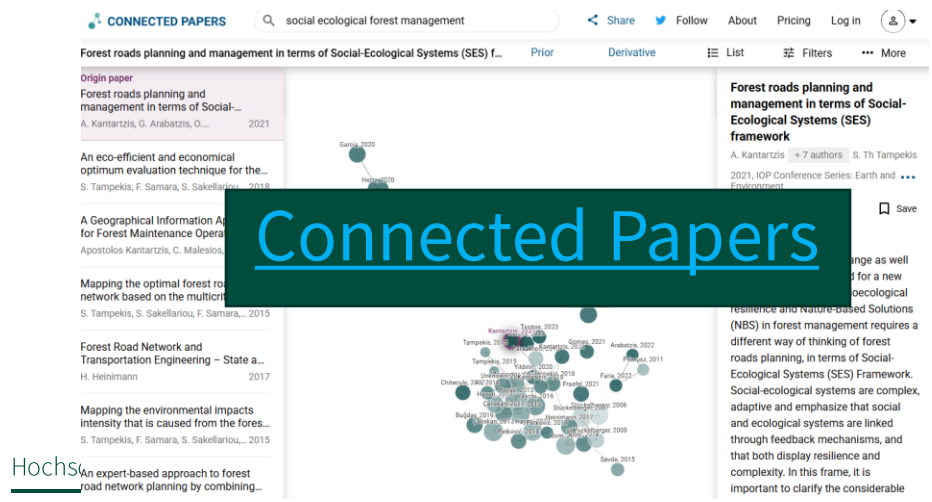
Wie findet man wissenschaftliche Literatur?

Wie findet man wissenschaftliche Literatur?

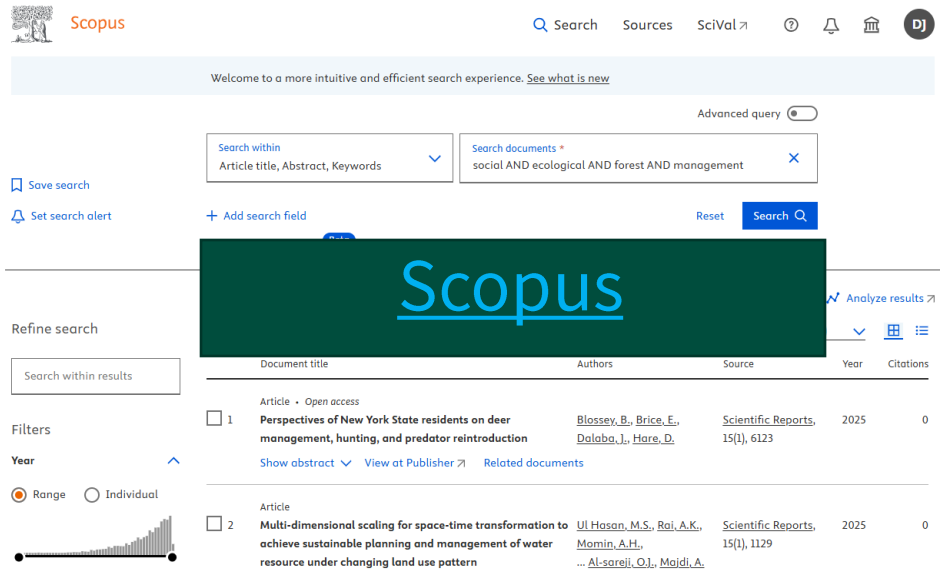


Web of Science

Google Scholar



Connected Papers



Scopus

Kritische Aspekte der wissenschaftlichen Literatur

- „Publication bias“
  - Wenn Autor*innen bevorzugt über positive Ergebnisse berichten und Fachzeitschriften diese bevorzugt veröffentlichen
  - Wiederholte Experimente und Ergebnisse werden oft nicht veröffentlicht (ist nicht mehr interessant)
- Peer-Review Prozess
  - 2 anonyme Gutachter*innen begutachten Manuskripte kritisch
  - Double-Blind-Review-Verfahren zur Gewährleistung der Anonymität von Gutachtern und Autoren
- Fachzeitschriften könnten ein intrinsisches Interesse daran haben, qualitativ hochwertige oder trendige Studien zu veröffentlichen
  - Viele Fachzeitschriften sind gewinnorientiert

Kritische Aspekte der wissenschaftlichen Literatur

- „Fake“ Wissenschaft
  - Ein eingereichtes Abstract zur „International Conference on Atomic and Nuclear Physics“
  - **“Atomic Physics and I shall not have the same problem with a separate section for a very long long way. Nuclear weapons will not have to come out the same day after a long time of the year he added the two sides will have the two leaders to take the same way to bring up to their long ways of the same as they will have been a good place for a good time at home the united front and she is a great place for a good time.”**
  - OMICS International ist ein bekanntes Problem:
    - https://www.nytimes.com/2016/12/29/upshot/fake-academe-looking-much-like-the-real-thing.html
    - https://pmc.ncbi.nlm.nih.gov/articles/PMC5723186/

Fachzeitschriften

- Hier kann man nach „fake“ Fachzeitschriften prüfen: https://beallslist.net/
- Fachzeitschriften haben
  - **Impact Factors**: Anzahl der Artikel, die zitiert wurden, geteilt durch die Anzahl der zitierfähigen Artikel) oder
  - **Citescores**: Anzahl der Zitate, die eine Zeitschrift in dem betreffenden Jahr für die in den letzten drei Jahren in der Zeitschrift veröffentlichten Dokumente erhalten hat, geteilt durch die in diesen drei Jahren in Scopus indexierten Dokumente
  - Scimago Journal Ranking (**SJR**) ist auch ein guter Anfang: https://www.scimagojr.com/journalrank.php

nature

Citation Impact 2023

- Journal Impact Factor: 50.5
- 5-year Journal Impact Factor: 54.4
- Immediacy Index: 13.2
- Eigenfactor® Score: 1.02480
- Article influence Score: 24.7

sustainability

Impact Factor: 3.3 (2023); 5-Year Impact Factor: 3.6 (2023)

9.0 CiteScore | 4.0 Impact Factor

Forest Policy and Economics

Supports open access

Impact Factor 3.0

5 year Impact Factor 2.8

Ecology & Society

A journal of integrative science for resilience and sustainability

141 H Index

4.403 ISI 2021 Impact Factor

5.275 5 Year Impact Factor

BRITISH ECOLOGICAL SOCIETY People and Nature

2023	**CiteScore** (Scopus):	10
2023	**Journal Citation Indicator** (Clarivate):	1.39
2023	**Journal Impact Factor** (Clarivate):	4.2

12.0 CiteScore | 6.6 Impact Factor

Ecological Economics

Supports open access

Wissenschaftliche Artikel

Journal →

RESTORATION ECOLOGY
The Journal of the Society for Ecological Restoration
SER
Check for updates

Art des Artikels → RESEARCH ARTICLE

Titel → **Factors impacting the variability of post-fire forest regeneration in central European pine plantations**

Autor*innen →

Florent Jouy[1,2], Maren Schüle[1,3], Yojana Adhikari[1], Anja Binder[1], Danica Clerc[4], Werner Gerwin[5], Thilo Heinken[3], Thomas Raab[6], Frank Repmann[6], Susanne Rönnefarth[1], Marina Schirrmacher[4], Marie-Therese Schmehl[7], Jens Schröder[4], Pierre L. Ibisch[1]

Abstract →

Fire is increasingly posing a risk to forests and plantations, even in the temperate latitudes of central Europe. Little is known about fire ecology in this region, and therefore, appropriate approaches for the management and reforestation of burned sites are mostly lacking. In a Scots pine plantation region in Brandenburg (northeast Germany), the early tree regeneration of two nearby areas that burned 1 year apart was investigated. We observed that 3 years after the fire events, the forest in one study area showed a relatively high regeneration with a mean density of 7765 saplings/ha, clearly dominated by European aspen (93%); whereas the other study area showed a lower mean density of 5061 saplings/ha, dominated by Scots pine (71%) and aspen (15%). Three years after the fires, the difference in aspen density was 11-fold between the two areas. We studied the effects of several variables about soil and environmental properties on the aspen establishment in these two study areas in the second and third years after the fire events. We found that the post-fire aspen regeneration was influenced by several factors, including soil texture, soil disturbance from forest management, volume of deadwood, and browsing. We also discussed that weather conditions during seed production and germination might have played a role in the difference in aspen establishment between the two study areas. We concluded that the post-fire forest regeneration potential in the study region is highly variable and could come under critical pressure as climate change progresses.

Keywords →

Key words: aspen, deadwood, microclimate, *Populus tremula*, post-fire regeneration, soil texture

„Highlights“ →

Implications for Practice

- Natural regeneration is highly variable in terms of amount and species regeneration, and we expect that as climate change progresses, the likelihood of post-fire ecosystem recovery decreases.
- Leaving deadwood on site after fire could provide micro-sites for potential seed germination and protect seedlings from browsing, hence supporting the establishment of

with a relatively dry and warm summer as well as predominantly dry sandy soils (Scholz 1962; UBA 2015). Secondly, the natural deciduous forests have been replaced by even-aged Scots pine (*Pinus sylvestris*) (further as pine) plantations in the past centuries, which are now covering more than 70% of the Federal State

Author contributions: PLI conceived and designed the research; FJ, MSchü, AB, DC, FR, MSchi performed the experiments; FJ, MSchi, YA, AB, WG, MSchi, M-TS

← Hauptext

Quelle: Jouy et al. (2025)

Wissenschaftliche Artikel

Abstract

1. Abstract alleine lesen (5 Minuten).
2. Danach in 2/3-er Gruppen, beschreibe die Struktur des Abstracts. Was kommt in solchen Abstracts rein und was nicht?

Fire is increasingly posing a risk to forests and plantations, even in the temperate latitudes of central Europe. Little is known about fire ecology in this region, and therefore, appropriate approaches for the management and reforestation of burned sites are mostly lacking. In a Scots pine plantation region in Brandenburg (northeast Germany), the early tree regeneration of two nearby areas that burned 1 year apart was investigated. We observed that 3 years after the fire events, the forest in one study area showed a relatively high regeneration with a mean density of 7765 saplings/ha, clearly dominated by European aspen (93%); whereas the other study area showed a lower mean density of 5061 saplings/ha, dominated by Scots pine (71%) and aspen (15%). Three years after the fires, the difference in aspen density was 11-fold between the two areas. We studied the effects of several variables about soil and environmental properties on the aspen establishment in these two study areas in the second and third years after the fire events. We found that the post-fire aspen regeneration was influenced by several factors, including soil texture, soil disturbance from forest management, volume of deadwood, and browsing. We also discussed that weather conditions during seed production and germination might have played a role in the difference in aspen establishment between the two study areas. We concluded that the post-fire forest regeneration potential in the study region is highly variable and could come under critical pressure as climate change progresses.

Quelle: Jouy et al. (2025)

Wissenschaftliche Artikel

Abstract

Thema und Relevanz | Forschungslücke | Methoden | Ergebnisse | Diskussion und Zusammenfassung

Fire is increasingly posing a risk to forests and plantations, even in the temperate latitudes of central Europe. Little is known about fire ecology in this region, and therefore, appropriate approaches for the management and reforestation of burned sites are mostly lacking. In a Scots pine plantation region in Brandenburg (northeast Germany), the early tree regeneration of two nearby areas that burned 1 year apart was investigated. We observed that 3 years after the fire events, the forest in one study area showed a relatively high regeneration with a mean density of 7765 saplings/ha, clearly dominated by European aspen (93%); whereas the other study area showed a lower mean density of 5061 saplings/ha, dominated by Scots pine (71%) and aspen (15%). Three years after the fires, the difference in aspen density was 11-fold between the two areas. We studied the effects of several variables about soil and environmental properties on the aspen establishment in these two study areas in the second and third years after the fire events. We found that the post-fire aspen regeneration was influenced by several factors, including soil texture, soil disturbance from forest management, volume of deadwood, and browsing. We also discussed that weather conditions during seed production and germination might have played a role in the difference in aspen establishment between the two study areas. We concluded that the post-fire forest regeneration potential in the study region is highly variable and could come under critical pressure as climate change progresses.

Quelle: Jouy et al. (2025)

Wissenschaftliche Artikel

Einführung
- Setting the scene
- Warum ist das Thema relevant?
- Was wissen wir bisher?
- Einordnung der Forschungsfrage

Implications for Practice

- Natural regeneration is highly variable in terms of amount and species regeneration, and we expect that as climate change progresses, the likelihood of post-fire ecosystem recovery decreases.
- Leaving deadwood on site after fire could provide micro-sites for potential seed germination and protect seedlings from browsing, hence supporting the establishment of aspens.

Introduction

Fires in temperate forests of Europe are relatively uncommon, and little is known about the role of these fires in the functioning and recovery of the local temperate forest ecosystems (Niklasson et al. 2010; Muller et al. 2019). Nevertheless, within the last decade, both the frequency of forest fires and the size of burned areas have increased significantly in the temperate forests of Germany (BLE 2020, 2021). In the coming years, climate change is expected to worsen, bringing more extreme weather events like droughts and heatwaves that are known to promote forest fires even further (Seidl et al. 2011; Kirchmeier-Young et al. 2019). In central Europe, the Federal State of Brandenburg in the Northeast of Germany is especially affected by wildfires for two main reasons. Firstly, this state has a continental climate with a relatively dry and warm summer as well as predominantly dry sandy soils (Scholz 1962; UBA 2015). Secondly, the natural deciduous forests have been replaced by even-aged Scots pine (*Pinus sylvestris*) (further as pine) plantations in the past centuries, which are now covering more than 70% of the Federal State

Author contributions: PLI conceived and designed the research; FJ, MSchü, AB, DC, FR, MSchi performed the experiments; FJ, MSchi, YA, AB, WG, MSchi, M-TS analyzed the data; FJ, MSchü, PLI, AB, WG, TH, TR, SR, JS wrote the manuscript; all authors contributed critically to drafts and approved the manuscript for publication.

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Zugehörigkeiten

doi: 10.1111/rec.70017
Supporting information at:
http://onlinelibrary.wiley.com/doi/10.1111/rec.70017/suppinfo

Quelle: Jouy et al. (2025)

Wissenschaftliche Artikel

Implications for Practice

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Breiteres Thema ansprechen und Relevanz erklären

Introduction

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Supporting information at:
http://onlinelibrary.wiley.com/doi/10.1111/rec.70017/suppinfo

Quelle: Jouy et al. (2025)

Fokussierung auf den Kontext der Studie

Was wissen wir schon drüber?

Weitere Verfeinerung der Forschungslücke und der Relevanz

Forest area (Leuschner & Ellenberg 2017; LFB 2022; Welle et al. 2022). It is known that these conifer monocultures growing under relatively dry and warm conditions, far from their natural ecological niche, are prone to fires (Adámek et al. 2016; Ciesielski et al. 2022).

It is well recognized that fires in pine stands in central Europe led to high tree mortality and reduced both understory vegetation as well as the soil organic layer (Vacchiano et al. 2014; Bartsch & Röhrig 2015). Additionally, extreme air and soil temperatures, as well as lower relative air humidity and reduced soil moisture, are typical microclimatic conditions to be expected locally after a forest fire (Marcolin et al. 2019; Blumroeder et al. 2022). Nevertheless, post-fire salvage logging and plowing are still carried out after a fire, even though they are known to alter site conditions, may negatively affect natural regeneration dynamics by disturbing the soil, contribute to a more extreme microsite environment, and impede the establishment of seedlings by removing deadwood (Blumroeder et al. 2022; Sewerniak et al. 2023). Typically, the vegetation manages to regenerate through the colonization of wind-dispersed species, available seed bank, and the resprouting from basal or epicormic buds (Kwiatkowska-Falińska et al. 2014; Pausas & Keeley 2017; Dzwonko et al. 2018). Hence, burned areas in Europe have shown successful recovery in the past, also driven by natural succession (Calvo et al. 2008; Capitanio & Carcaillet 2008). Nevertheless, it is known from other biomes, such as the Temperate Evergreen Forest in the United States, that, in the worst case, forest recovery can fail to occur after extensive fires (Johnstone et al. 2016). It is possible that weather extremes are already limiting ecosystem recovery on calamity sites in temperate central Europe, as it has been shown in recent years for Mediterranean ecosystems (Batllori et al. 2019; Salesa et al. 2022; Blanco-Rodríguez et al. 2023). As Germany has experienced massive tree mortality on 2 million hectares due to drought and heat extremes since 2018 (Popkin 2021; Thonfeld et al. 2022; BMEL 2024), a weakening of forest resilience would have significant ecological, economic, and practical consequences.

Methode, Vorgehen

In this study, two pine plantations that burned during two of the largest forest fires in the Federal State of Brandenburg, Germany, in 2018 and 2019, were investigated (Heinken et al. 2024). The two nearby areas had broadly similar site conditions, but in the midst of the warmest and driest consecutive years on record (UFZ 2022), they displayed substantial differences in post-fire tree regeneration. Field observations, documented by photo-monitoring, showed a clear dominance of European aspen (*Populus tremula*) (further as aspen) in one area in the first years following the fire, whereas many fewer and smaller tree saplings were observed in the second area over the same period. Aspen is one of the most important broadleaved early successional tree species and can contribute to the recovery of large, damaged areas in European temperate forests along with Birch (*Betula pendula*), Willow (*Salix caprea*), and others (Worrell 1995; Tiebel 2020). The early establishment of aspen is, to some extent, dependent on the availability of bare mineral soil, which can result from disturbances such as fire, storm, or logging (Brang et al. 1998; Shepperd 2004; Landhäusser et al. 2010). Aspen is also considered a "foundational species" due to its importance in community structuring and support of a high biodiversity of plants, insects, and vertebrates (Shepperd 2004; Ellison et al. 2005; Landhäusser et al. 2019). Furthermore, aspen is defined as a poor competitor but has the ability to capitalize quickly on available resources, allowing for rapid juvenile growth (DeByle & Winokur 1985; Worrell 1995; Shepperd 2004), and it can tolerate a wide range of soil types (Worrell 1995).

Weitere Fokussierung

Quelle: Jouy et al. (2025)

Wissenschaftliche Artikel

Forest area (Leuschner & Ellenberg 2017; LFB 2022; Welle et al. 2022). It is known that these conifer monocultures growing under relatively dry and warm conditions, far from their natural ecological niche, are prone to fires (Adámek et al. 2016; Ciesielski et al. 2022).

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For these reasons, and because of its key role as a pioneer species in the study area, this research aims to identify the key factors responsible for the differences in tree regeneration, with a focus on aspen, between the two nearby study areas in the second and third years after the respective fire events.

Ziel des Artikels

Methods

Study Area

The two study areas investigated here are part of the research project PYROPHOB (2024). A detailed description of the study

Quelle: Jouy et al. (2025)

Zusammenfassung und Ausblick

- Das Verständnis der Forschungs- und Publikationsarten ermöglicht eine kritische und wissenschaftliche Perspektive.
- Alle Arten von wissenschaftlichen Publikationen können je nach Zielsetzung des Projekts nützlich sein.
- Systematische Literaturrecherche hilft bei der Vorbereitung von Referaten und Abschlussarbeiten.
- **Für die Referate:**
  - Jeder im Kurs sollte den Inhalt verstehen können (aber nicht unbedingt die kleinen Details der Modelle/Methoden). D.h. die Vorträge sollten den Artikel gut und verständlich erklären (denkt dran, vielleicht haben andere die Artikel nicht gelesen).
  - Bei den Diskussionen wird erwartet, dass sich alle beteiligen. Hier wird Raum gegeben, die Forschungsfragen, die Methoden, die Ergebnisse und die Diskussion/Zusammenfassung zu reflektieren und in das vorhandene Wissen und die Erkenntnisse aus anderen Lehrveranstaltungen einzuordnen.