

Communicating More Effectively with
Landowners about Oak:

Using a Stages of Behavior Change Framework



Lessons Learned:

Woodland owners vary in their readiness to adopt oak management practices such as patch cutting or competition management. Therefore, a 'one-size fits all' outreach strategy may not be as effective as more tailored appeals. The primary objective of this lesson is to provide guidance to foresters about how to use audience segmentation principles to communicate more effectively with woodland owners based on their readiness to adopt oak management practices.

Key Findings

As woodland owners move closer to adopting oak management practices, they also more readily perceive benefits such as improved wildlife habitat and hunting opportunities on their land.

People who have decided to implement oak management practices on their land also have fewer concerns about these practices.

Self-efficacy—or the belief that one has the resources, time and skills to successfully manage for oak—increases along with people's readiness to implement a practice.

Recommendations

Continue to emphasize the general benefits of oak management (e.g., wildlife habitat, hunting opportunities, timber production).

Offer practical solutions for addressing concerns related to patch cutting (e.g., introduction of invasive species, soil erosion), focusing on the particular concerns of the individual woodland owner.

After woodland owners understand what needs to be done to manage for oak and why, shift your emphasis to building their confidence that they have the resources to do so. This may include making your clients aware of cost sharing or tax incentive programs, building their confidence in their own understanding of managing for oak, and reassuring them that they have access to trustworthy forestry expertise.

Audience Segmentation

Despite the many initiatives designed to encourage active, sustainable woodland management practices among private woodland owners, most landowners do not choose to participate in these programs (Greene et al., 2005). One way to potentially increase woodland owner engagement in these programs is to craft more effective marketing programs. A commonly used approach in social marketing campaigns is the idea of audience segmentation. Simply stated, audience segmentation refers to dividing a population into groups whose members are more like each other than members of other groups (Grunig, 1989). The practice of segmenting audiences and developing unique communication programs for each segment has long been a mainstay of modern marketing.

Researchers have previously suggested one way to engage woodland owners more effectively is to segment them by management objectives, future intentions for their forested property, or other variables, and then implement communication and policy strategies targeted to these different segments (Salmon et al., 2006; Butler et al., 2007). Various approaches to audience segmentation have been conducted to provide insights about how to work more

effectively with different types of private woodland owners, specifically around a particular behavior, such as managing wildfire risk (Fischer et al., 2013; Dayer et al., 2014). In this kind of research, landowners are divided into audience segments and profiled based on similarities they share with one another as related to a behavior.

Stages of Change Models

In this lesson, we use a Stages of Change Model, inspired by the Transtheoretical Model (Prochaska & Velicer, 1997), to understand and explain how audience segments differ depending on their readiness to adopt oak management practices. Stages of change models posit that people will differentially adopt a new behavior based on their respective knowledge, beliefs, and motivations relative to the specific behavior. The model assumes that individuals must move through a natural progression of stages before adopting a new practice. A conceptual map of the stages of change is presented in Diagram 1.

A Stages of Change Model, rooted in explaining health behavior change, offers a useful framework for understanding that woodland owners are not uniformly motivated to adopt oak

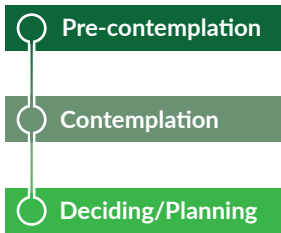


Diagram 1. Stages of Change categories.

management practices, nor are they static in their management intentions. Using this model, behavior change is conceptualized as an ongoing process in which people progress through a series of stages. For example, woodland owners' dispositions can range from being uninformed or even antagonistic toward recommended

land management practices to actually implementing oak management approaches on their land. A number of psychosocial factors, such as awareness, knowledge, attitudes, and self-efficacy, can influence who is in what stage and what outreach strategies may influence people to proceed along this continuum. Other more stable characteristics, such as demographic variables (e.g., age, education, income) or circumstantial characteristics (e.g., length of land ownership, whether they live on the property) can also influence how people progress along these stages of change (Shaw, 2010).

Stages of Change models have usually been used in health behavior change campaigns but have also been explored as a way to segment audiences in conservation contexts. In one study, shoreline property owners were surveyed about their land management practices, and it was found they could be consistently classified based on the Stages of Change Model (Shaw et al., 2011), supporting the idea that behavior adoption occurs in progressive stages and people can be classified by stage (Shaw, 2010). The authors recommended that outreach campaigns could be informed by such groupings (e.g., outreach might focus on awareness for some groups but practical implementation strategies for others). The goal of segmenting woodland owners based on their stage of change in this lesson is to provide conceptually informed, actionable insights to help foresters communicate more effectively with woodland owners to encourage oak management practices.

Oak Management Behaviors

The specific oak management behaviors we focus on in this lesson are: (a) Patch cutting, defined as 'harvesting a patch of trees at least half an acre in size, where all or most of the trees are removed and then plants and trees are allowed to grow back;' and (b) Competition management, defined as 'removing plants, shrubs, or trees where they compete with oak trees.' Managing for oak can require a woodland owner to perform different behaviors (i.e. adopt different types of management practices) and often a sequence of behaviors to create conditions for oak to thrive. The two behaviors of patch cutting and competition management were identified through discussions with regional forestry professionals as being of greatest impact to successfully managing for oak. However, additional research on other oak-friendly practices, such as using prescribed fire or direct seeding of oak, would be needed to develop targeted marketing to encourage these other specific behaviors.

Stages of Change Categories for Adopting Oak Management Behaviors

Below we describe three different stages of change for woodland owners in the context of oak management behaviors.

Pre-contemplation Stage

In the pre-contemplation stage, woodland owners may not even be aware of oak management practices, and they certainly are not thinking about it very much. Pre-contemplators do not intend to take action in the foreseeable future related to patch cutting or competition management. In the context of adopting oak management practices, this may be because members of this audience segment are unaware, uninformed, or underinformed. Although information alone is typically insufficient to produce behavior change (McKenzie-Mohr & Smith, 1999), providing relevant information may lead to increased awareness for pre-contemplators, which can precipitate behavior change, particularly when lack of knowledge may be a barrier to action (Stern, 2002).

Contemplation Stage

Contemplation refers to the stage in which people are considering making a change in their behavior. Contemplators are often aware of some of the pros and cons of a behavior, but the cons likely continue to outweigh the pros. Early contemplators are just beginning to think about adopting a new behavior, so it is particularly important to emphasize the pros, or benefits, of the specific behavior to people in this group. This is strategically important because if target audience members do not think they will see significant personal benefits, they are less likely to proceed to the next stage. The balance between the costs and benefits of adopting a new behavior can produce ambivalence in contemplators that may keep them in this stage for long periods of time (Andreasen, 2006).

An example of people in the contemplation stage might be woodland owners who would like to see more oak trees on their land. They may broadly understand that oaks need more open sunlight to thrive but are uncertain they have the time, financial resources, skills, or expertise to do the patch cutting or competition management required. Although contemplators may believe that managing for oak can offer additional benefits, such as improved wildlife habitat and hunting opportunities, they may also have ongoing concerns that these practices can cause new problems such as the introduction of new invasive species or soil erosion. Subsequently, when targeting contemplators, an important strategy must be to shift the decisional balance such that the pros of adopting a behavior clearly outweigh the cons (Andreasen, 2006). For example, communication to contemplators would continue to emphasize the benefits of oak, while offering realistic solutions. This will ease landowner concerns about oak management practices by mitigating the likelihood of potential problems they are worried about.

Deciding and Planning Stage

People in this stage are interested in implementing oak management practices on their land and may be actively planning for it. This segment may already be adequately educated about the benefits of oak management, but they need a little extra motivation to follow through on their positive intentions. This is where marketing tactics such as reducing monetary costs to encourage the desired behavior may be especially useful (Kotler & Lee, 2008). For instance, cost sharing programs, tax incentives, or proceeds from a timber sale could provide the additional motivation needed to implement oak management practices on their land. It is an important reminder that in the field of behavior change, positive intentions (while encouraging) do not always result in people actually following through on their plans. As a result, it is necessary to continue to work with landowners to help them translate their good intentions into on-the-ground oak management practices on their land.

Descriptions of how the audience segments were categorized using a Stages of Change framework for behavior of patch cutting are defined in Table 1.

Survey participants who reported that they had decided not to adopt oak management practices or that the practice did not

apply to their woodlands were not included in the analysis. For the purposes of this lesson, we are focusing on the potential utility of a Stages of Change framework among woodland owners who are receptive to adopting oak-friendly land management practices and have not already dismissed the possibility of doing so.

DIFFERENCES IN AUDIENCE SEGMENTS BASED ON SELF-IDENTIFIED STAGE OF CHANGE: PATCH CUTTING

The purpose of this next section is to: (a) profile landowners by their self-identified stage of change related to patch cutting for oak management, and (b) identify differences between segments in terms of factors that could inform targeted outreach encouraging landowners to manage for oak. Our hope is that this information will help foresters be more effective communicators in their efforts to encourage woodland owners to adopt oak-friendly land management practices. These survey results are based on the survey of woodland owners in southwest Wisconsin described in the Brief, “Understanding Landowner Perceptions of Oak: Developing Key Ingredients for Effective Outreach and Marketing.” Following are examples of statistically significant differences between woodland owners segmented by self-identified stage of change related to patch cutting.

Table 1. Stages of Change categories and associated survey responses.

Stages of Change	<i>If you have not patch cut or done competition management on your land, why not?</i> Survey Measures
Pre-contemplation Stage	'I have never considered doing that'
Contemplation Stage	'I have considered doing that but haven't made a decision'
Deciding and Planning Stage	'I have decided to do that but haven't started planning for it' or 'I am planning for it'

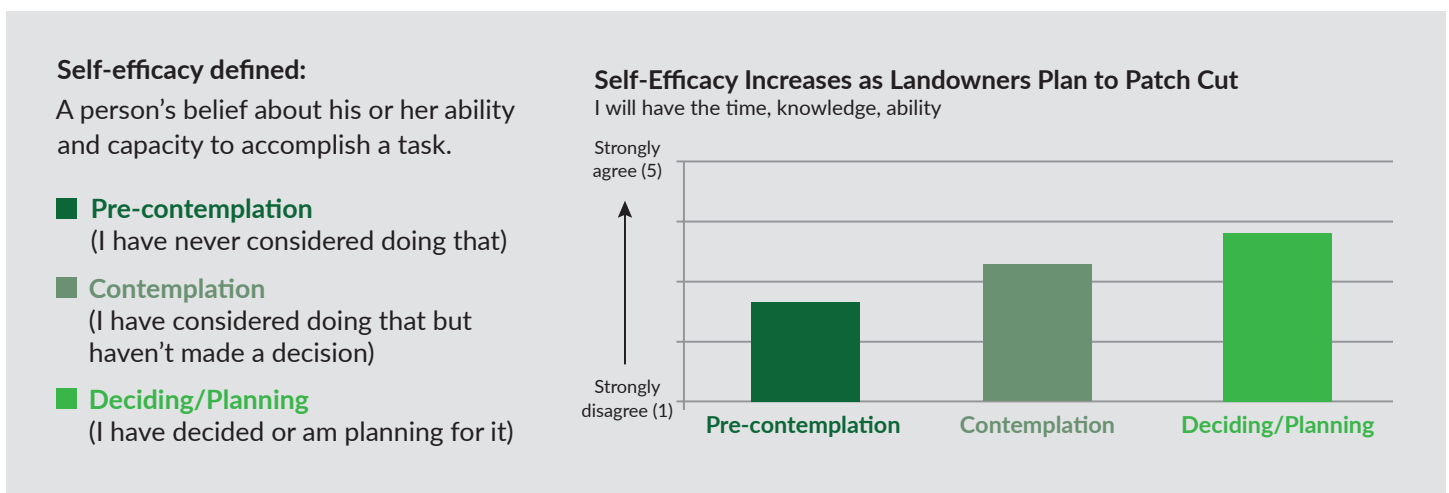


Figure 1. Mean perceived self-efficacy to implement a patch cut calculated for respondents in each of the three stages. Self-efficacy was defined using a set of questionnaire items. The following three questionnaire items were averaged and represent one dimension of self-efficacy for patch cutting: “I will have the knowledge of how best to carry out a patch-cut”, “I will have the time to oversee a patch cut,” and “I will have the physical ability to do a patch-cut.” Self-efficacy was measured using items with a 5-point scale (1 = “strongly disagree”; 5 = “strongly agree”), with higher scores indicating greater agreement with these questionnaire items.

Self-efficacy increases as woodland owners plan to patch cut

Not surprisingly, as we move along the stages of change from never having considered patch cutting to actively planning to do so, we see an increase in self-reported self-efficacy defined as beliefs about the ease of performing the behavior and the controllability of the behavior (Ajzen, 1991). In the context of patch cutting, this refers to landowner perceptions that they have the financial resources, time, knowledge, and access to advice from a trusted forester. The obvious corollary to this is that people who haven't heard about patch cutting or have heard about it but are not as committed to the idea tend to have lower self-efficacy related to the practice. Given these findings, it is recommended that foresters consciously work with landowners to increase their self confidence about implementing patch cutting on their land, addressing their particular barriers to the practice.

Perceived benefits of patch cutting increase as people decide to adopt the practice

As woodland owners proceed along the stages of change toward patch cutting, they also perceive greater benefits from the practice (e.g., hunting opportunities, improved wildlife habitat, and opportunities for timber sales). Consequently, it is recommended that foresters keep communication with clients focused on benefits that matter most to the individual landowner and also help to broaden their beliefs about the range of potential benefits associated with patch cutting.

People who have decided to patch cut have fewer concerns about the practice

To move landowners along the behavior stage continuum, we recommend foresters provide reasonable reassurance that perceived possible problems associated with patch cutting can be mitigated by proper planning. Foresters can offer practical solutions for addressing concerns related to patch cutting (e.g., introduction of invasive species, soil erosion, and residual brush, treetops, and branches), focusing on the particular concerns of the individual woodland owner.

Woodland owners who live farther away from their property are more receptive to patch cutting

Results show that people who live farther away from the woodland in question are more likely to say they are receptive to or are planning to patch cut for oak management on their land in the future. This may be because they don't have to live right next to the disruptive change that may occur as a result of patch cutting, but this is speculative. In any case, people who say they have decided to patch cut are more likely to be absentee landowners who don't live adjacent to the land in question, so consider these individuals as prime prospects who may be more receptive to the practice.

Hunters are more likely to have decided to patch cut

People who have decided to patch cut and are planning to do so are more likely to identify as hunters. This may be because

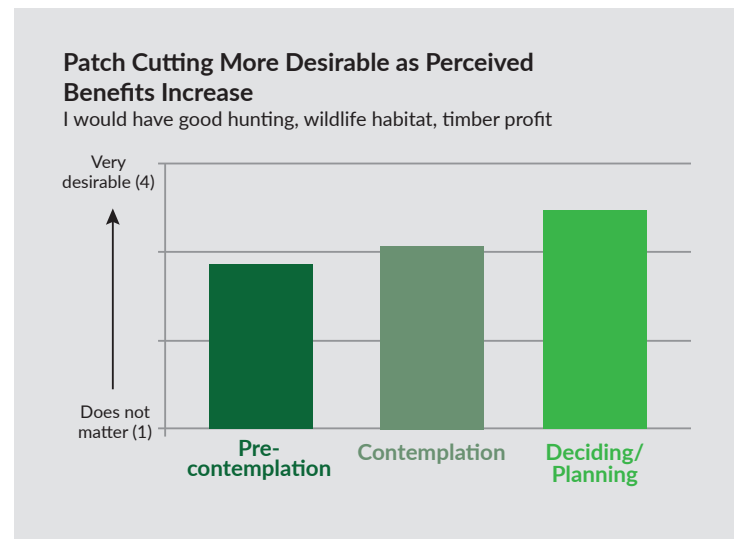


Figure 2. Mean perceived benefits of patch cutting (hunting, wildlife, and timber) calculated for respondents in each of the three stages. Questionnaire items were developed that represent possible benefits of a patch cut. We used a 4-point scale (1 = “Does not matter”; 4 = “Very desirable”), with higher scores indicating greater desirability of these outcomes. The item responses were averaged and represent one dimension of possible benefits related to patch cutting. Example questionnaire items for this dimension include: “I would still have good hunting spots [if I decided to patch cut],” “I would have better habitat for wildlife species I like [if I decided to patch cut],” and “I would profit from the overall timber sale.”

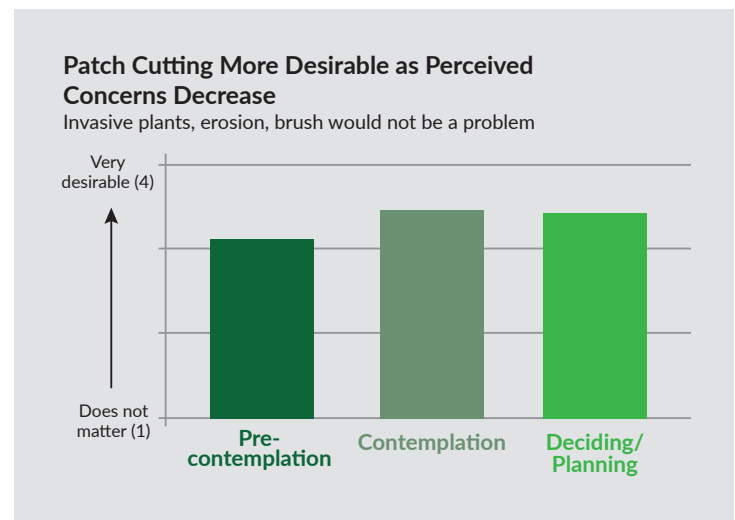


Figure 3. Mean perceptions about issues not considered a problem (introduction of invasive species, erosion, and remaining brush, treetops, and branches) with patch cutting calculated for respondents in each of the three stages. A combination of questionnaire items was developed and then averaged to represent possible concerns. We used a 4-point scale (1 = “Does not matter”; 4 = “Very desirable”), with higher scores indicating greater desirability of these outcomes. Example questionnaire items include: “Invasive plants would not become a problem [if I decided to patch cut],” “Soil erosion would not become a problem [if I decided to patch cut],” and “Tree tops and branches from the harvest would not be a problem.”

improved deer and turkey habitat through patch cutting on their land is a particularly compelling benefit to hunters. In any case, asking landowners about whether they or their family members hunt may provide a strategic opportunity to emphasize wildlife habitat and hunting benefits to encourage patch cutting for oak management on their land.

Newer woodland owners are more receptive to patch cutting

This is consistent with other research indicating that newer landowners tend to be more receptive to new land management practices, perhaps because they are less set in their ways as compared to people who have owned their woodland for a longer period of time and therefore are more open to suggestions for active land management.

Younger woodland owners are more receptive to patch cutting

Younger woodland owners are more likely to say they have decided to patch cut or are actively planning for it. Older woodland owners are more likely to say that the option of patch cutting doesn't apply to their land or that they've never considered patch cutting on their land.

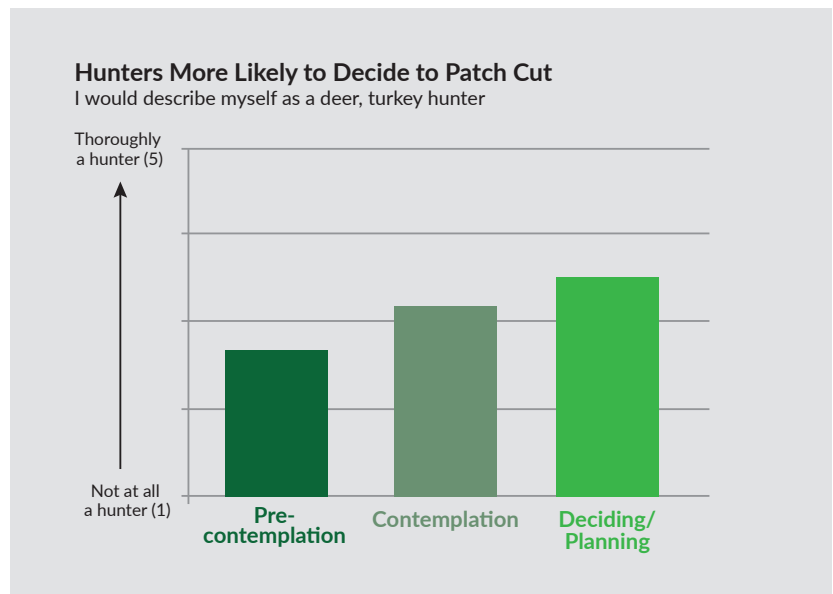


Figure 4. Mean response for respondents identifying as a hunter calculated for respondents in each of the three stages for patch cutting. Identity was measured using items with a 5-point scale (1 = “Not at all”; 5 = “Thoroughly”), with higher scores indicating greater identification with a particular category in response to the question, “Now thinking of yourself today, would you describe yourself as...” Responses to the two items, “a deer hunter” and “a turkey hunter” were averaged to represent their identity as a “hunter.”

DIFFERENCES IN AUDIENCE SEGMENTS BASED ON SELF-IDENTIFIED STAGE OF CHANGE: COMPETITION MANAGEMENT

We also examined woodland owner perspectives on removing plants, shrubs, or trees that can compete with young oak trees (e.g., selectively removing plants, shrubs, or trees includes cutting, the use of herbicide, or prescribed fire). We describe, in the following, differences in woodland owners segmented by self-identified stage of change related to implementing competition management to promote oak.

People who perceive improved outcomes for wildlife habitat are more receptive to competition management

Results indicate that the more woodland owners believe that competition management will improve habitat for wildlife, the more likely they are to adopt the practice. Foresters can emphasize that competition management can help wildlife in the short-term by providing more habitat for nesting and feeding. In the long-term, mature oaks are also an essential food source for commonly desired wildlife such as deer and wild turkey.

Hunters are more likely to have decided to carry out competition management

Similar to patch cutting, people who have decided to do

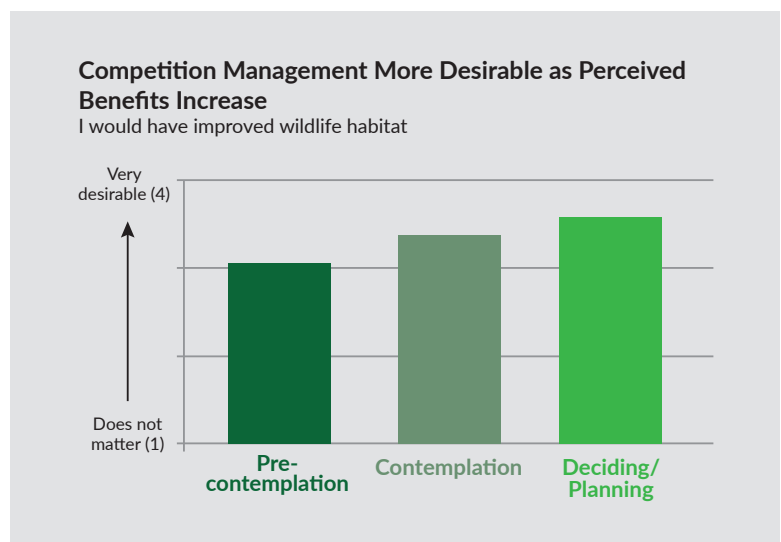


Figure 5. Mean perceived benefits of competition management for improving wildlife habitat calculated for respondents in each of the three stages. Questionnaire items were developed that represent possible outcomes of managing competition for oak. We used a 4-point scale (1 = “Does not matter”; 4 = “Very desirable”), with higher scores indicating greater desirability of these outcomes. The item responses were averaged and represent one dimension of possible benefits related to competition management. Example questionnaire items for this dimension include: “I would have improved habitat for deer [if I decided to remove plants, shrubs and trees competing with oaks],” and “I would have improved habitat for turkey [if I decided to remove plants, shrubs and trees competing with oaks].”

competition management and are planning to do so are more likely to identify as hunters. Again, this may be because improved wildlife habitat through competition management on their land is a particularly compelling benefit to hunters or that hunters are generally inclined to be more active land managers. Whatever the reason, asking landowners about whether they or their family members hunt may provide a strategic opportunity to qualify them as prime prospects for adopting competition management on their land.

Woodland owners with higher self-efficacy are more ready to carry out competition management

Similar to the finding for patch cutting, we found that as landowners move along the stages of change from never having considered competition management to actively planning to do so, we saw an increase in self-reported self-efficacy defined as having the financial resources and ability to find someone to help carry out the work. Given these findings, it is recommended that foresters consciously work with landowners to increase their self-confidence about implementing competition management to promote oak, focusing on what they need to implement the practice and specifically helping them find a contractor to carry out the work and cost-share funds to help cover the expenses.

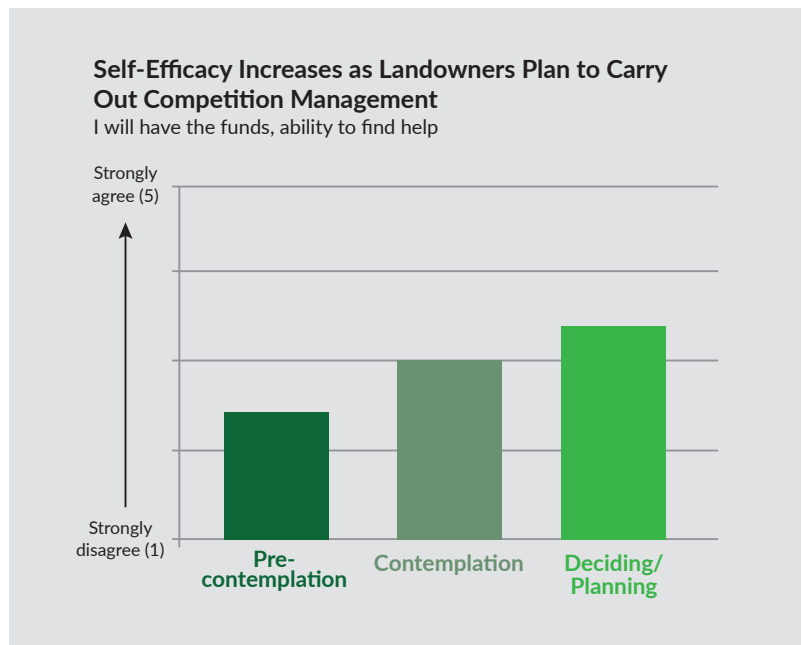


Figure 6. Mean perceived self-efficacy to carry out competition management calculated for respondents in each of the three stages. Self-efficacy was measured using items with a 5-point scale (1 = “strongly disagree”; 5 = “strongly agree”), with higher scores indicating higher self-efficacy to carry out competition management. The following two questionnaire items were averaged and represent one dimension of self-efficacy that helps differentiate the stages with respect to competition management: “I will have the funds to hire someone to do the removal work, if I chose to,” and “I will be able to find someone to help me do the removal work, if I chose to.”

Discussion Questions:

- Whether you formally considered it ‘audience segmentation’ or not, what are some different ways you have approached landowners based on what you know about them?
- How have you observed landowners’ attitudes toward oak management practices evolve as they move from being uninformed about a practice to adopting it on their own land?
- What have you found to be effective ways to increase the confidence of woodland owners to adopt new land management practices?
- What have you found to be the most significant pros and cons of oak management practices in talking with woodland owners? How do these pros and cons differ depending on what practices you may be recommending?
- Have you ever made inaccurate assumptions in communicating with woodland owners about how much they know about a particular forest management practice or their readiness to take action and found that you had to change your approach?
- Why might older landowners be less likely to think patch cutting is relevant to their land or report that they’ve never considered doing so, and what might be done to encourage them to do so? What benefits of oak management may be appealing to older landowners?

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